Soaring Digest August 2005 — Vol. 22, No. 8



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Front Cover — New York Slope Dog Joe Chovan does an in-your-face flyby with an LEG P-63 Kingcobra. **Photo by Alex Paul**, Nassau, Bahamas, taken during the 2005 Midwest Slope Contest in Lucas, Kansas. Alex attended and photographed the MWSC event, along with Dave Garwood. Full color coverage of MWSC 2005 starts on page 4 of this issue of *RC Soaring Digest*.

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Alex Paul travels from Nassau Bahamas to Lucas Kansas for the annual slope event sponsored by Wings Over Wilson. Written in semi-diary format, Alex' article is accompanied by a slew of full color photos. **Text by Alex Paul, photos by Dave Garwood and Alex Paul**

18 Davenport ISR 2005

Davenport became the site of the world class International Slope Race on May 21st and 22nd. With the wind blowing at 30 knots plus, competition was ferocious and there were a number of collisions and crashed airplanes. Numerous photos bring the excitement of man-on-man racing to the pages of *RCSD*. **Text by Randy Bullard, photos by Randy Bullard, John Dvorak, Kurt McCrum, and Mike Seto**.

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Back cover photo: — Grant Miller flying a Liftworx.com Seeker built by Gregory Luck. Location is the Kona coast of the Big Island of Hawaii. Photo by Gregory Luck, www.lavawing.com

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There must not be much model building going on in *RCSD* Readerland these days as we continue to receive truly wonderful event coverage material. As you may have noticed, our coverage of events is a bit different than the standard. The focus here at *RCSD* is on flying conditions and weather, aircraft, pilot attitude and demonstrated flying skills, not a blow-by-blow exposition of each round with posted point standings. RCSD promotes the technical and educational aspects of RC soaring, and our major goal is to enlighten, not just entertain.

The background for this issue contents page comes to us courtesy of A. Lee Bennett. Web Editor for "About This Particular Macintosh," a web-based e-zine for Mac lovers available at <www.ATPM.com>. There are about two dozen cloud photos on the ATPM web site, and all are suitable for use as computer desktop images. We're looking forward to using a few more in the future. Thanks. Lee!

As we mentioned in the last issue, RCSD now has its own domain name, **rcsoaringdigest.com**. Since then, we've been able to transfer all of the materials from the b2streamlines.com server to the new one and everything seems to be working correctly. The transition was far easier than we had envisioned it being.

The information bar to the left has been updated to reflect the addition of Jay Decker to our growing list of columnist. Jay's premiere article is in this issue, and we think you'll look forward to reading Jay's writings in future issues.

Time to fly!

3 August 2005

Midwest Stope Contest Sponsored by Wings Over Wilson

written by Alex Paul Photos by Dave Garwood and Alex Paul

June 9-10-11-12, 2005

T had been told the slope L contest in Lucas Kansas was something special by my lifelong pal, Dave Garwood. As I would expect from him, he told me the truth. I now live in the Bahamas and have been for the past 9 years. When Dave sent me an e-mail inviting me to fly to Albany and then share the drive to Kansas to participate in the contest, I thought about it for one minute before arranging my flight. This is the first

contest I have attended since the National Aeromodeling Championships in Muncie, Indiana in 1995, and it was worth the trip.

I was blown away by both the outstanding Lucas landscapes and the friendly people and can't wait to go back next year. It is an experience that leaves you with the sensation you have taken a journey back in time. Back to when the pace of life afforded you time to relax and enjoy every moment and be a part of a community void

of the fast pace hassles most of us live with in our daily lives.

This years contest consisted of 51 registered pilots from eleven states, as well as many spectators. Pilots and spectators came from Arizona, Colorado, Illinois, Kansas, Minnesota, Missouri, Nebraska, New York, Oklahoma, Texas, and Wisconsin. For the week preceding the Midwest Slope Contest, the contestants start coming to town.

Dave and I arrived in Lucas on Tuesday June 7th and later in the week met up with fellow NY Slope Dogs, Rich Loud, and Joe Chovan, and shared a house we had reserved in advance. When Dave and I arrived before heading into town we immediately stopped at the Main Hill in Lucas Park to throw a couple of gliders. The winds were out of the SW at 10-15 m.p.h., which is the working wind direction for the hill so we got to flying right away. The lift was excellent for

the wind speed and the hill afforded long runs. In looking around you see hills everywhere that beg to be used for soaring.

On our Wednesday morning drive to the hills surrounding Lake Wilson, which is eight miles from the center of Lucas, we stopped in for a huge breakfast at the K-18 Café. Our waitress, Karen, made sure we were well fed and we were invited to sit at the reserved center tables and shared stories and jokes that made my face hurt I was laughing so much. On top of the good meal, and great company, the cost of

breakfast was about 4 bucks... Can't remember when I got out of a restaurant so full, for so little.

When we got to the main hill at Lucas Park, the winds had changed to the NNW at 10-15 and so we elected to hit another site. We drove for ten

minutes and hit another excellent hill. The valley below us was far reaching and the wind was uninterrupted all the way up the slope. We got some more great flying in along with some stick time on a couple of newly constructed gliders. After a few days of being in Lucas I noticed the wind is





almost always blowing... How sweet is that????!!!!!

That evening after our flying session we got together with friend and contest director, Alden Shipp. Alden lives in Lucas and a better coordinator for a contest you will never find. We spent some time at Alden and his wife Joyce's home and went over the details of the contest planning. Alden and Jack Cooper, Club President, from "Leading Edge Gliders," along with Jack's right hand man Erik Eaton, did a fantastic job of conducting the contest with the help of local club members and volunteers.

Above: One of the ODR racers. Photo by Alex Paul.

Right: A KA-6 gets a bungie launch for some altitude. Photo by Alex Paul.





Thursday June 9th: Practice day at the main hill in Lucas Park. Winds were S at 20 m.p.h. and weather was overcast. Good wind direction and was used for practice, time slots were assigned for combat practice, and unlimited practice. Thursday evening was spent at Leading Edge Gliders facility where last minute registration, glider prep, and a great dinner was provided by Jack and Tracy Cooper.

Friday June 10th: The first day of the contest we all met at Lucas Park in the morning at the main hill. The weather was a letdown. Occasional rain and lightning along with light wind postponed the contest, but of course the die-hards still

Above: Two foamie warbirds performing a formation dive. Photo by Alex Paul.

Right: A scene from the ODR race. Looks like it was very competitive. Photo by Alex Paul.



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New York Slope Dog Richard Loud flies his "Calvin and Hobbes" DAW Schweizer 1-26 over the Lake on practice day. Eye catching color pattern. Photos by Alex Paul.

got to flying HLG's, along with bungie launching some of the big thermal ships, as well as electrics. We had fun flying, looking at newly constructed kits, comparing gliders, and equipment with an occasional "Watch this," so the postponed contest didn't stop the flying or the enthusiasm. Saturday June 11th: Sunny and the winds were light and variable out of the west so we went to the west side of airport hill. This involved a two minute drive to the alternate site from the main hill and is still inside Lucas Park. The foam combat contest was held and the lighter winds made for

a good combat contest as it was tight quartered flying and very difficult to recover after a good solid hit. It also gave the flyers helpers a good cardiovascular workout running down and up the hill.

