



Skywriter

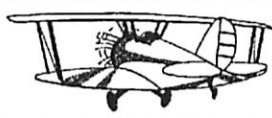


Monthly Newsletter of the Calgary Ultralight Flying Club

May 1995

Off We Go ...

by Wayne Winters



Tax time, tax time - makes ya wish ya were on another planet time! I really hate it when governments put in temporary measures, then forget that they were only supposed to be temporary (income tax was only to last until the end of WW2 and the 2 cent a liter gas tax was only going to last until Petro Canada was paid for - HA!) I wish my memory for such things was shorter, and maybe I wouldn't be so up tight. This is one of the reasons that I am glad to see Transport Canada letting us have input into the new regulations that we will have to live with for a loooooong time.

The New Regulations

Upon reviewing the material that has come down the pipeline from some of the meetings that Transport has been having, I do not see anything to get to excited or depressed about, at this time. It does appear that the ultralight question is getting the same representation as I also received a notice that was marked "urgent" which related to medicals and medical declarations from Transport Canada. It was marked that there would be 2 pages and I only got one (maybe they thought I would only read one anyway). I could not see anything different than we know now. It does seem that Dr. Gregg, the Chief Medical Examiner for Transport wants to toughen up the medicals and medical declarations. This seems to be 180 degrees from where I thought the medical question was going. I understood that they were going to leave the medical declaration where it is or even opt for a drivers license type and make it easier for Grandad Agriculture who just wants to fly off

his farm strip, yet does not pass a full fledged medical (you know the drill - poor hearing, poor eyesight, poor reflexes, poor memory - gets lost a lot, etc.

We'll keep you posted.

The April Meeting

We caught up on what is happening with the kits in progress and did some planning for "SUMMER FUN FLYS." Watch the Skywriter for dates and times. We want to have a couple of them and make this a memorable ultralight summer. A discussion was had about the possibilities of starting a flying group, completely independent of CUFC. Jim Scott, the past owner of the Arlington Airport in Washington state, started a flying group a number of years ago and it is still going strong. The way it works is anyone who joins spends \$1100. US for the privilege and then has monthly dues of \$20 which allows them to fly for cost (\$20 per hour). Every time they get another 15 members they buy another airplane. Jim contracts with the club to provide the airport, instruction, management and maintenance. What is accomplished is a ton of people that cannot justify big bucks to buy an airplane get to have one at their disposal for a very affordable price. I am thinking seriously that this would create a lot of pilots and keep a flying school on our Indus field. (The flying school business is a tough one and the schools come and go).

A couple of days ago I had occasion to talk to Jim Scott (he is busy getting things ready for the Annual Arlington EAA Fly-in) and asked him if he would

do the same thing over again, knowing what he does now. With out hesitation he said it was the best thing he ever did. It got a tremendous response and worked very well for everyone. I would appreciate your comments, both positive and negative to the above proposal.

We capped the evening with a very enlightening confession session - and discussed first hand some attitudes that should preclude an individual from flying - the Blue Subaru syndrome. Nobody likes a rat fink snitch, but sometimes we need to shake someone up in order to save their life.

Vauxhaul and Linden Fly-ins

Be sure to check the Coming Events column for dates and times of coming fly-ins. The Medicine Hat Ultralight Fliers are still planning on a meet in Vauxhall May 28. I let them know that several people were interested and they are going to let us know shortly if the date is firm. We will not have time to get it in the Skywriter, so please call me at 936- 5767 to confirm the date.

Notice just came of the 3rd annual Linden Fly in breakfast. It is Saturday, June 3 with breakfast served from 7:30 to 9:45 am. It is a real nice strip and a good breakfast with a bunch of things going on during the day, should you be inclined to stay.

Ivo Props

Last meeting it was brought to our attention that someone from the Minnesota Ultralight Association had sent around a memo titled "Friends don't let friends fly Ivo Props". He had crashed his airplane en route to Oshkosh due to propeller failure and was a little miffed, to say the least. Upon doing my investigative
(continued on page 2)

(Off We Go - continued from page 1)

journalistic bit at Sun 'n Fun, I found that only part of the truth was told. The prop he had on his airplane had been modified by a friend of his (Larry) and failed due to vibration that had set in, resulting from the modification. In fact, upon returning home and re-reading the Minnesota article, I could see that the picture that was taken of his crashed airplane even shows the modified blade. I talked to Ivo extensively about past problems and he was very up-front with me. He said that up to 2 years ago he was using aluminum for adjusting forks (in the prop) and that there were some failures due to that, but since changing to steel the problem no longer exists. Apart from that, problems that people have had are from modifying the props. In my opinion any fool that would mess with a manufactured prop cannot expect the manufacturer to be responsible for even a replacement prop when it blows up. Ivo also freely admits that he does not like the motor that he is using on his cockpit adjustable prop, but that it is cheap (\$20 US) and he guarantees them for a year. He said some go 20 hours, some go 200 plus hours, it all depends upon the engine installation and vibration of the package. About 1/3+ of the airplanes at the show had no props on them. I asked as many people as possible how they liked them and the response was always positive.

