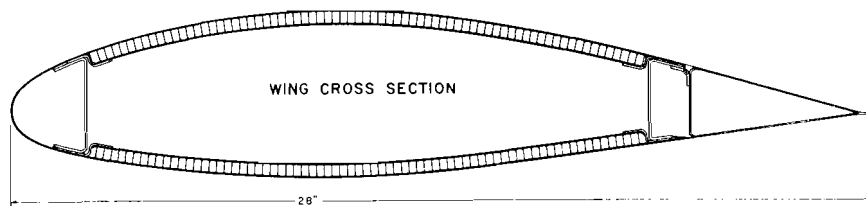


WING PANEL - PLAN VIEW



WING CROSS SECTION

fitted with plastic tubes to carry 160 lbs. of water ballast for optimum high speed performance in strong cumulus soaring conditions.

Flaps are stressed for 90° deflection as dive brakes. Narrow chord reduces operating loads. This type of dive brake was chosen to avoid cut outs in the main wing panels which destroy performance by breaking contours and leaking air. Larger area obtainable gives lower terminal velocity.

All external rivets are flush in 100° machine countersunk holes. All control surfaces are counterbalanced for flutter prevention.

The main wheel is not retractable for the sake of simplicity and substantial savings in weight. Standard wheel is one industrial 400 x 4 x 12" O.D. Maximum contest performance can be obtained by use of a streamlined 10" x 3 BT-13 tailwheel well faired to prevent air circulation and leakage. Brake is a conventional stainless steel band.

One hundred and twenty pound wing panels result in a low empty weight and low wing loading.

No attempt was made to design this ship to meet Standard Class specifications. However, the HP-10 qualifies in all respects except for having flaps. Since the primary function of the flaps is to limit terminal velocity dives, the Gliding Committee of the FAI has been requested to approve this type of dive brake installation in the Standard Class rules.

## DESIGN DETAILS

### WING

Span	48 ft.
Chord	28 in.
Airfoil	NACA 65.-618 modified
Aspect ratio	20.6
Taper ratio	0
Geometric twist	0°
Dihedral	0°
Sweep	0°

Incidence	2°
Area	110 sq. ft.
Aileron Area-Total	7 sq. ft.
Aileron span-each	7 ft.
Flap area Total	16 sq. ft.
Flap span-each	16 ft.
Aileron travel	30° up 15° down

### TAIL

Span - 2 x panel length	102 in.
Span - hor. projection	80 in.
Height - vert. projection	33.5 in.
Dihedral	40°
Incidence	-1½°
Airfoil	12% Schreder
Foot Chord	28.5 in.
Tip Chord	15 in.
Area - stabilizer	8.9 sq. ft.
Area - elevator	6.5 sq. ft.
Area - total	15.4 sq. ft.
Trea - hor. projection	11.8 sq. ft.
Area - vert. projection	9.9 sq. ft.
Rudder movement	15° Right & Left
Elevator movement	20° Up - 15° dn.

### FUSELAGE

Overall length	20 ft. 11 in.
Overall height	42 in.
Overall width	24 in.

### WEIGHTS

Wing panels - each	120 lbs.
Fuselage	150 lbs.
Empty	390 lbs.
Pilot	170 lbs.
Chute	20 lbs.
Baggage & pilot allowance	60 lbs.
Normal gross	580 lbs.
Max gross	640 lbs.
Max gross w/water ballast	825 lbs.
Wing loading	5.27-5.82-7.50paf
Load Factor at 640 lbs. or 825 lbs.	12. yield & ult.†

### PERFORMANCE

Max. Speed smooth air	150 mjh
Max. Speed rough air	120 mph
Term. vel. 90° flap 640#	90 mph*
Stall Speed 0° flap 580#	38.4 mph*
Stall Spd. 12° flap 580#	34.0 mph*
Stall Spd. 45° flap 580#	31.4 mph*
Best L/D	40 at 45 mph*
Min. Sink 580#	1.6 fps. at 40 mph*
†Subject to Load Test	
*Subject to Flight Test	

## MATERIAL AVAILABLE

The SSA has a variety of items available on a free distribution basis, unless otherwise specified. Request by item number or name from SSA, Box 66071, Los Angeles 66, Calif.

Item 3. FAI soaring awards application blanks.

Item 4. SSA membership application blanks. These are in the form of business reply envelopes, making it easy for new applicants to mail in their dues.

Item 6. SOARING . . . The S.S.A. . . and YOU pamphlets, telling about the sport of soaring, glider pilot certificates, how soaring is organized, what the SSA is and what it does, and how to get started in soaring. Ideal for answering the questions of prospective soaring enthusiasts.

Item 7. Region lists of soaring clubs and SSA Governors, by SSA region number, as excerpted from the SSA Directory. The list for each region lists all soaring clubs in that region, their addresses, meeting times and places, flying sites and contact persons and the SSA Governors' names and addresses for each state in the region. Add the region number in parentheses after Item 7 when ordering or just the state desired.

Item 8. List giving Availability of Plans, Kits, Partially Completed and Ready-to-fly Gliders and Sailplanes. At present, the list includes only U. S. designs for which details have been obtained, including a brief description, price, manufacturer's name and address. New equipment only.

Item 9. List of Glider Schools and Commercial Glider Operators in the U.S., giving location, equipment, services and prices, where known.

Item 10. List of Books on Soaring, where they may be obtained, prices and a brief description of each.

Item 24. Incorporation Procedures —California. Intended to show non-profit soaring clubs the way to incorporate, with specific details for the state of California.

Item 28. Used Sailplanes For Sale List. All known used sailplanes for sale for which the owner has given permission to include on this list. Latest revision is dated Nov. 3, 1960.

Item 30. Film Library List, with rules governing use of the films. Request from Walter B. Hausler, 67 Fisher Rd., Rochester 11, N.Y.

Item 38. How to Start a Soaring Club. Six pages of suggestions.