That evening we attended a contestant banquet at the Legion Hall in the center of

Lucas where a wonderful dinner was provided along with a raffle, and trophies awarded to the winners of the Combat match. 1st Place went to Greg Smith of Milwaukee Wisconsin. Greg was flying a Combat Wings XL. 2nd Place went to Gavin Smith of Bavaria Kansas. Gavin was also flying a





Combat Wings XL. 3rd Place went to Joe Chovan of Syracuse New York. Joe was flying a Windrider EPP BEE. 4th Place went to Todd Martin of Topeka Kansas. Todd was flying a Zagi.

During the banquet a lifetime achievement award was presented to Loren Blinde, MWSC Contest Director 1999-2004. Attending the Banquet were two AMA representatives as well as the following manufacturers:

The list of prizes was quite impressive and they were donated by a wide variety of sponsors for the event. The following sponsors generously donated to the MWSC event:

Soaring USA <www.soaringusa.com>
Combat Wings
<www.combatwings.com>
Horizon Hobby
<www.horizonhobby.com>



Hand launch sailplanes flown in light slope lift on practice day.

Photo by Alex Paul.





Windrider RC <www.windrider.com> Edge RC <www.edgerc.com> Cermark <www.cermark.com> Midwest Slope <www.midwestslope.com> Polecat Aero <www.polecataero.com> Stan Vosburg Aviation Art <vosburgstudio.com> North County Flying Machines <www.northcountyflyingmachines.com> **Bob Smith Industries** <www.bsiadhesives.com> Hobby Lobby <www.hobby-lobby.com> Nelson Hobbies <www.nelsonhobby.com> Micro Fasteners <www.microfasteners.com> Tower Hobbies <www.towerhobbies.com> Northeast Sailplanes <www.nesail.com> Balsa USA <www.balsausa.com> Lone Star Models <www.lonestarmodels.com> FMA Direct <www.fmadirect.com> **Aerospace Composite Products** <www.acp-composites.com> Quiet Flyer Magazine <www.quietflyer.com> Sky King RC <www.skykingrcproducts.com> Leading Edge Gliders <www.leadingedgegliders.com> The Club also held an auction. The auctioneer was Kent Palmer of Lucas and he shined at getting the flyers kits and assorted



Opposite page, top: Mike Bailey with his PSS warbird. Photo by Dave Garwood.

Opposite page, bottom: Dave Garwood's Leading Edge Gliders Bell P-63 Kingcobra foam warbird racer. Photo by Alex Paul.

Above left: Jack Cooper launching Jackrabbit EPP ODR racer over Wilson Lake. Photo by Alex Paul.

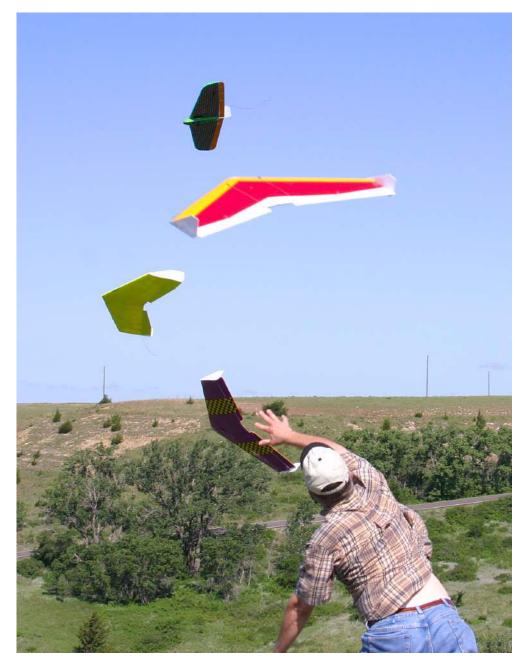
Above right: Larry Purdy prepares to launch Erik Eaton's original design Hughes H-1 on an early test flight. The plane flew great. Photo by Alex Paul

flying supplies sold to the highest bidders. Alex Shipp, Alden's grandson, gave a great 3D flying demonstration on Main Street after the banquet was concluded. It was a fun day of flying and a great evening all the way around.

Sunday June 12th: The winds were light and variable out of the NW. The site that was most favorable for a NW wind was at Bug Ridge, on the SE side of the lake. The ODR racing was held and as the contest went on the winds became lighter and so the contest eventually became an "All up, last down" event. An occasional thermal helped some of the racers, but all in all it was mostly a contest of smooth flying and light weight that helped milk victory for the winners. The pilots were all resourceful in finding lift to stay aloft and it was an interesting display of talent by all the competitors.

The winners were, 1st Place Greg Smith of Milwaukee Wisconsin, flying a Charlie Richardson Fun-1. 2nd Place went to Joe Chovan of Syracuse New York, flying a Charlie Richardson Fun-1. 3rd Place went to Justin Ammon of Mesa Arizona, flying an Erik Eaton original design "Purple Passion." 4th Place went to Pat McCleave of Wichita Kansas, flying a Charlie Richardson Fun-1.

Unfortunately due to weather and the lack of wind during contest days, two events were not able to run. Foam Warbird, and Unlimited Class racing. As can be the case, following the contest, Monday, June 13th,



Into the fray! Photo by Alex Paul.

was sunny with W winds at 30 with gusts to 40 MPH and flying Minooka Park Hill was outstanding. A number of flyers were able to stay the extra day and enjoy a great day of flying. Some of the flyers decided to fly DS at another site and afterwards joined us to finish off the day of flying. When flying was over we watched a local baseball game between Lucas and Russell, we dined on smoked sausages while watching with the local team supporters, and we even got an introduction to the attending town people over the parks P.A system. "Life is good when you are welcomed by an entire town."

For some of us the final flying day was on Tuesday, June 14th. The winds were W 10-15. Another outstanding day of flying at Minooka Park Hill. This offered a great day of solid lift and relaxed flying that if for no other reason made the long trip worthwhile.

The hills of Lucas Kansas should be on every soaring pilots list of places to visit. It is a place you will never forget. I know that I will be back as often as I can. It was worth every mile traveled.

To all that participated, I thank you for sharing a great time. To all the folks in Lucas, I thank you for your hospitality and sharing your beautiful spot in the world...

> Alex Paul Nassau, Bahamas

32 nd ANNUAL C.V.R.C.

