



Northern California  
Aerobatic Club  
CHAPTER 38

# THE ACRONAUT

Volume 9 - Number 8

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*Margo Chase's Ekstra 300 (Paso 2008)*  
*Photo: Courtesy Kate Debaun (www.kwdphotography.com)*

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## Prez' Post

Darren Pleasance

It's AWAC time...

As I'm writing this, the 2008 AWAC in Pendleton Oregon has just started. The amount of work that goes into hosting one of these events is enormous so I wish Lorrie and the rest of the organizing group the best with this important event. I've also just seen an email come across my blackberry that says that the U.S. has a nice lead in the pack coming out of the Known, with our own Norm DeWitt and Todd Whitmer sitting in the #3 and #6 spot respectively. Way to go guys, and good luck over the next few days!

A little closer to home, we had our own extravaganza with our Post-Paso-Party a few weeks ago. We had a nice turnout of about 15 people and were treated to terrific weather and a few new faces. We were able to toast another successful Paso Robles contest, and give special recognition to a few particularly key people including Tom Myers who did an outstanding job as CD a second year in a row. The Watson Clan (Dave, Lori, and Ryan) who played many roles over the three days, and Howard and Corey who invested a lot of time in making sure we had great sponsors for this year's contest. Kudos and many thanks to all of you, and the many others who volunteered time to help make our contest such a success this year.

Looking forward, we have several fun events this month that I hope you can join us for:

1) Watson Pool Party: Sunday, August 10th, 3:00 p.m.. In lieu of our normal Chapter meeting, Dave and Lori have opened up their house and pool for a fun social gathering this Sunday. We had a great time at a similar event last year, and kids are very welcome so bring the whole family. Their address is: **2191 Nola Dr., San Jose, CA 95125**. Please let Dave or me know if you'll be able to attend so we can plan food and drinks appropriately.

2) Adventure in Space: A can't-miss event on Sunday, August 24th at 4:00 p.m., We'll have the unique opportunity to hear Virgin Galactic's lead "Space Agent" talk about their plans for building a space tourism business and what it will take to be a part of it. Virgin Galactic is about a year away from its first space flights so this should be a great chance to learn about the emergence of a whole new, exciting industry. The event will be held at Attitude Aviation in Livermore.

3) Critique Sessions: Delano is coming up at the end of August. Cory will be taking the lead on coordinating a few practice sessions, including a Saturday and Sunday session on August 23,24 so you can top off your skills right before Delano. If you plan it right, you can attend the critique sessions on both days, and then head straight for Livermore on Sunday

after the critique session to hear about taking a Space Adventure.

As for me, on the personal front, Lisa and I finally closed on our house in Sunriver, Oregon and would like to invite all of you to come visit. Our house is on the airport (S21) with an attached hanger, and tons of fun things to do within minutes of our place (fishing, rafting, biking, skiing, ...). We're going to move there for the next year to give our kids a new experience and experience the dream of living at an airport. As such, we'll be there all the time and would be thrilled to have any of you stop by to visit. I'll still be in the Bay Area every week for work and every month for our Chapter meetings, so I won't be far from our community of aerobatic enthusiasts.

In the mean time, I hope to see you all this weekend at the Watson's pool party, and then two weeks later at our Critique days and the Virgin Galactic event.

*Blue Skies - Darren*

## Space Tourism Prepares for Takeoff



With the recent factory rollout of its first craft, Virgin Galactic is well on its way to creating the world's first spaceline. Building upon the X Prize-winning design of Burt Rutan's SpaceShipOne, and with the vision and clout of Sir Richard Branson, Virgin Galactic expects to begin taking passengers to space in early 2010---less than two years from now. Over 250 confirmed passengers are waiting for departure, and at a flight cost less than 1% of the only currently available option. Virgin Galactic Accredited Space Agent Scott Borden and Space Travel Specialist Joan Lovell, fresh from a visit to WhiteKnightTwo in the Scaled Composites hangar at Mojave airport, will bring us up to date on Virgin Galactic's progress, tell us more about the dawning age of space tourism, and take us on a DVD ride aboard SpaceShipTwo. They will also brief us on the Zero G flights currently offered at SJC and other airports nationwide, and the new NASTAR spaceflight simulator just outside PHL. Join us for a fun and informative afternoon as space travel for the rest of us becomes a reality.

