R/C REPORT ONLINE!
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Issue 288

USA was born this month!!
Don't forget those who died for us to be free!!

RC REPORT ONLINE INDEX

WEBB'S SCALE

GARY WEBB

Well fellow Scale modelers, I have been holding off telling you this, but at the urging and permission of Tony; I will.

This past January I was diagnosed with early stages of prostate cancer. I have been having a PSA blood test for the last few years and my PSA rose from 2.2 to 3.1 over the course of a year. Now a 3.1 is still in the normal range of 1-4. It was the rapid change that caught the eye of my long time family doctor who insisted I see an urologist and have a biopsy done to determine if I had cancer or not. My prostate was of normal size with no urinary problems and my doctor could feel no lumps during the DRE (digital rectal exam).

The urologist first did an ultrasound which also found nothing. He (Thank God.) decided to do exploratory biopsies, where he took twelve samples. Only three came back with traces of cancer. What if he had done only 5 or six and missed.

Make sure you see a good urologist!!!! I was lucky; mine was excellent!

Now here comes the good part, if there is such. The urologist first gave me a book explaining my options and told me to read it and get back to him in two weeks to give him my decision. Being a surgeon he recommended surgery.

Hmmm…but with all due respect said it was up to me.

I found the book he gave me literally terrifying. There were four options and none of them came without risk of really serious side effects. Also the book was copyrighted in 2003. I knew that a lot of water had run under the bridge since then. Lucky for me, I have a twin brother who is a doctor. He told me that surgery was not the perfect cure that I may have been led to believe. If they miss just one cancer cell (Can't see them.) then the cancer will come back. He then told me to check with MD Anderson in Texas. They are the leading cancer hospital in American, and his words were and I quote "Do whatever they are doing".

Thank God for the internet!!! This is where I found out there is a life saving CURE for prostate cancer that does not involve surgery and has a 95% cure rate to boot with NO SIDE EFFECTS!

It is called Proton Beam Radiation. I also found that there is one of the seven proton centers here in America located only 170 miles from my home.

The facility is associated with the University of Indiana in Bloomington, IN. It is called MPRI, Midwest Proton Radiotherapy Institute. You can find their web page by going to this link: www.mpri.org.

The proton beam is created by the use of a cyclotron that accelerates hydrogen atoms to split off the protons to create the beam that acts as a scalpel to kill the cancer cells without destroying surrounding normal tissue. The cost of building the cyclotron has been very high thus there are only a few here in the states. The MPRI cyclotron is noted to be the largest and most powerful unit in the world. Get this, it measures 40ft X 40ft X 40ft and weighs in at over 4 million pounds. About the same weight as a WWII battle ship. It consumes over one million dollars of electricity a year. The cyclotrons were first used for nuclear research starting around 1938, and then around 1960 they realized the medical implications.

When I told my brother about this he had never heard of it, and he has been in family practice for over thirty years. Many urologists know about it, but will not recommend it due the facility not being in their area and having relatively little knowledge in this area of radiation therapy. My brother is now a true fan of proton beam treatment. I should also add that most urologists are surgeons and not radiologists. My urologist who has been practicing for over 20 years had heard about it, but did not know the difference between proton and photon radiation. It is not in their field of study. This is why it is so important today that we become our own best advocates. Search out treatments for ourselves and then do research and talk to the doctors that perform each treatment. See what there track records are for success and talk to patients that have under gone such treatments and what their personal results were.

The proton beam also is used for many other types of cancer with the same effects and no side effects, especially pediatric brain/spine tumors. Visit their website for details. I have witnessed children being cured of brain cancer, where there was no hope with other treatments. Also a truck driver with a tumor over his left eye is being treated successfully and will not lose his sight in that eye so he can continue driving. It is heart wrenching to see babies here getting treatments for brain cancer, or neck and spine tumors. Proton is their only hope for survival. All other methods have been for naught.

I am now in my ninth week of treatment with five more treatments to go. I will have 44 treatments over the course of 9 weeks. Tomorrow will mark number 40. I have no side effects and have been riding my Honda Magna motorcycle on the weekends when the weather permits. I commute back and forth each week staying here in Bloomington during the week.

The last part is the staff here is unbelievable!!! They treat you like family. The doctors and staff take the time to talk to each patient like they were the only ones they have.

Now why am I telling you all this?

You or someone you love will come down with prostate cancer or some other form of cancer and I want all my friends to know there is a life saving option out there with little or no side effects that your insurance WILL pay for. Do not believe your doctor if he tells you this is an experimental treatment. My urologist told me he had heard about it, but did not know how it worked. I sat him down in his examining room and pulled out a brochure and educated him on the spot! After which he wished me good luck and told me if I needed his help in the future please contact him.

On asking, MPRI provided me with a list of over 100 patients that I could call and talk to about their proton treatment and their results. Some even called me to tell me I was doing the right thing, and their results! I have met men who went the surgical route by recommendation of their urologist that now have to wear diapers for the rest of their lives, cannot make love to their wives, (One told me his wife is divorcing him due to his ED.) and wished to God someone would have told him about proton beam therapy. I have also witnessed at MPRI patients that have come to MPRI when their prostate cancer has returned after having a radical prostatectomy and the cancer has returned and is receiving salvage radiation treatments of the area of the prostate. There were three here while I was in treatment that I know of. I can also say that I have met men who did choose surgery and have had good results with few side effects. From what I read though, most do have side effects that I did not want to live with the rest of my life if I did not have to.

I hope that in writing this I will have saved at least one life and saved a friend from the possible long term side effects of prostate surgery. Also remember that it can cure many other types of cancer. Please pass this information to anyone who has a family member that is diagnosed with cancer and last but not least friends...GO GET A PSA TEST EVERY YEAR!!!!! It can save your life! I did not write this to get your pity or sympathy. I am a survivor and want you all to have the knowledge that I have acquired through my experience. Also if you call MPRI they will send you an information package along with a book written by a former patient Robert J. Marckini. The title is: You can beat Prostate Cancer and you don't need surgery to Do it. Robert was treated at Loma Linda out in California. They were one of the first proton beam treatment centers here in America. I have just read here in the Dayton, Ohio newspaper that two Proton Beam centers are to be built in this area within the next two years!

The 44 treatments given over nine weeks were the only drawback for me. However after going through the process I can tell you it went by quickly. I met a great bunch of modelers through the AMA site that put me onto the MCRC (Monroe County RC Flyers) club. Their flying site was located closer to my hotel than my local field is from my home. They welcomed me with open arms to fly at their field while in Bloomington during my treatments. Luck would have it that two of the members were associated with MPRI. One, Jeff

Self, is a maintenance manager for the Cyclotron side. The other is Dennis Friesel, whose Wildcat was featured in my June column. He was the Facility Project manager over the entire MPRI facility and oversaw the construction of the facility. He retired in 2006. Along with flying at their excellent flying field, I was also treated to flying indoors on rainy, cold and not to mentioned windy days at the University of Indiana's indoor practice facility. It was a complete indoor football field that measures about 120 yards X 200 ft X 90 ft high. WOW!

I have some photos of the indoor arena,

Photo 1: Inside photo of the University of Indiana's indoor practice field; an indoor model fliers dream.

and a couple of Jeff and Denis.

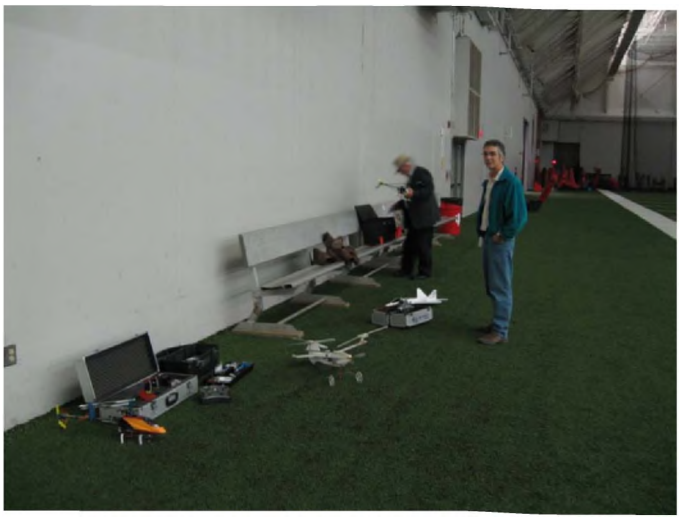


Photo 2: Jeff Self with is twin rotor gyro an electric heli. He is the maintenance manager of the cyclotron at MPRI.

Photo 3: Dennis Friesel retired project manager of MPRI, who is an avid scale modeler, and heli pilot. He also dabbled in pylon racing.

Jeff and Dennis fly electric helis, Jeff also has a twin rotor gyro that he built. I flew my newly assembled Dynamic Foamy F-22 that I built in my hotel room while here in Bloomington. Also during my travels to Bloomington I found a true Mom and Pop hobby store in downtown Bloomington. In Photo 4, is the front outside view of the store.

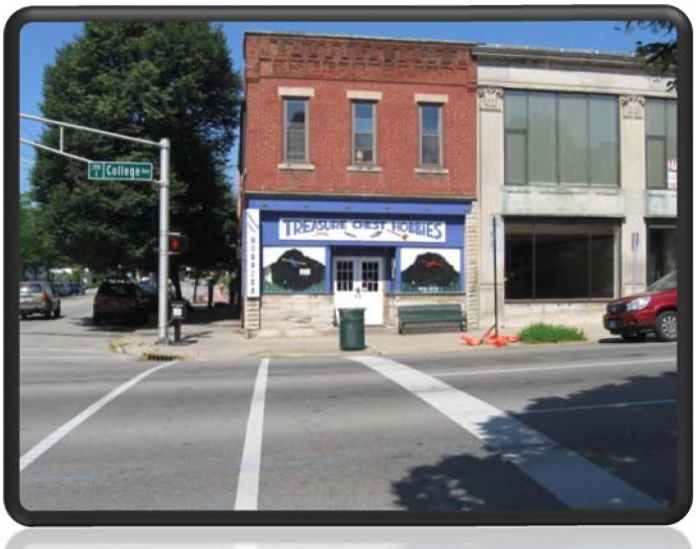


Photo 4: Outside view of the greatest little hobby store in Bloomington, IN

I don't know about you guys, but that brings back a lot of memories of when I was a child and went to this magical place called the Hobby Store in Downtown Dayton, Ohio. There were no shopping malls then. Photo 5 is the owner Harold Evans's and his camera shy wife Rose who have owned the business for over 27 years. They had a business first that was closer to the university dorms that catered to the students. They owned an import store that handled rugs, clothing, artifacts and jewelry that the students like.

Photo 5: Harold Evans owner of the Treasure Chest Hobbies store for over 27 years. Nicest guy you'll ever meet.

Their lease on the building ended and the owners were going to tear down the building so they had to move over to the western side of town and their customers, (college students) did not follow them. He had an opportunity to buy out a small hobby dealer and started the hobby business in its present location. Their clientele changed and they have had a successful business ever since. Harold and Rose are now in their very late 70's. He told me he has tried everything that he sells. I'm telling you that is a lot!! Look at the accompanying photos.

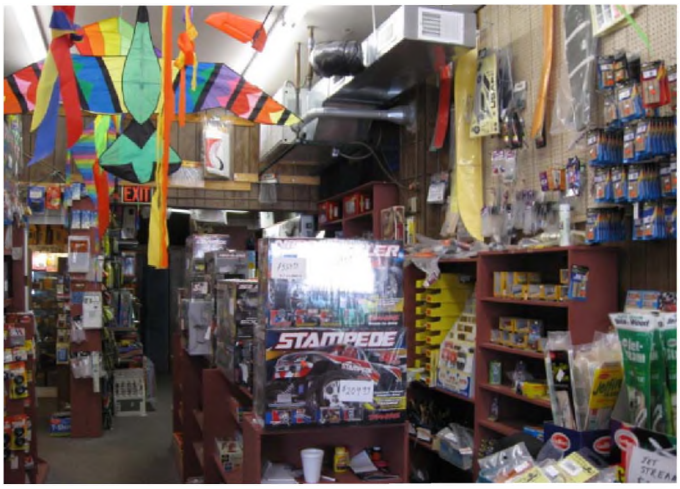


Photo 6: Part of the huge selection staring at you as you walk into the store. They even have a large selection of kites!

Photo 7: One wall is dedicated to all types of plastic models; notice the assortment of plastic rods and beams in the counter. Great for making all those little scale parts. Also look at the glue selection. This is where I bought my foam friendly glue and kicker.

Photo 8: Electric train and slot car track accessories abound on this section of one wall.

This store covers it all. RC cars, boats, airplanes, helis, electric trains, plastic models of all types, and has a paint, plastic, metal, wood, and glue supply selection that any scale guy would drool over. They carry model rocket supplies, kits and accessories for wooden doll houses and even glass marbles! Look at the magazine rack, would you? They even have an operating HO train set in the front window like all hobby stores of the past.

Photo 9: As seen in this photo a large selection of trains of all sizes, from HO to O gage trains. Look, there's even a Lionel train set like I had way back when I was a kid! I think the prices have gone up since then.

Photo 10: More train fun!

The address is 122 South College Ave, Bloomington, IN 47404. If you're ever in Bloomington, please stop in and say hi and tell them Gary sent you…hehehehe

Photo 11: Operating trains in the front window that heralds back to the days when I was a boy and every hobby shop had them to lure you into the store.

Photo 12: The old time hobby store could not be complete without the large magazine selection to teach you all knowledge of your chosen hobby.

And you thought I wasn't having any fun over here. By the time you see this I will have finished my treatments, gone to Georgia for the warbird event down at Matt Hodge's place and will report back on the scale scene down there.

Photo 13: Last but not least, some of the RC aircraft kits from basic electrics to scale kits.

Blue skies and fair winds my Scale friends.

Stay well.

Gary Webb

gcwent@woh.rr.com

Thanks for sharing this important message, Gary! Our continued prayers are with you!

