

EAA Selects Quicksilver for Special Photo Shoot at Sun 'n Fun



Back-seat Quicksilver co-pilot Carol Carpenter taking a picture of the EAA photo plane taking pictures of us! Photo taken by Jim Koepnick of EAA.



Quicksilver pilots Jon Thornburgh and Carol Carpenter fly almost underneath the EAA photo plane for this dramatic picture. Photo taken by Jim Koepnick of EAA.



Quicksilver pilots Jon Thornburgh and Carol Carpenter fly in close formation with the EAA

The Sun 'n Fun Fly-In is one of the largest airshows in the United States. Each April the event is held at the Lakeland-Linder Airport in Florida. The Experimental Aircraft Association (EAA) takes advantage of the multitude of different aircraft that congregate at Sun 'n Fun by using the opportunity to photograph them for news articles, advertising, aviation calendars and the website.

This year EAA selected Quicksilver to represent the ultralight aircraft at Sun 'n Fun. Mary Ellen, editor of EAA's *Sport Pilot & Light Sport Aircraft*, approached Todd Ellefson, Quicksilver's Director of Sales and Marketing, to inquire if Quicksilver would be willing to participate in an air-to-air mission. Of course, Todd said "Yes." I was assigned to fly a Quicksilver GT-500.

I attended an afternoon briefing at the EAA Building located in the general aviation area at Sun 'n Fun. The briefing was conducted by Bruce Moore, pilot of the photo airplane. Back-up pilot David Davidson and Chief Photographer Jim Koepnick were also at the briefing, plus two other pilots were to fly vintage aircraft later in the day.

I was very impressed with the thorough briefing and high degree of professionalism demonstrated by Bruce Moore and the photo staff. It was obvious they were experts in the field of air-to-air photography and had considerable experience in briefing and flying their assigned mission. The "photo bird" was a modified Cessna 210. The cargo door had been removed so that Jim could take his pictures without shooting through a window.

Much of the briefing consisted of formation-flying protocol. We discussed radio procedure and hand signals as a backup in case of radio failure. Bruce was pleased to learn that I had previous formation experience. See "Tips At Formation Flying" (at the end of this article).

EAA publications, such as *Sport Pilot & Light Sport Aircraft*, *Experimenter*, *Vintage Aircraft*, *Aerobatics*, *Warbirds*, *Mentor*, and *Sport Aviation* are renowned for their close-up and color photographs of every aircraft imaginable. The covers of these magazines often feature pilot portraits of airplanes that appear to be only a few feet away.

As a long-time member of EAA, I always assumed these magnificent shots were taken with a long-range telephoto lens. In the briefing, I was surprised to learn that the photographer does not use a long-range telephoto lens, but rather a zoom telephoto camera.

Jim said that he usually takes his pictures between lenses set at 70 to 200 mm. He uses a zoom focus on his Canon cameras, which tracks minute movements of the subject and change accordingly. He shoots with both digital and traditional film cameras. For digital photos, Jim uses a new Canon 1Dmark2 camera, which produces magazine quality files. His film camera is a Canon with 35 mm Fuji Velvia 50 slide film.

In spite of Jim's state-of-the-art cameras, I was still required to fly in close formation. I began to worry a bit about wake turbulence. The lightweight Quicksilver could easily be tossed around in a larger Cessna's wake. I had visions of the photographer getting a spectacular shot of my Quicksilver colliding with his fuselage.

Fortunately, I once wrote an article for UltraFlight about the dangers of wake turbulence. I used myself utilizing my research on wake turbulence in order to avoid the wake vortices. It turned out that they were not a significant problem.

Bruce explained that normally he would be in the lead and I would fly "wing" on him. On some occasions he might turn the lead over to me, so that he could maneuver behind me for a shot from the rear. We agreed that we would have a positive transfer of the lead position and that we should know at all times who was the leader and who was the wingman.

photo plane over Lake Parker. Photo taken by Jim Koepnick of EAA.



The EAA photo plane flies in close formation. Note the open cargo door to accommodate the photographer. This picture was taken by Quicksilver co-pilot Carol Carpenter.

It was decided we should meet over Lake Parker, about 10 miles east of Lakeland. Since 500 is an ultralight, it is not allowed to fly over congested area, so I had to maneuver around small towns to get to the rendezvous. Once over Lake Parker, there was no problem since itself was obviously not a congested area.

Bruce noted I could expect that we would often fly a zigzag path while in formation, or even a complete circle. The reason is because the photographer is looking for an interesting background to frame the airplane. A split second delay in timing could make the difference in obtaining an interesting island below the subject aircraft or plain water.

In the briefing, Bruce showed us samples of previous pictures. One showed a Waco with sunlight shining through a cloud behind it. Another showed a Pitts flying above a lighthouse on a rocky jetty. Seeing these pictures in conjunction with what I learned in the briefing, I now know how difficult it is to obtain such spectacular shots. Thanks to my photo shoot I gained an appreciation for such beautiful and perfectly-framed masterpieces.

It was decided that I would launch early the next day to take advantage of the morning light. Since it was imperative that we have radio communications, Bruce assigned a primary air-to-air frequency for the air-to-air photo shoot. Several other aircraft were also scheduled to fly in the morning hours. We would orbit overhead Lake Parker, and descend to join the photo plane when it was our turn to be photographed. Each aircraft would fly in formation for about 15 to 20 minutes. Bruce suggested we have a second person in the airplane to keep a lookout for traffic, since the pilot would be concentrating on flying in formation.

