



**President's
 Plugs**
 by
 Wally Crichton

At the last meeting we announced the appointment of John Mitchell as Safety Committee Chairman. Almost simultaneously we gave him his first assignment which was to deal with the over flying of field workers (see the January minutes below). Then we had a second situation arise concerning Park Flyers and that was given to him. Mike Laughlin had the position all last year and never had a single incident. John has held office for about a month and has already had two... go figure!

I can hear you now, "What situation

with Park Flyers?" Well, it makes since when you think about it. These small models fly low, slow and generally over the active runway. As you know, when we fly our models we tend to have tunnel vision and when a Park Flyer, quietly sneaks into your field of view, it can cause a very startling reaction. It happened to one of our members and he brought it to the Club's attention.

John and his committee, Mike Laughlin, Bill Lancaster and Bill Bishop, studied both situations and made recommendations, to the Executive Committee, for Field Rules changes. While studying this they discovered an interesting fact, our Rules didn't specifically cover the flying of helicopters on the non-active runway. Well, they do now, and Park Flyers are now covered also.

At the time of this writing, wording is being fine tuned and will be ready by the next meeting. Check our web site or

the field bulletin board, the revised Field Rules will be there by the time you read this. Remember, everyone is responsible for following the Field Rules, so please get a copy and read them! Rules 9 has been revised and Rule 10 added; study them carefully.

I am making two important announcement this month. The first affects every member, so please take note. *This is the last issue of Printed Circuit, the Club Newsletter, that will be mailed to your home.* Starting next month (March issue) you'll have to download it from the Club Web Site. *Read the article on page 3 for details.*

Second, we have a new procedure for making and distributing Club Approved Frequency Pins. All the information is in an article printed on page 4, so please read that also. We're confident this will eliminate complaints and make joining AMPS a more pleasant experience.



**Secretary's
 Servos**
 by
 Rick Pellecchia

MINUTES JANUARY 2003

- Meeting called to order at 8:00 PM
- Meeting adjourned at 9:00 PM
- The minutes were accepted as printed in the Club Newsletter.
- Treasurer's report for November was read and accepted

OLD BUSINESS

FIELD SAFETY BENCHES: John Wanamaker at Pro-Scale has volunteered to make his shop and tools available for the construction of the benches. We just need someone to get up a construction crew to buy the materials and get the benches built.

BIG BIRD 2003: Nick Capone ad-

vised the membership that "flyers" for the event have been drafted, and things have been moving along OK.

IMAC 2003: AMP's IMAC chapter has officially cancelled IMAC 2003. IMAC 2004 is planned for the weekend of February 7 & 8, 2004.

2003 BUDGET: Secretary/Treasurer will meet with those committee personnel responsible to prepare individual budgets for their areas of responsibility. Secretary/Treasurer will consolidate and submit to the membership for approval.

CLUB SAFETY OFFICER: John Mitchell has accepted the position of Club Safety Officer. We want to thank John for accepting this very important position. We are all asked to cooperate, and assist John in the performance of his new job.

NEW BUSINESS

AMPS FIELD INCIDENT: One of our members reported an incident where he experienced radio failure, and the subsequent crash of his aircraft. The incident occurred over an area that

was being worked by farm hands, and the aircraft narrowly missed one of the workers. Our Club Safety Officer will be investigating the incident and will report his findings. In the meantime, **NO OVERFLIGHT OF PERSONNEL WORKING IN THE FIELD IS PERMITTED.**

NEWSLETTER: Effective with March 2003 the club newsletter "Printed Circuit" will be available to the membership via the Internet only (<http://www.amps-rc.com>). The club will save approximately \$1,700.00 in printing/postage annually.

MEMBERSHIP

Let's extend a warm AMP's welcome to the following new members: **Carlos Cicero, Abraham Horta, and Sean Williams**

The following Associate Members are due to be voted into the club at our next meeting on February 13, 2003: Thomas Caldwell, Ahmid Johnson, Thomas Wulff. Associate Members being voted into the club are expected

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Thursday Night is Club Meeting Night — See You There!

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to remit their annual dues at that time. Annual dues are prorated for the month an Associate Member is voted into the club. The prorated dues for associates voted into the club in **February 2003** will be: **\$92.00**. Dues not received by the last day of the month in which vote in date occurred will result in the immediate revocation of membership, and loss of all flying privileges.