THE OILY HAND

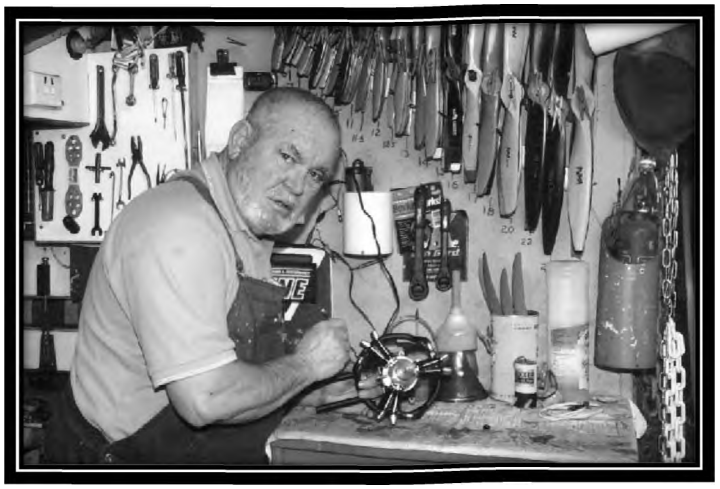
BRIAN WINCH

THE OILY HAND: Covering engine topics and working with metal for models. Send your comments or questions to: oilyhand@bigpond.net.au or write to Brian Winch, 33 Hillview Pde, Lurnea NSW 2170 Australia. International Response coupon (Post Office) required if you want a written reply.

POP GOES THE...PLUG

Modeler's email:

"Dear Brian, I have followed your articles for many years (2 magazines) and I have always enjoyed your writings. I now have an engine related problem for your consideration that I have experienced twice in the last twenty months. The problem is that of glow plugs popping out of engines in mid-flight with the engine running at my common flying speed - somewhere between half and full throttle. The first instance was with a Super Tigre 3000 of the original Italian manufacture. The flight had endured some eight or nine minutes when the engine made a popping sound and stopped, followed by that (unpleasant) silent glide of a previously powered model until a safe landing (fortunately). On inspection it could be seen that the plug had popped out and vanished. (Where mufflers, spinners, props, prop nuts, wheels etc. hide adjacent to all flying fields... never to be seen again but often suffer a



losing fight with a grass slasher or mower. BW). Now, twenty months later, the same thing has happened, except that the model stalled and crashed instead of gliding. On this occasion the engine was a Super Tigre 3250 of Chinese make. Again there was the same popping sound and the engine stopped but this time, on inspection, not only was the plug missing but so was a chunk of metal from around the plug hole in the cylinder head. Some modelers at the field suggested that I did not tighten the plugs properly but I doubt this is the case. I have flown many hundreds of flights over the years without losing plugs and, besides, it is set out in the instructions that the plug must not be over-tightened. Your thoughts on this would be greatly appreciated."

My answer:

Thank you for your loyalty. It is nice to keep in touch with long time friends.

Your plug popping problem is not very common, but I have struck it with large ST and other large engines on the odd occasion. Those that I investigated revealed a poor thread in the head; way too loose and/or broken threads. To compound the problem, some glow plugs are a little lacking on the quality control relating to the thread sizes. I have a thread die adjusted to the correct thread clearance that I use every so often to check different plugs.

Photo 1: This is an adjustable die that I have set for the best fit for a glow plug.

Some have such a poor thread, undersized, that it is difficult to get them to run squarely through the die. ☺thers are so oversized that the die will cut a full spiral of metal for the full length of the thread. The undersized threads are not much good as they deform the thread in the head, but the worst are the oversized threads. These will abrade and re-form the thread in the cylinder head so that it then becomes deformed and oversized. While that plug is fitted, the seal generally remains; but when that plug dies and a new plug is fitted (different brand and better quality thread), the fit is quite loose leading to leaks around the plug base. This leads to more tightening of the plug (to stop the leaks) and the already damaged thread suffers further damage or actually strips out. The combination of a loose plug thread and an (now) undersized plug is a sure recipe for plug popping and more so in the large capacity engines due to a lot more pressure being applied to such a small area as the plug base. Another problem is overheating. The aluminum cylinder head will expand considerably in an overheated situation and the plug hole becomes larger (donut effect). The plug, having a steel body, does not match the expansion of the aluminum so the thread becomes loose. During the loose period the plug will actually rattle in the thread; move up and down in the expanded thread form with combustion pulses. This damages the thread by distorting it. Sometimes the plug will blow out under these conditions as they can become quite loose. Another consideration is the plug washer (gasket) that does the job of seating the plug against the head and sealing the threaded union of the two parts. I have seen thin, poorly punched and distorted washers that had a fit on the plug akin to a finger in a wader boot (without a leg in the boot). No seal and often placing an uneven load on the plug so that it actually leans over to some degree in the thread. Modelers also cop a bit of flack here as well due to their nasty habit of re-using grotty old plug washers - particularly the aluminum types. The aluminum washers are a single use item only. They flatten out, distort, increase in diameter, harden and become generally useless as a seal after they have served their first application purpose. Some of the thin, slightly dished copper washers are not much better. The well formed, slightly thicker copper washers are supreme in my opinion, and if not distorted; these can be reconstituted to provide a very

good seal for a long time. Heat the washer with a flame until you see a green tinge to the flame and drop the washer in cold water. This softens the copper and it will form a very good seal when the plug is tightened in place.

When purchasing new plugs - check the thread for quality. I prefer a clean cut thread just as it came out of the threading die or whatever thread cutting method was used. I am wary of plugs that have the body plated in some way when the plating is also on the thread. I have seen very poor thread forms on some plated plugs and this is a problem waiting to cause damage to the engine head. Unless the thread is cut undersize to allow for a precise coating thickness, the plug could cause damage if you insist on winding it in even though it feels tight. My definition of this logic that applies to a small few is - 'Heavy In the Hand…Light in the Head'. Not too long back a plug manufacturer, who has the plugs nickel plated, had a really big problem. Somewhere along the line the plating process was neglected and the threads ended up grossly oversize and lacking in true form due to the rounding of the peaks and valleys of the thread. This problem was compounded, in several instances, by a shop assistant who definitely suffered the 'HITH…LITH' syndrome. A particular brand of engine did not have a plug supplied so the assistant was fitting plugs into new engines for each customer. The owner of the model shop contacted me and asked me to examine the head of the (first) engine to see if there was a manufacturing fault as the plug thread was stripped. It was three days before I had time to 'thread coil' the head and return it to the shop to find that there was four more heads waiting for me. I scratched my wooden head to find an answer to the problem as the engines were of very high quality, as were the plugs by reputation. While I was discussing the problem with the shop owner, the assistant came up and gave me a blast for 'fitting an undersized thread in the head'. I knew that this was not correct; actually not possible so I gave him a shot back as to how he came up with that assumption. He couldn't fit a plug into the thread as it was too small??? For reader's information, if you are not aware of it - a thread coil is very high grade stainless steel and very accurately sized No under or oversize problems, but one really strong thread.

Photo 2: Thread coil fitting tool, special thread tap and the stainless steel, diamond section, wire thread coils.

Where you might force an oversized or even incorrect thread pitch bolt or threaded part into a thread in aluminum; it is not going to happen with a thread coil. I then asked to see the glow plug and that revealed the problem. The plating was so much in excess on the thread it was more like a wavy line than a formed thread. Then it was my turn. "How in Heaven's name did you ever get these plugs to screw into (and wreck) the new engine cylinder heads?" I asked the assistant, rather testily. "It was quite a job," he said, "I had to extend the plug spanner with a long tube and really put the pressure on it get them in. Problem was the heads must have been

faulty as the thread broke up when I got the plug in a bit." At this point the owner of the shop was purple in the face and I am sure I saw steam emanating from his ears. He handed me the other damaged heads to repair and took the assistant out to the rear of the shop for either a long talk or a bloody good thrashing. The faulty plugs were returned to the manufacturer and the manufacturer of the engine, having been made aware of the incident, now supplied their own brand of plugs fitted to the engine, and they have nicely cut threads.

Extra note here: When I fit a thread coil I then wind in an arbor and fit my homemade, hollow spot facer on it (very neat fit) and machine the surface (by hand turning the cutting tool) to ensure the new plug thread is dead square to the sealing face of the head.

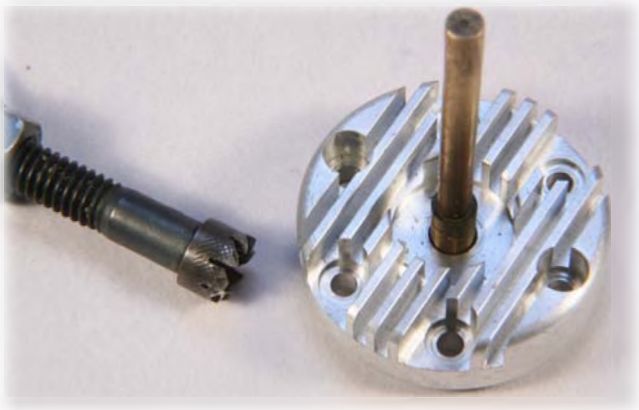


Photo 3: My spot facer is a hardened cap head bolt with the teeth cut in.

A SIMPLE FIX

Using my 'patented' plug insertion tool, as in the photo, fit a new plug (when needed) into the head of your engine and then nip it up just a little.

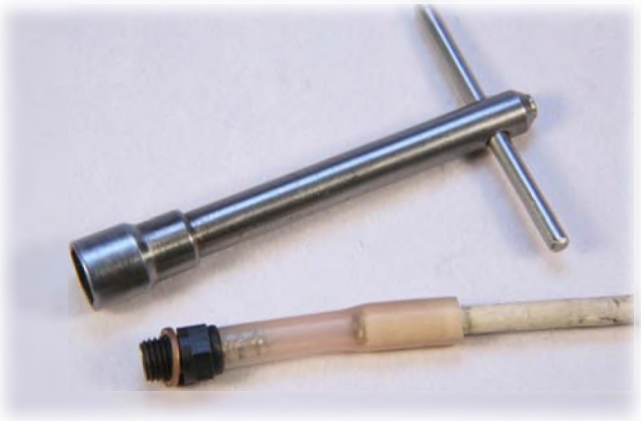


Photo 4: A short length of fuel tube on a wire handle makes the safe plug insertion tool. The spanner is a fancied up cap head bolt with a 2" handle.

Doesn't need bulging forearm muscles for the job, and it will stay nicely until it dies a natural death. If, however, on fitting the plug you consider the thread fit is quite loose; you can remedy the problem with a wrap of plumber's Teflon tape. If you haven't had experience with this tape; now is the time to get to know it. It is less than paper thin, clings to itself, is a great aid to sealing and will take actual exhaust flame heat without a problem.

Photo 5: Plumber's Teflon tape has been available for many years and it finds a lot of uses around the home and workshop.

It's cheap as chips (Ozzie for extremely inexpensive.) and freely available from general hardware stores. To apply it, fold it in half lengthwise, as it is too wide for a plug in its standard size, wrap it twice (should be enough) CLOCKWISE (otherwise it will wind off as you fit the plug) around the plug thread then pull the tape to tear it as this seals the end onto the wrapped section. You will probably feel a little resistance when fitting the plug, but continue on as it will not harm the thread. It is just the tape bunching up a bit to form a super tight seal and take up any slack in the threads.

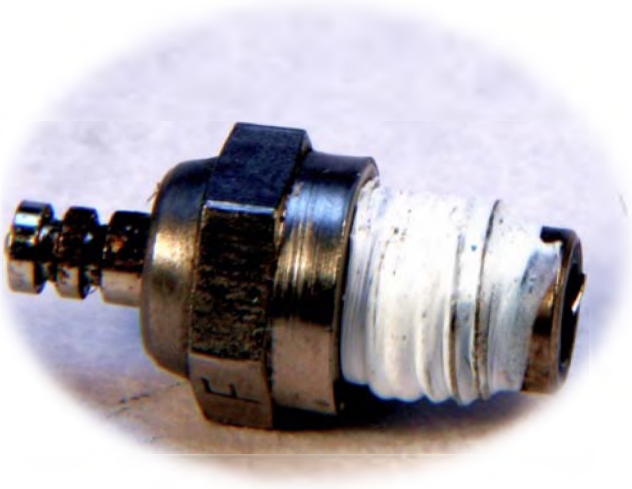


Photo 8: All wrapped up - snug as a bug in a rug.

PHIL De GAP

Now that you are familiar with the Teflon tape and have your very own roll of it; you will find many other sealing jobs it will do in many applications. To put you on the starting blocks (ready to run with great ideas), try this very effective and simple seal job. Remove the muffler from your two stroke engine, petrol or glow, and stretch 2 or 3 (or more if needed) lengths of tape across the exhaust manifold.

Photo 6: Pull the tape over the manifold and tear it off. Two or three layers will do a good job.

Again, pull the tape down on one end to catch it, pull across the manifold and down to tear it off. Repeat for the required number of layers. Two is generally enough. Then, without punching holes or cutting apertures fit the muffler; poke a sharp point such as a scriber or large needle down the bolt holes to just pierce the tape, and then push the bolts through the tape with the muffler manifold face tight against the engine manifold face. Tighten the bolts. When you turn the prop on the engine, you will hear little, or at most, a muffled 'pomp' sound. Your engine is perfectly sealed at the exhaust manifold. Next time you start the engine it will be very quiet for a second or two then the normal noise will resume as the exhaust pressure has cut a very neat aperture in the Teflon seal, but the leaks have been stopped. Works very well. You can also do the wrap around trick (as for the glow plug) with the exhaust headers in four stroke engines.

Photo 7: No more loose and leaky 4 stroke headers.

Provides a great seal and helps to reduce the metal to metal wear in this area. If you do a good job of applying it to the muffler end of the four stroke header, you will greatly reduce the incidences of 'free flighting' mufflers that take off on their own and disappear forever in the rough around the flying field. (I think gophers quickly collect them and give them to their 'gopherettes', baby gophers, to play within the gopher nursery.)

WORKSHOP TOOLS - HOW THEY FUNCTION

ROTARY WIRE WHEEL (aka WIRE BUFF)

Used to remove rust, paint, dried oil or blemishes from rare sized bolts, model engine crankshafts, model engine camshafts, model engine cylinder heads and mufflers.

It will fling bolts well out of sight. Crankshafts are flung onto the concrete floor which damages the thread and bends the small journal. Camshafts are spat against the wall, bounced off and into a pile of junk that will take hours to sort through. Fins are bent or worn away on cylinder heads and mufflers end up scarred with deep gashes and rounded off exit pipes. Further use is to remove skin and nails from fingers, fling small shards of wire into unprotected eyes and a spray pattern of the removed material from dirty or oily jobs on shirts and trousers. Wires in the wheel will also penetrate flesh when the wheel is not moving if it is brushed, bumped or lent on. A useful machine for inducing rapid and violent swear words.

