

SPORT

FEBRUARY 2019

Aerobatics

OFFICIAL MAGAZINE of the INTERNATIONAL AEROBATIC CLUB



ACRO SPORT II PIREP

KING OF THE MODEL 12



2019
Known
→ Sequences

180°

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COVER

On the cover: Dennis Flamini flew at the 2017 U.S. Nationals in the Primary category with his Acro Sport II.

Above: N57DF on display during the 2018 celebration of the Acro Sport.

Photos by Evan Peers.

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The Quiz

BY JONATHAN APFELBAUM, IAC 433983



- 1 Where did the term aerobatics originate?
- 2 When was the earliest recorded aerobatic maneuver performed?
- 3 There was only one World Cup of Aerobatics. Where and when was it held? How many countries were represented?
- 4 U.S. competitions in precision aerobatics started to become formalized in the late 1930s, and the foremost event was the Freddie Lund Trophy. Who was Freddie Lund?
- 5 Bob Hoover is famous for his "energy management" aerobatic display in the Shrike Commander. However, he isn't the first to do such a routine in a twin-engine aircraft. Can you name someone who did it before him?

LOOK FOR THE ANSWERS ON PAGE 25

► **SUBMISSIONS:** Photos, articles, news, and letters to the editor intended for publication should be emailed to editor@iac.org. Please include your IAC number, city, and state/country. Letters should be concise, polite, and to the point. All letters are subject to editing for clarity and length.

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Greetings to all members!

BY ROBERT ARMSTRONG, IAC 6712

WRITING THIS COLUMN a month before the members read it can be a challenge. To include some information that will be outdated by print time is part of the game. This is true for most of the non-aerobatic season, which is also the time that The Exploder gets the most activity and the hangars the least. Looking back at some of the end of year data that is now populated on the web, we see that 2018 was a very busy time. There were 41 contests sanctioned. Unfortunately, seven were not flown for various reasons. As of this writing, the calendar lists six events that chapters have planned for 2019, and we are only in the first week of January. This is looking good — a lot of fun on the horizon!

The Known programs are approved and published on the IAC members page as well as here in *Sport Aerobatics*. There was a bit of delay and some procedural drag that I apologize for — the product of some teething by myself, making sure I did everything correctly.

In several of my past columns I have elaborated on what I label as category creep. Part of the issue with this is that it must be addressed and identified before a correction can take place. One issue was the proposed addition to the Primary sequence for reasons that I felt were not valid. To add to Primary for any reason spells creep in a big way. The members of our board see it that way as well, so Primary remains the same as it was in 2018. This brings up an additional issue: We need more

member comments and input on what to use as base aircraft for determining the suitability of a program for a category. The present wording in the *IAC Policy & Procedures Manual* Section 221 is where we are today. I feel that it is a good guide, but when 15 board members review the 2020 sequences in November, we will be discussing this again, and one part that is missing is member input.

In November 2018, the board of directors passed a motion to separate the rules and sequence chairs and committees. As of this writing, the seats are vacant. This has put a slowdown on the release of the 2019 rules. I have a working group in place that is going at near Mach 1 and will have this corrected shortly. With this split we will now have a separate sequence and rules committee. This move will require some staffing to be done, and I feel that it will involve some very caring and skilled members volunteering their time for all. This type of situation has some concerned that we may not find qualified members. In reality, I can state that the issue is how to use all who have come forth and presented themselves to board members — not being able to use all the talent is the issue.

Now on to fun stuff. I cracked the hangar open to see if I still had a plane. This president position can be very time consuming, and I ended the season last year with very little flying of my own. I do not plan for it to be that way

in 2019! When I looked at the cockpit I saw the parachute that had been packed in September and has not been sat on! This is not the way it should be — more flying equals more fun for 2019. The intensity that I have flown in past years is not necessary for me now. The Free program clipped on the panel is more for fun than most of you will be flying. I reworked my 2003 seven-manuever program to use the updated K on several figures, and that is going to be it. It is for fun, after all.

Later this year we will have our annual safety issue of *Sport Aerobatics*. We do this with the hope that all will take a moment or more to review all the aspects of aerobatics that need special attention to remain safe. With that said, there is no reason you need to wait for the prompt. This time of year is good for taking a long and careful look at all of the parts that make aerobatics a safe sport. Take your airplane apart and look deep. Find that comb you lost last year. Find that little sound that only occurs when you push the left rudder pedal. Send the parachute to your favorite rigger before everyone is in a rush. It is not fun to work on an airplane when it is a bit cold, but it's not as frustrating as working on it when the sun is shining and the first warm spring day is here!

Let's all plan for a fun and safe 2019! **IAC+**

► Please send your comments, questions, or suggestions to president@iac.org.

IAC Judge Training Season Begins

THE NEW YEAR OPENS THE 2019 judge training cycle! And to have contests we must have judges. For certified judges, the 2019 Judge Revalidation & Currency Exam is online. For everyone who would like to work on becoming an IAC judge, and for competitors and friends who want to know what judges look for, you can also view the online judge training and complete the judge knowledge quizzes.

IAC chapters are posting their schedules of judges schools on the IAC website. If you do not see that your chapter has a class scheduled, please contact your chapter leaders and schedule one today. All IAC members will find a day or two spent participating in aerobatic judging discussions informative.

Please join us! Anyone can train to become an IAC judge — pilot certificate not required! Hope to see you at the box!

AEROBATIC JUDGING RESOURCES AT IAC.ORG

Calendar of Judges Schools:

www.iac.org/judges-school-calendar

How to Host a Judges School:

www.iac.org/how-to-host-a-judges-school

Online Judge Training:

www.iac.org/legacy/judges-schools-course-descriptions

Judge Knowledge Quizzes:

www.iac.org/legacy/iac-judge-examinations

2019 Judge Revalidation & Currency Exam:

www.iac.org/exam/2019-judge-revalidation-currency-exam

Calendar of IAC Judges Schools

DATES	TYPE	REGION	LOCATION	CONTACT
Feb. 16-17, 2019	Intro to Aerobatic Judging (Sessions 1&2, two days)	Southwest	Sunrise Aviation at KSNA, 19531 Campus Drive, Santa Ana, CA 92707	Michael Church: mc@sunriseaviation.com, 949-378-3370, www.aerobats.com/judging-reg.html
Feb. 23-24, 2019	Intro to Aerobatic Judging (Sessions 1&2, two days)	South-Central	West Plains Regional Airport (KUNO), 1438 State Route BB, West Plains, MO 65775	Sean or Cleta Sweeney: 417-464-3535 or 4545
Mar. 2-3, 2019	Intro to Aerobatic Judging (Sessions 1&2, two days)	Southwest	Pilot Makers Advanced Flight Academy, 2002 Airport Rd., Heber City, UT 84032	Barry Hancock: barry@hancock.aero
Mar. 9, 2019	Session 2: Practical Aerobatic Judging	Northeast	Nashua Airport (KASH) Conference Room, 93 Perimeter Road, Nashua, NH 03063	Philip Joseph: philip.joseph@comcast.net
Mar. 16-17, 2019	Intro to Aerobatic Judging (Sessions 1&2, two days)	Mid-America	Sky Club - Hanger 3, Pontiac Airport (KPTK), 6548 Highland Rd., Waterford, MI 48327	Hugo Ritzenthaler: hritzenhaler@att.net, 586-588-0145
Mar. 23-24, 2019	Intro to Aerobatic Judging (Sessions 1&2, two days)	Southwest	West Valley Flying Club at KPAO, 1901 Embarcadero Road, Palo Alto, CA 94303	Dave Watson: dave.watson7@comcast.net
Apr. 6-7, 2019	Intro to Aerobatic Judging (Sessions 1&2, two days)	South-Central	Metro State University Aerospace Dept. Building, 1250 7th St., Denver, CO 80204	DJ Molny: djmolny@gmail.com, 303-619-4814
Apr. 13-14, 2019	Intro to Aerobatic Judging (Sessions 1&2, two days)	Northwest	Arlington Municipal, (KAWO), 18204 59th Drive NE, Arlington, WA 98823	Peggy Riedinger: iac67president@gmail.com



IAC Contest Season Begins

DATES	HOST CHAPTER	NAME	REGION	LOCATION
Mar. 28, 2019	89	Snowbird Classic	Southeast	Dunnellon, Florida
Mar. 29, 2019	25	Early Bird 2019	South-Central	Edna, Texas
Apr. 12, 2019	36	Hammerhead Round Up	Southwest	Borrego Springs, California
Apr. 19, 2019	19	Mason-Dixon Clash	Northeast	Farmville, Virginia
May 3, 2019	23	Sebring 79	Southeast	Sebring, Florida
May 3, 2019	24	Lone Star Aerobatic Contest	South-Central	Breckenridge, Texas
May 18, 2019	61	Giles Henderson Memorial Challenge	Mid-America	Salem, Illinois
May 31, 2019	38	Coalinga Western Showdown	Southwest	Coalinga, California
June 1, 2019	12	Ben Lowell Aerial Confrontation	South-Central	Colorado Springs, Colorado
Jun. 22, 2019	80	Midwest Aerobatic Championships	South-Central	Seward, Nebraska
Jul. 12, 2019	35	Green Mountain Aerobatic Contest	Northeast	Springfield, Vermont
Jul. 12, 2019	77	The Covallis Corkscrew	Northwest	Corvallis, Oregon
Jul. 13, 2019	12	High Planes HotPoxia Fest	South-Central	Fort Morgan, Colorado
Jul. 13, 2019	88	Michigan Aerobatic Open	Mid-America	Bay City, Michigan
August 16, 2019	52	Kathy Jaffe Challenge	Northeast	Lumberton, New Jersey





BY MATT FLAMINI, IAC 437478

W

FIRST IMPRESSIONS

alking up to the Acro Sport II N57DF, the first thing that grabbed my attention is the brilliant red and white paint scheme. Everybody loves red on an airplane, and the red here is pretty darn red. The paint scheme really comple-

ments the type's lines, which all seem to be right where they should be. The physical size of the aircraft is small compared to most other two-seat biplanes. I wondered how we were going to stuff two FAA-sized adults in there, but more on that later.

