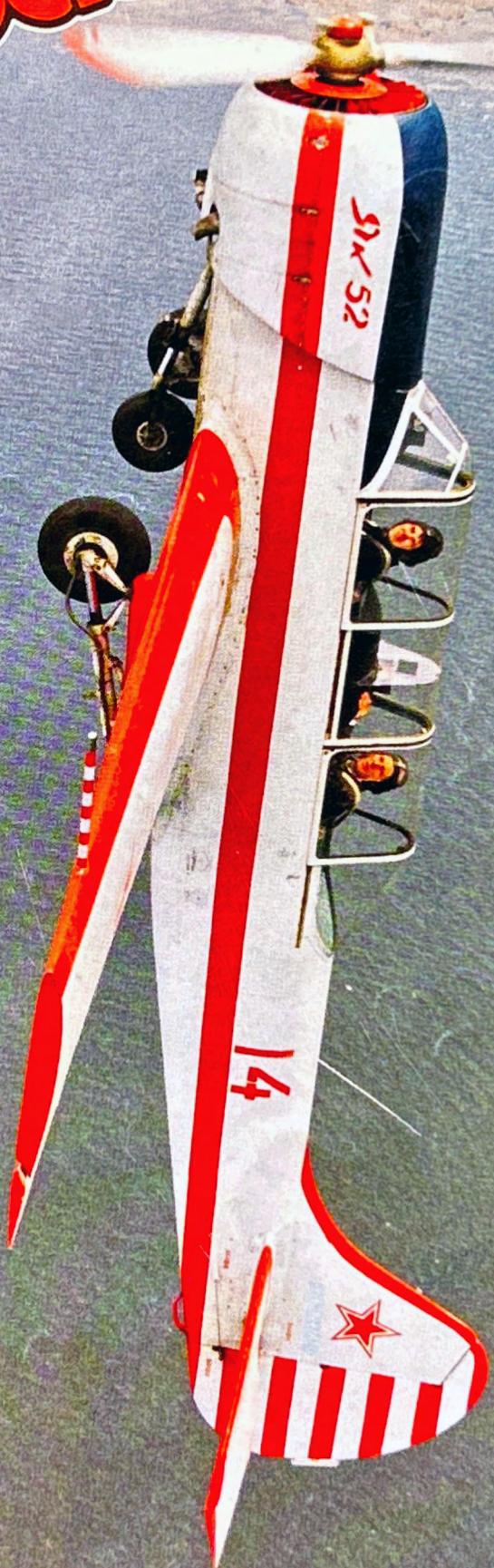


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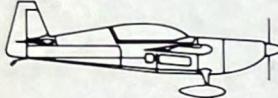
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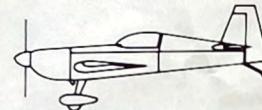
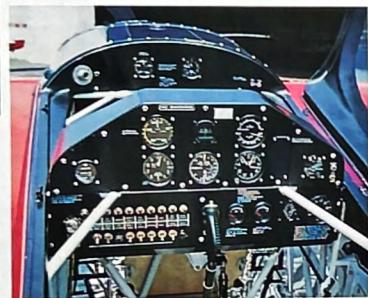
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SPORT AEROBATICS (USPS 953-560) is owned by the International Aerobatic Club, Inc., and is published monthly at EAA Aviation Center, 3000 Poberzny Rd., Oshkosh, Wisconsin 54903-3086. Second Class Postage is paid at Oshkosh Post Office, Oshkosh, Wisconsin 54901 and other post offices. Membership rate for the International Aerobatic Club, Inc., is \$30.00 per 12-month period of which \$18.00 is for the subscription to SPORT AEROBATICS.

Manuscripts submitted for publication become the property of the International Aerobatic Club, Inc. Photographs will be returned upon the request of the author. Black and white glosses are requested to assure the best quality reproduction. Postmaster: Send address changes to SPORT AEROBATICS, P.O. Box 3086, Oshkosh, WI 54901-3086.

# Sport Aerobatics

VOLUME 22 - NUMBER 5

MAY 1993

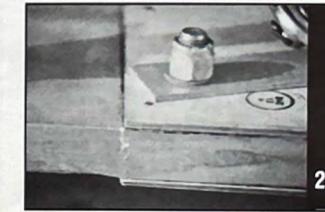
OFFICIAL PUBLICATION OF THE INTERNATIONAL AEROBATIC CLUB, INC.,  
A DIVISION OF THE EXPERIMENTAL AIRCRAFT ASSOCIATION

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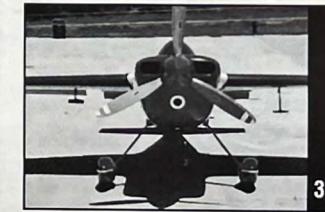
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## ON THE COVER:

The YAK-52 in formation aerobatics. This aircraft is widely used in Russia for aerobatic and formation training. IAC member Freddy Stenbom of Stockholm, Sweden writes of his experiences in training in Russia in this issue of SPORT AEROBATICS. The Russians have opened their schools to anyone who wishes to obtain this high quality training. (Photo courtesy of Freddy Stenbom)

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# President's Page

## "Book Report"



by Steve Morris

In my personal library I have hundreds of aviation books - novels, non-fiction, educational, and training books regarding all facets of the field. But, without a doubt, the different books pertaining to the art of aerobatic flying are my favorites! I'm sure most members of the aerobatic community have a well-stocked library of literature pertaining to the art of aerobatic flying. I have most all of Duane Cole's books including "Roll Around a Point", "Conquest of Lines and Symmetry", "To a Pilot" and "Happy Flying Safely".

When I think of "Conquest", a story always comes to mind told by the late Jim Lacey - whether true or not I cannot tell - about how he and another aspiring aerobat were taking turns flying a clipped wing Cub with one pilot reading aloud how to do the maneuver from that well-written instruction manual while the other flew. The IAC does not endorse this learning technique today but does recommend getting your hands on as many of these fine books as you can!

I also have Bill Kershner's "Basic Aerobatic Manual" and "Flight Instructor's Manual" - two excellent resources - and Bill Thomas' "Fly for Fun". And, since I am a proud Pitts owner, a "must have" as soon as I saw it was "Pitts Specials" by Budd Davison. "Aerobatics Today" by Bob O'Dell, "Flight Unlimited" by the late Eric Muller, "Aerobatics" by the late Neil Williams, "Stalls, Spins, and Safety" by Sammy Mason, "Surviving Spins" by Fred DeLacerda, "Above and Beyond: Eight Great American Champions" by Lt. Col. Mel R. Jones, and "Primary Aerobatic Flight Training, with Military Techniques" by Lt. Col. Art Medore, USAFR (Ret.) are also among the treasures on my shelves.

Digging through my library recently, I even found one of the original "Bellanca Aerobatics Manuals". That really brings back the memories, as I owned N361AC for 7 years, flying competition and teaching aerobatics in that aircraft. All of these wonderful pieces of literature have been great reference documents for my education and a kind remembrance of our past history. Some of them are especially valuable to me because of having met and established a friendship with the authors. One thing is for sure. I never get tired of thumbing through these books and enjoying the writing techniques of each of these individuals.

This brings me to a relatively new book on the market that really grabbed my attention emotionally. It is a book about aerobatics and yet, it wasn't like all of the other books I have mentioned. The book's title is "One Zero Charlie", written by Laurence Gonzales. What is so special about "One Zero Charlie" is the story takes place at Galt Airport in Wonder Lake, Illinois. The FAA designation for the field is "10C". It's written mostly in the first person, but one could easily put yourself in Laurence's shoes and recall your own heart-pounding experiences in aviation, not just aerobatics. Laurence, for instance, brought back memories of Amos Buettell as Amos had a business in Woodstock just south of Galt airport and had a hanger at Galt. Three of out very dear friends are also mentioned in the writing by virtue of the fact that two are based at Galt Airport and one is a famous aerobatic instructor from Kansas City. Laurence

does shed some light on this particular instructor's success in the teaching process. I'll let you get the book and figure out who these individuals are! I believe that more than anything, the book "One Zero Charlie" brings out the fact that we are all brought together by airplanes at the airport. This fact shapes our lives, our destiny and our character.

It's true that there are a lot more "characters" in aviation than any other industry. I know that at Big Foot Airport, where I keep the Pitts S-1D and a Globe Swift, the same type of story has and is taking place. Would you believe that the major players in its history are aerobatic enthusiasts? One of our Directors, Bob Davis, is the major character and Jim Trosky, across the grass from me, who owns a J-3 Cub and often longs for a Pitts, adds another spark to the light at our airport. And, of course, the pilots from 10C are always landing at our grass strip to find out what exciting things are going on at Big Foot Airport and Big Foot "Skunk Works".

In the book "One Zero Charlie", Laurence talks about the guru of Galt repeatedly giving "The Lecture" to his friends before going out to fly aerobatics. It is something that has been stressed in IAC from our beginnings in 1970 and has remained a central focus these last 23 years. It is the fact that one stupid or thoughtless act can ruin everything - not only for the individual pilot, but also for the rest of us and the entire sport. He makes mention of an illusive essence within each of us that rears its ugly head and attempts to lure us into that unplanned, casual hammerhead or roll on take-off that has frequently ended in disaster and claimed the liver of many of our friends. Please don't deny the fact that you are conscious of this element within us or that it doesn't exist. It is a very real part of our human nature that must constantly be brought into control by our will in order to avoid the loss of others of our dear friends. I'm certain that you will want a copy of "One Zero Charlie", published by Simon and Schuster, and enjoy it as thoroughly as I have.

Speaking of our friends, we have received word from members of Chapter 24 in Dallas that John McGuire of Burleson, Texas was severely injured when his highly-modified Pitts crashed while he was practicing. John was listed in fair condition at Harris Hospital in Ft. Worth as this is being written and has come a long way already to a full recovery. A good friend of many IAC'ers, he has been a steady competitor in Unlimited at Nationals for many years.

Again, folks, I want to stress caution and safety as this contest season gets into full swing. For most of us, it has been a long, cold winter. Let's be extra attentive in checking out our trusty mounts and not overlook anything, however minor it may seem. In his "Tech Safety" column this month, Larry Runge has provided an excellent Pre-Aerobatic Flight Check List. I would echo his recommendation to laminate it for continual use. Let's remember also that this is a very athletic activity in which we are engaged and if your body has not been conditioned, take it slow and work up to the more demanding elements of aerobatic flight.

# LINES & ANGLES

By Mike Heuer

## UNLIMITED KNOWN NOTES

Unlimited pilots take note ... in this year's Known compulsory, there is a rolling turn (figure #8) with rolls to the inside and outside. Just to make sure everyone is clear on the matter, the first roll is performed to the outside. In the catalogue, the direction of the first roll is defined by the roll which appears on the horizontal line which is drawn at the beginning of the figure. Sometimes this can be difficult to discern on drawings other than in the catalog. This is another one of the places in the catalog where the drawing is critical to correct performance of the figure.

## ANNUAL MEETING ANNOUNCED

In accordance with IAC's Constitution and By-Laws, the Annual Membership Meeting of the organization will be convened at 8:00 PM on Monday, August 9, 1993, at the Sheraton Hotel, Fond du Lac, Wisconsin. The agenda for the meeting is as follows:

1. President's Report
2. Secretary's Report
3. Treasurer's Report
4. Old Business
5. New Business
6. Announcement of 1993 Election Results

All members are encouraged to attend.

## U. S. AEROBATIC TEAM GROUND CREW APPLICATIONS

As we announced previously, the U. S. Aerobatic Foundation is now soliciting applications and resumes for the ground crew positions on the 1994 U. S. Aerobatic Team.

The Team will compete in Hungary in August of 1994 at the XVII World Aerobatic Championships. Team members to be selected will include the Chief Delegate, Team Manager, Trainer, Chief Mechanic, Mechanics (2), line person, Judge, Assistant Judge, interpreter, physician, and

video technician. Which positions are filled will depend on the applications and how much funding is available for the team effort.

These positions are voluntary but some travel expenses, lodging, and per diem will be paid by the Foundation.

Applications should be sent to Robert H. Wagstaff, President, U. S. Aerobatic Foundation, 912 W. Sixth Avenue, Anchorage, AK 99501. The Foundation's Board of Directors will make the final selections of ground crew members of the Team at its meeting during Oshkosh or Fond du Lac '93.

## ONE DESIGN NEWS

Dan Rihn, designer of the "One Design" aircraft which has gained so much publicity and generated so much excitement recently among IAC'ers, has asked IAC to distribute the One Design Newsletter he recently began. The newsletter has been in response to the incredible amount of requests for information and news on the project from EAA and IAC members.

Fortunately for Dan, IAC member Bob Scherer has agreed to take over the editorship of the newsletter (which will continue to be distributed from the IAC Executive Office) and Bob will act as a central point of information. If you have an article or piece of news for the newsletter, contact Bob at 2801 Rodeo Road, Suite B-619, Santa Fe, NM 87505. If you wish to be on the newsletter mailing list, contact Mike or Sharon Heuer, IAC Executive Office, 758 Grovehall Drive, Cordova, TN 38018. Phone 901/756-7800 or fax 901/755-3848. Send us \$5.00 for a year's subscription.

Here are some tidbits, written by Dan, from Newsletter #3:

*"Progress - The prototype is still progressing very nicely. In addition to what I reported last month the control system, rudder pedals, adjustable seat, and turtledeck are now complete. Firewall, fuselage skins, fuel tank, instrument panel, and canopy are next on the agenda. As of this writing there are only 110 days left to our goal of making Oshkosh '93. It is going to take a super effort by Doug Dodge and his crew to achieve this goal but they will*

*try their best. Speaking of Doug Dodge, he has really done an outstanding job as recent photos of the progress show he is truly a craftsman. The craftsmanship on the prototype will set a standard for all future One Designs. I have really enjoyed working with Doug, we are becoming quite a team and have yet to get into any design jam that we couldn't solve."*

*Wood questions - I have received questions concerning the use of Douglas Fir for the spar on the prototype. Basically, Douglas Fir is about 16% stronger than Spruce, however it is 18% heavier. The key here is that when you design a spar to the same load factor you use less wood when using Douglas Fir than when using Spruce. I have designed the One Design to use either type of wood if people feel more comfortable using aircraft certified spar material. The really big difference, of course, is the cost. The EAA Design Book on Wood For Aircraft has a few very good articles on using Douglas Fir as a Spruce substitute. Also note that the Polish Pine used in the Extra 230 is a species very close to Douglas Fir."*

*Paint Schemes/Logos/Names - I would like to hear if you have any thoughts on these subjects. The R/C model has a red, white and blue paint scheme that Matt Mrdeza developed from one of my designs. Naturally I like it but I would love to see any ideas anybody else has. As for logos, I'm at a total loss. I hope that someone can help me here. We need a simple good looking logo that will catch the eye. When it comes to names, I happen to like One Design. I know that is a bit generic but it says it all. Again, I would love to hear from anyone that has come up with a good name for this aircraft."*

Dan talks about input he has gotten on creating a two place, but such work is premature at this point, and not in keeping with the One Design concept, so that matter will not be pursued at the moment. IAC also asks that you keep in mind that Dan is very busy on this project, which is in addition to his full-time job and family life, so please minimize phone calls. A letter of encouragement, however, would be most welcome!



