Radio Control Club of Detroit

The wind is our friend — Gravity wins!

Volume 57: Issue 1 — Newsletter Date Feb. 2010

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- Vice Pres: Noel Hunt
- Secretary: Peter Vanheusden
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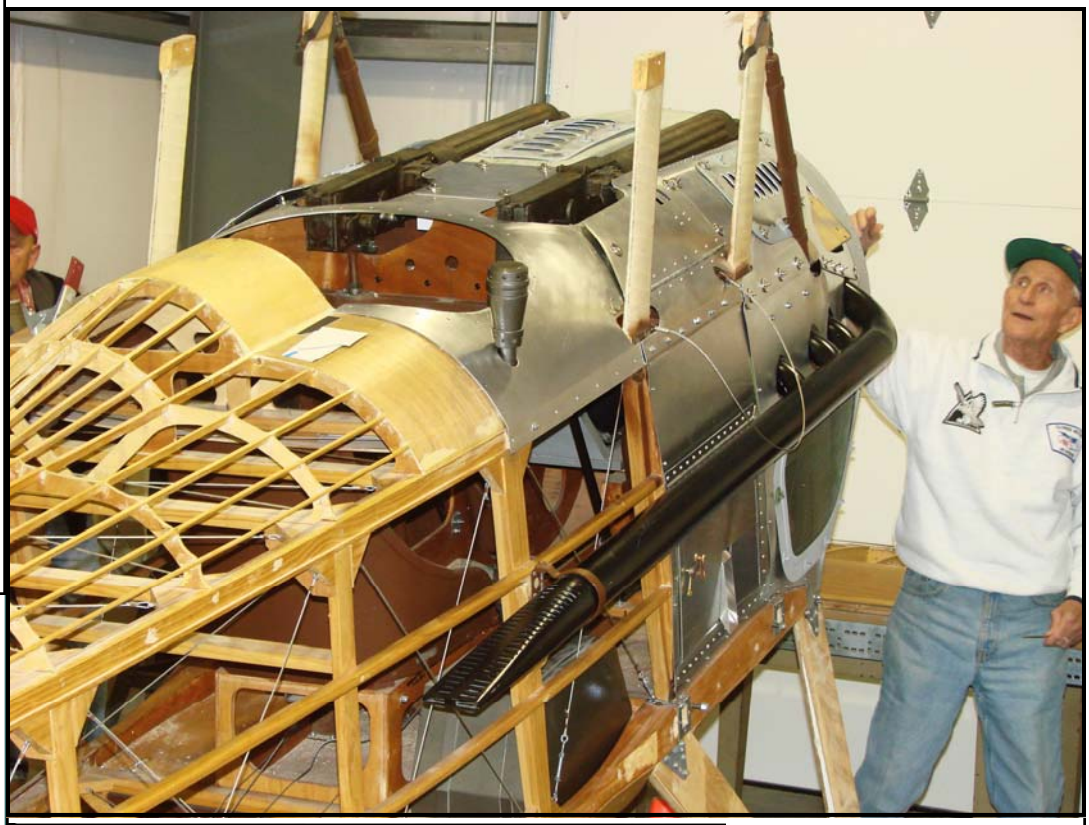
Inside this issue:

SPAD…"the Rest of the Story"!



SPAD 5744

This replica of a World War One fighter aircraft is being built by a group of volunteers from the Selfridge Military Air Museum.

Information:
Designation: SPAD XIII
Type: Fighter
Contractor: Societe Pour l'Avions et ses Derives (SPAD) - France
Country of Origin: France
Service Year: 1917
Crew: 1

Armament:
Hardpoints: 0
Available Munitions:
2 x .303in machine guns

Dimensions:
Length: 20.33 ft (6.19 m)
Wingspan: 26.3 ft (8 m)
Height: 7.10 ft (2.1 m)
MTOW: 1,807 lbs (819.6 kg)
Weight (Empty): 1,245 lbs (564 kg)

Performance:
Powerplant: 1 x Hispano-Suiza 8BEc water-cooled inline engine generating 220hp.
Max Speed: 138 mph (222 km/h)
Max Range: 276 miles (444 km)
Service Ceiling: 21,820 ft (6,650 m)
Rate of Climb: 1,312 ft/min (400 m/min)

Darrell Rohrbeck (see above), Sam Blaga and a great bunch of volunteers have been scratch building a full scale SPAD reproduction from plans that Darrell scaled up from factory drawings. This has been a 3 year project, working with all volunteer help and donated funds. The detail and craftsmanship on this full-scale model is outstanding.

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The Presidential Podium

Hello Fellow Members,

Things are progressing nicely for the 2010 season. Our calendar has been finalized and is on the website for your information. We have a great lineup of events scheduled for this year once again. The swap meet is history, and once again Bob Hunt has done an excellent job coordinating the event for the club. Next up is the Mall Show, and after that, we will be close to the start of our field events for the year. Watts-Over-Wetzel is only 3 months away. If you haven't been to a club meeting in a while, come and check one out. Once we get over the boring parts, our entertainment coordinator Pete Mlinarcik has been doing a great job of lining up some really great projects and displays. Also, our new meeting location at the Tucker Senior Center has proven to be a very good place for our meetings. Noel has also started working on the programs for our grounds schools, and they should once again prove to be very informative and a generally good time. Check the web site for details and schedules.

Also, please welcome our new secretary Peter Vanheusden who has stepped up to the plate to give Keith Jones a much needed break. I am looking forward to working with Peter and I also would like to thank Keith for the great job he has done all these years. That's it for now. Have a safe and happy remainder of the winter.

John

The Editor's "Knife Edge of Reality"

The **Newsletters** are only **available via email** and are also downloadable from the Newsletter page of the website as a pdf file. Be sure to check the website and update your email address with the Club Secretary so you will be able to receive the newsletter.

Something worth checking into is the **AMA *Insider,*** the AMA National Newsletter. As an AMA member, this is part of the advantages of membership. Go to: **www.modelaircraft.org/insider.** You can sign up and automatically receive the bi-monthly newsletter. It's an excellent and informative publication.

If you have **something to contribute to the RCCD Newsletter**, an article or anything, please give me a holler. I'd like to be the "editor" as opposed to the "writer". ;)

duckguylsb@juno.com or (586) 790-2678. Thanks much, Lou Tisch

2010 RCCD Membership Renewal

When filling out your renewal form, please read it carefully. Regular dues are $75.00 and senior dues are $55.00. If you have your work card to send in, you deduct $2.50 for every hour worked up to $25.00. With 10 hours or more, deduct the full amount of $25.00, making the regular dues $50.00 and senior dues $30.00. Juniors are still only $13.00.

This year let's everyone try to get those dues in before the deadline of January 31st. February 1st there is a $5.00 late fee. March 1st you are dropped from the club roster and you'll have to pay the initiation fee again to get back in the club. Forms can be downloaded from our web site (www.rccd.org) or picked up at the meetings. Let's pay early, it saves you money and makes it easier on Bill and Steve.

Please sign your name and don't forget to enclose a self addressed stamped envelope and a copy of your AMA card along with your check and the completed form.

The Membership Committee

SPAD

Our club (RCCD) has had the rare privilege of seeing this SPAD develop through all stages of building and finishing. Darrell & Sam have kept us up-to-date with progress and we have made several trips to the hanger and museum during development and completion.