Upon further inspection, I can tell this aircraft was built pretty much to the plans, but there are a few deviations. The fuselage sheet metal is extended to the rear cockpit for ease of maintenance. The rear cockpit has been enclosed with a factory Pitts S-1S canopy. There is also an enlarged access panel near the stabilizer attach points a la Pitts Model 12, making work in this area a snap. Lastly, the standard bungee cord arrangement has been replaced with a die spring setup.

The builder was conscious of weight, and that shows in the finished product, which tips the scales at 1,027 pounds. With this in mind, systems are as simple as can be. There is no electrical system, just a rechargeable Odyssey battery. This powers a Sky-Tec starter, auxiliary fuel pump, Icom radio, and PS Engineering intercom. This setup works extremely well and seems to go weeks on a single charge.

PREFLIGHT

Preflight begins by opening the rear canopy and peering in the cockpit. I start by ensuring that switches are off, fuel is on, pitch trim is centered, and the control stick is free. After this, a thorough check for loose items is a must. Once this is done, I hop up on the wing walk and check the front cockpit for loose items as well. Back at the rear cockpit, I open the turtledeck storage and grab any items I need to complete the preflight. In this case, it is a clear plastic cup for draining fuel and a marked wooden ruler to check fuel tank quantity. This is not the primary way to check fuel quantity, but is a way to cross-check the gauge visible from either cockpit.

I then started my walkaround counterclockwise from the rear cockpit. The walkaround is pretty standard, so I will only point out items of note. The first is that the aircraft has two servo tabs, one on each elevator for pitch trim. Next is the tail wheel. This one is manufactured by Aviation Products Inc. and set up with compression springs. There is minimal slack in the chains and the attachment appears very secure. Moving along I made my way out to the right wingtip where I rock it up and down while looking at the die springs to make sure they operate correctly. Once reaching the engine cowling I see Piper Pacer latches were used making access to the area easy. Looking over the engine compartment, I see a stainless steel firewall with the battery securely mounted to it.

I also noted a clean baffling built from a Van's Aircraft kit. The oil cooler is mounted to the left rear of the baffling. A crossover exhaust is installed, and everything seems to fit easily in the engine compartment. Once back to the rear cockpit it's time to secure the turtledeck storage and mount up.





Entry is gained from the wing walk while grabbing the hand hold built into the upper wing center section. Just swing the right leg up onto the seat followed by the left and sink down in. Once in, I noticed there is a lot of room. More so than I thought there should be. For comparison, I have a friend who is giving dual to a new Skybolt owner. He complained that the Skybolt had small cockpits. I found that odd and suggested he sit in this aircraft. As he settled in I asked him what he thought. "Huge," he replied. The front cockpit is equally comfortable, and I find myself enjoying that seat while giving instruction. Comparisons are fun, but I realize there is a lot of variance between homebuilts. Back to this cockpit, I find all controls fall easily in my hands. The stick is curved with plenty of room to move it to the stop in all directions. Pitch trim is on the lower left and is direct connected via torque tube. Rudder pedals are set toward the rear of their adjustable travel. Any further forward and they would be out of reach of my 30-inch inseam. Toe brakes are used and work well.



Engine compartment.

STARTUP AND TAXI

Under the hood is a Lycoming O-320. This is a very early version so it has no dash letter or number on the data plate. It is good for 150 hp at 2700 rpm and 30 hp less than the prototype O-360. Starting the aircraft is a two-handed operation. The primary reason for this is that there is no primer installed. Once configured for start, the right hand engages the starter and the left hand operates the throttle. After a few blades pass, give two small throttle pumps and it starts right up. It easily settles into the sewing machine-like operation of the standard Lycoming four-banger. My right hand is now free to apply full-aft stick like my instructor taught me.

I'm sitting a long way from the tip of the spinner, and my forward visibility reflects that. The start of my taxi begins by leaning my head over both sides of the cockpit, combing to clear the area. As I taxi, the standard S-turns are required to see where I am going. Almost instantly I notice I have total directional control of the aircraft. It tracks very straight and responds immediately to my inputs. Brakes are only needed to stop and unlock the tail wheel at the end of rudder travel. As I make my way out to the runway I get a very accurate preview of the ground handling: very honest, and no tendency to do anything other than what I ask of it.

It was my pleasure to test fly the aircraft and perform the 40-hour Phase I test period. My hat is off to the designer and builder! Great airplane! — Matt Flamini

Once I reach the run-up area, I can begin my before-takeoff chores. The builder has a small checklist attached to the instrument panel that will keep me covered. I tend to use flows because of my day job, and use one here. During the control check I notice a wonderfully smooth low-friction aileron feel. The elevator, on the other hand, is not so light. It requires a bit of force to move while on the ground.

TAKEOFF

Lined up on the centerline, my personal preference is to look straight ahead and use peripheral vision. A smooth, steady push on the throttle to its forward stop sends me on my way. A quick glance at the engine instruments shows everything is in the green, and 2500 rpm on the tach. Acceleration is solid, but with 150 ponies out front you won't get a nosebleed. Like any other taildragger, an instant response to heading changes keeps things in check. Letting the tail come up on its own gives a tail-low liftoff in 500-700 feet depending on conditions. This occurs around 60 mph, and in a short time I am at 85 mph for best rate of climb. This gives me about 1,000 fpm at 2700 rpm.

AIR WORK

Once out in a proper piece of airspace, I can start to feel the airplane out. Straight and level at 2500 rpm gives 115 mph indicated. With full fuel and a 200-pound pilot, I sit right in the middle of the CG envelope. Pitch trim is set just slightly forward of neutral at this power setting. Trim operation is well-balanced. The breakout force and force required to move it are equal. It can be set smoothly with precision, and never seems to move more than an inch in either direction. As I roll into some clearing turns I note the control harmony. It is actually quite nice, and no doubt the elevator servo tabs are helping here. The sight picture over the nose in straight and level flight is a useful indicator. I keep that picture as I roll into a 45-degree bank steep turn, and complete a 360-degree turn without any altitude gain or loss. I further explore the roll by holding a heading and banking 60 degrees in both directions. This is where I realize coordination is a must. There will be no slapping the stick around and looking like a genius in spite of myself.

All warmed up now, I ease power back while turning to clear the area. Rolling wings level, I reduce power to idle while holding altitude. As the stick reaches the aft



Arrival at EAA AirVenture 2018.



ACRO SPORT II N57DF SPECIFICATIONS

GENERAL

BUILDER: Dennis Flaminio, Frankfort, Illinois

SEATS: 2

LENGTH: 18 feet, 10 inches

WINGSPAN: 21 feet, 8 inches

WING AREA: 152 square feet

FUEL CAPACITY: 21.6 gallons

EMPTY WEIGHT: 1,027 pounds

GROSS WEIGHT: 1,520 pounds

POWERPLANT: Lycoming O-320 engine, 150 hp

PROPELLER: Sensenich 74-by-56

EXTERIOR: Poly Fiber System through
Poly Spray (silver). Ranthane top coat.

PERFORMANCE

MAXIMUM SPEED: 152 mph

CRUISE SPEED: 110 mph

STALL SPEED: 55 mph

RATE OF CLIMB: 1,000 fpm



Rear cockpit.

limit I feel a slight buffet as the aircraft stalls at 55 mph indicated. The nose drops slightly straight ahead as full power is applied. Not really even a break, about as gentle as can be with minimal altitude loss. Power is now reset, and I am once again turning while looking for traffic. By now I am settled in, and enjoying the nimble but solid feel of the airplane. It's time to push the throttle to the forward stop, which yields 2700 rpm and 120 mph indicated.

The aircraft is not equipped with an inverted system. With this in mind, the nose is lowered slightly as I set up for an aileron (ballistic) roll. Almost instantly I see 2900 rpm as the airspeed hits 130 mph. After a momentary level off, the nose is raised and full left aileron is applied. The aircraft rolls right around at approximately 100 degrees per second at this entry speed. Clearing the area once more, the nose is lowered again, this time reaching 140 mph. One more momentary level-off, and then a 3-1/2g pull. I say pull, but this is more of a nudge as I look left waiting to pass through vertical. Looking over the top I relax back-pressure as I wait for the horizon. Falling through the horizon I increase back-pressure and decrease throttle making my way back to my starting altitude to complete what I hope is a round loop. Air work complete, it's now time to head back to the airport.

LANDING

Making my way back to the airport, I prepare to deal with the biplane double whammy of zero forward visibility and high sink rates. As far as speeds go, I like 85 mph for the pattern and final approach. Although 1.3 times stall is usable, it provides brick-like performance. A quick before-landing check is accomplished as I set up to enter the traffic pattern. On downwind, slight S-turns can be useful to clear the area in front. With no traffic ahead, 180-degree side approaches are ideal. Beginning with idle power abeam the numbers holding 85 mph, I arc toward the end of the runway. At this point any crosswind is corrected for with crab. As the flare approaches I am a “left looker” transitioning out of the crab to wing-low correction. Any unwanted drift should be gone by this point as I am now looking straight ahead waiting for touchdown. Landing rollout is uneventful as I use peripheral vision to correct for any unwanted centerline deviations. Brakes are not required, but can be used to decelerate if wanted. I usually operate from a portion of runway that is known to be 1,000 feet in length. The aircraft easily takes off and lands in this space. Using 75 mph on final can shorten landing distance. Wheel landings are also easily achievable and work well in stiff crosswinds.