## New Member - Blake Coleman



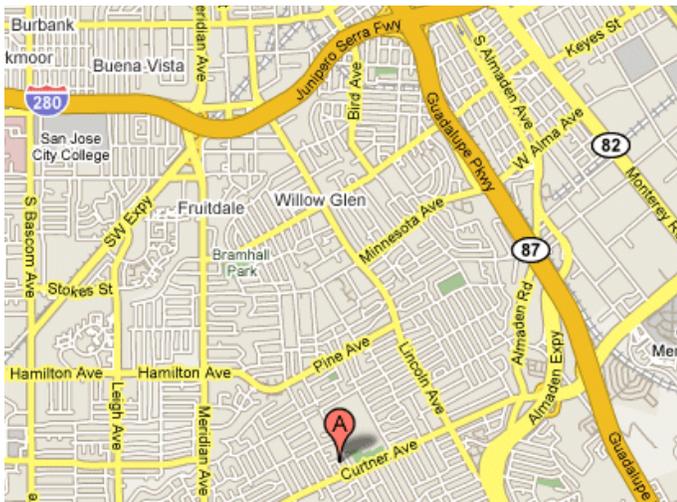
I'm an Oakland native, and recently returned to the bay area from Virginia, where I flew F-14's for the Navy for a few years. Since returning I've relearned that I need to flare prior to landing, and have satisfied my g-urge by doing some flying in WVFC's Extra. I'm currently earning a living as a corporate pilot, and intend to start flying a few days a month as an adversary with the Navy Reserve.

I'm looking forward to meeting all the IAC38er's and getting in some hangar talk.

## Post Post Paso Party @ the Watsons

Sunday, August 10th, 2008, 3pm  
2191 Nola Dr.  
San Jose, CA 95125

Bring kids and bathing suits!



## Exploder News - July 2008

*Peter Jensen*

The Acro Exploder, maintained by Guenther Eichhorn, is an e-mail list for exchange of acro related information. A lot of useful information is exchanged. The entries can be read via this web-site:

[http://acro.aerobaticsweb.org/iac\\_email\\_archive.html](http://acro.aerobaticsweb.org/iac_email_archive.html)

If you wish to post, you'll need to sign up. Everybody have read access via the above link though.

Here's some of the more interesting topics from July 2008:

- 2008 Green Mountain Aerobatic Contest Results!
- Acro Aircraft Available
- ADAMS APPLE ( N4114)
- AEIO- Versus IO- with Inverted System
- Airplane sought/for sale/trade?
- Aviat-Pitts Flop Tube Service Bulletin
- AWAC2008
- Box Markers
- Brake reservoir
- CURTIS PITTS PICTURE
- Dust Devil scorer
- EGT & CHT Io-360
- European Championships 1st Unknown
- Five great things about the KJC
- Giles Smoke setup
- Glove
- Good Article on Sergei's camps
- Green Mountain Aerobatic Contest
- Hammerfest Contest
- Hangar space in Chicagoland area?
- IAC Chapt 25 Website
- IO-360
- Lipstick cams
- Lonely airshow pilots
- Nationals Registration is Open
- Oil fittings
- Okie Dust Devil
- Pitts Annual
- Plexiglas inspection covers
- pressure carb
- Prop choices
- Prop choices - WW 400C hub with 200RV blades on a pumped up AEIO360 motor
- prop comparison - published in SA
- Prop options for Christen Eagle
- PSSC
- Stereo Helmet Setup
- Yes, Ozark Pitts Fly-In October 3-4-5, 2008

## Slow Roll

Contributing Editor: Jim Batterman (IAC #2608)

*Editors Note: This is a reprint of an article that appeared in the December 1987 issue of SportsAerobatics...*

The slow roll is defined as a precision figure with a constant rate of roll while maintaining heading and altitude. This roll is probably one of the more frustrating figures for the novice aerobatic pilot to learn to do well. It is important to learn and fly it well with accuracy because it not only stands alone in competition but portions of the slow roll appear in many other figures such as the Immelmann and Cuban eight.

In this article we will attempt to explain not only proper control inputs to accomplish the slow roll but we'll also talk about the common slow roll errors and their cause and correction. Our aircraft for this discussion will be a Bellanca Decathlon and all comments will relate to performance of the slow roll in that aircraft.

The ailerons are the dominating control during this figure while the elevator and rudder will be used as trim controls to maintain heading and altitude. Our roll will be to the left and entry speed will be 120 MPH along a level line. A slight pitch up of about five degrees will be needed prior to rolling to avoid a loss of altitude on entry.

Aileron is applied to the left for rolling and we use left rudder to overcome the effects of adverse aileron yaw and maintain the heading. As the airplane rolls about 40° it will want to start turning left; so we need to switch feet and use the right rudder to counter the turn. At about 70° of roll, more pressure with the right foot will be needed to help keep the nose from falling. At 90° of roll or the first knife edge position, forward elevator will be needed to hold heading while continuing to maintain right rudder pressure. A common error by many when applying the forward pressure at the knife edge is to relax aileron pressure which will decrease the roll rate.