The building of this SPAD has progressed just like one of our stick built models, merely on a larger scale. Darrell had taken 3-view drawings and scaled them up to full size for building. Each piece was fabricated either in the individual shops of the builders or in the hanger itself. The craftsmanship is evident in the attention to detail visible in each piece.

The only "compromise" to scale was wood gussets at the joints instead of metal gussets. Except for this detail, this plane could be a full scale flying machine though it will remain on display in the hanger at the Selfridge Museum.

In order to come up with an engine cowl, the fellas made a foam pattern, built molds and laminated a fiberglass cowl. There were also some other parts & pieces manufactured out of fiberglass as opposed to metal, easing the difficulty of coming up with complex shapes.

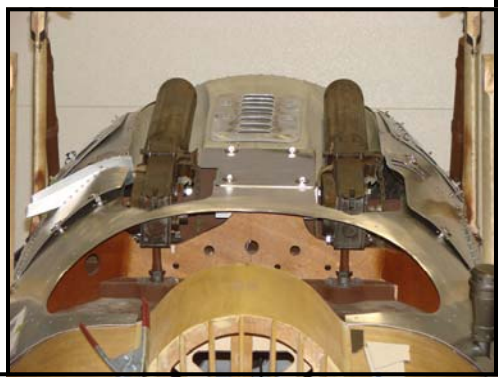
Many of the parts for this SPAD are truly works of art and attest to the dedication of the builders. This includes the research on correct colors. These had to be blended to match the original.

Continued on page 4

SPAD

The wings were built just like the original along with the covering and proper stitching. Darrell (pic left) demonstrates the method and knots required to stitch the covering to the wing. This is typically a two man operation and the fellas built a jig to be able to rotate the wing while working on it. One of the challenges that had to be addressed was the type of paint and adhesives used. No flammables were allowed on the military base and thus the research led them to a product called Eko-Bond which proved to be ideal for attaching the fabric to the framing. The EkoBond was easy to work with and fulfilled the requirements for safety.

The machine guns are another fabricated work of art. This whole project will require a trip to the museum to be appreciated. Lou Tisch



SPAD & The Selfridge Museum

We have seen the development of the SPAD from concept through complete frame up and covering. It's now time to have a look at the completed work and the Museum itself. One of our Ground Schools (organized by Darrell and Noel Hunt) included a trip to the hanger with the completed SPAD and a full trip through the Selfridge Air Museum and a walk through of the outside collection of Warbirds.

The SPAD is complete and was ready for the 2009 Air Show at the Selfridge Field for all to see.

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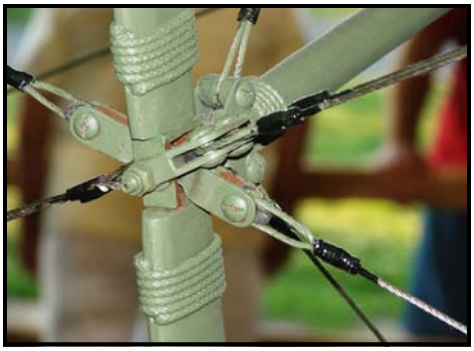
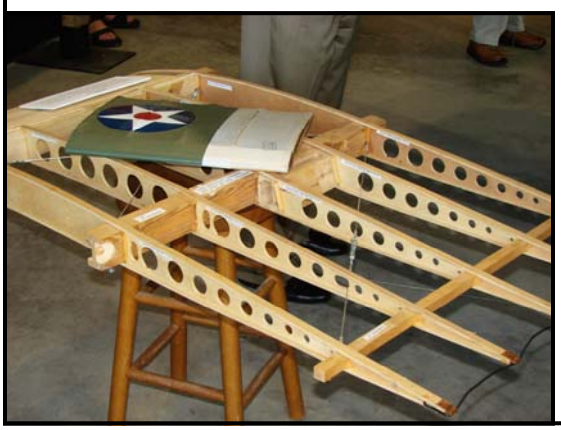
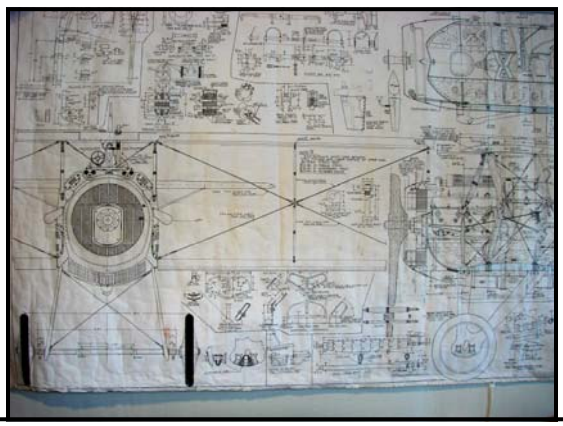
SPAD & The Selfridge Museum

The SPAD and the Air Museum are a must see attraction. We're going to take a visual trip through the museum and SPAD Hanger and I would highly recommend that you make the trip yourself...nothing compares.







These are the full scale plans that Darrell scaled up for this project, works of art in themselves.

Let's move on to the museum and airfield.

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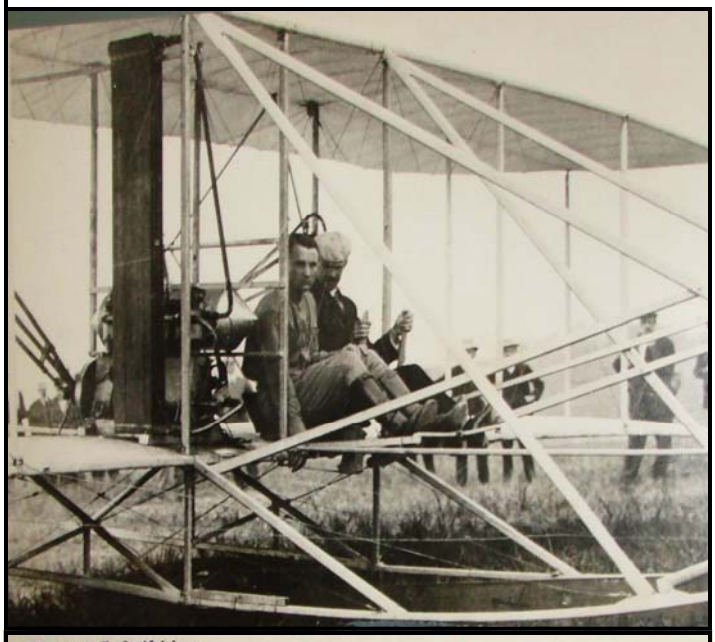
SPAD & The Selfridge Museum

