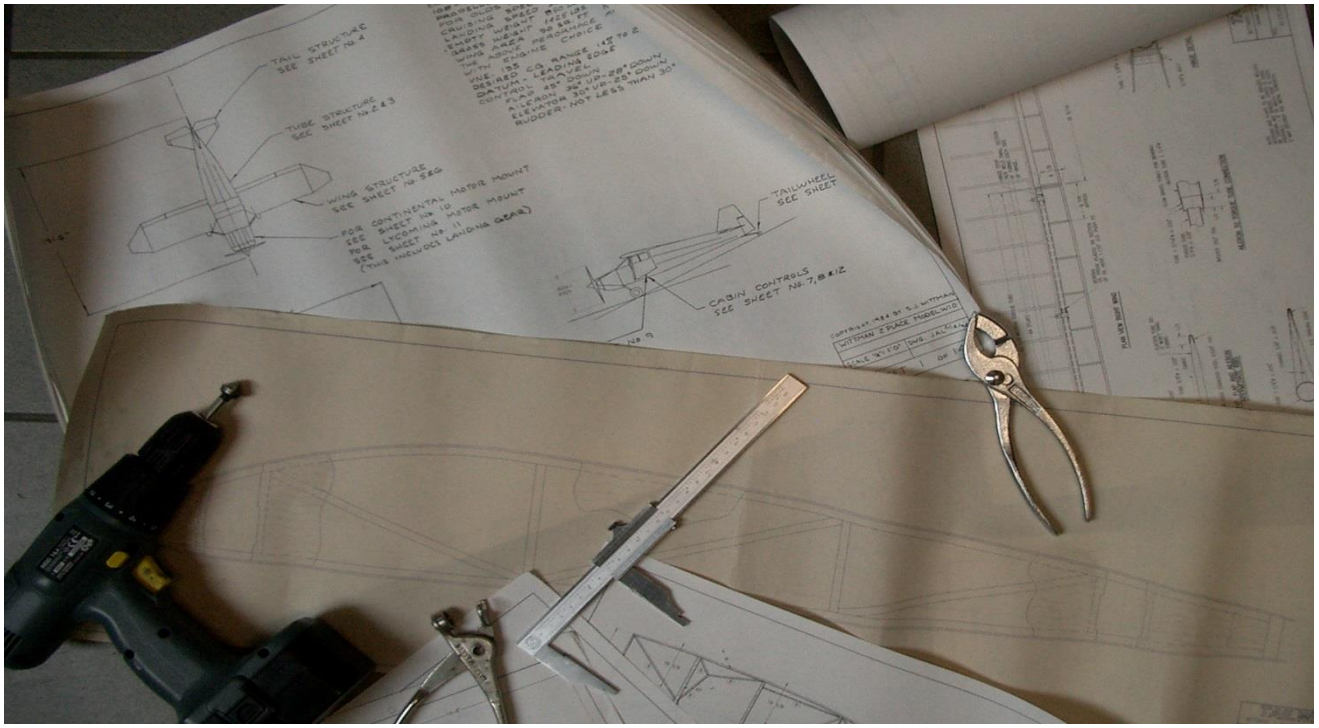
In **Autumn 2000** we recieved the 180 $ Blueprints from Aircraft-Spruce with serial Number 00-1151



We Began Making our First Ribs in **september 2000**

And Putting Them Together

To a Complete Wing Structure

Next Came Welding the Tailfeathers

At the Same Time we Covered the Wings

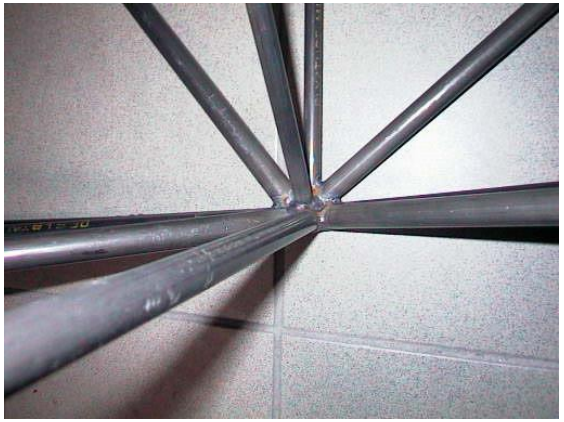
Primed the Tailsurfaces

The Fuselage Takes Shape

Multiple Ferries to Claro

With Different Trucks and Drivers

where Carlo is doing a Wonderful Job



Now it almost looks like a Tailwind

November 22 2003

Load Test, what a Stress !

Check again and again with Most Sofisticated Instruments

Everybody is Busy

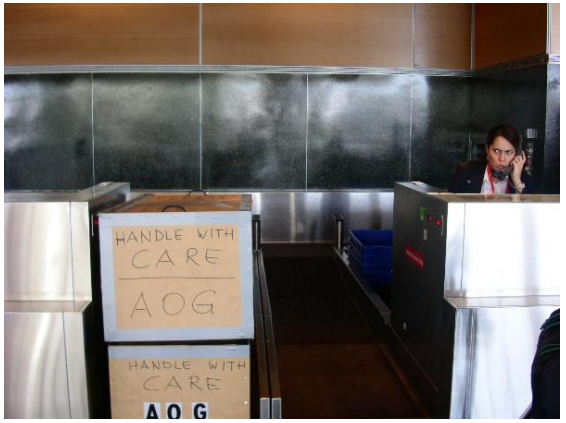
Some pre Roll Out Tests

Even Carlo Could not Resist

Ready for Roll Out

Roll Out on **July 4 2004**

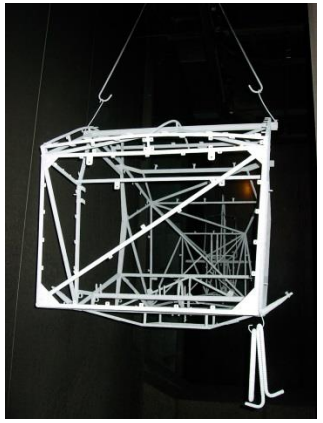
This is Another Story by Itself: our Madden Cowl



This Modification Took almost 3 Months: the Walking Beam

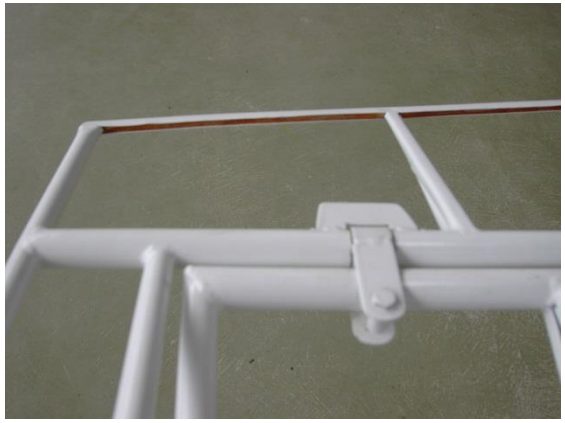
Powder Coating

after sandblasting, the entire tubular structure was powder coated and had to go through an oven at 180° C at Metallizzazione in Lamone



Trailing Edge Reinforcements

since after sandblasting and powder coating all trailing edges tended to warp, we reinforced them by gluing some V shaped spruce capstrips into the V channels.



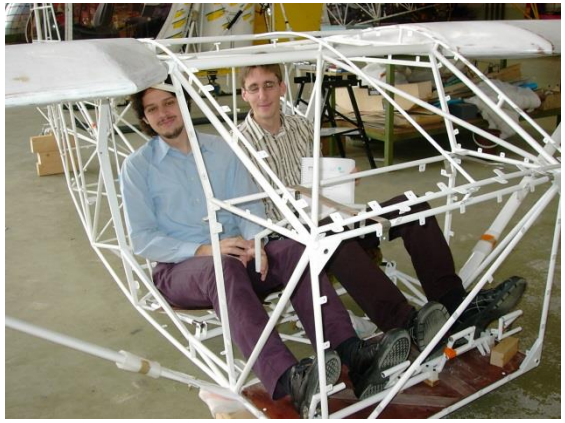
Aluminum Fuel Tank

Gerald did all the bending

and Carlo the welding.

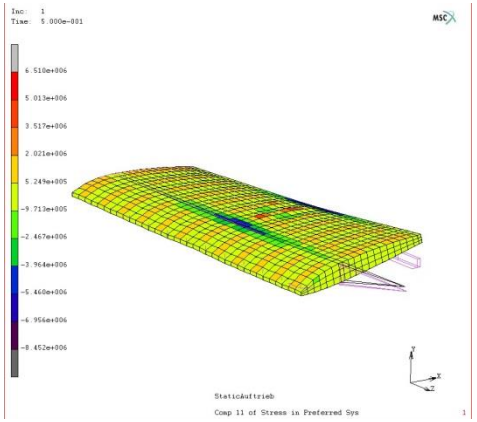
Bachelor Thesis by Daniel Egger

Daniel an ETH Zürich student did his successful bachelor thesis on the Tailwind W 10 wing under the supervision of our Eric Cataldi confirming our earlier measured stress load results

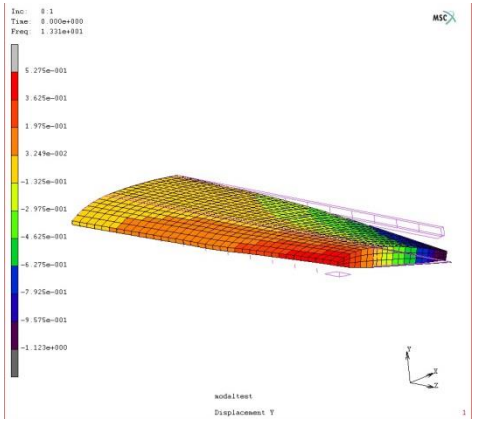


Using Finite Elements Analysis

- 1. axial loads



- 2. torsional Load



Aileron Differential Movement

although most Tailwinds fly without differential aileron movement we decided to include the 36° up and 28°down differential by changing the geometry of the bell crank

Stress Load Test of All Movable Surfaces

this test showed some week points that we had to correct:

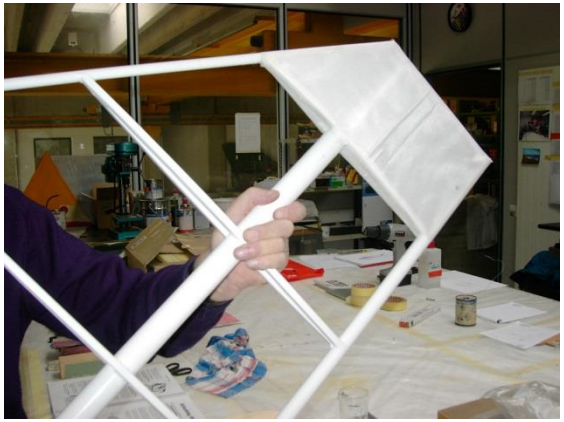
especially better fixation of the the aileron and flap horns.

