



SANDERSON FIELD R.C. NEWS



Charter No. 3079

Club Meeting

This months meeting will be held on Thursday April 8th at Choice High School, located at 8th and West Cedar, Shelton Wa. Use the entrance with the elevator, across from the old gym.

April is going to be a busy month for other use of the field, WSP Mason County Sheriff's and Dept. of Licensing will all be out there during the month. There are quite a few no fly days. See pg. 2.

Jody Diaz was working a new job and gone so the meeting was lead by Vice President Dick Robb.

The treasurer's report was read and passed followed by the minutes of the last meeting which also passed.

Old business: Dick suggested people with computers download the flyer for the swap meet, print some out and get some more distributed. He also reminded us to bring a plane for the static display.

Lunch will not be provided at the April Fly-in. It was brought up but no one voted for it.

New Business: Stacy Myers motioned to donate \$300 for this years Relay for Life cancer drive, Motion passed.

We got another letter asking for donations for F4B & C competition, it was decided that any donations would be made on a personal level.

Bob Mason asked about the Scholarship awards, the process hasn't



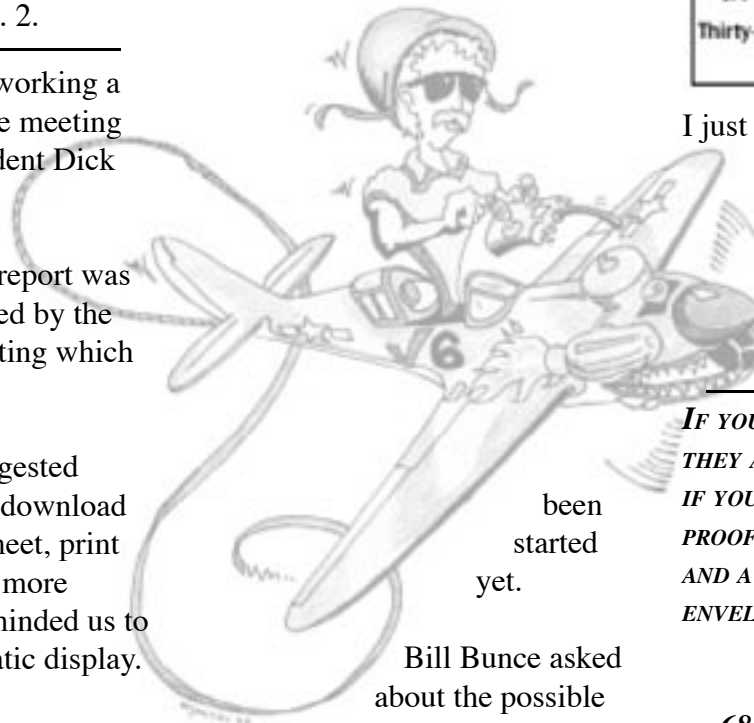
I just want to remind everyone, the swap meet is on the 17th from 9 to noon (don't forget your plane for the static display) and we have a fly-in on the 24th from 9 to whenever.

IF YOU HAVEN'T PAID YOUR DUES YET THEY ARE NOW LATE AND ARE \$40 IF YOU PAY BY MAIL SEND YOUR DUES, PROOF OF 2003 AMA MEMBERSHIP AND A SELF ADDRESSED STAMPED ENVELOPE TO THE TREASURER:

**CHUCK KENTFIELD
6843 Gallagher Cove Rd NW
Olympia WA 98502**

If you really want to slow the process down send it to the secretary.

Meeting adjourned at 7:20.



APRIL FIELD SCHEDULE

This month is a busy one at the field. It seems more people are using the field all the time. I apologize about the dates before the meeting I should have gotten them in last months newsletter.

Here are the dates and their impact on us for the month of April. Using the north end means no impact on us, the ones in bold typeface warrant special attention.

April 1st - WSP will be using the north end from 10:00am to 3:00 PM.

April 5th - WSP will be crashing a car @ 1:00 PM and are expecting to be blocking the runway for only about an hour or so.

April 6th - WSP will be using the north end.

April 7th-11th - Mason County Sheriff's will be using the whole runway.