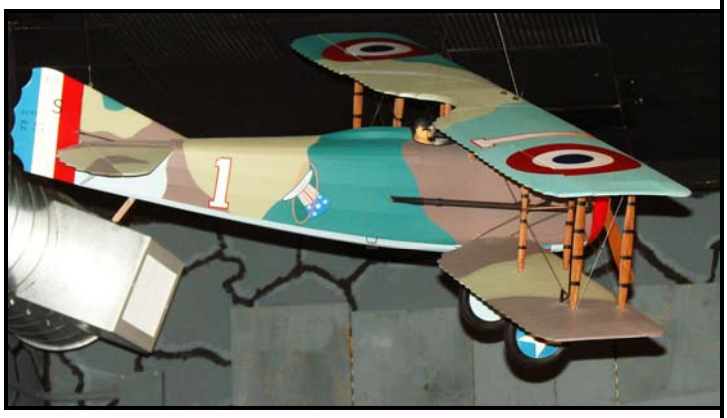


Thomas E. Selfridge

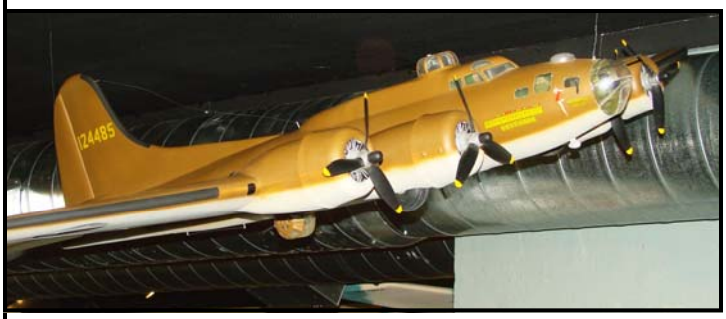
Selfridge Field was named for West Point graduate , Lt. Thomas E. Selfridge, an early pioneer in aviation. He became the first officer to pilot a powered aircraft. In 1908, Orville Wright invited Selfridge along on a flight demonstrating the Wright Flyer. Unfortunately, the flight ended in a crash. Although Wright survived with injuries, Selfridge was killed and became the first person to die in a powered aircraft.

A trip to Selfridge would not be complete without a look-see through the museum and warbird airfield. Many famous pilots have flown out of Selfridge Air Base, including Eddie Richenbacher. This was a very active base during WWI, WWII and up through the current day with the Air National Guard, helping to keep us safe in the World.

An interesting tidbit about the SPAD is the reason for the scalloping on the trailing edges of the flying surfaces.



Turns out that this is merely an accident of manufacturing. Those flying surfaces had a cable running along the trailing edges of the ribs and when the covering was shrunk...the cables curved in under the strain, giving us the scalloping.



Hanging models are some of the first things you find hanging in the museum. These scale warbirds have been built by local modelers and donated to the museum. You'll find anything from a SPAD (of course) to the "Memphis Belle".

There's even an old target drone hanging from the ceiling.

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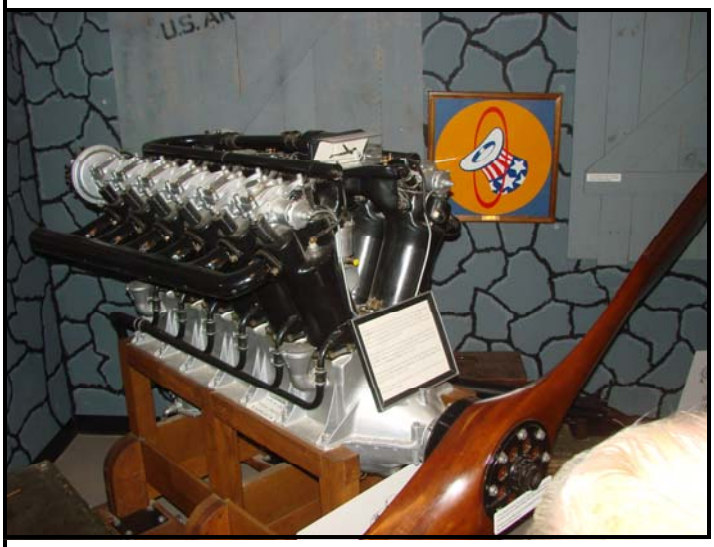
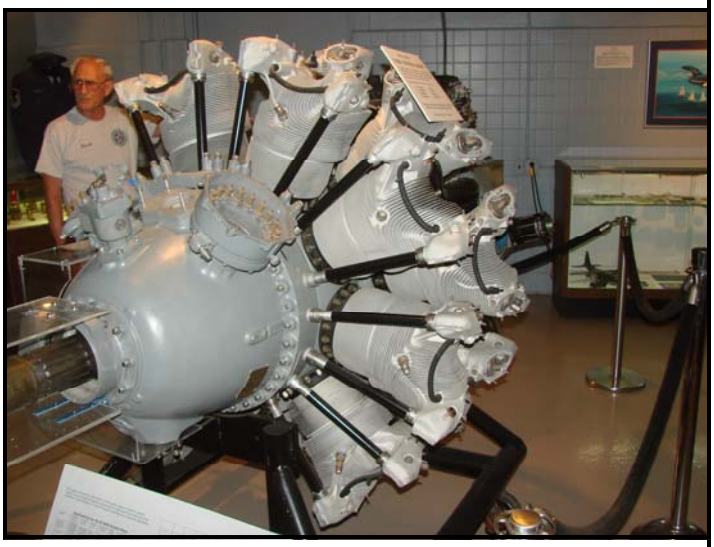
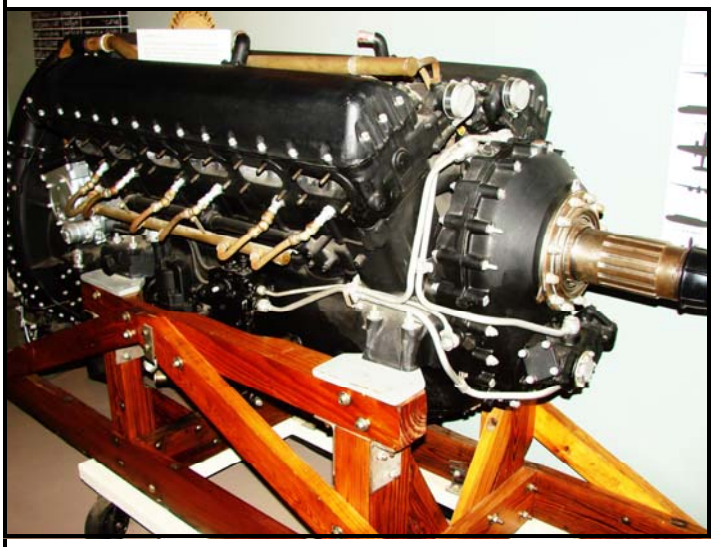
SPAD & The Selfridge Museum

