

So, you want to host an Air Race?

This document will provide much of the information you will need to do a good job of it, and perhaps to help you decide if you really want to go there in the first place.

You may have attended a race, or many races, in the past and came away with the impression that, “There’s nothing to this – I can host a race too!”

The good news is, you’re right – you, too, can host a race!

The “bad” news is, just as in any field of endeavor, experienced people can make something incredibly difficult and stressful look easy.

There’s a ton of work that has already gone on by the time you show up at a race, and much that continues to go on in the background to make a race happen safely and successfully. When you sign up to host a race you are obligating your time and energy (and some dollars!) for months of prep work and then for several days leading up to the race, and of course race day itself.

We prefer a new race host to have attended a race and had a chance to experience the environment, talk to another host and see first-hand how the events are run.

It would be *very difficult* for a person to simply read about what we do and then administer a race on their own.

Experience matters.

So if you’re still interested, read on!

Your first assignment will be to go and read and become familiar with the SARL Rules and Regs: <http://sportairrace.org/id435.html>

Once you have that information under your belt, consider the following:

The Schedule

We will hold a planning meeting and conference call on 17 December at noon Central Standard Time. Conference call number details will be mailed to hosts.

The call will be simulcast with a Justin.TV broadcast of the 2012 calendar and we’ll mark it up live!

Current races usually have priority when choosing a date. Back room deals are allowed.

Some races are held in conjunction with another event, the date of which is out of the control of the race director. BCAF is a for instance. AVC is another.

Some races are fixed by tradition:

Pagosa Springs is always the weekend after the Reno races.

TVAR is always Halloween weekend.

The Rocket Race is always the weekend before Thanksgiving

Consider also those weekends that should be avoided:

Easter

Mother's Day

Independence Day

Labor Day

Scheduling a race on those weekends can certainly be done, but your attendance may suffer.

Insurance

Since 2011 SARL has opted to carry liability insurance for its race hosts.

The insurance is meant to cover the race host against liability claims in the event of an accident (God forbid!). Specifically, the insurance will cover the cost of an attorney to defend the host in court, saying they were not negligent in designing the course or administering the race, and could not help the fact that a racer ran their aircraft out of gas, or exceeded their aircraft's structural limits, or flew too low, or failed to maintain control of their aircraft, etc.

SARL insurance is not meant to be glommed onto by the airport, city, county or any other entity demanding they be added as an "additional insured" to the policy. Airports and cities have their own insurance, you can bet on that, and adding them to the SARL insurance costs us money.

SARL policy will be to not add these entities as a matter of principle, as well as cost. If that's a deal-buster for your race location, then you're better off racing from somewhere else.

In 2011 it was a requirement of our policy that all racers be League members. For this reason we instituted a "Provisional membership" for those who were racing only because the event was at their airport and they were interested to see what it was like. We allowed one Provisional membership per season per racer, and on their second race they owed the full membership balance. This added a layer of complexity to our race fee structure, but not unmanageable. More on that in the next section.

At the beginning of the year we will submit the races scheduled for the year and get insurance quotes based on how many races we plan to run and where they are.

We'll then start the membership drive for the new year, to cover the insurance cost. 2011 was our first year to insure – we'll see how 2012 goes.

Finances

Every race has a Race Entry Fee that is intended to cover host expenses like a Friday night Meet and Greet (customary but not required), awards and a lunch on Saturday.

SARL races are not an opportunity for anyone to get rich, but neither do we expect a race host to come away in the red. Inexpensive, home-made awards and stickers are the norm.

Many races offer very nice awards, T-shirts, and catered lunch. Many times those items are sponsored.

On the other end of the scale we've had printed race certificates and home-made peanut butter and jelly sandwiches with a bag of chips for lunch.

It's hard to remember at which race we had more fun.

The point is, the former is nice, but the latter makes for just as fun an event, for most of us.

For 2011 the race entry fees have run about \$30; some less, some more. For 2012 each race will pay a fixed sanction fee to SARL of \$10 per racer flown. The sanction fee has covered costs of the larger organization such as end of the year awards, web site hosting cost, and any technology enhancements we can obtain (data loggers for check out, a small PA system, laptop computer for SARL operations, and eventually real-time GPS trackers for all racers, to name a few expenses).

