

***Cessnas to Oshkosh:
Formation
Flying Fun***

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By Mike Jones

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It's no secret that the past eighteen COVID-filled months have been horrible in almost every possible way. Hundreds of thousands have died, businesses have been ruined, jobs have been lost; the litany of heartbreak is almost endless. But now the end of the pandemic is near.

Eager pilots are jumping into their planes and flying in near-record numbers. In this journal a few months ago, I reported on the success of Sun-n-Fun, the second biggest general aviation airshow in the world. This July my sights are set even bigger: to steer my trusty but dusty Centurion to Wisconsin and join the fun at the biggest airshow of them all, AirVenture.

But simply navigating to RIPON and plunking into the North 40 with 15,000 like-minded airplanes would be embarrassingly bourgeois. Post-COVID, it simply won't do. This year has to be something special, and I have found it.

I'm teaming with 139 other planes and 200 slightly insane aeronauts to fly the celebrated Cessna Mass Arrival into Oshkosh. Jump back, Moonies, Bonanzas and Pipers... if everybody shows up, the biggest formation flight since World War II is coming through.

C2O History

The Cessnas2Oshkosh web site reports this program began in 2005 when a small group of Cessna owners, led by Fred Johnson and Rodney Swanson, socialized the idea of a mass arrival with other Cessna owners. They wanted to build on the successful mass arrivals of the Bonanza and Mooney clubs. However, the Cessna program would have a unique complication: it would require mixing different models of Cessna airplanes which would be flying at different speeds.

Rodney Swanson, an experienced military pilot and current Director of Training and Operations for Cessnas 2 Oshkosh, developed the pilot training program. In 2006 — the 50th anniversary of the Skyhawk and Skylane

models — fifty Cessna aircraft safely flew their first mass arrival into Oshkosh. It must have been thrilling.



Nine Cessnas and one Cherokee made it to Anson County Airport for the Formation Flying Clinic. Here's the first row of planes on the ramp.

You will be pleased to know the Cessna Pilots Association became involved. In 2007, the legendary John Frank worked with the C2O team and the FAA to develop a “letter of agreement” defining the Cessna fly-in procedures. CPA also supported the mass fly-in on the CPA website. Since then, the C2O program has continued to evolve. Every year the event grows, the training is enhanced, the

procedures are refined and the ancillary events in the North 40 camp site become even more entertaining.



Karen Ewart (red shirt) led the training session. Lee Meyers (hidden by Jim Taylor in the blue shirt on the right) was the co-presenter. The presentation was lengthy and detailed, but coffee and donuts kept us going.

The most recent Cessna arrival was in 2019. Eighty-six aircraft participated, including eighteen newbies flying the mass arrival for the first time. The planes represented twenty-seven

states, plus the District of Columbia and two Canadian provinces. The elegant Cardinal was the most numerous Cessna model, with thirty-one examples in the formation. Twenty-one Skylanes, seventeen Skyhawks and seven Centurions filled out the ranks, along with a smattering of other models. I actually watched their arrival from the North 40, my mouth hanging open. I knew right then that was a team I wanted to join.

Formation Training

The C2O program has three goals: flying, fun and safety, but safety takes top priority. Since most civilian pilots have precisely zero formation flying experience, anyone hoping to participate in the program must attend one of the dozen or so “formation flying clinics” conducted around the country every Spring. I jumped on the C2O web site and signed up for the North Carolina

clinic at Anson County Airport, just east of Charlotte. The Bonanza, Mooney and Piper groups have similar training processes.

Airplanes and spring weather are not the best of friends. There was a flurry of emails all week in advance of the clinic — Will the rain ever stop? Would the clouds ever lift? It was going to be touch-and-go, right up to the last minute.

I dragged a sleepy '91N out of her hangar on Saturday morning, June 6th and flogged her into the sky. The breezes were gentle and there was a broken layer at 3,500 feet; below that the visibility was adequate enough, perhaps 6-8 miles at the worst. I motored along at 1,700 feet and watched the traffic on



The Cessna-2-Oshkosh procedures include a detailed preflight briefing using a specialized form. The briefing includes every frequency and every contingency. We rehearsed this process during the training. Here, Southwest Airlines pilot Joel Kirschner from Clarkesville, GA (left) and Ralph Wallin from Fayetteville, NC work on their notes.