GOING DOWN

Well, time to slide off as I can see the moment arriving, so it must be time for…APRILWUN.ROT.CON where we look at strange happenings, weird things. Absolute nonsense as advised by Julia's (Editor's wife) dog, my pet tarantula and Tony's escapologist frog. Nothing is real. Everything is rot and there is nothing you can, should or attempt to do unless you are completely mentally incompetent or absolutely stupid and have the permission of your mental health consultant and somebody's pet Egyptian cobra.

Slipping back in time, as young fellows with little or no money, but a love of things aeronautical, a mate and I improvised a lot to continue our desire to build and fly model aircraft. One favorite was our FLY PAPER BLOW FLIGHTER; a takeoff of the famous Beaufighter (WW11 bomber aircraft), but with an alternate power source. Using whatever scant supplies of balsa we had on hand, a featherweight model was built and tested for gliding. Next was to 'borrow' the flytrap (glass trap - common in past days) complete with large green 'blowies' buzzing frenetically within, wrap it with brown paper and secrete in the refrigerator. Care had to be taken here as mothers are not too keen on bottles of live flies in their treasured 'fridge. While the flies cooled

down to a comatose state we made up a small amount of fly paper glue. For younger readers, fly papers are strips of paper hung from the ceiling to catch flies and other insects. The paper is coated with non drying glue that attracts and holds flies. The mix we used was 2 parts of Gum Arabic or Rosin, 1 part of castor oil and a few drips of Vegemite, a paste made from yeast and used as a spread for bread with a very strong Vitamin B smell which is attractive to flies. The ingredients were boiled together, and then let to cool to a horrendous sticky compound that never set; just remained extremely sticky.

A strip of the glue was painted along the top of the wing, tip to tip. Then, the now comatose, large blowflies were stuck, side to side, along the wing on the glue strip. From practice we knew the power/span/weight loading for the number of required flies. The model, now complete with 'flypower', was taken outside to be warmed by the sun. As the flies warmed up they started, as they do, flying but going anywhere as they were stuck tight by the glue. Eventually, all the flies had 'powered up' and the model lifted off and started flying. As the model started to fly (aeronautical factor), the load on the flies decreased and their rapid wingbeats became more effective. The model gained altitude, and eventually, it was lost O.O.S. (Out Of Sight in freeflight parlance.). Who knows where it went and what was its eventual fate? Not a problem to any intrepid 'airmodelers'. We had built a model from scratch, almost zero cost and it flew which was the object of the game.

The above is a true story and I had penned it on paper for later use or personal enjoyment then left it 'somewhere' on my desk. Snooping around, you can guess who found it. Yes, 'fleabrain', my incapable assistant. Well, that sent his brain buzzing like the flies in the bottle, so off he went to his workshop in the disused chicken shed in the back paddock. Somewhere he had found a dead rabbit (roadkill) and hung it in a tree surrounded by dozens of makeshift fly traps. Within a few days there must have been a million or more flies buzzing like crazy in the traps. A day or so later I saw him return from the local hardware store with a monster funnel and a roll of this plastic sheeting. Two days later he emerged from his shed wearing this weird plastic suit that had webs from under his arms to his ankles and between his legs so that it formed a large wedge shape when he spread his legs open. A bit like a Batman suit gone wrong. His oddball mate from down the road (Strange character; he catches rats for a living - with his bare feet.) emerged from the shed carrying a large bucket that contained...wait for it...flypaper glue. He also carried out the huge funnel. Bat brain then spread-eagled himself, face down on some old carpet on the ground and rat brain (his mate) commenced painting the entire rear of his body and the webs with the glue. Next he fetched the full fly traps and began tipping the flies down the spout of the funnel which was suspended over the fool. As the flies went down the narrow spout and reached the large cone shape of the funnel, they increased speed to escape, but the top edge of the funnel was too close to the spread glue so almost every fly became attached to the back of 'batman'. Very soon he was a mass of buzzing flies, millions of them, and the sound was very close to that of a large jet

airliner. The flies were, obviously, increasing their effort to escape and, sure as hell, he started to lift off the ground. Higher and higher, gaining speed and the roar of the flies was deafening. At around 500' altitude the flies were all heading in the same direction so he was moving at considerable speed. It was then I realized where the flies were heading. About two weeks back, I saw a dead cow in a paddock about 15 miles down the track. By now it would be really ripe and the flies would have picked up the ...err...perfume and were heading for a feed. I don't even want to think about what will happen when the flies dive, with him attached, onto that now really matured carcass. I'll tell you this; I don't want to be around when he, eventually, gets back. So I'm off and I will see you in a month's time.

In the meantime, enjoy my mini review of a very nice engine.

Another sparkling episode from WINCH - THE WHATNOT WIZ

ENGINE	SAITO FG-30
CONFIGURATION	Single cylinder four stroke - spark ignition - petrol fuel
DISPLACEMENT	29.11 cc
BORE	36 mm
STROKE	28 mm
WEIGHT	2,253 g c/w muffler, ignition, mount
STATED POWER	5.8 kg thrust/17 x 6 propeller
R.P.M. RANGE	1,120 - 9276 tested
PROP' RANGE	16 x 8 - 20 x 8 tested
FUEL	20:1 - 30:1 petrol to oil
SHAFT THREAD	M8 x 1.25
SUPPLIED WITH	Comprehensive tool kit, engine mount, spark plug, ignition system, muffler, instructions, and decals

AVAILABLE FROM: THE HOBBY HEADQUARTERS (W/sale) Retail from most hobby shops.

FOREWORD

The Saito Company is really serious about converting a range of their glow engines to spark ignition, petrol fuelled specials. According to a bit of forward information; they have more engines in their sight for the same treatment, which, for me, is good news. As I tend to like any good quality model engine, I now enjoy the freedom of being able to choose an engine of the capacity I want and I can have it in either glowplug or spark plug ignition. I also have the consideration of the fuel I want to use, petrol or methanol, according to which engine ignition I choose. It is called 'freedom of choice' and the purchasing modeler is the all up winner in this field.

This engine on review is a 'sparked up' Saito 180, an extremely popular glow engine.

The way it was a few years back when Gen Saito was still with us and the leader of the Saito crew, he usually developed his engines in batches of three. Designing the highest capacity engine first, he then produced the lowest capacity in the range. Subsequent engines in the series were produced with the next size up in capacity. The 180 was first offered as a 120 (20cc), a very popular engine. Next came the 150 (25cc) and this was (is) even more popular than the 120 to some modelers; powerful, reliable and an excellent engine for many scale model applications. Next came the 180 (30cc) and it was like a thunderclap. Top of the range. Top of the power; a real serious engine in the 30cc capacity stakes. It soon became extremely popular and it has developed the reputation of being a powerful, easy starting and reliable engine for large sport type models and large (in that range of sizes) scale models. For some aircraft, it was a bit high on compression which meant that you had to be careful of the tuning if you used a large propeller (20 inch or so). I de-tuned several for modelers who, mainly built and flew WW1 type models. All docile fliers, but due to the parasitic drag on most (biplanes, rigging, aircraft shape) the need was for a steady power supply with good torque at low RPM using quite large propellers. Another factor needed was a reliable, slow and steady idle. By de-tuning (reduced compression) the engines were excellent for the old style models. ☺ne aspect of the de-tuning was that I changed the timing slightly. Thus, larger propellers could be used due to the retarded ignition. One problem became apparent. If you wanted the 'wild bull' performance of the engine as it was originally, it meant a bit of bench work to remove the cylinder shim and reset the tappets which is not a job to do at the flying field. Well, now you have the lot in one package, and no bench modifications required. For petrol fuel, an engine has a lower compression than that used in a methanol fuelled engine; so we are off to a good start with the lower compression. The next consideration is the ignition over which we have almost no control if it is by glow plug. However, with spark ignition and a CDI (Capacitor Discharge Ignition) unit driving it, we have an automatic control that works according to the RPM of the engine (simple explanation). Put a large propeller (high load) on the engine and the ignition will retard to take care of the increased load, so really only commonsense is the guide to the size of propeller you can use on the engine. Don't think the engine has been tamed, restrained or maimed in any way. Fit a propeller in the lower size range and the engine will show you it can

really get up and boogie. All in all, you have the best of both worlds, so to speak.

BENCH TESTING

I carried out the bench testing on 20.4.2010 with the temperature at 25 degrees C, humidity at 74% with 20:1 regular unleaded petrol and Coolpower blue oil.

I could not see anything about a choke in the instructions, nor could I identify any choke action on the carby. As I was hand starting (You use an electric starter or chicken stick.) I closed the bell mouth of the carby with my thumb, turned the prop 4 times (fuel came to the carby), flicked the prop 3 times, ignition on, fired on first two flicks, opened the throttle more and it started on the next flick. From then on, at the same throttle setting, about ¼ open, it started in one or two flicks. Later when the compression had built well up; one flick every time had the prop singing; really easy starting and no kicks or nasty habits. The main mix adjustment was very broad and I venture to say you need not pay it attention other than a mild richening at high altitudes. As you will see with the propeller figures later, the engine likes a good flywheel action propeller, so don't be too concerned about fitting large props. The engine will indicate if you go too far. I noted quite a good supply of very light brown oil puddling under the breather nipple and it was just as oily as it was when I measured it for the fuel mix; no burning or degrading. Checking carefully I recorded the harmonic period (maximum vibration) between 3.2k and 3.4k RPM which is a very nice narrow band. Under full load (prop and RPM), I recorded 106 degrees for the head temperature under the spark plug, 47 degrees for the maincase section and 46 degrees for the front housing which equals cool running.

My final notes are, 'easy to use, no nonsense engine, just switch on and flick for instant power'.

On the slightly downside, I would consider this to be a one off occasion (small mistake); the bolts holding the engine onto the mounts were not tightened. My fault since I didn't check, but I noticed it when the engine was running by the seeping black stain (rubbing on aluminum) under the mounting lugs on the mount beam. Check yours just to be sure.

PROPELLERS

APC.		
16 x 8	8,665	1,800 idle
16 x 10	8,412	
17 x 6	9,276	1,430 idle
17 x 8N	8,474	
18 x 6W	8,484	
DL WOOD		
19 x 8	6,631	
APC		
20 x 8	6,702	1,120 idle

THE BIG PICTURE

DICK PETTIT

It's been rainy and stormy around my neck of the woods, so flying times have been few and far between. Maybe in the coming weeks, I will be able to schedule flying sessions on a regular basis and get out to some local flying events.

This month, I'll be showing you a product that can be used to shine up aluminum parts with a brilliance that resembles chrome plating. There's a de Havilland DH-4 that looks beautiful, and I'll show you a way to prevent your cowls and other accessories from parting company from your planes just when you don't want them to.

Let's take a look, shall we?

Makin' it Shine

I don't know about you, but I always like my models to be clean and shiny when I take them to the field. I'd rather not see any oil spots, fingerprints or dull looking metal parts on my planes, especially a dull looking aluminum spinner or similar metal pieces. I frequently use turned aluminum spinners from some of the major spinner manufacturers, and they always show up at my door looking pretty shiny. However, improvement to their shininess is always possible, and I am about to tell you how to do just that.

Up until a few weeks ago, I have been using a metal polish that I could only find at motorcycle shops and it's called SimiChrome. It comes in a small tube like toothpaste and once cost about $5.00 a tube. Those tubes lasted forever, but recently I must have used the last of the tube up and needed some more. I was shopping with the wife at a new "Wally World", and while I was browsing through the auto department I saw this little jar of "Mothers Mag and Aluminum Polish", seen in PHOTO 1.

Photo 1: Mothers Mag and Aluminum Polish used to shine up spinners and other metal parts

The eight ounce jar cost me less than $5.00 and after I used it, it worked just as well or maybe even better than the product I had used in the past.

PHOTO 2 shows one of my spinners just as it came from the package, and I mounted it on the plane.

Photo 2: Spinner before polishing, blurry image reflected

Normally you would polish things like this when it is not installed, but I wanted to show how Mothers Polish works. You can see a vague image of me and my camera in the spinner before polishing it, but things will get better. Using a piece of terry cloth towel, a small dab of Mothers Polish is rubbed on the aluminum surface until it starts to turn black. This is what is supposed to happen. If it appears to be drying out, add another dab of polish and keep going. Try to rub as hard as possible and the more you rub, the blacker it will get.

When your spinner, and your hands, are black as your hat *(Or in some cases, your hair. Julia)*, take another piece of terry cloth towel and wipe and polish the piece of metal until it shines like a diamond. You may need a second piece of cloth if the first one gets too dirty, but you will eventually see a beautiful shine and your reflection just as you can see mine in PHOTO 3. It is well worth the effort, and it took less than five5 minutes to get this shine.

Photo 3: Spinner after polishing, a clearer reflection

I then took a piece of aluminum strip stock, shown in PHOTO 4, and did the Mothers Polish technique on it. Yes, there are manufacturing marks in the piece of aluminum and they would normally be sanded or ground out before polishing the metal, but I just wanted to see if any difference could be seen.

Photo 4: Section of raw aluminum strip before polishing

And judging from PHOTO 5, you can clearly see the improvement made after just a few minutes work applying "Mothers Mag and Aluminum Polish".

Photo 5: Same piece of aluminum shined up and ready to go

You can also use Mothers on other metals, but you will have to test them first. This test consists of applying a dab of polish to the metal, rubbing hard and looking for that black residue. If it doesn't turn black, it will not polish the metal well at all.

Give it a try and I'm sure you will like it

De Havilland DH-4

I received a number of photos from Joe Hanson from north of Philadelphia, and his quarter scale Balsa USA de Havilland DH-4 looks beautiful. Joe took the design from a set of documentation prints he found and his DH-4 replicates one of the reconnaissance planes used in Europe at the end of The Great War. PHOTO 6 shows the level of detail Joe's plane has including the graphics and color scheme. Joe used SolarTex to cover his DH-4 and painted it with Behr house paint.

Photo 6: Balsa USA de Havilland DH-4 from Joe Hanson, Philadelphia, PA

The plane uses a Zenoah G-62 engine turning a Xoar 24-8 scimitar prop. PHOTO 7 shows the opposite side of the model and I am still trying to figure out how Joe got the G-62 carburetor completely hidden without sticking out the side of the plane. He also used a Bennett muffler that you can see sticking out the bottom of the engine bay.

Photo 7: Look for the carburetor. I can't see it.

