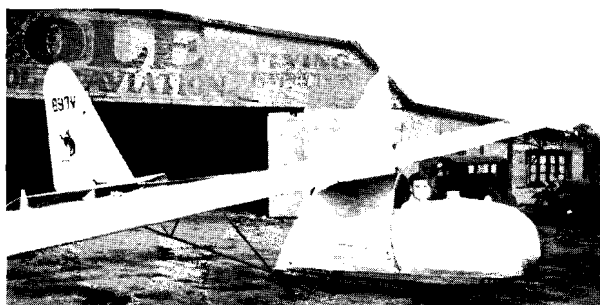


## News from Clubs and Members

### CASE AERO CLUB

The Case Aero Club, student glider organization at Case School, Cleveland, Ohio, has used a Waco Primary as a training glider for a number of years. Hundreds of flights have been made with it by auto-tow, reaching altitudes up to 600 feet. The ship has given remarkable service. In flights from higher altitudes, however, the limitations of the primary glider made themselves felt, particularly for those members of the club who were ready to proceed to more advanced training. Since the club was not in a position to buy a secondary glider,



The reconstructed Waco Primary

it was decided to improve the performance of the Waco by enclosing the pilot with a streamlined shirt.

In order to determine the amount of possible gain in performance and to find the best shape of the shirt, tests of a 1:20 model of the glider were made in the wind tunnel of Case School of Applied Science. The glider model was tested first with a model of the pilot in place, which was replaced by the shirt in the second series of tests.

The reduction of drag amounted to approximately 15%, which is equivalent to an improvement of the efficient gliding angle from about 1:10 to 1:11.8.

The size and shape of the shirt was given careful consideration. To get a well streamlined nose the rudder bar was replaced by pedals. The greatest inside width was made 26 inches, which allows enough room for stick motion. The shirt was not carried all the way to the tail surfaces for two reasons. First, the fuselage of the Waco glider is made in two sections to facilitate transportation, the division being just behind the wings. This feature was to be retained. Secondly, it was felt that further reduction in drag by a full length shirt would require a disproportionately large increase of weight. The shirt, as designed, has a good streamlined form, the point of greatest width being about one third of the total length from the nose.

The photograph shows the glider with the new shirt. The latter is built of steel tube frames connected by spruce stringers, covered by fabric, except for the nose, which is made of aluminum pounded to proper shape. Since the picture was taken, a windshield has been added. The weight of the glider was increased 19 pounds by this addition, which is 9% of the empty weight before reconstruction.

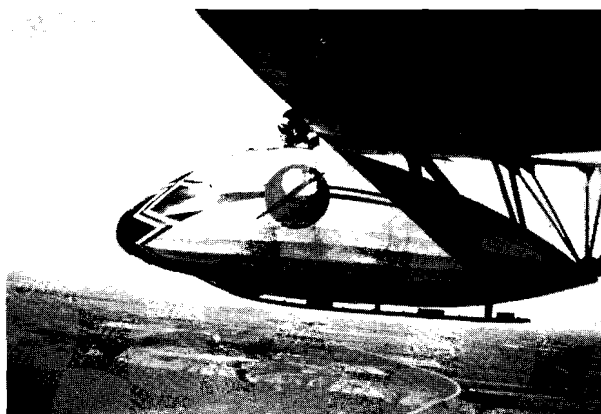
While exact measurements of the new gliding angle have not been made as yet, the improvement in flight is undeniable. In addition, the shirt affords greater protection for the pilot and thus permits flying in cold weather.

### THE SKID BUSTERS

Word comes from W. P. Stevens, a new member from Lethbridge, Alberta, Canada as to the activities of the Skid Busters. He says they started flying with "apple box" gliders several years ago and are now using a hybrid utility—hybrid because it was designed as a primary and then later improved with a nacelle. This ship was designed by A. Larson and has a span of 42 ft. 6 in., a chord of 5 feet, balanced rudder and elevators and a gliding angle of about twelve to one.

It has been boosted up to a thousand feet with the aid of three thousand feet of quarter inch long strand manilla rope, a roller bearing pulley, and an old Plymouth Sedan. The pulley is fastened to the car, and the rope passes through it to a stake five or six feet away which gives the glider twice the speed of the car.

At present they are putting the finishing touches to a new H-17 which has been built throughout with the best grade of Sitka spruce which has been government inspected. They are now looking around for some good, reasonably priced instruments. The new low-priced "Winter" variometer, described below, may fill their needs in that direction. If any of you fellows have a good air speed and altimeter for sale we suggest you get in touch with them.



The Larson Utility being flown by its designer

### SEAGULL GLIDER CLUB

The Seagull Glider Club of Gainesville, Florida, which is planning to use the new BDG-1 in conjunction with its Cadet II, G10062, writes us that almost 300 of its members have put in more than 9,000 flights with the latter ship since May, 1935, through the cooperation of FERA and WPA. This is a record to be proud of and we extend our heartiest congratulations to this up and coming group.

### NEW MEMBERS

New members are enrolling daily in goodly numbers. Much credit in this line should go to our good friends "Sully" Sullivan and Alexis Davadorff of the Metropolitan Soaring Association who did fine work at the New York Show.