When I first met Ivo at Oshkosh '89 I can not say that I was frightfully impressed. He is the kind of person that you need to get to know to appreciate. He initially is very excitable and nervous, but as you get to know him he becomes relaxed and very helpful. My hat is off to him because he helped me get out of a jam at the air show. The new GCS prop that I had installed on the E-Z Flyer was not getting the performance that I had expected from a 582. In fact in an airplane that is about 35 pounds lighter it was not performing any better than the 503 in the prototype. GCS had switched to a taper blade which is supposed to give a better cruise, but what was happening to me is it would lose RPM on take-off. I had the static RPM set at 6300 expecting that in the air, on take-off, as the air starts to flow through the prop the RPM would go to about 6500 or 6600 which was where I wanted it. (In flat out cruise it should not go past the 6800 red line). What happened though, is a phenomenon that I have never experienced. Once in the air, instead of increasing the RPM would drop to 6100 or 6200 and not allow the engine to get into its power band. At home on the Prairies that

would not be a problem, but over the trees, power lines and alligator swamps, I wanted altitude, and right now! After all, it was a new engine with only 2 or 3 hours on it.

Scott Haggemaker, whose field I was at in Arkansas last December, said that the problem was the taper blades. A Merlin customer of his was having the same problem with a new 618 engine and a Warp Drive taper blade prop. He said that when they got the regular flat blades installed it solved the problem. I sought out Brent from GCS to see what we could do to resolve the situation. He said that he had not heard of it happening and that they would exchange the blades for the flat ones. He did not have any props at the show and my research showed me that none of his dealers did either. Next I went to Warp Drive to get another prop, but neither they nor their dealers had props at the show. How do you figure that they would go to the biggest clam bake for ultralights in the world and not take a few props. It would have been simple enough to have a few standard props for standard engines, but no, not even one. I was a little annoyed because by the time I got one from either manufacturer air expressed in it would be Tuesday or Wednesday (this was Sunday).

I wanted to talk to Ivo at Ivo Props anyway and elected to go see what he had, although admittedly, I was not planning on getting one because of all the negatives that I had read, etc. The last thing I needed was to shed a blade over the swamps and have to use it to battle alligators. As it turned out Ivo was the only prop businessman at the show and bent over backwards to solve the problem I was having, and did so in just a few minutes. He not only had the prop size that I was looking for, but had several other options. As a result he has landed the Merlin Company and myself as enthusiastic dealers. The prop works terrific, solved the problem and is hands down the easiest prop I have ever adjusted. I would highly recommend them to anyone, and would be delighted to take your order!

Sun 'n Fun '95

In the next issue of the Skywriter I will give a synopsis of my impressions of the event from a participants perspective. For now - believe me - it was a real nerve-racking, exciting, thrilling and fun experience.

Hiperlite SNS-8 - 200 Hrs. TT, hydraulic brakes, ground adjustable prop, STOL, fun aircraft to fly, good condition, \$6500.00. Bob Campbell 934-3657.



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Bob Kirkby 569-9541

Skywriter is the official publication of the Calgary Ultralight Flying Club and is published 12 times per year. Opinions expressed by our writers are not necessarily those of the club. Articles and letters to the editor are very welcome from any readers. Address correspondence to: Bob Kirkby, RR 7, Calgary, AB T2P 2G7 or Fax to 403-291-1112.

Meetings of the Calgary Ultralight Flying Club are held the first Wednesday of every month at 7:30pm at

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Classified

Chinook - single place, perfect entry level aircraft, 60 hours, 277 Rotax, \$3900.00. Ron Axelson 244-7005.

Intercom - 2 place Ultracom including 2 headsets, in good condition, \$400.00. Chris Kirkman 280-1843.

Chinook - 2 place, 1985, 38 hrs on rebuilt Rotax 447 & gear box, ASI, ALT, VSI, Tach, Extra Tanks, 6.50x8 wheels, \$5,000. Dave Dedul 403-823-6054.