REMINDER: YOUR SPONSOR IS REQUIRED TO BE AT THIS MEETING IN ORDER FOR YOU TO BE VOTED INTO THE CLUB. SPONSORS THAT ARE UNABLE TO ATTEND MUST CONTACT ANY CLUB OFFICER WITH A RECOMMENDATION FOR MEMBERSHIP.

Any Associate Member who is scheduled to be voted into the club on their designated meeting date, but is unable to attend that meeting, must

call the Secretary/Treasurer at (305) 232-4827, and you will be represented for the purpose of being voted into the Club. Failure to contact the Secretary/Treasurer or any other club officer, will terminate in the Associate Members affiliation with AMP's, and will also result in an immediate revocation of all flying privileges at the field.

Effective June 1, 2000, prior to being voted into the club, an associate member must have a sponsor who is a flying member in good standing. The sponsor is also expected to be at the meeting when the associate is to be voted into the club. If this is not possible, the sponsor is requested to contact any of the club officers prior to the vote in date with a recommendation as to whether or not the associate should become a member. No associate member will be voted into the club unless recommended by his/her sponsor.

ADMINISTRATIVE NOTES

FREQUENCY PINS: Rick Pellicchia has taken over the responsibility in the administration of the Club's frequency pin program. Rick has already mailed out the backlog of all previously ordered frequency pins to those members. If you have ordered a frequency pin(s), and have not received it, please contact Rick at (305) 232-4827.

Please be reminded that Club Rule #6 was amended to require that all members are mandated to use the **AMPS STANDARD APPROVED CLUB PIN.**

Guest Pilots: All members are encouraged to brief their guests to familiarize them with the Club's posted field rules, and to have their AMA card displayed **prior** to any flying activities. Reminder: The member sponsoring the guest **must** be present at the field when the guest is flying.

How To Get True Rudder Authority On Your Giant Scale Aerobatic Plane

by John Mitchell

I would like to introduce you to a new product for the giant scale / aerobatic planes. Many of you know me and have seen my articles in the past showing construction of my Carden 40% CAP 232. About a year and a half ago I had the opportunity to build one of 6 prototypes for the now very popular Carden 40% Extra 330S. When I started on the project I understood I needed to do something special to handle the size rudder the plane would carry. Many pilots and builders were, and still are, lining up four servos in a row one in front of the other in a train fashion. With the last servo arms driving a bellcrank assembly for a pull-pull to the rudder. Looking at the systems available I was not happy from a mechanical engineering view of how the torque from each servo was being delivered to the bellcrank, how much potential loss of torque could occur in the transfer and the load that was being placed on the final servo and its arm that was connected to the bellcrank. I wanted a better system. From a mechanical engineering side each servo connected to the bellcrank should assure maximum torque transfer from each servo. In addition, the last servo

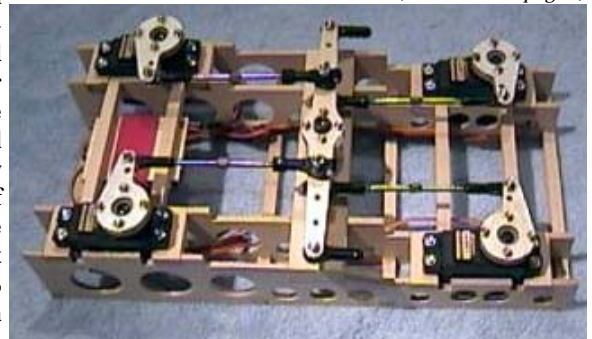
should not take the full load and if designed right it would have two servos pushing and two servos pulling at all times. Nothing existed in the market that met my needs so I decided to design my own system and test it in the prototype Carden 40% Extra 330.

The design I developed uses four JR 8411 digital servos producing 720 oz/inches of torque for the rudder and several times more holding torque driving a 5 inch Nelson bell crank with dual ball bearings for the pull-pull cables to the rudder. Titanium Pro-Links are used for push rods along with CNC machined AirWild aluminum servo arms with all geometry designed to transfer maximum torque from the servos to the bell crank and give up to a 45-degree throw on the rudder. The design of the geometry does not require the servos to be driven at their maximum rate of 120% to 150% to give the maximum throw it is all done below 100%. As the pictures show the servos are positioned at 4 points around the bell crank two servos high and two ser-

vos low to allow the clearance for the pull-pull cables. The servos can be setup several ways. My preference is to tie each side to a separate channel and then mix the two channels. I have found that with the JR 8411's there has not been a need for a JR matchbox to adjust the centers however with the JR 2721's non digital a matchbox was required to prevent the servos from fighting for center. The titanium Pro-links were chosen for ease of linkage setup and fine-tuning.