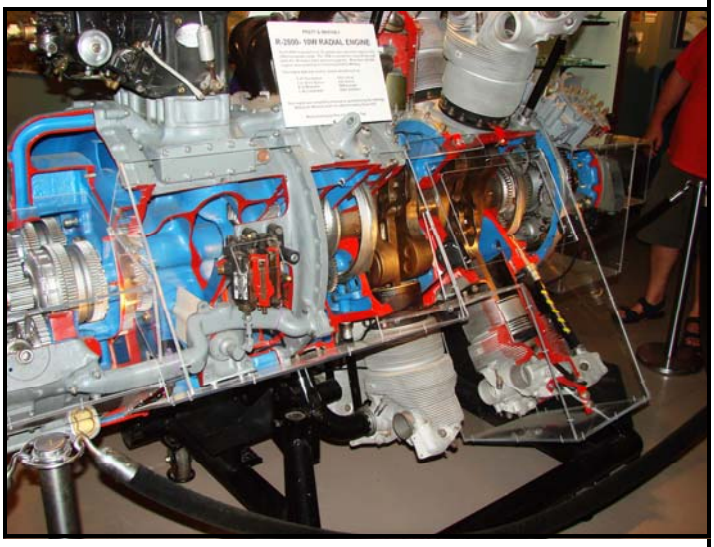


Model 950, V-12 "Liberty" Engine-400 HP
Manufactured by Packard Motor Company



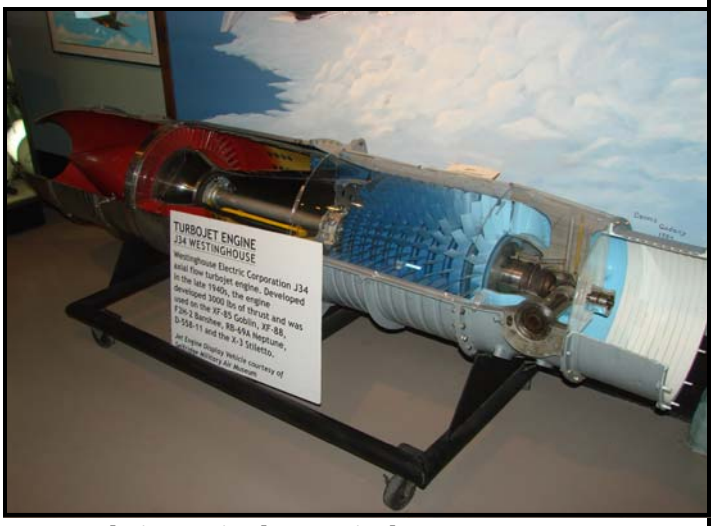
R-2800, 18 Cylinder, 10W Radial Engine
Manufactured by Pratt & Whitney





Pratt & Whitney R-2800 Radial Engine-Cut away view
Used in Corsair, Thunderbolt, Black Widow, Hellcat, etc.

4 Cylinder, Target Drone Aircraft Engine
This type was used extensively for airborne target practice by the military in preparation for combat.
Motor & Aircraft were recovered and restored.



J34 Turbojet Engine by Westinghouse
3000 lbs. thrust

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SPAD & The Selfridge Museum

As we moved through the museum, a few of us got "suited up" and into an F-16 Cockpit. I think if you spent a bunch of time in one of those, you could begin to understand claustrophobia. There's not a lot of moving around room and a long flight might test a persons inner strength. "...I'm done, off with the helmet".

Some of the equipment/armament/ordnance was on display for a "hands on" look & feel. There were the drop-bombs from WWI to Big Guns & a Jeep from WWII. By the way, Jeep is a word derived from the description of the vehicle as "GP", meaning a vehicle for "General Purpose". We also get the term "The Whole Nine Yards" from our military. During WWII, they would test the machine guns on the fighters with live ammo. The ammo belts were 27 feet long. After the guns were sighted in, the gunner was told to "Run the Whole Nine Yards" to empty the magazine.

Ok, let's "get on the bus" (make that a tank) and head to the outdoors for a gander at the aircraft on display.

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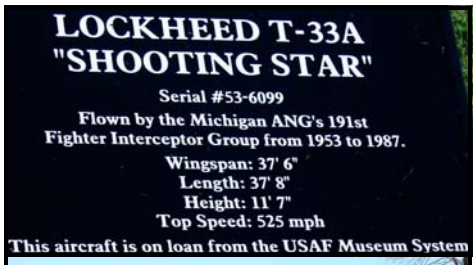
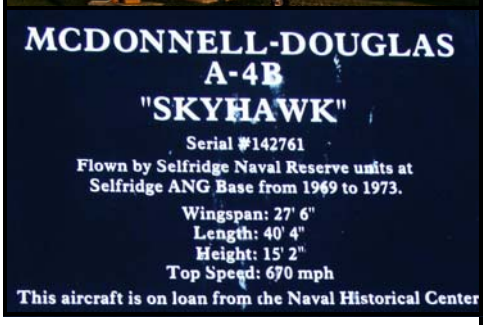
SPAD & The Selfridge Museum

Work horses of the fleet!

Sure looks big when you're up close!

Workhorse of the Viet Nam era!





We end our tour with the most recognizable aircraft of all time…..the Corsair. I'm sure many of you have seen these planes on display from M-59, now it's time to stop in and have a look at Michigan's Selfridge Air National Guard Museum. Come on down! You'll love it.

Lou Tisch

Extend Your Flying Season Here Up North-Winter Flying

Cold weather and short daylight hours are "building season" for most R/C modelers …. an opportunity to build, re-build, repair, and maintain their squadrons…. a welcome break from crashin...err, flying planes…. Right? Perhaps. For some of us however, winter is no reason to stop flying at the club field. We live in Michigan! It's winter. Snow falls. It's cold. We deal with it. Of course some deal with it by migrating south! For those who remain, cold weather flying is possible, even enjoyable, by adapting to the conditions. Here are some adjustments to consider:

Cautions: You may have to avoid snowmobile tracks
The snow "records" any bounced landings

Why restrict crashin...err, flying to only warm weather?!

Keep warm: Obviously a warm jacket is a must but remember layers on your legs too. Wear your warmest footwear, and headgear that keeps your ears warm. I have seen pilots in snowmobile outfits; hunting apparel; outdoor work clothes; or ordinary winter outerwear. The wind chill in anything greater than about 5 or 6 mph makes the flying unpleasant.

There is a trade-off between keeping your hands warm and having good feel on the transmitter sticks. For my bad habit of thumbs-only on the sticks, a simple slit in each thumb of a pair of cotton gloves provides reasonable warmth and good feel. Work some flexible glue into the fabric in the area to be slit (I use canopy glue). Once dry, put the gloves on, hold the transmitter and mark where the gloves contact the top of the transmitter sticks. Then cut a hole just slightly bigger than the top of the sticks. The glue reduces unraveling. If you use the finger-and-thumb-on-the-stick technique, you may do the same on the finger tips. Otherwise consider cutting off the tips of those "digits". I have experimented with other gloves and even a fleece bag that covers both hands and the transmitter. The cheap cotton gloves work best for me.

Three Seasons of use

When not flying, I have a pair of mittens that allow the "fingers" to be folded back. They are really handy for carrying stuff from the vehicle to the pits and for warming hands between flights. On the coldest days, I insert a hand warmer in the finger pouch of these.

Hand Warmers are $1 a pair from outdoor stores.

The club encloses a couple of bays of the shelter over the winter, for getting out of any wind. For more warmth, use a portable electric heater, or a propane heater. In either case, keep it safe. DO NOT start your engine in there. It is unsafe and the mess is inconsiderate.

The aircraft: Choose a simple sport plane. It should either be easy to assemble at the field, or able to be transported fully assembled. Both tail-dragger and trike gear configurations work, but the plane should have good ground manners. Sometimes the "runway" is grass; sometimes snow. When it freezes the familiar grass runway can be a lot harder and less forgiving.

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Extend Your Flying Season Here Up North-Winter Flying

Flying from snow is a new experience and one that I really enjoy. For this, skis replace wheels. Ski kits are available from Dubro (and others). They work well and come with good instructions for assembly and set-up. The ski tips should be aimed slightly up and held against the stops by the springs. On the snow, they will go level against the springs.

