



May

Minneapolis, Minnesota U.S.A.

2011

Holy Toledo Expo!!! A Great Experience!!!

by Jim Cook

Jim Cook and TCRC president Tim Len piled into Tim's Honda around 6:00 PM on Thursday evening, March 31st and headed south east. Their destination was Toledo, Ohio, some 700 miles away and the 57th Weak Signals Toledo Expo. This is the granddaddy of all R/C events, with absolutely anybody who has a commercial enterprise in radio control will be there.



The main floor of the Expo. This picture shows about 25% of the booths on this level. (Photo by Jim Cook)

This was probably the seventh or eighth time Jim had attended the Expo, but it was the first ever trip for Tim. His unabated enthusiasm just

continued to grow as the two TCRC'ers drive across Wisconsin, Illinois, Indiana and into Ohio. The 12 or so hour trip seemed to fly by as Jim and Tim discussed just about every aspect of our hobby, before arriving in Northwoods, Ohio and the Comfort Inn.

Bright and early Friday morning they arrived at the Seagate Centre in downtown Toledo. Jim had hoped to get their quite early so they could spend some time on the second floor at the huge Swap Meet that would coincide with the Expo. One of the pair was moving somewhat slow however, and the first visit to the upstairs was put off until after some time on the main floor. 9:00 AM and the doors were open and everyone headed into the Hall. Friday morning is a great time to be at the Expo from a crowd standpoint, but a lot of the beautiful planes that were being entered into the various competition categories don't arrive until Saturday morning. Since Jim and Tim were going to be there Saturday as well, they got the best of both worlds.

Tim was like a kid in a candy shop. His eyes were huge as he took in the unbelievable scope of the Expo. He hadn't been there a half-hour before it became very apparent that this was going to become an annual destination.

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From The Flight Deck

By President Tim Len



We are now into the month of May and many of us are looking forward to warmer weather and anticipating our flying field to be open.

How are those winter projects coming along, everyone done?

I made my first trip ever to the Weak Signals Toledo Expo in April. It will certainly not be my last! What an unbelievable collection of everyone and everything in this hobby. Jim Cook and I spent two days at the event and we both had great times. We met up with Chris O'Connor, Mark Wolf and Steve Meyer from the club on Saturday. We all spent some money. It would be impossible to go and not spend money. Everything we purchased however was a bargain we just had to have! I can't wait until next year's Expo!



Tim spent a lot of time using his camera at the Toledo Expo.
(Photo by Jim Cook)

This weekend I had a chance to visit our field. The water level is still very high compared to this time last year. From the looks of things I

would estimate that we may not be able to open the field till June. I do hope that I'm wrong about this.

Don't forget to read this month's AMA issue, *President's Perspective* article to keep up on the latest government affairs that possible could affect all of us things are starting to look up.

I am looking forward to meeting new TCRC club members and some of our current members so don't forget to attend our monthly meetings.

See you all at the next meeting. J

Calendar

- May 10** **Membership Meeting, 7:00 PM**
Fellowship Hall
CrossPoint Church
Bloomington
- May 14** **Spring Float Fly**
Bush Lake, 10:00 AM
Bloomington, MN
Steve Meyer
- May 20** **Hanson Fun Fly & Camp Out**
Mayer, MN
Kris Hanson
- June ??** **Jordan Field**
Clean Up
- June 4** **Building Contest & Fly In**
10:00 AM
Location TBD



TCRC's Fairgrounds Flying Site Is Open

2011 Toledo Expo

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Noon rolled around the two TCRC'ers reluctantly took a break to grab some lunch. They opted to forgo the concession stands at the Seagate and headed a couple blocks away to a nice restaurant. They ran into Mike Buzzeo, Geoff Barber and the RC Universe crew there. RCU obviously spends some time and money to cover the biggest RC Expo in the US.