Each race host should calculate the sanction fee into their race entry fee to make sure their expenses are covered. e.g. If you charge \$30 and fly 20 racers, you take in \$600 and send \$200 to SARL, so the net amount you have to cover your race costs is \$400.

To complicate matters we have a Provisional membership fee of \$10 that makes a racer "member for a day" for insurance purposes. They can take advantage of that once per season, after which if they race again we assume they're hooked and ready to pay the balance of a full membership. I will help keep all of that straight and on race day I provide the race host with the status of all their registered racers, and what they will owe at check-in time.

Some of our races are very expensive – AVC, for instance, at \$250...but they have a lot of expenses to pay out from those fees. AVC is also not covered under our insurance hence the Provisional membership does not apply.

It is more in keeping with the spirit of SARL to offer a race at low cost and forego the amenities, or obtain sponsorship for the T-shirts and trophies and such.

The Course

The primary concern at SARL is the safety of our racers, not to mention anyone and everyone on the ground.

Secondary considerations are overflight of sensitive areas; habitats, refuges, State or National parks. See SARL Rule 51 F), G), H), I) and J).

Third in priority is readily recognizable turn points. This is why it's best for race hosts to be race pilots – they know what we're looking for in a turn point! We've used all manner of objects and terrain features for turn points, but the person devising a course should also consider its suitability for non-GPS-equipped racers who use the start line and course bearings to run the race. Give them something to see!

You are welcome (and encouraged!) to take a first cut at your preferred course, but the final layout is subject to approval based on safety and observation of Rule 51.

I may make suggestions for re-routing, or re-sequencing if I believe it necessary, and eventually we'll come to an agreement on the route. If we fail to do that then we will remove your race from the schedule and hopefully part friends.

We will not compromise on safety.

Your start and more importantly, finish procedures must also pass muster.

We have learned a thing or two over the last five years of organizing and executing races. We've tried almost everything – have seen what works well but have also had a few “Let's *never* do *that* again!” moments.

Any recommendations I make are not adversarial, nor do they originate in an ego. I want your race to go off as smoothly and as safely as possible, and will offer all of my skills and experience to help make that happen.

The Procedures

As mentioned above in the Course discussion, we've tried just about every method of getting planes off and back that there is.

The best and safest method for launching and recovering race aircraft is a moving target, affected by your course, the airport layout, the expected direction of takeoff and landing, how many racers you expect to attend, to name several factors.

Please rely on our expertise when it comes time to set your procedures.

The Briefings

- Racers

A sample Briefing outline follows. Add or subtract depending on your race environment:

- Introduction
- Thanks to volunteers and sponsors
- Roll call
- Ground and departure ops
- Start procedure
- Radio calls
- Race frequencies
- Turn Points
- Hazards/emergency landing places
- Finish procedure
- Landing procedure
- Safety
- Questions
- Altimeter
- Launch order

- Timers

Some things you need to consider for your timer's brief are:

- Make sure they understand the importance of their job. People invest a lot of money and time to attend races, and if the timing doesn't go well, it will have all been for naught. This is why we double up the timing teams.
- Make sure they know that, Yes, we are serious about our racing. One of our hosts had to continually shush a couple of timers who were continually chatting and not paying attention when aircraft came over. Their response was, "Oh come on – they're not *that* serious, are they?" As if the race was just a lark.
- Keep any spectators away from your timers. If you can separate them physically, do it. Spectators ask questions and distract from the primary job of the timers – timing!
- Make sure they all know how to operate whatever equipment you will be using. Even stop watches – you would be surprised how many people do not know what a "lap time" is or how to use that stopwatch function. It would be really bad for someone to press "Stop" rather than "Lap" in the middle of timing aircraft.
- Make sure everyone has an assignment. The timing will go smoother if everyone has a job and knows what their job is, rather than just shuffle people out to the start line without direction.

Timing the Race

You will need a minimum of five volunteers to help you time the race.

Secondary to ensuring the safety of everyone, making sure the timing goes well is your main concern. Your racers will all spend hundreds of dollars each coming to the race, staying overnight and returning home. For the timing to go bad is the worst thing that could happen.

- **People:**

You will need one person who is preferably a pilot, who knows a Cessna from a Bonanza from a Lancair from an RV. That person will be equipped with a radio and will be the spotter and team leader for the timing team.