## FLY AEROBATICS THE RUSSIAN WAY!

(photo courtesy of Freddy Stenbom)

The YAK-55 in flight. As time goes on, more and more of these aircraft will be appearing in the United States.

by  
Freddy Stenbom, IAC #12212  
Stockholm, Sweden

"Freddy, clear to taxi!", the voice in the radio says with a Russian accent.

I start to taxi for my first flight in the one-seat Yakovlev YAK-55. Many thoughts flash through my head while I am taxiing down the short runway of Lisisnos airport outside of St. Petersburg (formerly Leningrad) in Russia. I realize I am sitting in one of the hottest airplanes in the world. The thought runs through my mind, as I am sure it does with most pilots when they are

in some hot new aircraft, "Lord, don't let me screw up this one." Well, I made up my mind while I taxied to the end of the runway and with a short burst of power I swung the nose in the right direction — I can do this. I had been properly prepared and the instructors all think I will make it as many hundreds of Russian pilots before me had done.

"Freddy, cleared takeoff!", the voice in the radio commanded me. I opened up the throttle and started rolling down the runway. The

instructor had told me not to lift up the tail too much but, of course, that's what I did. I try to compensate but that only makes things worse with me galloping down the runway in this hot plane. I don't want to end up in disaster, so I commit myself and lift the plane up a little over the runway in straight-and-level flight. When the speed builds up, which happens quickly, I feel the sensation of being airborne in a really demanding plane.

I climbed fast and steady. I came to the 150 meter point much earlier than I did in the two-seat YAK-52 we had been flying for two days prior to this big day. I turned 90 degrees and very quickly I am at 300 meters

turn and landing. What a joy when I taxied to the stand where the gas truck waited.

#### Agakadabra

My instructor and others congratulated me for my first solo in the YAK-55. But I did not get any rest. Ten minutes later, I was sitting in the old, and by now familiar, YAK-52 with my instructor, Valerie Yarw, in the back seat. He and I had been flying together for two days before this day and we had been doing a lot of aerobatics together. The standing order had been, "I show, you make." Approval sounded like "Aaki" for OK. And if I didn't do it right the first time, he showed me again until he



Freddy Stenbom flies the YAK-55.

(photo courtesy of Freddy Stenbom)

(1,000 feet). The goal for this flight is only to get a feeling of the plane and do a complete pattern around the airfield without landing and then do one touch-and-go before the final landing on this first flight. Well, the plane behaves beautifully if you stick to the numbers the instructors gave you — speed 170 km/h and 300 meters on downwind, prop control forward on base leg, and begin final at 200 meters. Maintain speed properly on final, flare, and float a few feet over the ground until you finally touch down gently.

I was surprised how gently the plane settled down compared to the Pitts and other taildraggers. I pushed the throttle forward again and this time, I was more prepared. I made a decent take-off without fuss. I felt comfortable and made a normal pat-

tern and landing. What a joy when I taxied to the stand where the gas truck waited.

"Are you sure you want me to show the Agakadabra?", my instructor said, waking me up from my day-dreaming after I completed my sequence. "Sure", I said without much hesitation. "Aaki, be ready."

Valerie dived to get speed and pulled up into a vertical. When the speed was right, he entered a negative flick roll (*editor's note: European term for snap roll*) and then held on to rudder and stick. First, came a violent outside flick roll and then we started tumbling nose-over-tail a couple of times before we went into an inverted spin. What a sensational feeling! We seemed to move in slow motion for a while when we were tumbling around in the sky.

#### Aerobatics in the YAK-55

I was eager to get started and in a few minutes I was lining up on the runway again in the YAK-55. I took off and climbed very fast up to my altitude of 1,500 meters. They play it safe in Russia and I like that. My instructor told me I have to be at least 800 meters (2,800 feet) while doing aerobatics.

My sequence went fairly well, I did my angles up and down and got the right speed —about 300 km/h for the looping maneuvers. The power and stick response made it easy. The rolling part was even easier, as in this bird you only had to think aileron and you went upside down and before you know it, you are right side up again. You hardly needed the rudder to compensate in the rolls.

"Yeah-haw!", this is heaven for any pilot.

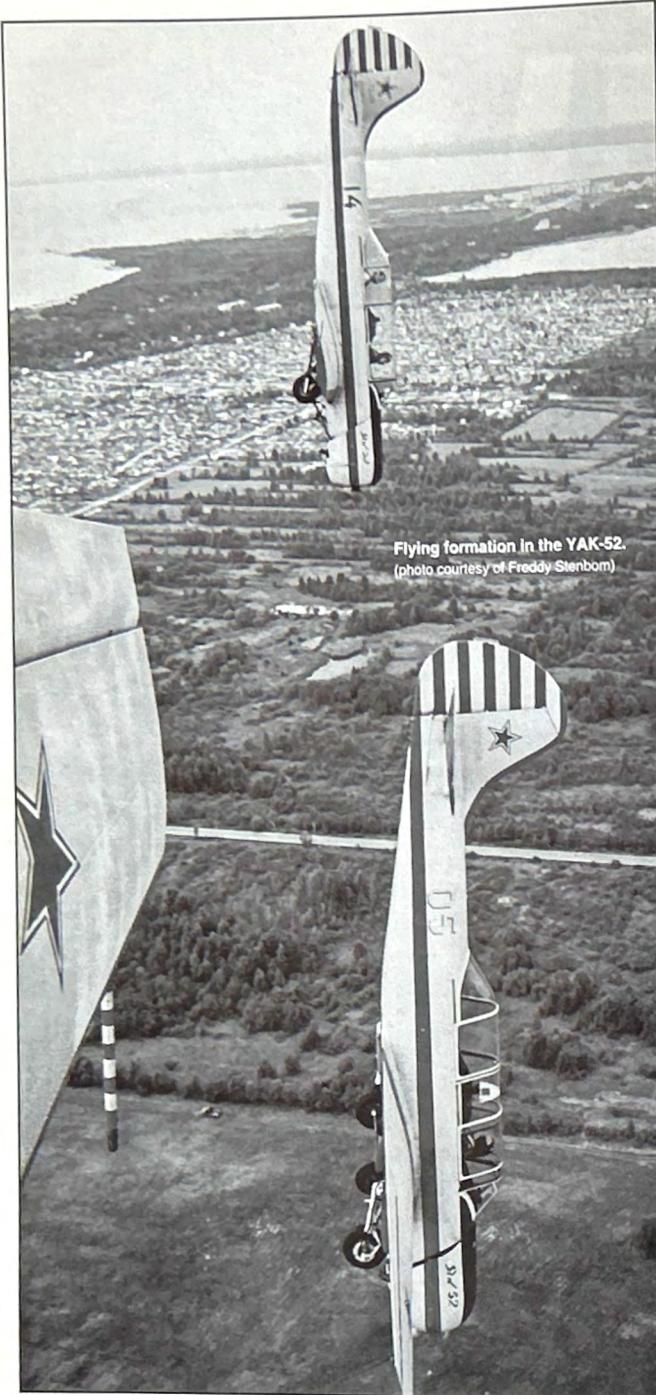
The sequence went by quickly but I made an extra roll to the right because I was not really satisfied with the first one. After that, I headed down for the downwind and felt really content with myself. I was sitting and feeling so great I did everything by routine — too much routine. I touch down with too much speed and go skyward again. I woke up from my daydreams and made a pretty good landing instead of a second bounce. I taxied in with pride for my flight but mad - with my landing.

My instructor waited for me and



Flying formation aerobatics is an integral part of the Russian training program for team members. It teaches teamwork and cooperation.

(photo courtesy of Freddy Stenbom)



Flying formation in the YAK-52.  
(photo courtesy of Freddy Stenbom)

he looked happy. He asked if I wanted another flight immediately. That would be the last flight of this course. "Of course," I said, "I really loved this first aerobatic flight in this wonderful plane."

"Aaki," he said, "do the same sequence two times and stay up for not more than fifteen minutes. That is all you have time for if you are to be on time for your train to Helsinki."

I put on all the five switches plus the magnetos again and pumped up the fuel pressure and put some gas in the cylinders before I hit the start button. I declared I was ready to taxi but had to wait for a while because the box over the field was occupied by another student. They wanted the students to practice solo in the box and not in the five other aerobic zones around the field.

Anyway, I had time to think over what had happened in the last couple of days.

#### Well Arranged

These courses in St. Petersburg are arranged by a company named Sky Drivers. The President of that company is Henrik Jakowley (Swedish spelling of the Russian name Yakovlev) and he comes from Finland but his grandmother came from old Russia (before 1917). The courses run for ten days and the students can fly almost as much as they want during that time. Normally, that would be 12 to 18 hours. The only limitation is the weather (but it is fairly good during the summer months); limitations on your personal instructor, who is allowed to fly four days and then must rest one day; and your plane, the YAK-52 which must undergo maintenance, according to regulations, every seventh day.

But your instructor is allowed to instruct you from the ground if you can go solo and there are a lot of spare planes in the school. Even if it is possible to fly say five hours a day, most pilots that visit the school do not fly more than an hour or two a day and in many short flights.

Aerobatic flights are demanding and most students need to rest between flights. But as the students have their own instructors, all ground time can be used for discussion on technical matters.

If the student has never flown aerobatics before, the instructor will

teach you all the basics. In ten days, you will be pretty competent. I saw a Finnish girl last year who had gone through 17 hours of training in this school and her act at a recent airshow was really convincing.

If you had flown aerobatics before but are now a bit rusty, as I was, you can be brushed up to a standard where you love to fly aerobatics again and at the same time get a very interesting insight into the Russian way of flying. And if you are already a competition pilot, you can be trained to a very high standard that will show a lot in your scores. If you have what it takes, the Russians will take you to the top for sure. Most of the instructors are competition pilots themselves and some of them have won many awards.

Most of them have flown aerobatics 4-8 hours a day for 10 to 20 years. They have many thousands of hours of aerobatics behind them. Former World Champion Victor Smolin and upcoming Champion Nikolai Timofeev were both instructors here before they were hired by Sukhoi to fly the SU-26 and SU-29 as test pilots. But the instructors who taught them are still here! So is Valerie Smarodin who also has a very good record on the national scene.

Unfortunately, I could only spend a few days at Lisonos airport and I was only joining the course for the last three days. Among the students was Olle, who was a novice aerobatic pilot but he really learned all the basics (and also found a nice Russian girl he fell in love with). Goran, who had basic aerobatics before but no competition, was considered promising and was soon flying the YAK-55 and doing pretty advanced stuff. Gabor Varga, known for his world record last year of 256 loops in one hour in a Bellanca Decathlon, was doing pretty well last year in aerobatic competitions in the Sportsman class. He won all the competitions he entered and got the overall best award in Sweden — the Emilio Ascarate prize — for best Sportsman pilot in 1991. Now he was practicing both Advanced and Unlimited stuff with a lot of success. His instructor, Valerie Smarodin, was very pleased with his student.

#### The Airplanes

The YAK-52 is indeed a very nice plane to fly. It looks a little bit like a fighter of the World War II era. It is a tandem, two-seater with a Vedeneyev, 9-cylinder radial, M-14P engine rated to at least 360 hp. This gives this bird a lot of potential com-

pared to many other planes. For example, it is more powerful and lighter than the old T-34 "Mentor" that it resembles a little bit in appearance and flight characteristics. You can do almost anything in this plane. Normally, your instructor shows you how to do a maneuver in the YAK-52 and then you practice it yourself in this plane and then in the YAK-55. You can do many rolls upward in the verticals and the plane can take more G than you can. As I described earlier, it is possible to do complicated, wild maneuvers like the Agakadabra (or the Lomecevak as it is also called). Even with two persons aboard, you have a lot of climbing power and you can fly a demanding sequence without losing too much altitude. The YAK-55 is like a wild mustang compared to the '52. Here you have the same Vedeneyev M-14P radial but with less weight. No wonder it feels lot more powerful. It is also an all-metal airplane. The "Laser-Yak" was the name the Americans gave the plane when it first was shown in 1982. Its mid-wing configuration makes its rolling characteristics much better than the YAK-52. The aileron response is very fast ... think roll and you have done it already without as much as touching the rudder.



(photo courtesy of Freddy Stenbom)

Freddy Stenbom takes the runway in the YAK-55.

At Lisonos, they also had one of the new YAK-55M's with a shorter wingspan. This plane was delivered here in May and many of the Swedish pilots flew it. I did not have a chance to fly it at Lisonos but got a second chance to fly the YAK-55M when Valerie Smarodin came to Sweden for an airshow. The 55M has an even faster roll rate but it is more sensitive on the elevator due to its higher wing loading. Novice pilots probably prefer the regular YAK-55 ... you have to be a top Unlimited competitor to appreciate the difference.

#### Do You Want to Go to Russia?

The easiest way to get to St. Petersburg today is to go via Helsinki in neighboring Finland. From there, you can go by train, car, or by plane to St. Petersburg. You can also fly via Moscow. In the com-

ing years, there will probably be better air communications. If you wish to get in touch with Henrik Jakovlev, the address is P. O. Box 353, S-18400 Akersberga, Sweden. Phone +46-8540-66913, fax 8540-61023. Henrik, who once worked as an instructor in Florida, can give you details on the possibilities of joining a course in 1993. The cost this year was equal to about \$2,300 for the flight training. The cost for accommodation in a two-bed room and three meals a day was about \$60 per day. Local transport in a van was provided by the organizer.

If you want, you can also learn to fly the Antonov AN-2, the biggest biplane in the world today. In your spare time, you can join in for a flight in the back seat when your instructors are training formation aerobatics. Next year, you can also fly the L-29 "Dolphin", a jet trainer, or a

Russian helicopter. Many "impossible" things can be arranged in Russia these days.

If anybody would like more information, you can also call me at +46-8773-1352 (home) or -8999-333 (work), remembering Europe is +6 hours eastern time.

#### Summary

When the aerobatic box over Lisonos was free at last, I got my clearance for take-off and I made that final flight. I have felt great a lot of times when I have been in the air but this flight was really something special. I already had two flights under my belt in this plane, so I knew what was waiting for me. This time, I could fully enjoy the thrill and "Volare". Does anybody else sing when they are happy in the air? Or am I just "plane" crazy?

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Contact: Louie Andrew, Contest Director, Phone 414-921-6000

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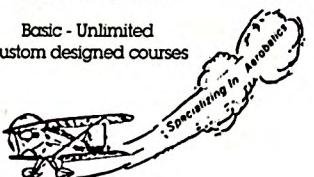


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# LETTERS

**NOTE:** Do you have a comment, opinion, compliment, or complaint? Then write a letter to the Editor and we will consider it for publication here. Be sure to mark it "Letter to the Editor" as we have no way of knowing whether you intend it for publication or not.