Foreflight; nine planes were converging on Anson County from different directions. A little behind me, coming from a different airport, my good friend and safety pilot Dan Benedix flew his Cherokee to the party.

The airplane arriving first decided the tiny breeze favored Runway 34, so we followed the leader and arrived on the upward-sloping runway. One by one we shut down, shaking hands and admiring the different planes, their paint, their avionics and their stories.

My wife had thoughtfully baked a large blueberry coffee cake to share with the other students. I basked in the compliments although she had done all the work. Others brought a truckload of donuts. The airport provided coffee, water and sodas for free. True southern hospitality!

The training session started with a detailed powerpoint discussion, co-presented by Karen Ewart and Lee Meyers. Ewart is a semi-retired CFI who flies a burly C-182 with

about a zillion horsepower; I've never seen a Skylane jump off a runway so exuberantly. Lee is a long-time pilot and C2O expert. Robert Morris, a Cessna 337 pilot who always is the very last plane in the mass arrival, kept everybody focused on key behaviors that



Robert Morris (burgundy shirt) is an experienced C2O veteran. On the ramp with Karen Ewart (red shirt) they reviewed the echelon design and spacing of formation flight.

enhance safety while Rex Edwards — who also is the airport manager at Anson County — chimed in helpfully. These are expert fliers.

Let me paint the big picture for you. The mass arrival begins when all of the participating Cessna aircraft collect at the Dodge County Airport in Juneau, WI, about thirty miles south of Oshkosh. Most arrive the evening before. Rumor has it the celebrations start early and run late. Nonetheless, everybody will be hyper-aware of any developing weather or last-minute TFRs. What would Oshkosh be without a thunderstorm?

On the morning of the event, participants are sorted into flights of three airplanes each, categorized by speed. The slowest models, like Cessna 150s, depart first. The timing between departures is precisely planned. Morris explained that the effect, on take-off, is analogous to a stretched-out accordion. Gradually the faster planes slowly “compress the accordion” from behind until everybody arrives at Oshkosh in one 20-minute rush. From each threesome, two planes land on the main runway and the third lands on the parallel taxiway.



Alpha Lead was a Cessna 337 Skymaster, flown by Robert Morris. This photo shows our proper position, echelon right, at a distance of about 75 feet. It seems much, much closer in the air.

It would be tedious to recapitulate all the nuances discussed in the class, but crucial topics such as radio calls, take-off procedures, in-flight positions, and contingencies all were discussed in endless detail.

One surprising nuance for me was that during formation flight pilots don't use ailerons, just rudder, so all heading changes are “flat turns.”

Also, the principal control is the throttle. A good formation pilot makes a throttle adjustment every few seconds, and every time you drift out of position it requires three throttle changes. The pilots never take their eyes off the “lead” airplane, which should be just 75 feet away. Most pilots bring a safety pilot, like my buddy Dan, to monitor engine performance, change radio frequencies and handle other cockpit chores.

After a splendid lunch of pizza, sodas and hangar flying, we flowed outside. Rex Edwards had positioned several airplanes on his ramp and measured the distances precisely, which allowed us to get the “sight picture” of what a Cessna looks like from exactly 75 feet away. Like an old-school oil painter, I used my thumb to get a measurement that could be repeated quickly in the air. At 75 feet, a single-engine Cessna is just about the length of my thumb. Good to know.

It was time to get into the sky. I was assigned the third slot in Alpha flight, which included Robert Morris in his Cessna 337 and Joel Kirschner in his handsome Skylane. Once all the planes had their engines running, the entire group participated in the “comm check” to make sure we all had radios on the proper frequency. At



One the Skymaster diverted for a mechanical issue, Joel Kirschner and I took turns flying “lead.” Joel actually did much better than I did, which was discouraging until I learned he cheated. Turns out, Joel is a twenty-year Navy pilot with about a billion hours of formation flying in his logbook. Tough to beat.

Oshkosh, if you don’t answer your comm check instantly they ground you and you cannot participate in the event. At Anson, everybody was spot-on.

I think I was the first to goof. As Alpha Lead started to move, I taxied after him like a happy puppy. But that put me in front of Alpha Two, and in the wrong position during the take-off. Joel and I sorted it out on the radio but I felt like a dolt. Despite that embarrassment, it was gently thrilling to look over my shoulder and see a conga-line of Cessnas poised on the taxiway. I can’t imagine the noise and excitement when we get to Juneau.