Then you will need two teams of two: A person running the clock and a recorder. Having two teams may on the face of it seem redundant, but this serves a dual purpose: Both teams get and record a start and finish time for each racer. If one team misses one racer, hopefully the other team got them. Also, on a close finish it will be impossible to hack the first plane, call the time, restart the clock and hack the second racer. This is where the whole team operates together – the Team Leader (spotter) makes an assignment, saying, “You get the first plane, you get the second plane”. Each timing team gets the plane they were assigned and everyone gets a time – everyone is happy!

- **Equipment:**

What equipment you need for timing a race depends on if the start and finish lines are at the same physical place. If they are the same, you can use regular stopwatches that have a lap-time button. Lap-times are when you can push a button and pause the clock display, but not stop the clock. You push the lap-time button, read the time, and push the lap-time button again whereupon the display picks up at the current running time.

If the start and finish are at two different locations you will need to use GPS clocks. Digital “Atomic” clocks can be had for not much money, and they ensure GPS-synchronized time between far-removed locations.

Now that I mention it, if you DO start and finish at separate locations you will need to double your timing team volunteer requirements (now ten people).

One thing that many races do that the racers like, is to have a person back at “Race Central” who is connected via cell phone to the timers, and takes each racer’s times as they are recorded by the timer’s recorder, and who then does data entry into the scoring spreadsheet. Real time data entry saves a lot of time for the host (you) to do data entry from paper forms after everyone has finished. The paper is still the master, but the computer can display speeds as they come in.

A further refinement is to slave a second monitor and have it turned so that pilots can land, come to Race Central and immediately see their speed, along with everyone else’s (who has finished).

Race Support

Volunteers will be your biggest resource, and finding them may be your most difficult job. Other pilots who aren't interested in running your race will be good choices. Your local EAA chapter is another. Sometimes there are airport organizations (airport board) from which you can draw volunteers.

We frequently describe our events as a cross between the Reno National Championship Air Races and an EAA picnic. Try to gather a group of people who would be comfortable in those environments.

Your airport manager could be a good resource as well. Or your biggest headache.

Let's take a moment here to talk about your "standing" as a race host.

You will publish and execute your race as day-VFR flights. There is nothing about what we do that needs to be "approved" by anyone (with the exception of the FAA if you choose to get a speed waiver). Your event is you and perhaps 30 of your closest friends all getting together to fly to the same places at about the same time.

Now that is somewhat of a simplification, and if you do a flying start and/or finish you will be impacting the airport traffic, and having the good will of the airport and city is useful – but not critical. This applies to Turn Points as well. If you choose to turn on an uncontrolled airport, they have nothing to say about the matter BUT you are obligated to ensure your racers do not impact safety by mandating a minimum turn altitude which is above their pattern altitude. You can also use the extremity of the airport that gets your aircraft in and out as quickly as possible (e.g. use the South end of the runway to turn on if approaching from the South) with as little time in the pattern area as possible.

Once your wheels leave the ground the airport manager and city council has nothing more to say about your activity than they do about a poker run or a fly-out or any other VFR flight that originates at the airport...*especially* if you arrange to start and finish at an off-field location. Do not let anyone put you on the defensive about your race. If you intend to use a public airport from which to run the race, then you have all the rights and privileges as if you were flying there alone.

OK – enough of that.

Your timing team is described above in the Timing the Race section, but there are other volunteer positions that, if filled, will help make the race run more smoothly.

- **Registration** is something that almost anyone can do, provided with the right materials and instruction. The race host will be provided with a spreadsheet giving the racers who are registered, and a break down of fees due from each racer. The registration process can get hectic especially if you have a lot of last minute registrations (always close registration 30 minutes prior to the briefing to give time to sort out a start order, assemble

a roll call and generally so you have time to breathe before the brief. It will be beneficial if the registration table has a laptop computer into which those last-minute registrations can be entered. Someone who can handle an Excel spreadsheet would be best.

- **A Ramp Marshal** whose job it is to get the aircraft started and taxiing in the correct start order. After the start order has been determined, this person will have a printed copy of the order and they will run around the ramp getting your planes in line. If this person doesn't have a cart or bicycle or other wheels, best that they be healthy enough to run around for 20 minutes at a time.
- **A Flagger or Starter** can help maintain launch sequencing. As I point out in the briefing section, you should stress the importance of your racers not bunching up on the start, in order that the timers can get a good recording of *everyone's* start time. Having someone enforce the 30 second launch interval will help.