Dear IAC Leaders,

I am experiencing a growing sense of concern over recent developments in the IAC. Without question, Steve Morris et al are dedicated, and even inspiring, leaders of a club where consensus is impossible to attain, and the mission never fully developed. My concern comes from the apparent shift in club emphasis, and in the danger of becoming an "idea of the month" club.

My career has been concentrated on turning around companies, which often involves repositioning them to a more appropriate market segment. Most companies (and clubs) exist in a given sector not by plan but by the natural gravitation and desires of its customers and employee/members during the formative years. I can attest that nothing is more threatening to the survival of a company than a poorly conceived plan to change its market position.

Let me be specific. The IAC leadership has written of its concern over a stagnant member count, and over the mission of the club. The IAC 2000 meeting no doubt addressed this, but how much input has there really been from a across section of members? From all that has taken place there appears to be a conscious plan to de-emphasize competition, and discourage diversity. I suggest that this represents a change in market segment that may lose the core members without finding a real replacement market.

There was a brief blurb a few months back noting that competition results would be deleted from SPORT AEROBATICS and put into a disposable separate flyer. While the top Unlimited and Advanced guys may have trophies to cover the mantle, how many aspiring Basic and Sportsman folks look to the day when they get to see their name in print in the flagship document covering their sport? I suggest that this decision could be a body blow to keeping at least some of our competitors enthusiastic. Vanity? Of course. But do not think that our members are any less vain and egotistic than the population as a whole. Far from it.

Does this decision reflect some sort of move away from competition as the focus of the club? If so, I feel it is a fatal decision. While so many members may not actively compete, my observation is that they are associated with the club because they are interested and excited by the competition. For comparison, look at the Sports Car Club of America. An incredibly small portion of the club actually races, but I suggest that they would dry up and blow away if they de-emphasized racing.

The "One Design" move which is afoot is a mixed blessing. Obviously, should this come to pass there will be a venue which is appealing to some existing members, and may draw in a few more members. But will it create a market large enough to justify the immense effort, or merely fracture what we have, and distract us from perhaps more productive issues? A design target price of \$20,000 (when was the last time a target price in aviation was realized?) is not significantly better than the used price of many Pitt's, Decathlons, Rans S-10, etc. to generate much excitement. Lets be honest, guys. If a person is sitting around saying to themselves "gee, I sure would like to fly competitive aerobatics", is a stick-

er price of \$20,000, or \$30,000, or \$40,000 range to be the deciding factor? Not even vaguely.

This person will beg, borrow, rent, steal, or otherwise find their way to their dream. The cost of acquisition is the least of the hurdles. I know at least two local and capable flyers who own good aerobatic airplanes and who do not compete. One has a wife who resents the contest expenditures, the other one has a wife who resents the time away from home. These are the real costs which limit participation. But the competitive heart beats in the chest of these two guys, and they look forward to the monthly magazine, and read the results, and get some fulfillment from talking about it all.

Lastly, the move to a "One Design" concept represents a sad abandonment of the joy of diversity. Reading Mike Riley's article on the limitations of judging points out the difficulties which they face, but should they be relieved of the responsibility to judge a Citabria, Decathlon, Pitts, and our Stampi on an equal basis? If we want to promote competition, and draw in some of the folks standing on the sideline, the message must be clear. You can be competitive within the right category in virtually anything. An S2R should not enjoy a competitive edge in Sportsman over a Citabria, and will not if the judging strives specifically to insure this. Easy for me to say, I know. But I believe it can and should be our unified goal.

Please do not fall prey to the temptation that today's new idea must be better than the horse that got us here. Just because we voted in a President who promised "change" does not mean that he can deliver, or that we will be better off if we get it. Dialogue is always healthy, but "Hasten slowly, repent in leisure."

Respectfully yours  
Don Peterson  
IAC #16151  
1341 Chestnut Ridge Rd.  
Apalachin, NY 13732

and I'm not sure that a 100 hp. airplane could really provide me with satisfying performance. But doesn't an IO-360 start to make this airplane look sort of like, say, a Laser in terms of cost if not performance? And how could two identical airframes, one with an O-200 and the other with the IO-360 be considered "One Design"?

The "One Design" concept seems good, but it seems to me that a standardized engine, maybe the O-320, is necessary. Otherwise, the "One Design" (or some variant thereof) is just one more aerobatic airplane to choose from.

Sincerely,  
Doug Sowder  
IAC #14590  
E. 118 High Drive  
Spokane, WA 99203

Dear EAA and Dan Rihn;

Bravo on a great idea to have a one class aerobatic design competition class airplane. When I read the February SPORT AVIATION magazine clip on the One Design plane I immediately purchased a 0-235-L2C from a local repair station and have started on the overhaul. My Tailwind is all but covered and the One Design is just what I have been waiting for. It makes so much sense to me and the design is modern and follows in the footsteps of the Stephens Akro, Laser, SU-26, etc... but at a fraction of the cost! I believe the One Design is worth incorporating in the IAC agenda as it has inspired me enough to buy an engine in the hopes the dream is alive. I can't wait to get started. Quick! Send me plans.

Dale Matuska  
EAA #1 40687  
58114 W.C.R. 15  
Carr, CO 80612

**Editor's Note:** This letter was in response to Jack Cox's article in the February EAA magazine, SPORT AVIATION. Many have started to flow. No plans yet—we'll keep you posted.

—Mike Heuer

Dear Mike,

Though I've been a member of IAC for several years, I have just recently purchased an aerobatic airplane, with hopes of getting involved in Sportsman class competition. After studying the new 1993 Known Compulsories in the January SPORT AEROBATICS, it has occurred to me that it would be beneficial to me, and to others of similar experience level, to have an experienced competition pilot write an article explaining the fine points of the Sportsman Known. Something along the lines of the Mike Riley's article in the January issue, but dedicated specifically to the Sportsman Known, in the order in which the figures are to be flown. A little insight could go a long way!

As a case in point, I gather that one can spin either to the right or to the left. The hammerhead is flown on the "Y" axis. All other things being equal, will the judges prefer to see the top of the airplane or the belly?

That being said, on a slightly different subject, the "One Design" concept seems to be gaining some momentum. I am one of those 200 lb. pilots,

I am from another class of aerobatic pilot, one that has a job and does not have the time to be constantly on the move from one show to another; however, I share the same love for aerobatic flying as there seems to be nothing better than to complete a maneuver perfectly or just know you have absolute control of your aircraft at all times. Things that most pilots will never be able to experience.

For this reason I feel there is room for a class of aerobatic competition that puts all players on equal footing, at a price that they can afford, and in an aircraft that gives the best safety advantages available. I feel that this concept would bring many new faces to local competitions. It will certainly be hard to manage the task of organizing this class as there will be a tremendous amount of work to do just to get it off the ground. It will be very slow in the beginning but I do feel it is worth trying and who knows it just might bring back some of the good old days.

As for the airplane, I feel the design that Dan Rihn has proposed is close to being right on track; however, I do feel that it will need a 150hp engine as it is hard to convert the 0200 series to inverted fuel and oil systems. A tubular fuselage and wood wing is the easiest for most people to build and will be the least expensive.

Thank you,  
David Henderson  
IAC #16618  
Route 3, Box 10  
Felton, DE 19943

Dear Mike;

Upon receipt of the January '93 issue of SPORT AEROBATICS, I was happy to find a follow-on article to the One Design concept. I believe that Dan Rihn's idea of creating a 'stock' class in aerobatic competition is outstanding and overdue. We homebuilder/aerobatic pilots also desperately need a new aerobatic aircraft design. Surprisingly, Dan Rihn is working to make this concept reality and not for his own personal gain. He should be commended for his efforts. As an IAC member I am casting my vote in support of the One Design program. I think the IAC should lend its full support, for it has little to lose and a lot to gain.

Sincerely,  
Ted Kuhn  
IAC #17895  
T Van Buren Drive  
Havelock, NC 28532

Dear Mike;

Like Mr. Paul Newmann (SPORT AEROBATICS Mar. '93) I vigorously support the plan for a One Design aircraft for IAC competition aerobatics. I'm a former Air Force pilot. I miss the frequent flying and especially hanging upside down. Obviously, the outlook for an affordable competition airplane excites me.

I'm in the early stages of rebuilding a Cassutt. I read the brief description of the One Design and it seems as though the Cassutt may be similar enough to modify to One Design specs. Would a Cassutt modified to One Design specs (if that's even possible) be allowed in IAC competition? Also when and how can I get my hands on some IAC accepted specs for the One Design Aircraft?

Thanks for the work you guys are doing for all of us.

Sincerely  
Dan Stone  
IAC #18616  
17111 S.E. 104th  
Newalla, OK 74857

**Editor's Note:** Thanks, Dan, for the support. We continue to get a lot of letters on One Design. We will be publishing One Design specifications as soon as possible. At the March 13-14 Board of Directors meeting in Memphis, we decided not to take any further action on One Design until the prototype flies. This is a prudent and responsible action. We don't want to get the cart before the horse. In the meantime, the Rules Committee has drawn up some simple specs for aircraft to be entered in the category, but these will not be finalized and approved until later in the year.

—Mike Heuer

Dear Steve;

I just read the Presidents page Straight Talk, March issue of SPORT AEROBATICS, and I want to congratulate you on the answers that you gave to the questions asked by a member. For 40 years of my involvement with EAA, many of these questions have often been asked of me and I can see your closeness to EAA all these years provided the answers from our close association.

It always amazes me when groups, or even sometimes our Chapters, who, in their own way, feel that they've gone far enough in develop-

ment, that they really don't need anyone else. I've seen Chapters fall by the wayside, as well as organizations, because of the lack of togetherness and leadership. It's certainly easy to send in one's dues and then ask a lot of questions as if their gives them a greater privilege than even the Board of Directors in directing an organization when, in fact, if it wasn't for additional work on the part of an organization such as IAC, EAA or Warbirds per additional revenue, the cost of just putting out a magazine would equal the cost of the dues. We certainly could not consider the great amount of time volunteerism, such as yourself and the Board of Directors; if they were paid a fraction of what they are worth, there would be no treasury.

The questions that you answered will be asked time and time again. And even though they may be printed often throughout history of an organization, it always seems when one individual asking questions is asked, "Did you not read it in your magazine?" The answer, "I must have missed it." All us human beings are pretty long on voice and short on action. Congratulations to you and the Board for holding the organization together and offering a great many benefits to those and the small group who love precision flying.

It was interesting to note—and one wonders where the individual asking the question got the idea that EAA would be against spin training. As a Primary Flight Instructor during WWII for some 2200 hours and after the War teaching many people to fly in Aerobatics, Cubs, Stearmans, etc., I believe in spin training. But as we both know, there has been great opposition to it by manufacturers, primarily, with the feeling that it would hurt sales.

Audrey and I wish you and the family the very best.

Sincerely,  
Paul H. Poberezny  
IAC #1  
Chairman of the Board  
Experimental Aircraft Association  
Oshkosh, WI 54903-3086

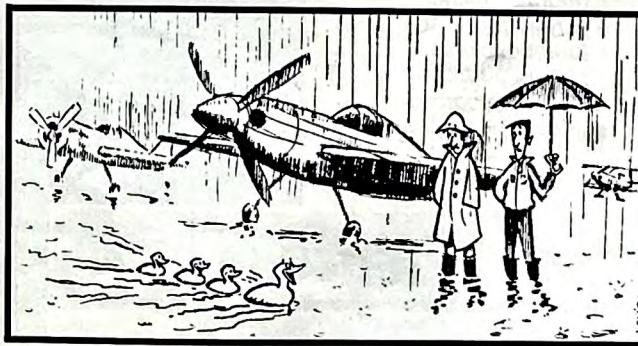
Dear Mike;

I am prompted to write by the recent correspondence concerning single class aerobatic aircraft.

Here in Winchester VA, a company called Atlas Motors is importing and distributing Franklin engines and while visiting them last week, I was able to see several test runs of an aerobatic version with fuel injection and inverted oil systems. The engine makes about 125hp and costs less than the overall price of an O-200. Further, the proprietor, Pat Goodman expressed a willingness to participate in the sponsorship of the proposed class by discounting the engines substantially to IAC members using them in competition. He can be reached at (703) 667-7175.

On a different subject, I am the very proud owner of an extremely low time Zlin 226 Trener special. I have read that there is a news letter published for Zlin owners by Zoly Sommer but I have been unable to contact him. If any reader could help in this regard, (or help me find a way to translate my Czechoslovak operators manuals into English.) I would be very pleased to hear from them.

Best regards,  
Steve Beaver  
IAC #16249  
107 N. Kent Street  
Suite 201  
Winchester, VA 22601



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# DIRECTORY OF AEROBATICO SCHOOLS

School/Instructor Name	Address/Phone #	Type Aircraft Used	Type Courses	Costs
Ace Aerobatic School	Sherwood Road Sewanee, TN 37375 615/598-5318 (office) 615/598-5723 (home)	Cessna Aerobat	5 hour (aerobatics); 2 hour (spins), ground school	\$850 (5 hr) \$340 (2 hr spin)
Addison Flight Training Center	3434 Eddie Rickenbacker Dr. Dallas, TX 75248 214/991-1529 (office) 214/891-8020 (office)	Decathlon Pitts S-2B	5 hour, 10 hour; safety; competition; customer designed	\$145/hr (Decathlon) \$135/hr (Decathlon-block time-5 hrs or more) \$180/hr (Pitts), \$165 (Pitts-block time-5 hrs or more)
Aerobatics with Dan Stroud	8008 N W 11th Street Oklahoma City, OK 73162 405/721-7328 (office)	Super Decathlon	4 hour safety and primary aerobatics; 10 hour	\$85 00/hr \$5 00/hr ground - 1st two lessons only
Aerobatics by Maltaire	Hering Drive Long Island MacArthur Airport Ronkonkoma, NY 11779 516/471-2270 (office) 516/471-6711 (fax)	Cap 10B	Safety; basic thru unlimited, spin, tailwheel checkout	\$185/hr (dual)
Aerosphere	18226 Swan Stream Drive Gaithersburg, MD 20877 301/869-3236 (home/office)	Super Decathlon	3 hour spin; 5 hour emergency; 10 hour basic; custom	\$115/hr (dual) \$40/hr (ground)
Aerotech	Allair Airport P O Box 2393 Farmingdale, NJ 07727 908/477-3345 (home)	Pitts S-2B	Sportsman, intermediate, advanced competition	Contact School
Aurora Aviation	22785 Airport Road, N E. P O. Box 127 Aurora, OR 97002 503/222-1754 (office) 503/678-1217 (office)	Pitts S-2B	Various - call	\$200/hr. (dual)
Aviation Unlimited	872 Clayton Street San Francisco, CA 94117 510/785-0800 (office) 415/731-7697 (home)	Pitts S-2A S-2B, Citabria 7ECA, J-3 Cub	Custom designed Basic thru Unlimited Competition	\$155/hr (S-2A dual) \$170/hr (S-2B) \$30/hr ground. Call for additional pricing
Back to Basics Flight Training	13365 SW 208 Street Miami, FL 33177 305/235-7969	Citabria	Customer designed, CFI spin signoff; emergency maneuver training, cross/control stall/spin; primary aerobatics	\$85/hr
Center Air Aps	Haslevvej 58 Ringsted Denmark 4100 45-44-66-6686 (office) 45-31-79-1509 (home)	Super Decathlon	Basic, emergency spin, introduction to aerobatics, fun flight; tailwheel checkout	\$155/hr 970 dkrl/hr (aircraft) \$45/hr 280 dkrl/hr (instructor) (approximate U.S. Dollars)

