

# Reno Air Race Stories 2021

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After last year's event was cancelled due to the pandemic, the races were on again this year. I decided to go, even though it is a drive-in, not a fly-in for me because the Reno Stead airport is closed to visiting airplanes during the race week. An unexpected obstacle was the big fire west of Lake Tahoe, which had shrouded large areas of the mountains in fire and smoke for many weeks. It had spread greatly and blocked Route 88 which would have been the shortest route for me to use over the Sierra Nevada mountains. I had to select an alternate route on the day before I wanted to leave. This turned out to be Highway 49 north through the foothills, through Placerville and Auburn, from where I could use Interstate 80 to Reno. This route was longer and slower, but at least between Jackson and Auburn it was very scenic and I could avoid the smoke completely.

I arrived in Reno late morning on Tuesday. Things were still pretty quiet this early in the week, which is how I liked it. All the race participants were there, but not the vendors or the crowds of spectators. Parking space was plentiful close to the airport gates. The weather was great, sunny, not too hot and almost no wind. Fortunately the smoke was no factor, it was just slightly hazy.

My headquarters during my stay was the large Formula 1 and biplane hangar at the west end of the ramp. My friends Josh and Justin Philipson were there with their two small racers 79 and 81, as usual in the back corner.



I had hoped that Josh would have built the new composite wing for their Shoestring that I had designed the structure for, but he had not done that. He said he was still working with Jeff Rose on his new biplane racer, for which he had built a set of composite wings, for which I had also analyzed the structure. I guess the x-factor was hard at work here too. The x-factor is what you have to multiply your time estimate with on how long it takes to build an airplane. In rare cases this factor is as low as 2, more common is 3 or 4.



This early in the week only very few visitors found their way to this hangar. The main crowd consisted of the pilots and crews. Jeff Rose was again there with his Pitts racer, but he was not racing it himself, he had a younger pilot who was eager to do that for him. Jeff introduced me to some of the other biplane pilots. As in Formula 1, there are 3 or 4 planes which are highly modified for low drag, and are correspondingly the fastest. In the biplane class, there is still more room for improvements to increase the speed, so I provided my thoughts on how to do that to some of the guys. Maybe I need to add a video on drag reduction to my series of small airplane design tutorials videos which I had posted on Youtube.

Another surprise was that Lowell Slatter, the 2019 winner of the Formula 1 class, had decided to retire from racing. He said it is better to get out when you are at the top, but age also had something to do with it. I had been working on a new carbon wing structural design for his race plane, with the intention to significantly to reduce weight, but that had not been built either. If / when he sells the plane, the new owner will get those plans.

Some of the Sports Class pilots had their planes in tent hangars, which provided welcome shade. I found a friend from Bend, Oregon there, Dan Ballin. He had sold his Lancair Legacy (Race 92) and was here crewing for the new owner. Dan, as the builder of the plane, obviously was well suited for that role, because he knew the plane better than anyone else.



Flight operations were already ongoing since Monday, with Qualifying complete and different classes were making practice runs around the pylons. Every time one of those T-6 passed the flight line, all conversations ceased. But not because everyone was watching it in awe, but because the noise from the supersonic prop drowned out everything else.

In many pits, crews were working on their airplanes, either performing last minute maintenance or fixing issues that had come up.

It was a particularly unlucky day for Mojo's team (Race 3). The engine of this twin turbocharged Glasair III had spun a bearing, which meant there were plenty of metal chips cruising through the oil system. The evidence was visible in the cloth that the oil was drained through: it sparkled like a gold miners sieve.



Those chips were very expensive because it meant the engine had to be overhauled. The team was out of the race before it had even started. The pilot, Sean VanHatten, was also the test pilot who had done some of the flights in the Nighthawk, another project I had worked on.



A Sports Class racer is getting a tow from the parking area to the flight line in the morning. Golf carts are very suitable as tow carts.

The whole Sanders family team was also back in full force, with an assortment of airplanes, several of which were Sea Furys. This included Dennis Sanders' 924, sporting a five-bladed prop. These are such big, incredibly powerful machines that have an awesome sound at full throttle.



I had visited Dennis Sanders' facilities at the Eagle's Nest airport. He has several large hangars where he restores and builds warbirds.

I noticed that there were a lot of young people and kids in the main area, where most of the vendors and the grandstand were. In the pit area, where the race participants and their airplanes were located, the average age of the people was more like into the 60's.

A surprise was to find Eric Tucker here, as an airshow performer. He had worked with me years ago at Columbia Aircraft, learning flight test procedures. Now he had a very basic yellow Cub, in which he performed several routines. One of them was engine-out aerobatics with smoke from the wing tips, so that you could see him when he started high above the airport and silently worked his way down with various maneuvers to a full stop on the runway. The Cub has no starter, so to get going again, he had to hand-prop it on the taxiway.



He had converted an old ambulance vehicle as support truck and added a platform on top of it for rooftop landings. His helper Mike drove it down the runway, and Eric did touch and goes on the platform, of course with engine power this time. Even though this Cub has a 100 hp engine, at a field elevation of 5000 ft and in this warm weather it was not exactly overpowered.



Another airshow act was performed by Philip Steinbach with one of his Gamebirds. I had not met him before, but because he was sharing the hangar with Eric and an aerobatic Bonanza, Eric introduced me to him. We started talking in German right away and discovered that we had quite a crowd of mutual friends and acquaintances from Germany and elsewhere in common. An hour later, he invited me, if I ever got bored, to join his team in working on their latest project, a very large composite airplane. I am more into small airplanes, so I have to think about it.