DuBro Ski-Set installed

Skis aim slightly up while flying!

I have a second undercarriage strut with the pair of skis permanently attached at the correct angle. The wheels and skis can be interchanged without having to set up the ski angles each time.

There is a tendency for snow to stick to warm skis (from the vehicle, or the warming shelter). Knock off any "stuck snow" just prior to take-off. Once the skis are cold this is not an issue.

I do nothing for the tail wheel. The tail wheel drags in the snow, but the horizontal stabilizer prevents the tail from sinking too far. Steering is adequate. I have never added skis to a trike gear plane, but nose skis are available. Once flying, you may have to adjust the elevator trim because of the influence of the skis. Floats or a flying boat can also be used on the snow.

It is hard to resist shooting touch-and-goes on a couple of inches new snow, trying to leave no evidence of a bounce in the ski tracks! After a heavier snowfall, we have to dodge the snowmobile tracks that unfortunately show up. Isn't RCCD great for maintaining a great drag strip for sled slugs?!

Interchangeable undercarriage assemblies.

Engine Starting: The flash point of a volatile liquid is the lowest temperature at which it can vaporize to form an ignitable mixture in air. Glow fuel has a flash point of about 40°F. So how can a glow engine start at temperatures below 40°F? Piston/cylinder friction, combustion chamber pressure, nitro content, and other factors influence the ability for the fuel to ignite. Warming the tiny flow of fuel through the carburetor does not take much. Simply spinning the engine using a starter often generates enough friction heat and pressure to get the engine to fire up. However, you can increase the ease with which the engine starts by pre-warming it.

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Extend Your Flying Season Here Up North-Winter Flying

Place the plane a safe distance in front of a heater; gently warm the engine using a covering heat gun, or wrap a cloth around a hand warmer and the engine between flights.

Wrap towel around engine & hand warmer

Once running, the heat generated by the engine will raise the fuel temperature enough to keep the engine running. A slightly richer needle valve setting may be required in colder temperatures. Cold air is denser and contains more oxygen. More fuel is then required to get the correct mixture. I do not change glow-plug heat range, use a different nitro content, or make any other changes. To minimize fiddling with the engine settings with frozen fingers, an easy-starting engine that runs reliably is a must. Plastic gets brittle in the cold, so an aluminum spinner is advised.

Because of the colder air I have seen attempts to reduce air-flow over the engine. I tried it once and almost over-heated the engine! Now I fly it the same as in any other season.

Batteries: The performance of all battery chemistries is lower in the cold. Always have freshly charged batteries for your transmitter, receiver, starter, and glow driver and be aware that they may need to be recharged sooner than normal. I do fly electrics in the cold, but I keep LiPos warm at all times, even wrapping them in foam when in the aircraft if they don't get warm enough during flight. Expect shorter flight times.


Secret WWII test of Skis on a P-51

Frozen cleanup: Fuel residue on the plane sometimes freezes. If the field is wet, splash-up on to the wings will freeze too, but not to the extent that it affects flight. At the end of the flying session, you may be able to knock the ice off. If not you will have to clean it off when it melts, possibly at home.

Field Access: The road from the gate to the shelter is not plowed. Enter only if you know you can get out, and carry a snow shovel in your vehicle. If the locks on the gate freeze, a cigarette lighter or BBQ starter takes care of them.

Don't fly alone: This is good advice any time, but cold weather adds a level of risk. On one occasion, I had just replaced a 40-size engine on the Avistar, with a Norvel .25. Not only does the Norvel pump out the power, it does so without being thirsty. Five minutes into the flight, the throttle stuck at about 75% (due to my set-up error). I learned three things from this:

1. Yes - don't fly alone
2. 10 ounces of fuel for the .25 Norvel at 3/4 throttle, lasts about 40 minutes!
3. I also learned to fly with my <u>left</u> hand on the <u>right</u> stick (while my right hand was in my pocket wrapped around a hand warmer) I was able to alternate hands for the duration of the flight.

Try the left hand / right stick setup sometime. You'll feel like a student pilot all over again! I was fortunate to experience this relatively harmless incident, but something more serious can happen and quickly become dangerous with no one to help you.

New Year's day flying: Each January 1st, some die-hard club members get together to see who will be the first person to fly in the new year… and hopefully not the first to crash! Between flights we gather near the heater to chat about things that R/C modelers do, and although never formally planned, there are usually some eats to pass around and coffee to go with them. Take a look at additional pictures and video from New Year flying at www.rccd.org.

So when is the "building season"? Ideally to fly in winter, the air temperature should be above 20°F; the wind below 5 mph, the field accessible; and a flying buddy willing and able to join you. All of this coinciding during our 8 hours of daylight. As this combination will be limited, you still have plenty of time for building, re-building, repairing and maintenance.

Noel Hunt

INDOOR FLYING

Its Tuesday 10:30 am and the Silver Eagles (that's all the retired gray haired pilots, myself included) file in to the Ultimate Soccer Arena carrying every kind of aircraft imaginable. Oh, the younger guys and gals are there too but it's mostly Silver Eagles. Spectators are welcome. There is no charge to watch. The one thing everyone has in common is the love of airplanes and anything that flies.

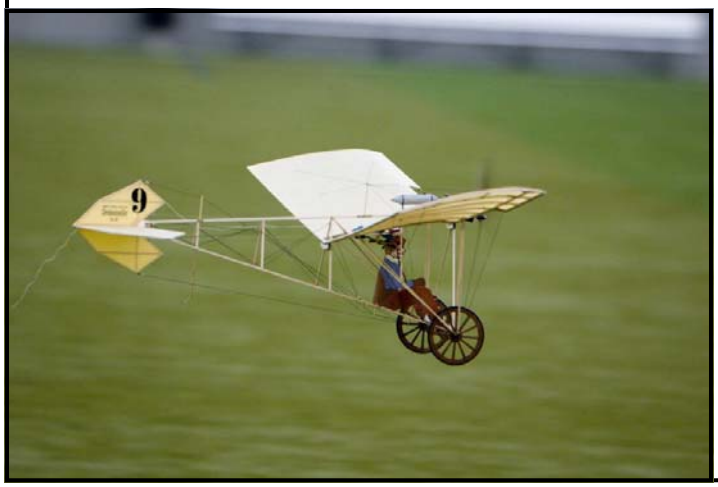
There are micro, mini, foamies, 3-D planes, helicopters and anything else your imagination can conger up. There is a prehistoric bird flying around and an Aircraft Carrier cruising around the arena.

You might think that you aren't a good enough pilot to fly indoors, forget that, as soon as you see everybody flying, having such a good time, you'll want to jump right in. You can get all the help you need, just ask.

There are around 50 pilots and just as many spectators that show up every Tuesday morning. First thing I do is find a place on the bleachers and plunk down my stuff and sign in. Next, it's off to the coffee shop where I get a cup of the black stuff and a roll. Oh, did I mention they bake the cookies and pastry fresh every morning. We kind of shoot the breeze until the flying starts.