On their return to the Seagate, the guys headed upstairs to the swap meet for a while. They stopped at the Hobby Warehouse booth to say hi to Tom Steinmueller, and also stopped at the Sky Hobby booth to greet Jeremy Steinmueller. There were fewer sales tables at the swap this year which would probably be attributed to the current economic situation.

Back on the main floor, lots of the models had started arriving for the judging competition, and it was unbelievable the amount of skill, craftsmanship and time had gone into these beauties. Some of Jim's favorites included a giant-scale Cobra (akin to a GB) that had a fantastic finish, a magnificent P-47 war bird with an aluminum finish, a Fokker Eindecker done in transparent film, a MK 66 Hawk that had a beautiful black finish, and a giant scale Spitfire. Tim of course had his own set of favorites.

By the time the Expo brought an end to the first day, Jim and Tim
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At the Expo There Was A Photo Op Everywhere You Looked!



Tim Len takes a picture of a great looking Spitfire that was entered in the competition. (Photo by Jim Cook)

Great Pilot!



This pilot flying a giant-scale old-timer would stand about 3 feet tall. The details were terrific. (Photo by Jim Cook)

2011 Toledo Expo

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were dragging. It would be an early evening so they could be up and ready to go the next morning.

Jim and Tim had made arrangements to meet fellow TCRC'ers Chris O'Connor, Mark Wolf and Steve Meyer at the ticket office on Saturday morning. In past years these guys would fly down in Chris's plane, but this year they drove, stopping in Chicago for the evening and then on to Toledo.

Once the doors opened, the guys each headed their separate ways, but with the magic of cell phones, it was a quick call when someone found a deal that was just too good to pass up. Even Scott Anderson got into the act. Normally Scott and Jim always come together but Scott was tied up this year and couldn't make it. That didn't stop him from calling and asking Jim to pick him up a \$350 charger however.

All the guys met up for lunch with the RC Universe crew at another restaurant, and then back to the floor to buy those last items that they just had to have.

Jim and Tim headed home around 3:30 PM, tired, broke, and unbelievably happy.

Next year's Toledo Expo will be a week later than normal, around April 13th. The 2011 edition of the event just whetted Tim's whistle. He said he will be there in 2012. J

TCRC Had A Good Showing At the 2011 Toledo Expo



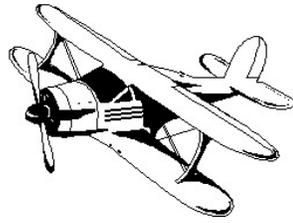
Chris O'Connor, Mark Wolf and his nephew, Jim Cook, Steve Meyer and Tim Len are ready for the Expo. (Photo by Jim Cook)

Lunch With The RCU Boys



The TCRC and RC Universe guys enjoy a great lunch in Toledo. (Photo by Jim Cook)

Show & Tell



Curtis Beaumont had a homemade 'hand chuck' airplane that he designed and built from foam. It was an inverted V-tail that he is planning on using as his first FPV aircraft. It was completely white, weighed in complete at 27 ounces and used a 2830 outrunner for his power plant. As of the meeting it had not had its first flight.



Conrad Naegele had two planes for S & T. They were both Live Wire planes which he built from tear-out plans from *Fly RC* magazine. The reason he had two of the same plane was that he took the plans down to a store to have them blown up. When he got home he realized that the plans were too big, so he had them done again to the proper scale. Since he had two plans, he decided to build both, so he ended up with two Live Wires, one with a 32" wingspan and one with a 28" span. They weighed fully loaded 11 ounces and 9 ounces respectively. Both planes were built with floats and wheels and done in red Litekote wings and yellow fuses. As of the meeting neither had its maiden flight.



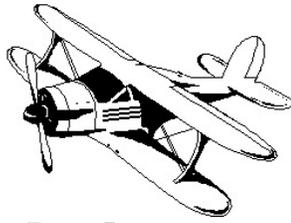
Sherwood had a plane from his past at the meeting. This was a Stratus pattern ship which was built from an old Sig kit circa 1962. Sherwood had seen this plane in Iowa and fell in love with it. He bought it for \$29.95 and then waited 25 years to build it! It was done in nice looking white glass/epoxy painted with Rustoleum and had red and black trim. It weighed in at 7 pounds and had a 70" wingspan. The engine was an older 60 Enya 2-stroke. As of the meeting it still awaited its maiden flight.



