Radio Control Flyers Unlimited
Flight Plan

AMA Charter # 1442
President: Jim Scott - 209-576-7549
Vice President: Jose Macias - 209-464-5313

IMAA Charter# 623
Sec/Treasurer: Steven Howie - 209-847-0567
Membership Chairman: Mike Cummins - 209-985-1550

Volume 7, Issue 8

August 2008

www.rcflyersunlimited.com

Current News

I would like to extend the club's welcome to our new members.

Guillermo Romo
Tom Vessie
Lawrence Pritchard
Steve Kirby
David Pimentel

Please make our new members welcome and give them any help and advice they wish to have.

The club's 2nd annual War-bird meet will be held August 9-10 2008. All models that had the full sized aircraft represented in any war are eligible to fly at the field regardless of size and type of power (they do have to be guided using radio control). Please contact Jim Scott for information.

The past jet rally event at the field, saw one of the pilots loose his plane causing a fire in the field north of the runway. This yielded a damage claim of $1,100 by the land owner. The pilot of the plane was responsible for damages through his homeowners insurance. The event proceeds were used to pay the required damages to the owner, the insurance company will reimburse the event $600. The membership has decided that the $500 deductable should not be waived, and therefore, the pilot will be required to reimburse the event $500.

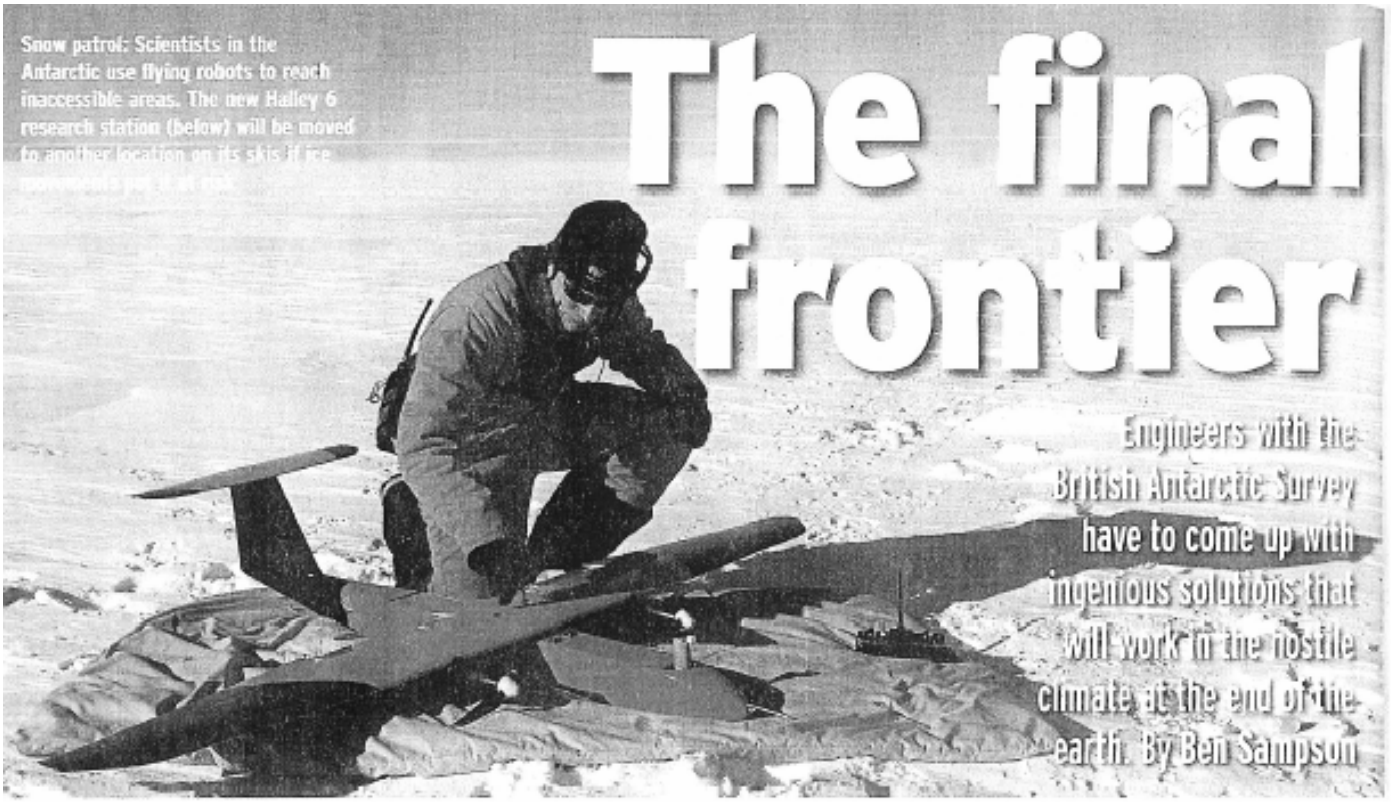
It was brought to our attention at the July club meeting that we have no published club instructors. New flyers must rely on querying club members to find an instructor. I would like to have volunteers who would be willing to help with new flyer instruction. Please indicate to one of the club officers or send me an email or '?' stating your willingness to be an instructor and your specialty (this could be aircraft checkout, ground school, flying training, etc). I will then publish this on our web site.