Flying lasts for two hours, unless George, who is one of the owners of the arena, gives us some extra time. When flying is finished we retire to the restaurant for lunch. There is a first class restaurant on site with excellent food. Guess what most of the conversation is about? Yup, airplanes.
So if you are a newbie and want to look it over, come out and see what it's all about. If you love to fly and you love aircraft you will enjoy yourself.
All I can say is that all the flying, the building and contact with my friends once a week keeps me busy all winter long.
The Ultimate Soccer Arena is located on South Blvd. West of Opdyke Rd. in Pontiac. It's easy to get to and the facilities are great.

See you at the Arena……...Ken Sulkowski

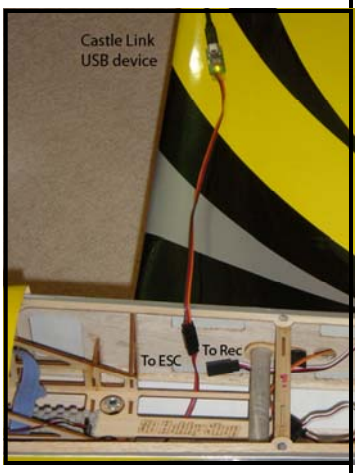


Castle Creations Phoenix ICE Brushless Motor Controller

By Noel Hunt

Getting the most from an electric-powered model aircraft requires that you know what is happening electrically as the plane is flown. I have been using an *Eagle Tree* data logger to record electrical parameters during flight. A review of that data helps me operate the components with-in their limits, and tells me if any changes I make are improvements or not. While the *Eagle Tree* is very compact, in some planes it requires planning to get it to fit in the battery compartment, and get the connections to line up.

ICE – Cool: *Castle Creations* has released a line of Phoenix ICE electronic speed controllers (ESCs) that include built-in data logging capability. The software appears to be based on the Eagle Tree system. For each capacity, the Phoenix ICE comes in two versions: Standard ICE with a heat sink; and ICE LITE minus the heat sink, or as *Castle Creations* calls them: "Heat Sink"; and "Heat Shrink"!



Connecting ESC to computer

Mike Pavlock let me evaluate his Phoenix ICE 50 on my *3-D Hobbyshops* Extra.

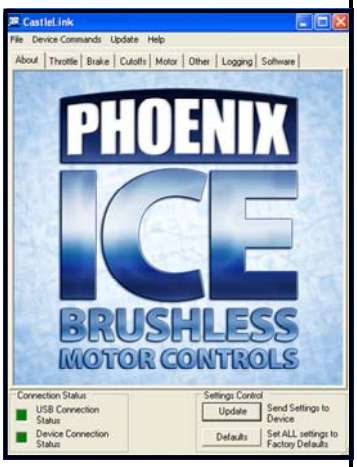
The ICE ESC connects in the aircraft the same way as any other ESC. Three heavy leads connect to the motor; two heavy leads for the battery; and a 3-wire "servo" lead that plugs into the throttle channel of the radio receiver. This plug must remain accessible because it is also used to connect to the Castle Link USB Programming kit. In the case of my Extra, a servo extension is needed between the ESC and the receiver located at the rear of the canopy hatch. It is easy to access the ICE where it plugs into this extension.

The Phoenix ICE controllers have a 5 amp switching battery elimination circuit (BEC), for powering the receiver and servos. 5 amps is more than enough for most applications, unless you have a lot of digital servos, and/or binding linkages.

Programming: Like the previous Phoenix ESCs, the ICE controller has all the same functionality:

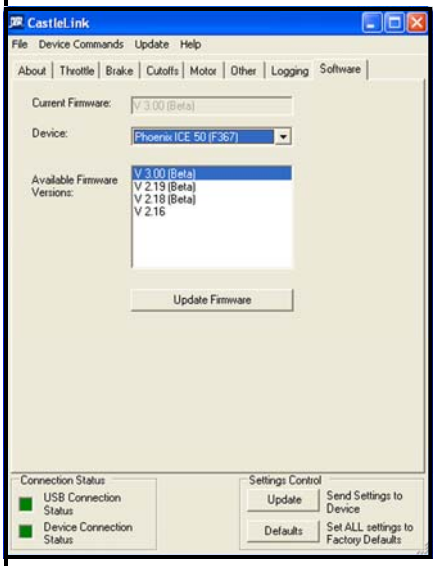
Battery type
Low Voltage Cutoff
Current Limiting
Brake
Throttle
Electronic Timing Advance
Low Voltage Cutoff Type

And like other *Castle Creations* devices, including their Berg 7-channel receiver, these are all programmable through the USB Castle Link. No need for "stick-and-beep" programming! After loading the Castle Link software on your PC, plug the ICE through the Castle Link to your PC. Castle Link detects the device connected to it and displays the appropriate user interface screen on your PC.

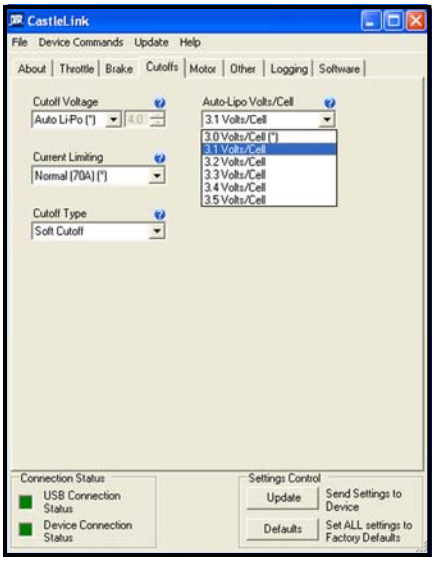


CastleLink identifies the connected device

Each time it is used, Castle Link looks for possible updates to its software, and firmware updates for the connected device – in this case the ICE controller. If an update exists, you can choose to download it, or decline**.** Use caution, as settings and data on the device may be reset during the update

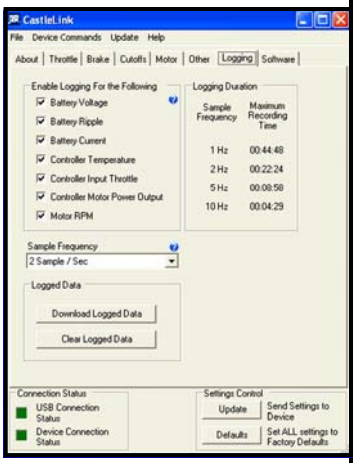


Option to update software & firmware



Easy programming of parameters

Each of the tabs on the Castle Link screen permits programming of an aspect of the controller . The tab second from the right is where the data logging and report-out functionality is managed. You can tell the controller what parameters to record during flight and the frequency with which you want them recorded.