FINAL THOUGHTS

Some airplanes fly exactly like they look, and this is the case here. The word Sport in the name really applies. You can bop around low enjoying the scenery at 7 gph and then climb and do some aerobatics with confidence in an airplane built for it. It can operate easily off pavement or grass. With its 150-hp engine, operating at gross weight on a warm day is a nonevent, provided additional takeoff and landing distances are accounted for. With some ground critiquing, I think this airplane would be a blast to compete with in the Sportsman category. Yes, the monoplanes will probably show up, but shouldn't we all try to be more like John Mohr? Ground handling is very nice and it makes for a pleasant first biplane transition. In fact, I feel strongly enough about that last point to have gotten a letter of deviation authority to provide transition training in the airplane. It was my pleasure to test fly the aircraft and perform the 40-hour Phase I test period. My hat is off to the designer and builder! Great airplane! **IAC**



N57DF, second row, celebrating the Acro Sport at EAA AirVenture 2018.

BUILDER'S REPORT

By Dennis Flamini

In January 2017 we decided to install an AEIO-360-A4B from a factory Pitts with all parts firewall forward, including a standard 76-by-60 metal prop, inverted fuel and oil, and crossover exhaust. The conversion was way more work than we thought. Here is a list of what I can remember:

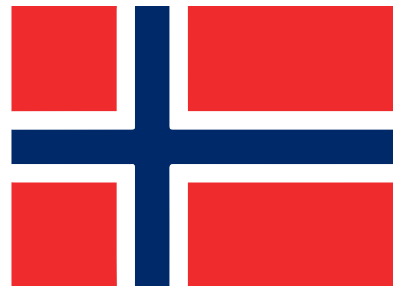
- Remove firewall forward all old parts.
- Cut hole in firewall for access to new flop tube and make cover.
- Make new engine mount with new Dynafocal mounts and bolts.
- Install inverted oil system and hoses.
- New inline starter.
- Install high-pressure fuel pump and gauge.
- Fabricate Pitts air box and filter housing.
- Relocate fuel drain to rear of tank.
- In addition to the engine conversion we reworked the forward cockpit opening to accept a new cover and made the windshield removable.

The results were an increase of empty weight to 1,086 pounds with only 63 pounds on the tail wheel. Cruise is 120 mph at 2500 rpm and 140 mph wide open at 2700 rpm.

We finished the conversion and test flights the week before EAA AirVenture Oshkosh 2017. Everything about the Acro is better with the new engine, and after Oshkosh we started practice for the U.S. National Aerobatic Championships in September.

I flew it in the 2017 Nationals after just one month of practice. Most of the practice was to get my 75-year-old body used to the g-loads and hanging upside down. My only goal was to survive the three contest flights! I think I was the oldest competitor — by a few months over Giles Henderson — and was able to check off “flying inverted over Oshkosh” from my to-do list.

THE RISE OF AEROBATICS IN NORWAY



IAC Chapter 132 – Aerobatic Club of Norway

BY STEINAR ØSTBY WITH THORE THORESEN AND IVAR DYRDAL

COMPETITION AEROBATICS IN NORWAY started approximately 35 years ago with Tor Andre FUSDahl flying his Pitts S-2A and S-2S, and later his Extra 230 and Extra 300. He won the Nordic Aerobatic Championships eight times in the '80s and '90s. Further, he participated in the European and World Aerobatic Championships, reaching the Unlimited class and competing against famous pilots such as his longtime friend Eric Müller. In order to compete and represent Norway, Tor Andre established the Aerobatic Club of Norway as a chapter of the International Aerobatic Club. He also participated in a few IAC regional competitions in the United States. More recently, Tor competed in the Advanced category on a national level at the age of 80. Another Norwegian pilot, Nils Harald Hansen, who was living and training aerobatics in France, participated in the WAC in Muret, France, in 2000 and the World Air Games in Spain in 2001. In 2004, Nils and Thore Thoresen participated at the Advanced World Aerobatic Championships in Ljungbyhed, Sweden.

Sadly, at that time few aerobatic pilots were flying competition in Norway. Few aerobatic planes and a lack of new pilots seemed to prevent further growth of this activity in Norway in this initial period.

The Norwegian IAC chapter ceased to exist sometime in the '90s when it had a slump in activities. It finally got reconnected by forming IAC Chapter 132 in 2016. Norway has one of the highest IAC membership numbers outside of the United States and also has an affiliation with the IAC through Thore's representation on the Known Sequence Committee.

Coincidentally, in 1994 the Norwegian Civil Aviation Authority decided as a safety measure to make formal aerobatic training mandatory for all pilots who would like to fly aerobatics. At first, this looked like a restriction toward general aviation in Norway. However, the Norwegian Aero Club, later to become the Norwegian Air Sports Federation, established the Aerobatic Committee chaired by Ragnar Østby (a retired Norwegian air force colonel) with representation from the Norwegian Civil Aviation Authority. In a joint effort, relevant regulations were established together



The grand old aerobatic man in Norway, Tor André FUSDahl on the far right, together with the authors of the article. From left, Steinar Østby, Thore Thoresen, and Ivar Dyrdal.

with the training syllabuses and organized training of the first aerobatic instructors. Then, at the initiative of Ivar Dyrdal (appointed aerobatic committee member and aerobatic instructor) and the largest flying club in Norway, Nedre Romerike Flying Club (approximately 500 members) at Kjeller, just north of the capital Oslo, a group of enthusiastic members decided to procure a CAP 10 in 2001. With this very capable aerobatic trainer, activity grew rapidly. Already forming a close relation with Midi-Pyrénées Voltige in Toulouse, France, through Nils Harald Hansen the competence level increased and training syllabuses were developed to include Sportsman, Intermediate, and Advanced competition categories.

This systematic approach allowed new aerobatic pilots to train and develop themselves through skilled aerobatic instructors with the highest focus on safety and airmanship. As a credit to all involved there have been no fatal accidents involving authorized aerobatic pilots performing aerobatics in Norway since 1994.

To describe the growing activity level, the Norwegian Aerobatic Championships



Morten Belstad ready for takeoff in our Extra 330.

normally gathers 25 pilots (including seven Advanced pilots) competing in Primary through Advanced categories. In comparison, the Nordic Championships (Sweden, Finland, Norway, and Denmark) usually have 15 competitors. A lot of work and effort through four to five training camps organized annually by the Aerobatic Club of Norway (ACN) allows new pilots to start competing. Morten Belstad, who was chairman of ACN from 2012 to 2017 and is still an active member in the Advanced category, has skillfully organized the training camps. There is the current chairman of the ACN.

At the 2014 World Advanced Aerobatic Championships (WAAC) in Dubnica, Slovakia, Norway participated with a team of three pilots — Thore, Ivar Dyrdal, and Steinar Østby — for the first time. However, flying the now vintage but still capable low-cost Extra 230, participation was more about gaining experience than competing at the top level. Nevertheless, from this arose the plan of building a capable team in the Advanced category, and Steinar took it upon himself to find a capable coach and organize training camps in fair weather in southern Europe during the winter season.

It was understood that, should we be able to reach the target to have pilots placed among the top 10, we needed a competent coach with experience in international competition. Further, we needed access to an aircraft with the necessary performance and to operate at a place with predictably good flying weather. After some research, Romain Fhal through his company Romain Fhal

Aerobatics was selected. He could provide a couple of Extra 330SCs operating on different airfields in Europe with normally good weather and access to an aerobatic box overhead for continuous coaching during the day. And, of course, well-maintained aircraft. By coincidence, he is also a member of IAC. In 2019 Romain will partner with Pierre Varloteaux and form the company Fhal Varloteaux Aircraft (FVA). The company will serve the aerobatic community with high-level coaching for competition.

It's important to mention that FVA organizes everything; it's a turnkey solution so we just need to arrange our own travel to and from. Very simple, no hassle for us.

We are very pleased with his way of coaching. He takes us through the whole process, so we learn all the details starting with learning the sequence on the ground, and all the details to think about when flying the aircraft to perform the figure correctly and place well in the box. A lot of the work is constructing the

CIVA Free Known sequence, and here, in addition to attacking and preparing for Unknown sequences, Romain is a valuable asset.

For the time being, about five pilots are taking part in the program, and Ulrik Hasle managed to compete in WAAC 2018 in Romania. Our next goal is attending the European Advanced Aerobatic Championships (EAAC) in Poland 2019. In a few years, we hopefully will have a solid team of pilots in the Advanced category. **IAC+**



Training in the Extra 330SC.



The Norwegian team at training camp in Spain. Left to right are Ulrik Hasle, Romain Fahl, Steinar Østby, and Bendik Johansen.

MAKING THE

Pitts Model 12

A FULL-TIME CAREER

Larry King and an aerobatic beast

BY RACHEL ASHLEY

IF YOU KNOW LARRY KING — the pilot and mechanic, not the talk show host — you probably know him as the Pitts Model 12 man. And if you don't know Larry, you should spend a few (or several) minutes listening to him brag — not about his skills as a professional aircraft mechanic, an air show pilot, or a trainer, but about the Model 12's magnificence.

You don't have to be an aviation geek to look at this particular Pitts and see something special (no pun intended). It is truly magnificent.