Joe applied the fuselage graphics that were generated on a computer and used Callie Graphics on the rest of the plane. The solid center wheels seen in PHOTO 8 have been replaced by a set of wire spoke wheels from Vogelsang AeroScale (a neighbor of mine).

Photo 8: Graphics were computer generated

Joe's DH-4 uses a Futaba 1/4 scale servo on elevators and Spectrum digitals on ailerons and rudder. He copied my method of installing the elevator and rudder linkages with a slight modification to the drive horns. He also changed the main landing gear to a fully sprung version using a solid axle and bungee cords. The pilot and gunner figures come from Aces of Iron.

PHOTO 9 shows Joe and his de Havilland out in the driveway prior to its first flight which turned out to be very successful. Joe says that he added only 8 ounces of weight to the nose of the plane which is understandable due to the weight of his G-62 engine. He did go on to say that it did need "…lots of down trim, but then flew great… takeoffs and landings it does by itself…"

Photo 9: Joe and his DH-4, and he says it flies great!

Congratulations on completing a very beautiful model and I will try to get up to Delaware later this year to fly my DH-4 with you. Thanks for the photos and good luck.

Keep Your Cowl On

Many models I have built over the years have had some sort of plastic or fiberglass cowl to cover up the engine. Several used internally mounted screws or bolts to keep the cowl in place while totally hiding any sort of exposed fastener to the viewing public. The vast majority have screws or bolts right out there in front of God and Country staring the viewer in the face, saying "Look at me; I'm holding this cowl on the plane". These fasteners do a pretty good job, for a short time. When all of a sudden one comes loose, and then another and finally you have a cowl that's about ready to fall off. Another thing that may happen is the hole in the cowl gets worn larger due to the constant vibration between the fastener and the cowl material, and you wind up with a huge hole or a crack which looks worse than the fastener by itself.

PHOTO 10 shows a typical cowl fastener using a 4-40 bolt, a metal washer and a rubber O ring.

Photo 10: Typical cowl mounting bolt that works for a while

This method of attaching a cowl works better than just a bolt or screw by itself since the O ring produces some friction to the cowl material and slows down the vibrations which loosens the bolt or wallows out the hole. In order to minimize or even completely eliminate this rubbing between the bolt and the cowl hole, some sort of isolation device could be placed on the bolt or screw to do this isolation. PHOTO 11 shows how I do this. It's simply a section of fuel line that is cut to the appropriate length and slipped over the threads on the bolt. This length should be long enough to allow it to pass through the cowl and have a bit of overlap on both sides. You will also have to drill the cowl bolt holes a bit larger to accommodate this tubing because it has to be able to pass through easily.

Photo 11: Notice the section of fuel tubing on the bolt that isolates vibration

To install this new bolt with the tubing, put your cowl in position lined up so that the hole in the cowl lines up with the hole in the fuselage. Slip the new bolt through the hole so that the tubing slides about halfway through the hole. Now tighten the bolt slowly and you will begin to see that as the bolt gets tighter, the tubing starts to bulge out between the washer and the cowl. It is also bulging out between the cowl and the fuselage too, but you cannot see that.

PHOTO 12 shows the results. The tubing has mushroomed out forming a vibration isolated joint between the cowl and the bolt and it also provides some pressure to keep the bolt from loosening and falling out. It can be removed and reinstalled many times and only needs replacement when the tubing wears out. Try this on other things too, like wheel pants, canopies, windshields and other items on your models that are attached with bolts or screws. I have used this technique for years and I think you will too.

Photo 12: Mounting bolt tightened and tubing mushrooms out to form a vibration isolator.

That's about all I have for this month. I look forward to meeting many of you at upcoming events and I would appreciate any reader input concerning what you'd like me to write about, or maybe even what new models you would like to see reviewed in the coming months. It's been a while since you have read any of my reviews on these pages, and I look forward to writing more if the opportunity arises. Let us know what I can be doing for all our readers.

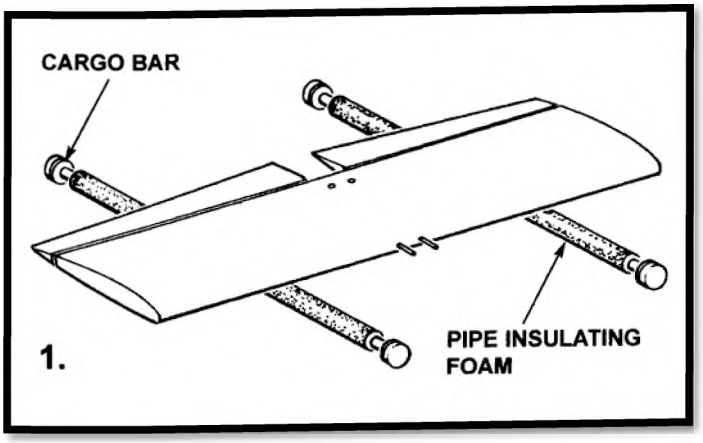
Until next time, see y'all at the field.

Dick

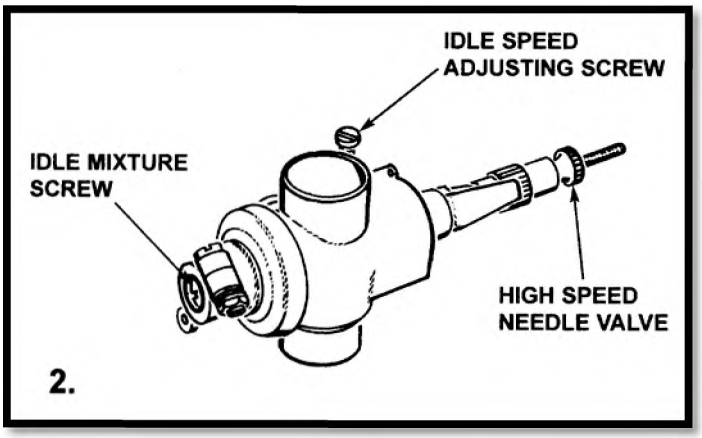
HERE'S HOW

WALT WILSON

1. Transportation Aid: From Edwin Hawk, of Smithville, OH. There is always a problem hauling more than one plane of any size in a vehicle (SUV, van or pickup truck). Edwin recommends Cargo Bars used in cars for hanging clothes, etc. They're metal with rubber pads on the ends and are threaded to expand or contract in length, and have a spring loaded push button to depress into several adjustments for length. He installed them in his truck cab, on the railing of the cab, where it meets the truck (vehicle) bed. Once inserted, twist the cargo bar for tightness to the sides. Pipe insulating foam on the cargo bar provides protection and wings or planes won't slip off. This setup provides a place to haul your wings where they won't get broken and you could even haul a plane on them. Cargo bars cost about $13.00 to $18.00 depending on brand name and source. Walt's Note: Shower curtain rods would work for this, too.



2. Initial adjustment of Carburetors: from Paul Geders, of Florissant, MO. Paul uses the following procedure for pre-setting a two needle carburetor, while off of the engine. It gets the adjustments really close, after you have torn down a carburetor and put it back together. Close the high speed needle valve and put a long piece of fuel line on the carburetor fuel inlet nipple. With the throttle open, slowly open the high speed needle while blowing on the fuel line. It will have quite a bit of resistance then will suddenly flow easily when the needle opens. That is the spot you want to leave the needle, just as it gets easy to blow. Now close the throttle against the idle speed screw or a straight pin, with a slight bit of opening in the barrel, maybe 1/32 of an inch. Close the idle screw. While blowing on the fuel line, slowly open the idle screw until you feel the sudden ease of blowing. Put the carburetor on the engine, fire it up and you should be really close to a good setting.

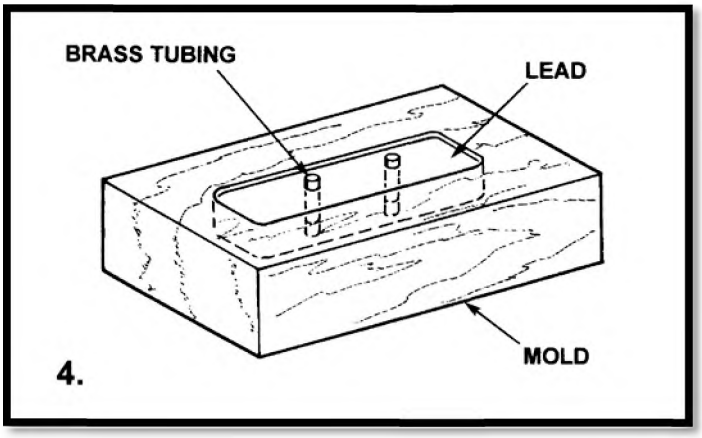


3. Homemade CA Accelerator: (No illustration) From Dick Sprau, of Helena, MT. Most of us know baking soda works for filling small gaps when used with CA. Dick ran out of CA accelerator, so he mixed a half teaspoon of baking soda in a little distilled water and poured it into an empty nasal spray bottle, which has a fine spray nozzle. It works as well, if not better than the commercial stuff, lasts until it's used up, and costs maybe 4-5 cents. The bond is just as strong too. Mix just enough baking soda to saturate the water and not so much that it will plug your sprayer. Dick has not bought commercial accelerator since trying this.

4. Making Lead Weights: From Don Fitch, of St. Charles, MO. Don needed to add balance weight to a plane. He felt the easiest is to cast a lead weight, drill holes for the mounting bolts, and use nuts to bolt it to the engine mounts. That is all well and good; however the execution was not that easy. Drilling holes in lead gets to be quite an adventure and since this weight was 1" thick it became a problem. Don used liquid soap for a lubricant and the first hole went well, drilling about 1/8" deep at a time, withdrawing the drill and adding soap until it went all the way through. The second hole was a different matter. Using the same procedure, the drill deflected when about half-way through, then the drill continued to work for a while before seizing up when it broke out. The drill stopped, but the drill press kept turning, scoring the drill bit shank. Don finally got it out, but it took a couple of hours. He thought about re-melting the lead to retrieve the drill and start over but was afraid the blowtorch would ruin the drill.

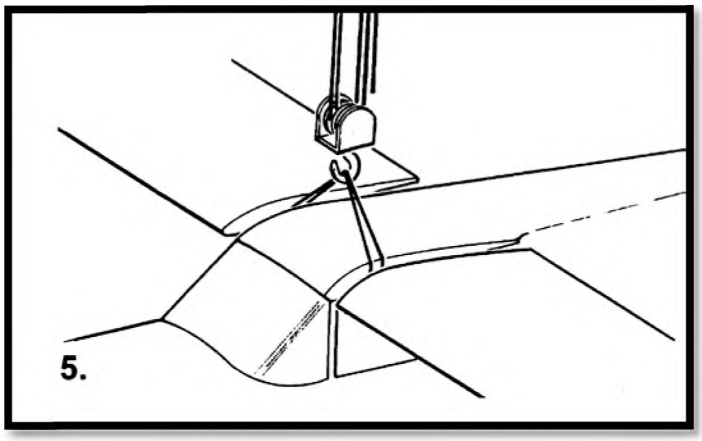
This experience prompted him to think about a better way to do it. How do you get a hole in lead without drilling it? Easy, you cast the hole in place. After making another simple mold, he cut two pieces of brass tubing, large enough to clear the screws and a little longer than the thickness of the lead, chucked them in a drill press and, using a file, sharpened one end of the

tubes. Then, he drove the tubes into the wooden (pine) base of the mold, parallel and in a vertical position, and poured the lead into the mold with the tubes in place. When it was cool enough, Don removed the weight, cut off the excess tubing, and filed them flush with the surface of the lead. He had a neat lead weight with slick holes, the right size, and perpendicular to the base of the weight.



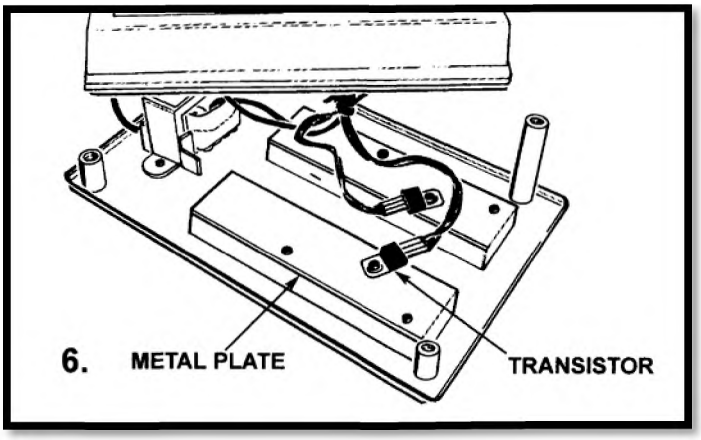
5. Balancing large Models: From Don Thorson, of Newcastle, WY. Don builds larger models, 1/5 to 1/3 scale, with weights up to 50 pounds. They are difficult for one person to balance. It is not often convenient to get help when needed. Don installed hooks in the ceiling to hang a small block and tackle rig for balancing.

Every plane is different so you have to adapt. Don recently balanced a 1/3-scale Steadman, a ¼-scale Stinson, and a Meister Corsair. He tries to find attachment points on the CG. On the Stinson, he ran a small rope through the cabin doors. On the Steadman, he slid the top wing panels out slightly and used a rope span-wise around the center section, and on the Corsair, hung it inverted using the rope around the main spar with the outboard wings slightly spread. With this method, you can leave the plane hanging while adjusting the weights. It doesn't fall off a stand, and a helper doesn't get tired of holding it. Walt's notes: actually, you could just hang it from the rafters with a rope and hook or other linking devise. A block and tackle would only be necessary if the plane was too heavy or large to conveniently lift.