Continued on page 16

2010 RCCD Event Schedule

Month	Date	Day	Event	Event Description
Jan	24	Sun	14th Annual Swap Shop	An opportunity to make space for new stuff, or get a deal on "experienced" aircraft and equipment
Mar	20/21	Sat/Sun	Mall Show	Club members display models and answer questions about R/C model aviation at the Macomb Mall
Apr	24	Sat	Season prep of field	Getting the field cleaned up and ready for the warmer flying months.
May	1&	Sat &	Brag Day &	Saturday: An opportunity for members to grab bragging rights in various categories.
.	2	Sun	Watts Over Wetzel-Electric Fly-In	Sunday: Open to any AMA member to fly only electric-powered models (Rain Date 5/16)
May	22/23	Sat/Sun	Great Lakes Combat Challenge	Pilots' planes fly with 30ft paper tail. The object is to cut tails of other planes, defend your tail, and avoid a mid-air. Heats in multiple classes.
Jun	6	Sun	EAA CH13/RCCD Joint Fly-in	Members of both clubs get together to share their respective aviation interests.
Jun	8	Tue	Kids' Night (1)	RCCD hosts kids from area foster and shelter homes, providing a meal and an opportunity to build a basic model and fly R/C. (Evening only)
Jun	12 &	Sat &	Big Bird Fly-in &	Saturday: Open to any AMA member to fly Giant Scale models. (1/4 scale or bigger; or minimum wingspan of 80in for monoplanes; 60in for bi-planes; or length plus wingspan of 140in for jets.
.	13	Sun	2x2 Fly-in	Sunday: A fly-in open to any AMA member, for models with two or more wings and/or two or more engines.
Jun	27	Sun	Great Lakes Scale	A fly-in open to any AMA member, for models of full-scale aircraft, with optional judged flying.
Jul	24	Sat	Control-Line Fly-in	Open to any AMA member to fly control-line aircraft in the club's U-control area.
	25	Sun	4-Stroke Rally	A Fly-in open to any AMA member, for aircraft powered only by 4-stroke engines.
Aug	10	Tue	Kids' Night (2)	RCCD hosts kids from area foster and shelter homes, providing a meal and an opportunity to build a basic model and fly R/C. (Evening only)
Aug	21/22	Sat/Sun	Open Combat Challenge	Pilots' planes fly with 30ft paper tail. The object is to cut tails of other planes, defend your tail, and avoid a mid-air. Heats in multiple classes.
Sep	4	Sat	Club Fly-in,	Saturday: Last "big bash" of the year. Saturday is for open flying.
.	& 5	& Sun	Club Picnic and Fun-fly	Sunday: Bomb-drops, Keep- the-Jellybeans and/or other pilot challenges, plus picnic.
Oct	9	Sat	Winter prep of field	Winterize the field and enclose the shelter with plastic walls, for the hold-outs who fly though the winter.
Dec	14?	Tue	Christmas Dinner	Good friends, good food, good time. Date to be confirmed

Castle Creations Phoenix ICE Brushless Motor Controller (cont.)

The available parameters are:

Battery Voltage
Battery Ripple
Battery Current
Controller Temperature
Controller Input Throttle
Controller Motor Power Output
Motor RPM

More parameters and higher frequency will fill the available memory quicker. Also from this screen, you can down-load any re-corded data from the device to your PC, and clear the memory of the device so it can record new data.

Caution: This is where I discovered a minor deficiency with the ICE controller. Once its memory is full, it quits recording data. If you forget to clear the data before flying, you may not be able to analyze the most recent flight. (On the Eagle Tree device, you can choose to automatically record over the oldest data, or you can have it quit when full, like the ICE.) At the settings I chose, I could get about two and a half flights before filling the memory.

Continued on page 17

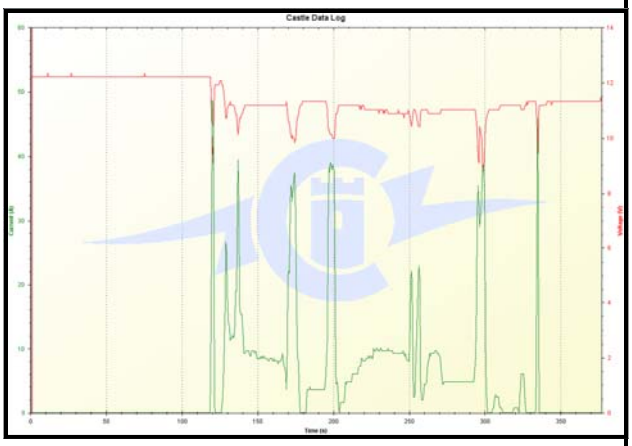
Castle Creations Phoenix ICE Brushless Motor Controller (cont.)

It's Data Time: Downloading the data from the ICE to your PC will automatically open up a window with the data plotted on a graph. The combinations of parameters that you can plot on that graph is up to you and how busy you want the graph to look. Here are a few examples:

*Current & Voltage **(Graph 1):** Here you can see that as the current is increased, the available battery voltage is "pulled down" slightly and that the maximum voltage decreases through the duration of the flight.

*Current, RPM & Throttle Input **(Graph 2):** Notice that at about half throttle stick position (1.3 ms), the RPM is about half of max (6,100 of 11,800), but the required current is only about 5 amps, little more that 10% of the maximum draw of 45 amps at full throttle.

*Temperature, Motor Power & Amp Hours **(Graph 3):** Confirmation that the ESC is not running too hot. After connecting the battery the flight started at 120 seconds (2 minutes). It ended at 335 seconds (5.6 minutes) for a flight duration of 3.6 minutes. The flight used .55 Amp Hours (550 mAh) of battery capacity. So a safe flight duration on a 2200 mAh pack is about 12 minutes.



Graph 1-Voltage & Current during flight

We have the option to save the data on our PC for future use. Simply save it as a file on the hard drive. Note that the data is saved, rather than the charts that you viewed. This is great, because you can return later and look at a different chart from the same data. These archived files are accessible later through a short-cut icon on your desktop.

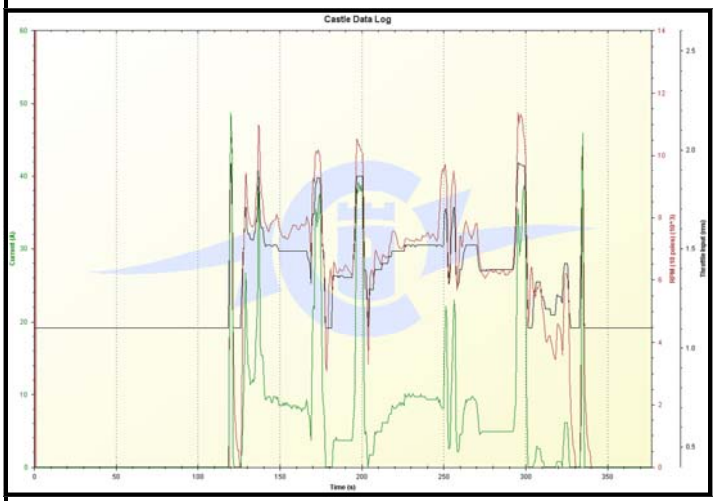
Bottom Line: So is a Phoenix controller with its built-in logging capability worth the increased cost compared to the old Phoenix ESC? Wait a minute! The ICE is less expensive than the equivalent old Phoenix! It's a no-brainer.

