

# INTERESTING GLIDERS

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Photo: Jack McNulty

Figure 1. One of the original Lawrence Tech sailplanes, showing the smooth-contour nose and the gull wing. The later Lawrence Tech IV featured constant taper from fuselage to wingtip and had a vertical tail almost identical to the later TG-4A military glider.



Photo: U.S.A.F.

Figure 2. The first flight article XTG-4, a two-seat development of Lawrence Tech IV (Yankee Doodle) with step-down windshield. Most production TG-4A's used moulded fiber nosepiece instead of the steel tube fairing shown.



Figure 3. War-surplus TG-4A as licensed in standard L-K 10A configuration. This is an "early" model with steel-tube nose fairing covered with fabric.

Figure 4. Simplest and earliest of the postwar modifications to L-K was replacement of step-down military windshield with moulded plexiglass "Bunny Nose," reverting to and improving original Lawrence design.



Figure 5. An attempt to improve the streamlining of the some L-K shown in Figure 4 by replacing the original fiber nose fairing with an extended fairing of balsa wood.



The rarest sailplane in American skies today is an unmodified L-K, properly known as a Laister-Kauffman L-K 10A or B. Practically all of the 153 L-K 10A's built for the Army as TG-4's in 1942-43 and the handful of commercial L-K 10B's have been modified to some degree as shown in the accompanying photographs.

The basic design began in 1937, when Jack Laister, a student at Lawrence Institute of Technology, was asked by the director to design a high-performance single-seater. The ship that was later to be known as the "Yankee Doodle" was finished in 1938 and scored high in the International Aerobatic competition in France in 1939. The ship was a single-seater that differed from most high-performance types of the time in using a welded steel tube fuselage. The wooden wing was mounted slightly above the center line of the fuselage and used the then-popular "Gull" configuration instead of straight dihedral from the fuselage to the wingtip. Tail surfaces were of wood and the entire structure was fabric covered.

Additional gliders of the same basic design were built at the school and by Universal Gliders of Warren, Ohio, in the years just before American participation in World War II. When the U.S. Army glider training program got under way late in 1941, Jack Laister was asked by the Army to design a rugged two-seat trainer suitable for airplane towing. Backed by his experience with the Yankee Doodle, he was able to modify the basic design to a two-seater, making only a few changes to simplify manufacture. The gull in the wing was deleted, as was the smooth-contour nose. Luxuries like automatic hookup of the ailerons and spoilers were also deleted. The Army placed an order for three L-K 10's under the military designation of XTG-4 in October,