Propeller Teller

NEXT MEETING

Thursday, August 10th 2006

☺ Start 7:00 pm ☺

Norton Airport Security Office

President's Page

Update from George Manning

HelloPeople,

I hope all of you have made it through the heat and have enjoyed the few days of cooler weather that we were lucky to have. I hope this means that you all have been building something great that we can all enjoy at our September 30th 2nd annual cook-out get together at Glen Helen. Also it is not too early to think about the projects that need to be completed for the AMA show in January 2007. I have been busy building for the last few weeks and have found that too many birthdays make building slower than I ever remember. Between putting stupid glasses on, finding those stupid glasses, and then suffering the lovely back aches--along with the heat—it's a real challenge. Just the same, there is no feeling like the one of accomplishment when we create something new, is there!

2nd ANNUAL COOK OUT

When? Sat. October 30th	**9:00am-1:00pm**
Where?	**Glen Helen**
Who?	**YOU + your friends.**
What?	**A special fly-in for all**
Why?	**FUN! FUN! FUN! & more F-U-N!**

As far as any develop-ments on our site at the new Green Spot location, there is no new information to share with you. However, I expect Andreas will bring us up to date at the next meeting. As it is, he has been enjoying a vacation, a rather lengthy by our standards, that is well deserved. I think *we* have it wrong, and Europe has it right. We, in the USA, love those little vacations, and never consider a whole month as something even slightly possible. But think of how great it would be to take a month off. I think I would forget where I worked, and most likely they would forget I worked there too! Any how, Andreas will let us in on the latest news as soon as he gets back up and running.

As for the possible purchase of the new Glen Helen site, it is on hold for now as we are too stretched out to do everything at once. But, don't worry; the subject is not a dead issue.

Also, I would like to thank all of you for not complaining at all about seeing me to get the key to Glen Helen. It makes me feel much better knowing how much all of you value that site. Soon enough, I hope to be out a little more regularly to enjoy it with you.

Recently, I picked up a new Cub and another twin cylinder OS to put in it. I just missed having one after all the fun I had with the last one. With the great sale Hobby People had, I couldn't find a reason not to get a new one.

I hope to see you all at the next meeting, this coming Thursday, August 10th.

George

The Return of the Cub as the Turbine Burns

By George Manning

Since I can't remember where we last left off, I will possibly review a couple of things, but would like to get everyone up to speed. As part of the effort to become capable of helping pilots get their turbine waivers, I have become an AMA Contest Director (CD), and AMA has put me on the list of turbine waiver CDs. MARKS also has at least one other member who holds a waiver, along with several other pilots in the area who I fly with. This means that once any of you are ready to take the plunge, you won't have to hunt down people you are not familiar with, and I can help you out by reducing all the confusion that I went through when I got started.

As far as flying turbine powered aircraft at Glen Helen, there have been a number of flights done, and although there is little room for error with the right jet, it's not really that hard to fly there. The only thing we need to keep in mind is fire danger. Although I have witnessed several turbine powered crashes, very rarely did any of them burst into flames—as many would have you to believe. Just the same, I feel it's best that we take care and not fly them during high fire danger days, since it could make things bad for the hobby.

New projects that are on the bench, so to speak, are two F-18 C Hornets, one that is in camouflages, and the other is a Blue Angel. Also, there is an F-16, plus three sport jets. I sold my Green BobCat in May, so it's being enjoyed by a person from Colorado. Most of you know my Hawk was shot down some months ago due to inadvertently turning on a transmitter of the same channel as mine whilst I was flying. So, now you know why I am not flying jets, and thus restricted to my building bench for now.

I hope to see you all at the next meeting, this Thursday, August 10!

George

☺ August Birthday Boys ☺

Andreas Blaser	9th
Steven Lumpkin	9th
Michael Carey	12th
Jack Deal	12th
Tom Salmon	13th
Fred Pierce	18th
Sam Ramirez	18th
Jerry Blake	22nd
Jerry Boggs	23rd
Blake Schwartz	24th
Herbert Buenbrazo	25th
DJ. Steir	26th
Steven Blackburn	27th
Greg Kassel	29th
Tony Viero	31st

Next Pylon Race

Polish up your planes, warm up those OS-LA 46s, and get your stick-fingers ready. Next Pylon Race will be with our good friends at Gillman Springs field on

Sunday, September 10th

Set-up 8:20-8:55am

Start 9:00am

US Navy Star Retired

After 34 years of an incredible career, the F-14 Tomcat was retired Feb 2006. Last mission off the deck of the carrier USS Theodore Rooseveldt.

M.A.R.K.S Members' Practical Tips

Machine Threads For R/Cers

By Cal Malinka

This is intended to be a practical and user-friendly explanation of machine threads as used by RC modelers.