April 13th - WSP will be doing their Semi truck braking tests from 10 AM to 12 PM, using the whole runway.

April 17th - Club Swap Meet at Shelton High School Sub.

April 17th and 18th - Dept. of Licensing will be using the north end.

April 24th - Fly-in from 9:00 to ????. Unless changed at the next meeting, lunch will not be provided.

April 24th and 25th - DOL will be using the north end.

May 5th and 6th - WSP will be using the north end.

DO-IT-YOURSELF:

MAKE YOUR OWN BRUSHLESS MOTOR FROM A CD-ROM

BY TERRY SLATTERY

In electric flight, brushless motors are more desirable than brushed motors because they are more efficient and more powerful for their weight. Their undesirable characteristic is that they cost more than

brushed motors sometimes significantly more.

An inexpensive alternative for brushless motors for light airplanes and micro-helicopters is to use the brushless motors from a CD-ROM drive. It takes an evening to extract a motor and rewind it. This sounds daunting, but it is easy.

First, remove the motor from an old 8X to 56X CD-ROM drive. You may have to press the old spindle off the motor shaft (I use a cut-off nail in a drill press). You'll have to remove the motor from its mount. The ones I've used have been brass press-fit onto a metal bracket. File



CLUB OFFICERS

President	Jody Diaz	(360)427-6102
Vice President	Dick Robb	(360)427-4521
Treasurer	Charles Kentfield	(360)866-9473
Secretary	Bob Beatty	(360)426-5601
Field Marshall	Charles Kentfield	(360)866-9473
Safety Officer	John Tupper	(360)426-6383

BOARD MEMBERS

Board Member	Jody Diaz	(360)427-6102
Board Member	Dick Robb	(360)427-4521
Board Member	Herb Coslett	(360)275-4158
Board Member	Stacy Myers	(360)426-9367
Alt Board Member	Bob Beatty	(360)426-5601
Alt Board Member	Chuck Kentfield	(360)866-9473

MIXING EPOXY

What to do when epoxy doesn't harden properly

Epoxy is one of the best modeling materials available. It's useful as an adhesive for wetting out fiberglass cloth, as a filler, and as a finishing material. It can be thinned or thickened for a variety of purposes. But, even though it is useful, epoxy also can be a pain when it doesn't harden properly.

There are two important issues when dealing with epoxy: proportioning and mixing.

Of these two, mixing is the most critical. Misproportioning the hardener to the epoxy generally leads to slow hardening, but lack of proper mixing can lead to permanently sticky epoxy. One hundred quick, hard strokes are recommended when mixing any amount of epoxy. Count them to make sure that your mixing is adequate.

Always mix your epoxy before putting in any additives. Both thinning or thickening agents can keep epoxy from mixing properly. Give the epoxy 100 strokes first and then put in the additive.

Thinning

Epoxy can be thinned using acetone or denatured alcohol. Either of these can be added to make it more watery. A mix of up to 50% doesn't

seem to have any effect on the final strength of the epoxy. Thinning the epoxy will slow down the curing time and make it wet out fiberglass and carbon fiber better. Thinned epoxy also can be wiped onto balsa or obechi as a finish.

Thickening

Epoxy can be thickened by adding almost any inert fine-grained solid, from sand to cotton fiber. Modelers usually use microballoons for thickening epoxy since they are readily available and add little weight. Thickened epoxy can be used to make fillets or to fill gaps.

5 minutes, 15 minutes, 30 minutes, more?

Epoxy comes in formulations for different curing times. The times listed on the package are strictly nominal and generally refer to curing time. Five-minute epoxy does not give you five minutes of working time. At best, you will get 20 seconds of working time in which to place 5-minute epoxy before it starts to set

Thirty-minute epoxy gives you around one to three minutes before it starts to hit. These times will vary with temperature, mix proportions, and proper mixing, but they are good reference points. In general, 5-minute epoxy is only for spot

gluing. It is great for small, quick jobs but not for involved tasks.

A general rule of thumb is the working time for epoxy (after 100 strokes of mixing) is about 10% of the time listed on the package. Keep in mind that epoxy mixed and left in the cup will hit faster than epoxy that is spread out immediately.