Airlight Model "A" Parasol - Steel tube & rag, Rotax 503, Warp Drive, lots of instruments, 800 x 6 tires, strobe, CB & VHF hookups, folding Kolb wings, \$6,500. (Reduced). Jim Creasser 226-0180.

Props - 2 wood props: 64 x 32 and 64 x 34, \$200.00 for both. Damien Belanger 1-823-3027.

1977 Honda 750 FourK - Excellent condition, 4700 Mls, \$1200.00 firm. Doug Ward 282-0806.

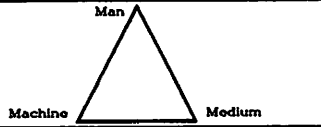
Lazair - wind damaged, repairable, pioneer engines, \$500.00. Jim Creasser 226-0180.

Gauges - Dual CHT and Dual EGT gauges - \$125.00 for both, 3 1/8" Tachometer with hour meter - for CDI ignition. Ken Johnson 546-2586.

Classified ads are free to CUFC members. Call Bob Kirkby, 569-9541 to place your ad.

Safety Corner

by Paul Hemingson



Good, Better and Best

For the most part, Safe Flying is dependent on the pilot. Accident statistics show that pilot error is involved in almost 90% of accidents and incidents.

Most of us are required to make decisions, solve problems and recognize potential problems. Our attitude towards these fundamental thought processes is important. Most decisions have a wrong and a right option. But for the right decision there are usually options that are good, better and best. The safe pilot will recognize not only the right decision, but will have also evaluated various options before choosing the best option. The best option may require some extra effort, or time or energy on our part, but it leaves less to chance.

For example, on a cross country flight we may "land out" at a friends strip. Once down, we get out to walk around, stretch, and perhaps notice a slight ringing of the ears. (A reminder that maybe we do not have appropriate ear protection.) After visiting the facilities and maybe having a snack, it occurs to us to check the fuel (recognizing a potential problem) and then a decision is called for.

Let us say you have about sixty miles to get home, and reckoning your speed over ground (thereby assuming some wind/weather conditions) you eyeball the fuel tank and estimate about 3.5 gallons left. It's decision

time now. do you take the time to refuel/top up the tanks, or do you take off to take advantage of a slight quartering tail wind.

The safe pilot will think...lets see...60 miles at an average ground speed of 50 mph, ...but if the quartering tail wind changes to a quartering head wind, maybe 45 mph across the ground, which translates to approximately one hour and twenty minutes. He may then add another 15-20 minutes to the flight for unexpected things and then reconsider. Maybe two hours of fuel would be a safer choice? Arriving at your destination with only a few minutes of fuel remaining is a rap for the unwary.

Only fools are certain of everything. The safe pilot will entertain a variety of ideas before choosing his actions. He is uncertain of most things and having flown for some time, knows that most of his flying is somehow always against the wind and against the sun.

There are always options to decisions. Good, better and best. Fly safely by choosing the best option.



Coming Events

May 7 - Red Deer Flying Club's annual fly-in breakfast, Red Deer Industrial Airport.

May 7 - First Annual Wetaskiwin Fly-in Flea Mart, Wetaskiwin Airport, 10:00 to 16:00. For info call John at 403-986-8534 or Ernie at 403-352-0013.

May 7 - Calgary Flying Club RAA Annual Breakfast, 8:30 to 11:30, Springbank airport. For info call 403-288-8831.

May 20, 21 & 22 - Fly-in garage sale at Kirkby Field, all day, all weekend, refreshments. For info call Bob Kirkby 403-569-9541.

May 28 - Vauxhall fly-in meet with Medicine Hat Ultralight Fliers. For info contact Wayne Winters 936-5767.

May 28 - The Camrose Flying Club's Annual Fly-in Breakfast, Camrose, AB airport, 07:00 to 12:00. Free picture of your aircraft landing. For info call Glenn Lyseng at 403-672-5547.

June 3 - Linden Fly-in breakfast, 7:30 to 9:45 am. For info contact Wayne Winters 936-5767.

June 3-4 - Okotoks Aviation days, Okotoks airport, 9 am to 5 pm. For info call 938-5252.

June 11 - Annual Hinton Fly-in Breakfast and Airshow, 9:00 to 11:30, Hinton, AB. For info call Loren Lewis at 403-865-7440.

June 11 - Innisfail Flying Club's 34th Annual Fly-in Breakfast, 7:00 to 11:00. For info call Eldon Walter at 403-343-1709.

June 18 - Highriver Airport fly-in breakfast, 8:00 am to 12:00 noon. For info call 403-652-3444

July 16 - Vulcan Flying Club Breakfast, Vulcan, AB, 8:00 to 11:00. For info call Glenn at 403-485-2635.