FALL SOARING FESTIVAL 2005 LOCATION; C.V.R.C. FIELD, at Russell Pond on Ave 320 1/2 mile E. of PLAZA DRIVE Visalia Calif. (North 1.5 mile's from our old field) DATE: OCTOBER 1st and 2nd, 2005. CLASSES: OPEN; 2 METER; R-E-S BENT WING; AMA JUNIOR & AMA SENIOR COMBINED Class's (18 years old and under). ADDITIONAL TROPHYS; HIGHEST SCORE IN ANY CLASS FOR 62 & OVER. TEAM TROPHYS: Please! list your home AMA Chartered Club and not CVRC LIMITED: Max 325 ENTRIES, POSTMARKED NO EARLIER THAN AUG 1st. Cut off AUG 15th. After that date I'll put you where I can if not full. LANDINGS; To be announced at Pilots meeting TASK: SATURDAY 3;5;8;6 SUNDAY 3;8;4 TIME IN MINUTES AWARDS: OPEN 1ST-10TH; 2 METER 1ST-3RD; R-E-S 1ST-3RD; JUNIOR-SENIOR 1st. 2nd; 1st Gray Cup Highest SCORE in all of the Classes. PILOTS MEETING; 7:30 AM SATURDAY AND SUNDAY HAND TOSS: WILL BE ANNOUNCED AT FIELD. BBO: SATURDAY NIGHT T-SHIRTS; S,M,L,XL,XXL,XXXL W/POCKETS RAFFLE: ONE OF THE BEST AROUND RV PARKING AND CAMPING AVAILABLE. No Hook ups!!!! MAIL ENTRY ON 1 AUG. NO EARLY ENTRIES!! I SORT ENTRIES BY DATE MAILED. * DO NOT PUT IN MORE THEN TWO ENTRIES IN A ENVELOPE ... * I WILL TRY TO SEPARATE YOU AND YOUR TIMER IF YOU WILL INDICATE THAT PERSON BY AMA # AND NAME ON EACH OTHER'S .. ENTRY FORM ..!!!!! ** CONFIRMATIONS WILL GO OUT LAST WEEK OF AUG. ** Please Bear with us! We have a IRS ruling that we must comply with. To make things simple your entry fee will make you a member of our club. To break the numbers down Half year adult membership \$12 Plus Entry \$35 = \$47. Junior/Senior Membership \$6 Plus Entry \$17.50 = \$23.50 We know this is not normally done this way, but it works for the IRS and keeps us in good standing with them. MAIL TO: LARRY TAYLOR CD (559) 627-8808 7 PM TO 9 PM CVRC FALL FESTIVAL E-MAIL: cvrcsoaring@earthlink.net 1944 E. PARADISE AVE. **VISALIA CALIF. 93292** WEB http://www.cvrcsoaring.com You can use PayPal, and fill out form there. ------ CUT here and mail this lower part only ------NAME AMA # **ADDRESS** CITY STATE ZIP PHONE #(CLUB E-MAIL ADDRESS TIMER'S AMA # NAME MAIN CLASS: CIRCLE ONE OPEN, 2-METER, BENT WING R-E-S, JUNIOR / SENIOR 18 and under. If 62 or older we have in additional TROPHY CLASS in the above Classes CIRCLE YES IF SO.. YES FREQ./CHANNEL NUMBERS 1ST T-SHIRTS S , M , L , XL , XXL , XXXL . \$18each = \$ BBQ's X \$12each = \$ Non Refundable Adult ENTRY = \$ 47.00 Jr/Senior Entry \$23.50=\$ MAKE CHECKS OUT TO: CVRC SOARING CLUB

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by Randy Bullard

Photos by Randy Bullard, John Dvorak, Kurt McCrum, and Mike Seto



hen I pulled into the parking lot on May 21st at Davenport ISR for the 2005 Man on Man two day race, I knew it was going to be a great weekend. It was warm, sunny, and the planes that were practicing were obviously going faster than they had in recent years. I love the sound of molded planes going fast.

Davenport is one of the oldest glider events in the country. Racing started here

sometime in the 70's and past winners have often been the who's who of RC soaring. Often pilots will build planes specifically for this race. The quality of competition, the speed of the planes and the man on man style racing makes this a very exciting race for both pilots and spectators.

Davenport is a very scenic coastal site that is beautiful no matter which way you look.

The property is owned by Big Creek Lumber, who's owner graciously lets us race there every year. We are even allowed to camp there during the event. I used my Hotel Dodge Van, but there were also several large RVs on site. I always enjoy an evening of swapping stories with fellow campers. There are also nearby hotels and motels for those that want more to be more civilized.



Saturday group photo which captured many of the 36 event participants and their aircraft. Photo by Michael Seto.

Mike Seto, our CD for the weekend, did a great job of running the show. Martin Falarski, last year's CD, helped Mike keep things running smoothly. There were also several volunteer helpers that assisted with the turn calling, running the lights at turn B and general grunt work. Several guys gave up their whole weekend to help things go smoothly. Without everybody's

help, this race could not take place. Thank you guys!

The course is eight laps (16 legs) starting with a high altitude dive into Turn A: (Each leg is 186 meters for a course length of 2976m or 2.9km or 1.85miles). The pilots stand on a pilot box at Turn A. Each pilot is assigned a colored light for that heat. After the start at Turn A, you go straight for Turn B until you get your light.

The consequences for turning too early are very bad. Unlike F3F racing, you cannot turn back and pick up the turn. This is done to help prevent midairs. If you cut the turn, you are suddenly a lap down. That does not mean it's all over. As often happens, one or both of the other two pilots can also cut a turn later or crash. In one race, one pilot crashed at the start and





A mid-air captured "on film" by Kurt McCrum. Joe Wurts' Trinity has its tail boom severed by Michael Seto's Acacia II DS.

the other two took each other out a short time later, so nobody finished that heat.

Racing three-up man-on-man takes very steady nerves. Not only is a pilot racing wing tip to wing tip with two other planes, but when the lift is really good like it was during all this year's event, all planes are racing at the FAI ballasted weight limit of 11.023 lbs. At this weight if you pull too hard on a turn or over correct to dodge another plane, the plane will often "snap"

on you and the chances are very high of your plane taking an extended dirt nap. Great finesse is needed to fly well.

The race began with 32 pilots registered and over 30 knots of wind. There were a lot of very big smiles because the race conditions were almost perfect.

The carnage this year was higher than normal. Mid airs (see the photo sequence above) and over controlling accounted for almost all of the crashes. Aggressive flying by the top pilots made for some paint swapping, great action for spectators, and some dinged up planes.

Day one saw lots of great racing and at the end of the first day there were two and three way ties for the top places and even more ties further down in the standing. A few of the top pilots had won almost every race for the entire day. There were still five or six pilots that could win the over all.



Then Ray Kuntz'ship misses Joe's now tailless aircraft by mere inches. Seto's Acacia was taken out by Kuntz' later in the race.

When I awoke on day two, the wind was already blowing, and from the right direction. All right! It wasn't long before there were pilots in the air practicing.

With all planes at the full FAI ballast weight limit again, great lift and lots of super competitive pilots close on points, you just knew day two was going to be at least as exciting as day one.

During one of the races, two pilots raced wing tip to wing tip almost the entire race.

They banged into each other several times during the race, each fighting to stay in control. Even though both were flying expensive molded planes, neither backed off for the entire race. If I remember correctly, pilot number three won because these two knocked each other out of control enough that he snuck through to win. Great stuff!

After all the dust settled (really!), Top Gun was Darrell Zabellos, 2nd was last year's

winner Joe Wurts and 3rd was Ron Vann. Darrell also set fastest heat time of the event with a time of 1:51.

This was such a great race I'm already looking forward to next year. I hope you can make it, too.

More information and pictures can be seen at the Davenport ISR website. <www.davenportisr.com>







This page, above left: Ron Vann, 3rd place winner, calls for Bill Highfield. Photo by John Dvorak.

Above right: Joe Wurts, 2nd place winner, launches his *Trinity*. Photo by John Dvorak.

Left: Scott Woodward launches race-winner Darrell Zaballos' SP-1 into the 25 knot breeze. Photo be Kurt McCrum.

Opposite page, upper left: Mehrdad Amir preparing his plane together for Saturday's first race. Photo by Randy Bullard.