Sherwood also had an Aquilla glider at the meeting. This plane was abandoned at the TCRC

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Show & Tell



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Auction in February and brought to the next meeting where its fate rested in the hopes that someone would take it home. Sherwood did. He recovered the plane with orange and white Kote and it really looked pretty nice. It had a wingspan of 96 inches. Sherwood plans on adding an electric motor into the nose and convert it to electric flight.



Tim Len had a very beautiful twin-engined Cessna 310 which was from a Top Flite ARF kit. It was done in white with blue trim and powered with twin OS 55 AX engines. It weighed in at 21 pounds which included Robart retracts and 17 Hitec servos. It also had onboard glow and twin lipos with twin MPI voltage regulators. The maiden flight will be very soon.

Stan Erickson had a very nice Ace 4-40 Bipe that he had purchased from Jason's Hobby Shop in Shakopee a few years ago just before it closed. The plane was done in Ultrakote with US Air Corps trainer colors of blue and yellow with roundels on the wings. The plane had a 46" wingspan and weighed in at 4.5 pounds. It was powered with a 32 electric motor. Stan flew it for the first time at the Fairgrounds and had a mishap caused by a wing warp. After repairs it flew again, this time much more successfully.



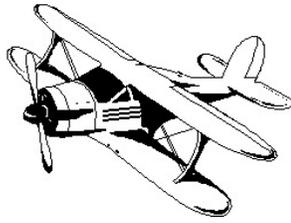
Dennis and Dominick Leonhardi brought three planes to the meeting. Pictured above Dominick holds a Kyosho P-51D Mustang that spans 31 inches and weighs just over 14 ounces. It was done in silver with green trim and red rudder and used a brushed motor with a 900 mah 2-cell lipo.

Dennis holds a very good looking F-86 Sabre done in Skyblazers trim. This plane is made by Freewing and distributed by Hobby Lobby. It weighed in at 18+ ounces and had a 27-1/2 inch span. The power plant was an electric 64 mm ducted fan. Dennis was very impressed with this plane.

Dennis and Dominick also brought a Tower Hobbies P-51D Mustang with a 40" wingspan that weighed about 2 pounds. They were impressed with the quality of the ARF, especially considering that it was inexpensive. *(Sorry – I did not receive a pix of this one. – Editor)*

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Show & Tell



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Joe Niedermayr has a very impressive looking civilian twin jet from Hobby Lobby. This plane cost \$100 and included the two fan units. Joe added 2-22mm 3500 KV motors and 2 30 amp speed controllers, 4 servos and E-Flite tricycle retracts. The plane is of foam construction and had a 50" wingspan. It weighed in around 3.3 pounds. He covered the foam with 3/4 oz. glass using Deft clear acrylic. He is patiently waiting for Jordan to emerge from the Minnesota River so he can have the maiden flight.



Mark Wolf had his giant scale P-47 at the meeting to show its progress. The fuse structure was pretty well complete and his pilot was already in the cockpit. When this plane is complete it will be exciting to see the maiden flight.



(Editor's Note: Wayne Rademacher sent me all of the pictures from the April S & T since I wasn't there. I did not get any info on this picture of Kris Hanson with a human skull and a transmitter, and can only imagine exactly how the three interacted.) **J**

Veep's Pre-Flight

by Mark Wolf



V For Airspeed

V for victory – we're all familiar with that expression. But what about V for airspeed? It's important for our aircraft to attain a minimum amount of airspeed to become airborne and also important to maintain it throughout the entire flight. But how much do we need? How much is enough? Can too much be a concern? From an aircraft performance perspective there are several designated speeds for specific phases of flight. These speeds may be an operating limitation (for full scale aircraft) commonly abbreviated with a number/letter code, preceded with the letter 'V' and referred to as 'V speeds'.

