

weight, and the overall average tow load was approximately 16% of the glider's gross weight. It can be seen that the high loads used for the structural substantiation tests make the results conservative, indeed.

From the report's summary and the assumptions made in its introduction, it can be seen that the maximum weight of a glider towed by a 150 class Cessna should be $\frac{1}{3}$ of 1835 pounds, or 611 pounds. For the 182E, 205, and 210B the maximum glider weight should be 1133 pounds, and for the others 1200 pounds. (It should be pointed out that the lower loads on the 182E, 205, and 210B were because of a shear failure in a tie-down ring, and not because of any problem with the aircraft's structure.) As an alternate to limiting the gross weight of the glider, it would be a simple, and acceptable, solution to use a towrope with those respective breaking strengths. This is, if a rope with a breaking strength of 600 pounds were used, then the weight of the glider would be immaterial. You might be interested to know that KSA has towed a TG-3A (about 1200 pounds gross weight) with a Cessna Model 150. During this operation we had a large airport and, being spoiled by the rapid climb of our 182, found the 150's climb rate to be slow, but it was adequate.

Since the installation of a tow-hook on a tricycle gear requires only removal of the rear tie down ring and installation of a Schweizer tow hook with appropriate hardware, it is not a major modification. It only requires an appropriate entry in the log book. Since the towhook is an approved part of the various Cess-

na's, the complete towhook kit is listed in the Cessna Parts Catalog for at least several of the airplanes, and, if desired, can be ordered directly from the factory. On the other hand, the installation on the conventional gear airplanes requires special parts. In order to simplify the installation of towhooks on these airplanes, Dave Blanton generously donated his time and talent to design the necessary brackets and obtained Supplemental Type Certificates. He obtained the STC in the name of the Soaring Society of America. They are STC numbers SA34CE and SA65CE. The installations are to be accomplished per Javelin Aircraft Company, Inc. (Dave Blanton, President) drawings No. 813 or 814. Such an installation must be recorded on FAA Form 337.

The Kansas Soaring Association has found that an external release line run from the tow hook through the left cabin window is perfectly satisfactory (a parachute shroud line). This type release is used because it allows the airplane owner to easily remove the towhook if he so desires, when using the airplane for other purposes. It also avoids the necessity of having to make modifications to the airplane that would otherwise be required if the release line were installed inside the tail cone.

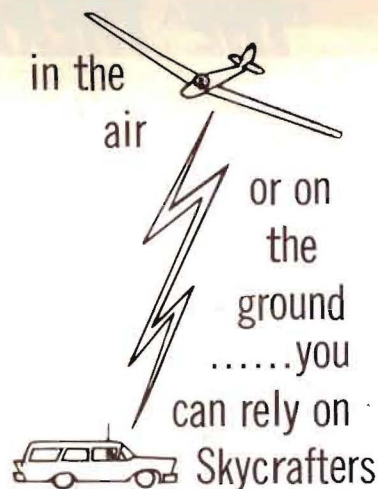
The above information should provide the data necessary for any Cessna owner to install a glider towhook on his airplane with a minimum of trouble. Those doing so should also obtain from FAA a towing waiver, as per Civil Air Regulation 43.46, in order to be able to tow gliders with their airplanes.

The Dutch Sagitta Standard Class sailplane, production version at left and prototype on trailer. Developed with government assistance, five are now flying, three are under construction and five more are expected to be completed in 1963. In the 1962 Dutch Nationals, G. J. Ordelman placed second with the prototype, his best distance being 358 mi. It is of all-wood construction. Basic specifications are as follows: span, 15 meters (49.3 ft.); wing area, 130 sq. ft.; aspect ratio, 18.7; equipped weight, 499 lb.; gross weight, 707 lb.; wing loading, 5.4 lb./sq. ft.; glide ratio, 34 to 1 at 59 mph; sinking speed, 2.14 ft./sec. at 50 mph; airfoil, NACA 63(sub)-618.

Photo by H. Schwing



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