6. Charger Problem: Another idea from Edwin Hawk, of Smithville, OH. This concerns an older Hobbico Accu-Cycle Pro Series NiCd and NiMH battery charger. One side of the unit cycles transmitter batteries and the other side cycles flight packs. The problem with them is sometimes when they get older, they give false readings. For example, when in discharge mode, they may convert back to the charge mode after a very short time relative to the expected capacity of the battery. This usually indicates that the battery pack has a weak cell and should be discarded. Not necessarily so. When Edwin tried the same pack on another Accu-Cycle, it showed the battery pack to be capable of discharging at the correct rate and time. To correct this problem, unplug the unit, remove four screws, and remove the bottom of the case. At that point you will see two metal plates attached to the bottom of the case with a transistor screwed to each of the plates. At the factory, they coat the edges of the transistors

with a red colored sealer to seal them to the plates. After a period of time, the heat cracks the sealer and corrosion develops between the transistor and the metal plate. After about 30 minutes, or so, the plate heats up and contact to the transistor is lost, causing the unit to switch into charge mode and give a false reading. It is usually the flight pack side that goes bad first. Follow the wire from the transistor to see which side of the unit it corresponds to. Use fine sandpaper or steel wool to clean the plate and transistor and screw it back tightly. Reassemble the unit and it should work properly. Another modeler suggested an electronic grease which conducts electricity, from an auto parts store or Radio Shack, to coat the plate and transistor and keep them from corroding. Edwin used nail polish as he was concerned about the heat factor with the grease. Sometimes when dissimilar metals, such as the aluminum plate and steel transistor backing plate are attached, the metals tend to develop corrosion. This may not fix everyone's chargers, as they could have other issues, but this is the most common problem Edwin has encountered.



It's with great sadness that I let you know that this will be my last Here's How column. I've written and illustrated it for more than four years and now it's time to move on. I've enjoyed hearing from all of you who submitted ideas or contacted me otherwise, and like to think I've made some new friends. I want to thank Gordon Banks for hiring me to take on the Here's How column in the first place, and Tony Coberly for inviting me to stay on when RCR went online. I want to thank all who contributed ideas, whether I was able to use them or not. I especially want to thank my wonderful wife, Suzi, who has inked my layouts, making the illustrations look better than they sometimes deserved, and for editing my writing before I submitted it, to keep me honest.

I wish the best for RC Report Online, Tony and Julia, all the writers associated with RCR☺, and our faithful readers.

Now it's time to fly off into the sunset.... Walt Wilson rallyo@charter.net

WALT,

WE ARE THANKFUL FOR YOU AND THE CONTRIBUTIONS YOU HAVE MADE TO RC REPORT ONLINE SINCE WE BEGAN THIS VENTURE! YOU WILL BE MISSED! GOD BLESS YOU AND MAY YOU ENJOY MANY BEAUTIFUL SUNSETS IN THE YEARS TO COME!

BIRD ON A WIRE

TERRY DUNN

Hi everyone. This month I thought that I'd tell you a little bit about my trip to the 2010 Southeast Electric Flight Festival (SEFF) back in April (22nd-25th). SEFF is one of the biggest electric events in the world, so it's a great place to check out what's going on in the hobby.

This was my second trip to SEFF, and like the last time, my opportunity to go was a complete surprise to me. In the months leading up to SEFF, I became involved in several projects at work that would be culminating right about the time of the event. That, coupled with the general difficulty in justifying the expense and hassle of an extended weekend away from the family had me convinced that the topic was not even worth mentioning. But lo and behold, the RC gods smiled on me. Project schedules changed and my wife was very accommodating. So I finalized my plans about two weeks before SEFF was to begin.

SEFF takes place on Mac Hodges' personal full-scale airfield (which is also his back yard) in Andersonville, Georgia. I travelled with my flying buddies, Randy Stone and Bill Schwander. We originally planned to start our 12-hour drive from Houston before sunrise on the 22nd, but excitement overcame us and we decided to leave after dinner on the 21st and drive through the night. We met up with a few

other friends at the field to share pit space and hotel rooms.

One of the reasons we left early was to secure a pit space close to the middle of the field. Even though we arrived fairly early on the first official day of the event, the remaining pit spaces were near the edge of the field. We heard that folks started showing up on Monday to

claim their spots! There's no such thing as a bad spot at SEFF, so our disappointment was short lived. Although we were pretty tired from the drive, we set up our pit space quickly and started assembling airplanes.

The weather would play a big role in the outcome of SEFF this year, but Thursday was nice with moderate temperatures and winds. We spent the day flying, chatting with old acquaintances, and making new ones. There were about 500 registered pilots this year. From the look of the flightline and the camping areas, I'd say that most folks had arrived by Thursday afternoon.

With so many pilots, you'd think that things would be a bit crowded. However, I never wanted for elbow room or flight time while I was there. The flightline is divided into three separate areas: sport planes, park flyers and 3D. Helicopter guys had their own area just off the main runway. Each section had a dedicated "pit boss" to maintain order. Since just about everyone was using 2.4 GHz radios, you didn't have to worry about impounding your transmitter. You could just walk to the appropriate section of the flightline and step into an open pilot station. There was sometimes a short line to fly in the sport area, but everything was extremely well run.

There were a few instances of unexplained problems with 2.4 GHz radios, which most folks think were due to the sheer volume of radios turned on at any given time. With 26 pilot stations and an untold number of active radios in the pits, it's easy to see that congested airwaves could have played a role. To address this problem, the SEFF staff has decided to prohibit the use of radios anywhere but the flightline next year.

Horizon Hobby has a tradition of unveiling a new ParkZone plane each year at SEFF. This year brought the Extra 300, which should be available this summer. It flew great in the hands of their demo pilots. (Lewis Dunn photo)

Lots of manufacturers support SEFF and many of them send representatives to get face time with the modeling public. Time was set aside on Friday and Saturday to allow some of the sponsors to show off their latest and greatest offerings. Horizon Hobby (www.horizonhobby.com) is one of the major event sponsors and they put on an impressive display of their electric inventory. Their demo pilots flew more than 60 airplanes during their time slot. Some of their new products were an F-86 Sabre ducted fan, the LR-1A Pogo pylon racer and an Extra-300 park flyer that has roots to the immensely popular ParkZone T-28 Trojan.

This foam 60" Hawker Hurricane from Wowplanes looked great and performed very well.

Wow Planes (www.wowplanes.com) produces foam builder's kits that make impressive scale warbirds. They showcased a Hawker Hurricane and Martin B-26 Marauder at SEFF. SAPAC

America (www.sapac.com) showed off a pair of BAE Hawk ducted fans in different sizes. The crowd loved the ankle-high full-throttle passes of these speedy planes. Hobby Lobby International (www.hobby-lobby.com) put up a gaggle of ducted fan models featuring vectored thrust that allowed for unrealistic aerobatics. They also flew some nice looking giant-scale ARFs from their Pilot-1 line. I particularly liked the 100" span Waco YKS-6.

SAPAC America displayed several large and fast ducted fan models that put on a great show.

Hobby Lobby brought this 100" ¼-scale Waco YKS-6 and displayed it's slow and graceful flight qualities.

This F-16 from Hobby Lobby was among their selection of ducted fans that feature thrust vectoring for unusual aerobatic abilities.

Precision Aerobatics (www.precisionaerobatics.com) and 3D Hobby Shop (www.3dhobbyshop) both introduced new airplanes while their pilots flaunted considerable flying talent. Friday's demo time ended with Mac Hodges performing his well-known routine with his equally well-known 20ft span B-29. The B-29 was involved in a crash just a few weeks before SEFF, but Mac and his minions worked overtime to get it repaired. I'm

glad they put forth the effort. I've seen Mac's act several times now, and it never gets old.

One of the most fun events that I witnessed was the full-contact foamie combat. I've seen combat like this before, but there were never enough planes to achieve much of said "contact." At SEFF there were over 60 abused and disposable foamies screaming around in one small area. The hits came fast and furious. It was literally raining small bits of foam. I couldn't stop laughing as I watched. The pilots and spectators all seemed to have a great time, despite the required cleanup effort afterwards.

This shot gives you some idea of the mayhem that ensued with the full-contact combat event. When it was over, not many of the 60+ planes were airworthy. (Lewis Dunn photo)

The only award presented this year was "Best of Show". I think it was determined early on that Damon Atwood's scratch built, 198" span, 1919 Emmaselle was the clear winner. This 70 pound "fantasy scale" homebuilt was a sight to see. It captured a lot of well deserved attention on the ground and in the air.

Damon Atwood (right) won "Best of Show" honors with his 198", 70 lb, 1919 Emmaselle.

Night time didn't slow things down very much this year. The sky was constantly filled with lots of night flyers all shapes, sizes, performance and luminance. I was very impressed with the variety of night flyers and the different approaches that some guys take. In addition to flying, there were also organized activities. Due to sour weather predictions for Saturday, the outdoor, large screen viewing of video footage shot by Fred Midget (www.higherplaneproductions.com) was moved to Friday evening.

Unfortunately, Saturday's weather was pretty bad. It started out tolerable, but by lunchtime, passing squalls interrupted the demo flights. Several pilots toughed it out and flew their planes in the rain to entertain the crowd. The rain was intermittent all day, which allowed for flying and shopping in the vendor area.

As we left the field on Saturday evening, the crowd waiting in line for the on-site Bar-B-Q dinner was getting rained on. The worst of the weather was yet to come. Strong thunderstorms arrived all through the night and dumped more rain…lots and lots of rain. We returned to the field Sunday morning to find evidence of local

flooding and plenty of frazzled campers. We had one neighbor tell us it was the worst night of his life. I guess others agreed with him, because many of the campers were long gone.

Daryl Sprayberry's ¼-scale Bell Jet Ranger actually fooled many people into thinking that the Georgia State Police were keeping an eye on things at SEFF...really, it's true.

I couldn't see it at the time, but there was a newly formed lake at the other end of the field. Had I noticed it, I would have flown my Twinstar Seaplane from the water (when life gives you lemons…). As it was, the skies had calmed down quite a bit. So we all took advantage and put in a few last flights before packing our gear for the drive home.

During the drive back to Houston, I had time to reflect on the weekend, and organize my thoughts. SEFF is a place where new technologies are unveiled but I didn't really see anything noteworthy this year. Batteries continue to get better and motors are electronics are getting cheaper, but there were no game-changing breakthroughs that I could see.

We were camped right behind the 3D flightline so I had a chance to form some opinions there as well. I didn't notice any new moves or capabilities with the airplanes compared to previous events. What I did notice was a substantial increase in the number of pilots who are quite proficient at 3D flight. They were fun to watch.

After returning home, I heard a few stories of vendors and pilots who had various items stolen during the event. What a shame. I guess it's true that there's one in every crowd. I'm sure that karma will issue appropriate justice.

Another story from the event gave me quite a chuckle. You have to know that Mac Hodges abhors cigarette butts on his property. He made it very clear that casual disposal of butts would not be tolerated. Apparently, a fellow drove in from South Carolina, parked his car, and promptly emptied his ashtray on the ground. He was asked to correct the situation and refused…with attitude. Within minutes, he was banned from the property and sent back on his way to South Carolina. Did I mention that Mac really doesn't like cigarette butts?

Human drama and weather aside, SEFF was still a great event. You can bet that I'll be back.

Yes, it happens!

I've recently decided that the time has come for my tenure at RC Report Online to come to a close. This will be my last column, but I still hope to present various articles from time to time. I appreciate all the readers who have written with comments and questions about my column and electric flight. I welcome any future correspondence as well.

Terry Dunn

boaw@comcast.net

TERRY, YOU WILL BE MISSED! PLEASE KNOW THAT YOU WILL ALWAYS HAVE A PLACE INSIDE THE PAGES OF RC REPORT ONLINE! GOD BLESS YOU!

PROP CUTS

CHRIS HANDEGARD

FOR THE COMBAT ENTHUSIAST and FIGHTER PILOT WANNABEE

Hello summertime! Let's get ready to rrrrrrrrumble! July 12-15, is the combat segment in the AMA Nationals held at the headquarters flying site in Muncie, Indiana. For anyone who has not yet had the pleasure of visiting this outstanding facility, it is acre after unobstructed acre of open, well tended grass bisected by the paved access roads.

Several dedicated sites are located at various intervals widely spaced so that multiple events take place during the month long competitions. This is accomplished by allocating certain frequencies to each site that are published in advance. The increasing popularity of 2.4 GHz spread spectrum radio technology has eased the frequency conflicts greatly, but until 72 MHz is phased out completely; divided frequency use is standard practice during the Nats.

BE THERE OR BE SQUARE

Events for July are: 7/12-7/15 "AMA/RCCA Combat Nats", Open B, SSC, 2948, Lim B, AMA Field, Muncie, IN. 7/17 "Texoma Summer Scorcher (1)", SSC, 2948, Sherman,

TX. 7/17 "Furball over Phillips Field", Open B, 2610 Scale, Pocatello, ID. 7/24 "Desert Storm of Victor Valley", Open B, SSC, Hesperia, CA.

Events for August are: 8/14, 15 "Tangerine Combat Classic", Open B, Scale 2948, and SSC, Apopka, Fl. 8/14 "Red Baron's Where Eagles Dare" Shelly, ID. 8/21,22 "Melee Over Lenox", Limited B, Open B, SSC, Lenox Twp. MI. 8/21 "Texoma Summer Scorcher (II)" SSC, Open B, Sherman, TX. 8/22 "Battle of Britain", SSC Open B, Fallbrook, CA.

Don't take my word for it, go to: http://rccombat.net/events/index.asp for an up to

date listing of events and to sign up for the events you are interested in. Signing up online prior to the contest date should be done as soon as possible. This helps the event coordinators and contest directors get all the needed supplies, manpower and club resources to make the event run smoothly. Also seeing the names of other pilots you may know or want to compete with is a good draw to encourage participation, so don't be shy! Sign up early!

Be sure to note the first event in July which is the AMA Combat Nats at the National Modeling site in Indiana! It's the BIG one! Be there or be square!

EVENTS DEBRIEF

This month I have a report on the combat demonstration flown by "Air Combat America" at the prestigious Top Gun Invitational scale modeling competition just held in Lakeland, FL.

The eight team members who travel the state with me to put on combat shows at RC events in an effort to promote combat are all active in competition. They have to be to earn a spot on the team.

Photo 1: Combat Team Group Photo with AMA President Dave Mathewson and Mr. Top Gun Frank Tiano

We have honed our skills as a team to the point where most demonstrations are completed without a single midair as we clean the streamers off each other's planes. This is no easy task I can tell you, especially since the instinctive thirst for streamer cuts instilled in us during competition is hard to rein in, but control it we must or the result is too much carnage to keep up with. By restraining our maneuvers just enough to reduce some of the damage we have developed a method of offering an entertaining taste of what combat looks like without actually going for the jugular! The crowd in the stands responded to near misses and the occasional bump and go with cheers and groans.

Photo 2: Aerial action as four of the team planes try to occupy the same place in the sky and swap streamers.