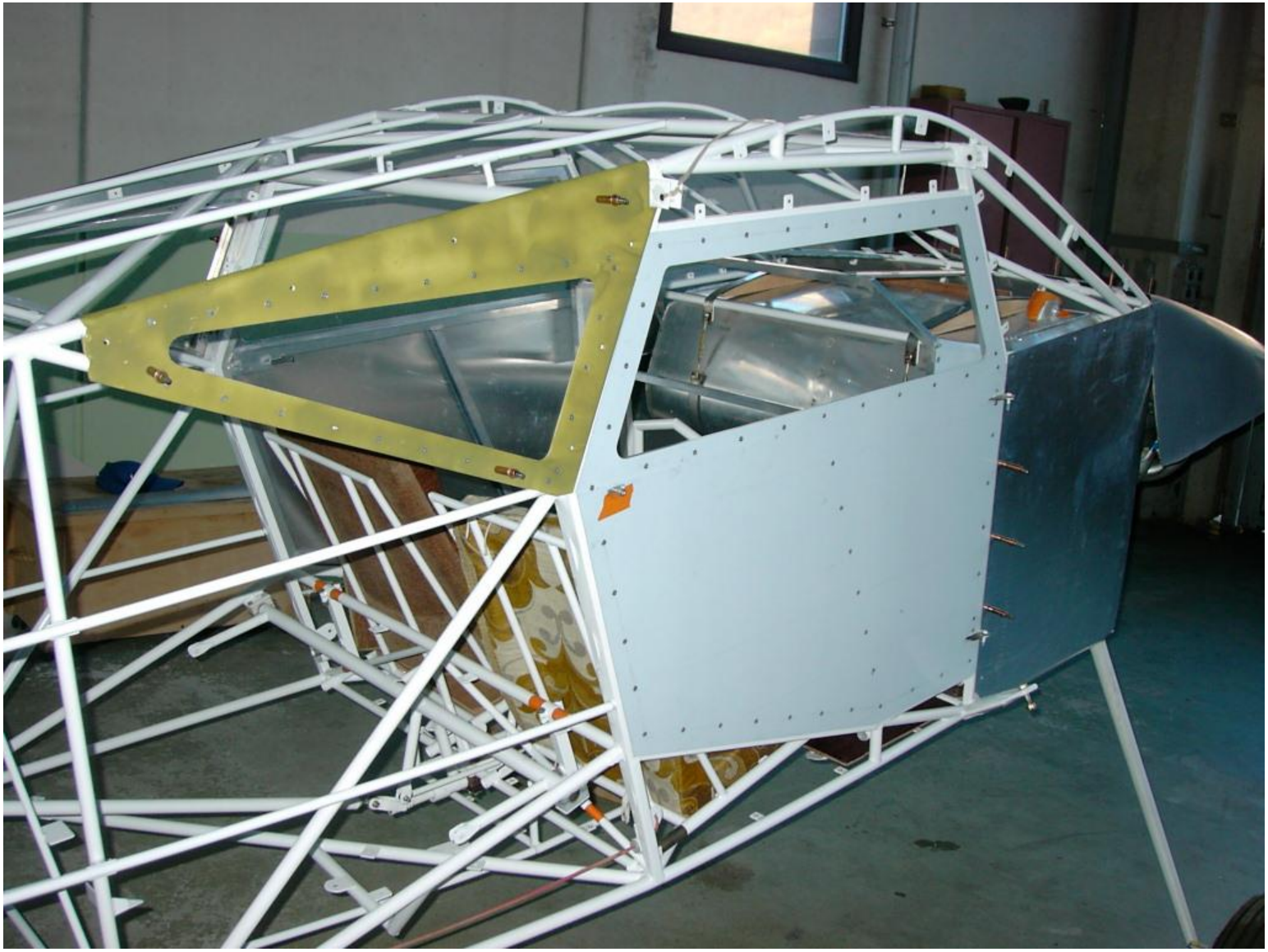
Flap Horn

Adding two trans-fixation bolts solved the slipping problem with the flap and aileron horns. All this is due to design changes we were forced to introduce because of space problems between flap torsion tubes and the upper fuselage longerons