Upper right: Base B turn showing the light pole and workers. As each plane is launched, the color that plane has been assigned is called out and the worker controlling that color light then knows which plane is his for that heat. Photo by Randy Bullard.

Lower right: The racing is close and the excitement is high when different color lights go on at the same time as in this picture. Photo by Randy Bullard.

Lower left: James Osborn (the near pilot with his turn caller) nails the base A turn just right. Photo by Randy Bullard.

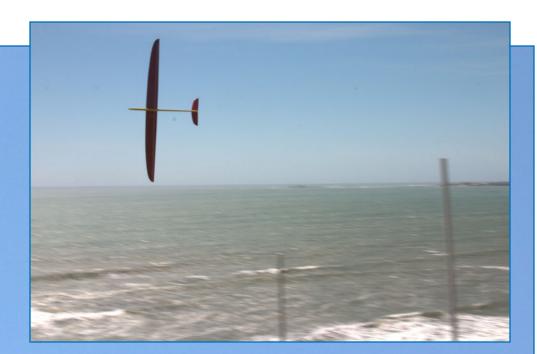








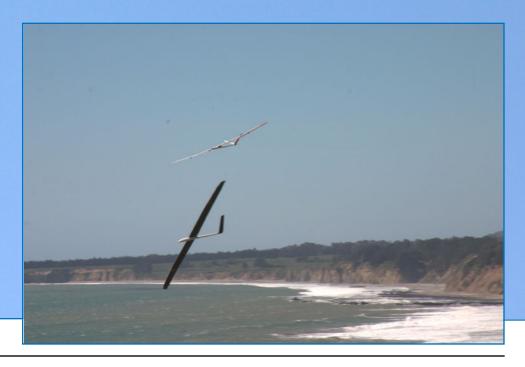




Paul Hart's *Trinity* **doing a nice tight turn at base B.** Photo by Randy Bullard.

Upper right: Base A sighting poles. The pilot's plane must pass the alignment of these poles to complete the lap. Turn an inch or two too early and you are suddenly a lap down. Photo by Randy Bullard.

Right: Close racing on the leg from base B to base A. Photo by Randy Bullard.





Scott Woodward flying his carbon RnR *Millennium* V- tail out in front of Dominic Bayani's T-tail *Hurricane* followed by Mark Grand and his T-Tail *Yukon*. It was a very close race that Mark narrowly won at the last moment of the 2.05 minute heat. Photo by Kurt McCrum.

Hidden Receiver Switch for Scale Sailplanes

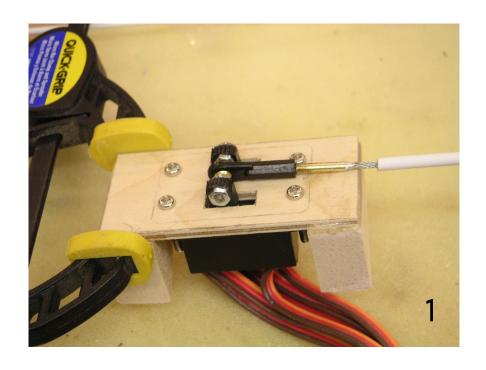
by Steve Richman, <s.richman@verizon.net>

What could be more beautiful than a well turned out scale sailplane? And what could be a greater eyesore than a big honker RX switch poking out of the fuselage side? That's why so many scale pilots elect to mount these switches internally and go through all kinds of gyrations to access them.

This spring I completed a very handsome, fully molded Nimbus 4D 5.2 meter scale sailplane. Purchased some time ago from Icare, it's a beauty and includes a canopy with scale latching mechanism. Every time you want to open the canopy, you have to slide back a delicate

plastic vent window to access the canopy latch. I certainly wanted to avoid this operation every time the RX is turned on or off.

I posted a question on R/C Groups but did not receive any viable solutions. Then I remembered the system used to latch the canopy on the Valenta L213A Blanik. It's a simple but clever approach essentially based on a Nyrod or bowden cable that runs through the fuselage and exits under the wing in front of the trailing edge. I figured the same strategy could be used to actuate the RX switch on my *Nimbus.* The pictures show exactly how this system works.



Because of the complexity and potential current drain of this model (12 servos plus vario running on a 12 channel receiver), I wanted some additional power insurance and decided to run two battery packs in parallel operating off two RX switches mechanically tied together. The photos show how this was accomplished using a short length of 2-56 threaded rod and typical R/C

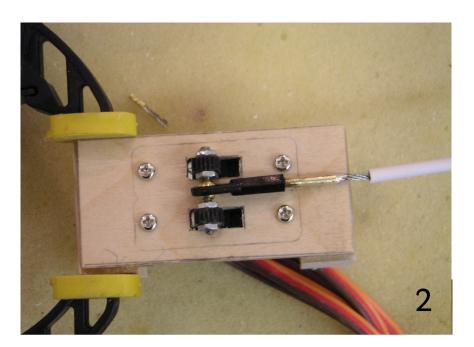
hardware. A Dubro throttle cable with brass fittings soldered onto either end links the switch assembly to the small external knob.

To turn on the RX, simply reach under the wing, grasp the small brass knob and pull. It's simple and effective. Try it... you'll like it.

Regards,

Steve

(1) Master and auxiliary switch mounted on plywood board, ready for installation in fuselage. (2) Top view of the switch panel showing the connecting bar and cable. (3) and (4) The switch mounted in Steve's Nimbus 4D fuselage, just to the side of the wheel retraction mechanism with all wire cabling in place. (5) The switch cable end exiting from the fuselage right below the trailing edge of the wing. Not visible from above or from the side, the small brass fitting protrudes only slightly and is nearly invisible unless viewed from below and at short distance.









FMA Direct DS300BB and DS300MBB Digital Adjustable Servos

by Bill & Bunny Kuhlman, <bsquared@themacisp.net>

FMA Direct has entered the digital servo market with the introduction of the DS300 Digital Adjustable Servo.

The DS300 is a high speed. moderate torque, high holding power servo which has the capability of being programmed without the need for additional equipment.

A number of positive features are built into the DS300, including:

- The servo center point, end points, and reversing are all adjustable through manual movement of the servo arm.
- Two or more DS300 servos connected through a Y-harness can be attached to a single control surface and set up to act in unison without the need for

additional circuitry or separate hardware

- Operating voltage can be anywhere between 2.5V and 12.6V, making the servo capable of operating with a single, double, or triple cell LiPo battery. (This is the first RC servo to operate over such a wide voltage range without use of a voltage regulator.)
- The servo position is updated at 125Hz.
- A built-in digital filter can be turned on to reduce "noise" and give smoother response to small stick movements. When the digital filter is turned on, the servo consumes less power, an added bonus.

Out of the box, the DS300 has a factory set throw of 90

degrees, 45 degrees each way from center, but the total throw can be easily maximized to 180 degrees through relatively simple manual programming.

Despite the usual cautions about moving the servo arm manually, the DS300 mandates manual movement when the servo is in set-up mode.