The English system of small machine bolts is almost always a number size. Common sizes are numbers, 0, 2, 3, 4, 5, 6, 8, 10, and 12. The theoretical outside diameter (od) of a number size bolt is found by multiplying the number by .013" and adding .060". Thus a #4 bolt od would be .013 times 4 plus .060 equals .0112 inches. This is the theoretical size because in theory the threads come to a sharp point, but actually the sharp point is dulled or rounded a few thousandths. A perfect pointed threaded bolt would require a nut, which also had a perfect sharp bottom to its thread. This is a bad design since the sharp bottom would act as a stress riser, and would tend to crack and fail at a much lower load. Consequently, the threads of bolts and nuts are rounded off slightly making the actual bolt od a few thousandths less than the formula value.

English threads are specified by number size and number of threads per inch, as in 4-40 or 6-32. To get actual thread spacing divide the threads per inch (tpi) into 1.00. Thus 40 tpi equals 1.0 divided by 40 equals .025".

The shape of both English and metric threads is a 60 degree isosceles triangle. The angles at the top and bottom of bolts and nuts are 60 degrees. This means that the total theoretical depth of a thread is .866 times distance between points. Thus for a 40 tpi thread, the distance between points is 1.00 divided by 40 equals .025" and the total theoretical thread depth is .025 times .866 equals .0216.

Metric threads are called out by the od and distance between points of the thread; all measurements in millimeters. Thus a M3 x .8 is 3 mm od (theoretical) and .8 mm distance between points.

A standard machine bolt can develop full tensile strength if it is screwed into the nut three turns. In other words, if three or more threads are engaged the joints will develop full strength. Obviously almost all screw threads are over strength. This allows us to make the job of forming threads (using a tap or die) easier by using less than a full thread depth. A reduction of 20-30% is feasible. Thus a 4-40 thread, which has a depth of .0216, could be made 80% of this or .0173". This is a reduction of .033 each side or .066 on the diameter. If you have ever formed a female thread from hard steel using a small tap, you will easily understand the value of reducing the thread depth.

It is sometimes possible to buy a slightly oversized or undersized tap or die to make the job easier. They are expensive however and not readily available. There is an exception to this. Some dies are split and can be sprung slightly resulting in a tighter or looser thread. These dies are useful, but we have no such alternative for a tap.

Because small machine bolts are cheap and easily acquired, we seldom have to form them. It is usually the female thread, which we are interested in. (Sounds reasonable.) There are charts available which will show the size drill to use for a given female thread. From the information herein this can be easily calculated. The theoretical hole diameter for female thread is the theoretical bolt od minus twice the thread depth. If you are using an 70 or 80% thread depth the hole diameter would be somewhat larger, making it easier to tap and less likely to break the tool. Small taps are very easy to break. The following chart

shows recommended drill sizes for tapped holes.

(It should be understood that sizes of twist drills are limited. In the English system there are number drills, letter drills, and fractional drills. That is all the drills there are. The drills covering sizes we normally use are the number drills. Sizes of number drills have been arbitrarily determined, as you will see when you use them.)

Here is a useful chart for determining hole-size for small English system machine bolts

Size	Theoretical OD	Thread Spacing	80% Thread Depth	Recommended Hole Size (Female Thread)	Recommended Drill Size	Clearance Hole Drill
2 – 56	.086	.0178	.01232	.0614	#52 (#51 Steel)	#43
3 – 48	.099	.0208	.0144	.0774	#47 (#45 Steel)	#33
4 – 36	.112	.0278	.0193	.0734	#48 (#46 Steel)	#33
5 – 40	.125	.025	.0173	.0904	#42 (#40 Steel)	#30
6 – 32	.138	.0312	.0217	.0946	#40 (#38 Steel)	#28
8 – 32	.164	.0312	.0217	.1206	#30 (#29 Steel)	#19
10 – 24	.190	.0417	.0289	.1313	#29 (#28 Steel)	#11
12 – 24	.216	.0417	.0289	.1582	#20 (#18 Steel)	#2

Some airline companies do not have assigned seating; you just sit where you want. On a recent flight from LAX to Las Vegas, passengers were apparently having a hard time choosing a seat, when a flight attendant announced," People, people! We're not picking out furniture here. Please find a seat and get in it!"

To play it safe while either charging or transporting your Lithium Polymer batteries, use a metal ammunition case. Available from Military Surplus stores, they are strong and sturdy and will certainly contain any fires from battery accidents. Place a floor- layer of ½" foam on, then, for the next layer of foam, cut out the shape of your batteries so they can fit snuggly while transporting them. Cost is approx. $6.00 Available in Old Temecula surplus shop.

Do you have any tips? Send them in & I will publish them. Editor

Product Report
Cermark's 3D "Banchee"

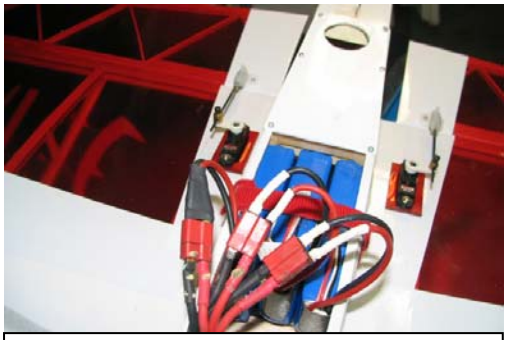
By Robert Boehm

I recently ordered a Cermark 3D "Banchee," along with the optional electric hover package. It was delivered to my front door within three days, in a very sturdy external cardboard "sarcophagus," so no damage was done during shipping. Being the convulsive type, I immediately started to assemble it.