The Pitts Model 12 dwarfs its sister planes, and next to it at EAA AirVenture Oshkosh, the One Designs and RVs look like RC models. I once heard it described as “the gorilla of aerobatics.” Between a comparatively massive wingspan and big jump in horsepower, the Model 12 could squash the factory-built version of its little sister, the S-1.

“The power to weight ratio is the best you can get outside of the military,” Larry, IAC 23818, said. “It's what I call ‘extreme performance.’ I mean, if the judges were used to seeing biplanes at contests, the Model 12 would slay the Unlimited category.”

Larry knows all of these details because he is the unofficial Pitts Model 12 expert, mechanic, and trainer for pilots and owners all over the world,

claiming to have flown 35 of only 76 Model 12s in existence. At approximately 2,000 hours, he tells me he is allegedly the highest-time Model 12 pilot, making him the most experienced at the stick. But Larry has done more than fly — he's gotten under this plane's skin.

SERVICING PLANE AND PILOT

After 25 years as a mechanic in the airline industry, Larry had a unique opportunity to change the trajectory of his career.

“The Model 12 and I have been together since 1999, literally when the first one became available,” he said with a certain fondness. “A friend of mine bought it, and part of the deal was they wanted it to go to SUN 'n FUN and Oshkosh.”

But when Larry was furloughed from his position in the airline industry, the job of caring for this Model 12 defaulted to him. As of 2002, these planes are Larry's full-time career. Really, they're his whole life. From his home base in Atlanta, Georgia, he travels more than 200 days out of the year to meet the stewards of these aerobatic gorillas. In the last year he's been to Australia twice, where he met the grandson of the first man to build an aircraft in Australia. For years the plane sat in a museum until it closed and the 1929 vintage airplane was returned to the family. They've now restored it to fully working condition, and Larry has seen it in action.

Larry's job is not limited to servicing these planes, though he may be the most capable at it. Long before a Vedeneyev M14P was ever connected to a Pitts, Larry was working on Russian engines, which is partly how he was able to make this niche for himself.

“It's not that I'm that good,” he said. “It's just that I'm the only one.”

Pilots look to him for more than mechanical expertise — they seek Larry out for training. Not



instruction — he is clear about that. I think Larry must be more like a horse trainer. He helps the pilot know the beast on a personal level, become one with its abilities, and harness its rumbling power.

THE END OF FLYING OTHER PLANES

Larry was the president of IAC Chapter 3 for a number of years, where he also served as vice president and contest director.

“As a matter of fact, I got in trouble with the IAC over that,” Larry said abruptly.

“Over what?” I asked.

He explained that it takes 27 people on the ground to support a pilot every time a plane flies at a contest. So Chapter 3 started hosting recruiting drives and at one point peaked at more than 200 members, meaning he could swap out volunteers at contests and give people plenty of breaks. How could the Model 12 king ever get in

trouble over something like that?

But the air show venue, not contests, is where Larry really came to love the Model 12. He started flying it in air shows in 2006, and he says it has ruined him for every other plane. He said he’s flown the Model 12 back to back with a Russian plane — out of one and immediately into another — and can’t deny the difference.

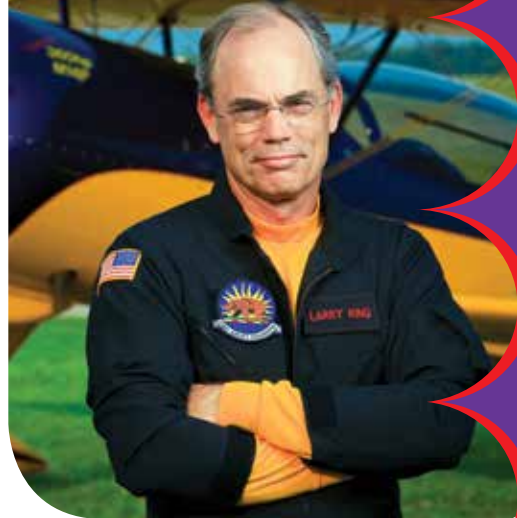
“I felt so much safer in the Model 12,” he said. “And that was the end of flying other planes in air shows for me.”

Maybe he’s just a little biased toward this beast he’s dedicated his life to taming.

No, not taming. No one who loves the Model 12 would want to tame it. Perhaps what Larry does is bridle and contain it, making it accessible to the pilot who might never consider it.

Now he’s looking forward to a retirement check, although he has no intention of fully letting go of the beast.

“If you’re really trying to capture this plane, all you need to know is it’s explosive,” Larry said. **IAC+**



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► OH, HOW TIME FLIES

An airplane with a name so appropriate for the occasion — the Pitts Model 12 that Larry King brought to EAA AirVenture 2015 for the celebration of the Pitts 50th anniversary, set amid the sparkle and glow of the Saturday night fireworks show.





2019 KNOWN SEQUENCES

A LISTING OF THE 2019 Known sequences as approved by the IAC board of directors appears on the following pages. Of special interest to some members is the fact that the Power Primary sequence remains unchanged from 2018, a move that President Robert Armstrong advocated for based on keeping it simple. Also, the Power Sportsman sequence has been created without a spin; members are encouraged to comment on their preferences for future years.

PRIMARY POWER

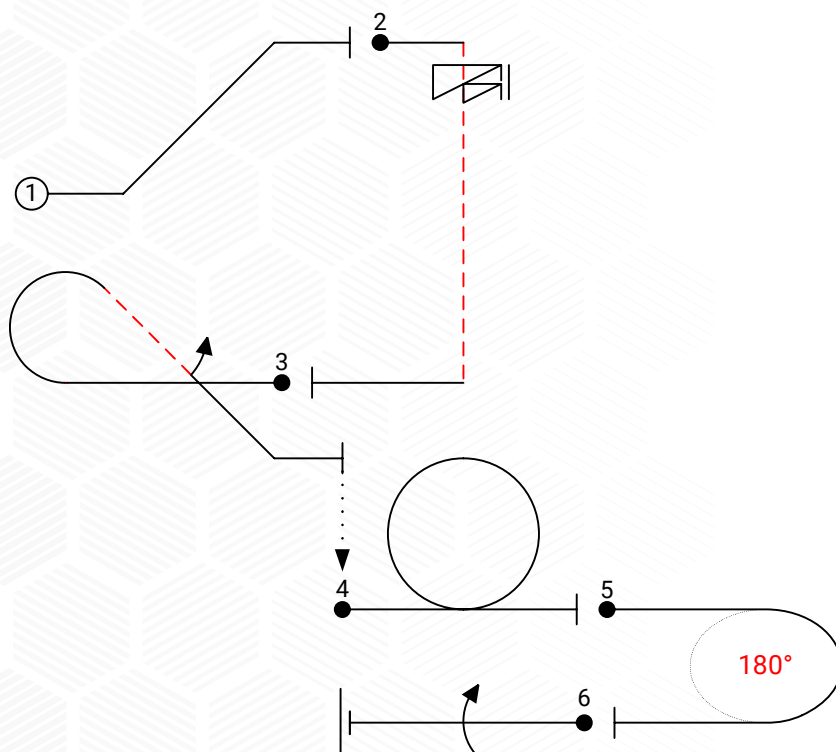


Fig 1 SF 7	1.1.2.1	7	7
Fig 2 SF 7	1.1.6.3 9.11.1.6	10 3	13
Fig 3 SF 7	8.5.6.1 9.1.4.2	10 4	14
Fig 4 SF 7	7.4.1.1	10	10
Fig 5 SF 2	2.2.1.1	4	4
Fig 6 SF 7	1.1.1.1 9.1.3.4	2 8	10
Total K 58			

INTERMEDIATE POWER

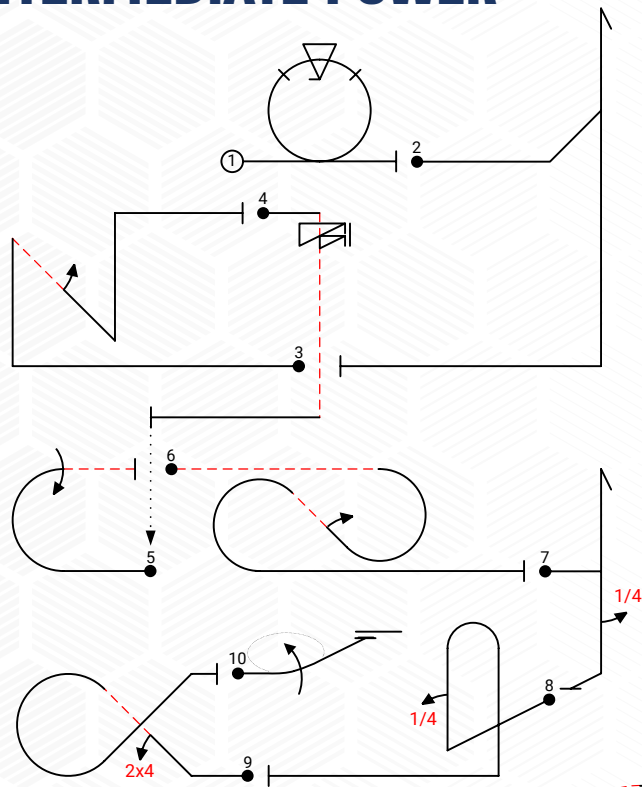
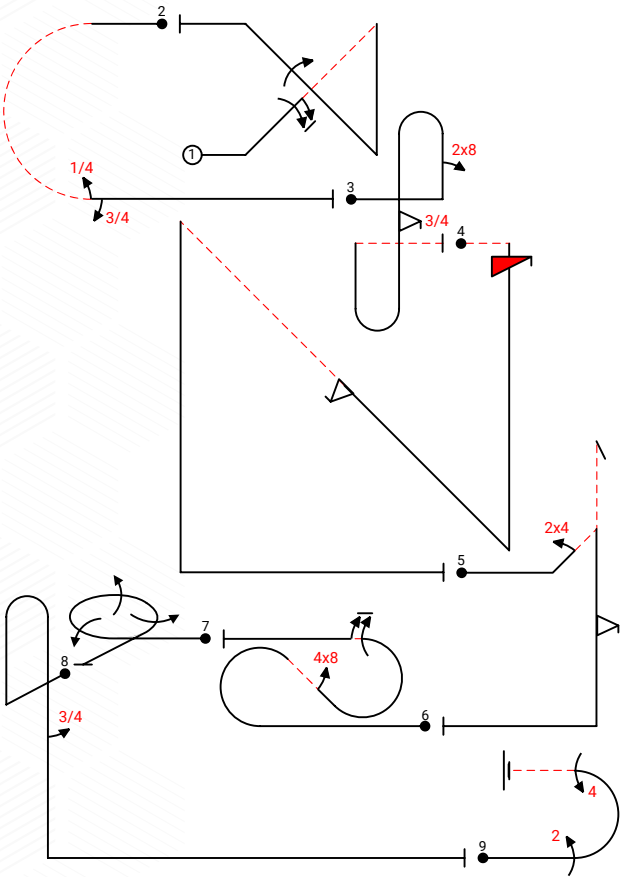