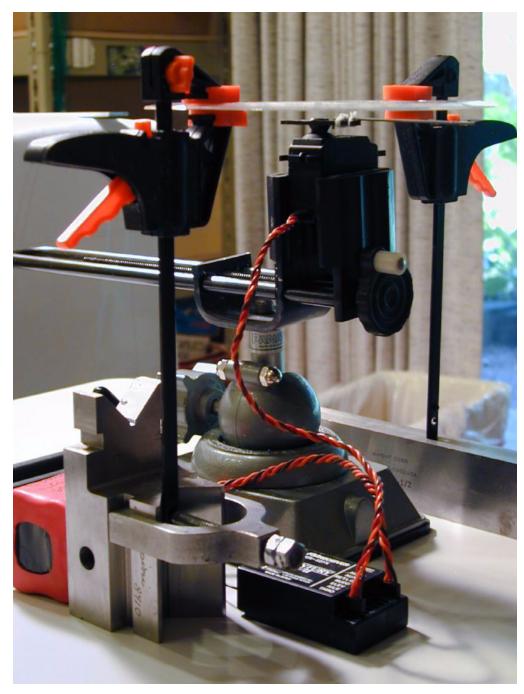
The DS300 can be placed in any one of four modes:

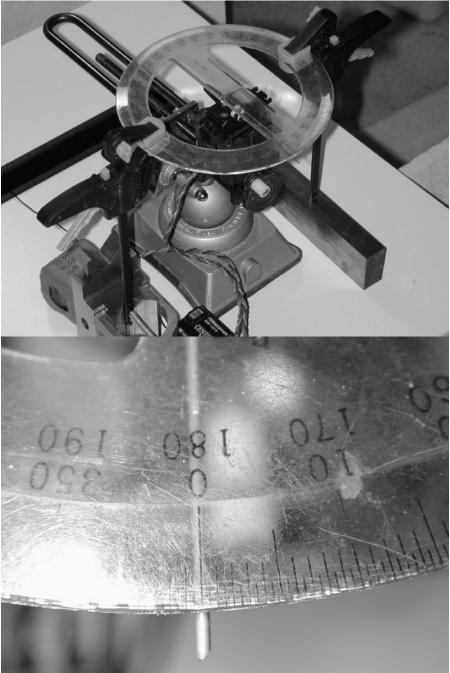
- 1. Normal Mode In this mode, the servo responds to transmitter inputs. If you are not configuring the servo, it operates in Normal Mode.
- 2. Setup Mode This mode is used while establishing center and end points. The servo

responds to transmitter inputs, but may be safely moved by hand.

- 3. Digital Filter Mode Used to turn digital filtering off and on.
- 4. Factory Default Mode Resets the servo to factory programmed parameters: 45 degree rotation in each direction from the center point, digital filter off.

The servo can be placed in any of the four Modes by turning the receiver on and off a specific number of times while the transmitter is turned off. As an example, turning the receiver on and off threes times and then turning it on and keeping it on places the servo in Setup mode.





To reset the servo to factory defaults, turn on the transmitter, turn on the receiver, then turn off the receiver followed by turning off the transmitter.

Adjusting the end points and center points is quite easy. With the transmitter off, turn the receiver on and off three times, then turn it on and leave it on. The servo arm shakes four times to indicate the servo is in Setup Mode. Switch on the transmitter. Place the transmitter stick in the center position and then manually move the servo arm to its center (neutral) position. The servo arm will shake once after a slight delay to let you know the servo has accepted the center point. Now move the transmitter stick fully to one end and manually turn the servo to the matching end point. After a short delay, the servo arm will shake twice. Push the transmitter stick to the other extreme and manually turn the servo to the opposite end point. The servo arm will shake three times to let you know it's accepted the second end point. Turn off the receiver, turn off the transmitter. Done.

Reversing of servo travel is automatically accomplished as you set the end points.

If two FMA DS300 servos are attached to the same control surface, moving the control surface programs both servos at the same time.

FMA Direct recommends hooking up one servo to a receiver outside the aircraft and getting used to entering and exiting the various modes, adjusting center point and travel, etc. in that way. Once you get used to the process, you can swiftly set up an entire airplane with the servos installed.

We set up a simple test stand to determine the centering and end point resolutions. The fixture is shown in the included photographs. The protractor used has a radius of three inches.

In the stand, servo centering is so accurate there is no discernible difference in position following full excursion and return to center. The end points are affected more by transmitter stick pressure against the stops than by the resolution of the servo.

As a comparison, we also placed a Hitec 605BB in the fixture. No load centering and end point resolution was just as good as that demonstrated by the DS300, but the ability to hold a position against an applied force showed a major difference.

The FMA Direct DS300 moved off its assigned position a small fraction of a degree before the servo responded by applying full torque.

The Hitec 605BB, on the other hand, could be easily moved several degrees away from its commanded position by applying pressure against the arm. The more applied pressure, the greater the movement away from the assigned position and the greater power the servo put out in response. The 605 holding power is relatively weak, despite its rated 60 plus in.oz. of torque on 4.8 volts.

The DS300 puts out 40 oz.-in. of torque at 4.8V, 50 in/oz. at 6.0V, 60 oz.-in. at 8.4V, and 70 oz.-in. at 12.6V. Both the DS300BB and DS300MBB use ball bearings. The only difference between the two is the gear train — plastic gears in

the case of the DS300BB, metal in the DS300MBB.

While we initially considered 40 ounce-inches of torque to be somewhat low for a digital servo, we're quite attracted to the DS300 steadfast holding power. We can envision a number of situations where holding power and centering under aerodynamic loads are far more critical than maximum torque capability.

There are two additional positive aspects to the DS300:

- Easy programing. There's no need for additional equipment, and the servo remains adjustable from the transmitter as well.
- Reasonable cost. The DS300BB (plastic gears) has a price of \$42.95, the DS300MBB (metal gears) sells for \$44.95.

The FMA Direct DS300 Digital Adjustable Servo is available from:

FMA, Inc. 5716A Industry Lane Frederick MD 21704. Sales: (800) 343-2934 Tech: (301)668-7614 <www.fmadirect.com>

SLED DRIVER CHRONICLES

Jay Decker, <sleddriver@monkeytumble.com>

WHAT | THINK I'VE LEARNED

ABOUT SLOPE PLANES THUS FAR

What happens when you take a flat land flier and move him to within six miles of Eagle Butte, one of the worlds premiere inland slope soaring sites?

Why he develops Multiple Personality Disorder.

During the summer months, he flies civilized airplanes, thermal duration (TD) planes, discus launch gliders, and aerotow scale gliders. But during the fall and spring, when wind blows, he turns to the dark side becoming a "sled driver" who flies fast, heavy planes, brimming with mucho ballast.

Eagle Butte is one of those sites you read about and think, "I'd like to fly there someday!" The hill is about 400 feet high, over half a mile long, and there is just something about the confluence of the

valley, hill and wind which makes the lift there a hedonistic experience for a slope flyer. There is big air at Eagle in the Spring and Fall. The landing zone is huge and great for scale sailplanes and lead laden planes. The planes I've been flying there have been getting heavier, sleeker, and have thinner airfoil wings, and I've been able to fly and land them all there.

This month I'll spew what I think I've learned about different *types* slope rides I've had the past couple years that I've lived near Eagle Butte. Specifically, I'm going to ramble on a bit about F3F, F3B, TD, 60-inch racers, wingerons/pitcherons, lead sleds, scale, power slope scale, and foamies.