Final Walking Beam with Stiffening Tubes and Elevator Stops

Baywise Covering Technique with Aviolene

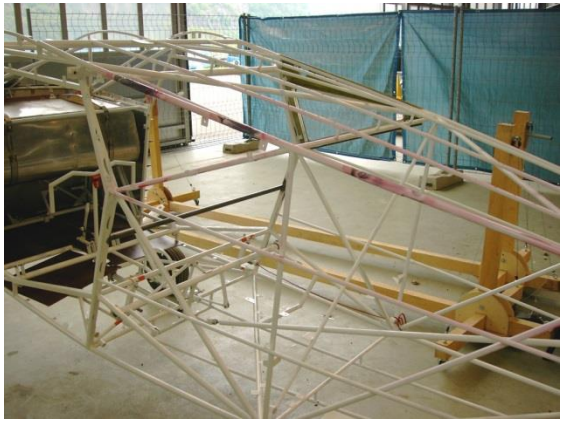




What a Mess, not yet Finished and Already Repaired

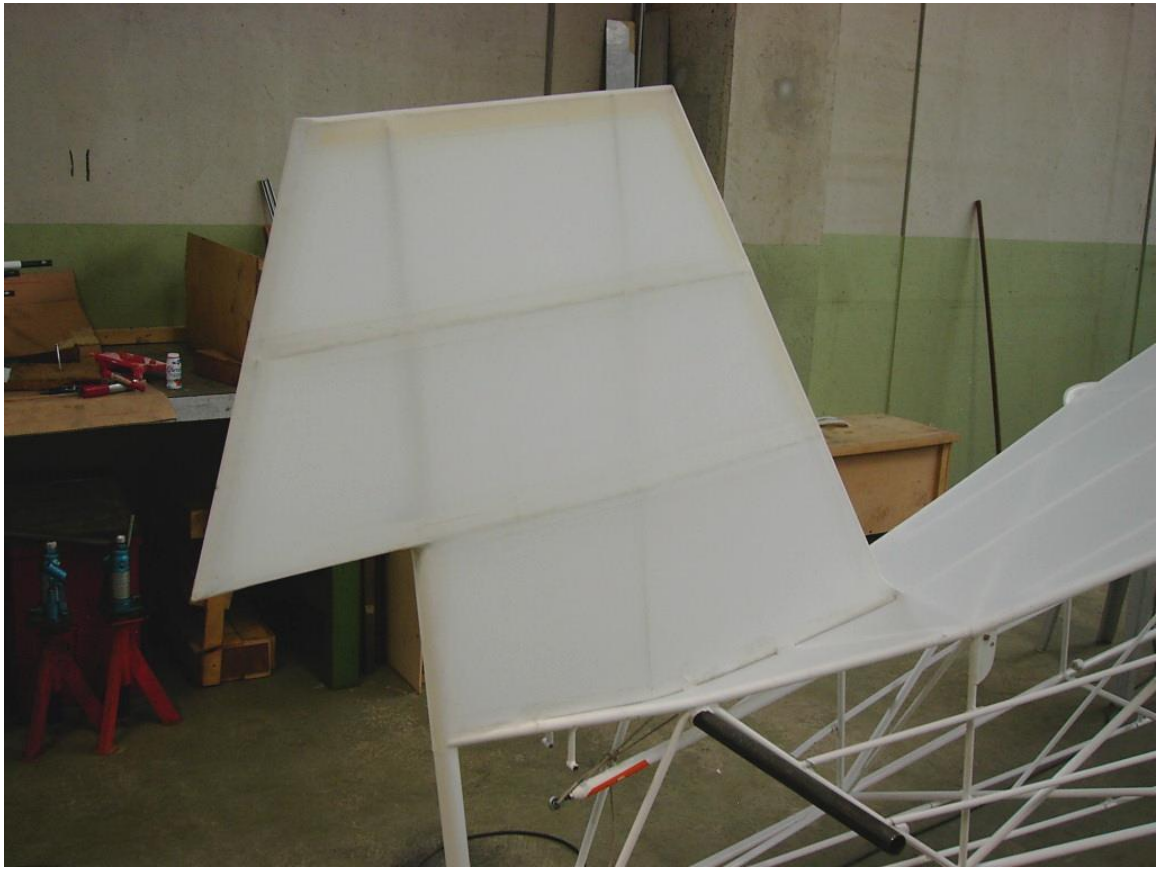
Magnaflux

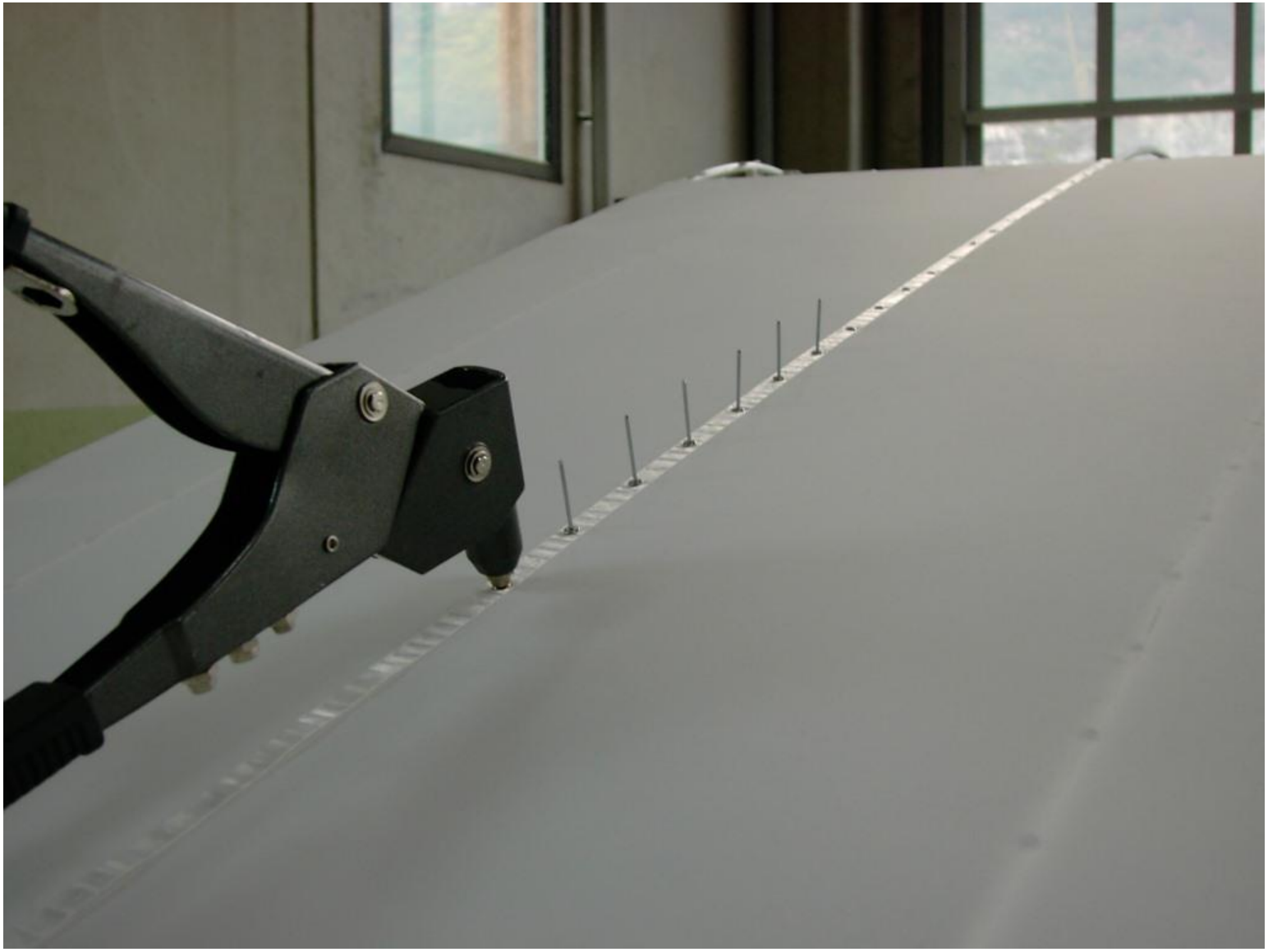
In order to check if there were some cracks in the tubular structure we did a Magnaflux test: no cracks were detected but the whole fuselage turned pink



Adapting the Madden Cowl

The Aviolene Covering is Such Fun





What a Gift from Dave Magaw and Bob Danner

a Felix Prop Tuned by Craig Catto and a Jim Clement Spinner

Just Before Leaving for Baraboo and Airventure **2006**

More Stress Load Tests Were Required

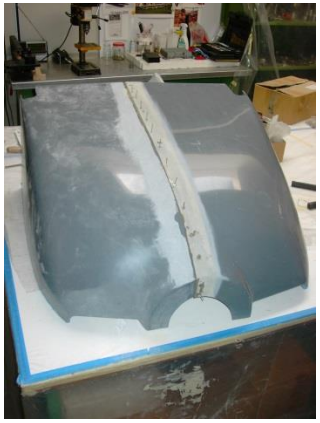
with 15 kg on each aileron and 40 kg on each flap there was no slipping anymore with the modifications mentioned before. At the end Paul seems quite satisfied with the results. (the EAS requirements are almost like if we were building an Airbus A 380 !)

With All the Tips and Hints from Baraboo and Oshkosh 2006

we finally could go on with the construction

- adapt the windshield (Lexan Marguard 4 mm)
- go ahead with the covering with Aviolene

80% Done and 70% to Come on October 2006

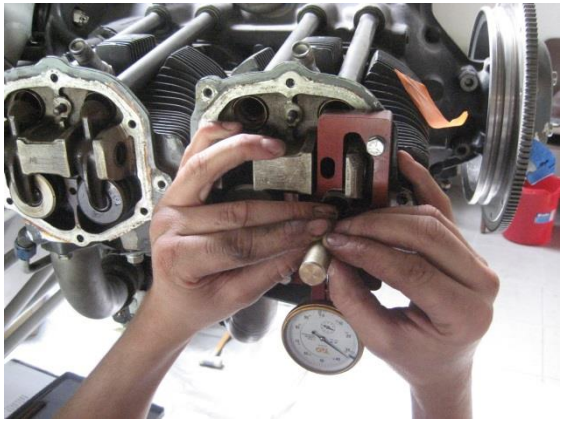


Oops we Forgot Some Diagonals !

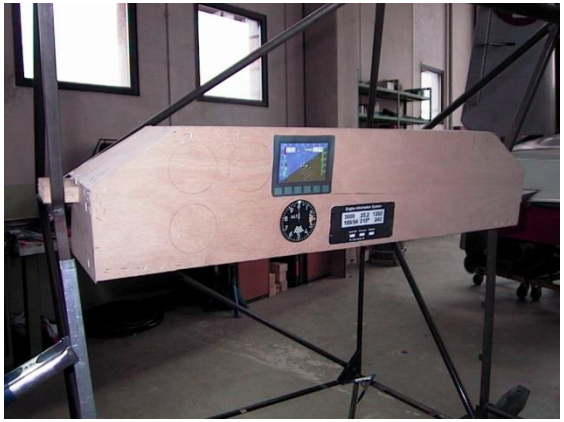
“ Maiden Flight “ **23.11.2006**

Since our winters are too cold to work in the main hangar we moved to the first floor where we are also closer to our shop facilities.

Marco Bucher Checking the Engine

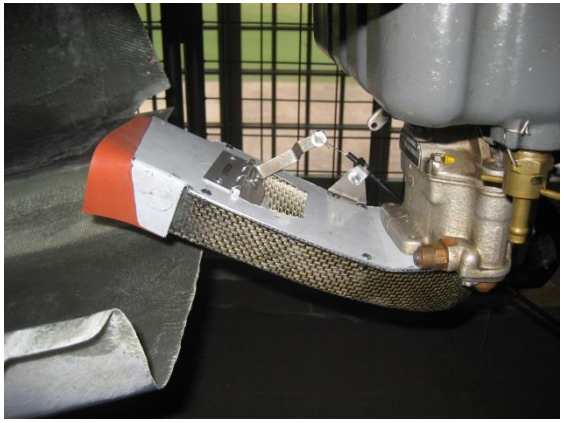


Finally we made it. It's Panel Mark XIV



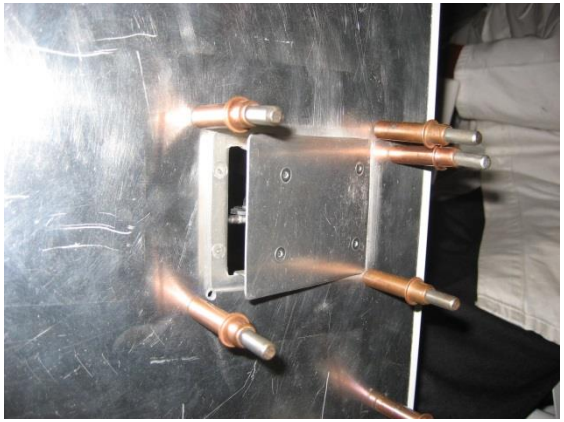
Still Adapting the Madden cowl

Replica of Jim Clement's Carb Heat Box



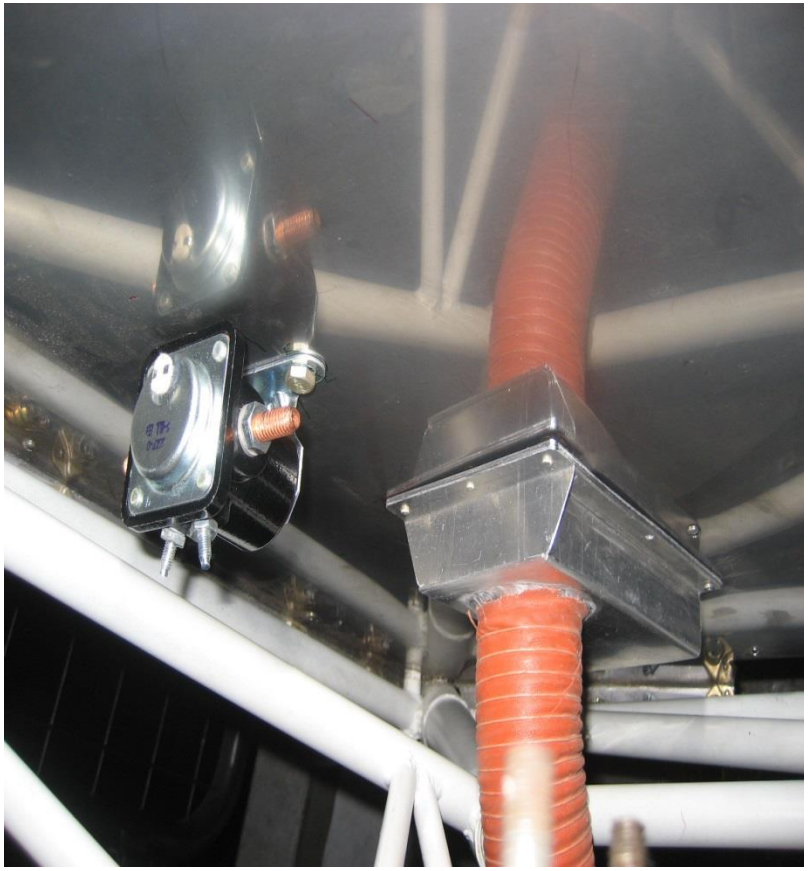
to be a little fancy we tried to build a Kevlar Carbon carb inlet which weights only 70 gramms and results much stiffer than the first one we made in fiberglass

All Kind of Air Inlets



copying what Jim Clement our mentor and world wide well known TW guru did on his latest creation N169WN