In its fourth season now and still going strong, the team is sponsored by: AirScharnell, http://www.airscharnell.com makers of the excellent Avenger combat plane. I also use the Avenger for competition configured for ☺pen B as well as SSC. It comes in kit form for around $75 and is easy to build. Flight characteristics are among the best out there. Radio guidance provided by Spektrum 5e radios which are very basic, but rugged and function well in combat use. FTE Enterprises provided the 8 Magnum .15 engines powering our latest

batch of planes. After 3 years of use/abuse we had pretty much flown the first eight planes into the ground, figuratively speaking as well as literally!

Photo 3: Team members Glenn Gelatt and Craig Buttery here holding a P-47 combat plane kitted by BulletProof Models

This year I was able to entice Mr. Top Gun himself, Frank Tiano into joining the demo along with the team by offering him a P-47 scale combat model to fly. I knew he has always had a warm spot for the Thunderbolt. Frank flew my P-47 both days with us scoring multiple cuts and giving up his streamer in like manner.

I have long held that one good way to promote combat is to involve RC industry leaders, VIPs, Hot Pilots, Club Officers, etc. who don't otherwise do any combat flying to take the controls of a plane in our shows. They always seem to enjoy it and seeing these RC "celebrities" flying some form of combat, even if just a demonstration, may encourage others to give it a try. Call me a dreamer.

Photo 4: Here I'm launching the Bulletproof Models P-47 flown by Frank Tiano in the combat demo both days

Flying as part of the noon show at Top Gun is the yearly highlight of our activities as a group. This year we were given a spot very close to show center right next to the AMA tent on the fence line separating spectators from competition pilots and the actual flight line. The outstanding color scheme created and applied by team co-captain Craig Buttery along with some sharp graphics by Richard at Graphic Banner gave our new planes a very professional and polished appearance that was noticed and commented on by our sponsors and the passersby alike. Craig deserves a lot of the credit for our performances. Along with keeping his own competition equipment at the ready to compete as often as possible, he has been ever supportive and flown in most of our demos. He also takes charge of the team when I can't be there.

Here's the thing about a dedicated show team like ours that stays together for many years for the express purpose of combat demonstration.

Putting on shows is fun and we hope it lures a few new pilots into the game, but we all know that combat is not a matter of simply flying around with a streamer attached to your plane. As competition pilots we know that demonstrations, while exciting to the onlooker, are a mere shadow of the thrills and spills in a real contest. The real deal is sanctioned competition. Nothing compares to the five minute rush between the call to "START COMBAT" and the relief you get, if having survived it one more time, when "END COMBAT" is declared. We remind ourselves that showboating for fun and the accolades of a crowd of spectators is great fun, but not the end result to which we are laboring. Without sanctioned competition, there is no combat.

Photo 5: Flight line during the combat demo with Frank Tiano at the controls of my P-47

To conclude, the team flew demos both days during the half time shows with only one mid-air. The spectators were entertained and we started getting used to the new planes which are equipped with Magnum .15 engines instead of the more powerful stuff we were using. This change to smaller motors was deliberate to slow everyone down in order to present a more appealing appearance for the sake of the show and also to reduce damage resulting from mid-airs. The tactic seems to be working quite well.

Lots more events worth reading about, but too lengthy for this article can be found in the events debrief section of the RCCA site at http://www.rccombat.net/forum/viewforum.php?f=21&sid=a314565314be62f1afef337b01c8d0e2.

And also be sure to check out the Palomar Flyers Combat Forum at http://pfcombat.hyperboards.com/index.php for some cool combat tips, event debriefs and discussion forums.

FROM THE BENCH

Breaking news on the SSC motor front! Most of you flying SSC combat are familiar by now with the Magnum .15 glow motor. It's been available and in use for approximately two years. It proved itself to be reliable and more than adequately powerful for SSC. So much so that it was hard to keep it under the rpm limit in most cases. So the usual choking back, juggling different nitro content, head shims, etc., all somewhat problematic and a lot of extra bother, had to be employed to stay under rpm limit.

The good news is Magnum has been listening to feedback from the RC community. Debuted at the Weak Signals Toledo RC show, an improved version of the Magnum .15 now comes equipped with interchangeable carburetor inserts. By simply changing an insert, no tools required, you can alter the venturi opening of the carburetor which changes the rpm. Initial test results look extremely promising, and the test data has been posted in an online debrief located here:

http://rccombat.net/forum/viewtopic.php?f=7&t=13379&start=15#p126333.

Be sure to scroll or read through the post all the way to the end where the actual test data is posted as a spreadsheet.

The engine with improved carburetor appears to be in stock and available, but the full replacement set of venturis may not be fully available from retail outlets yet. Should be soon though. Personally, I can't say enough about what a great tool this will be for those of us competing in SSC. If it works as expected, simply popping in a different venture to dial your rpms up or down will be so much easier than what we've been going through up till now.

Second item also relates to Magnum engines. They have thankfully been listening to the combat community with regard to .25 size engine needs as well. As you all know by now, the venerable O.S .25FX engine was discontinued recently. Yeah buddy, talk about a panic! This motor has been the mainstay of Open B, Limited B, and every scale class you can think of for the last umpteen years. It didn't sound like ☺.S. really gave a hoot that pulling the plug on such a popular motor would leave the combat community high and dry and without any other backup plan. There are a couple of alternate motors in the same size range, but not nearly as suitable as the FX. They just didn't measure up, generally speaking, and everyone has been anxious about what to use in the future.

Again, at the Toledo show, Magnum pulled out a brand new .25 size motor, soon to be released, and specifically referred to the combat community as having spurred the need for and the release of this new motor. Thank you Magnum engines.

I'm already running the older version of the .15 and have been extremely pleased with their performance in SSC. The only troublesome issue has been choking it back to stay under rpm. Unfortunately, the older style carburetor (which the older engine is equipped with) will not accept the venturi inserts in its stock configuration. As you can see from the photos, in the forum article, the new carburetor has a bored out opening that the interchangeable venturis slip in and out of. Hopefully, my next from the bench article will feature more information on a possible fix if I attempt to bore out an old carburetor when I get a venturi set.

Photo 6: New Magnum carburetor and venturi insert

Well, that's it for this month gang. I hope you enjoyed it, and I am looking forward to hearing your comments. Don't forget to clear your guns before you engage, and check your six o'clock frequently!

Chris chandegard@peersonaudio.com

TAILS FROM THE OTHER SIDE

GUEST COLUMNIST: MOO MOO

Not looking to keep up with what's going on in this great hobby?

Skip this column!

No need for a laugh?

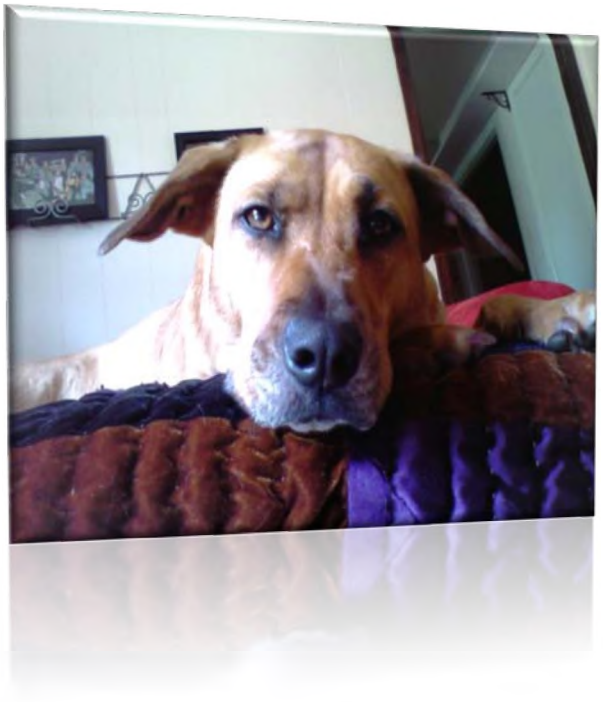
Stop reading!

Skimming for Smileys?

Don't waste your time!

THERE'S A NEW DOG IN TOWN – FOR THIS MONTH AT LEAST! Isabelle is taking the month off! Vacation? What's that? Mom tells me that some days she wishes she could take a PERMANENT vacation. Anyway, she is busy celebrating her birthday, so I volunteered to take over just this once! Happy 8th, Belle! We luv u!

I'll quickly introduce myself and then we will jump into the August events. Moo Moo's the name. I am one of the twins that live with Isabelle and the rest of the Coberlys. I am a six-year-old Boxer Mix (or so the vet told Mom.). I am not a Pit Bull! (Inside joke. You had to be there.) Not that there is anything wrong with Pit Bulls. They get a bad rap. Any dog can be evil. Just look at my sister.



Isabelle is not the only columnist taking off this month. We are saying a fond farewell to Terry Dunn and Walt Wilson. What do you do? Between family responsibilities (Terry's), lack of ideas (Walt's), and cash flow (ours); you end up between a rock and hard place and have to make some decisions. I am sure Terry and Walt will be missed! Perhaps one day they will return.

RC events? Yeah, Yeah! I'm getting there. Looks like August will be a busy month, too!

Head to Tennessee the first weekend of August and enjoy the Middle Point Giant Scale Fly In held on August 7 – 8, 2010 in Murfreesboro, TN. Contact Jim Powers for more information at kijorski@comcast.net or visit www.mprcf.com.

Maybe you wanna play in the water? This is the spot for you! Fort Worth Thunder Birds Annual Float Fly awaits! Don't miss it on August 7, at Lake Worth. Terry Thorpe can be reached at thorper@flash.net. Visit www.fwthunderbirds.org.

Charity begins at home especially if you live in Menomonee Falls, WI. The Air Show/Charity Fly In will be held at the club field. Robert Lirette is the guy in charge and can be reached at blirette@sbcglobal.net. Visit www.flyingelectrons.com. Open flying for all AMA members, proceeds designated for Boy Scout Troop 110, landing fee $5, concessions available, spectators welcome.

Hey, I know where this next event is being held! Mom told me about it as she was planning the drive to PA. Hagerstown, MD is the scene of Pegasus Giant Scale Fly In on August 14. Mike Frey can be reached at flyboy@mfrey.com. Visit www.pegasusrc.com.

Here's something for you West Coast flyers: The 5th Annual Warbirds Over Waatcom and All Bird Fun Fly! Held in Bellingham, WA on August 14 -15, this is sure to be an exciting event! Gerald Becker is the man with the plan. Email him at gerab3@comcast.net. Visit www.bellairflyers.com. August 14, is a warbird only event with awards for Best of Show, WWI, WWII and Military Trainer. August 15, is open to all birds. Random prize drawings will be held throughout the two day event.

You're still in Texas? Well, here you go! Check out the Do It Yourself Fun Fly in Odessa, TX. This event will be on August 14 - 15, at the club field. Glen Tabor is the do-it-yourself guy. Email him at xcell19@hotmail.com. Two asphalt runways provided! Bring whatever you have that flies! Wonder if that includes the orange cat?

Here's an event I can really get behind - the Adirondack 24th Annual Fly In held in Johnstown, NY on August 21-22. Rocco Gabriel can be reached at rockgabriel1@netzero.net. Visit www.lazyeightrcclub.org. Gate proceeds benefit the James A Brennam Memorial Humane Society.

Keeping with the animal theme, take a look at The Electric Goose held on August 21, in Minnville, OR. This is an all electric event! Roger Weeks is the "sparky" in charge! His email is rogerrc3@verizon.net.

Fleas? I ain't got no fleas! Maybe they have some here: Flea Market and Electric Fly on August 21, in Wheeler, IN. Scratch behind Stan Zolodz's ears and he'll tell you anything you need to know. Call him: 219-662-1199. Visit www.midwestsundowners.com. Flea market starts at 9AM; electric flying starts at 11AM.

See you in Thompsonville, Michigan on August 28, for the 13th Annual Air Show at the Thompsonville Airport. Edward McIntosh can be reached at emcintosh042@charter.net. Visit www.benziecounty.net/barc/. This event will run in two divisions: fixed wing and helicopter with separate air space and pits.

On August 28 – 29, 2010, visit Park Rapids, MN for the Headwaters RC Flying Club Fun Fly held at club field. Mark DeSchane can be reached at deschanedms@wcta.net. Visit www.headwatersrcclub.org.

I will leave you with one more event to entice you. You should know about this already! The FCM at AMA on August 28 – 29, in Muncie, IN (AAA) The FCM at AMA for 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 319, 320, 321, 322, 323, 324, 325, 326, 509, 521, 526(JSO). Site: IAC Site 1 and 2. Allen Goff is the CD and can be reached at fcm95@comcast.net. Visit www.fcmodelers.com. Classic Stunt, Profile Stunt, Old Time Stunt, Sportsman Profile Carrier, Perky Speed, NASS Sport Jet. Sponsor: FELLOWSHIP OF CHRISTIAN MODELER

Hope you find this information helpful! Stay busy and stay out there in the hobby!

If you have an event that you would like for Isabelle to promote, please send her an email with the information and attach a flyer too!

PET OF THE MONTH

Since Isabelle is out of the office this month and has taken "Random" with her; there will be no Pet of The Month for July. Office scuttlebutt says there is an "Awesome" bird somewhere else in the pages of this issue though! Don't forget to send in your entries for next month!

How do you enter?

Just submit a picture of your pet, including their name, approximate age and a brief description, with or without one of your planes for a chance to win a toy from my "Toy Box"! All types of pets are eligible: with fins, fur, feathers, scales, farm animals, etc. Each month a pet will be selected from all entries received by the 15th of the current month and any previous months. You can email your picture or you can mail it by regular mail. Only photos received with a self-addressed stamped envelope will be returned. Please send entries to Mom at juliac@rcreport.net. Please put "Pet of the Month" in the subject line and make sure that you receive a confirmation email verifying that I received your entry.

Isabelle will be back next month (I'm guessing that you really missed her.), so stick a fork in me 'cause I'm done.