July 22 - Kirkby's Annual Fly-in Breakfast, Kirkby Field, 8:30 to 12:00. For info call Bob Kirkby at 403-569-9541.

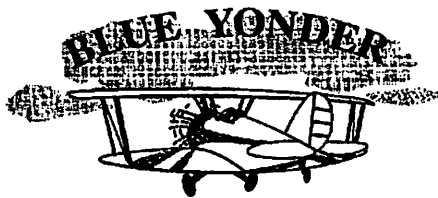
July 26 - Aug 2 - Oshkosh Annual EAA Convention, Oshkosh, WI. For info call 414-426-4800.

August 5-6 - Red Deer Air Show, Red Deer Industrial Airport.

August 11-13 - Abbotsford International Airshow, Abbotsford, BC. For info call 604-328-JETS.

August 13 - Wetaskiwin Flying Club Annual Fly-in Pancake Breakfast, 8:00 to 11:00, Wetaskiwin airport. For info call Jim Robson at 403-582-2558.

August 19 & 20 - Lethbridge Chrysler International Airshow, Lethbridge, AB. For info call 403-380-4245.



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A Little Prop Wash

by Douglas J. Ward



What's in a name? What's in a Title? Could a Title be replaced with just a name? If a person knows someone by name, and also knows his/her official Title, as in that persons occupation or status, cannot the name just be used? In more relaxed atmospheres, I believe this is the practice. It would be rather silly if in conversation, a person's Title needed to be revealed following any mention of his/her name.

Lets take Snow White and the Seven Dwarfs. Why would anybody take it upon themselves to change such a familiar name (and title of a very famous movie) and put in another series of words which can now be classed as "Politically correct"? Does this not change the whole perspective of the movie? Should that now be taken by old Snow and her familiar crew as a slap in the face! I should hope so! She might respond with; "I've been known for years as Snow White. But the big insult is to you guys. You are now called Seven Height Challenged Persons. Are you guys willing to sit back and let some Politically correct person re-identify you without some sort of a Court Battle? I should hope not! Do you know that Webster's Dictionary describes you guys as "freakishly small people". You're also described as being sickly, diseased, and lacking in intelligence. Come on Dopey, you don't have to take this! Get Sneazy and Snoozy to help you. This Politically correct person's ass is grass.

Take Pilots. There are many different

types of Pilots. There are guys, and gals (can't forget them.....Political correctness and all), who fly Space Shuttles, Concorde's, Pitts Specials, Pipers, Cessna's, Boeing aircraft, Lockheed aircraft, Douglas aircraft, French aircraft, German aircraft, Canadian aircraft (and there are damn few of them), British aircraft, Helicopters, Gyrocopters, Biplanes, Triplanes, and more. There are stunt pilots, commercial pilots, fighter pilots, bomber pilots, Aerobatic pilots, Private pilots, Ultralight pilots, balloon pilots, Bush pilots, and more.

What do they all have in common. OK, lets get all that need for the freedom of flight stuff out of the way. Are you thinking? They all need the knowledge to fly. They all need to understand what makes a plane go up, come down, turn, spin, and unfortunately crash. Knowledge.

Back to names. Chuck Yeager. Most of us have seen his picture standing next to a P-51 with the name Glamorous Glinnis emblazoned on her engine cowling. This guy was and is good. First guy to break the Sound Barrier. We don't say Chuck Yeager; aka WWII fighter pilot, test pilot, nice guy. We just say Chuck Yeager. Anybody who knows anything about the history of flight knows what this man has done. What a fortunate person he is to have been the first at so many things.

Back to Pilots. Does the pilot of a 747 know anymore about what makes his plane fly than the pilot of an

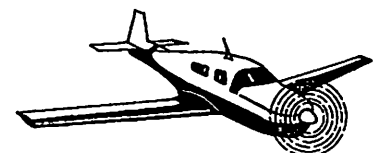
Ultralight? I personally doubt it. He may have greater knowledge of how to fly a 747 than most Ultralight pilots do, but I bet unless he has had experience, he would have trouble landing an Ultralight aircraft in a crosswind. However, the important fact here is that he is a pilot. He had that initial urge to fly. He acted upon it. He achieved it. He now has the Knowledge.

This knowledge must be combined with experience. Book smart doesn't always do it for you. Experience will be the leader over book smart. Book smart gets you're foot in the door, but it's the experience that keeps that door open for you. Sort of like which came first: The chicken or the egg? Nobody really knows but somehow both were involved.