Fig 1 SF 7	7.4.1.1 9.9.3.4	10 11	21
Fig 2 SF 5	5.3.1.1	18	18
Fig 3 SF 7	1.3.12.1 9.1.4.2	21 4	25
Fig 4 SF 7	1.1.6.3 9.11.1.6	10 3	13
Fig 5 SF 7	7.2.1.1 9.1.3.4	6 8	14
Fig 6 SF 7	7.5.2.4 9.1.2.2	15 6	21
Fig 7 SF 5	5.2.1.1 9.1.5.1	17 2	19
Fig 8 SF 7	8.4.1.1 9.1.1.1	13 6	19
Fig 9 SF 7	7.3.2.1 9.4.2.2	14 7	21
Fig 10 SF 2	2.1.3.1	14	14
Total K 185			

ADVANCED POWER

Fig 1 SF 7	1.3.2.1 9.1.2.6 9.1.2.4	18 12 10	40
Fig 2 SF 7	7.2.2.3 9.1.3.1 9.1.3.3	8 2 6	16
Fig 3 SF 7	8.8.1.1 9.8.1.1 9.9.5.3	18 7 11	36
Fig 4 SF 7	1.3.11.4 9.12.1.4 9.9.2.2	20 7 13	40
Fig 5 SF 5	5.3.2.1 9.4.2.2 9.9.5.2	24 7 11	42
Fig 6 SF 7	7.5.7.1 9.8.4.2 9.1.3.6	15 7 10	32
Fig 7 SF 2	2.3.4.3	33	33
Fig 8 SF 7	8.4.1.1 9.1.5.3	13 6	19
Fig 9 SF 7	7.2.1.1 9.2.3.4 9.4.3.4	6 9 11	26
Total K 284			



UNLIMITED POWER

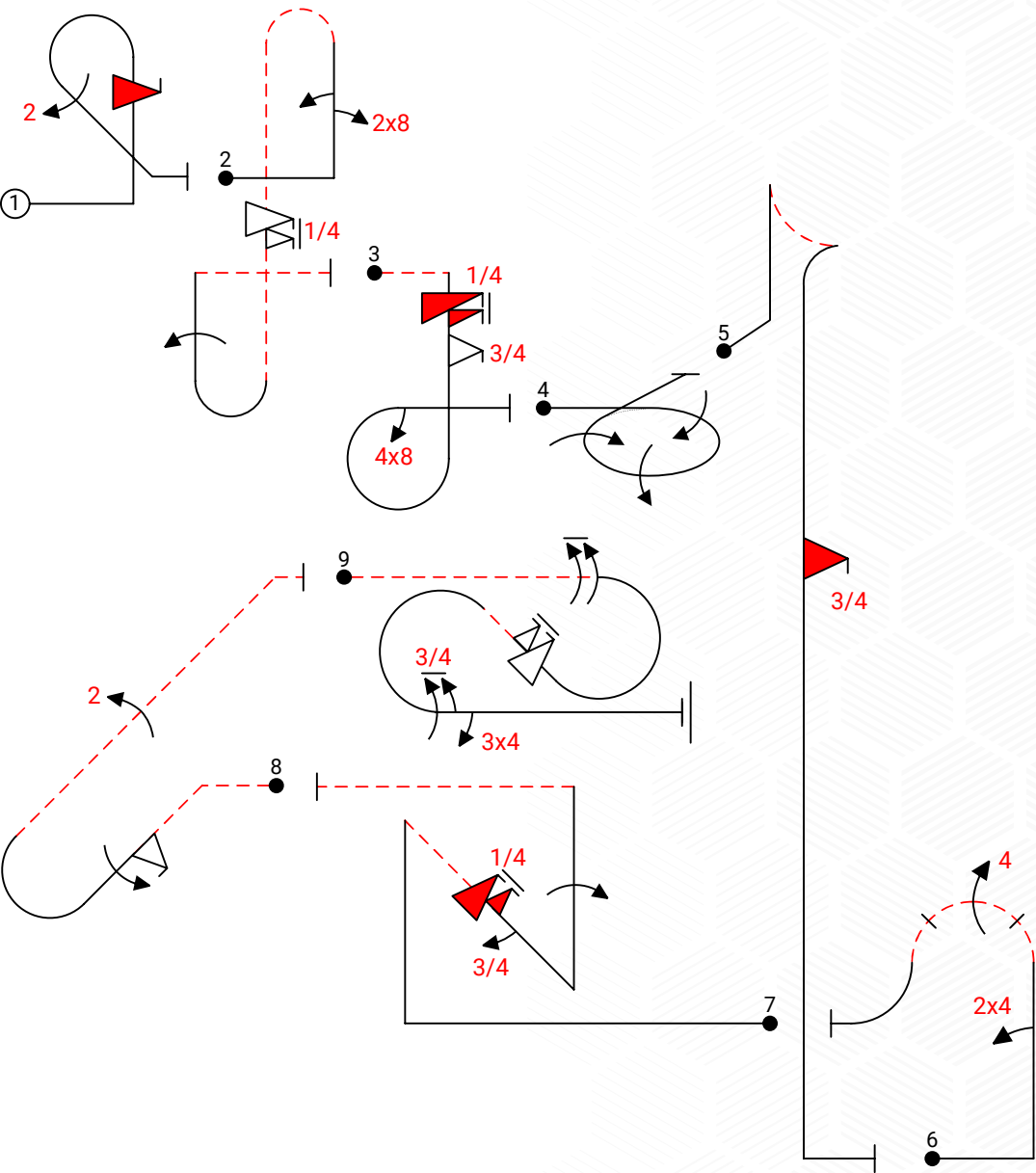


Fig 1 SF 7	8.5.17.1 9.10.6.4 9.2.4.4	12 19 9	40
Fig 2 SF 7	8.8.5.1 9.8.1.1 9.1.1.2 9.9.10.5 9.1.1.4	21 7 8 15 12	63
Fig 3 SF 7	8.6.2.4 9.12.1.5 9.9.5.3 9.8.3.2	12 6 11 7	36
Fig 4 SF 2	2.3.5.1	35	35
Fig 5 SF 6	6.2.2.1 9.10.5.3	15 13	28
Fig 6 SF 7	8.6.11.1 9.4.1.2 9.4.3.4	13 9 11	33
Fig 7 SF 7	1.3.11.1 9.10.4.5 9.1.4.3 9.1.1.4	20 15 6 12	53
Fig 8 SF 7	9.9.9.2 9.1.4.4 9.2.2.4	13 8 11	45
Fig 9 SF 7	7.5.2.4 9.1.3.8 9.9.2.6 9.1.3.7 9.4.3.3	15 12 16 11 8	62
Total K 395			