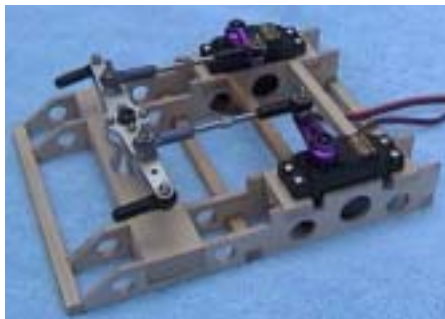
As I stated, the rudder control assembly was designed for a 5-inch bell crank and has been flown without problem for the past year and a half. After the Direct Connect Rudder Assembly was designed, built and flight-tested I started considering marketing the design in kit form and assembled. With

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This is my 4 servo Direct Connect Rudder Assembly complete and ready for installation. Picture shows Nelson servo arms that have now been replaced with the CNC machined AirWild servo arms.

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Here is the 2 servo Direct Connect Rudder Assembly complete and ready for installation.

some encouragement from Dennis, of Carden Aircraft I started working out the logistics of getting the parts machined for the kits and a new direction for a company (Aero Protect Corporation) I had formed was put in motion.



This shows the Installation inside the 40% Carden Extra 330S.

The assembly has also been modified to accept a 4 inch bell crank giving a smaller "foot print" that can be used in planes that may not have as much fuselage space. A two-servo assembly has also been developed for 35% size planes.

A very short build time, a little epoxy, and easy installation into the plane makes for a very strong, lightweight, accurate (no binding or geome-



Matching 5 inch rudder control horn with pull-pull cable.

try problems) true four or two servo torque rudder control assembly. The assembly can be built and setup including programming of the transmitter outside the plane. It is easy to build the assembly and set it up so it can be removable for service on the servos or transfer to another plane.

The 5 inch bell crank 4 servo rudder assembly and "special" 2 servo rudder assembly using sail winch (1/4 scale) servos are applicable for 40% size planes and up. The 4-inch bell crank 4-servo rudder assembly is applicable to 37% to 40% or larger planes. This setup is 1 inch shorter overall than the 5 inch assembly. The



Picture of the AirWild servo arms being used.

2 servo assemblies are for planes in the 30% to 36% range and can accommodate a 4-inch bell crank or a 3.5-inch bell crank. One thing to remember, the rudder control horn size should match the bell crank dimension for proper geometry.

The Direct Connect Rudder Assembly is now being flown by several customers in planes ranging from 30% on up. If you would like more information you can contact me at John@aeroprotect.com or view my web site for complete details at www.aeroprotect.com. The Direct Connect Rudder Assemblies are available in kit form, kit form with all hardware, and assembled. Aero Protect Corporation is also a primary supplier of RC Linkage formerly **Rocket City Hardware**, along with AirWild servo arms of different lengths for all control surfaces of your plane and for all major brands of servos, NX (2 and 3 blade) and Fly Tech props for the giant scale including 27 x 10 for the 100cc motors and 32 x 10 for the 150cc motors, and CNC aluminum Nova spinners from 4 inch diameters to 5 inch diameters cut for 2 blade and 3 blade props.

Printed Circuit Now Moving To The Web

This is the last issue of AMP'S Newsletter that will be printed on paper and mailed to your home.

Starting in March Printed Circuit will only be available from the Club Web Site, www.amps-rc.com. If you have an E-mail addresses on record with the Club Secretary you will be notified when the publication is ready for downloading. Those who don't wish to be notified will need to remember to check the Club Web Site, each month, on Monday before the Club Meeting to download their copy. It is suggested that members who don't have internet access or are uncomfortable with this process ask a friend, family member or another Club member to download it for them.

The downloading process is quite simple. Just log onto our web site and click "AMP'S Newsletter". This will take you to a page where a program called Acrobat® Reader™ can be downloaded (free) if this is your first time. The newsletter is in a format that requires this program for viewing or printing. It only takes a few minutes and once it's done you never need to do it again.

