

BG-12A IMPROVES PERFORMANCE

by JOHN C. WOLFE

The new Briegleb BG-12A shows a marked increase in performance, particularly in the high speed range (see curve). This unquestionably puts the BG-12A well ahead of any sailplane in its price range.

However, high performance was not the primary consideration in the design. In setting design criteria, Gus Briegleb placed safety above all. The structure has an ultimate load factor of over 13. The long fuselage, coupled with a good stable airfoil (NACA 4415R to 4409R), produced a ship that is very easy and safe to fly. The familiar "bunny" nose with the instrument panel set well forward offers no dangerous obstructions. Flaps were added for better glide path control. Putting the BG-12A into a small field is easy. The inherent nose down position when using flaps makes it easy to see where you are going. The flaps are also very effective dive brakes. Furthermore, when used at 10 to 15 degree settings, the BG-12A will circle along with shorter span ships; a very important consideration in thermal soaring.

Second consideration was given to ease of construction and durability. A fabric covered structure was quickly ruled out since fabric must be replaced periodically and the structure must be more complex. All-metal is a most satisfactory type of

construction, but the average home builder lacks both the necessary skill and equipment. The only answer to all-metal construction is more fabrication and assembly by the factory, which greatly increases the expense. Wood offers the ideal material for kit sailplanes. The BG-12A structure is simplicity in itself. All ribs are cut from plywood as are the fuselage formers. All skins are $\frac{1}{8}$ inch thick plywood; except control surfaces which are $\frac{1}{16}$ inch plywood to reduce weight and eliminate the need for control balances. No special tools or difficult jigs are required. One of the more complete kits available does not even require any power tools. A thin fiberglass covering over all exterior plywood provides a very durable finish that will last for years.

This intelligent design allows kit prices that are amazingly low. In spite of the prime considerations of safety, good flight characteristics, easy and simple construction and reasonable prices, the BG-12A proves Gus's contention that a modern sailplane can have all of these and still not sacrifice performance.

The superiority of the BG-12A is not an accident. It is the result of long years of experience. Gus built his first glider in 1928. The BG-12A design was evolved by first building

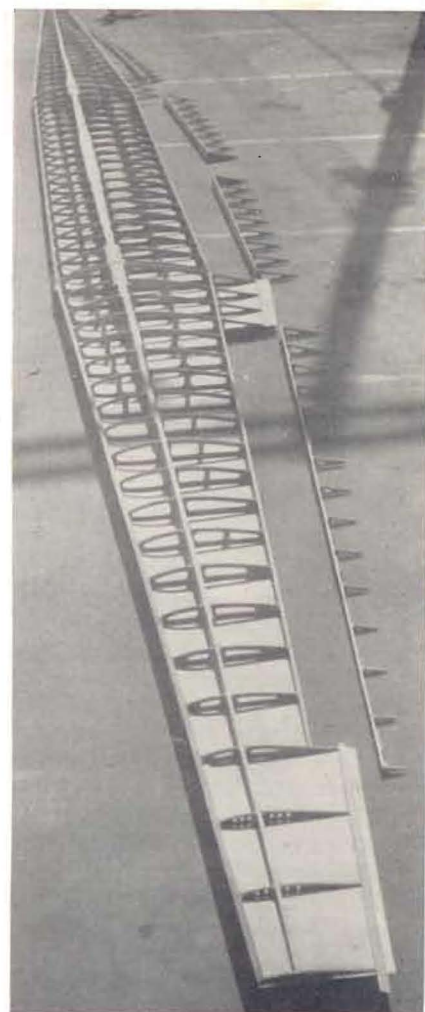


Photo: John C. Wolfe

A BG-12A wing nearing completion.

and testing the wing. It was mounted on a modified BG-7 fuselage and empennage. This ship was known as the XBG-12 and was flown during the 1956 National Contest in Texas by Ross Briegleb, who was but 17 years old at the time. Against over 40 of the nation's best pilots, Ross placed ninth despite the fact that, until the contest began, he had never soared cross-country.

Records from this contest show that out of the six task days completed (two days were open and no one completed the task one day) only three pilots completed all six tasks. Ross and the XBG-12 were one of the three! A good showing for this young pilot and the XBG-12. Ross also competed in the 1957 Torrey Pines Contest, flying the XBG-12, placing fourth and taking second place in the distance event.

Gus next completed fuselage and empennage, making changes in the control system and enlarging the cockpit to give added pilot comfort.



Photo: John C. Wolfe

Gus Briegleb, designer of the BG-12A, is taped up in the prototype by Johnny Wolfe. Note the static bomb ready to be lowered for performance testing during flight.