F3F and F3B planes are arguably the best overall flying slope airplanes. They "grip"

the air as they carve as precise a turn as you are capable of flying. When it comes time to land they are the gold standard as they tend to be less affected by any rotor or turbulence and with a reasonably well setup plane you should be landing it with ease with a little practice. On light days they are efficient enough to remain aloft and thermal well, and on windy days move quickly with ballast.

What are the differences between F3F and F3B planes on the slope? F3B planes tend to have more wing area and thicker airfoils with more camber. So F3B planes tend to be better on lighter lift days, but a little slower than a dedicated F3F plane when the wind is howling.

If I could only have just one slope plane, I'd probably want an F3F since F3F planes

cover the widest envelope of slope conditions. If I could have just one airplane to fly slope <u>and</u> flatland, I'd want a F3B plane.

Yes, I fly my TD planes on the slope. And I really like to perform initially trimming flights on the slope.

On a light air day I can adjust CG, aileron differential, flap-elevator compensation,

60-inch racers perform well, are fast, pack easily, tend to be tougher than their F3F cousins, and cost significantly less that an F3F plane. However, you do give up bigger plane benefits, like visibility and some ease of landing. The simple truth is that it is easier to see chord than span, so it isn't the decrease in span, it's the decrease in chord that makes planes less visible while flying. Smaller planes tend to be more subject to

wingerons the wings pivot around the joiner rod for roll control and rely upon an articulated elevator or stab for pitch control. There are typically no articulated surfaces on the wings. These planes were quite popular in the late 1980's and early 90's, and seem to be growing in popularity again. I had a modernized version of a Ken Stuhr Rotor with different airfoils, a precision machined pivot system, and high torque digital servos. The plane had a short life, but it flew great and I became hooked on these "twisty wing planes" they are fast, aerobatic, fast, easy to build, fast, simple, and did I mention that they are fast?

Lead sleds are another unique class of slope planes that include legendary planes like the Higgins Rodent, which was a little 56 some odd inch span brick with a point snout that happens to have ailerons and an elevator. I have to admit that I love and hate my current lead sled, which is a Higgins Avenger fuse with a homebrew wing and T-tail. My little pig has a 49-inch span and weighs about 62 ounces. It is really tough and durable. I've flown it in 40 m.p.h. winds, and I didn't need to ballast it. When it gets so windy that others pack their stuff and head for the barn, you pull out your lead sled and tear it up. My plane retains lots of energy in the pump, rolls great, and is very stable during



aileron rudder mixing in a handful of flights and get the plane really close to "dialed in." To do the same off a winch would take me much longer and require a number of trips to the field. I also consider it much safer to launch a TD plane from the slope for trim flights than launching it from a winch. Also, if you enjoy easy going flying on light air days, a TD plane on the slope is a lot of lazy afternoon fun.

turbulence, they bounce around more in turbulent air, particularly during landing. All in all, 60-inch slope racers are in many ways at the top of the heap for planes less than 2-meter, and deliver great bang for the buck value.

Wingerons and pitcherons are a unique class of planes where the entire wing pivots around a joiner rod. The wings pivot around the joiner rod for both roll and pitch control for pitcherons, where for

Kelly Johnson's HP-18 on approach at Eagle Butte. Photo by Terry Coleman.

landing. But lead sleds don't grip the air like an F3F plane or a 60-inch racer.

When I think of scale sailplanes I think of the big "white wings" like the ubiquitous ASH 26 or *Duo-Discus*. These planes fly great on the slope. However, aerobatic scale sailplanes, e.g., *Fox*, *Swift* and *Lunak*, are showing up more and more on the slope. The flight performance and size seem to vary vastly and with cost, which can easily reach multiple thousands of dollars.

Power slope scale (PSS) planes vary widely in size and flying characteristics. PSS'ers range in performance from that of lead sleds to large scale planes. Most of the PSS planes I've seen are less than 60-in span military scale models with flight characteristics similar to lead sleds. There is something that I really like about PSS'ers, they are fun to fly and they look really cool in the air. One thing that I did learn with a little Me 109 PSS'er is that camouflage paint jobs really work – this little camo-PSS'er seemed to just disappear when I'd get it away from the hill and against the farming and desert backdrop at Eagle Butte.

I don't typically fly EPP foamies like the *Zagi*s and other foamies. I have mixed views on foamies and admit that I have a less than favorable bias. On one hand, they allow easy entry into slope flying and help

new guys get more flight time than repair time during their learning curve.

Personally, I tend to view them as having mediocre flight performance at best and to tend toward a less than attractive "tapeball" appearance after some use.

However, there are guys who are building nice looking PSS foamies that are

for wingeron/pitcherons or anything else. Scale planes are big, beautiful and relaxing to fly. PSS'ers look cool. The best value rides are 60-inch slope racers.

I've yet to see a foamie that gets the adrenaline pumping, and while they do fly well, TD/F3B/F3F/F3J planes don't



purported to fly well. I think that is great, but I'm not ready to give up my vacuum bagged carbon fiber wings yet...

Being a slope flyer that thrives on the excitement and adventure of extreme speed and aerobatics, I'm an admitted SLOPE ADRENALINE JUNKY and you should filter my conclusions accordingly.

The hottest slope rides I've encountered thus far are the wingeron/pitcherons. Lead sleds are what you fly when it too windy

usually budge the adrenaline needle off the bottom of the scale, either.

What do you think? You think there is a foamie that produces an adrenaline release, or is there some other type of plane that merits consideration? If so, I'd like to hear about it...

<sleddriver@monkeytumble.com>

Rotor over Eagle Butte, piloted by Kelly Johnson. Photo by Jay Decker.

2005 EUROPEAN F3J CHAMPIONSHIPS, CROATIA

PROSPECTS

Gossip column produced by Uncle Sydney Sydney Lenssen, <sydney.lenssen@virgin.net>

Dateline: 5 July 2005

Two weeks from now, the cream of Europe's F3J flyers will gather in Osijek, Croatia, for the fifth European championships. The prospect is that yet another closely fought contest will see scores rising even higher than previous World and European contests. Fly-off scores will almost certainly be divided by split seconds. National teams

will need all three senior or junior pilots to excel.

But who is going to win? Which team will dominate? The time has come to get the crystal ball - and a few guesses - into play.

First a taste of Osijek, and for those like me who don't know, I am advised that you should pronounce it "Aussie-yeck". A river port on the Drava in the east of Croatia and with a population of 100,000, it is a regional centre. It has zoological gardens if any flyers become bored. One of my neighbours who fled as a refugee after the second world war remembers Osijek as the place to go for school books or if your family wanted to buy clothes or anything special.

Average temperatures during July are 28 degrees C with a

minimum of 15. The month usually has ten days rain, totalling 60 mm of water, typically in the early evening as showers. They told us something similar in 1999 at Deva in Romania, but the F3J Eurochamps there sparked some of the wildest electrical storms. It will be hot. There will be thermals, but I bet they will be elusive at times.

The prospects gossip usually lists countries in alphabetical order, but this year we shall follow the order of when each country paid their entry fees, always a vital comfort for those charged to organise by FAI. One slight snag is that I cannot name or find out who is flying from the host country. What I do know is that I got my first 2005 Eurochamps leaflet two years beforehand in Bled and the Croatians were confident that they would host the best contest to date.