From there go to Step 2, on that same page, and click "Click Here". This will take you to a listing of all the Newsletters where you click the latest issue or any of the past issues. If any one has difficulty with any of this contact me at wally@amps-rc.com, give me a time and a phone number and I'll be glad to walk you through the process.

By putting the Newsletter on line the club will save more than \$1700 a year in printing and mailing costs, eliminate lots of hand work and give you all the latest Club news in color. Why not try it right now? Go to your computer, download the February '03 issue and compare it to this one. I think you'll be impressed! Over thirty members have received their newsletter this way for a year now and they say they wouldn't have it any other way.

Remember, if you wish to be notified each month make sure our Secretary/Treasurer, Rick Pellecchia, has your E-mail address. You can send it to him at rhpell@msn.com.

New Frequency Pin Program at AMPS

Last month we started a new program for ordering and distributing Club Frequency Pins. Since Rick Pellecchia, our Secretary/Treasurer, receives new member's applications and has all their information, it only makes sense for him handle this function. This eliminates the need for applicants to call a third party and then rendezvous with them to pick up their pin. Now, Rick will handle everything including mailing without further action by the applicant. This should

make a big difference and eliminate a lot of complaints we've been receiving.

Rick says, he's mailed all the pins that were in stock and is now working on the pins that need to be made. So, if you've ordered a frequency pin (or pins), and have not yet received it, Rick

asks you contact him at (305) 232-4827 or E-mail him at: rhpell@msn.com.

It's unfortunate, but the vendor who does our engraving won't do just one pin at a time. He requires a minimum of 5, which means we have to wait until there's enough to place an order. This could take a few weeks, so don't get impatient. In the mean time, it's OK to write your name on a plain clothespin and use that until your official one arrives.

Although this has placed a greater workload on Rick, we feel this new approach will be much better.



Mike Laughlin and his new Hanger 9 Edge 540 ARF. The plane has a 78 inch wing span, weighs 12.5 pounds and is powered by a OS 1.60. Graphics are by Mike's own Sky High Graphics and the hardware is from Aero Protect. Left, is the very scale cockpit including a VoltWatch so the on-board batteries can be visually monitored. Mike says the plane flies very well and has unlimited vertical.



FOR SALE
Club Tee Shirts & Hats

Tee Shirts
 Small to Extra Extra Large! \$15

Hats
 One Size Fits All! \$5

Contact: Adrienne DiPrima
Capt_adi@bellsouth.net
 (305) 382-0989

Club Management

PRESIDENT — Wally Crichton
VICE PRESIDENT — Bill Bishop
SECRETARY TREASURER — Rick Pellecchia
SAFETY COMMITTEE CHAIRMAN — John Mitchell
FIELD ENGINEER — Frank Drewniany
EVENT COMMITTEE CHAIRMAN — Vicar Hernandez
CHIEF INSTRUCTOR — Bill Bishop
NEWSLETTER EDITOR & WEB MASTER — Wally Crichton

Club Flight Instructors and Check Pilots

Chief Instructor, Bill Bishop — (305) 221-7291
Instructor, Scott Driesse — (305) 254-3517
Instructor, Mike Laughlin — (305) 234-8200
Instructor, Carlos Zuniga — (305) 856-4157
Check Pilot, John Mitchell — (305) 388-2763
Check Pilot, Tony Fandino — (305) 693-1374
Check Pilot, Mike Cipoloto — (305) 274-3835
Check Pilot, Abraham Horta — (305) 205-2906

Club Sponsors

Crown Hobbies 7439 Coral Way (305) 264-3964	Hobby Nut 12679 Dixie Hwy (305) 235-9584
Pro-Scale Models 13912 SW 139th Ct (305) 234-9939	

Annual dues are \$100 for Open Members, \$25 for Non Resident Members and \$1 for Juniors — Club Approved Frequency Pins are required and cost \$2.50 for each channel used. Meetings are held at 8:00 PM every Second Thursday of each month at Pro-Scale Models, 13912 SW 139th Court.

Please address inquiries about the club to: Aero-Modelers of Perrine, 15425 SW 84th Ave, Palmetto Bay FL 33157-2113, Or Call (305) 232-4827



Printed Circuit

15695 SW 153rd Ave
Miami FL 33187