Did this 747 pilot ever fly an Ultralight, or does he just think their a poor excuse for a flying machine. Perhaps if he had learned on a Chinook or a Beaver he might be able to handle conditions which aren't in the book. Reason being that Ultralight pilots handle these sort of conditions on a regular basis and lived to tell about it. How many Commercial airliners that have a total engine failure situation have successfully flown immediately after. An example is the Gimley Glider. That guy successfully landed because he had flown Gliders and knew what he had to do. Copy cat tests applied to other pilots in the same situation indicated that the rest would have died in the crash. Knowledge.

Aviation Law Makers should remember that knowledge of flight, and knowing what makes a machine fly and what doesn't let it fly are very important factors when dealing with licensing of pilots. Experience gained is experience kept. People don't forget when they are faced with reality. That reality is flight and the experience is never forgotten. No person who has gained the knowledge of flight ever forgets what he has learned. Sometimes it might be on the back burner, but when the time comes it can be drawn out immediately and used. And believe it: Ultralight pilots go to the back burner many a time. Pilot: a person with knowledge and experience.

Safe Flying.



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Flew Two Years Before The Wright Brothers

The following article has been translated from a Swedish magazine by Andy Gustafsson.

"Neither the Smithsonian Institution nor its successors nor any museum or other agency, bureau or facilities, administered for the United States of America by the Smithsonian Institution or its successors, shall publish or permit to be displayed of any aircraft model or design of earlier date than the Wright aeroplane of 1903, claiming in effect that such aircraft was capable of carrying a man under its own power in controlled flight."

The above statement is found in a strange agreement which probably is behind a number of questionable occurrences during the very first part of the history of flight.

In short, the agreement means, that the Smithsonian Institution is forbidden to possess or to propose any other suggestion than that the Wright brothers were the first to fly. The Smithsonian Institution have been very successful in their task to promote that statement.

Made Peace With Orville

The reader also should know that the agreement between the Smithsonian Institution and Wright Interest was signed on 23 November 1948. It was also then that Orville Wright "made peace" with the Smithsonians and let them take over the FLYER-3 aircraft which had previously been on display in England for nearly 30 years. But the existence of the agreement was hard-headedly denied by the Smithsonians - "how could we possibly sign such an agreement?" was the comment from them. A few people were suspicious, that there was such an agreement. Every inquiry from them to be able to take part of it was fruitless. "There is no such agreement!" was the answer from the highest institution for technical history - even aviation history.

It was not until 1976 that the agreement came to light, after having been persistently denied for almost 30 years by the National Air And Space Museum / Smithsonian Institution. It is clear that the agreement is regulating, most importantly, the attitude in which the Smithsonians

shall take regarding the pioneer years in aviation.

It was with the help of the Connecticut Aeronautical Historical Association, which in turn contacted the Connecticut senator, that state institutions and the Smithsonians were forced to come forward and make public, copies of the strange agreement. The above story would never have been printed if it was not for fiery souls that not only from investigations, but from interviews, digging in old barns and workshops - and from hard-headed resistance from the largest government institution, on the subject, in the U.S.A. - the Smithsonians.

German Immigrant

Miss Stella Randolph and William J. O'Dwyer (major, U.S.A.F.[Ret]) are the fiery souls of this story. Miss Randolph (author with history as her specialty) stumbled upon a story about a German immigrant by the name of Gustav Weisskopf (Gustave Whitehead), that worked in Connecticut at the turn of the century. She started investigating his life and his work. Her first book "Lost Flights of Gustave Whitehead" was published in 1937. It is largely incomplete, but was published to show what she had found out to date and to encourage other aviation historians to pick up where she had left off. Her second book on the subject "Before the Wrights Flew" was published in 1966, and contained many more facts - photographs, interviews, eyewitness accounts etc.

It was in the sixties that William O'Dwyer came in to the picture. Plans were made to make a new edition of the book "Lost Flights..." A lot of facts -

and proof - had come to light and that motivated a new publishing, but it proved however that it would take to much effort to freshen up the original so it was decided that a completely new book would be written.

In 1978 the new book left the print shop in Leutershausen, the birthplace of Gustav Weisskopf. "History By Contract", was the title, with the subtitle "The Beginning Of Motorized Aviation: August 14 1901, Gustave Whitehead, Fairchild, Conn." The book was only printed in 1500 copies, unfortunately.

The 350 pages reveals all the facts about Whitehead and his accomplishments in the field of aviation. The book contains a vast amount of eyewitness accounts (Notaries Publicus, with stamps and all!) by persons that have seen Whitehead fly, copies of the extensive correspondence through letters, which occurred (not only with the hard-headed Smithsonians), a great number of authentic pictures (68 pages) and much more.