# DIRECTORY

...continued

School/Instructor Name	Address/Phone #	Type Aircraft Used	Type Courses	Costs
Central Ohio Aerobatics	943 Mulberry Drive Columbus, OH 43235 614/885-5685	Super Decathlon Pitts S-2B	Safety; emergency maneuvers; spin recovery; stick & tailwheel training; competition & critiquing; customer designed	\$40/half hr (Decathlon) \$80/half hr (Pitts S-2B)
Chandler Air Service, Inc.	1675 E. Ryan Road Chandler, AZ 85249 602/963-6420	Pitts S-2B Great Lakes Super Cub	5 hour; 10 hour; spin; customer designed; safety competition, Pitts transition; tailwheel checkout	\$115/hr (Pitts); \$88.00/hr (Great Lakes); \$17.00/hr (Super Cub); \$32.00/hr (Instructor)
CP Aviation	830 E. Santa Maria St., #301 Santa Paula, CA 93060 805/525-2138 (office) 805/933-3865 (fax)	Decathlon Pitts S-2A	5 hour; 8 hour; spins; emergency maneuver training; aerobatics; customer designed; FAA Wings Program	\$85/hr (Decathlon) \$125/hr (Pitts) \$30/hr (Instruction) S.A.F.E. approved EMT affiliate school supports IAC, NAFI
Delta Aviation	1802 W. Wright Stillwater Airport Stillwater, OK 74075 405/624-0719 (office) 405/624-0955 (home)	1991 Super Decathlon	Spin; basic; emergency maneuvers; intermediate; customer designed	\$100/hr
Dent-Air, Ltd	6 Romar Drive Annapolis, MD 21403 410/956-0047 (hangar) 410/263-2740 (home) 410/263-4693 (fax)	Pitts S-2B	Emergency & regular spin recovery; customer designed; aerobic training for competition and/or fun	\$100/half hr \$180/hr Thurs., Fri. and Sat. (other days by arrangement)
East Hampton Aerobatics	P.O. Box 934 East Hampton, NY 11937 516/537-5252 (office) 516/324-3747 (home)	Decathlon Pitts S-2B	5-hour; 10-hour; safety; emergency maneuvers; spin recovery; customer designed; Basic thru Unlimited competition	\$200/hr
Everglades Aerobatics, Inc.	3644 Boca Ciega Drive Naples, FL 33962 800/729-8994 (office) 818/774-4666 (office) 818/774-4773 (home)	Pitts S-2B	5-hour; 10-hour; safety; emergency maneuvers; spin recovery	\$171/hr - no charge for ground school
Executive Flyers Aviation	Terminal Bldg. Hanscom Field Bedford, MA 01730 617/274-7227 (office) 617/648-4532 (home)	Decathlon Pitts S-2B Sukhoi SU-29	5-hour; 10-hour; safety; emergency maneuvers; spin recovery; customer designed	\$71/hr (solo-Decathlon) \$111/hr (dual-Decathlon) \$145/hr (solo-Pitts) \$185/hr (dual-Pitts) \$240/hr (dual-Sukhoi) Other packages available
F.E.W. Enterprises, Inc.	8780 S.E. 70th Terrace Ocala, FL 34472 904/347-6913 (home)	Citabria	Basic; spin; tailwheel checkout	\$49/hr (aircraft) \$20/hr (instructor)
Fly for Fun	400 E. Airport Avenue Venice, FL 34285 813/484-8183 (office) 813/493-5896 (home) Summer: 71 S. Shore Drive Cuba, NY 147277 16968-3758	Pitts S-2B	Emergency maneuvers; basic advanced; spin recovery; touch and goes	\$180/hr (emergency) \$200/hr (basic) \$230/hr (advanced & spins) \$200/hr (touch & goes) No charge-ground school
Great Planes Aerobatics	245 N.E. Edgewater Drive Lee's Summit, MO 64064 816/373-8675	Pitts S-2A Luscombe 8A	Customer designed; stick/tailwheel transition (Luscombe); spin recovery; precision formation flight; low level aerobatics; aerobatic training camps	Dual-Pitts S-2A - \$155/hr basic aerobatics; \$160/hr advanced & competition; \$175/hr traffic patterns \$75/hr (Dual-Luscombe) Dual-Customer aircraft-\$50/hr; \$50/hr (Instruction); Critique \$50/hr; S.A.F.E. program (grants for civilian pilots for emergency maneuver training)

School/Instructor Name	Address/Phone #	Type Aircraft Used	Type Courses	Costs
Hart Air - Jg 54	3200 AirFlite Way Long Beach, CA 90807 310/988-0456 310/427-6680 (fax) 310/988-0456 (fax)	Robin Sport Beech T-34A	12 lesson aerobatic; emergency maneuvers; emergency spin recovery; customer designed	\$100/hr (dual-Robin) \$185/hr (dual-T34) Solo and member rates also available; S.A.F.E. program
Harvey & Rihm Aviation Inc.	101 Airport Blvd. LaPorte, TX 77571 713/471-1675 (office) 713/473-2983 (fax)	150 Aerobat Decathlon 180HP Pitts S-2A Pitts S-2B Pitts S-2B Cessna Aerobat	Safety; basic; spin; Sportsman through Unlimited	\$50/hr (Aerobat) \$77/hr (Decathlon) \$109/hr (Pitts S-2A) \$136/hr (Pitts S-2B) \$25/hr (Aerobat instruction) \$35/hr (Pitts instruction) 10% AC block discount
Lenair Aerobatics	19531 Campus Drive Suite 7 Santa Ana, CA 92707 714/852-8850 (office) 714/548-1713 (home)	Decathlon Citabria Pitts S-2A Cap 10 Stearman	Basic; Intermediate; emergency maneuvers; emergency spin recovery; customer designed	\$30/hr (instruction) \$61/hr (Decathlon) \$75/hr (Cap 10) \$88/hr (Pitts) \$98/hr (Stearman)
Littlefield, Gene	23657 DuPage CC Drive Plainfield, IL 60544 815/436-5590 815/436-8280 (fax)	Decathlon	Safety; basic; advanced; emergency maneuver; competition; spin recovery; airshow prep including heavy-high wing load customer aircraft; tailwheel checkout; customer designed	\$100/hr (Decathlon) \$40/hr (instruction)
Mass Aero Aerobic Center	Box 6 Plymouth Airport Plymouth, MA 02360 508/747-1719 (office) 617/585-7963 (home)	Citabria Decathlon Pitts S-2B	Basic; advanced; emergency maneuvers; competition	\$49/hr (solo-Citabria) \$76/hr (solo-Decathlon) \$185/hr (dual-only-Pitts) \$24/hr (instruction)
Mudry Aviation, Ltd. (Home of the French Connection)	Flagler County Airport SR 1, Box 18T, #7 Bunnell, FL 32110 904/437-9700 (office) 904/437-1177 (fax)	CAP 10B J3-Cub for tailwheel transition	Average lesson .7; safety 5 hrs; basic 15 hrs; advanced spin training; tailwheel training; customer designed	\$165/hr (dual-Cap 10B) \$63/hr (J-3 Cub) \$31/hr (Ground instruction) 3% cash discount; 5, 10, & 15 hr discount pkgs.
New Attitude Aerobatics	10860 W. Evans, #50 Boulder, CO 80227 303/980-5667	Pitts S-2B	Basic; Pitts transition; customer designed	\$145/hr (dual)
Pietsch Flying Service	#14 Minot International Airport Minot, ND 58701 701/852-4092	Pitts S-2B	5 hour; 10 hour; safety; emergency maneuvers; emergency spin recovery; customer designed	\$180/hr
Pompano Air Center, Inc.	1401 N.E. 10th Street Pompano Beach, FL 33060 305/943-6050 (office) 305/943-0829 (fax)	Pitts S-2B	5 hour; 10 hour; primary through Unlimited; customer designed	\$200/hr (dual) \$30/hr (ground)

# DIRECTORY

...continued

School/Instructor Name	Address/Phone #	Type Aircraft Used	Type Courses	Costs
Rocky Mountain Aerobatics	8 S. Evanston Way Aurora, CO 80012 303/363-9817 (home)	Pitts S-2B	5 hour; 10 hour; safety; emergency; emergency spin; customer designed	\$180/hr (flight time only)
Star Aviation	N6698 County Road PP Ripon, WI 54971 414/748-3736	Decathlon	Spin; emergency maneuvers; basic; taildragger	Various packages \$125/hr (dual) \$105/hr (solo)
Suncoast Aviation	1000 Hercules Avenue Clearwater, FL 34625 813/461-5229 (office) 813/446-3265 (home)	Citabria 7KCAB	5 hour; spin; emergency maneuvers, tailwheel checkout	\$75/hr
Thomason Aerobic Center	16700 Roscoe Blvd. Van Nuys, CA 91406 818/903-8267 (office) 818/908-5800 (office) 818/908-5807 (fax)	Pitts S-2B	3 hour; 5 hour pre-military course; 5 hour all altitude; primary (10 hours); advanced, competition, low altitude waiver end., video training and rides	\$200/hr; \$30/hr (ground)
Top Flight Aviation, Inc.	1227 The Alameda Berkeley, CA 94709 510/527-4466 (office)	Citabria (TECA; 7KCAB; J3 Cub; Super Cub; Pitts S-2B; Super Decathlon	Spin (3hr/10hr); Tailwheel checkout; advanced; customer designed	\$185 (Spin), \$370 (3hr); \$1,295 (10hr), \$35/hr (Solo-J3 Cub); \$68/hr (Solo-Decathlon); \$130/hr (Solo-Pitts S-2B)
Turf Soaring School	8700 W. Carefree Hwy. Peoria, AZ 85382 602/439-3621 (office)	Grob 103A Schleicher ASK-21	10 hr basic aerobatics; spin training; advanced aerobatics; customer designed	Basic aerobatics \$675 \$73/hr
U.S. Wings	2501 S.E. Aviation Way Stuart, FL 34996 407/770-2222 (office) 407/335-3365 (fax) 407/335-3364 (home)	Pitts S-2B Decathlon	Basic; emergency spin; advanced; competition	\$65/hr (ground), \$200/hr (Dual-Pitts) \$110/hr (Dual-Decathlon) \$90/hr (Solo-Decathlon)
Unusual Attitudes	7755 S. Peoria, Hanger 5 Centennial Airport Englewood, CO 80112 800/643-9901 303/688-2233 (home)	Pitts S-2B T-34 Mentor	5 hour emergency maneuver; 3.5 hour basic aerobatics; custom designed advanced and competition	\$140/hr (dual, wet) \$120/hr (solo, wet) \$20/hr (ground instruction) Ground instruction included with course packages
Versteegh, Frank	Hollaan 1 6824 BN Arnhem The Netherlands 011 31 85 514545 (home) 011 31 85 514878 (fax)	Extra 300	Basic; 5 hrs; spin training and general handling technique 5 hrs; individual unlimited training	3,600 guilders for the 5 hr courses, contact Frank for costs on other courses. Summer: Holland Winter: Spain
Williams Aviaiton, Inc.	P O Box 397 Springfield, TN 37172 615/255-9299 615/384-9388	Pitts S-2B Decathlon	5 hour; 10 hour; 20 hour; customer designed	\$150/hr (Dual-Pitts) \$75/hr (Dual-Decathlon)
Worley Aviation Inc.	Office: 3012 W. Broad Street Richmond, VA 23230 Airport: 6920 Terminal Road Quinton, VA 23141 804/353-2641 (office) 804/932-4408 (home) 804/932-8308 (airport) 804/932-3984 (airport)	Decathlon Great Lakes Stearman Pitts S-2A Piper L-4 Piper L-21 T-28C	Tailwheel checkout 5 hour; 10 hour; customer designed	Aerobatics: \$90/hr (Dual-Decathlon) \$125/hr (Dual-Great Lakes) \$135/hr (Dual-Stearman) \$125/hr (Dual-Pitts S-2A) \$60/hr (Solo-Decathlon) \$40/hr (Solo-L-4) \$45/hr (Solo-L-21) T-28 Call

IAC does not endorse any of the schools listed or the qualifications, experience or expertise of any aerobatic instructors.  
This is a courtesy listing for our members information.

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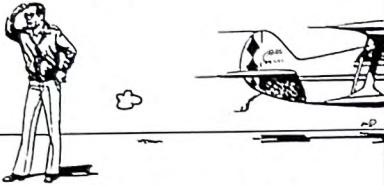
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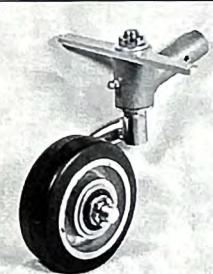
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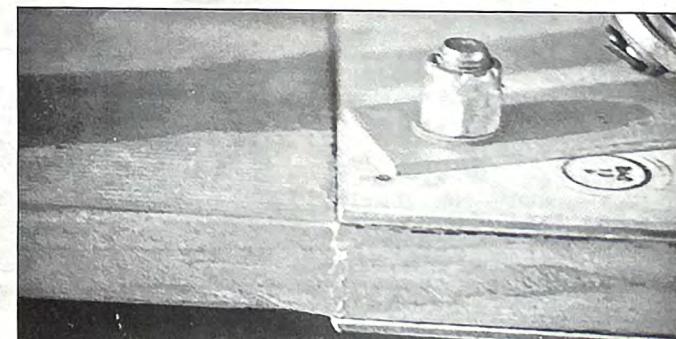
plane to a location where the requirements of this AD can be accomplished.

**NOTE 2:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Brussels Aircraft Certification Office.

The FAA estimates that 24 airplanes in the U.S. registry would be affected by the proposed AD, that it would take approximately 25 hours per airplane to accomplish the proposed action, and the average labor rate is approximately \$55 an hour. Parts are fabricated from commonly available spruce or plywood. The cost of the wood would vary, but \$50 is used for the purpose of this proposed AD. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be \$34,200.

**CRACKED SPAR - DECATHON**

This just in from our friends at American Champion Aircraft. During the fitting of the new metal spars to a Decathlon, a cracked spar was discovered. It occurred on the left rear spar, outboard section. See photo below.