Clean up

Epoxy on the hands can be cleaned with acetone, denatured alcohol, or vinegar. Vinegar is the most desirable of these three but it smells. I find that soft soap, when used straight and rubbed patiently and thoroughly on the hands, removes epoxy residue in a completely satisfactory fashion. Try it; you'll like it. The best thing to do is wear latex gloves while working with epoxy and toss them when you're done. It avoids any possible allergic reaction and eliminates the clean-up problem.

From the newsletter of the
R/C World Flyers
Al Sorensen, editor
Orlando FL

MAKE YOUR OWN BRUSHLESS MOTOR (CONT).

the edges of the brass until the motor can be extracted from its mounting bracket. Now you'll have a bare motor.

Remove the outer rotating shell (the part containing the magnets). Inside, you'll find the stator and windings. The stator will have nine poles. Remove the old wire from the stator. Before rewinding the motor, you must decide how much torque is needed versus the rpm and current draw. More turns per pole will provide more torque and less rpm per volt. Fewer turns provides less torque and higher rpm per volt, but at a higher current draw. Good values for CD-ROM motors are 14 to 19 turns of wire per pole. For my motors, I've done 16 and 19 turns. It isn't hard to change, so pick a value in the middle of the range and experiment.

Number the stator poles (1 through 9). Cut three 40-inch pieces of enamel-insulated, 28-gauge magnet wire. Wind the first wire clockwise (as viewed from the end of the pole) around the first pole. Carefully add turns tight against each other and in layers. When you're finished with the first pole, extend the wire around the stator body to pole 4 and wind it. When pole 4 is finished, extend the wire to pole 7 and wind it. You'll see that you've wound one wire around every third pole. Mark the ends of the wire with a small piece of masking tape. Continue the process with the other two wires, winding them around each of the other sets of three poles: 2, 5, and 8, and 3, 6, and 9.

Now you'll have a stator with six labeled wires. Solder the ends of the wires from poles 1, 2, and 3 together, leaving a short tail. You now have a "Y" configuration with the center of the Y at the end of the soldered wires. The other ends of the wires will go to a sensorless, brushless speed controller (the Castle Creations Phoenix 10 ESC is a good candidate).

Mount the stator to a piece of 1/16-inch plywood that has been drilled so it is a snug fit for the mount that used to be in the metal plate. I epoxied the stator to the plywood, and it has performed well with that mount.

Reattach the rotor and its shaft, and you have an inexpensive brushless motor!

from The Crabag
Chesapeake Bay Radio Control
Carl Wick, editor
Crownsville MD

HINTS AND TIPS

FUEL CANS

If you have a favorite or otherwise standard fuel can in your flight box, then you routinely transfer fuel from one can to another. While you are doing this transfer, you have the perfect opportunity to make sure you are using only the cleanest of fuels. Put a coffee filter in the funnel you use for the transfer for super-fine fuel filtration.

SCRAP ALUMINUM

from Mark Kallio

One of the most useful and inexpensive tools in the workshop are pieces of scrap aluminum angle iron cut to various lengths and of various sizes. I find that a selection of 1-inch, 2-inch, and 3-inch pieces, varying in length from one to six inches, is quite helpful, and these can be obtained at a metal supply shop. If you have a metal fabricator near you, you might try asking him to sell you some scraps of angle about these sizes. Since these lengths are considered trash to these fellows, you may get lucky and get them for free. Even if you don't, the cost should be minimal, and as useful as these are I would have purchased new stock and cut it up into pieces to obtain these tools.

What good are they, you ask? Well, here are a few of the things I use them for, and I'm sure you can come up with more once you start using them. First off, this is a great way to align the table on disk/belt sanders, drill presses, band saws, etc. You can use them to hold items to be glued or drilled exactly perpendicular to the work surface, such as drilling into the edge of sheeting, or holding ribs at 90° to the table while your adhesive dries.

CUSTOM TRIM SEALER

from Donald Kavanaugh

Cut the ends off large aluminum rain gutter nails. Then bend, file, and polish the resulting "rods" to make custom trim-sealer tools that can be inserted into your Top Flite trim-sealing iron.