Heat Box Following Jim Clement's Solution



heat box and master solenoid mounted on the firewall

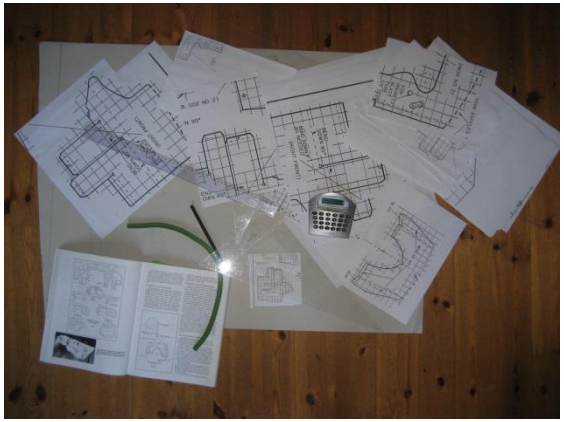
Registration a Big Dilemma

- Switzerland and
  HB-YTW

  or

- Russia
  RA-YTW

Engine Baffles

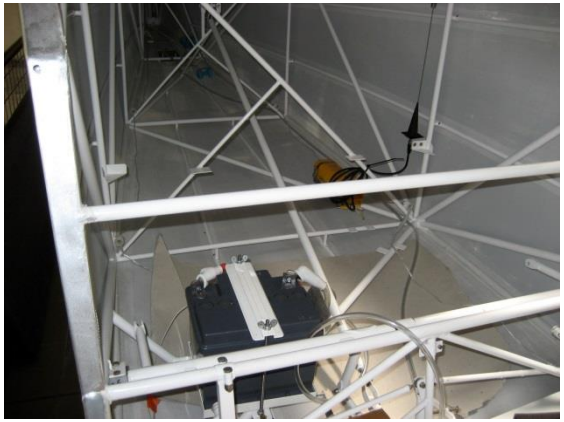


Everybody is Busy

Gear Leg Fairings

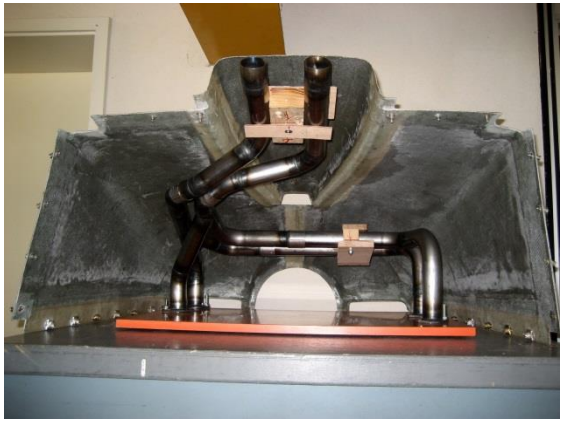
this is Paul's favourite, modelling and sanding the gear leg fairings

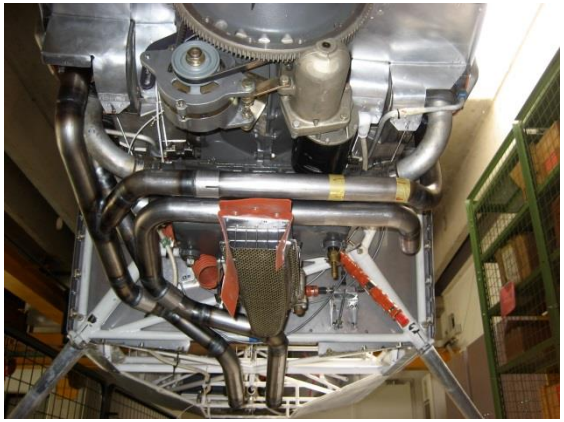
Electrical System



Lele our mister 10 000 Volt made it all possible. All the wires look alike but they are not.

Exhaust System 4 in 2 Crossover

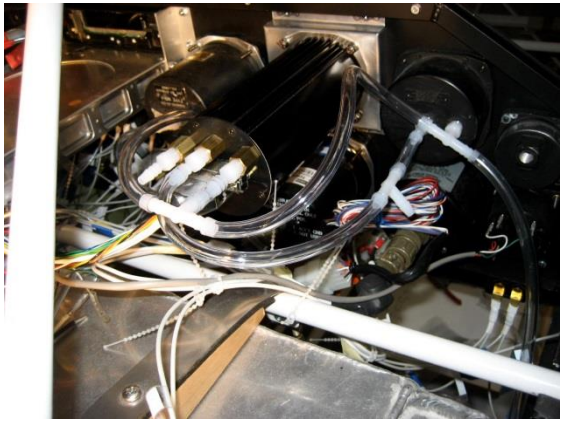




Heat Muffler Tested

Guido One is Back

All Kind of Lines



- finally all fuel and oil lines could be put in place.
- also static and pitot lines are in place

Painting

- BB classic car's body shop did a great job, with 3 days of sanding and putting, washing with Kensol and epoxi priming all the different parts

Just Beautiful

and Comfortable

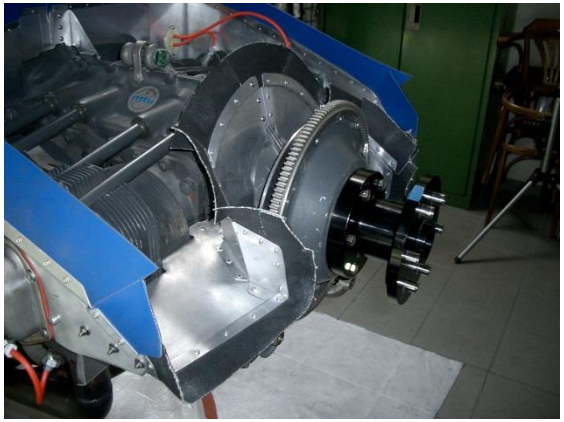
Another Test Flight

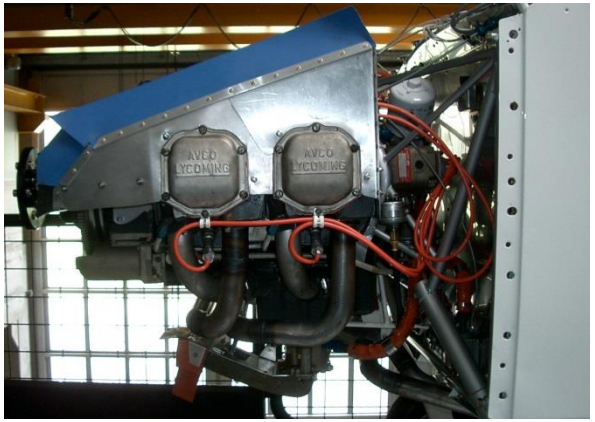
- after attaching some weights to the gear leg sockets the bare fuselage was perfectly balanced and could be easily lowered to the ground floor

Ready to Cross the Alps for the First Time

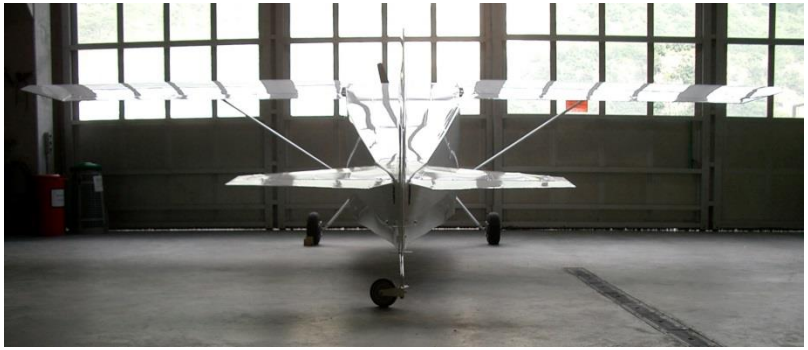
Back Home Again

Final Assembly





RUAG Fly In **12.7.09**

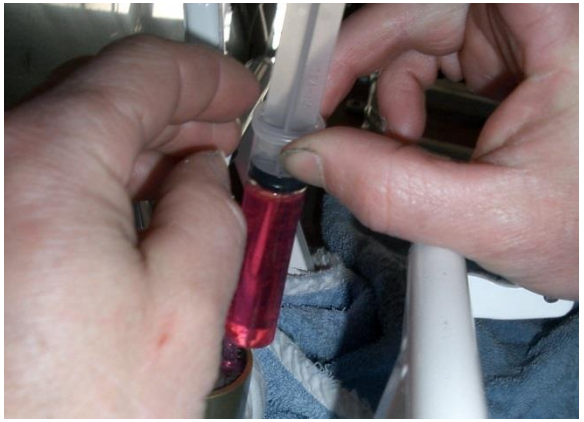


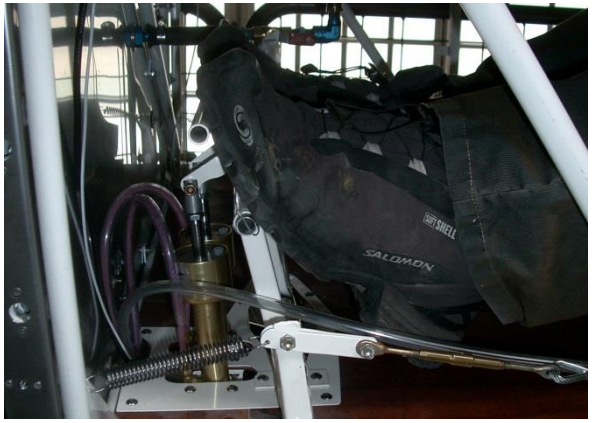
Rudder Pedal Assembly

- Paul's "swiss" solution just doesn't work, the brake cylinders can't be located where they should