Witness To A Low Pass

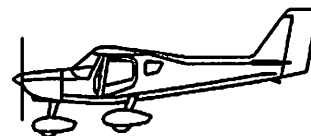
There is reason to pass on an eyewitness account from a flight in 1901.

"My husband came and told me that we were going to see whitehead fly, down at the field. So we went there. But he didn't fly. He only got up a couple of yards and away he went, not any more than a mile before he came down again. Oh no, he sure didn't fly much."

Gustav Weisskopf - Gustave Whitehead - was airborne in a
(continued on page 6)

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(Two Years Before - continued from page 5)

contraption that looked like an aircraft, before The Wright brothers. Many names have been mentioned in connection with the early pioneer years: Langley, Wright, Chanute, Curtiss to name a few. For some reason Weisskopf/Whitehead has never been mentioned despite the knowledge by, for example the Smithsonian Institute that has known of his existence since the thirties. Seems like it's been in the dark for a long time.

Gustav Weisskopf was born in Leutershausen / Franken on the 1 January 1874. The mother's name was Babette and the father was Carl.

Up until his thirties he was living in Hochts am Main and moved after that to his grandparents in Ansbach. After a short apprenticeship as a bookbinder and also a blacksmith, he went to sea. Back in Hamburg a year later, he emigrated to Brazil. There he went to sea again.

For 4 years he was roaming around. It was during that period that his interest for flying awoke. One reason for that could have been watching all kinds of seabirds during his travels at sea. A newspaper article also spurred him on. The suggestion was that mankind now was ready for the next challenge, the airspace. The story led to a short visit to Germany and the Lillenthal brothers, to talk flying.

Toy Airplanes.

In 1895 he immigrated to U.S.A. and settled in Boston with the name of Gustave Whitehead. He looked up the newly started AERONAUTICAL SOCIETY and constructed for them, a way of transferring movements to moveable wings (ornithopter) and a glider, similar to the Lillenthal glider. The glider was a success and the news spread all the way to Germany.

Toy and sporting goods manufacturer Horsman in New York hired Whitehead as a specialist on kites, flying models and "aircraft"- engines. It was at this time that he got the idea to put an engine in his glider.

In 1897 he started a family and his flying experiments was put on hold, but it was not too long until he started tinkering again. After having moved to Pittsburg, Gustave built his first flying machine with an engine, a steam engine. It was flown in April or May of 1899, but no records of distance and altitude are known. We only know that the flight ended in a crash against a house wall between the roof and the third story and that his helper Louis Javarich was burned from escaping steam.

The local police found his experiments to dangerous and Gustave moved in

1900 to Bridgeport Connecticut where the police left him alone. With a sponsor and a capital of \$300.00 he put his whole sole in to flying and soon he had built his new KITE #21.

Engine Powered The Front Wheel.

This flying machine had a wingspan of 10.97 meters and the fuselage length was 4.9 meters, excluding tail feathers and front wing bracing. The whole craft was 10 meters in length. He used two engines. One of them powered the front wheel and the other powered the two propellers. A little article about this flying machine can be found in Scientific American in the 1901 June issue.

On the 14th of August the same year, Gustave flew his #21 a distance of 2700 meters at an altitude of 10 - 15 meters. Thereby he had proven that it was fully possible, without any external aid (the Wrights used some kind of catapult mechanism), to be able to take off from the ground, climb and land again without crashing. This historical flight was followed by several more flights, as told by many eyewitnesses a number of years later. Whitehead's mistake was his sloppiness with publishing. Had he only talked to the local newspaper before he powered up his two engines, the paper surely would have sent reporters and a photographer to save this historical event. Later that year a very successful flight ended up in the water.

At home in the shop he continued his experiments with the most important part of the airplane, the engine. His first was a steam engine. He also constructed a diesel engine for future use. And had he been a little more of a businessman, he could have made a living, delivering engines to other people that were working with aviation or needed a lightweight power plant for any other reason.

In stead he was in constant need of

money and could not even afford to patent his inventions.

Flew 11 K.M. In 1902.

On 17 January 1902, Whitehead flew a distance of 11 kilometres and reached an altitude of approx. 60 meters. Pitch control was achieved by increasing or decreasing power on the engines, this time the engines were used to power both propellers. He turned by shifting his body left or right and thereby banked his flying machine.

In 1903 he set a speed record. In October of 1904 John J. Dvorak, professor of physics at the Washington University in St Louis said that Whitehead was the most successful of all people working in the field of aviation.