SPORTSMAN GLIDER

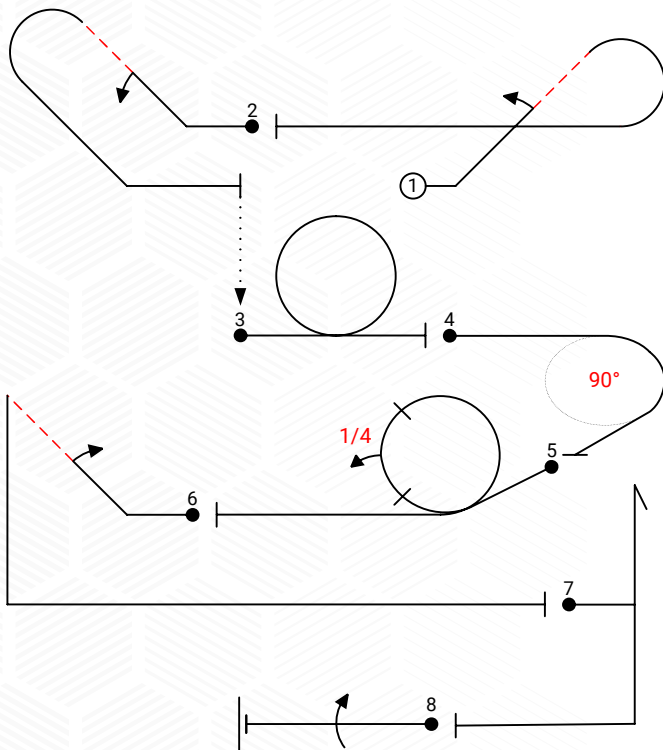
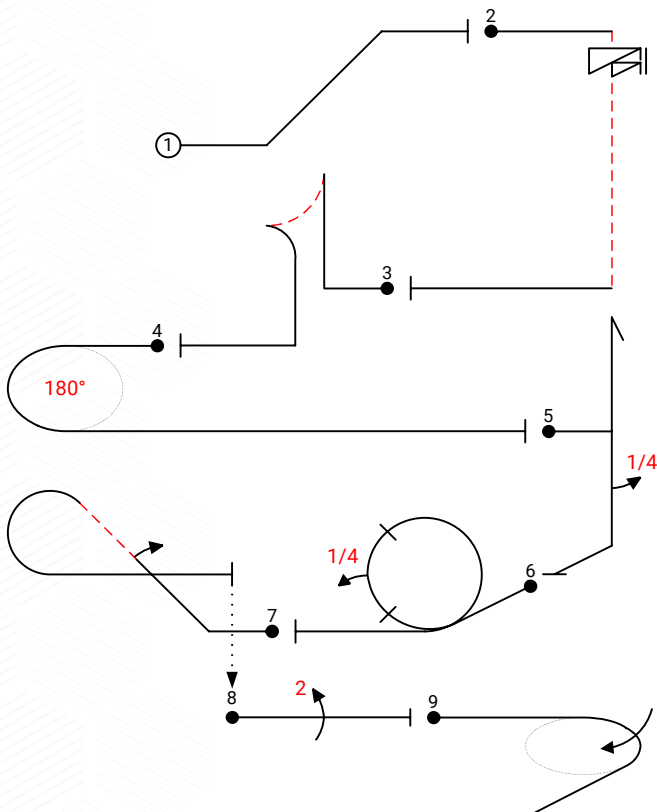


Fig 1 SF7	8.5.2.1 9.1.2.2	10 9	19
Fig 2 SF7	8.4.15.1 9.1.2.2	12 9	21
Fig 3 SF7	7.4.1.1	10	10
Fig 4 SF2	2.1.1.1	3	
Fig 5 0	0.1	16	16
Fig 6 SF7	1.2.3.1 9.1.2.2	12 9	21
Fig 7 SF5	5.2.1.1	17	17
Fig 8 SF7	1.1.1.1 9.1.3.4	2 12	14
Total K 121			

INTERMEDIATE GLIDER

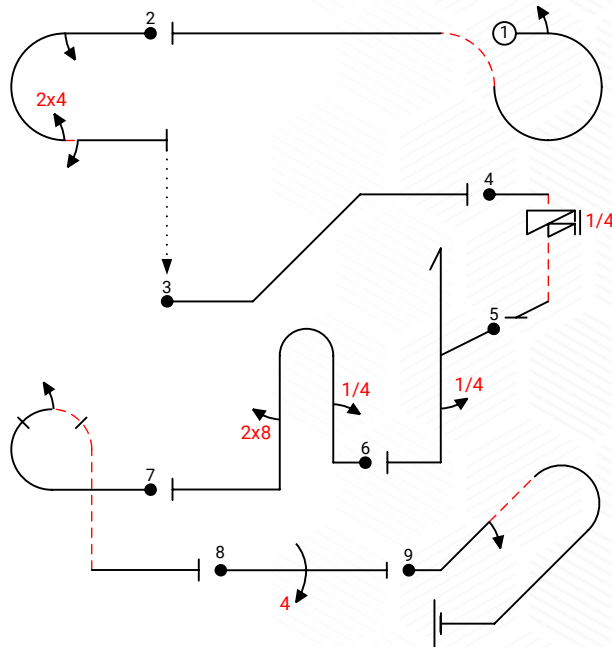
SF 7	1.1.2.1	7	7
Fig 2 SF 7	1.1.6.3 9.11.1.6	10 7	17
Fig 3 SF 6	6.2.2.1	17	17
Fig 4 SF 2	2.2.1.1	4	4
Fig 5 SF 5	5.2.1.1 9.1.5.1	17 3	20
Fig 6 0	0.1	16	16
Fig 7 SF 7	8.5.2.1 9.1.2.2	10 9	19
Fig 8 SF 7	1.1.1.1 9.2.3.4	2 14	16
Fig 9 SF 2	2.1.3.1	19	19
Total K 135			





ADVANCED GLIDER

Fig 1 SF7	7.4.9.3 9.1.3.2	11 6	17
Fig 2 SF7	9.1.3.2 9.4.3.2 7.2.3.3 9.1.3.2	6 8 6 6	26
Fig 3 SF7	1.1.2.1	7	7
Fig 4 SF7	1.1.6.3 9.11.1.5	10 6	16
Fig 5 SF5	5.2.1.1 9.1.5.1	17 3	20
Fig 6 SF7	8.4.1.1 9.1.1.1 9.8.5.1	13 9 5	27
Fig 7 SF7	8.6.22.1 9.1.3.2	13 6	19
Fig 8 SF7	1.1.1.1 9.4.3.4	2 17	19
Fig 9 SF7	8.4.15.1 9.1.2.2	12 9	21
Total K 172			



UNLIMITED GLIDER

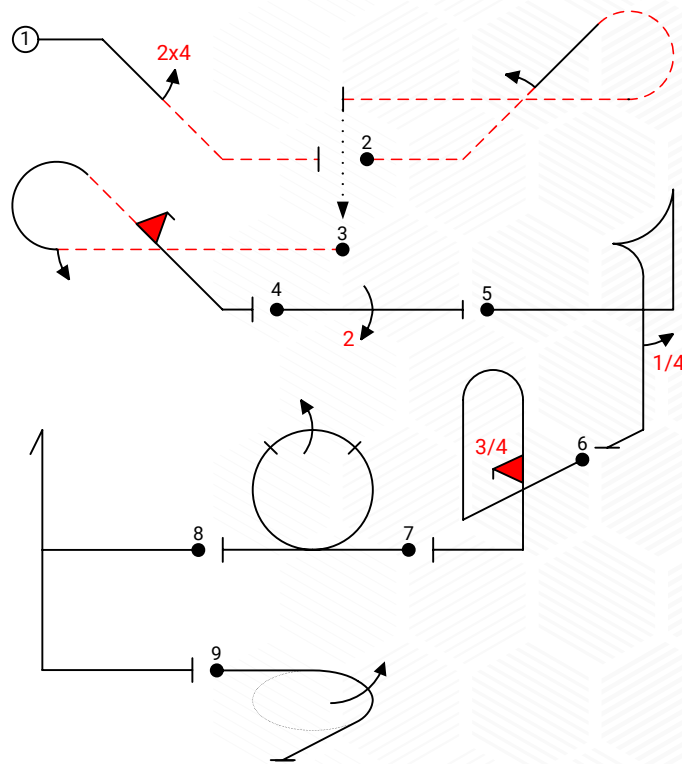


Fig 1 SF7	1.1.3.3 9.4.4.2	8 8	16
Fig 2 SF7	8.5.2.2 9.1.2.2	14 9	23
Fig 3 SF7	8.5.8.2 9.1.3.2 9.10.4.2	11 6 15	32
Fig 4 SF7	1.1.1.1 9.2.3.4	2 14	16
Fig 5 SF6	6.2.1.1 9.1.5.1	17 3	20
Fig 6 SF7	8.4.1.1 9.10.10.3	13 17	30
Fig 7 SF7	7.4.1.1 9.1.3.4	10 12	22
Fig 8 SF5	5.2.1.1	17	17
Fig 9 SF2	2.1.3.3	21	21
Total K 197			


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The Quiz Answers

1

The term came into use in 1914 after being suggested by the British magazine *The Aeroplane*. Aerobatics (a portmanteau — meaning a word composed of two words being combined — of aerial acrobatics) was considered the practice of flying maneuvers involving aircraft attitudes that are not used in normal flight.

2

In 1905 Daniel J. Maloney of Santa Clara, California, performed what was called a "side-somersault" (probably a roll) while descending in a glider from a tethered balloon.

3

Vincennes, Paris, France, June 9-10, 1934. There were nine competitors from six countries — all from Europe. It was sponsored by the French Aero Club. There were 150,000 spectators at the military parade ground at Vincennes, which had been converted for the occasion. The pilots were Ambroz and Novak from Czechoslovakia, Cavalli and Détrouyat from France, Achgelis and Fieseler from Germany, Christopher Clarkson from Great Britain, Ambrogio Colombo from Italy, and Plácido d'Abreu from Portugal. The Known program included figures to be performed within a time limit of eight minutes, including a right-hand and a left-hand spin, a bunt, a negative loop forward and upward, and an inverted 360-degree turn. The following day, each contestant flew their Free program, for which they had 10 minutes. As of 1934, there were only 87 recognized maneuvers in the catalogue of aerobatics.

The event went well the first day, but the second day had two fatal crashes: Cavalli from France and d'Abreu from Portugal. There was consideration to cancel the event at that time, but Gerhard Fieseler spoke for the group of contestants. "Each man among us knows that he may meet his fate at any time," he said. "We are prepared for that. What if the early pioneers had given up when one of their number lost his life to aviation? I believe we will best honor our comrades by continuing to fly." The event resumed.

At the conclusion, Fieseler became the first World Aerobatic Champion. Michael Détrouyat of France took second, and Gerd Achgelis from Germany came in third.

