

# IN-FLIGHT SAILPLANE PHOTOGRAPHY - PART 1

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Air-to-air photographs of sailplanes are the hardest kind to get, which is the main reason why we see so few good ones. Another reason is that the opportunity to take them is seldom available to the average "Target - of - Opportunity" photographer.

From the purely photographic standpoint, the problems are the same as previously described for ground photos and flight photos taken from the ground - composition and camera angle, lighting, and exposure. However, all are immensely complicated by the fact that both the subject and the camera base are moving in a three-dimensional element, with the result that the background, distance and camera angle, and the lighting are all subject to constant change. The photographer who has a thorough understanding of sailplanes and their characteristics and capabilities is the one that has the best chance of getting good pictures under these conditions, and his position is improved when both pilots have a good understanding of the photographic problems involved.

Air-to-air photos of sailplanes can be taken from only two camera carriers - airplanes or other sailplanes. While each type of operation has its own special problems, the primary one in each case is piloting. In determination of the final results, the piloting is much more important than the camera technique. The best photographer in the world can't get a good picture unless the pilots set it up for him, so perhaps a more appropriate title for this article should be "How to Fly Formation with Gliders."

For compatibility of vehicles, shooting from another sailplane is best, and under certain conditions of ridge and thermal soaring, flying in close formation is relatively simple. Such an operation usually keeps a pilot pretty busy, so the best results can be obtained from a two-seater. Catching up with another sailplane that is some distance away in wide-open space can be quite a problem, which should be worked out between the two pilots before take-off. Because of the limited speed range, a

straight-line tail chase is futile and both ships will run out of altitude before getting into formation.

Diagram No. 1 shows an effective way of getting two separated sailplanes into formation quickly. After spotting each other and exchanging signals to indicate that the photo operation is to get under way, the subject ship "A" should start to circle and continue until the camera ship "B" can join it, preferably on the opposite side of the same circle as shown in positions A-1 and B-1.

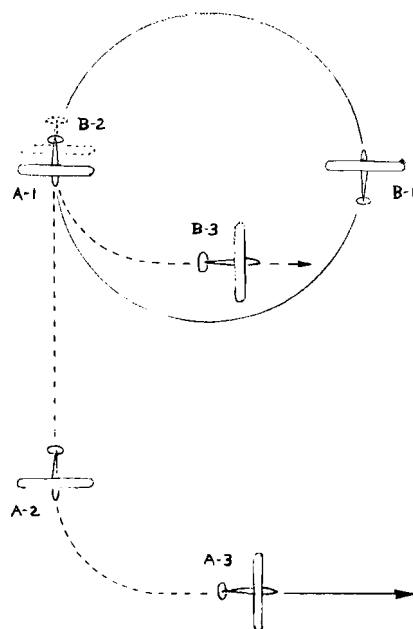


Diagram No. 1.

Ship "A" then breaks out of the circle at A-1 on a heading that is at right angles to the desired course for the photo-formation, with the light at its back. After an interval equal to one-half the time required to fly the full circle, "A" makes either a right or left 90-degree turn as desired and takes up the planned course for the camera run. Just before "A" starts its turn from position A-2, "B" should have completed half of the circle and reached the position where "A" left the circle. This puts "B" directly behind and on the same heading as "A," at position B-2. As "A" starts the 90-degree turn, "B" also makes one, and both ships end up even with each other on par-

allel courses as shown by A-3 and B-3. It is then an easy matter to converge the courses slightly to achieve the proper lateral distance between the two.

The configuration of both the camera ship and the subject will influence the camera angles and formation positions that can be used. In order for each sailplane to have a slight reserve of speed for longitudinal changes in position, both may need to fly with a little spoiler applied. Diving for extra speed uses up altitude too fast unless soaring conditions will permit several repeat runs.

Photos can also be taken while both sailplanes are in circling flight, as in a thermal. Generally, the distance will be too great to show much detail when the ships are directly opposite each other, but the banked attitude of the subject and the easy view out of the top of the camera ship canopy can produce dramatic action or atmosphere shots. For closer work, both ships should be in formation on the same side of the circle, with the faster on the outside. This is the best setup when the photographer is also his own pilot. With the two ships in relatively the same position all the way around, a good pilot can divert enough effort from purely piloting problems to work a camera as well. It's a two-handed job working most still cameras, so the pilot may have to hold the stick with his knees, but an 8mm movie camera can be put on a pistol grip and fired "Off-the-shoulder" with one hand, leaving the other free for the controls. "Hands-off" formation flying is ticklish enough with only one other ship around to keep track of. It should not be undertaken by solo photographers-pilots during close-in slope soaring when position relative to the slope as well as the subject must be considered.

Because of the wider speed range made possible by the powerplant, establishing satisfactory formation between a powerplane and a sailplane is a considerably easier job, but again the sailplane introduces special problems. The usual procedure is to take the photographer up in the tow-plane, but unless an expensive high-altitude tow is made, the sailplane may be back on the ground before the pix are taken if the towplane makes a full 360-degree turn after the sailplane releases and then comes up on it from behind. By following the procedure shown in Diagram No. 2, it is possible to