	ICE Lite 50	ICE 50	Phoenix 45
Weight	22.7 g	34.6 g	30 g
Max Volts	25 V	34 V	19.2 V
BEC current	5 A	5 A	3 A (or less)
Street Price	$85	$85	$102

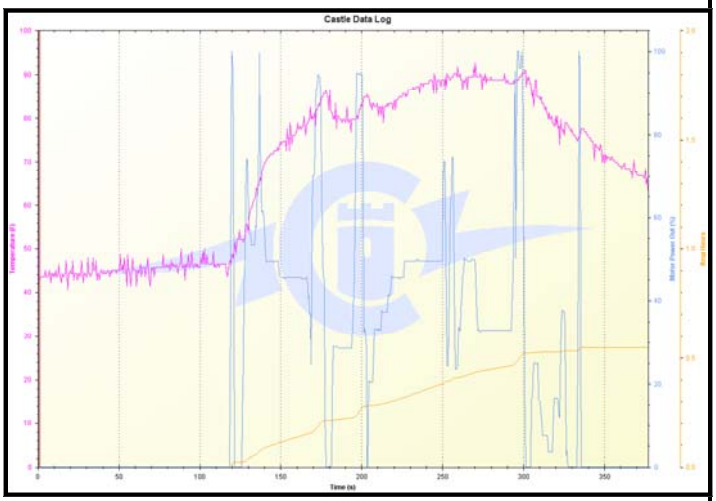
In addition to the reasonable price of the controller, we also get a full-featured data analysis tool that helps us get the most from our set-up. Some things that recording the electrical parameters revealed to me:

The significant increase in flight duration at partial throttle.
A 50 amp ESC is not overloaded, like the previous 35A ESC I had been using. (also identified with the Eagle Tree)
The highest current load is seen at full "throttle" with the plane restained on the ground. Close behind that is a full throttle vertical up-line. Full throttle in level flight demands much less current.

I was hoping that Mike would forget he loaned me the Castle Creations Phoenix ICE, but he had a use for it and I reluctantly returned it to him. Now I have to buy my own!



Graph 2-Throttle back for much longer flights



Graph 3-The ESC tells you how it is doing

Classified Section

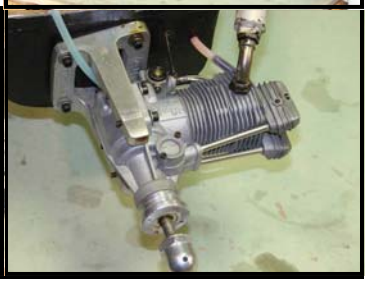
CG Ultimate BlueHawk Bipe-ST.90

This is a Carl Goldberg, kit built, Bipe ready to fly with your receiver. It is well built, very good condition, covered and painted but never flown. Has a Super Tigre (Italian) .90 2-stroke w/ 13x6 APC Prop, Pitts Style Muffler, 3" Aluminum Spinner, Battery (JR 4N 1100mAh), Switch & Charge Jack, Remote Fueler and Servos: Ail/Rdr/Elev (S9101) - Throttle (S148). If you need Tx & Rx, holler...I have several sets.
Wingspan: 55", Length: 57"
Asking $450 obo

Ultimate Bipe-Carl Goldberg-OS 120 FS

This is a Carl Goldberg, kit built, Bipe ready to fly with your receiver. It is well built, very good condition & monokoted. Has an OS 1.20FS 4-stroke w/ Prop, Muffler, 3" Aluminum Spinner, Battery (NiCad 1000mAh), Switch & Charge Jack, Remote Fueler and Servos: Ail/Rdr/Elev (S134) - Throttle (S148). If you need Tx & Rx, holler...I have several sets.
Wingspan: 55", Length: 57"
Asking $500 obo

Ultimate Bipes
Contact: Lou Tisch
duckguylsb@Juno.com
586-709-5378 (cell)
(see business card this page)
Lock Stock & Barrell, Inc.



Anchor Bay Models

(renamed from MALT Model Aircraft)

Mike Andros & Lou Tisch purchased Grant's Custom Aircraft out of St. Clair and relocated the operation to Lou's Shop in Clinton Township (see LSB card below). Currently, there are molds for 10 models, including: PBY Catalina (109" ws), Grumman Widgeon, Republic SeaBee (single & twin), Lake Buccanneer, Christen Eagle, several Mustangs, Pylon and fun-fly ships.
The 1st kit to introduce will be the SeaKing (Red plane shown below)
As operations progress, we will be presenting the model kits in succession. Keep your eyes open for the introduction of our first kit.

Thanks all, Lou & Mike

Full Scale Aircraft photos courtesy of aircraft websites

Classified Section

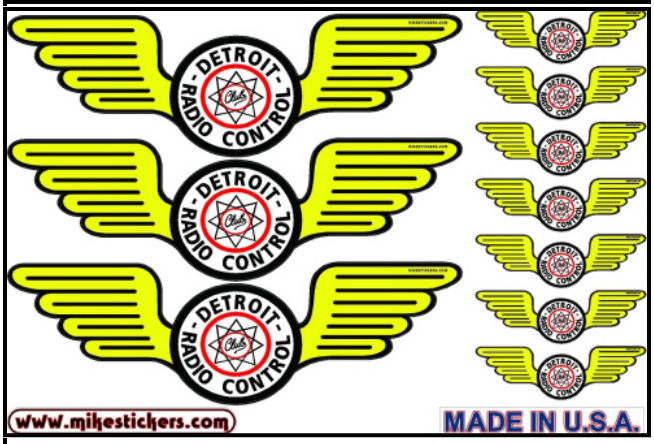
RCCD Decals for Bumpers, Windows and Models

Finally, an easy way to dress up your vehicle & plane to identify you as a member of the Radio Control Club of Detroit...yes, that's a good thing.

Go to: www.MikeStickers.com and click on the RCCD Logo. This will take you to a page with the vinyl stickers along with ordering instructions. As well as stickers for your models & bumpers, you'll find the reverse sticker for the inside of your windows.

This is also the place that made the Pilot Stickers that were given out at the Christmas Party. Be sure to let MikeStickers know that you are a member of RCCD.

Lou Tisch



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Quality Servo Extensions and Splitters
available from Keith Jones (586)-786-1474
10% discount to RCCD members
PLUS 10% of member sales to the club
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All Gold Plated Connectors

Qty Fut	Qty JR	Heavy Duty JR or Futaba (22 gauge wire)	Price each	Ext price
		4" servo extensions	$1.50	
		8" servo extensions	$2.00	
		12" servo extensions	$2.00	
		18" servo extensions	$2.00	
		24" servo extensions	$2.50	
		36" servo extensions	$3.00	
		3" "Y" splitters	$3.00	
		6" "Y" splitters	$3.00	
		12" "Y" splitters	$4.00	
		24" "Y" splitters	$5.00	
		Sw harness w chge lead	$6.00	
		Discount	%	
		Shipping		
		Rev 1/31/08	TOTAL	

RADIO CONTROL CLUB OF DETROIT

Lou Tisch-Editor
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Email: duckguylsb@juno.com

Gravity Always Wins !

We're on the web
www.rccd.org

Coming Events-2010

Mar. 20-21, 2010	RCCD Mall Show-Macomb Mall
Apr. 24, 2010	Season prep of field
May 1, 2010	Brag Day
May 2, 2010	Watts Over Wetzel-Electric Fly-In
May 22-23, 2010	Great Lakes Combat Challenge
June 6, 2010	EAA Chap.13 & RCCD Joint Fly-In
June 8, 2010	Kid's Night (1)
June 13, 2010	2x2 Fly-In
June 27, 2010	Great Lakes Scale Fly-In
July 24, 2010	Control Line Fly-In (U/C area)

Please check the website for updates and changes to the schedule: www.RCCD.org