This is something you can have fun with. We've had the town Mayor do the starts, we've had local "celebrities" do the starts, we've considered having a girl in a string bikini do the starts (somewhat distracting for the male racers!). You can make the starting "official" an honor for someone – and it'll help you out too.

- **Turn Observers / Judges** positioned at turnpoints can help ensure your racers do not cut turns. It may not be possible for every turn to have an observer. Simply brief, "There are five turns in the course. There are three turn observers. The trick is to know which three turns they're at." They'll get the message.
Communicate the final start order to your turn observers via cell phone and they will have an idea what aircraft they can expect in what order (discounting passing). Turn cuts are 15 second penalties – be sure to check with your observers before you do the final scoring.

All of these slots can be immensely helpful, but you can make do without. Many's the time when we gave a launch order at the brief, and the racers got themselves sorted out and managed the intervals in the launch. You can do the registration yourself, or one of your timers can serve double duty (just make sure they get to the start line in time!). This does not need to be a cast of thousands!

Safety Issues

FAR Waivers

As you are probably aware there are certain speed limits in US airspace:

FAR 91.117 (a)

"Unless otherwise authorized by the Administrator, no person may operate an aircraft below 10,000 feet MSL at an indicated airspeed of more than 250 knots (288 MPH)."

FAR 91.117 (b)

"Unless otherwise authorized or required by ATC, no person may operate an aircraft at or below 2500 feet above the surface within 4 nautical miles of the primary airport of a Class C or Class D airspace area at an indicated airspeed of more than 200 knots (230MPH)." This speed also applies underneath a Class B shelf.

The key point in these two rules is *indicated airspeed*. Not TAS, not ground speed, *indicated*. Our racers often get some great tailwinds out on the course...

When you have aircraft registered that are capable of exceeding these limits, you might want to obtain a waiver.

It is not likely that your course will be affected by 91.117(b), but 91.117(a) covers the whole of the country.

The Awards

Race awards are a very individual thing and range from nothing (literally!) to expensive trophies from a trophy shop.

Our awards tend to fall in the middle, either home made by the host or inexpensive items like Sports medals.

This is in keeping with the low-budget operation of The League where the focus is on having fun together, learning how to make our aircraft more efficient, and not the glitter of award hardware or big prize money.

Recognition for effort is one thing – turning the race into a cut-throat competition is another.

This is another reason that experience and participation before hosting your own race is a good thing; so you can see the breadth of awards and experience the reaction to them.

Race Organizing Checklist

This checklist was prepared by Sam Hoskins, veteran race host. It may need tweaking to suit your particular needs, but is a good place to start.

- Gather volunteers/managers
- Look for sponsors
- Establish race fees
- Make list of phone numbers
 - Racers
 - External contacts
- Public relations
 - Airport management
 - Notify locals pilots
 - Advertising flyer for distribution to local airports
 - Local news
- Timing crew (5 persons)
 - Primary, backup & spotter
 - Timer software
 - Timer sighting fixtures
- Ramp Marshall (and assistant)
 - Parking - racers
 - Parking - transient & fixed base
- Pilot check-in (2 persons)
 - List of racers
 - Medical, license & insurance
 - Hold harmless
 - Welcome packet
 - Race info
- Logistics
 - Hotel (get group rates) & transportation
 - Friday night dinner
 - Restaurant/bar vs. hangar hangout
 - Breakfast & Lunch
- Turn point (pylon) spotters
- FBO
 - Fuel discount
 - Make sure fuel/fuelers available
 - Hangar deals
 - Emergency hangar for weather
- Race info
 - Fly the course to verify route.
 - Identify potential hazards/conflicts. Route photos - hard copy
 - Contact airport managers at airports used as turn points
- Race procedures

- Contact tower (if applicable) about departure procedure, inbound checkpoints, call signs, timing etc.
 - Radio frequencies
- Pilot's brief
 - Safety highlights
 - Taxi procedures
 - Departure procedures
 - Course turn-by-turn
 - Finish line
 - Landing procedures
- Score-keeping
 - Excel sheet (SARL) scoring software
 - Relay person at timing station
 - Display & print out results
- Awards
 - Trophies or certificates (high cost / low cost)?
- Miscellaneous
 - Speed waiver
 - NOTAMs