It was very is easy to put together with the usual already built fuselage, one-piece wing, and tail feathers. The hinges are already in place but not glued in. The gluing of the elevators and rudder was not difficult. The only added bit of drilling was to attach the tail wheel, which is directly attached to the rudder. The ailerons were also very simple and easy to attach to the wing.

All hardware is provided, with only the need to purchase the necessary receiver, four servos and extension leads. I chose to use HiTec HS 81 servos, along with the HiTec Electron 6 receiver.

The hover package included a Cermark 42/20 e-motor, a 45amp Cermark ESC, `5x8 e-prop and mounting bolts. With the mounting holes already drilled, it was real easy to mount the motor. Rather than purchasing the recommended single 6,000mAH LiPo battery, I bought three 2100 mAH, 15C, LiPo batteries. My good friend, Glen Sparks, wired-up a harness in a parallel configuration. I did this so I could have flexibility in use of the batteries in other airplanes.



Rather than the recommended 6,000 mAH LiPo, I used three 2100mAH 15C LiPolys, wired in parallel. My good friend, Glen Sparks, made this 3-way harness for me.

The flying weight came out at 4.25 lbs. First take-off was slow and easy, and the Banchee lifted off very smoothly. I increased the power, climbed "2-mistakes" high, and just let it fly. It needed only a little left aileron and up elevator trim to put in a hands-off flight attitude. A few maneuvers later I felt very excited for such a no-problem maiden flight. The extra power of the hover package was well worth it.

The batteries are Velcroed to the plane, but I added the extra strap for double safety. The strap has an "eye" on one end, so it can be pulled tight then fastened

Landing was a cinch: simply cut the power, and let it glide in. After roll-out, I taxied back to my feet at the flight line.

Wow! I had that wonderful feeling that all R/C pilots feel after a maiden flight—a mix of euphoria and relief!

I have flown the Banchee many times since that day, and I fall in love with it every time I fly it. It is light, nimble, and very responsive. Inverted flight is equally easy as right-side up. Its performance level is only limited by the pilots' skill. (I'm still learning a lot!)

Now that I know the plane pretty well, I can give it full power on take off (across the tarmac!) and go straight up. With the three 2100 Li Po batteries connected, I can get about 15-20 mins flying time, depending on what maneuvers I do. With only two of the 2100 LiPo batteries connected, it is lighter, more nimble, and gives about the same flying time and flying time.

The only problem I have experienced is that the landing gear attachment to the fuselage is rather weak, and it broke off twice on not-so-hard landings. I had to add a stronger base for greater strength. The plane is so lightly built that you have to be careful when picking it up, only grabbing it just it the front of the cockpit. Too much squeezing will crack the balsa skin. But, I am very satisfied with the performance and convenience of the Banchee.

Model of the Month

Dual Ace 46: Fred Pierce won $25 for Plane of the Month

Specifications

Model:	**Dual Ace 46**	**Nose Retract:**	**Robart**
Manufacturer:	**Seagull Models**	**Main Gear Retracts:**	**Spring Air**
Wing Span:	**70”**	**Flying Weight:**	**10 ½ lbs.**
Length:	**59”**	**Power:**	**2 x .50 OS (2-C)**
Wing Area:	**862 sq. inches**		

Sphincter Moment: On its maiden flight, the left engine flamed-out. Fred’s skill enabled it to land safely. On the second flight, the left engine flamed-out again! Full right rudder and right aileron had no effect. At 100 ft. up, the plane got into a left turn spin. Fred cut the engine, took his hand off the sticks, let the plane dive. At approx. 20 ft, Fred was able to pull it out of the dive and glide it in for a safe landing.
The Problem? A leaking fuel stopped in the left tank. Fred now knows what his heart tastes like!! Since then, however, Fred has made numerous successful flights: “The plane flies great,” says Fred.

On an international overnight flight to Paris, with a very "senior" flight attendant crew, the pilot announced, "Ladies and gentlemen, we've reached cruising altitude and will be turning down the cabin lights. This is for your comfort and to enhance the appearance of your flight attendants."

When you’ve finished covering your plane, or after a repair job, use a Q-tip dipped in Monocote solvent and run along all the seams. It will seep under the joint and make a seal that won’t lift off.

M.A.R.K.S.' Boys & Their Toys

Left: Chuck Comstock with his electric powered Junior Kadet

Right: Ed Robarge really enjoys flying his colorful Magic Formula 3D (from Modeltech). WS: 60" OS 91 4-cycle.

Left: Oscar Furlong had a lot of fun last Sunday with his Sweet Stick.

Gene Throop shows off his kit-built "Bandito Grande" along with Chuck Comstock & his Junior Kadet. Gene is a *master builder* as you can see in the detail he puts into his planes (see below).

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