Without airspeed indicators on our aircraft, we rely on experience and familiar flight characteristics/control inputs to fly our planes safely. Let's take a look at a flight and see where we simulated reaching and applying some of these operating speeds. Applying takeoff power, hearing the electric motor whir up or the engine sounding normal, the airplane accelerates down the runway and we reach the take off decision speed (V1); looks like it's ready to fly. Soon after rotation (V R) and lift off, we establish a pitch attitude for a normal climb (usually V Y-best rate of climb speed) and raise the landing gear if applicable (V LO – maximum landing gear operating speed).

We can go fast (V NO – maximum structural cruising speed) or we may throttle back a bit and just enjoy flying around. A cruising speed is normally less than the speed at which full and abrupt control surface movement can take place without damaging the airplane (V A – design maneuvering speed). Above this speed however, these same control inputs can overstress the structure. Flying too fast (V NE – never exceed speed) is also a concern. Get too slow (V S -- the minimum steady flight speed at which the airplane is controllable) and a stall occurs.

Slowing down for the arrival and approach, if our plane has them it may be time to extend partial or full flap settings (V FE -- maximum flap extend speed). Slowing down a little more and it's time to extend the landing gear (V LE -- maximum landing gear speed). Slowing down too much again (V SO – stalling speed or the minimum steady

flight speed in the landing configuration) and a stall occurs. Configured for landing, we can now concentrate on maintaining a final approach speed (V REF -- reference landing speed); to the runway and get ready to flare, touchdown, rollout and taxi back to the ramp. Another safe flight accomplished within the specific airplane designated operating limitations.

Fortunately our planes are much, much stronger than full size aircraft. Most of the time we can fly and maneuver around without too much concern about control inputs or operations at any airspeed, but it might be something to consider. We can still lose gear doors, flaps, flutter a control surface and rip the wings off with abrupt maneuvering depending on the type of model we are flying and if we're not careful.

There are a few products available for determining model speed, altitude, onboard battery capacity and radio signal quality that can be installed in the airplane itself. A few transmitters are ☺☺ now equipped with some built in similar telemetry. Airspeed data would be a nice feature to have; primarily to establish a stall warning indication. Through experience when we fly our aircraft we're able to see how good a job we're doing at complying with some of these important 'airspeeds' to ensure consistent and safe flight operations. Maintain airspeed!

Until next time . . .

J

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Are You Using It?