First team in was Belgium, with renewed determination this year to regain its reputation as one of the F3J originators. Led by team manager Gunther Cuypers, they have three seniors, Rene Brosens, Guy Hufkens and David Claeys. Bram Druyts is their sole junior.

The Belgians went down in force to Arbois in France for the Eurotour in June, and excelled getting three into the fly-off with Tom Mertens placing second. But none of the three are due to be in Osijek. David Claeys came in at 28th.

They will need luck but should not be underestimated.

Everyone will be pleased to see a full Polish team of seniors and juniors for they do not always make the championships. Seniors Mieczyslaw Slowik, Aleksander Laskowski and Krzysztof Stasiak have all competed at top level including Corfu's WCs, and three juniors are Wojciech Byrski, Jakub Jankowiak and Michal Obiala. Poland has a big glider tradition, but so far modellers have failed to reach the eminence of full size compatriots.

Hungary has one of the easier journeys to Osijek this year and there's one new name among their seniors, Gyorgy Dobranszky. Andras Szeri and Endre Voros were in Holic in 2001. I am not sure as yet whether Hungary's Eurotour went ahead in early June because there were uncertainties. Their pilots will fly well but not to podium level I fear.

France always brings a "joie de vivre" to championships,

especially in the shape of wine bottles. We shall miss
Stephane Mazot and his cackling chuckles, and team manager will be Eric
Boudeville. In with a good chance this year and on my fly-off list is Yann Bocquet, at last a senior after several years of being the oldest looking junior pilot. Lionel Fournier and Bertrand Wilmot make up the team with flair.

Another experienced team will come from Israel, Roy Dor doubling as team manager and pilot, and Uri De-Swaan and Eldad Manheim. They must be looking for a peaceful week without the groundless scares we all had in Holic. It's a pity that distances mean we don't see much of this country's F3J pilots.

Finland places a heavy responsibility on the shoulders of Janne Savolainen because he is again a one pilot team, as in Red Deer, Canada. But he will get support from his valiant wife - no broken bones I hope this year - and his sister Jenni. She will travel from England with Neil Jones. The UK team

might even help with the odd tow!

Ukraine's entries leave me slightly puzzled. Team manager and senior pilot is Oleksiy Nadashkevych with two other pilots called "yes" and "yes" which presumably means others are coming. First junior is Yuri Gavrylko who flew well and had a ball last year in Red Deer. So I presume that we shall also see his father Volodymyr, producer of the Graphites and other super models which flood out of Ukraine and sell over the world, particularly into the US these days. "Vladimir" - my spelling - has not missed a world or Euro champs for six years and more. They are all fun and much part of the scene, but don't expect a podium place as yet.

Moving into the heavyweights, next are the Netherlands, hoping to clinch a winning spot which they have missed since 1997's first Eurochamps when Alex Hoekstra took the crown. But they always do well at Euro level and the country has

strength in numbers and pilots fight hard for their places.

This year Arnout Janssen team manager leads Egbert van der Laan, Karel van Baalen and Geert van Melick, together with juniors Lesley van der Laan and Max Janssen. Helpers include such old hands as Peter Zweers, Frank van Melick, Jos Kleuskens, two more van der Laans and Gerrit Zweers. Croatian beer is strong and the Dutch will make inroads. I shall be surprised if two do not make the fly-offs.

Next in line with paid-up fees are the Brits, led for the first time by Austin Guerrier who always flies well in Eurotour events. This time he manages - if that's possible - senior flyers Mike Raybone, Adrian Lee and Neil Jones flying in his first Eurochamps. Jonathan Wells will be there with his parents as the sole junior.

Each year I hesitate to bet on UK, so this year my fingers are crossed for two to reach the finals. It could be any two and they would all be pleased. When Neil flew in Lappeenranta, his first time at

WC level, he surprised us all with his cool head and eye for elusive lift. This year he's worked hard on three second launches and spot landings. But I hope he leaves these until the fly-offs. Adrian is UK's most experienced F3J champ and must be a favourite. And Mike can and has risen to the occasion many times, and this year he's crashed his favourite model already, so he doesn't need to see any more off in practice this time.

For many F3J fans and for the voters on the Eurochamp web-site, second shortest odds are for the Czechs, there in full force with three seniors and three juniors plus defending Eurochamp Jan Kohout. I fully expected Jan to stay climbing in the mountains, for that hobby has overtaken his passion for thermal flying. But he made a comeback in North Cyprus in March, and came second. So the crampons are not hindering his fingers yet.

A special welcome back to the big event for Michal Vagner who has had a couple of lean years and then came second at Podhorany last month. Jaroslav Tupec and Jan Vacha make up the seniors, and juniors are Jan Votoupal, Tomas Tuma (son of Jiri of Xantia fame and second Eurotour winner so many years ago) and Martin Grmela. Team manager is Jan Votoupal and helpers include Samba father and son Vostrel of Pike fame and a host of other established F3J heroes.

The Czechs will surely loom large with more than one place in both senior and juniors fly-offs. But I intend to buck the odds in my top place betting.

Romania is famous for running FAI championship events including the 1999 and 2003 F3J Eurochamps. It is pleasing that seniors and juniors will make the relatively short journey to Osijek, with Silviui Iordan acting as manager and pilot. He is joined by Gheorghe Iordan and Cristinel Serban as seniors, and Janos Gocsman, Andrei Nemes and Norbert Scarlat representing the juniors. Considering the standards of F3J flying in Deva six years ago - moulded models were unknown - the country

deserve high praise and good luck for this effort.

Slovakia is another country where F3J flying and model standards come close to perfection. They will host next year's world championships in Martin, which promises to be memorable because of the beauty of the town and region, and the taste of the wine and beer. To win any Slovak team place requires skills and dedication far beyond most of us. As teams, they are a force at championship levels.

Led by the redoubtable Jaro Muller, father and innovator supreme of the moulded glider, the senior team has Juraj Adamek, Jan Ivancik and Pavol Vasicek. Juniors are Tibor Duchovny, Jan Littva and Daniel Demecko. Juraj would seem to have most experience and travels widely on the Eurotour and I would be surprised if he is not joined in the fly-off by another Slovak.

Dominant in so many FAI competition categories and currently supreme in F3J is Germany. The number of pilots, both junior and senior,

who fly consistently well and often win at world, european and Eurotour levels speaks for itself. This year Germany's most successful F3J pilot is ex-junior world champ Tobias Lammlein, who topped the qualifying rounds at Red Deer. He has already won the German national championship, the French Eurotour at Arbois two weeks ago and he has all but clinched his place in the team for 2006 F3I WC in Martin. But he did not merit a pilot place for this event.

Manager Thomas Rossner, taking time off from the Turks, heads a senior team of Philip Kolb (last year's Eurotour winner by a four point margin), Dieter Rybold, second in Istanbul and third at Podhorany, and Sebastian Feigl who flies mean and often wins. Gemany gets a fourth pilot, Thomas Fischer, now a senior pilot and in Croatia as current world junior champion.

In fact, Osijek promises to be another "Feigl-fest" because Benedict Feigl heads the junior team, having come third in last year's Eurotour, and Papa Peter Feigl is one of the helpers.
Turkey fans will remember that last October all three
Feigls made the fly-offs in
Istanbul, which is a bit over the top when it comes to two-man tows!