The experiments continued for a number of years, but competitors with capital were now gaining on Whitehead. His engines were still looked upon with interest, but the world soon turned its back on the aviation genius and his total lack of financial knowledge. His whole shop, which was everything he owned, was taken as payment for a missed engine shipment and he died totally broke in 1927 at an age of 53 years.

A little bronze plaque on his grave, #42, was replaced in 1964 and a stone with a much more suitable inscription, "Gustave Whitehead, January 1, 1927, Father Of Connecticut Aviation", was erected with the help from the Connecticut Aeronautical Historical Association and 9315th U.S. Air Force Reserve Squadron.

The development and evolution of airplanes is not the work of just a few pioneer's often glorified attempts of flight. Instead it is many more known and unknown people, which individually or together have worked together in the development of aviation. Gustave Whitehead is one pioneer that has been left in the shade, and not only by his own fault.



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Around The Patch

by Stu Simpson



Almost There

At the end of last month I'd finished building and trimming the ailerons for my HIMAX. Once all that was done I glued on the wing root and tip end plates. They're made from 3mm plywood and close up the ends of each wing. The end plates on the ailerons are made from 1.5mm ply.

I made a slight error at this point. When the plates were glued on, some of the excess glue filled in the bolt-holes where the aileron-hinge hardware mounts. It took a few hours to clean everything out properly. I advise dry-fitting the end plates, and drill the holes before applying glue. Then, if any glue leaks into the holes it's a snap to clean out with a drill.

Next up was some metal work. It was time to make the wing struts, which went much more smoothly than I thought it would.

There are two struts on each HIMAX wing, one attaching to the front spar, the other to the rear spar. The front one is made from 4130 steel tubing, and the rear from 6061-T6 aluminum. The struts attach to brackets on the lower end, which in turn attach to more brackets on the fuselage sides. The upper ends bolt directly to brackets extending from the wing, except at the rear strut, where a swivel-block is used.

A quick aside here. One of the smartest things I did on this whole project was to buy the bracket and fittings kit from TEAM. This includes almost all the small metal components of the airplane - things like spar and strut attach fittings and control horns. All pieces are very high quality. At the start of the project, I had no experience with wood or metal. It was enough to learn wood working, I would have had a much rougher go of it if I'd had to learn metal also. For those of you with prior experience, the metal pieces will be a snap. For guys like me, I suggest getting them pre-made.

As I was saying, the struts are all attached via pre-made brackets. The plans offer a very good suggestion in that they recommend using the brackets as locating jigs for the holes in the struts. I followed their advice and consequently, all my holes lined up as they should.

A drill press, or a hand-held drill guide is highly recommended. The key point here is to get the holes located in the center of the tubing. Centering guides are available in hardware stores.

It was time to hang the wings, certainly a milestone in the project. One thing that had been on my mind for months was whether or not the spar carry-through channels in the fuselage were located so as to line up with the actual spars. It's obviously a crucial dimension.

One day, when our son was having his afternoon nap, my wife, Tina, grabbed the tip of the right wing and I grabbed the root. We were about to assemble an airplane!

My heart nearly stopped when it looked for a second like the spars were too far apart. But with a little more wrangling and wiggling, the spar brackets slid quite nicely into their slots in the fuselage wing root. Tina supported the tip end with a large box and helped me position the wing to the correct angle. When the front and rear spar brackets were located just so, I stuck my drill bit into the holes in the end of the brackets, and made small divots in the carry-throughs. Then we backed the wing out and I drilled through, hoping like mad that the holes would line up. They did.

With the wings now attached at the root, the struts all had to be aligned. The struts are adjustable, before final assembly, with the use of internal

sleeve tubes. This allows the builder to set the proper dihedral (in this case, 1.5 degrees) and wash out (zero) to the wing. When all is set and clamped, one simply drills through the previously made holes in the outer tubing and into the internal sleeve tubing. Slip in a bolt and you're done. It couldn't be easier.

Once the right wing was hung, we took it off and prepared to hang the left wing. The process went much more quickly than on the right wing, since we'd learned all the tricks to doing it correctly.

A few days later, Tina and I re-assembled the plane in the backyard to fit the aileron controls. These consist of push-pull cables that run from the control horn in the fuselage, to mounting brackets on the outer sides of the fuse'. From there, torque tubes, with threaded rod ends make up the rest of the linkage. The upper rod ends accept ball joints, which attach to a bolt and bracket assembly on the inboard end of the aileron. It all works well and looks pretty slick too.