After returning to the Quicksilver booth in the ultralight area, I found out from Todd Ellefson that the Quicksilver radio was inoperative. Todd was forced to buy an ICOM handheld radio from the booth at Sun 'n Fun.

I selected Carol Carpenter to be my co-pilot. She and her husband Brian are the co-authors of the recently-published book, *A Professional Approach to Ultralights*. They were promoting the booth at the Quicksilver booth. She was a perfect choice to co-pilot the flight, since she is a general aviation pilot and an ultralight instructor.

The day of the photo shoot dawned bright and clear. Prior to launch, Carol and I used the radio to make contact with Bruce Moore, already airborne in the Cessna 210 over Lake Parker. After receiving the "go" command from Bruce, we took off in the Quicksilver from the ultralight area.

Everything went well until we approached Lake Parker and I tried to check in with Bruce. It soon became apparent that our new ICOM radio was receiving OK but only transmitting clicks and squeaky voice. My heart sank as I realized that we would have to cancel the photo shoot. In the briefing, Bruce had emphasized the importance of having radio contact.

However, thanks to Bruce's quick thinking we were able to salvage the mission. Bruce asked a series of questions, such as "Can you hear me? Are you overhead? Do you have me in front of you? Do you want to continue?" and so on. I answered by two clicks on the radio for "no" and three clicks for "yes."

After a lot of microphone clicks and airplane maneuvering, we were able to rendezvous over Lake Parker at 1500 feet. I moved into formation on the left side of the Cessna about 20 feet above and 20 feet below. At this point, Carol took a picture of the Cessna before they began taking pictures. The picture, which accompanies this article, is almost as dear to me as the photos taken by Jim Koepnick in the Cessna. Thanks, Carol.

Next, began an intense 20 minutes of formation flying and maneuvering for the best picture. Bruce would command that I "move five feet forward" or "drop down three feet" in relation to the Cessna. It's impossible to know exactly what five feet forward is, but if I didn't move far enough Bruce would simply command "move another two feet forward." Eventually, he would say, "Hold it right there."

and Jim would take the picture.

During much of the formation flying, I had to cross-control the ailerons and rudder in order to counter the wake turbulence. Usually, I had to hold right aileron and left rudder. Our airspeed was generally about 80 knots. The Cessna had to lower partial flaps in order to fly slow enough to stay in formation.

Throughout the session our relative positions varied from 30 to 80 feet laterally and 20 to 60 feet below the Cessna. Several times Bruce turned the lead over to me and dropped in behind the Quicksilver for a rear-view shot. To conclude the session, Bruce directed me to make a sharp "breakaway" turn to the left to get a picture of the Quicksilver's belly in a steep bank.

The entire process was great fun and a fine learning experience, from the briefing to the "breakaway." I gained a lot of respect for the dedication and professionalism of the photographers and also envy the great way they make a living—flying in formation with diverse aircraft over the desert scenery and creating uniquely memorable photographs.

About the author: Jon Thornburgh is an ultralight and FAA flight instructor. He is a periodic contributor to UltraFlight magazine and other publications. For more information about Cessna ultralights call 888-442-2359. For more information about EAA, call 800-843-3612.

UltraFlight Magazine thanks Mary Jones and EAA for granting permission to use their photo article.

Tips At Formation Flying For The EAA Photo Shoot

1. In most cases, the photo plane will form up on the subject aircraft. Please set up an electronic cruise power setting so that after we join up, you will be able to go faster or slower as needed to maneuver on the photo plane.
2. Once the photo plane has called, "I have the lead," it is then your responsibility to maintain contact with the photo aircraft at all times. If at any time you have to look away from the photo aircraft, move out of formation before you break eye contact with the photo plane.
3. The basic secret of formation flying is: MATCH YOUR WINGS TO THE SAME BANK AS THE LEADER. It sounds too simple, but if your wings are held at the same angle as the photo plane, you will find it easy to stay with us.
4. Anticipate power changes. Plan to use big power changes to keep in position. Airplane acceleration and deceleration should be slow. Try to plan ahead with your power usage.
5. Do everything slowly and in small increments (except large power changes when necessary). When you are the leader, do all your roll-ins very slowly. This makes it easy for your wing to follow you. It is easier to stay in position than to rejoin the formation.
6. If you are going to be on the inside of a turn, you will be traveling a shorter distance than the leader and you will have to reduce power to prevent overtaking the leader. If you are going to be on the outside of a turn, your airplane will be flying a greater distance than the leader, and you will need to add power to keep up. A turn with a bank greater than 30 degrees takes a lot of extra power with the leader.
7. Whenever you change your height in relation to the photo plane, you will need to adjust your power to stay in the same position. If you are pulling up, you will be slowing down and need to add power. If you are moving to a lower position, the plane will be speeding up and you need to reduce power.

8. It is important for the pilot of your aircraft to be in direct radio contact with the photo plane giving you instructions constantly. It is not always necessary to "roger" the instructions must be able to hear them. If you lose communications, wave your hand past your mouth hear us but cannot transmit, or wave your hand past your ear if you can no longer hear us: photographer will then give you hand signals.

9. If you lose sight of the photo plane, move away from our known position slowly, and immediately advise us that you have lost sight.

10. When you are being positioned for the "in-trail" pictures, if you are looking through the plane's horizontal stabilizer to see the photographer, then the stabilizer will also be in the picture. Please re-position so you have a clear view of the photographer.