The first races started on Wednesday. It is quite a different format from what was used at the Red Bull Air Races, which I enjoyed watching and crewing for. In Reno, several airplanes are together in the race course, which is basically a large oval. Usually, the fastest one is soon in front, and stays there, while the other are spaced out behind, according to their speeds. Sometimes, a pilot manages to overtake another one. The airplanes are mostly far away from the spectators, so it is hard to see what is going on. This sport is definitely geared more towards the participants, to whom it is exciting to fly fast close to the ground. For the spectators, it is less exciting. I like it best to be there to look at the airplanes and get to know some of the pilots, then watch the videos of the races afterwards and know the details about them.



The jet class seemed to be very well attended this year, with plenty of different airplanes. The Albatross L-39 and the older version L-29 were the most popular models. During the race they are so fast that they are actually never leveling out, they are in constant banked turns around the pylons even though their course is the largest.



This old jet, a Shooting Star, was not participating as a competitor. Most of the pilots come from the US, but there are some from as far away as Europe and Australia. Their dedication is impressive.

A new class this year was the STOL / drag race class. Here airplanes that are slow, have a lot of static thrust and lots of drag are the best. The rules are very different from the traditional races, and more fun to watch for the spectators, because they stay right in front of the crowd.



The task is to take off from a standing start, fly 2000 ft, land and come to a full stop. Then turn around and repeat it going in the opposite direction. Two planes fly at the same time and the one who comes to a stop first after the second flight is the winner of the heat. In addition, they are not using the runway, but the dirt strip between taxiway and runway, which blows up clouds of dust. You better have a robust landing gear on your plane if you want to participate in this event, because it is rough, and they did not remove the sage brush that grows there either.



In addition to having a slow stall speed, low weight and lots of thrust, the drag racers need to add drag to slow down after they flew the required distance. So some have added “yaw speed brakes”, a vertical panel as on this one, between the struts. When the pilot slips, this area helps add drag.

Some pilots assign a gender to their airplane, male pilots tend to think of their plane as a “she”. But there is no doubt about the “gender” of Race 80:



The drag racers were mostly various Cub models, Cessna 170 / 180, Pacers, Kitfoxes, a Husky and the very successfully Just Aircraft Highlander. This one was getting the best results.



It seems to have been built very light. A close contender was "Sarge", a highly modified Cub with a customized Jetski engine and a chain reduction drive.



Cooling should not be a problem with those radiators, at any speed. It had a very distinctive sound at full throttle.

After two days, I was ready to head back home and visit a couple of nice places which I had spotted on the way out. But first I had a scary experience on highway 80 between Reno and

Truckee. The climb gradient on this road is fairly gentle, because the pass is only little more than 2200 ft above the valley. So I was mostly driving at the speed limit of 65 mph. Sometimes there were larger vehicles that were slower though. As I came up behind one of those and eased off the gas to slow down, I noticed that the car behind me came closer and closer as if he was impatient for me to get out of his way. Unfortunately, a lot of drivers these days seem to be very impatient with others who “only” drive at the speed limit, and pull up very close behind them until they can overtake them. I find this aggressive tactic annoying and dangerous. I waited for the left lane to clear and pulled over to pass the slower vehicle. The driver behind me had backed off a bit but followed me. The right lane was clear again so I went back to it, the other car still stayed behind me. After a few minutes a large motorhome pulling a small truck was going slow in the right lane and again I eased off the throttle to reduce my speed. But not so the driver of the car behind me. Similar to what he did before, he seemed to keep going forward at the same speed or was maybe even speeding up. There was other traffic in the left lane, so I was stuck.

I was maybe 50 yards behind the motorhome and expected the car behind me to slow down again soon. Then I realized that he kept coming and was getting larger in my rearview mirror by the second. A second later there was a big bang as he hit me hard. I was thrown forward and my first thought was “That idiot has smashed the back of my car. But at least it was not the front end, so hopefully I can still drive home”. The stuff I had lying on the back seat was thrown forward as well. I was convinced that the whole rear end was damaged. I pulled over onto the shoulder and stopped. Then I looked behind me and saw to my relief that the other driver had also stopped. In my mind, I already saw myself arguing with him about insurance and who would pay for the damage. I got out of the car and prepared myself to see a mess, but to my surprise there was no damage. The bumper had another scratch, but that was it. It seems the car was built sturdier than I had expected.

I looked at the other car, its front end also looked undamaged. I walked over to it, and the driver opened his door. It was a man, alone in the car, maybe 30ish, black hair and beard, Middle Eastern look and a strong accent. He said he was sorry and wanted to know if I was ok, which I was. Then he claimed that his brakes were not working well. He was lying, the brakes had not been required to slow down on this uphill stretch, I had not used them either. He had kept his foot on the gas. And he proved that he was well able to use them to stop, after hitting me. The problem was with him, by now I believe that he did this intentionally. He never got out to look at his front end, and when I went back to my car, he quickly drove off. That was fine with me, I did not want this guy behind me anymore. Later, I wrote a report about it and sent it to the Nevada Office of Highway Safety.

The rest of the drive was uneventful.

The road between Auburn and Placerville is anything but straight and level. Mostly it consists of tight turns, that are going steeply up or down. I spend more time in second and third gear here than anywhere else. Fortunately, after getting past the bottom of the gorge south of Auburn, there was not much traffic.

Historically interesting is the very small town of Coloma. It is actually smaller now than it was 170 years ago. Because it was here that James Marshall, who worked as a carpenter at a saw mill on the American River, found the first gold in California in 1848. Because he was too excited to keep this discovery to himself, he started the gold rush in California. It did not do him much good during his lifetime, but later they erected a monument of him on top of a small hill,

overlooking the town and river. I spent some time exploring Coloma, which is only 8 miles north of Placerville, but down along a steep and curvy narrow road, which ensures that there is not too much through traffic.



The post office in Coloma has probably not changed much for a long time.



The American River was a very popular place in 1849. Today, it is quiet and peaceful.