As the airplane continues to roll toward inverted, the right rudder is maintained and forward pressure is increased to hold altitude. When reaching inverted the stick will be to the left and will have reached the most forward elevator position during the roll. You will still be maintaining rudder pressure on the right pedal. As the aircraft passes inverted by 20°, pressure is again applied to the left pedal. A common error at this point is to also relax forward pressure on the stick, causing the nose to drop.

As we reach the 270° point of the roll or the second knife edge, back pressure on the stick must be applied to maintain heading. Once past the 270° point in the roll, pressure on the left pedal and back pressure on the stick are gradually increased to maintain heading and altitude while continuing to hold full left aileron to maintain the rate of roll. At 360° of roll, controls will be centered and a level line will be flown completing the figure.

We have now explained the basic control inputs to fly the slow roll. Now let's look at the cause of some common errors in the slow roll and where they occur.

Error (1) - Rate of roll not constant - The most common error here is to relax aileron pressure when forward pressure on the stick is applied 90° to 180° of roll, knife edge to inverted, and 270° to 360° of roll, second knife edge to upright.

Error (2) - Altitude higher at completion than entry - This is not a common problem but it is caused by raising the nose too high at entry, excessive right rudder pressure 70° to 90° into roll, and excessive forward pressure at the inverted position.

Error (3) - Altitude lower on completion than entry - This is a very common problem caused by a good number of errors: first, not raising nose prior to roll entry; second, excessive left rudder pressure on entry; third, not changing to right rudder at the 40° position in the roll and not increasing that rudder pressure from 70° to 90° of roll; fourth, not applying forward pressure on stick at knife edge and increasing forward pressure to inverted; fifth, maintaining right rudder pressure beyond the 20° past inverted position; sixth, when left rudder is correctly applied at the 20° past inverted position a common mistake is to simultaneously apply back pressure on the stick (Back pressure should not occur until 270° of roll); seventh and last, not increasing left rudder pressure and back pressure at a constant rate from the 270° to the completion of the roll.

Error (4) - Off heading to the right at completion of roll - This is caused by literally starting off on the wrong foot. The roll entry requires left rudder then right. Some people will lead with the right foot. A second cause is adding right rudder at the correct time but to an excessive degree; third cause, adding forward pressure on the stick too soon in the roll. This normally happens when changing from left rudder to the right foot. Forward pressure on the stick should occur at 90° of roll. A fourth cause is using excessive forward pressure at 90° of roll and also relaxing aileron pressure which slows the rate of roll and allows heading to change.

A fifth cause is not maintaining right rudder pressure through the inverted position. A sixth cause is application of left rudder at proper position at 20° past inverted but to an excessive degree. A seventh cause is application of back pressure on the stick too soon (that should happen at 270° of roll), also excessive back pressure at the correct point, as well as relaxing aileron pressure. Slowing roll rate will cause loss of heading to the right. A final cause is not increasing left rudder pressure while completing the last 45° of roll.

Error (5) - Off heading to the left at completion of roll - This is caused by early or excessive application of left rudder at entry; second cause, not using the right rudder at the 40° point in the roll; third, not adding forward pressure on the stick at 90° of roll or increasing the forward pressure as aircraft approaches inverted; fourth, continuing forward pressure past the inverted position; fifth, not changing to the left foot at 20° past inverted; sixth, not adding back pressure on the stick at 270° of roll; and finally, excessive left rudder during the last 45° of roll will cause heading to be off to left on completing.

Error (6) - Barrelling the slow roll - This is caused by all of the above or by proper timing and sequence of control inputs but using excessive amounts of rudder and elevator to a proportionate degree throughout the roll.

As you can see there are a lot of possible errors and combinations of errors that occur while practicing the slow roll. That's what makes it a tough figure for an instructor to teach and the student to learn. Each attempt usually turns up a new problem to work on.

