

SAFETY FIRST

☛ The Gray Hair Department

by JOSEPH M. ROBERTSON, *Chairman*
SSA Safety and Flight Operations Committee

One purpose of the SSA Safety & Flight Operations Committee is to examine mechanical difficulties in equipment that may, if not corrected, result in accidents. Therefore, the following discussion, received from the Schweizer Aircraft Corp., is reprinted in full. The information contained in the discussion is apropos for the reason that the great majority of towing aircraft in this country have Schweizer hooks installed. If not installed as recommended, a built-in hazard exists that could, some day, result in a serious accident. It might be well to mention also that an airplane tow rope of 1200 lbs. breaking strength is entirely adequate for any sailplane in use today.

AIRPLANE TOW HOOK INSTALLATION

☛ "The Gray Hair Department" in the November issue of *Soaring* raises some questions concerning airplane tow hook installations. Since we produce practically all the release hooks used in this country, we assume that the hooks used in these installations were of our manufacture. Consequently, we would like to make some comments concerning these hooks, their installation in tow planes and on aerotowing in general.

This tow hook was developed after World War II to meet the need for an inexpensive and simple tow hook for aerotowing. We estimate that we have made approximately 3,000 of these hooks which have been used principally for glider and banner towing. As far as we know, there has never been an accident due to this release.

☛ As pointed out in the article, the two important factors in using any towing device of this type are (1) that the strength of the tow rope be limited to that specified for the tow hook (by use of a "weak link" or by limiting the size and type of rope used) and (2) that the system used for operating the release hook be of suitable design so that the pilot can release up to the maximum allowable load of the rope. In this way, an emergency release can be accomplished under a loaded condition

either through release or by breaking of the tow line.

Another point that should be stressed is that this particular tow hook should be installed firmly to the airplane so that it will not swivel. This is to eliminate the possibility of the tow hook moving to one side where pull on the release lever provides a predominantly side load, which in turn may bend the lever arms instead of releasing the hook.

Every tow hook that we manufacture is individually tested to be sure that, for a 600 lb. tow load, it will not require more than 60 lbs. of release pull on the release lever. The installation in the airplane must take into account friction of cables, tubes or other devices used to bring the release cable to the pilot release handle, and the average pilot should be able to develop sufficient pull to release up to the maximum load of the line. In the case of our approved Piper PA-18 installation, we use a release lever which has a mechanical advantage of $2\frac{1}{2}$ to 1 to keep the release pressures at a reasonable amount. We feel it is in this area of installation and not in the hook itself that the trouble lies, and we strongly suggest that all installations are checked to make sure that the pilot can release from the pilot's seat for all load conditions up to 1200 lbs. or the maximum strength of the rope to be used. Our test for this is to be able to release a 600 lb. load with a reasonable pull on the cockpit release handle.

The use of heavy tow ropes without "weak links" introduces great hazard, both from the point of view of its being capable of developing high loads in tow, as well as creating a hazard to the sailplane and the tow plane in the event that the tow line is snagged around the sailplane's wing or tail, or in trees, wires or bushes on the tow plane's landing approach. The ability of the rope to break if it exceeds a reasonable load is a definite safety factor. Where large ropes are needed, to overcome the wear of hard surfaces, a short "weak link" can provide the necessary safety factor.

The descriptive information on our hooks emphasizes limiting the size of the rope. However, in order to be sure that there is no question about this, it is our plan to steel stamp a 1200 lb. limitation on the hook itself. The proper installation and use of this hook will result in trouble-free operation, which is proven by over seventeen years of successful use.

CALENDAR

Items listed in bold face type are to be sanctioned by SSA.

Jan. 27-28. SSA Directors'

Meeting, Phoenix, Arizona.

Feb. 24-25, 16th Annual Pacific Coast Midwinter Soaring Championships, Torrey Pines Gliderport, 12 mi. N. of San Diego, Calif.

June 30-July 1. Holiday 1-26 Regatta, sponsored by the Holiday Soaring School, Tehachapi, Calif., Airport.

Sept. 1-3. Great Plains Soaring Contest, Civic Memorial Airport, Alton, Illinois.

CLUBS!!

Please send SSA information for the above calendar as soon as the dates for your meet are known.

BIBLIOGRAPHY ON SOARING

Recent articles or items on soaring which have appeared in non-soaring publications.

Life, Dec. 22, 1961, pp. 181-4. "Free as a Cloud," four large photos of Bernie Carris flying the Schweizer 2-25 sailplane.

National Aeronautics, Nov., 1961, pp. 18 & 19. Articles on Bob Fisher's trans-U.S. soaring trip and the 1-26 Regatta at Elmira, N.Y.

Skylights, Dec. 61, pp. 1 & 2. "Sailing On An Ocean of Air." A feature article on soaring in the publication of the National Aviation Education Council.

NEW SSA CHAPTER

☛ The Northampton Flying Club, Inc., has become the 49th SSA Chapter with the approval of their application in December. The club owns a Schweizer TG-3A sailplane which is flown from the Atwood airport, south of Northampton, Mass. From the looks of their roster they have an active youth program because 13 of the 27 members are young students. Their president, Bob Gardner, edits the club's newsletter "Ridge Runner."