- There is no better solution than what Steve designed more than 50 years ago

Brakes on



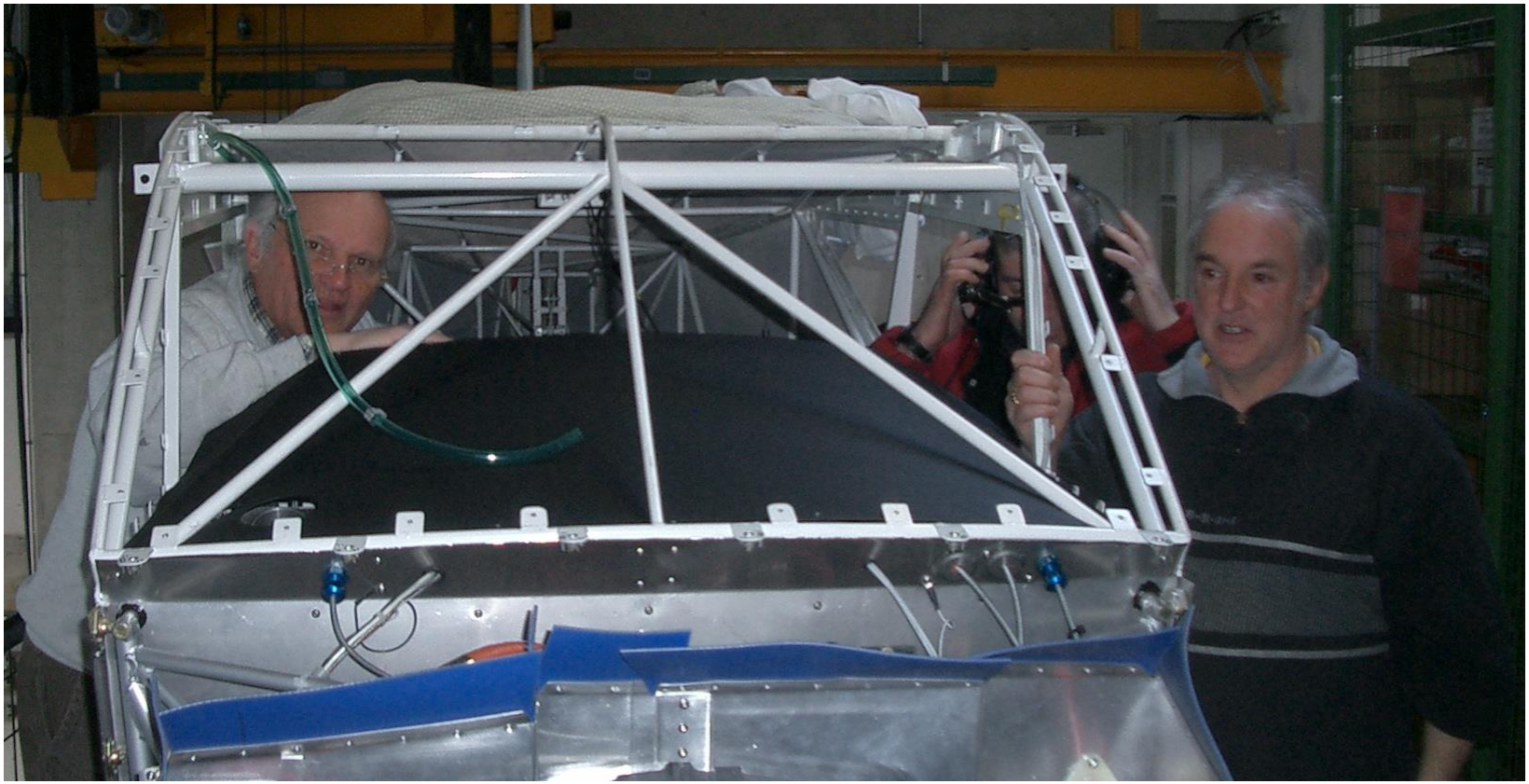


Hotel Bravo Yankee Tango Whisky

- All wires are connected so let's try it !

- 124.70 Zürich Information: We hear you loud and clear

Glare Shield with Sky Leather

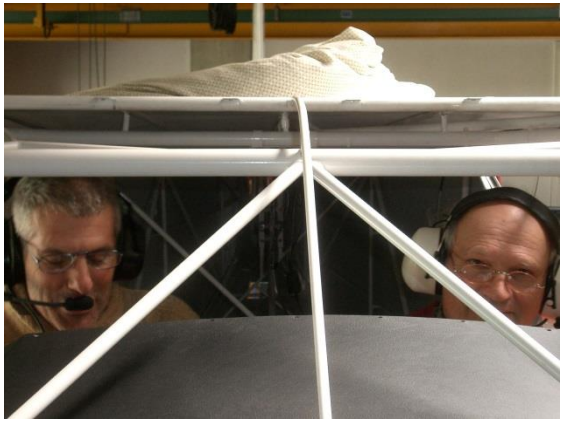


Easter Bunnies 2010

Fasten your seat belts

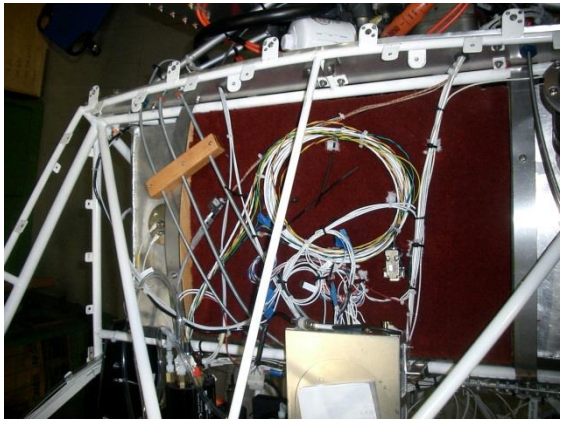
Q: do you hear me ?

A: loud and clear 10 out of 10



Little Brother is Watching You

Now Come the Details



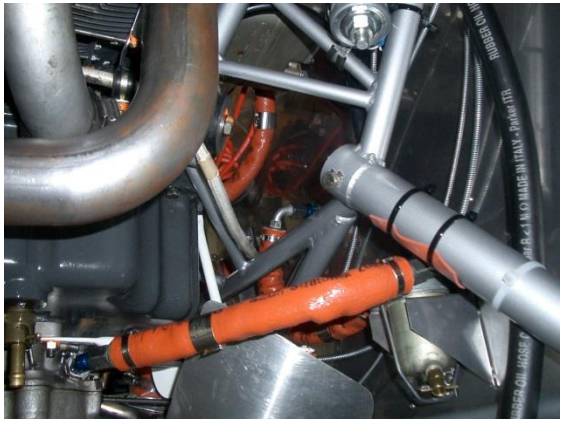
Preoiling and Fueling and no Leaks after One Week

Windshield in Place

Ready for the 1st Run Up

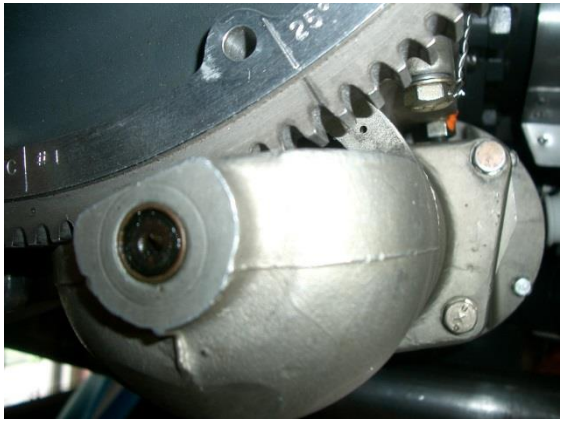
Everybody Wants to Try

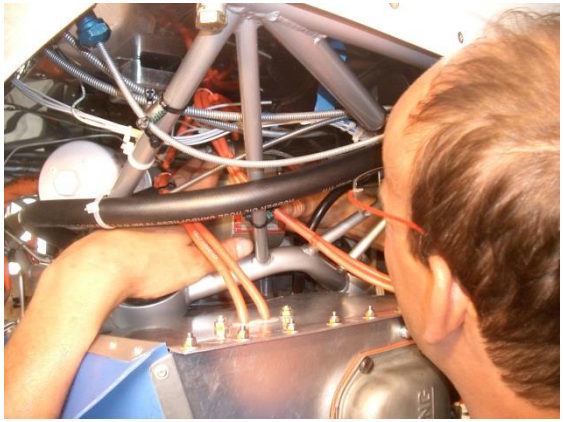
Without Fuel Pump



- As Jim Clement says : a fuel pump is ok but no fuel pump is better since it can’t fail

It Was the Wrong Timing



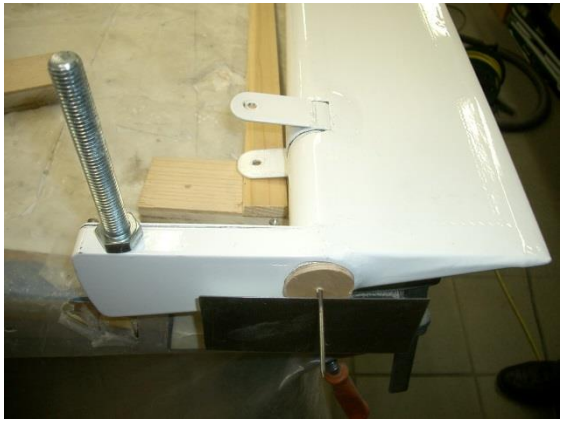


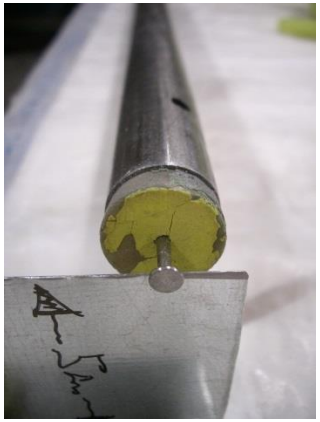
First Run Up
Friday July 16. 2010

After two failures due to erroneus magneto timing this was the good one. Two and a half turns and off she went.