## Post Paso Party - Pictures

Peter Jensen



Dan Hansen with his S2-B



Howard wants to pump you up



Tom & Rimas

## Contest Results

Peter Jensen

### 2008 Beaver State Regional June 19-20, 2008

Pendleton Airport, OR

Contest Directors: Robert Harris & Robert Toppel

#### Primary

Rank/Pilot	Ch	Known	Free	Unknown	Total	% PP.
1 Todd Whitmer		533.00	541.60	515.80	1,590.40	84.15%
2 Steven Litsky	67	499.00	282.10	353.40	1,134.50	60.03%

#### Sportsman

Rank/Pilot	Ch	Known	Free	Unknown	Total	% PP.
1 Mike Eggen	38	1,155.90	1,167.00	1,162.70	3,485.60	84.19%
2 Steve Packer	77	1,106.20	1,162.60	1,101.30	3,370.10	81.40%
3 Barbara Higbee	67	1,080.50	1,136.40	1,147.40	3,364.30	81.26%
4 Noel Jones	77	1,093.70	1,119.20	1,131.30	3,344.20	80.78%
5 Dan Francioni	20	1,080.20	1,103.60	1,115.50	3,299.30	79.69%
6 Steven Ellison	77	1,040.60	1,127.00	1,130.00	3,297.60	79.65%
7 Daniel Hansen	38	1,123.60	1,076.50	1,071.00	3,271.10	79.01%
8 Neil Shepherd	77	1,068.90	1,063.70	1,088.50	3,221.10	77.80%
9 David Naylor	77	1,035.40	1,053.90	1,052.80	3,142.10	75.90%
10 Terry Middaugh	67	891.50	800.30	860.30	2,552.10	61.64%
11 Craig Christopher	67	0.00	0.00	1,096.70	1,096.70	26.49%

#### Intermediate

Rank/Pilot	Ch	Known	Free	Unknown	Total	% PP.
1 Thomas Francioni	38	1,694.20	1,689.70	1,504.80	4,888.70	84.29%
2 Corri Middaugh	67	1,583.60	1,533.10	1,361.70	4,478.40	77.21%
3 Jerry Riedinger	67	1,391.30	1,576.30	1,320.70	4,288.30	73.94%
4 Mark Loewen	77	1,518.50	1,460.20	1,194.00	4,172.70	71.94%
5 Bryan Gore	77	941.00	1,560.40	1,026.80	3,528.20	60.83%
6 Donn Richardson	8	1,569.70	1,283.10	536.00	3,388.80	58.43%
7 Jeff Hirschauer	67	1,519.20	1,434.90	344.40	3,298.50	56.87%

#### Advanced

Rank/Pilot	Ch	Known	Free	Unknown	Total	% PP.
1 Guido Lepore	8	2,065.30	2,680.00	2,048.00	6,793.30	79.45%
2 Norbert Werle		2,014.60	2,482.20	1,774.60	6,271.40	73.35%
3 David Engh	67	1,976.40	2,594.50	1,699.00	6,269.90	73.33%
4 Dave Barbet	77	1,851.40	2,511.20	1,828.10	6,190.70	72.41%
5 Howard Kirker	38	1,959.20	2,451.90	1,622.00	6,033.10	70.56%
6 Douglas Sowder	67	1,991.80	2,302.80	1,617.70	5,912.30	69.15%

#### Unlimited

Rank/Pilot	Ch	Known	Free	Unknown	Total	% PP.
1 Vicki Cruse	49	2,932.60	3,689.20	3,122.40	9,744.20	80.00%
2 Norman DeWitt	38	2,843.80	3,776.00	2,794.10	9,413.90	77.29%
3 Todd Whitmer		2,757.40	3,605.00	3,036.10	9,398.50	77.16%
4 Gregory Howard	77	2,864.80	3,344.80	2,337.70	8,547.30	70.17%

## IAC Chapter 38 Membership Application/Renewal Form

Name: \_\_\_\_\_ Spouse: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Home Phone: \_\_\_\_\_ Work Phone: \_\_\_\_\_  
 E-mail 1: \_\_\_\_\_ E-mail 2: \_\_\_\_\_  
 IAC #: \_\_\_\_\_ EAA #: \_\_\_\_\_  
 Certificate #: \_\_\_\_\_ EAA Expiration Date: \_\_\_\_\_  
 Judge:  Regional  National  
 Competition:  None  Basic  Sportsman  Intermediate  Advanced  Unlimited  
 Aircraft: \_\_\_\_\_ N #: \_\_\_\_\_  
 Referred By: \_\_\_\_\_  
 Dues:  Single Membership (\$25/year)  Family Membership (\$30/year)

Send with check, made payable to "International Aerobatic Club Chapter 38", to:  
**Howard Kirker, IAC38 Treasurer - 2279 Ocaso Camino - Fremont, CA 94539**



Peter Jensen  
 Editor, IAC 38



**Chapter Meeting:**  
**Sunday August 10th, 2008, 3pm**  
**Lorrie and Dave Watson's House**  
**2191 Nola Dr.**  
**San Jose, CA 95125**



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