Second junior is Tobias
Sollfrank, a newcomer to
champs, and third is Oliver
Ladach. The juniors will be
managed and coached by
Reinhard Vallant, the world's
first junior champion and still a
winner more often than not.
He's a cracker! (Gossip always
find a word for Reinhard which
sends him hunting for a
dictionary to decide whether
it's rude or not.)

Team Germany as ever has been practising hard. In April they were wakened at 04.00 hours and launching in cold winds at 06.00 hours two days running, measuring launch heights and practising broken line relights. You need to believe that they are not invincible, and one or two flyers and perhaps even one team will knock them off the top spots.

Blue T-shirts will mark the Italian team, as well as noisy fun and fancy cooking on the site. This year they have had outstanding success in Osijek in May gaining three fly-off places. Can that can be repeated in July is a bigger question, but I wish manager Guiseppe Generale and his experienced flight team of Marco Salvigni, Massimo Verardi and Claudio Zavagno good luck and last second landings.

Junior team has the cheerful but quiet Marco Generali, Thomas Truffo and Filippo Gallizia. Rover Mersecchi, such a key figure in Forli Eurotour events, heads a dedicated team of helpers. It is time for Italy to produce a podium place, so here's hoping!

Dark horses for the champs are Lithuania, sending for the first time three seniors, Valdas Braziunas, Ricardas Siumbrys and Gintaras Kuckailis. My recollection is that this country has produced some fine moulded models and if these skills progress into flying expertise, then the three newcomers might give us all a shock. Let's see and in the meantime wish them luck and a happy championship.

Team Turkey is still riding high after last year's triumphant second team place in Canada, and the big question is: can they keep their nerve and go for those distant patches of lift. But in Croatia, it could be more difficult. The slow lift which barely keeps you level is likely in many slots, and it needs patience, not the quick dash away to find something stronger.

But be sure, the Turkey spirit and determination led by Serdar Cumbus, with pilots Mustafa Koc, Murat Esibatir and Ilgaz Kalacioglu, and pampered by Semin Kiziltoprak, will be there in full force and plenty of ice in their glasses. They could show us that Red Deer was no flash in the pan, but I don't expect a podium team place this time. I do hope for a good fly-off place.

At the time of writing, Slovenia have yet to pay entry fees and I have to assume that

they will raid the piggy banks in time. Their senior team of Primoz Prhavc, Primoz Rizner and Nejc Bozic are well known on the Eurotour circuit and gain high places for a country with not so many F3J pilots.

They also have three juniors, Rok Bozic, Jan Hlastec and Tomaz Kranjc. Another Bozic -Roman is a helper and Paavelk Prhavc is team manager. Slovenia runs Eurotour's last event in September each year at Bled, on the most idyllic aerodrome set against a backdrop of mighty Alpine peaks, with full size gliders and sport planes taking off and landing before, during and after contest slots. As next door neighbours, they have the best chance ever of Eurochamp success this year.

Last to register - just a month ago - was Bulgaria, led by Nikolay Nikolov, boss of Nan Models, a little known but big force in glider models. His team of Emil Dragomirov, Konstantin Ranov and Sotir Lazarkov have been competing hard this year. I think this is a first FAI F3J champs for Bulgaria and they deserve a special welcome.

We have seen the team this year in North Cyprus and in Istanbul. Let nobody underestimate the models these guys are flying. Unknown to many of us, Nikolay Nikolov has built up a substantial manufacturing plant, selling gliders all over the world, more than rivalling big concerns in China, Taiwan and Vietnam. In UK, best known are the Highlight series of lightweight gliders and electric soarers, including the dlg Highlight.

Nan makes models for other designers too. I understand that Graupner's next F3J model will be fully moulded and produced "anonymously" by Nikolay. Bulgaria is well on the way to displacing the Czechs as Europe's biggest suppliers. They are based near the Black Sea coast and will have a long drive across to Croatia. 2005 is not likely to be a prize winning year, but could be the start of something special for the future.

Last team which could appear are the Russians. I got all excited last year to hear that they would fly in Canada, but in the end they didn't show. Will it be different in Osijek? If it is, then we'll see team manager Michail Bubnov leading both senior and junior teams. I got told off last year because I'd written that the Russian names meant nothing to me, but Espen Torp wrote to say he recognised several from their F3B exploits.

Which reminds me, I suspect that we won't see anyone from Norway, and web-diarist Jo Grini tells me that he will be in the United States flying in their Nationals and touring various flying sites. We shall miss you Jojo, your banter and your pictures from Osijek!

This gossip column won't go down well unless I make a few guesses. I am not going to name the favourites, even if they look to everyone else like winners. That would be too easy. I am sure that Osijek will produce a few surprises.

The Germans have been practising too hard, and

although form has them as senior team winners, I place them second or third. Top team is likely to be the Czechs with Holland making the third place. Top senior pilot this year in my book is Primoz Rizner flying his own design which is moulded for him by Nan Models in Bulgaria. It's a blatant crib. across between a Pike and a Sharon, and in his fingers it can cope with minimum lift in both rough and calm. He had a test fly in Osijek in May and won the cup by less than half a point.

I travel to Osijek towards the end of next week with my compact disc cut down the middle, ready to measure the nose radii at registration. An exciting week lies ahead with a mixture of hot sunny weather and the odd storm, hopefully after the flying has stopped. Twenty countries will test themselves and I wish them all good luck!

With more luck, I'll have gossip to report after the event.

Uncle Sydney

Miscellaneous

Davenport ISR 2005 Videos Available from Mike Seto

These videos are a sample of some of the action we witnessed on May 21st and 22nd, 2005. I captured about 60 races over the two day event and tried to provide a taste of the excitement from the races and give the viewers a taste of "Man on Man Slope Racing."

The race videos are edited to show who is racing, who won the race, and the winner's time. I unfortunately also caught about eight "Carnage Clips" that are some of the most spectacular head-ons I've seen so far. Most of this was caused by the 30+ knot winds, a fast field of pilots, and unpredictable rotors.

Each of these DVDs has been tested and should work on any current DVD player or computer.

This two disk DVD video is available for \$25 including shipping within the US only. Orders outside the US will have an additional shipping fee.

If you are interested in these videos, please e-mail me at <michael.seto@sun.com> and I will e-mail you directions on how to obtain a copy.

Mike Seto, NCSS Vice President / Event Coordinator

Errata

Jim Porter's beautiful red and white sailplane which appeared at the JR Aerotow was misidentified in Mark Nankivil's article in the July issue. page 9. The depicted aircraft is actually a Polish *Orlik II* which spans 4.5 meters.

As we "go to press..."

Jo Grini posted the following message to the *RC Soaring Exchange*:

"WOW just got from Jaroslav Vostrel (Samba)

"Flyoff EC F3J 2005

"1: Philip Kolb (superior x)

"2: Jan Kohout (superior x /pike plus)

"3: Jaroslav Tupec (superior X)

"I am sadly (well having super time) in USA at Nats later today

"Links and stuff at http://www.f3x.no

"Hilsen (Regards) Jojo

http://www.grini.no"

Back cover: Grant Miller flying a Liftworx.com Seeker built by Gregory Luck. Location is the Kona coast of the Big Island of Hawaii. Photo by Gregory Luck, www.lavawing.com. Digital image captured using a Canon PowerShot G3, 1/640 sec at f 4.0, 15.8 mm.