16.11.2010
Our Big Day

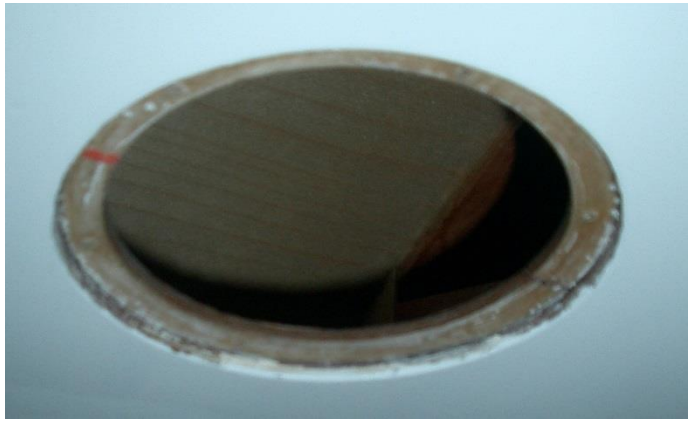
Aileron Balancing

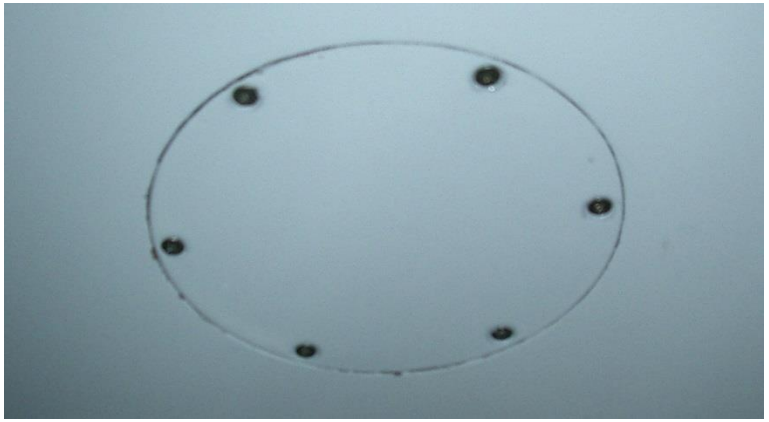


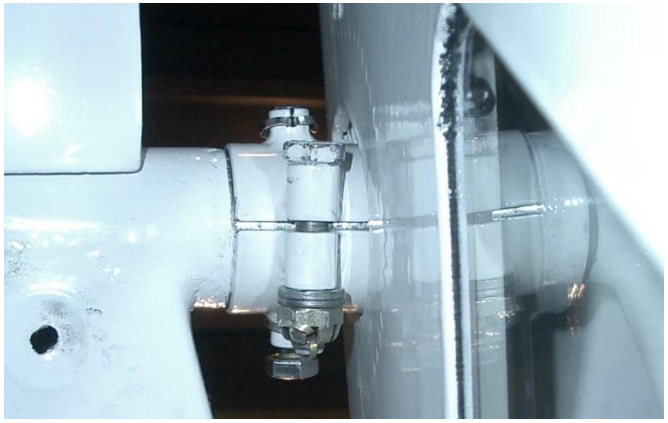


Baggage Area

Another Thousand Details to Finish





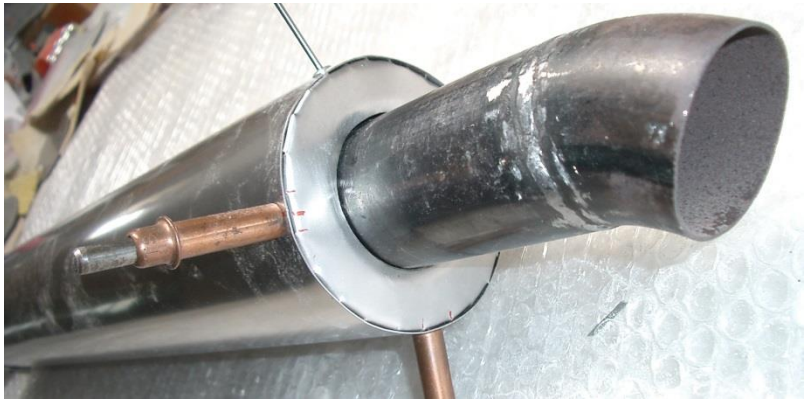


More Details

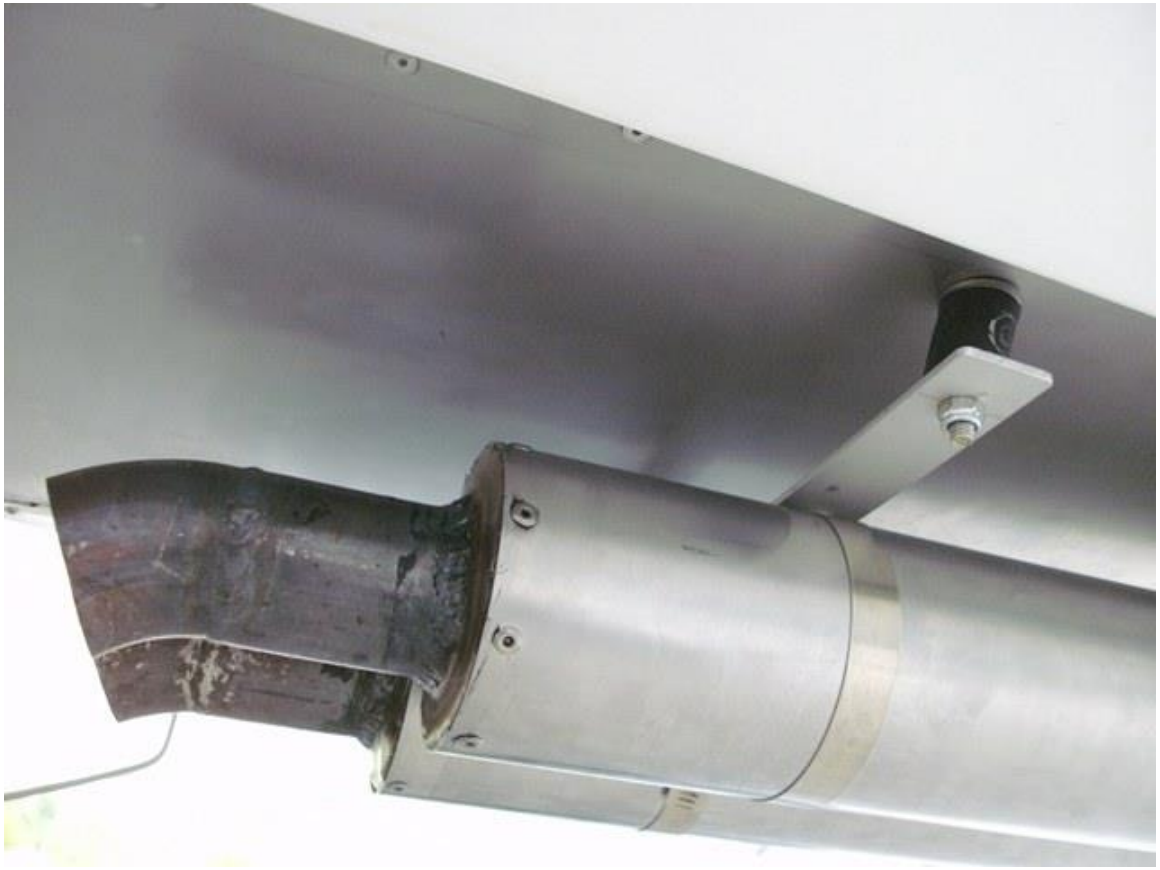
26.2.2011

Fuel Flow Test with 78 L/h

Swiss Muffler

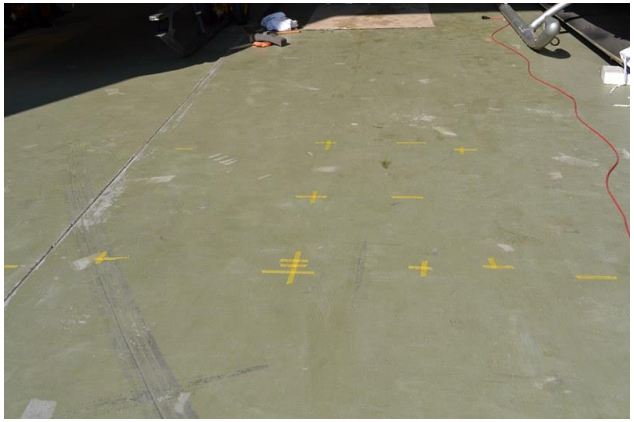


Silent Block Fixation



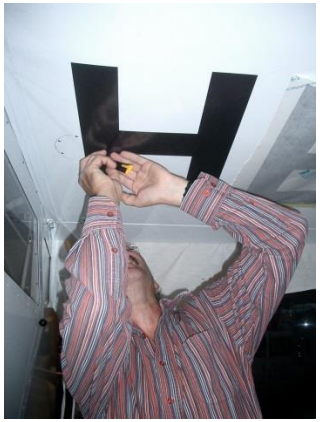
Weight and Balance

6.5.2011



Static Thrust
2250 rpm = 160 kg

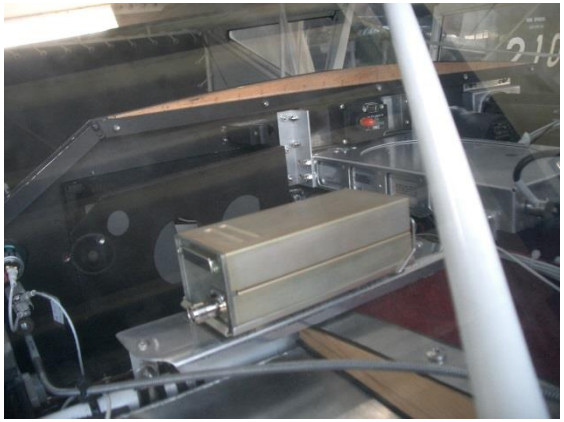
HB-YTW



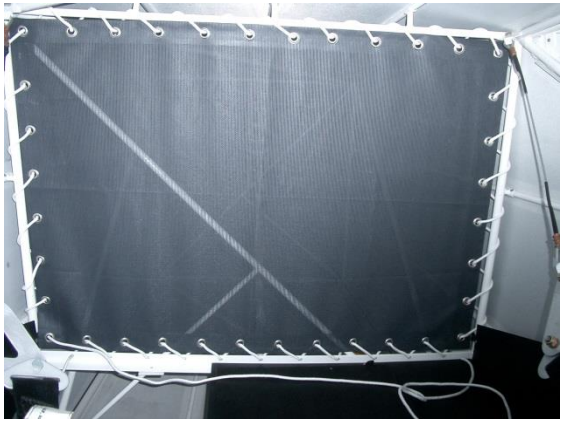
HB-YTW

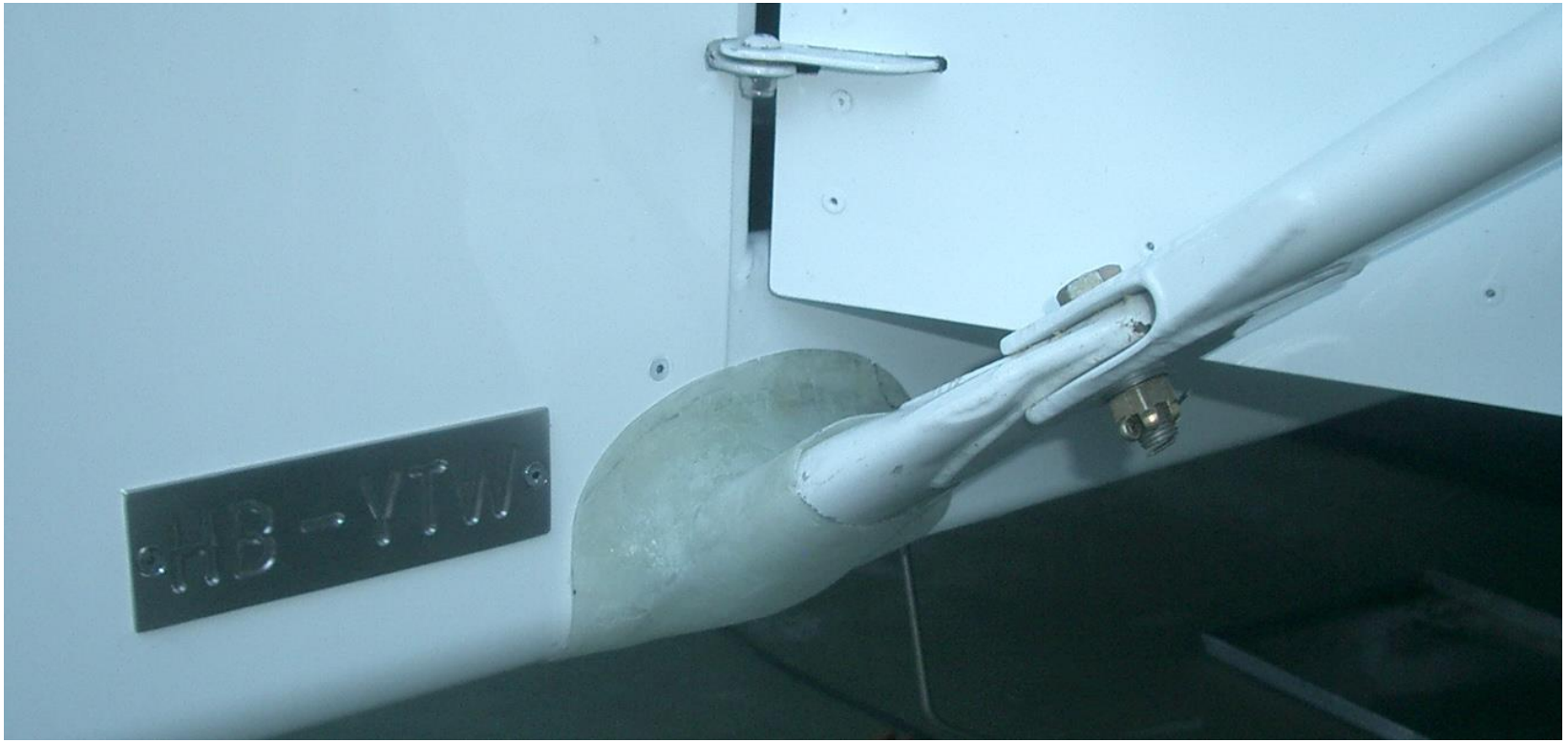
HB-YTW

TRIG 22 Transponder



Another 100 Little Details




9HB-VTW

Speedmeter Adapted

- Range intervals

- changed according AFM data

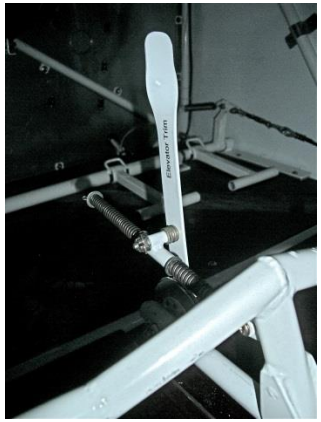
Fixing the Backlash within the Aileron Torque Tube

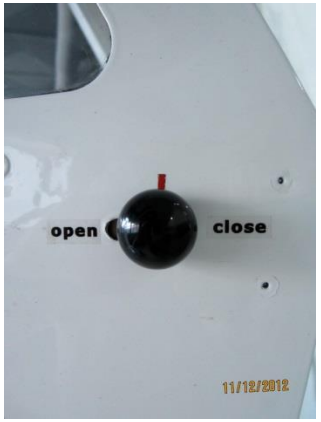
High Grass Strike

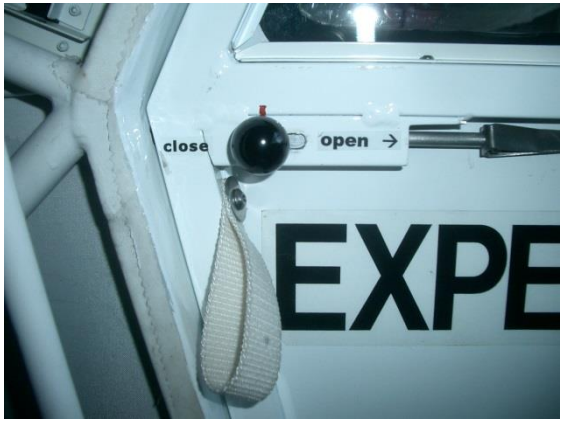
HB-YTW Among the Big Birds

Placards

FLAPS
10°
20°
45°


Elevator Trim

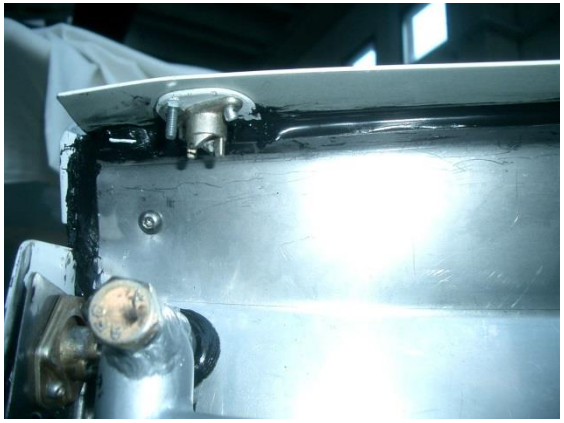

open
close
11/12/2012


close
open
EXPE

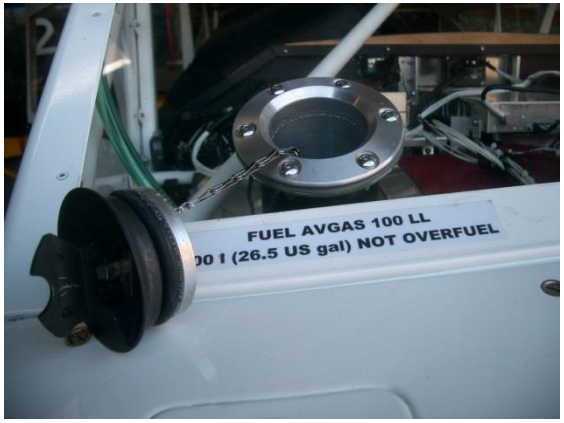
Instrument Panel

Overhauled Magnetos and Carburetor by Mecanair

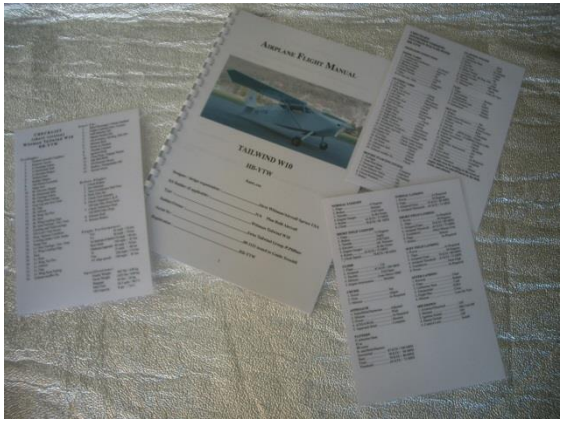
All Kind of Little Tweaks Required by the EAS Advisers



More Tweaks



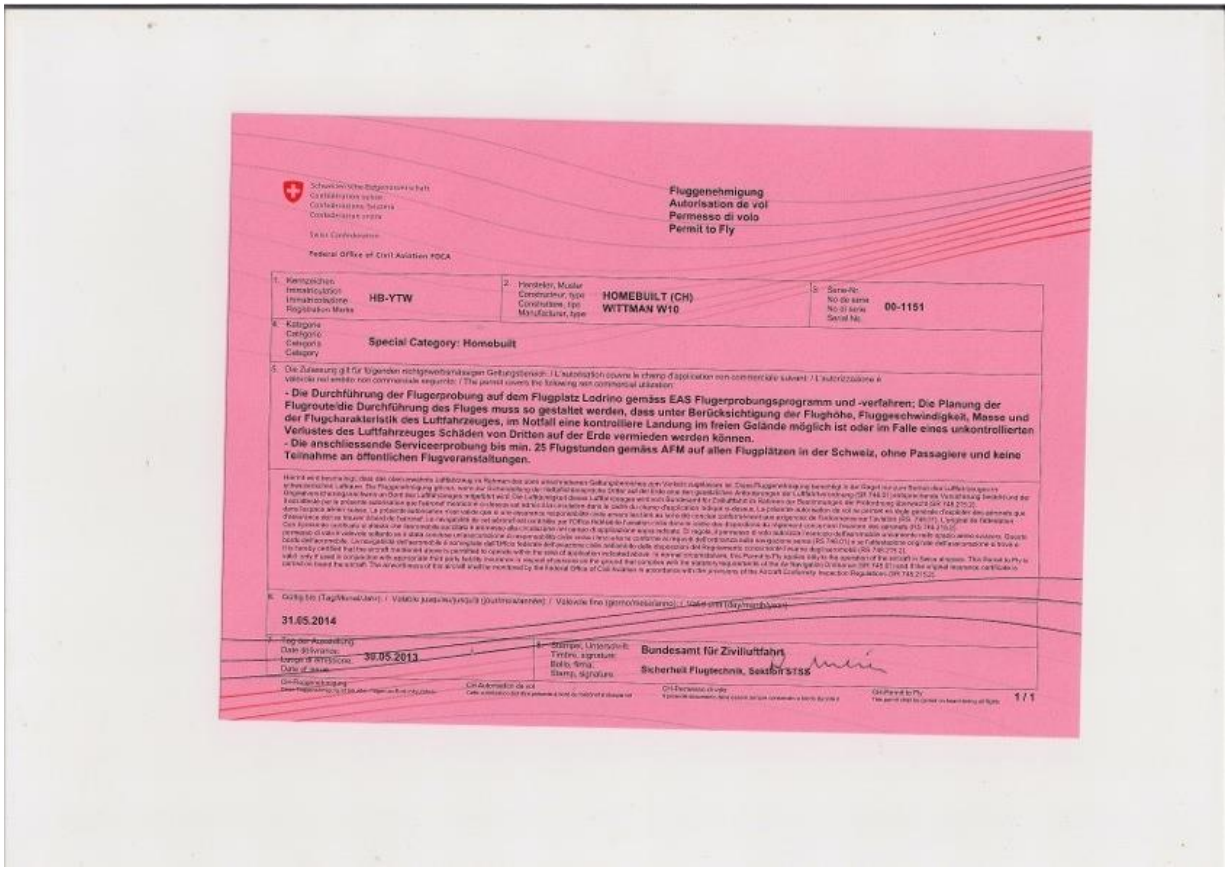
Heatshields and Paperwork



April 20. 2013