4

Freddie Lund was born in Minnesota and served in World War I with the 4th Pursuit Squadron. Following the war he contracted tuberculosis and was not expected to live. He recovered and went to fly with the Gates Flying Circus and work in Hollywood as a pilot and movie double, where he earned the nickname Fearless Freddie. He then flew for the WACO aircraft company and performed the first outside loop in a commercial aircraft. His adventures included having his seat belt break while performing an outside loop, catapulting him out of the open-cockpit biplane. Hanging on by the stick and having his shoulder wedged against the top wing, he struggled back into the cockpit and recovered the aircraft. He married Bettie Elkins Lund who was a famous pilot in her own right. After his death in 1931 following a midair collision, she bought a WACO Taperwing and fulfilled every one of his air show bookings that season. The city of Miami established the Freddie Lund Trophy in his memory. The inaugural trophy for precision aerobatics, it ran for 10 years starting in 1932.

5

Tony LeVier, Lockheed test pilot, did a similar routine with a P-38 after WWII.



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2019 RULES

GLIDER SEAT BELT REQUIREMENTS

2.3(k) Dual seat belts with separate attach points and a shoulder harness are mandatory for Advanced (power) and Unlimited (power and glider) categories. Gliders flying in the Advanced category must have a backup seat belt that may share an attach point with the primary seat belt. The same equipment is strongly recommended for Primary, Sportsman, and Intermediate power categories, but is not mandatory except when IAC Technical Monitors deem them necessary for the sequence being flown in these categories.

JUDGE QUALIFICATION FOR NATIONALS

(e) The qualification and selection of judges for IAC Championship events is governed by the procedures outlined in the *IAC Policy & Procedures Manual*, Section 501.4. In addition to the IAC judges meeting the criteria of 501.4, IAC members on the official CIVA List of Judges meeting the currency requirements of 2.6(c) and 2.6.3 may also be appointed to judge non-Team Selection flights at IAC Championship events. (See Appendix 6)

GLIDER SMOOTH PATCH FIGURES

7. Category Figure Lists –
 Glider Primary and Sportsman
 Spin (one turn) or 8.4.1.1 (humpty)
 Intermediate
 (1) Spin (1 1/4) or 8.4.3.1 (humpty)

ALLOWABLE INTERMEDIATE UNKNOWN FIGURES

Delete figures 7.8.11.3 through 7.8.16.4

JUDGE CURRENCY

2.6.3 (a) ...have been a grading or Chief Judge for twenty-five (25) flights within the previous calendar year in IAC sanctioned contests. Equally acceptable will be judging twenty (20) flights provided at least 5 flights were Advanced or Unlimited Free Programs.

JUDGE RECURRENCY

For clarity, since currency has already lapsed, change the second sub-paragraph under 2.6.3(c) to read:

Then currency may be regained by:

A listing of the rule change proposals approved by the IAC board of directors appears below. Please note that these lists do not represent all rule changes which appear in the IAC *Official Contest Rules* each year. In addition to the changes listed here, changes to CIVA regulations, changes to the *Aresti Aerobatic Catalogue (Condensed)*, board directives, and editorial clarification of existing rules can all affect the final rule text, which appears in the 2019 IAC *Official Contest Rules* book.

Change second sub-paragraph 2.6.3(c)(2) to read:

(2) Attending the “Practical Aerobatic Judging” session of the “Introduction to Aerobatic Judging” training or,

Then add the following option as 2.6.3(c)(3):

(3) At a chapter practice day, a contest practice day, or as a non-contest activity behind the Judges Line during contest flying, the non-current Judge must award grades for a minimum of three flights, each flight composed of a minimum of nine figures, under the supervision and coaching of a current Judge. The supervising Judge shall report the satisfactory accomplishment of this requirement to IAC.

Then, for clarity, separate the following as 2.6.3(c)(4):

(4) The non-current judge must also pass the current year IAC Revalidation and Currency (R&C) Exam in order to be considered current. This may be accomplished before or after the other training outlined in 2.6.3 (c).

The added text in paragraph (3) above is basically a copy and paste from paragraph 2.6.1(f) regarding qualification of new Judges with re-wording in two places to make it more applicable to the situation (i.e., replaced “Judge Candidate” with “non-current Judge” and replaced “training” with “requirement”).

REMOVE REQUIREMENT FOR SMOKE BOMBS

Delete 4.14.3

Remove reference to smoke from 4.6.1(i)

ELIGIBILITY OF H/C COMPETITORS FOR AWARDS

Change 3.8, paragraph 2, to:

Should a category have only a single competitor, that pilot may be allowed to compete “Hors Concours (H/C).” Judging and processing of the grades for the H/C pilot will be conducted normally, but that pilot will not be eligible for any medals or trophies. The results will, however, be counted toward eligibility for special awards at the contest (e.g., Grassroots) and point totals for regional or collegiate awards.

NATIONAL JUDGE CANDIDATE SIGNIFICANT EXPERIENCE

Change the text of 2.6.2, “New Candidates For National Judge,” paragraph (c) under Practical Training, to:



2.6.2 (c) Achieving the practical experience described below:

1) Performing as a Regional Judge in at least three (3) contests for no less than 80 flights, within the current or previous two contest years. Twenty five (25) of the flights graded shall be Advanced or Unlimited. This requirement shall be waived if the Regional Judge has competed in the Unlimited or Advanced categories in the current or previous contest year. All of the requirements if this paragraph shall be waived if the Regional Judge has graded 250 flights or more since their certification, as reported by the IAC database.

2) Serving as the Assistant to a Chief Judge for a minimum of ten (10) flights, within the current or previous two contest years.

INCREASE PRESENTATION K ACROSS THE BOARD

5.8.1: Change Presentation K in each category to be roughly the same as the average figure K.

Primary: 5K

Sportsman: 10K

Intermediate: 15K

Advanced: 25K

Unlimited: 40K.

Follow up elsewhere as needed, such as section 6.2.

REMOVE EFFECT OF MINORITY HZ IN STAR AWARD CALCULATION

Appendix 5 section 5 item (a).

Change: "A minimum raw grade of five (5.0) or higher must be awarded on each figure...."

To: A minimum grade of five (5.0) or higher after computer processing must be awarded on each figure...." **IAC+**

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NOMINATIONS SOUGHT FOR IAC BOARD OF DIRECTORS

OWN YOUR DESTINY WITH ACTION. Help lead the IAC into the future by nominating a colleague or yourself for a position on the IAC board of directors. Officers and directors consider a wide range of information and data affecting the sport of aerobatics and set the direction for the organization for years to come.

The International Aerobatic Club is now accepting nominations to serve on its volunteer board of directors. The IAC has an open election process with nominations for candidates accepted directly from the membership. There are five positions open to be elected: vice president, treasurer, and four board members. Elected candidates serve a two-year term beginning at the IAC's annual general meeting in Oshkosh in July.

We hope to receive a significant number of nominations with a view to having a diverse, talented, and dedicated pool of candidates to draw from to lead the IAC's activities and policies.

The deadline for nominations is April 12, 2019. Visit www.iac.org/legacy/iac-leadership for complete nomination procedures and forms.

Social Media and the No. 1 Pitts Replica

Setting the record straight

BY BUDD DAVISSON

WILL I BE THE last person on the planet to get a Facebook account? I hope so.

However, a week or two ago someone sent me a copy of a rather long thread on the Pitts Facebook page (yes, I've thought about joining that) in which the 1990 replica of the first Pitts Special was discussed at length. At least 80 percent of the comments were pure conjecture, and all of that was wrong. I know because I got together with a bunch of Curtis' friends and built the replica for his 75th birthday (that used to sound old — now it doesn't).

We had already set up a fly-in and banquet to be held in his honor in St. Augustine, Florida, where Aero Sport still reigned supreme as *the* sport aviation haven of the East Coast. Less than six months before the date, I was at 8,000 feet with the event rattling around inside my head. It was a crisp, clear New Jersey spring Saturday, and I was working on flat, inverted spins in 16 Papa Sugar. I was in the process of pulling level out of three turns when, for no apparent reason, a thought as bright as a neon sign flashed into the theater of my mind and lit it up: *Let's build a replica of Pitts No. 1 before the party!* The thought sent a burst of adrenaline through me that I swear felt like electricity. The nose went down, my left hand found the stop, and I raced back to the airport as fast as that little toad could pedal.

On the ground, I called Jim Moser, owner of Aero Sport, hit him with the idea, and he said, "Hell, yes. I don't care if we don't get it finished until the day of the party. Let's do it!"

The rest of the weekend was spent calling friends and sucking them into the project. Rich Bastian in Wyoming volunteered to do the steel work; Jim Stevens and Al Crichton in St. Augustine would do the wood; I'd do the fancy intake grillwork, the I-struts, and the stick-built turtledeck. I called Jay Wickham of Mattituck Engines at home, and he agreed to find and overhaul a Lycoming O-145 (65 hp rather than 55 hp as in the original). Jim Irwin at Aircraft Spruce was in for all of the hardware, covering material, and tubing. The guys at Randolph gave us the paint and dope. Jay and Dee Vieux, he's an A&P mechanic with inspection authorization who's also an airplane restorer from Chicago, agreed to come down a week ahead of the event and tend to all of the assembly details. The band was together and ready to rock.

THE WHOLE PROCESS, FROM SPIN RECOVERY TO FLYING THE AIRPLANE FOR THE FIRST TIME THE MORNING OF THE EVENT, AS PER JIM'S PROMISE, TOOK FIVE MONTHS AND 18 DAYS, WHICH IS AMAZING!

In each conversation that weekend I told them that, when finished, the airplane would be on display in the EAA Aviation Museum with their names prominently attached. I told them all of this, but couldn't get a hold of Tom Poberezny. I had no idea whether EAA would agree to this or not. He was my first phone call Monday morning, and thank God, he was up for it. If he hadn't been, I was going to have to eat some nasty-tasting bird.