The only other information I have is the 8KCB Decathlon (180 hp) had 1,186 TT, is based in Texas, and has flown a lot of aerobatic hours.

**CRACKED CITABRIA LEAF SPRING**

I have a service report on the tail-wheel leaf spring on a Citabria that cracked. According to the report, these types of leaf springs have dimples pressed into the spring to keep it from working out of position. The crack originated at one of the dimples on the lower leaf and eventually failed. The crack was not visible unless the leaf was removed. Inspection showed the crack has started some time ago. All leaves were replaced.

**PROPOSED RULEMAKING ON CAP-10B AIRPLANES**

**SUMMARY:** This notice proposes to supersede Airworthiness Directive (AD) 80-24-51, which currently requires inspecting both the center wing lower skin and main spar upper flange at the wing root areas for cracks on certain Avions Mudry & Cie Model CAP 10B airplanes, and repairing any cracked part. An accident investigation has

# TECHNICAL SAFETY

revealed cracking and failure of the wing root area on one of the affected airplanes that was in compliance with the existing AD. The proposed action would require installing an inspection opening in the wing, repetitively inspecting the upper and lower wing spar caps for cracks and repairing any cracks. The actions specified by the proposed AD are intended to prevent fatigue failure of the wing spar, which could lead to loss of control of the airplane.

**DATES:** Comments must be received on or before March 26, 1993.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92-CE-20-AD, room 1558, 601 E. 12th St., Kansas City, Missouri 64106. Comments may be inspected at this location between 8 a.m. and 4 p.m., Monday thru Friday, holidays excepted. Service information that is

discussed in the proposed AD may be obtained from Avions Mudry & Cie, B.P. 214, 27300 Bernay, France; Tele: (33) 32 43 47 34; Fax (33) 32 43 47 90. This information may also be examined at the Rules Docket at the address above.

For further information contact: Mr. Raymond A. Stoer, Program Officer, Brussels Aircraft Certification Office FAA, Europe, Africa, and Middle East Office, C/O American Embassy, B-1000 Brussels, Belgium; Tele: (322) 230.38.30 Ext. 2710; Fax: (322) 230.68.99; or Mr. William Timberlake, Project Officer, Small Airplane Directorate, Airplane Certification Service, FAA, 1201 Walnut, Suite 900, Kansas City, Missouri 64106; Tele: (816) 426-6932; Fax: (816) 426-2169.

## SPEAKING OF PREFLIGHTS...

You know, I have always believed if you're going to do something,

belong to a club which has information available to you and can pass along good ideas. Well, I think the following material is an excellent example of this, as submitted by a member. Where else but right here in this magazine would you be able to find a Preflight Checklist for Aerobatics. Though it is meant for a Pitts-type biplane, it has a lot of good pointers and I suggest you cut this out and laminate it for continual use.

### Preflight Checklist for Aerobatics

#### Visual Inspection

—Stand 20 feet in front of aircraft, observe overall condition, note tires, landing gear, struts.

#### Left Fuselage

—Fabric: check for cuts or rips.  
—Longerons and formers: check for cracked or broken.  
—Antennas: check for security.  
—Stabilizer: check for security by lightly lifting, noting any give. Check

bolts for security.

—Elevator: should travel to stops in both directions without any resistance. Note hinge attach points and bolts.

—Fairings: secure. No loose screws.

—Flying wires: check lock nuts for security. Test wire tension by "thumping" and note tone. Both sides should match.

—Rudder cables: condition and security.

—Tailwheel: check tire condition. Check steering cable attach points and spring condition. Check bolts and swivel check.

#### Rear Visual Inspection

—Move back to 45° angle. Look closely at wings and tail assembly. This is best angle to note bent or warped spars or ribs.

#### Right Fuselage

—Same as left side.

#### Right Wing

—Check entire wing area: look for any warping, bent spars, or ribs.

—Fabric: look for cracks, pulled stitching, or any looseness.

—Fairings: check for security.

—Slave strut: check that there is freedom of movement. Check hinges and attach points.

—Ailerons: condition of fabric. Check hinge attach points. Should be little, if any, play between top and bottom aileron.

—I-Strut: Overall condition. Check bolts.

—Leading edge: squeeze to feel for any "soft" spots.

—Flying wires: check attach points and tension.

#### Right Gear

—Gear angle: note tire is flat on ground.

—Tire: check wear and inflation.

—Brake: check disc and pads for wear. Look for any fluid leakage at brake line.

—Wheel Pant: condition and security.

#### Exhaust

—Check stacks for looseness or cracking.

#### Lower Cowl

—Check for oil: note areas and find source.

—Cowl: missing screws or cracks.

—Engine: look for any loose fittings.

—Engine mounts: check for cracks at both attach points. Look for wear on shock mounts as noted by "pancaking".

#### Fuel

—Level

#### Engine

—Oil

—Condition/security of: upper engine mount, cylinders (cracked fins), engine baffles, spark plug leads, leads, lines, fittings, hoses, wires, exhaust stacks, rocker box covers, magneto, magneto ground wire.

#### Propeller

—Nicks, scratches, or gouges.

—Security to flange.

—Spinner: cracks, missing screws, security.

—Push spinner up to check for play in motor mount.

#### Gascolator

—Drain: check for water and proper grade.

#### Brake Fluid

—Level

#### Left Wing

—Same as right.

—Pitot tube: check opening clear and tube secure.

#### Parachute

—Current packing.  
—General condition.

#### Cockpit

—Remove seatback and bottom if able.

—Look aft in fuselage.  
—Free of loose objects, clean.

—Safety harness: check condition and all attach points.

—Lap belt.  
—Elevator torque tube: check for cracks and security.

—Rudder cables: check general condition.

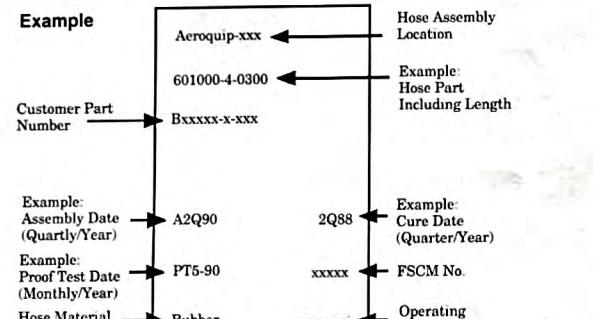
—Fuel tank: look for dye marks that would indicate leaks.

—Controls: free and correct.

—Instruments: general condition and correct setting.

## AEROQUIP SERVICE BULLETIN

To owners/operators of all general aviation aircraft using aviation gasolines. Aeroquip Corp. has recorded several failures of its 601-type hose over the past 12-month period. The 601 hose meets all required specifications. However, based upon data accumulated to date, it appears that the use of this hose in fuel systems which carry aviation gasoline is adversely affecting the life expectancy and performance which Aeroquip has historically experienced with this type of hose. Aeroquip has seen degradation of the elastomeric inner tube which has resulted in the tube cracking, which, in turn, has caused leaking of the 601 hose in these limited types of applications. Based on the data which Aeroquip has accumulated to date, it appears that this phenomenon is occurring after approximately 2 years installation time. The



Aeroquip 601 hoses have red sockets, and a metal identification tag (see example). Also, 601 hoses typically begin with part number 601xxx.

If you have this type of fuel line hose contact Aerospace Group, 300 SE Ave., Jackson, MI 49203-1972 Phone (517) 787-8121 or Fax (517) 787-5758.

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## FAI INTERNATIONAL AEROBATICS COMMISSION (CIVA) REGULATIONS AND SPORTING CODE

The FAI International Aerobatics Commission (CIVA) establishes rules and regulations for World Aerobic Championships, Continental Aerobic Championships, and international competitions. These rules are published in the United States and only available from CIVA President Mike Heuer. These rules and regulations are highly recommended for anyone interested in FAI competitions. They are sized and hole punched to fit under the "Sporting Code and Regulations" tab in the FAI Aerobatic Catalogue. The following are currently available:

### FAI Sporting Code (General Section)

*General Section is a part of Sporting Code which covers all FAI air sports disciplines and deals with the general administration of all sport events in FAI. 1993 version ..... \$10.00*

### FAI Sporting Code (Section 6 - Aerobatics)

*Section 6 is a part of the FAI Sporting Code and establishes general and judging rules for World and Continental Aerobic Championships and international aerobatic competitions. It is applicable to powered aircraft and gliders. 1993 version \$5.00*

### CIVA Regulations (Part One)

*These are the rules for Unlimited powered competition. Applicable to World and Continental Championships and international competitions. 1993 version ..... \$10.00*

### CIVA Regulations (Part Two)

*Applicable to glider aerobatics in World and Continental Championships and international competitions. 1993 version ..... \$10.00*

### CIVA Regulations (Part Three)

*Applicable to Class 2 powered competition. 1993 version ..... \$10.00*

### FAI Catalogue of Glider Aerobatic Figures (GAF)

*New in 1993. This catalogue consists of new pages for the FAI Aerobatic Catalogue applicable to glider aerobatic competition. This document is applicable to all glider aerobatic competitions in the U.S. and internationally. A must for the glider aerobatic pilot. The catalogue can be used as a "stand alone" reference or the new pages can be inserted in an existing FAI Aerobatic Catalogue. Pages printed in green ..... \$10.00*

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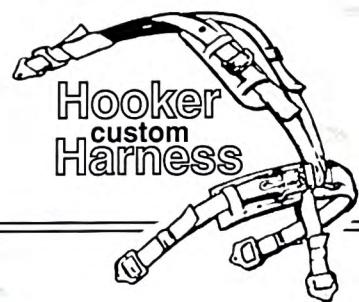
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## CALENDAR OF EVENTS

### U.S. CONTESTS

- MAY 13-16, 1993 - TAFT, CA - Five category contest sponsored by IAC Chapter 49. For information contact Contest Director Norm Smith PHONE: 408/448-2344(H) or 408/922-6376(O).
- JUNE 25-26, 1993 - SITE TO BE ANNOUNCED (Dallas Area) - Sponsored by IAC Chapter 24, four category with contest starting Friday, June 25 at 10:00 a.m. For information contact Contest Director Tim Carter PHONE: 817/485-0942.
- JUNE 26-27, 1993 - NEW LENOX, IL - Robert L. Heuer Classic five category regional sponsored by IAC Chapter 1. Practice and registration Friday, June 25, competition begins Saturday, June 26. For information contact Contest Director John Rux PHONE: 312/951-1928(O) or 312/951-1873(H).
- JULY 2-4, 1993 - MARLETTE, MI - Five category contest sponsored by IAC Chapter 88. Practice and registration Friday, July 2, competition begins Saturday, July 3. For information contact Contest Director Phil DeTurck PHONE: 206/321-6199 or Jim Price PHONE: 206/321-5629.
- MAY 22-26, 1993 - ORANGE, MA - Five category plus gliders sponsored by IAC Chapter 52. Practice and registration on Friday, May 21. For information contact Contest Director Charlie Ryan PHONE: 508/369-0133(H).
- MAY 29-30, 1993 - KEYSTONE, FL - Five category regional sponsored by IAC Chapter 63 and 90. Raindate Monday, May 31. For information contact John Freeman PHONE: 407/880-8098.
- MAY 29-31, 1993 - LONGMONT, CO - Rocky Mountain Aerobatic Championships, five category contest sponsored by IAC Chapter 12. Practice and registration May 28, raindate May 31. For information contact Jeff Puckett PHONE: 303/773-1094(O).
- MAY 29-31, 1993 - COVINGTON, TN - Four category (Basic thru Advanced) sponsored by IAC Chapter 27. Practice and registration on Friday, May 28. Raindate, Monday, May 31. For information contact Joe Holmes PHONE: 901/476-1038.
- JUNE 4-5, 1993 - STILLWATER, OK - Five category contest sponsored by IAC Chapter 59. For information contact Melissa DeLacerda PHONE: 405/624-8383.
- JUNE 4-6, 1993 - MAYTOWN, PA - Five category contest sponsored by IAC Chapter 58. Practice on Friday, June 4 with contest beginning on Saturday, June 5. For information contact Dick Schauss PHONE: 717/426-3971 or Larry Bashore PHONE: 717/233-8711(O) or 717/766-3705(H).
- JUNE 11-13, 1993 - SALEM, IL - Salem Regional sponsored by IAC Chapter 61. Five category, plus gliders. Practice and registration Friday, June 11, fly Saturday and Sunday. For information contact Jerry Spear PHONE: 618/532-7447.
- JUNE 18-20, 1993 - COLUMBUS, OH - Bolton Airport, Red Roof Inns Ohio Aerobatic Open. Basic thru Unlimited sponsored by IAC Chapter 34. Practice and registration starts on Wednesday, June 16. Advanced/Unlimited begin flying Friday at noon. Contest ends at 1:00 p.m. Sunday, June 20. For information contact Contest Director Barb Hadden PHONE: 614/885-5685.

JUNE 25-26, 1993 - PASO ROBLES, CA - Five category regional sponsored by IAC Chapter 38. For information contact Contest Director Tom Harris PHONE: 209/723-7151(H) or 714/871-3090.

SEPTEMBER 10-11, 1993 - LAWRENCE, KS, Five category contest sponsored by IAC Chapter 15. Practice and registration will be on Thursday, September 9. Box open on September 6 and stays open the week after the contest, closing on September 17. For information contact Contest Director Lee Crites PHONE: 913/888-0596(H) or Co-Director Jim Burr PHONE: 816/741-5754(H).

SEPTEMBER 20-24, 1993 - DENISON, TX - U.S. National Aerobatic Championships. For information contact Contest Director Fred Peters PHONE: 901/753-6835.

OCTOBER 14-16, 1993 - SEBRING, FL - Five category contest sponsored by IAC Chapter 23 and Pompano Air Center. Practice box opens Sunday, October 10. Advanced/Unlimited begin flying Thurs., October 14. For information contact Sue Besarick PHONE: 305/943-6050.

OCTOBER 14-17, 1993 - BORREGO SPRINGS, CA - Borrego Springs Akrofest four category contest sponsored by IAC Chapter 36. Practice and registration Thursday, October 14. Contest begins Friday with a rain day on Sunday, October 17. For information contact Bob Branch PHONE: 619/789-5741.

NOVEMBER 4-6, 1993 - TUCSON, AZ - Tequila Cup, four category contest sponsored by IAC Chapter 62. Practice and registration on Thursday, November 4. Flying on Friday and Saturday, November 5 and 6. Raindate will be Sunday, November 7. For information contact Contest Director Marilyn Holland PHONE: 602/887-9399(H).

### JUDGES SCHOOL

AUGUST 7-8, 1993 - FOND DU LAC, WI - Hotel to be determined. For information contact Sharon Heuer PHONE: 901/756-7800(O).

### MEETINGS

AUGUST 9, 1993 - FOND DU LAC, WI - Annual Business Meeting, Sheraton Hotel. For information contact Steve Morris PHONE: 303/693-7948.