Final Control by Bazl/Ufac Officer Bruno Oberlin under Pouring Rain

Permit to Fly
issued on 30.5.2013



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Office of Civil Aviation FOCA

Fluggenehmigung
Autorisation de vol
Permesso di volo
Permit to Fly

1. Kennzeichen / Immatriculation / Immatricolazione / Registration Marks	2. Hersteller, Muster / Constructeur, type / Costruttore, tipo / Manufacturer, type	3. Serie-Nr. / No de série / No di serie / Serial No.
HB-YTW	HOMEBUILT (CH) WITTMAN W10	00-1151

4. Kategorie / Catégorie / Categoria / Category: **Special Category: Homebuilt**

5. Die Zulassung gilt für folgenden nichtgewerbsmässigen Geltungsbereich: / L'autorisation couvre le champ d'application non-commerciale suivant: / L'autorizzazione è valevole nel seguito non commerciale seguente: / The permit covers the following non commercial utilization:

- Die Durchführung der Flugerprobung auf dem Flugplatz Lodrino gemäss EAS Flugerprobungsprogramm und -verfahren; Die Planung der Flugroute/die Durchführung des Fluges muss so gestaltet werden, dass unter Berücksichtigung der Flughöhe, Fluggeschwindigkeit, Masse und der Flugcharakteristik des Luftfahrzeuges, im Notfall eine kontrollierte Landung im freien Gelände möglich ist oder im Falle eines unkontrollierten Verlustes des Luftfahrzeuges Schäden von Dritten auf der Erde vermieden werden können.
- Die anschliessende Serviceerprobung bis min. 25 Flugstunden gemäss AFM auf allen Flugplätzen in der Schweiz, ohne Passagiere und keine Teilnahme an öffentlichen Flugveranstaltungen.