The club has donated $250 to the Modesto Junior College Spirit Team. For this, we will get a full page advertisement of our club and about what we do. This will be printed in all programs for all of the College sports events during the next school year (2008-09).

Our thanks goes out to Jim Scott, who has taken upon himself to water the trees planted at the field. This takes up a fair amount of his time and equipment. If you see him, give him your support and help if he needs it.

I have also noticed that the club members using the field have made an effort to keep the area clean, and also help police the safety rules and requirements at the field. It sure makes for a pleasant experience to fly at the field. Thanks to all of the membership for their efforts.

The next article was submitted by David Thornely (a sentence of the article was cut off but it is still understandable)



Snow patrol: Scientists in the Antarctic use flying robots to reach inaccessible areas. The new Halley 6 research station (below) will be moved to another location on its skis if ice

The final frontier

Engineers with the British Antarctic Survey have to come up with ingenious solutions that will work in the hostile climate at the end of the earth. By Ben Sampson

The Antarctic is one of the most inhospitable places on the planet. During the winter, temperatures reach -90°C. But it is also one of the last remaining locations ripe for scientific study. It contains unique magnetic fields and atmospheric conditions, layers of ice which allow scientists to reveal how the earth's climate has altered during the last 800,000 years, and native wildlife unstudied by biologists.

The British Antarctic Survey (BAS) has for the past 60 years been doing scientific research in the region. The organisation discovered the hole in the ozone layer in the

The BAS is also pioneering the use of unmanned aerial vehicles (UAVs) to study areas that are too costly to reach using ships or conventional aircraft. Developed in conjunction with the Technical University of Braunschweig in Germany, the aircraft successfully completed their first research missions last December. Each UAV has a wingspan of 2m, weighs 6kg, and is powered by lithium ion batteries.

Dr Phil Andersen from the BAS team operating the UAV says they had to overcome numerous technical challenges, including how to keep the batteries operational at very low temperatures, and how to operate radio controls for take off and landing while wearing gloves.

"Each flight lasts for about 40 minutes, covering around 45km. They are physically harder to operate in the Antarctic, but far easier in safety terms because there is nothing to hit. It's a huge technological achievement," he says.

PILOTS CORNER

A123 Cells
From RCadvisor.com
by Carlos Reyes

Electric model airplanes have been around for roughly three decades. A huge problem in the early days was battery energy density. In other words, they simply weighed too much for the amount of juice you could get out of them. This situation has improved dramatically in recent years with the advent of Li-Poly cells, but a battery pack for a larger model can easily cost hundreds of dollars. The advent of electric cars, such as the Toyota Prius has spurred an enormous amount of research into new battery technologies. In this article, I will describe an alternative to Li-Poly batteries that offers intriguing possibilities.

A123 Systems (www.a123systems.com) produces Lithium-Ion Nanophosphate cells. These cells have a nominal voltage of 3.3 volts and can withstand continuous discharge rates of 30C. They can be safely discharged down to 2.0 volts. The voltage remains fairly constant through the discharge cycle, but they do have a sharp drop-

off at the end. Expect 300 cycles before you notice any reduction in capacity while at 1,000 cycles you'll have 75% of the original capacity. They are very safe. Overcharging or over discharging will not cause an explosion and will have little effect on the life of the battery. Balancing the cells when they are charged is still a good idea, but not absolutely required. They can be charged immediately after use in 15 minutes.

The cells are available in two sizes. The original M1 cell has a capacity of 2.3 Ah and weighs 70 grams (2.47 oz). A newer, smaller size can hold 1.1 Ah and weighs 40 grams (1.41 oz).

The primary source for A123 M1 cells has been DeWalt 36-volt portable power-tool battery packs. Each pack contains 10cells. I purchased two of these for $100 each through Ebay. The prices appear to have gone up recently to the $120-$130 range. Single cells can also be purchased online for $15 from a growing variety of vendors. You can find two of the smaller cells in a Black & Decker VPX battery pack which sells for about $15. The smaller cells can also be had for $12.50 each.

There are many Li-Poly chargers that support or can be modified to support the charging of these A123 cells. Because of the sharp voltage drop-off when discharged, you are probably better off using a timer when you fly. Otherwise you need your ESC to shut off the motor when 2.0 volts per cell is reached.

Bottom line? These cells give you 70% the energy density of Li-Polys for about 45% of the price. For many of us, that is a good trade-off. They are extremely safe and can be charged in 15 minutes. If you end up buying half as many battery packs because of the shorter charge time, then they become a much better value.

Cash Flow Report

Income		Expenses	
Club Dues (including initiation fees, field assessment fees, and Donations)	$1,280.00	Port-o-potty service	$290.00
		Advertising (MJC)	$250.00
		July 4th expenses	$181.23
		Tractor fuel	$80.50
		Warbird event expenses	$850.00
		Property tax	$29.22
		Club raffle expense	$22.18
		Newsletter	$126.00
Totals	$1,280.00		$1,829.13

Last Month's Total ……..	$9,558.79
Income ……..	$1,280.00
Expenses ……..	($1,829.13)
Balance …….	$9,009.66

The August Club meeting is scheduled for:
Wednesday, August 13, 2008 at 6:30 pm
at the Police Station at 10th and G sts