Going out with a bang,

M☺☺ M☺☺

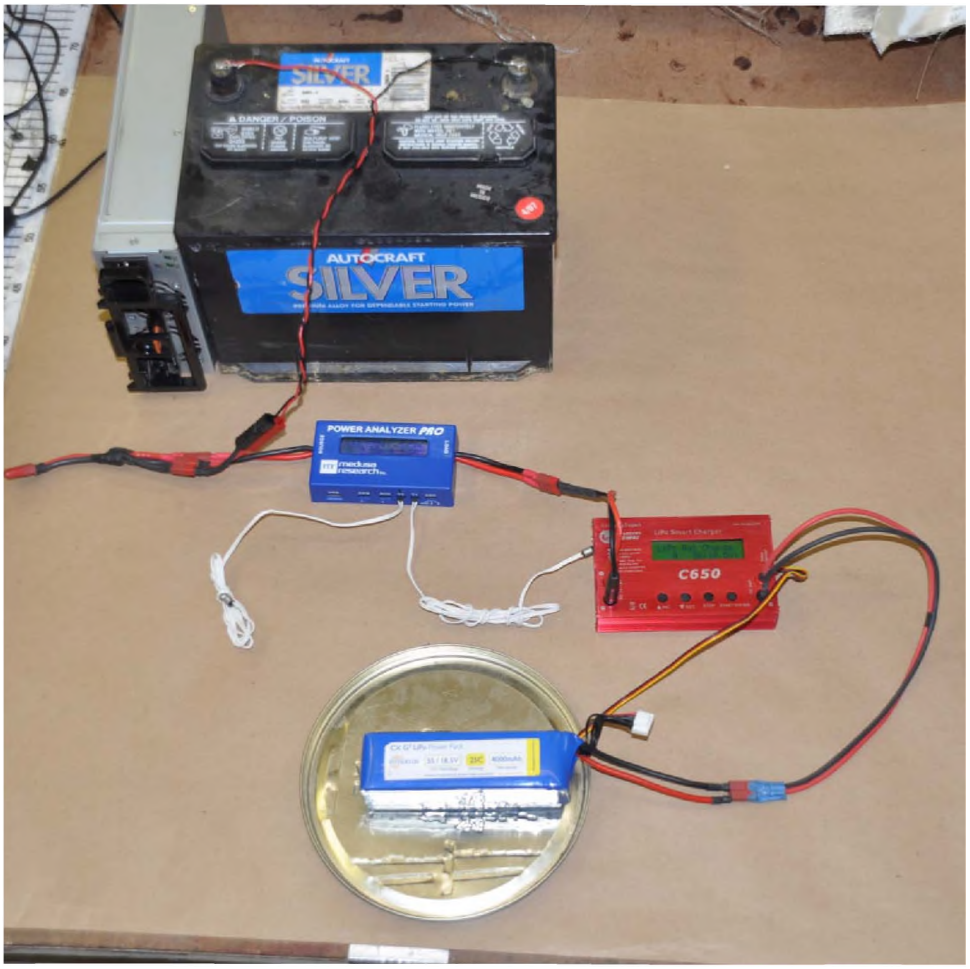
SPARKY'S REVOLT

TONY COBERLY

Well, it's July down in North Alabama and the temperature is up. Way Up! I expect the last of the polar ice caps will be gone by August at this rate. I want to address a few questions I've been asked in regards to using a battery or a power supply as a source for charging our batteries these days. I maintain that it is much better practice to use a regulated power supply to supply power to our chargers. I get many questions as to why exactly I believe this and my reply is always efficiency! Efficiency is defined as how well we convert one format into another. In our electric motors, we are converting electrical energy into mechanical energy by spinning a prop. As the voltage travels between the battery and the ESC and then on to the motor we have loss involved. This loss comes from the inherent resistance in the wires leading to the ESC and resistance within the electronics inside the ESC and then again the resistance in the wires going to our motor and finally the loss involved with induction to actually create the magnetic field. The sum of all these parts is how efficient our device is or is not. There is no such thing as 100% efficiency. Meaning, if we have a 1 W of electrical energy that does not necessarily mean will have 1 W of mechanical energy created. Efficiency as it relates to our charging circuitry is very similar.

Most LiPo battery chargers will accept an input voltage range from 11 V to 15 V. Now a battery charger is very simply a DC to DC regulator. I say most because even battery chargers that plug into the wall convert the AC current from your house into DC voltage inside the charger itself. So if we look at your average charger like I have here, we have a DC input and DC output. The internals of the charger simply bring a DC voltage of; in this case 11 V to 18 V input and then regulates it to the output based on how many LiPo cells we have selected. For example: if we were charging a two-cell LiPo, the DC input voltage would be higher than the output voltage. We end up with a DC to DC conversion stepping down the voltage. If we are just charging an 18 volt five-cell pack, that same converter circuitry has to do just the opposite. A DC to DC conversion by up converting to the higher voltage. Well every time there is a DC to DC conversion we have a loss of some sort. If you take out all the inherent loss with the leads coming into the charger and the leads coming out of the charger there still is a substantial amount lost within the charger itself. As a general rule of thumb, DC to DC conversions are 80% efficient at best. So that means if we are doing a simple 12 V to 12 V DC charge, which is kind of odd because you would never really do that; the simple

conversion from the source 12 V to the output 12 V at one amp charge rate it would draw 1.2 amp hours from the source battery. Now a 12 V to 12 V conversion is ideal efficiency because it's a very little step up or down needed, but if you go from a 12 V to 18 V conversion this is a much more difficult step therefore efficiency goes down. So we will be looking at a charge efficiency of perhaps 60% instead of 80%. Now if we are losing efficiency as we charge, where is the energy going? Well, energy never goes away it is converted to something else. That efficiency differential is simply converted to heat. Electrical energy that is being converted always produces some form of heat in some way, shape or fashion; Thus the reason our ESC's have heat sinks on them and many chargers these days are aluminum and have heat sinks on them as well. This efficiency percentage is where I get my data that it's better to use a power supply over a battery for charging purposes. When using a battery as a source voltage for charging LiPo batteries that source voltage is continually diminishing as the LiPo battery is being charged. Now, of course I'm talking LiPo batteries here, but this applies to any battery being charged. The lower the input voltage in to the charger, the more work the charger has to do in the DC /DC conversion to charge the output battery. So let's look at your average charging cycle at the field.



We get out our sealed lead acid battery that we normally use in our fuel pump box and began to charge the battery of the day. We make two or three recharge cycles and as milliamps are pulled from our source battery for every charge cycle the source battery voltage goes down. So every time we charge our battery, our chargers are seeing a different input voltage. So every time you charge batteries, the charger sees a lower and lower input voltage. The circuitry in our battery charger is controlling the output voltage based on algorithms in the charger itself so that output voltage will continue to climb until the battery being charged is at the maximum voltage based on the number of cells we chose when we initiated the charge. This is a lot of information in theory and whatnot, so I decided it's time to put into

practice and demonstration exactly what's going on.

I will first charge a five-cell LiPo battery. This LiPo battery will be charged at a 1C charge rate of 4000 mAh. For the first charge cycle, I will use a reconfigured server power supply to provide power to the charger. I will put a watt meter between the automotive battery and my battery charger. This watt meter will display the voltage going into the charger as well as the current being drawn by the charger. Additionally, this watt meter has two thermal probes that I will put into use. One

probe will be attached to the charger and the other probe will simply monitor the current air temperature in the room. I will connect my five-cell 4000 mAh LiPo and charge it at a four amp rate. I will note the voltage amperage and temperature settings on the Power Analyzer Pro watt meter every two minutes during the charge cycle. When the charge cycle is complete for both batteries, I will repeat the test with the same battery discharged to the same start voltage as before. This time, during the test, I will be using an automotive battery that will supply 12 volts power throughout the charge cycle. For comparison, I will record the same information during the charge cycle every two minutes noting voltage amperage and temperature settings of the charger. If my theory is correct, the charger should yield a slightly better charge efficiency overall during the charge cycle while using the power supply as the input voltage. Let's get started.

For reference I will refer to temperature probe 1 as the temperature of the charger itself whereas temperature probe 2 is reading the air temperature in the room. The first chart we will look at follows the charge progress:

HAPPY FOURTH OF JULY FROM RC REPORT ONLINE!

BE SAFE AND HAVE FUN!

Power Supply Input source

Charge duration	Input voltage	Temp 1	Temp2	Input current	Voltage of LiPo	
0	12.30 V	82.3°F	82.0°F	0	19.23V	
2	12.19 V	82.6°F	82.3°F	6.69 amps	19.67 V	
4	12.19 V	83.5°F	82.3°F	6.74 amps	19.79 V	
6	12.19 V	84.7°F	82.4°F	6.89 amps	19.90 V	
8	12.19 V	86.3°F	82.5°F	6.77 amps	20.02 V	
10	12.195 V	86.8°F	82.6°F	6.83 amps	20.03 V	
12	12.195 V	87.3°F	82.6°F	6.46 amps	20.20 V	
14	12.185 V	88.2°F	82.7°F	6.60 amps	20.37 V	
16	12.19 V	88.0°F	82.7°F	6.71 amps	20.48 V	
18	12.195 V	88.1°F	82.6°F	7.16 amps	20.61 V	
20	12.19 V	89.1°F	82.6°F	6.84 amps	20.72 V	
22	12.195 V	89.8°F	82.4°F	7.02 amps	20.86 V	
24	12.19 V	89.4°F	82.3°F	6.79 amps	20.97 V	
26	12.22 V	89.8°F	82.4°F	4.25 amps	20.95 V	
28	12.255 V	88.4°F	82.5°F	2.64 amps	21.02 V	
30	12.27 V	87.5°F	82.4°F	1.86 amps	21.02 V	
32	12.27 V	87.1°F	82.4°F	1.23 amps	21.02 V	
34	12.275 V	85.8°F	82.3°F	.69 amps	21.02 V	
Charge complete	Milliamps used from power supply 3219mAh		Milliamps into battery pack 1897 mAh			

1897mAh/3219mAh=0.589 or 58.9% efficiency overall during the entire charge cycle.

Okay, now this data is a bit ambiguous, but its data none the less. The input voltage only varied by .11 volts over the entire charge cycle. Now, as I mentioned before, this is a converted server power supply. If you were to go to Radio Shack or your local amateur radio store, you would end up with a more traditional 13.8V power supply. Once again, this higher voltage can provide additional potential efficiency by providing a higher regulated voltage for our charger.

Now, let's look at a charge cycle using a normal every day car battery from a small compact car. A battery like this will run you about $60.00 or so at your favorite auto parts store. I removed this battery from a Mazda 626 that was purchased about a year ago. It was replaced as a precaution, rather than necessity because it was not bad. It holds a charge fine, and I use it in the shop from time to time for testing, just as in a case like this!!

Automotive Battery Input Source

Charge duration	Input voltage	Temp 1	Temp2	Input current	LiPo voltage
0	12.6 V	82.2°F	82.0°F	.02 amps	19.09 V
2	12.075 V	82.8°F	81.8°F	6.61 amps	19.63 V
4	12.085 V	84.7°F	81.9°F	6.81 amps	19.67 V
6	12.07 V	85.8° F	81.9°F	6.44 amps	19.75 V
8	12.065 V	87°F	81.8°	6.58 amps	19.85 V
10	12.06 V	87.8°F	81.7°F	6.61 amps	19.96 V
12	12.05 V	88°F	81.6°F	6.6 amps	20.13 V
14	12.05 V	88.7°F	81.9°F	6.79 amps	20.24 V
16	12.04 V	89°F	81.7°F	6.89 amps	20.37 V
18	12.04 V	91.7°F	81.8°F	6.78 amps	20.49 V
20	12.03 V	89.4°F	81.7°F	7.04 amps	20.60 V
22	12.025 V	88.3°F	81 .6°F	7.01 amps	20.77 V
24	12.025 V	89.1°F	81.8°F	7.02 amps	20.9 V
26	12.065 V	88.6°F	81.7°F	6.02 amps	21.01 V
28	12.165 V	89.6°F	82°F	3.79 amps	21.02 V
30	12.255 V	88.2°F	82°F	2.75 amps	21.02 V
32	12.3 V	86.2°F	81.7°F	2.15 amps	21.02 V
34	12.37 V	85.1°F	81.6°F	1.33 amps	21.02 V
36	12.41 V	84.7°F	81.5°F	.95 amps	21.02 V
Complete charge	Milliamps used from power supply :3490mAh		Milliamps into battery pack: 2044mAh		

2044/3490=0.586 or 58.6% efficiency over the entire charge cycle.

Now we see there is a slight .3% difference in efficiency between the two power options for this particular battery being discharged to a given voltage, then recharged at a 1C rate by the same charger. I admit that this not a very large or significant difference.

I believe that I need to look considerably closer and gather a larger data set to show the benefits or detriments to using a power supply over a battery. I will investigate my methodology further and explore other testing procedures to provide more data for you.

Tony Coberly

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The Ultra-Micro Sukhoi SU-26xp

Sukhoi BNF Contents:

Sukhoi SU-26xp BNF airframe

(1) Landing gear

(1) Spare 130/70 mm prop

(1) 1S 3.7V 12C 150 MAH Li-Po battery

1S 3.7 V Li-Po battery charger, 0.3A charge rate

(4) AA batteries

99 Page Instruction Manual

Items Required: DSM2 transmitter

Advertised Wingspan: 15.75

Measured: 15.75

Overall Length: 14.25

Measured: 14.25

Flying Weight: 1.2 oz (35.0g)

Measured: 1.2 oz (35.0 g)

1.3 oz w/battery

Motor Size: 8.5 mm brushed motor with increased RPM

Radio: Spectrum 2.4 GHz DSM2 AR6400L

CG: 1.14-1.22" (29 mm to 31 mm) from leading edge of wing at side of fuselage

Prop Size: 5.118" x 2.755" (130mm x 70mm)

Recommended Battery: 150 mAh 1S 3.7V 12C Li-Po

Distributor: Horizon Hobbies, Inc.

4105 Fieldstone Rd

Champaign, IL 61822

Cost: Retail: $129.99 Street: $99.99

Cheers: This is the Sukhoi SU-26 that I hoped for when I bought my first Ultra Micro.

Jeers: You will definitely need a transmitter with dual rates, expo or both.

Manual: It will take longer to read the 23 pages of the instruction manual that are in English than to charge the battery, bind your transmitter and set your control throws. The manual covers binding with every kind of DSM2 transmitter there is and even the DX5e. I would not recommend this transmitter for the SU-26xp.

New in the box! Just like Christmas

Set up: The Ultra-Micro Sukhoi SU-26xp is a four channel model with control of aileron, rudder, elevator and throttle. After reading the instruction manual I bound my transmitter and the SU-26xp. I next checked control directions and surface throws per page 10 of the manual. The pictures show control direction with the indicated transmitter stick movement, but not the recommended amounts. The manual has a caution not to increase your end points past 100% or it will over drive the servos. Read the recommendations for high and low rates and the associated expo on pages 12-13 of the manual.