6. Gültig bis (Tag/Monat/Jahr) / Valable jusqu'au/jusqu'à (jour/mois/année) / Valevole fino (giorno/mese/anno) / Valid until (day/month/year):
31.05.2014

7. Tag der Ausstellung / Date de délivrance / Data di rilascio / Date of issue: **30.05.2013**

8. Stempel, Unterschrift / Timbre, signature / Bollo, firma / Stamp, signature: **Bundesamt für Zivilluftfahrt**
Sicherheit Flugtechnik, Section STSS

CH-Permit to Fly

1 / 1

High Speed Taxi Test
June 17 2013

July 4th 2013
MAIDEN FLIGHT

After 11:11 hours of Flight Time and 20 Landings a close Encounter with Tante Ju

EAS President Werner Maag delivers the diploma to Luca

And now let’s tune it: put on wheelpants, different fairings

1.1.2014

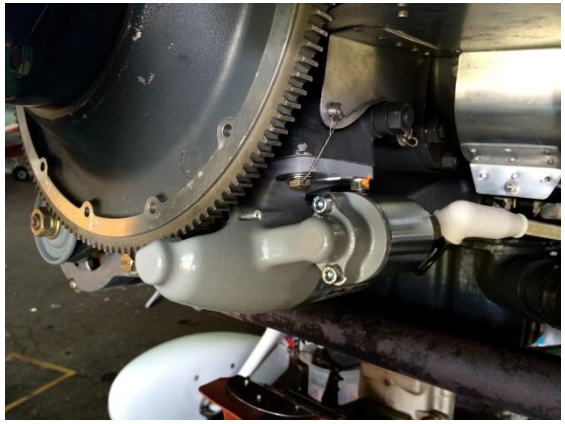
New Year, New Make Up

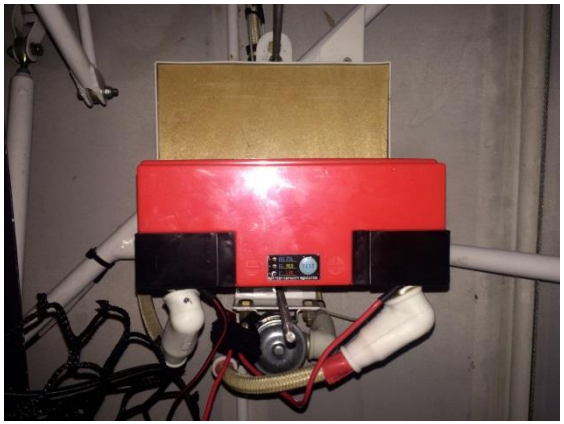
Candidate to FAI Phoenix group diploma

Cielo Aperto Locarno
20.5. -1.6.2014

Camping under the Wings
Airolo 21-22.6 2014

It’s Time for some Tuning : 17 kg lost (FeLiPo Battery and Skytec Starter) and first areodynamic tweaks



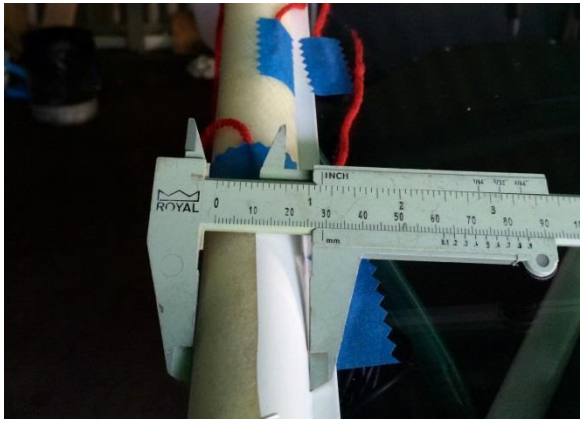


6.9.2014 First EAS Noise Test in Grenchen ?

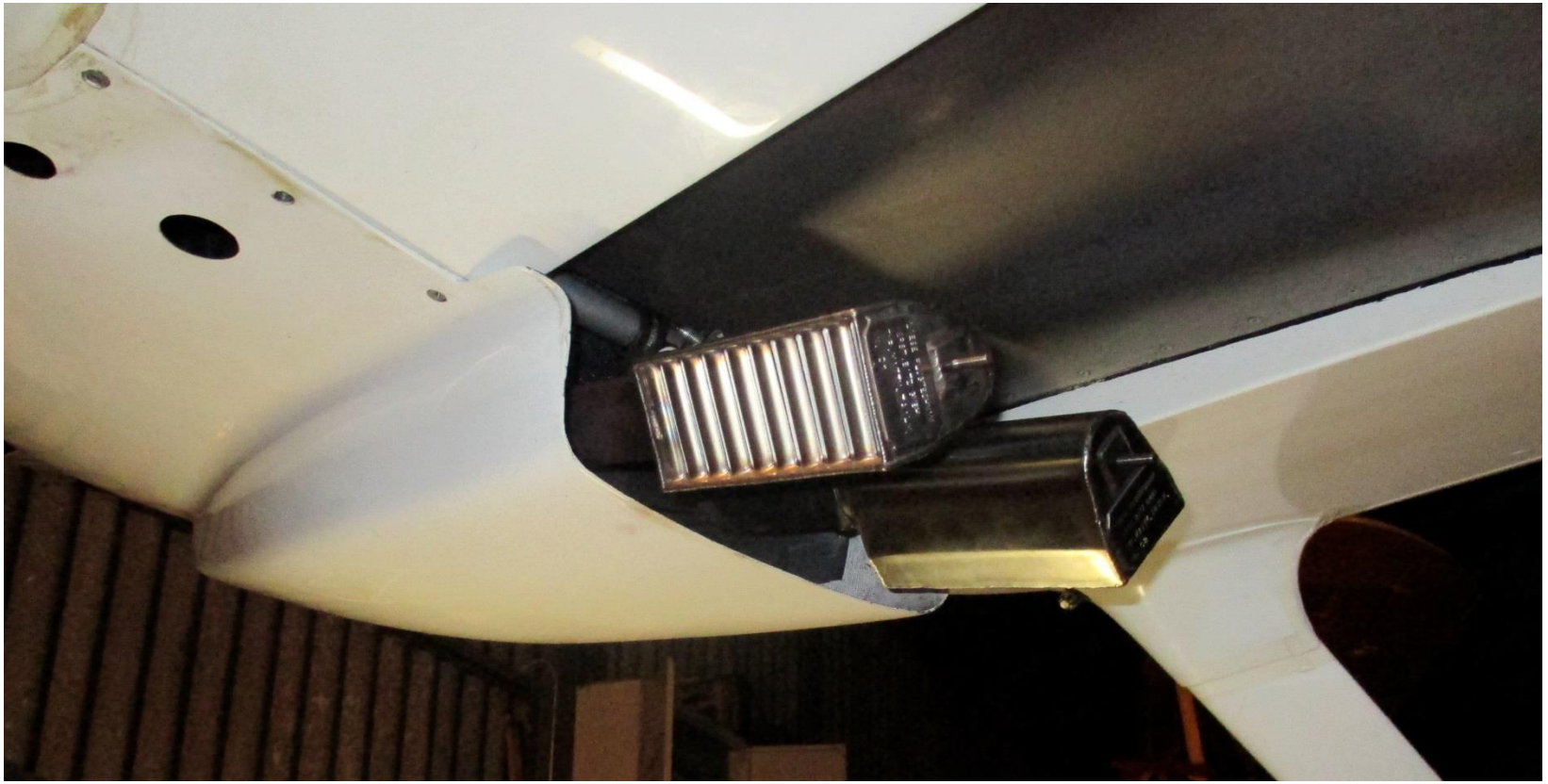
After 40 h and 70 Landings. Above the Alps (Aletsch)

And around the Matterhorn

Tufting with W/S fences and wing-strut fairings in place



Fliege leise mit Liese:
at least we hope so



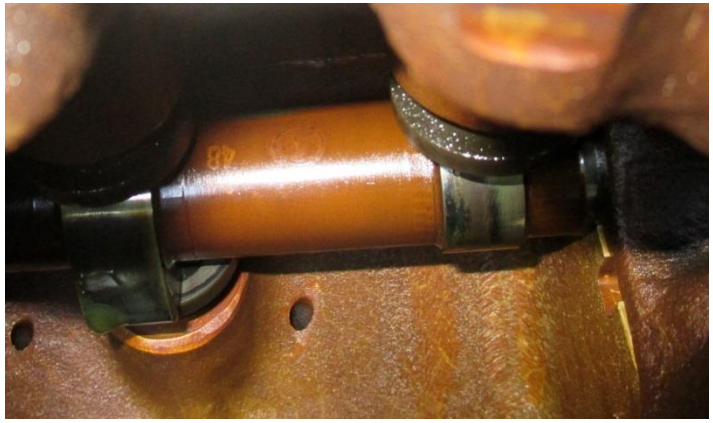
9.5.2015 Grenchen Airport did we pass the Noise Test ?

Waiting for the final Noise Report

Finally we got it
and even won a Trophy

15.6.2015 Grounding

- All airplanes with Lycoming or Continental engines older than 27 years are grounded and the pulling of two cylinders is mandatory by FOCA



Aurélien Parent from France a W10 builder came to visit us

www.swiss-tailwind.ch

On our website you can find all kind of informations about our project and much more