The whole process, from spin recovery to flying the airplane for the first time the morning of the event, as per Jim's promise, took five months and 18 days, which is amazing! It was an incredible



Budd Davison with Curtis at his 75th birthday party.



adventure! And put us all midstream of a terrific outpouring of love for Pa and Ma Pitts. People just couldn't wait to help. He had that kind of effect on people.

On the day of the banquet, the weather sucked, but we still had more than 400 people in the hall, and some were picking their way through the klag up to the last minute. Some came from as far away as Washington. How's that for enthusiasm!

I could write a book on the process of getting the airplane finished. So many wild things happened. For now, here are the facts on the finished product so those on Facebook can set things straight.

- We were going to surprise Curtis with it but found we couldn't do it without his help. So, he drew up a set of new plans for us.
- The gear was rigid, no bungees, as per the original.
- Tires were hyper-rare — 700-4s. I wore a yellow T-shirt at EAA Oshkosh that year, emblazoned “DESPERATELY NEED 700 X 4 TIRES.” Had a set by Wednesday. Flew it mostly with 8.00-4 Cub tires. Displayed it with the 700s.
- Engine was a Lycoming O-145 as was the original. Ours turned up 200 rpm more so was 65 hp as opposed to 55 hp from the T-craft Curtis had cannibalized. It's the kind of engine that gives boat anchors a bad name. Very little power!
- Empty weight was 507 pounds! The engine was *very* light; the landing gear was very simple; the upholstery was two coats of varnish on 3/16-inch plywood. Wing walk was sneaker length plus an inch. Finish was just enough to seal the weave, not fill it. If it didn't need it to fly, it didn't have it. That having been said, it was still quite a bit heavier than the original.
- Carl Pascarell made the first flight and flew out over town so Curtis could come out of his hotel and watch. I did the second and third. Then, everyone who showed up hopped in. Bob Herendeen arrived a little late and on

his flight was doing double snaps on downwind not realizing the airplane had less than two hours on it. A good time was had by all.

- It was an incredibly good flying airplane and showed that horsepower isn't always the right answer.

We had an incredibly good time and broke lots and lots of rules in the

process, but the statute of limitations has run out on them, so who cares? Every one of us looks back at that experience with so much warmth and so many smiles that we'd all do it again in a heartbeat.

Hard to believe that was 29 years ago. Feels like it was just last month. **IAC+**



1945: Curtis with his original Pitts Special.



1990: Curtis at 75, with the Pitts Special replica.



2015: The Pitts Special replica at the Pitts 50th Anniversary in Oshkosh.



Brittane Lincoln

BY GARY DEBAUN, IAC 4145

IAC 440740

Nickname: Britt

Occupation: Pilot (retired from accounting and auditing)

Chapter Affiliation: 38

GD: BRITTANEE, I KNOW AVIATION IS IN YOUR FAMILY BLOOD. TELL US A LITTLE ABOUT IT.

BL: I am fortunate enough to have aviation run in my blood. I am a third-generation pilot but the first female aviator in my family. I can't actually remember my first airplane ride; I was 2 weeks old, on the lap of my father in his Cessna 180. I grew up on a ranch in north central Montana with a grass strip (12MT) 50 feet from my front door. It was there that my father, Roger, a crop duster, taught me to fly in our Piper Super Cub. He is my hero on so many levels, but is an incredible pilot who has taught me so much. Some of my best memories are flying with him in the backcountry in Montana or low and slow spotting elk and moose in the riverbed near our farm! It wasn't until 2018, however, that I finally earned my private pilot certificate and caught a severe case of aviation sickness for which we all know there is only one cure — fly more!

GD: DAVE WATSON, WHO IS WELL-KNOWN FOR GIVING PEOPLE THEIR FIRST AEROBATIC RIDE AND SUPPORTING THEM DURING THEIR AEROBATIC CAREER, GAVE YOU YOUR FIRST AEROBATIC RIDE. SO, HOW DID IT GO?

BL: My exposure to aerobatics had been limited to flying with other pilots who did an occasional loop or roll (which I always loved). This past summer I happened to walk past Dave's hangar at Livermore and stopped to drool over his airplanes. I introduced myself and on the spot he asked if I wanted to go up with him in his Pitts for an "introduction to aerobatics" flight. My aviation sickness was taken to a whole new level! (And no, this doesn't mean I decorated the interior of Dave's Pitts.)

He demonstrated last year's Primary sequence and began setting the aerobatic hook. Now that I know Dave, I am convinced this was his intention all along. He gave me some instruction and began to teach me basic competition maneuvers (competition turn, loop, and roll). I kept begging him for more extreme maneuvers. With some reluctance and after confirming, multiple times, that I wasn't going to leave him a nice souvenir of the flight, he took things up a notch, including a torque roll, tailslide, and outside roller. I'm not sure who was having more fun, me or Dave. Imagine Dave Watson and me in the cockpit of the Pitts giggling like teenage girls! I think it goes without saying that Dave was very successful in setting that hook!

GD: YOU RECENTLY BECAME THE NEW PRESIDENT OF ONE OF OUR MOST ACTIVE CHAPTERS IN THE IAC, CHAPTER 38 IN NORTHERN CALIFORNIA. YOU ARE FOLLOWING IN SOME PRETTY BIG FOOTSTEPS — HOW WILL YOU MANAGE TO KEEP UP THE ENTHUSIASM OF THAT CRAZY GROUP?

BL: Yes! I am so humbled that I was asked to be the new president and excited to be a part of such an amazing group! We have a phenomenal established member base and great leadership, both formally (those chapter titles) and informally. Our outgoing president, Josh Horwich, former president, Beth Stanton, and vice president, Dave Watson, have already been so supportive and key in my onboarding and transition into this position. I hope that I can bring some new ideas and fresh perspective to the table while leveraging their experiences and network to keep building the momentum of the chapter, grow the membership, and of course increase our chapter presence at competitions.

GD: WHAT ACRO MOUNT ARE YOU CURRENTLY FLYING? WILL THERE BE ANY CHANGES TO THAT IN THE FUTURE?

BL: I am training and will be competing in a Super Decathlon. Dave has given me some instruction in his Pitts, which is such an amazing airplane. My personal goal is to first become proficient in maneuvers in the Super D (my aerobatic guru tells me mastering maneuvers in the Super D is the best foundation). After that I hope at some point to have consistently good landings in the Pitts and then hope to compete with it.

GD: WHEN AND WHERE WAS YOUR FIRST CONTEST? HOW DID IT GO?

BL: I have not yet competed! My first planned competition is the Hammerhead Roundup in Borrego Springs, California, this spring. I'm very excited but also a bit nervous. I'm sure it will be a very humbling experience.

GD: I KNOW YOU ARE RELATIVELY NEW, BUT GIVE US YOUR THOUGHTS ABOUT LEAVING THE SPIN OUT OF THE 2019 SPORTSMAN KNOWN.

BL: My father taught me that it is better to be thought a fool than to open your mouth and remove all doubt. I would say that applies here. While I do have an opinion (and I love to spin), it's not based on any competition experience. Ask me this question again at the end of the season; maybe my opinion will have changed — but it will definitely be a more informed one!

GD: CURRENTLY, WHAT IS YOUR FAVORITE FIGURE TO FLY AND WHY?

BL: This is like asking me what my favorite pair of shoes is! I do love the challenge of the roll! I am a bit of a perfectionist, so I appreciate the precision and skill required to execute a perfect and smooth roll. This is definitely a figure that I greatly underestimated! I absolutely love the more advanced figures and am already so looking forward to becoming proficient in those as well. I can't wait for Dave to one day teach me the torque roll!

GD: WHAT ARE YOUR AMBITIONS/GOALS IN THE SPORT?

BL: As a newcomer to the sport, my short term goals are to just learn as much as I can and continue to improve my aerobatic skills. I hope that during this season I can become comfortable and proficient enough with the Primary sequence to then begin training for Sportsman. I am very grateful to have an incredible coach who is not only supportive but also dedicated to my success. This is such a critical component!

My goals continue to change as my skill level changes; I look forward to expanding my aerobatic toolbox in order to progress in the categories as well as learn to fly more advanced aircraft.

I am also planning to attend judges school in March — who knows, maybe one day soon you'll see me sitting in the judges chair!

GD: ANY CHANCE WE WILL SEE YOU AT THE U.S. NATIONALS IN 2019?

BL: I am pretty ambitious and dedicated but Nationals in my first competition year seems pretty unlikely. But never say never, right?

GD: WHO HAS BEEN AN INSPIRATION TO YOU IN THIS SPORT?

BL: Specifically for competition aerobatics, my coach and mentor, Dave Watson, has been such an inspiration. He is a bit of a legend (at least here in Livermore). Every time I fly with him I am in awe of his abilities and knowledge of aerobatics. While I have never flown with either Beth Stanton or Vicky Benzing, both of those ladies are also big inspirations for me and whom I look up to.

Not only are they females in this sport, but females who have dominated!

I also worked for Red Bull at its headquarters in Austria for about two years. I spent lots of time hanging out at the hangar in Salzburg and got to know several pilots, including some of the air race pilots. While they don't compete on the IAC circuit, those pilots are just incredible!

GD: DO YOU HAVE ANY PASSIONS/HOBIES OUTSIDE OF AVIATION?

BL: Too many! I love to scuba dive and love the ocean — I love sharks! I love to travel and experience other cultures and food. And I love to cook — mostly because I like to eat good food! *IAC*

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The Winner's Propeller!



Super Decathlon



Photo: Jim Koeppik



Photo: Jim Koeppik

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