I next checked the CG and installed the battery so the CG was at the recommended 29 mm or 1.14". My battery is almost all the way up in front of the battery slot. My original SU-26 was very nose heavy even with the battery all the way aft. The SU-26xp has a 3.9" long battery slot so you can move the CG to whatever suites your flying style.

I checked the RPM so I could run some performance numbers and was surprised to see a constant 7350 RPM after about 15 seconds. These numbers will indeed provide spirited flight performance. My original Sukhoi only turned 6180 RPM.

From comparing my original SU and the new SU-26xp I learned the motor is stronger, the prop has a smaller diameter, its weight is slightly more, the tail has carbon added and the push rods have guides to keep the tails surfaces more accurate with increased control throws on all three axes.

First Flight: I did one last control check, set the SU-26xp on the driveway and eased into half throttle. The xp took off in a surprisingly short run and I let it go to check trims. Three clicks of up and all seemed well. I took it up to a safe altitude and checked for stall. The nose dropped

and I still had very responsive control on the rudder, elevator and ailerons. I noticed I was flying the xp at a greater distance than I flew the original. The new colors and graphics make the xp much easier to see. The xp flies like it is on rails! The added carbon in the stab and push rod guides really stiffen up the tail. This translates to a much improved and more precise flight path. The next difference I noted from my original SU-26 is this xp was eating up airspace even at half throttle. Going to full throttle produced large symmetrical inside and outside loops from level flight, excellent vertical up lines with power for rolls and a snap, knife edge that stayed horizontal, nice clover leaf, and great hammer head turns. I was having a blast! I fly airframes from .5 oz to 475 pounds at speeds of 6-175 MPH. I know the thrill and challenge of a great airframe and this little SU-26xp is great!

Now that we have it out of the box, let's see what we can do with it.

I don't normally like expo and remember earlier I mentioned that you should read pages 12-13 of the manual. I made a conscious decision to NOT put any expo or dual rates in the transmitter. I have very steady hands and my original SU-26 didn't need any. I measured and compared the control throws from the original SU-26 and noted the increased throws. After

Awesome shares his expertise.

flying for about five minutes I realized I was not holding my lines as straight as usual. I decided to shoot some landing approaches and again I was over correcting. The Su-26xp settled in for an acceptable landing and I thought about the flight. I decided I had a real ultra micro 3D capable airplane on my hands and if I was going to fly it well I needed to add some expo. On my IMAC planes it takes a while for me to get the feel I like. On this little SU-26xp I went back inside and added the recommendations from page 12. Outside again this flight was much improved throughout the entire speed range. I now have the SU-26 that I had hoped for when I bought my original ultra micro. The SU-26xp might be the most fun flying you can have for $99.99 right out of the box!

Rick Grimm

uavpilot@bellsouth.net

While at Toledo this year I ran by the Model Glasses USA-DMS Ventures booth and picked up a pair of their Innovation Plus sunglasses for RC model flying. The Innovation Plus sunglasses are a wrap around style of glasses that have several interchangeable lens that fit the frames. The "Plus" here is the fact that the frames have an additional frame behind the tinted lens that is designed to hold a set of prescription lenses. Earlier in the year I had visited my local optometrist and once again my eyeglass prescription had changed a bit, so now I had two pair of glasses that are useless now. My old prescription glasses were my flying glasses and I really missed them. I had been using a very inexpensive pair of "Fit over" glasses, but hadn't been really happy with the big bulky glasses, so the Innovation Plus glasses seemed to be the ideal choice.

Each pair of Innovation Plus comes with the following as standard:
• **Polycarbonate frame**
• **Category 0 lens: for dark conditions, basically yellow shooting type lens tint**
• **Category 2 polarized lens: for fairly bright conditions, light amber lens tint**
• **Category 3 polarized lens: for normal sunny conditions, grey tinted lenses**
• **Category 4 lens: for very bright conditions, very dark grey tinted lenses**
• **Carry case**
• **Cleaning cloth**
• **Neck strap**

Retail price for the Innovation Plus is $90.00, but the inner prescription lens dummy frames will still need to have your prescription lenses put into them. The instructions on the Model Glasses USA website states that a prescription of up to +or- 4 can be installed into the frames. Since I had recently had my eyes checked, I brought the glasses to an America's Best Contacts and Eye Glasses here in Huntsville. When I asked the clerk to fill my prescription with these frames, I was told that they did not put lenses into any frames that were NOT purchased at their store! Well, with that said, I will not be going to America's Best ever again. On the Model Glasses USA website it is indicated that you can have them cut lenses in your frames for you, so I decided to explore that idea. The website has a word document that you need to fill out and fax back to them. There are several numbers required on this form that you will need to get from your current prescription. One odd measurement that is sometimes left off is the PD, or Pupilary Distance. This is the distance between the center of your eyes. If your paperwork from your eye doctor doesn't have this, you can just have someone measure it for you! Hold a ruler in front of your face while looking straight ahead. Have someone line up the zero mark of a millimeter ruler with one pupil and measure the distance to the other pupil. Simple. The cost for my lenses was a base $60.00 for single vision lenses. I received my lenses in eight days via US Mail with a stamped envelope for me to return the lens dummy frames that I received with the glasses themselves.

Since several of the lens tints are polarized, we get a very crisp and clear sky with a significant reduction in glare off objects. The glare reduction is great until you try to read the screen on your computer radio! The polarization of the lenses will only allow light to pass through the lenses that comes from a certain angle. Usually when you look down at your radio, this reflected light is blocked out and your display appears to be completely black! This is disconcerting, but all we need to do

to fix this problem is flip up the tinted lens while we program the radio. This is a great feature, because before I found myself taking off my "fit over" glasses and setting them down on the workbench, Then without fail I would go to the flight line without them!

I have been wearing the Innovation Plus glasses for a few months now and have tried all the lens tints for various weather conditions. I can always find the right lens for what I need for that particular flight day. The fit of the inner prescription lens is very close to your face so occasionally I do have my eyelashes touch the lenses, so a slight adjustment of the nose piece is in order. I really like these sunglasses. My last set of prescription sunglasses were tinted dark grey only, and were not a wrap around type lens. They cost me $180.00 at that discount eyeglass store I talked about above. These Model Glasses are far superior in every way and overall are $30.00 cheaper. I highly recommend these glasses to anyone who flies model airplanes or helicopters.

Tony Coberly

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Smile! You could be the next Winner!

O.S. .46 AX

O.S. .55AX

O.S.® ENGINE

O.S. .75AX

Smiley Face Contest #7 2010!

We are bringing back the smiley face contest. Throughout this issue we have placed five or more Smiley Face Figures like the one shown here (☺), but as before this page doesn't count. Write us and tell us where at least five are, and you'll be eligible for a random drawing in which the winner gets to chose from the three engine shown above. Winners will be selected by a random drawing from all the correct entries received no later than August 1, 2010. No entries will be accepted after this date. Entries must be sent via US mail or E-mail only, and reference the correct contest number in subject line or address. Hobbico employees, RC Report Online employees, columnist and advertisers are ineligible for prizes. No Purchase Required. Valid in USA and Canada only. smileys@rcreport.net Subject line: Smiley Face Contest #7 2010

US Mail: Smiley Face Contest #7, 2010 PO Box 12051 Huntsville, Al 35815

All terms subject to change without notice. This contest is void in any area, state, or locality where taxed or prohibited.

Dear Julia,

Last evening I scanned the entire magazine without reading much of anything, just searching for those elusive smiley faces. You may not believe it but it's difficult to do it that way because I keep getting distracted by bits of information I really want to read right then, but I can usually fight off the urge and plug along looking for happy faces.

You can really make it frustrating with all of the grins clustered in less than a quarter of the pages, but I blindly will keep looking for more, no matter how futile the effort!

I found either seven or eight of the icons, depending on whether the tiny one on page 38 will count and not including one or two impostors who weren't smiling.

Frank Maguire, South Portland, ME

Hi Julia

This month I found 8 smileys and a baby smiley and a sad smiley. The genders of the eight are unknown.

Larry Slowiak

Winner #2, Mike Johnston and his 4 Star 60

Winner #1, Larry Slowiak, and his Senior Tele-master

Still loving the smileys! The winner will be contacted and announced in the August issue. The winner will receive his choice of one of these three engines: OS .46AX, OS .55AX, or OS .75AX. Keep searching those articles and columns.

Total Smileys for the June 2010, issue was 9.

May's Winner is Jim Mahoney, from Lakeland, FL

Thanks for your submission, Jim!

Tony Coberly

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Mail Call

Well folks keep your questions and comments coming. We will do our best to answer each and every question asked of us. We will continue to post a few each month for the rest of the readers to see your questions and comments.

RC Report Online Staff!

Here are the answers from last month's quiz!

1. The one sport in which neither the spectators nor the participants know the score or the leader until the contest ends: Boxing

2. North American landmark constantly moving backward: Niagara Falls
(The rim is worn down about two and a half feet each year because of the millions of gallons of water that rush over it every minute.)

3. Only two vegetables that can live to produce on their own for several growing seasons: Asparagus and rhubarb

4. The fruit with its seeds on the outside: Strawberry

5. How did the pear get inside the brandy bottle? It grew inside the bottle.
The bottles are placed over pear buds when they are small, and are wired in place on the tree. The bottle is left in place for the entire growing season. When the pears are ripe, they are snipped off at the stems.

6. Three English words beginning with dw: Dwarf, dwell and dwindle...

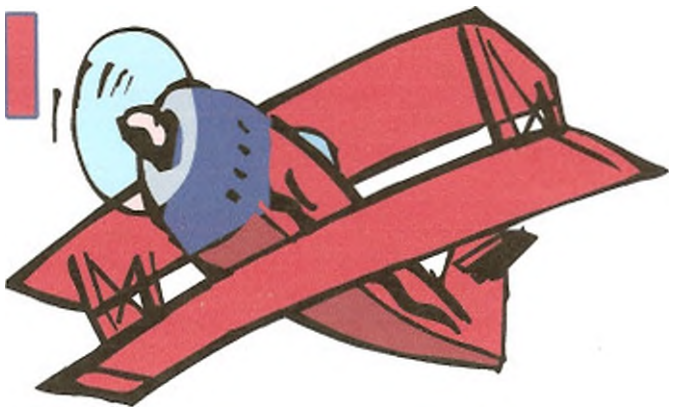
7. Fourteen punctuation marks in English grammar: Period, comma, colon, semicolon, dash, hyphen, apostrophe, question mark, exclamation point, quotation mark, brackets, parenthesis, braces, and ellipses

8. The only vegetable or fruit never sold frozen, canned, processed, cooked, or in any other form but fresh: Lettuce

9. Six or more things you can wear on your feet beginning with 'S': Shoes, socks, sandals, sneakers, slippers, skis, skates, snowshoes, stockings, stilts.

Thanks to all those that played along!

18th Annual Fun Fly 2010



AMA Charter #3220 * Sanction #10-0483

Hosted by:

Northwoods R/C Flyers, Rhinelander, WI

Saturday, July 10, 2010 * 9am to 3pm

Pilots Meeting at 9am * $5 Landing Fee

AMA Safety Rules will Apply

AMA Membership Required to Fly

Sponsored by:

D&J Repair * Pope's Hobbyland * Northwoods R/C Flyers

Food & Beverages * Raffle Prizes

Spectators Welcome!

Directions: Hwy 47 North of Rhinelander, 1 mile past Co. Hwy. K, turn left on Forest Lane, the club field is about 1 mile on the right.

Contact: John Wich 715-282-5025 * flashj@frontier.com
or Larry Slowiak 715-282-6622 * larryslow@charter.net

AIRSHOW 2010

Hospice Fund-raiser

July 16-18
9:30 am - 4:00 pm

Gilbertsville N.Y.
Polo Field

Bring your IMAA legal GiantScale aircraft to the largest Radio Control Charity air-show in Central New York. Help us raise money for the Catskill Area Hospice. We welcome every type of aircraft from aerobatic to civilian sport. Join your fellow pilots at our noon show where we highlight groups of airplanes.

Primitive camping with water available and trailer pumping out available by request. Arrive early and leave late and take advantage of our great flying field where there is good friends and great flying.

For more Information go to : rcbuzzards.com
or contact Al Kanser 607-293-7974
Akanser@hughes.net

Leatherstocking R/C Buzzards

International Miniature Aircraft Association inc
134
WORLD WIDE

Catskill Area HOSPICE and Palliative Care

AMA SINCE 1936

2010 Warbirds Over Pennsylvania

22nd Annual Jim Simmons Memorial Giant Scale Fly In

Date: July 24th & 25th, 2010

Registration: 8 AM

Flying: 9 AM - 5 PM (3PM on Sun)

*Early arrival and Flying OK

Landing Fee: $10

Information

- **Beautiful flat 1000' grass runway with open unrestricted view of flying area.**
- **Stay for the whole weekend. Large turnout is expected.**
- **RV parking available—no hookups**
- **Food and drinks will be available**
- **Raffles**
- **Vendors welcome, contact us for reservation**
- **Flea market items welcome**

Rules and Details

- AMA & IMAA sanctioned event. AMA & Club rules apply
- IMAA guidelines: 80 inch wingspan monoplane/60 inch wingspan bi-plane
- After 12 noon on Sunday any size **Warbird** allowed to fly
- Set Fail-Safe to go to low throttle (If you have it)

BUC-LE AERO SPORTSMEN

Location: BUC-LE Jon P. Fritzges Memorial Flying Field at the corner of Rosenberger and Kumry Rds., Quakertown, PA 18951. Visit our website for detailed directions.

Lodging: Local lodging available, visit our website, www.buc-le.org, LODGING section for details of hotel locations and telephone numbers.

For more information, please visit our website: www.buc-le.org

WARBIRDS OVER THE POLO FIELD

July 9-11 2010
Gilbertsville
New York
Polo Field
850' X 125' Grass Runway

AMA Required
Any Size, Any Era
Military Replica Aircraft
All Frequencies Clear
$5.00 Registration Fee

Join us at the site of the first Dino DiGiorgio Memorial with Saturday's noon show honoring Dino DiGiorio. Fly your Warbird off the pristine groomed grass runway. We have free primitive camping for pilots with water available and early arrivals & night flyers welcome. Onsite food supplied by the Gilbertsville-Mt.Upton School. Plenty of rooms available in Gilbertsville or nearby Oneonta, Norwich and Sidney.

Hosted by The Leatherstocking R/C Buzzards
rcbuzzards.com

Get more information online or contact Al Kanser akanser@hughes.net
Phone 607-293-7974

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