It was quite a thrill for me to sit in the cockpit, move the control stick, and actually see the ailerons move as they're supposed to. I had to quit, though, when the neighbors came wandering over, curious about who was making machine-gun noises and yelling, "DIE, YOU NAZI POND-SCUM!!". I slipped away to the garage, red-faced and muttering on how they must have been hearing things.

Next on the agenda was rudder and steering cables. I have to admit I was quite intimidated with the prospect of installing these cables, mostly because I had no experience with them. Fortunately, Bernie Kespe does, and the two of us spent a Saturday

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(Around - continued from page 7)

installing them in the airplane.

The cabling in the 'Max is pretty straight forward. The cable is 3/32" and runs from the rudder horn to the pedal and back down to the tail wheel steering bar. There are Nico-press sleeves at each point and turnbuckles for tension adjustment.

I would have been completely lost without Bernie's help on this job. As I said we took a whole Saturday, which is a day Bernie could have spent working on his plane. Thanks again, Bernie. And thanks also to Ted Orlick, who lent us his Nico-press tool. I recommend getting experienced help on your first attempt at cable installation.

In the third week of April, I phoned Hal Shwartz, of Transport Canada, to arrange for my Pre-covering Inspection. We set the date for the upcoming Friday.

I was all nerves as Tina and I put the plane together again in the back yard. Hal arrived on time, and was joined a short time later by Dave Forrester. Forrester, head of the local R.A.A. chapter, is training with Hal to be an Amateur Built Airplane Inspector. So I had two very experienced people inspecting my work. I guess I'm one of those people who will endure almost any torture to fly.

About an hour later, Hal

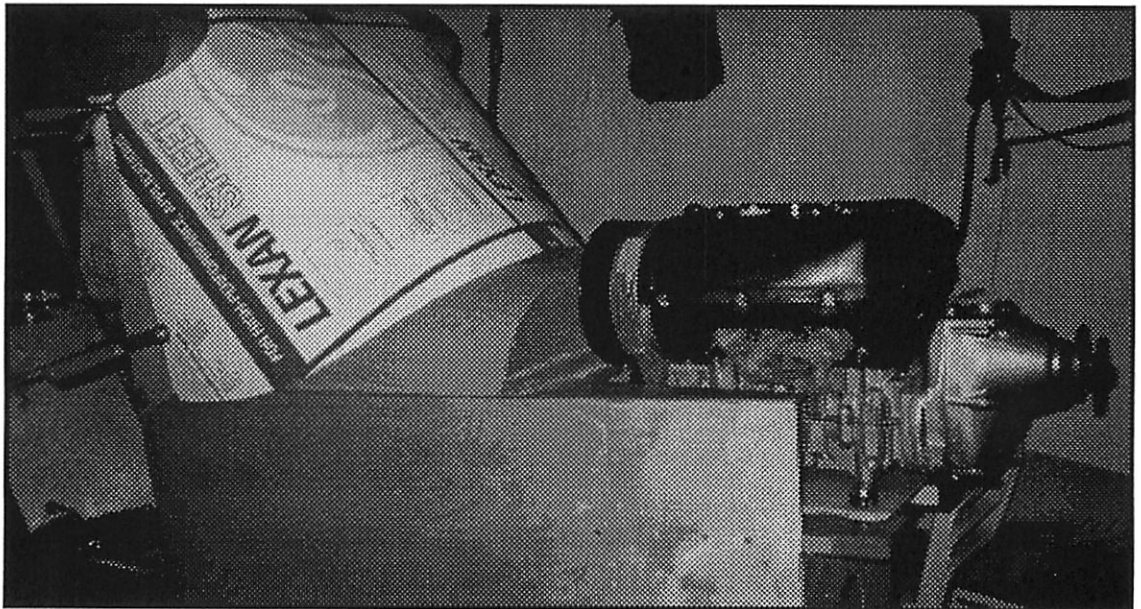
had spotted only a few minor glitches, and ordered me to replace a few items of hardware. He also offered some very valuable advice on finishing the plane. He stated that he was quite pleased with the work I'd done and gave me approval to go ahead and cover the beast. What a relief!

I wound up the month by installing my engine, a Rotax 503, in the plane. It sits on a 3/8" thick piece of plywood, which in turn is isolated via rubber Lord mounts. I'm quite pleased with the installation.

I'm working now on installing my windows and then it'll be on to covering.

It's been just over a year now, but I think I'm almost there.

Engine and windscreen installations. Gearbox is turned down for final assembly.



Completed structure in back yard. Note the aileron torque tubes and push-pull cables.