OCTOBER 28-29, 1993 - OSHKOSH, WI - IAC Board of Directors Meeting. For information contact Steve Morris PHONE: 303/693-7948.

NOVEMBER 6-7, 1993 - HUNGARY - Meeting of the FAI International Aerobatics Commission (CIVA). Location to be announced. For information contact Mike Heuer PHONE: 901/756-7800.

continued on next page

## INTERNATIONAL CONTESTS

JUNE 12-13, 1993 - SLEAP, GREAT BRITAIN  
- The Golding Barrett Trophy, Beginners, Standard, and Intermediate.

JUNE 17-27, 1993 - GROSSETO, ITALY - 9th European Aerobatic Championships. Open to Unlimited pilots worldwide who will compete for separate trophies. For information contact Mike Heuer PHONE: 901/756-7800.

JUNE 23-27, 1993 - AMIENS, FRANCE - North Francis Desavois Contest.

JULY 10-11, 1993 - BREIGHTON, GREAT BRITAIN - The Tiger Trophy. Open, Standard, and Advanced.

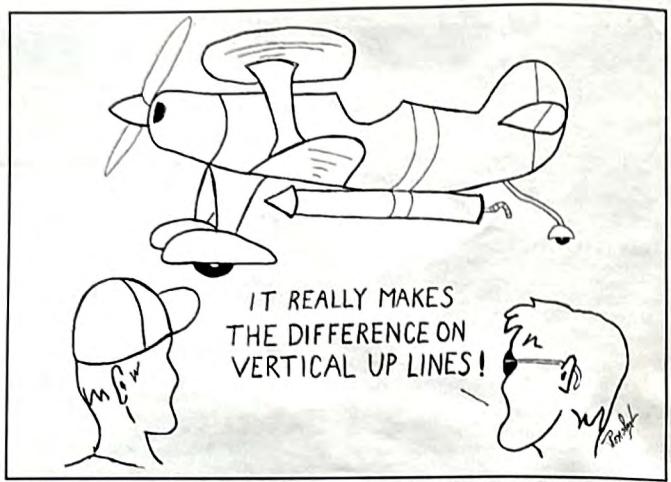
JULY 14-18, 1993 - CAMBRA, FRANCE - Championships of France II.

AUGUST 7-8 1993 - FENLAND, GREAT BRITAIN - The FENLAND AND NIGEL NEWBOLD Trophies. Beginners, Standard, and Intermediate.

AUGUST 25-29, 1993 - FRANCE (location TBA) - National Contest for hopefuls.

SEPTEMBER 3-5, 1993 - TBA, GREAT BRITAIN - The Neil Williams and David Perrin Trophies. Unlimited.

SEPTEMBER 13-19, 1993 - CARCASSONNE, FRANCE - Championships of France I and Doret Contest.



...Cartoon by Ron Saglimbene

SEPTEMBER 24-26, 1993 - WICKENBY, GREAT BRITAIN - Intermediate and Advanced Trophies.

For information on British Aerobatic Society competitions, contact the BAeS's point for information, Nick Orr, at 44 (81) 318 5153.

For information on other competitions, contact Mike Heuer, 758 Grovewood Drive, Cordova, TN 38018 USA. PHONE: 901/756-7800 or FAX: 901/755-3848.

are invited to submit applications for participation in the Breitling World Cup events. This can be done by contacting the General Event Director, Mr. Jean-Louis Monnet, Breitling Montres SA, BP 1132, CH-2540 Grenchen, Switzerland. PHONE: (41) 65 /51.11.31 or (41) 38 /31.10.18. FAX: (41) 65 /52.26.06 or (41) 38 /30.20.38. In the United States, contact Mike Heuer, 758 Grovewood Drive, Cordova, TN 38018 PHONE 901/756-7800.

## OTHER

JULY 29-AUGUST 4, 1993 - OSHKOSH, WI - EAA Fly-In Convention.

## BREITLING MASTERS

JUNE 13-14 - PARIS, FRANCE - Le Bourget (Paris Air Show)

AUGUST 2-3 - OSHKOSH, WISCONSIN - EAA Fly-In Convention.

AUGUST 26-29, 1993 - BEX, SWITZERLAND

SEPTEMBER 3-5, 1993 - BERLIN, GERMANY

NOVEMBER 18-21, 1993 - POMPANO BEACH, FLORIDA - the final event for the award of the Breitling World Cup.

All pilot members of national aerobatic teams

## LISTINGS

**U.S. CONTESTS** - All U.S. contest dates must be cleared first with the IAC Sanctions Director before they'll be printed. Contact Sanctions Director Sharon Heuer, 758 Grovewood Dr., Cordova, TN 38018. Phone 901/756-7800 or FAX 901/755-3848. Complete information is not necessary initially to list. For instance, Contest Director need not be named as yet, paper work need not be completed and/or even exact contest site may not be known yet. Changes and/or additions may be made as they develop. She will in turn give the listing and its information to the Editor.

**ALL OTHER LISTINGS** - Send direct to Editor approximately six weeks prior to magazine publication date.



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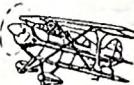
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## CHAPTERS

### Chapter 1 - Chicago, Illinois

Mr. Gerry Molitor, President  
815/344-3239 (h)  
Meeting: Contact President

### Chapter 8 - Milwaukee, Wisconsin

Mr. William Dicus, President  
414/332-7897 (h) 414/223-2727 (w)  
Meeting: 2nd Tues., Timmerman Field, 7 PM

### Chapter 10 - Tulsa, Oklahoma

Mr. Calvin G. Bass, President  
918/494-8908 (h)  
Meeting: Contact President

### Chapter 11 - Washington, D.C.

Mr. Miles Merritt, President  
703/280-2829 (h) 708/323-2829 (w)  
Meeting: Contact President, 3rd Wed., 8 PM

### Chapter 12 - Denver, Colorado

Mr. Jeff Puckett, President  
303/733-1094 (h) 303/761-9555 (w)  
Meeting: 2nd Thurs., Jeffco Airport, 7 PM

### Chapter 15 - Kansas City, Missouri

Mr. Jim Burr, President  
816/741-5754 (h) 816/891-7000 (w)  
Meeting: Last Wed., Executive Beechcraft, Downtown Airport 7:30 PM

### Chapter 19 - Apex, North Carolina

Mr. Frank Routh, President  
919/495-1524 (h)  
Meeting: 2nd Sat., noon,  
Contact President

### Chapter 22 - Sweden

Mr. Per-Olof Olsson, President  
46-435-11304 (h) 46-435-45469 (w)  
Meeting: Contact President

### Chapter 23 - Pompano Beach, Florida

Mr. Michael Mays, President  
407/734-1955 (h)  
Meeting: 3rd Thurs., Pompano Air Center, 8 PM

### Chapter 24 - Dallas, Texas

Mr. Lynn Heffley, President  
817/232-4603 (h) 817/626-2808 (w)  
Meeting: 2nd Sun., Aero Country Airport, 2 PM

### Chapter 25 - Houston, Texas

Mr. James D. Clark, President  
713/531-7815 (h) 713/596-5592 (w)  
Meeting: 1st Mon., 7PM, Contact President

### Chapter 26 - Delano, California

Mr. Lonnie English, President  
209/896-3526 (h) 209/486-7440 (w)  
Meeting: 3rd Sun., Delano Airport, 12 PM

### Chapter 27 - Memphis, Tennessee

Mr. Joseph (Jeff) Reed, President  
901/476-7876 (h) 901/867-9971 (w)  
Meeting: Contact President

### Chapter 34 - Columbus, Ohio

Mr. Ken Hadden, President  
614/885-5685 (h) 614/885-5685 (w)  
Meeting: 3rd Sun., Madison County Airport, 2 PM

### Chapter 35 - Jaffrey, New Hampshire

Mr. Charles Ryan, President  
508/369-0133 (h) 617/863-3735 (w)  
Meeting: 3rd Sat., Silver Ranch Airpark, 10 AM

### Chapter 36 - San Diego, California

Mr. Bob Branch, President  
619/789-5741 (h)  
Meeting: 2nd Sat., Ramona Airport, 11 AM

### Chapter 37 - Miami, Florida

Mr. Stuart Goldstein, President  
305/238-6956 (h) 305/358-5800 (w)  
Meeting: Contact President

### Chapter 38 - Stockton, California

Mr. Tom Myers, President  
415/328-2141 (h) 415/857-4122 (w)  
Meeting: 2nd Wed., Hayward Airport 7:30 PM

### Chapter 46 - Fond du Lac, Wisconsin

Mr. Louis Andrew, President  
414/922-6106 (h) 414/921-6000 (w)  
Meeting: Contact President

### Chapter 49 - Los Angeles, California

Mr. Randy Gagne, President  
818/884-0490 (h) 818/908-8267 (w)  
Meeting: Last Sat., Van Nuys Airport, 10 AM

### Chapter 58 - Maytown, Pennsylvania

Mr. Larry Bashore, President  
717/766-3705 (h) 717/233-8711 (w)  
Meeting: 3rd Sat., 10 AM,  
Contact President

### Chapter 59 - Oklahoma City, Oklahoma

Mr. Dick Smart, President  
405/453-7250 (h) 405/247-3311 (w)  
Meeting: 1st Tues., MetroTech Bldg., Will Rogers Airport, 7 PM

### Chapter 60 - Perry, New York

Mr. Robert A. Gordon, President  
716/385-1481 (h) 716/546-8111 (w)  
Meeting: 2nd Sat., Perry-Warsaw Airport 2 PM

### Chapter 61 - Salem, Illinois

Mr. Phil Siisson, President  
217/324-6468 (h)  
Meeting: 2nd Sunday, 1 PM,  
See Newsletter

### Chapter 62 - Tucson, Arizona

Mr. Ken Holland, President  
602/887-9399 (h)  
Meeting: 4th Wed., Sue's Dance Studio 7:30 PM

### Chapter 63 - St. Augustine, Florida

Ms. Ellen Dean, President  
Unlisted 904/727-1151 (w)  
Meeting: St. Augustine Airport, Contact President

**Chapter 67 - Seattle, Washington**  
Mr. James Price, President  
206/321-5629 (h) 206/321-5444 (w)  
Meeting: 3rd Sat., Seattle area.  
Contact President, 10 AM

**Chapter 69 - Phoenix, Arizona**  
Mr. Curt Langenhorst, President  
602/835-5048 (h) 602/963-6420 (w)  
Meeting: 3rd Thurs., Anzio Landing Restaurant, Falcon Field 7:30 PM

**Chapter 71 - Midland, Texas**  
Mr. Paul Erdmann, President  
915/694-9877 (h) 915/683-2950 (w)  
Meeting: 1st Thurs.,  
Midland Regional Airport, 7:30 PM

**Chapter 72 - Houma, Louisiana**  
Mr. Darryl K. Christen, President  
504/851-6559 (h) 504/851-1516 (w)  
Meeting: 2nd Sat., Houma Airport, 12 PM

**Chapter 77 - Portland, Oregon**  
Mr. John Barker, President  
206/256-2660 (h)  
Meeting: 1st Wed., Pearson Airpark, Vancouver, WA, 7 PM

**Chapter 77 - Las Vegas, Nevada**  
Mr. Woody Woods, President  
702/254-1100 (h)  
Meeting: 3rd Tues., McCarran Airport, Herbst-Coll Hangar 7:30 PM

**Chapter 78 - Minneapolis, Minnesota**  
Mr. James G. Taylor, President  
612/652-2607 (h)  
Meeting: Contact President

**Chapter 80 - Omaha, Nebraska**  
Mr. Scott Robertson, President  
402/492-9455 (h) 402/895-2414 (w)  
Meeting: 3rd Mon., Council Bluffs Airport, 7:30 PM

**Chapter 85 - Sonoma, California**  
Mr. J. Michael Harris, President  
707/938-9012 (h)  
Meeting: 2nd Sun/2nd Sat., Hangar 26, Sonoma Airport, 12 PM

**Chapter 88 - Southeastern Michigan**  
Mr. William B. Kramer, Jr., President  
313/457-9748 (h) 313/496-3974 (w)  
Meeting: Contact President

**Chapter 89 - Ocala, Florida**  
Mr. James B. Rossi, President  
904/347-3809 (h)  
Meeting: 3rd Sat., Leeward Air Ranch, 10 AM

**Chapter 90 - Orlando, Florida**  
Mr. John Freeman, President  
407/880-8098 (h)  
Meeting: 1st Sat., Mid-Florida Airport, Eustis, FL, 11 AM

**Chapter 91 - West Hampton, New York**  
Mr. James Reiher  
516/653-8345(h) 212/736-3131(w)  
Meeting: Quarterly, last Sat., Gabreski Airport, 10:00 a.m.

**Chapter 94 - Vincentown, New Jersey**  
Ms. Diane Hakala, President  
302/368-0583 (h) 302/656-3017 (w)  
Meeting: 2nd Sat., Red Lion Airport, Vincentown, 1:30 PM

# PARACHUTES

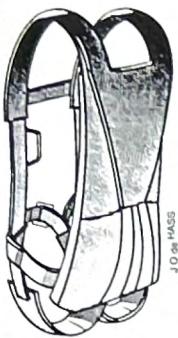
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## From the Executive Director...



by Mike Heuer

In this month's LINES & ANGLES on page 6, we provided some excerpts from One Design Newsletter #3 written by Dan Rihn. Frankly, I don't know how Dan has found all the time for this project but can guess that a few other things have been put on the back burner. I do know that all of us owe this dedicated man a debt of gratitude . . . he identified a serious gap in what is available in airplanes, the need to "level the playing field" in competition aerobatics, and to keep it affordable. And he put his money and time where his mouth was. What better measure of support for our sport is there than this? To do for others and to help our sport grow and prosper well into the 21st century.

As most of you know by now, the One Design articles which appeared in the July 1992 and January 1993 issues of SPORT AEROBATICS have created a firestorm of letters and phone calls. Never in IAC's 23 year history have I seen a bigger response to any one single issue . . . we have received dozens of phone calls, letters, and faxes in these past few months. Dan has, too, but in his case, it has taken valuable time away from the project. We ask you to keep this in mind when you contact him. The design is pretty much firmed up at this point with only construction details remaining and the completion of the prototype this summer. It will not be until the end of 1993 at the earliest that plans will be available. Dan wisely decided long ago that thorough flight testing should be done on the prototype before any action is taken on the sale and distribution of plans. So be patient, keep writing IAC with letters and comments, let Dan go about his work uninterrupted, and watch the pages of this magazine.

If you want to receive the One Design Newsletter, we are distributing it from the IAC Executive Office here in Cordova, Tennessee, so write us if you would like to receive it. It will be \$5.00 per year for now (with newsletters on an irregular, as needed basis) and they will be edited by Bob Scherer of Santa Fe, New Mexico. Any news or articles you might have should be directed to him. His address can be found in LINES & ANGLES.

Dan also forwarded to me a videotape of the scale model of One Design which had now been completed and flown. The model has outstanding, docile flying characteristics. We hope this is a precursor of things to come.