Into the Air

Have you ever heard the expression, “no battle plan survives the first contact with the enemy”? Formation flying is like that.

Alpha Lead started rolling while Alpha Two, brakes locked, did a five-count for spacing. Alpha Two started his take-off roll properly but I rushed my timing and I came too close to Alpha Two. I quickly reduced power (while still on my take-off roll!) to remain in position. Plus, we were using Runway 34, departing up hill, on a high density altitude day, with a slight tailwind. It took forever to get off the ground. Even Alpha Lead, in a powerful twin-engine Cessna 337, seemed to barely stagger into the air. Good thing it's a long runway with no obstacles.

Once out of the pattern area, Alpha Two and I started long, slow left turns to close-in on Lead. Benedix kept his eyes on the gauges while I focused on Lead. I was on the outside of the turn and had to add a surprising amount of power; Alpha Two was on the inside and nearly had to put it in “park.” After a while, Benedix suggested I raise the flaps and lean the engine, just like in a real airplane. Slap my forehead. Gradually and cautiously we snuggled into position.

Suddenly, Alpha Lead started bobbing up and down. Initially I blamed my lack of formation skills, but Benedix quickly concluded Lead was porpoising up and down hundreds of feet. Alpha Two and I hopelessly tried to follow his gyrations. Finally, Alpha Lead (Robert Morris) came on the radio. He had lost his alternator and was returning to his home base before his batteries died. His altitude excursions were caused by the distraction of troubleshooting. He peeled out of formation and Joel took Alpha Lead.

Our truncated Alpha flight motored southward to the Chesterfield VOR and turned left to Bennettsville, SC. On that leg we switched and I took the lead for thirty miles. I like being lead: you get to look out the windows. The guys in the

back are the ones doing the heavy lifting. We flew demurely in the turbulent air, staying out of clouds but in-and-out of light rain showers.

Meanwhile, behind us, Bravo flight and Charlie flight were melting their radios. I don't remember the details, but there were calls like, "Get into position, Bravo Two!" "Charlie flight, turn now!" and "Three, you have to keep up! Add power!" There was one panicky "I can't see you!" call that was quickly



One of the Oshkosh after-landing procedures is taxi to the far end of the runway as quickly as possible; turning off is prohibited because there are fast-moving planes landing right behind you. We practiced that maneuver in this training; here's Bravo flight coming in to the ramp.

resolved. It sounded like a dogfight scene from *Star Wars*. We heard lots of exclamations and four-letter words not normally shared on aviation frequencies.

For the last leg, Joel

re-took Lead and began a nice descent back into Anson County. We landed at almost the same instant, Joel half-way down the runway and me on the numbers, just as we will do in Oshkosh. Pretty slick.

Back on the ground, we debriefed on the ramp. There were some fairly serious conversations; either due to a lack of skill or a lack of attention, several pilots had not performed well. Joel cautioned me about making steep turns in formation flight; the plane on the outside may not have enough power to keep in-position. Once he explained it, it made perfect sense.



The on-ramp debriefing was a bit feisty for some of the pilots (not those shown here). You need to have a thick skin if you're going to learn from your mistakes.

Gradually the clinic began to wind down. A couple of planes taxied over to the fuel pumps. Several guys went back into the FBO for sodas and to file IFR flight plans for their trips home. Dan and I crawled into our birds and departed — downhill and into

the wind this time, thank you! — and joined up for the ride home. We held our positions very naturally and comfortably; the whole process seemed like second nature. Over my home 'drome, we split off and I was on the ground in a few minutes.

It was a very good adventure, but I cannot wait to get to Juneau!



Scan this QR code to watch a great video by FlightChops about the Cessna Mass Fly-in; the planes, the weather, the runways, the craziness of it all.

About the Author

Flying since the 1980s, Mike Jones has logged over 3,000 hours in more than two dozen types of planes. This year, after Oshkosh, he plans to fly the perimeter of the entire U.S. First, he will continue westward over the Rockies to Seattle and visit friends. Then he'll fly down the coast to San Diego. After that, who-knows, simply because it sounds like a good adventure. He's always accessible at PilotMike2012@gmail.com.