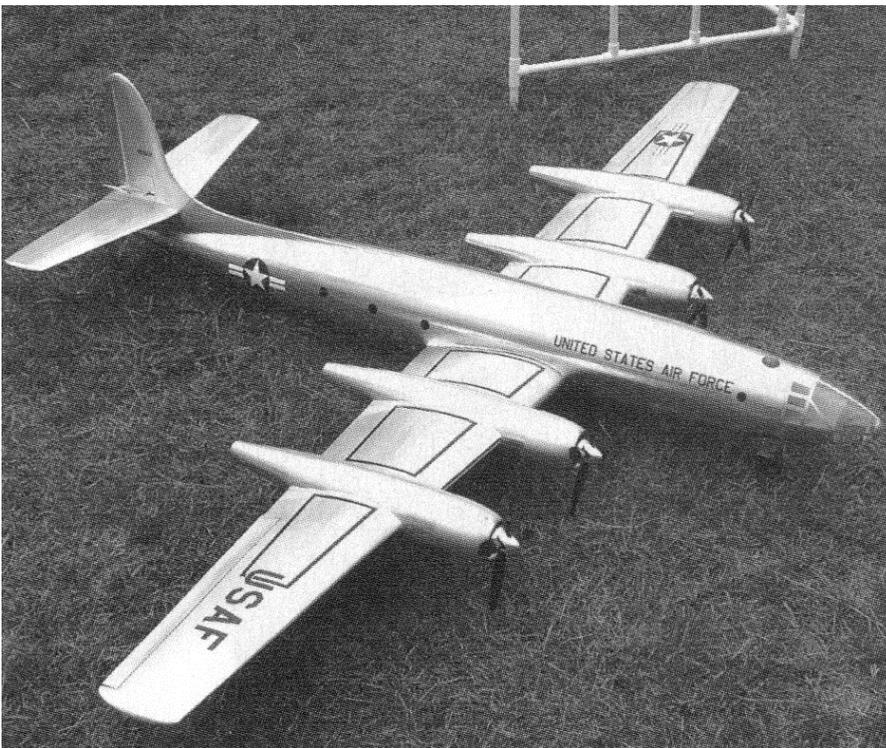
Republic X F 12 Rainbow

by Conrad Naegele

The April Mystery Plane was the Republic XF 12 Rainbow.



The Republic X F 12 in flight in 1946.



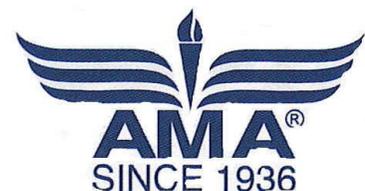
An R/C electric model of the Republic Rainbow.

As WWII moved westward in the Pacific, the USAAC needed a recon aircraft in the '400' range (i.e. 400 mph, ceiling 40,000 feet, and a range of 4,000 miles.) The B-29's and their fighter escorts were not up to that task. Republic proposed and received funds for such and aircraft. Its nearest competition was the Hughes XF 11, whose history is well known. The XF-12 first flew in 1946, and it did go 470 mph, reached 45,000 feet altitude and had a range of 4,500 miles! However, by that time the war was over.

The -12 was 4-engined, all-metal, and used the Pratt and Whitney 28-cylinder 4360 Wasp producing 3,250 horsepower (up to 4,400 horsepower under military power). It had a straight tapered wing hi-aspect ratio, sliding cowl flaps, cooling air, after use was directed out of the nacelle, adding 250 horsepower to each engine. Each nacelle was the size of a P-47 fuselage. The plane was ultra low drag, and state of the art for photo recon, with a complete darkroom. Contra-rotating props were planned, but were too complex.

On July 10, 1946, the first prototype was damaged on landing, shearing off the right main gear. The plane bounced and pilot was able to attain sufficient altitude to burn off fuel, and then land! Due to the test pilot's skill, the damage was limited to the right wing spar, plus two engines. The plane was repaired, and testing continued. On July 11, 1948, plane #2 lost an engine, and became uncontrollable. The crew bailed out over the gulf of Mexico, with 5 surviving and two being killed. Republic planned a civil airline version but times had changed, and the program was cancelled. Prototype #1 was moved to proving grounds and used for target practice. The F-12 was the only piston-powered aircraft to exceed 450 mph in level flight! This plane was recently modeled with electric power.

The Republic XF-12 had a wingspan of 129 feet, a gross weight of 114,200 pounds, and carried a crew of six to eight persons. J



May Program Preview

by Mark Wolf

Fabric Covering

Your airframe construction is complete. The radio, engine and other systems have been installed, checked and ready to go. You've sanded and smoothed out all of the surface irregularities. It definitely looks like an airplane at this point. A lot has been accomplished but there still is a bit of work to do before you can take to the skies. Whether the wing structure is an open bay, partial or a fully sheeted/skinned type along with similar construction of the fuselage; the time has come to cover and finish that structure.

Some of the early (full scale) aviation pioneers originally used silk as a covering material for their aircraft. It was strong and lightweight but was also expensive. With the advent of dopes to tighten/taughten up the fabric it was found that linen could be used as an economical substitute for the

more expensive silk. Then as the quality of the dopes in use improved, tightly woven cotton fabric could be strengthened sufficiently for aircraft use and soon became the early industry standard.