Naturally, we hope to have One Design on display at Oshkosh '93 at the IAC Pavilion even though this cannot be guaranteed at this point. But we expect if it is, it will be an airplane which will attract a considerable crowd, judging from the reaction so far. Dan has also come up with a paint scheme which really enhances its appearance and we will run photos of the model soon in its new livery. As we have previously reported, the prototype will fly with an O-320 Lycoming. This engine was selected because of its widespread availability, the ease with which inverted fuel and oil systems can be installed, and reliability. I suspect this will be the final engine selection for the One Design competition categories.

When it comes to letters and phone calls, there are really two schools of thought out there . . . or perhaps it would be better to say, two different kinds of interest. There are those who are simply wanting to build and fly a capable, strong, good looking aerobatic airplane for the right price. And there are those who want to participate in competition where the playing field is, indeed, level. The numbers show us far more members are interested in an affordable aerobatic airplane than have expressed interest in a One Design category. This can be interpreted in several ways, of course, and it could be safely stated that one will lead to the other. Once the excitement of the beau-

tiful new airplane wears off, pilots will settle down on what they are going to do with it. Will we take it to IAC sanctioned competitions and compete only against other One Designs? Or will our members, who seem to never stop tinkering with airplanes, not be satisfied with the existing design and immediately launch modification projects with bigger engines and aerodynamic modifications? Of course, this may make them ineligible for competing in the One Design categories, but this may not matter to them. It will be interesting to see. As with the Pitts, I suspect our members will not leave the airplane alone. Everyone always has a better idea how to do something (just ask Dan or Curtis Pitts) and the modifications will undoubtedly come. Should we discourage this? Of course not . . . but the One Design categories will remain and such modifications will disqualify those modified aircraft from flying.

Which leads us to our next point. Should we settle on only "one design" for the One Design categories or should we simply establish and publish specifications . . . as in Formula 1? Dan's view is that in aerobatic competition, unlike racing, it is not desirable to simply publish specifications as this destroys the whole idea of the category to begin with. I have to say there is a lot of logic in this. How is the playing field "level" if most any kind of aircraft can be entered by compliance with certain simple specifications, as we have discussed at IAC Rules Committee meetings? Of course, that remains to be decided. The Rules Committee has come up with specifications and match Dan Rihn's One Design. And I think it is realistic to say there will be few, if any, new airplanes introduced to fly these categories. There is little evidence to make us believe otherwise . . . after all, if there were all these ideas out there, where are the airplanes today? One Design is an exceptional, perhaps one-in-a-lifetime situation with just the right ingredients . . . a dedicated, knowledgeable engineer and designer willing to spend hundreds of hours working on a project with no desire for financial reward, a membership asking for affordable, good performing aircraft, and a design which is appealing and simple.

After the prototype is flying, the kinks are worked out, and the plans are available, what then? Clearly, the only way any significant numbers of these aircraft will ever make it to the competition scene is if they are offered in kit form. The Pitts taught us that lesson 25 years ago. Only a handful of our members are interested in building completely from scratch and without the benefit of parts, kits, or material packages. IAC cannot be in the parts and kits business . . . this is not our purpose nor do we have the manpower or time . . . but we can facilitate arrangements with vendors who can do so and I believe you can expect this. These sorts of things remain to be negotiated.

But there is no doubt that 1994 will bring the first of the One Designs to the competition arena and we anxiously await it, as we know you do. Watch these pages for more news . . . I can assure you there will be a lot of it.

# IAC Achievement Awards

Achievement Awards received and processed February 1 thru March 22, 1993

## BASIC SMOOTH

#743 Wyn Hayward, Tucson, AZ

## SPORTSMAN SMOOTH

#578 Wyn Hayward, Tucson, AZ

#579 Herman Dierks,  
Roundrock, TX

#580 Ray Dustrude, Cincinnati, OH

## INTERMEDIATE SMOOTH

#315 James G. Abraham,  
Las Vegas, NV

#316 Lee W. Crites, Lenexa, KS

## ADVANCED SMOOTH

None

## UNLIMITED SMOOTH

None

## BASIC WITH STARS

#231 William Curry, St. Helena, CA

#232 Mikiko Aramaki, Phoenix, AZ

#233 Lou Ann Behringer,  
Phoenix, AZ

#234 James J. Clapper,  
Scottsdale, AZ

#234 Ray Muller, Tucson, AZ

## INTERMEDIATE WITH STARS

#517 Philip J. Parish,  
Tacoma, WA

## ADVANCED WITH STARS

None

## UNLIMITED WITH STARS

None

## ALL FIVE - None

## ALL TEN - None

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Jackets have cotton/polyester shells and linings with elastic waistband, button cuff, vented back, and layered collar. These full cut jackets are stylish, comfortable, and attractive. Available in jade/navy, red/navy, and white/navy. Sizes: S, M, L, XL, and XXL \$59.00



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Sweatshirts for Adults (center) and Children

These beautiful sweatshirts are made by Gear, the highest quality manufacturer of sports wear. Oversized and made of heavyweight, soft cotton/poly fleece, they feature the new "International Aerobatics" logo on front.

Child's sweatshirt on left is reverse fleece design (please specify this in your order). No trim. Child's sweatshirt on right is available with red or purple trim (please specify this in your order). Adult's sweatshirt in center is white with heather gray vertical stripe and trimmed in heather gray.

Child's (S, M, and L)

Adult's (S, M, L, and XL)

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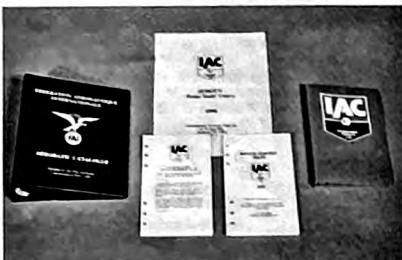
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Also manufactured by Gear, these are the finest polo shirts on the market today. 100% cotton with the "International Aerobatics" logo on the left chest. Shirts are available in white with navy/coral/jade trim and navy with navy/jade trim. Sizes: S, M, L, XL \$39.00



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This T-style sport shirt is a Gear product made of heavyweight 90% cotton. The "chameleon" blend of colors is unlike any shirt available on the market and is attractive and durable. "International Aerobatic Club - Est. 1970" is shown on the front - the year the IAC was founded. Sizes: S, M, L, and XL \$25.00  
The shorts are made of 100% cotton jersey and imprinted with the "International Aerobatics" logo. Sizes: M and L only \$18.00



## Contest Books And Manuals

If you are a competition pilot, judge, or volunteer, these books and manuals are a must!

**IAC Official Contest Rules** - The latest 1992 edition, the rule book comes complete with red vinyl binder. It contains Revision #4 for 1993 \$10.00

**IAC Rules Revision #4** - The 1993 amendments to the IAC contest rules which will update your 1992 manual for the new contest season \$5.00

**1993 Judges Home Study Course** - Distributed at all IAC Judges Schools, taking this study course is one of the first steps an IAC judge candidate takes toward eventual certification. It is also recommended for pilots who want an indepth working knowledge of the rules. It contains all of the 1992 changes \$5.00

**FAI Aerobic Catalogue** - Implemented by IAC on January 1, 1989, this catalog is the basis for aerobatic competition today. It contains all of the figures and difficulty coefficients as well as an explanation of the numeration system and how figures are constructed. IAC also includes a "Special Bulletin" in the front which explains the manual in detail for those using it for the first time. This manual is used side-by-side with the rule book \$30.00



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Aerobatic Template - Helpful in drawing figures	\$3.50
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Volume I - Assembled by IAC Technical Safety Chairman Fred Calley, this 140 page manual is a compendium of 10 years worth of safety and technical articles on all types of aircraft that have appeared in SPORT AEROBATICS magazine \$10.00  
Volume II - This volume picks up where Volume I left off and includes articles from SPORT AEROBATICS up through December 1983 \$10.00  
Volume III - The latest in this excellent series of manuals, it includes articles from January 1984 through December 1986 \$10.00  
If you purchase all THREE of the manuals at one time, price is \$27.00



## Books And Manuals

IAC stocks a number of books and manuals related to aerobatic flying which are of value to each and every IAC member. Please consult these pages for the latest information on availability.

**STALLS, SPINS, AND SAFETY** - Authored by the legendary Sammy Mason, this book carefully examines the basics of stalls and spins. An excellent book for enhancing your knowledge of this important area in flying \$24.95  
**FLY FOR FUN** - Written by one of the world's most experienced aerobatic instructors, Bill Thomas, the book is a precise analysis of each maneuver and shares the author's enjoyment of aerobatic flying based on thousands of hours of competition and instruction. One of the best "how to" books in the business \$14.95

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**PITTS SPECIALS** - Written by one of aviation's foremost authors and photographers, Bud Davisson, this book is a chronicle of Curtis Pitts and his legendary line of aerobatic biplanes. 128 pages in length, the book is full of color photographs and three-view drawings. Many early photos of the first Pitts are included. This book is a must for any Pitts owner or admirer \$19.95

**AEROBATICS** - by the late British aerobatic champion Neil Williams, this book is one of the most comprehensive and interesting books on the market today. Out of print for several years, the book was brought back by popular demand and is new to the IAC inventory after an absence of several years \$29.95

**PARE, THE EMERGENCY SPIN RECOVERY PROCEDURE** - Written by IAC member Rich Stowell, this 144 page book contains timely information on spins, spin testing, and the evolution of spin training. It develops a general spin recovery procedure based on NASA research, the author's experience, and analysis of other procedures. PARE offers a recovery formula to simplify the actual procedure for any airplane. Most of the commonly flown general aviation aircraft are represented (not shown) \$19.95



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#### IAC Traditional Jacket

This jacket has been around since IAC's beginnings and is worn by many IAC members. Made of cotton poplin material, it is light and comfortable. In red with white and blue stripes, the IAC patch appears on the right chest. Sizes: S, M, L, and XL \$25.00 each. XXL \$27.50 each.



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## WELCOME, NEW MEMBERS!

February 1993

IAC welcomes the following people who have joined IAC in the month of February. A total of 99 new members have joined.

Tony Alder	Cathay Pacific Awys., Hong Kong
Andrew David Allison	Thames, New Zealand
Louis X. Amato	Naples, FL
Troy Armand	Metairie, LA
Dr. Ing Pietro Aixerio	Sorengo, Switzerland
Wayne Baker	Longview, TX
Sherril L. Barnes	Miami, FL
Brett D. Bartschi	Elgin, IL
Jim Begarmo	Canton, OH
Clive Beddoe	Calgary, Alberta, Canada
Bill Best	Pacific, CA
James Bisson	Lunenburg, MA
Georgia L. Bracey	New Lenox, IL
Kyle W. Brantley	Chicago, IL
Kerry Brasher	Scots Hill, TN
William F. Breck	Tannersville, NY
David L. Bradstone	Balibrook, OH
August Busch	St. Louis, MO
John W. Buxby, Jr.	Bruno Brook, NJ
Mark Carlson	Dallas, TX
John Carroll	Tucson, AZ
Joseph Caufield	Mount Vernon, WA
Steven H. Chanin	Aspen, CO
Brian I. Chappell	Waverly, Nova Scotia, Canada
John W. Clipp	Daytona Beach, FL
Mark D. Culpepper	Tucson, AZ
Herb W. Cunningham	Beaverton, Ontario, Canada
Irl Davis	Gig Harbor, WA
George Douros	Athens, Greece
Thomas Edworthy	Columbia Heights, MN
Eric Furst	Running Springs, CA
John F. Gaylord, Jr.	Charlotte, NC
David E. Gillingham	Evanston, IL
Cynthia Godfrey	Jackson, MI
Ken Gottschall	Canoga Park, CA
James L. Goulet	Poland, ME
George Haffey	Walderslade, Chatham, England
Paul Hamilton	Rockville, MD
Paul L. Hamilton	Rockville, MD
Jack B. Harloe	Placentia, CA
Ron Harris	Cedar Rapids, IA
Carl E. Henke	Chesterfield, MO
George R. Hill	Griffin, GA
Frank Hofmann	Pierrefonds, Quebec, Canada
Jerry S. Hoggatt	Harvey, LA
Michael P. Ilyin	Jackson, WY
Hans Peter Jacobi	St. Gallen, Switzerland
Mark Jacobs	Oklahoma City, OK

Keith Knowlton	Decatur, GA
Kent Kochheimer	Laguna Beach, CA
Robert Kwan	Lighthouse Point, FL
Chris Longaker	Portland, OR
Todd Low	Rock Hill, SC
Thomas J. Martini	Schenectady, NY
Joseph A. McClure	Indialantic, FL
William J. McIntosh	Burlington, Ontario, Canada
Thomas L. Miller	Riverside, CA
Stuart A. Milson	Dallas, TX
Gary Mogan	Louisville, KY
John Mooney	Hartwood Shotts, Scotland
Edward Moore, Dr.	Spencer, WV
Raymond S. Muller	Tucson, AZ
Teresa Nagy	Stevensville, MD
Tom Nash	Dothen, AL
Nobuhiko Yamada	Hadama, Shi, Japan
Harold Okunow	Edina, MN
Michael Pohl	Leichlingen, Germany
William Pollina	Farmingdale, NY
Steven Profitt	Houston, TX
Klaus Racky	Nidderau, Germany
Ileana Ramirez	Oklahoma City, OK
Roy Reagan	Medford, OR
Thomas E. Reneau	Midland, TX
Thomas L. Ripley	Victoria, British Columbia, Canada
Richard E. Roades	Louise, TX
Louis Rosner	Rockville Center, NY
Ronald L. Saum	Mesa, AZ
John P. Savage	Colorado Springs, CO
Charles E. Schrecongost	Hampton Bays, NY
Kirby F. Sills	Jackson, MS
Andrew J. Sobiech	Bedford, IN
Bradley D. Sommers	Hawawaha, KS
Mike Steigerwald	DoylesTown, PA
Richard L. Surgent	Brielle, NJ
Greg Thompson	Seattle, WA
Angela L. Torres	Oviedo, FL
Karen E. Voelker	Bloomingdale, IL
Jeff M. Wagner	Cleat Water, KS
Richard M. Ware	Springfield, IL
Wesley Warner	Yorba Linda, CA
Robert Wassam	Eik Grove, CA
Joseph L. Watson	Houston, TX
Rose T. Werner	West St. Paul, MN
Ted Westlake	Readfield, ME
David P. White	Spencer, NY
Steve Wilkey	Fort Worth, TX
Lloyd F. Wittenburg	Griffin, GA
Lyne Zielinski	Long Grove, IL

## THE OHIO AEROBATIC OPEN

June 18, 19, 20, 1993 Columbus, Ohio

Join us for the 1993 Ohio Aerobatic Open at Bolton Airport (214) in Columbus, Ohio. It's sponsored by IAC Chapter 34.

Practice days will be Wednesday, Thursday and Friday till noon June 16-18. Competition will begin Friday at noon for Unlimited and Advanced. For your complete information package call Barbara Hadden, Contest Director, at 614/885-5685.



1-800-The Roof



## The Rebel 2300

by Ken Kraska IAC #7875

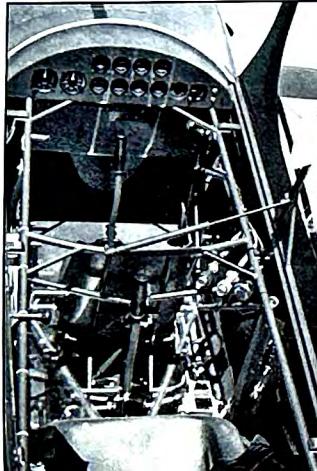
About thirteen years ago I got the aerobatic bug when the Christen Eagle was at its peak with home-builders. I pondered and procrastinated but started a kit which took five years to finish but was an excellent education about aircraft construction techniques. That Eagle, 85KK, won an outstanding workmanship award at Oshkosh in 1987! Today I am writing about a very different animal.

While the Eagle was a great airplane, I knew before I was finished I would need more machine soon because the nature of competition was changing so quickly. Unlimited was my goal so I began the search for my new mount. A monoplane is what I wanted but they were so expensive. I tried to talk Walter Extra into sending me a frame and wings while I would mount my own engine, prop and instruments. That visit to Germany didn't work out but I knew what I wanted.

About that time the first Rebels began to fly. I bought one of the first two-place frames and hoped to have it completed in a year! I knew about some of the problems with the plane and paid for the parts as they were delivered and only for the parts in my hand. Most everyone knows the bankruptcy story, but I still ended

up with a fuselage and wing. What I didn't know was the effort it would take to complete the aircraft.

While my Rebel 2300 is my aircraft, quite a few people had design input. Engineers and hanger flyers alike had advice from "it'll never work like that" to "you won't like it that way". Damn the naysayers, full speed ahead. Two years later I finished an airplane with which I was extremely pleased.



I would like to say that Gerry Zimmerman raised a good son who helped me a great deal with receiving a complete composite wing. My wing, one for Gerry and another for Wayne Handley were the last completed by John in Del Rio, Texas. The wing itself is the standard carbon spar, kevlar skin design that the Rebels all have. I was very careful finishing mine with micro-balloons and Dupont URO primer. My son, Todd, got very involved from the start and helped with endless sanding tasks. I spent considerable time blending in the end caps and adding an extra two inches at the trailing edge to allow the ailerons extra chord. In addition, prior to adding the rear spar we added steel plates for the aileron attach points. My wing weighed in at 175 pounds with ailerons and all attach hardware, control rods included. After epoxy work, wing sealing, and paint, the wing installed at 193 pounds. Each wing holds 17 gallons of fuel.

While I waited for the wing, I bought a Barrett performance engine from Gordon Price who had a spare for sale after his bankruptcy. That IO-540 was coming together nicely until the exhaust pipes were delivered COD and my wife had to write the check. That little incident

cost me a fur coat to maintain family harmony!!!

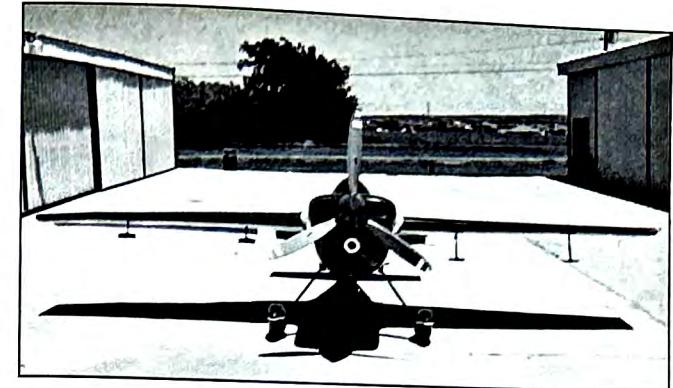
On the many trips to Del Rio, I met Gene Stisser who contracted to build Wayne Handley's plane. Since ours were the only two place planes under construction, we were on the phone constantly to compare notes. I had initially tried to adapt single place Rebel skins I obtained from Bill Larson at a sympathy auction (he hated to see a grown man cry). The results were less than pleasing. That was when Wayne said he had completed molds and first said he had Pacific skins for his plane. Wayne had Pacific Composite run another set before they went bankrupt. Seems to me there's a lot of bankruptcy in aviation!

I had my skins run with glass for the outside surface instead of kevlar since the kevlar is very difficult to smooth for painting. The entire skin set from prepreg cloth weighed in at 14 pounds. The first cowlings had too much area with gel cost and were pretty heavy. Reruns of the cowl cut its weight to 14 pounds. All the skins remove easily for access with less effort than most aircraft. The composite skins also allowed placement of the radio antennae flush inside the skins. Overall, most people think the lines of the finished airplane are pretty sleek and well proportioned.

The canopy was also custom molded from a plug Wayne had made. The first one I fitted was cracked. The second one was molded a little thinner and works great. The scraps from the canopy were heated and molded in my oven to blend in for side and bottom windows. The canopy latch was the last thing I designed and has worked well although the canopy does not jettison. Real live testing by other aircraft showed that it will open in flight and lay on the wing.

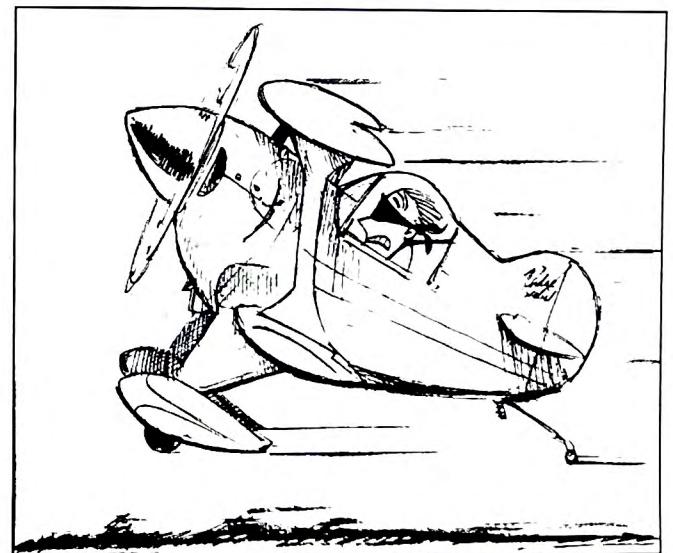
I made some frame and control mods of my own to make the plane more solid. Some were minor, some major but all have worked well to date. Throughout this process John Knowles and I kept plans updated on Autocad since he was starting a two place from scratch. I used Vision Microsystems, engine instruments which I really admire for their functionality. Dupont Centari with hardener was used for the final finish with sanding and buffing to complete the plane.

I ended up with a Hartzell compos-



in my Eagle and Rebel will still be vivid memories.

So, how does it fly? Go watch Wayne Handley in an airshow. He has the hours on the plane and skills to match this machine. His plane, the Raven, has been very well received and was on the cover of Kitplane magazine. I'm still learning and hope to have it flying Unlimited soon. I do believe the monoplane is easier to fly, especially with the excess power available. Specifically, I think it's a dream machine with good control harmony. And it's a pussycat on the ground! If you see me at a contest, look me up to talk about the plane. I'm a believer!



...Cartoon by Jamie Ollif

On Final...

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... Cartoon by Ron Saglimbeni

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BUSINESS MEMBER

# THE IAC SPIRIT

## Flat Spins...

Looking back over the history of sport aerobatics as we know it today, three people cross the backroads of my mind who have contributed greatly and unselfishly to the promotion of our hobby. They gave life to the sport by encouraging newcomers and drew back the curtain shielding the mysteries of stick and rudder action to perform the many maneuvers . . . Joe Mackey, Bill Skipper, and Gene Beggs.

Joe wrote the first comprehensive manual for the 1939 Civilian Pilot Training Program describing artistic flight. We know it today as airshow and competition aerobatic flying. His eight section, progressive slow roll chart was a masterpiece on "how to". However, the extent of difficulty of the maneuvers he described and taught would compare with IAC Intermediate category and as more advanced maneuvers were developed, it was obvious another Joe Mackey was needed . . . but alas, no one came forth. A "closed shop" created a dangerous situation by withholding information and turning neophyte aerobatic pilots away.

Flat spins became the big bugaboo of the day with its mysteries and was held in awe by the fledgling. This period (1970's) was not without attempts to solve this problem and treat it as just another acro maneuver, as it was. During that time, a series of articles appeared with checklists of eleven steps which would cause you to auger in before you go to step 7.

It was not until Bill Skipper wrote an article, knowingly making himself a martyr, that a flow of reports were published from the pontifical few . . .

by Sam Burgess  
IAC #23



one excerpt from Bill's article was, "Anyone who does an intentional flat spin has got to be out of his gourd."

Bill was a 240 pound Pitts pilot whose aircraft was built an eighth larger to accommodate his girth and he related the reasons for his opinions. It seems he was flying a Buhl Pup . . . a cute little single place, mid-wing, monocoque fuselage, open cockpit sporter of the 1930's with a three cylinder radial engine. With his body weight, the aircraft was out of CG and he inadvertently entered a flat spin.

He tried every conceivable method to recover but to no avail. He was going to spin in to an inglorious end, he thought, when he decided to exit the airplane. He unfastened the seatbelt, broke the windshield away, and lay on the top cowl just inches away from the top cylinder. The airplane recovered and Bill was left with a shocking lesson to remember.

In making this rather strong statement, Bill did kindle a fire and some of these deeply held secrets began to appear but not without

some confusing articles appearing with statements like, "... it's not the flat spin that's the problem, it is the secondary effect." ??? So where did we go from there?

It was not until ten years later that a not too well known flight instructor and competition pilot came forth with a simple flat spin recovery procedure we all know of today. His three step procedure has been used widely throughout the world aerobatic community. By his generosity and perseverance in establishing a simple, well executed, definitive series to steps, Gene Beggs removed forever the stigma associated with flat spins. And he gave aerobatic pilots a simple way to recover from any spin. All aerobatic pilots should be grateful for his contribution to sport aerobatics . . . the true IAC Spirit.

As a result, the sport has flourished with vigor and zest and there have been many openings of formal aerobatic schools which can be found listed in SPORT AEROBATICS. Most teach his methods today.

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## FOR SALE

smoke, like new, \$92,000 Contact Pete Shepley  
 802/884-9065(O) or 602/742-7463(H)

1989 GYRUS 360 - Bill Curry's Super Laser - see back cover SPORT AEROBATICS, March 1991 Wing by Barton, B & C startier, alternator and battery, Hooker Harness, I-Com hand held, mounted and wired, Bracket for Apollo Lorin, 16 ga. main tank and 20 gal. belly tank, ejectable canopy, Kevlar cowl and much more. K.D. Johnson, Aerobatic Safety, Santa Paula, CA airport. 805/525-0111.

SR-300 #2 - 40% KIT MIDWING MONOPLANE - stressed for 15 Gs. Loss wing. ENGINE MOUNT TO CHOICE See article in April 1991 SPORT AVIATION, page 22. Randy Henderson, 214/377-9143

TOLL FREE 1-800-526-2822, Now and Used Parachutes. We take trade-ins, 5 year repair or replacement warranty, many styles in stock. Parachute Associates, Inc., 2 Linda Lane, Suite A, Vineland, NJ 08088. 609/859-3397.

1-800-4A-CHUTE-emergency parachutes. Buy, sell trade. Now, used in stock. Many styles, colors. Great prices. Lifetime warranty. Janice Armstrong the "Parachute Lady" 813/654-9062.

1987 Extra 230 for sale: 776 TTAE, lightweight starter and alternator, Becker 720 comm, PTT, new Terra transponder, encoder, digital EGT/CHT, halon extinguishing system, much more. Brian Becker. Pompano Air Center, 305/943-6050.

SKYBOLT - TT airframe 135 hrs., 0 time 10-360, Dick Demars 230hp. aerobatic prop, April annual, exceptional airplane, 602/742-7463 evenings.

PARACHUTE RIGGING - 25+ years experience, Gillmore Aviation 708/356-2800.

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PROPELLER - 2 bladed Hartzell constant speed propeller, Anderson mod, 0 since overhaul, \$3,500. 815/338-4584.

PARACHUTES - National Parachutes for sale. Choice of type and color. From the person who knows. Call Rick Massegee 505/639-0523.

DRUGLORD PLANES \$1000 - Piper Aztec \$750; Cessna 185E - \$2630; Piper Cherokee - \$3625; Beechcraft Bonanza - \$3875; Lear jets, Pipers, Cessnas and more. Choose from hundreds starting \$1000. FREE information 24 hour recording reveals giveaway prices 801/379-2930. Copyright #W1029308.

NEW CHRISTEN EAGLE - All new factory kits. A&P engine installation and break-in. Avionics by Elliott Beechcraft include Mode C transponder. Lycoming factory AEIO-360-AID, heavy crank, 15 years experience building and flying three Eagles. Professional paint shop and equipment. Price at cost to build; \$10,000 less than present kits cost. 402/391-5265.

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STEEN SKYBOLT 1987 - Builder/owner, 400 hrs, 200 hp Lycoming IO-360, inverted fuel and oil, 10 gal. aux wing tank, Escort II NavCom, mode C, converts to open cockpit in 30 sec. \$35K. Call Ron Vecchioni 703/818-3436.

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EXTRA 300 - Beautiful example of the West's best aerobatic aircraft, yet with 2 seats. 260hrs. TT from new. Impeccably maintained and just repainted in non-sponsor colours. Public-transport C of A to 1995. Fantastically equipped with lightweight I.F.R. panel, miniature Becker, VOR, transponder, 2 X VHF, smoke, detachable long range fuel (900 n.m.) New aircraft to this spec. is \$215,000 but my representing Sukhoi and new

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Address ads and/or inquiries on rates and mechanical requirements, both B&W and 4color, to: Sharon Heuer, 758 Grovewood, Cordova, TN 38018, 901/756-7800. DEADLINE for all ads types for space reservation or cancellation is six weeks prior to publication date, i.e. April 15th for June issue, etc. However, ad materials/copy can be received at a later date as long as space reserved.

SU29 coming means I must sadly sell. Offers around \$135,000. Also large quantity valuable spares, new engine, prop, canopy and many line items. Richard Goode, England 44 71 491 1266(office).

## WANTED

PITT S-1-T - Private individual wants factory built S-1-T (all considered). Run-out oil, bad fabric ok. Call Phyllis at 919/638-7433 (NC) or fax info to 919/638-7456.

MOVING UP? private individual wants FACTORY BUILT Pitts S-1S, mid-line engine, good fabric, WATCH OUT WAYNE HANDLEY \*\* FAX 707/763-6799 \*H 707/778-0294.

PITTS S1C OR S-1S - Considerable downpayment. Can you help with financing? Consider project or damaged. Robbie 908/604-6709.

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