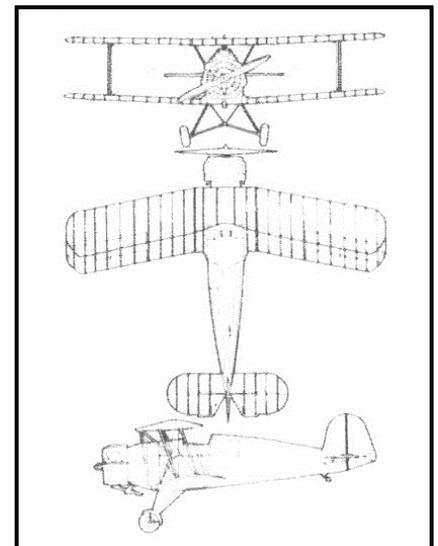
Model aviation has also used a variety of materials to 'cover' a structure. Various types of 'tissues', plastic/Mylar films, lightweight polyester fabrics, foams and fiberglass cloth/resin combination(s) have all been used over the years. Many of these variations are still in use today and each one can produce an outstanding and attractive final 'finish' to any model. We'll take a look at the lightweight fabric covering process. We'll focus on using the Stits Lite/Poly Tone products/process and review some of the equipment used to apply and finish it. We'll review applicability, materials and various techniques used, examine some samples and discuss several options for painting. Here's the May program highlights:

- Materials
- Tools and Equipment
- Personal Protective Equipment
- Fabric Covering Process Review (including finishing)
- Examine some examples

Basically three main steps to accomplish: 1) Attach the fabric to the airframe; 2) Fill the weave and prepare for a finish; 3) Apply the paint/finish of your choice. The step-by-step process review can also be adapted for use with other manufacturer's similar/equivalent materials. Many options are available.

As always, if your schedule permits, join us at the next club membership meeting for a review of fabric covering -- from start to finish. J

May Mystery Plane



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TCRC Jordan Field Still Closed

by Jim Cook

The TCRC Jordan Field still remains closed to flying because of the high waters of the Minnesota River.



The road to the Jordan field shows high water completely covering the right hand bend. (Photo by Tim Len)

As of May 1st, the river level at Jordan was at 25 feet, and current projections indicate that the river will not be back to 18 feet until May 12th or 13th. Once the water is off of the field, it will probably be two weeks or so before it is dry enough to walk on. It is a pretty good bet that the club will not be able to utilize the Jordan site until the end of May.

During the time the Jordan field has been closed, the club has opened the Scott County Fairgrounds runways for flying. This will continue until the club can re-open the main site. Remember to fly at either Jordan or

the Fairgrounds you must have either a valid 2011 TCRC membership card or a valid 2011 AMA membership card.

The Field Clean-Up Event schedule for May 7th will be postponed and will probably not occur until early in the month of June. Watch TCRCOnline.com for updated information on the field and the planned clean-up. **J**

New Member

Ben Thompson became TCRC's newest member in April. Ben lives with his wife Cindy at 3669 Clare Downs Path in Rosemount, 55068. Their phone number is 651-322-7010 and his email address is bjcdt@aol.com.

Ben has been flying R/C for 28 years and currently has a 35% CAP 580, a Byron Christen Eagle, and a 40% Yak, to name just a few of his many planes.

If you see Ben at a meeting or at the field, be sure and introduce yourself to him and welcome him to TCRC. **J**

TCRC meets every month on the 2nd Tuesday at 7:00 PM in Fellowship Hall of CrossPoint Church located on the southeastern corner of the intersection of 98th Street and France Avenue in Bloomington. Guests are welcome to attend these meetings.

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The Pilots Lined Up At Expo



The Toledo Expo is a fantastic experience for anyone who is into R/C. From the picture above it was obvious that just about every kind of pilot around just lined up to be a part of this great event!

THE TCRC FLARE-OUT Monthly Newsletter



** TWIN CITY RADIO CONTROLLERS INC. **

Purpose: To preserve, encourage, and further develop the hobby of building and flying radio controlled model airplanes.

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