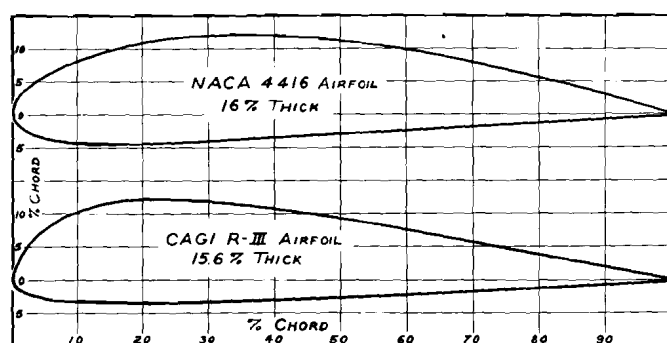


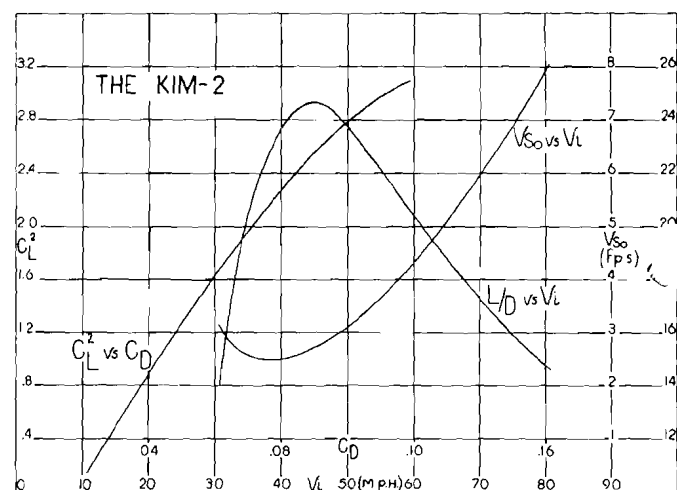
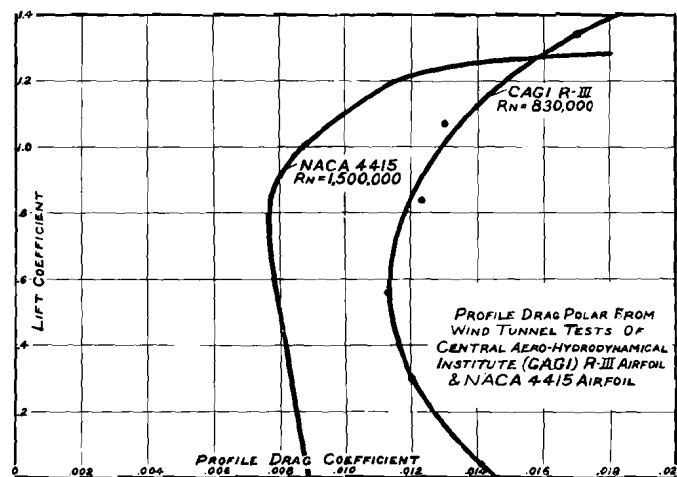
# KIM-2 STAHANOVEC

The Russian Stahanovec KIM-2 is evidently the second sailplane of the KIM-series. (See 3 view on back cover). A later modification featured droop-tips on the wing. There is no doubt that this was an outstanding design in its time. Proof of this lies in the fact that this ship holds all three international two-place distance records. Examination of the statistical data shows that the Russians appreciated the benefits of forward sweep. Here is a wing with high taper ratio, of uniform section and built with no twist. It is evident that the designer, Jemieljanov, knew how to achieve lateral stability, avoiding tip stall by using forward sweep. The Russians were aware of the detrimental effects of hinges and protruberances but were not aware of the magnitude of these effects since they mounted a pilot mast directly in the high velocity flow on the fuselage nose. But we must remember our state 15 years ago was not as advanced as the Stahanovec indicates the Russians were. Inspection of the characteristics of the R-III airfoil shows it to be a forward camber airfoil. Since its properties are not exceptional one questions its extensive use on Russian sailplanes.

The performance of this sailplane in its day was excellent. However the relatively poor efficiency factor shows that much could be gained by treating the wing root more elegantly.



## A SAILPLANE CATALOGUE ITEM



### Measurements In Feet

Span	64.0'
Length (Overall)	26.7'
Height (Overall)	7.05'
Fuselage Width (Overall)	2.14'

### Areas In Square Feet

Fuselage Cross-Sectional Area	6.3'
Wing Area (with Aileron)	240'
Aileron (Total)	21.5'
Flaps (Total)	None
Spoilers (Total)	None
Stabilizer	0
Elevator	23.7'
Horizontal Area	23.7'
Fin	None
Rudder	12.28'
Vertical Area	12.28'

### Weights

Empty	695 lbs.
Pilot	345
Extra Equipment	0
Total	1,030 lbs.

Pilot/Empty	0.496
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### Wing

Wing Platform	Taper
Sweep forward at 25% c	9°
Dihedral	2.5°
Gull	None
Root Chord	6.40'
Half Span Chord	3.77'
Tip Chord	1.15'
Aspect Ratio	17
Taper Ratio	56
Load Factor	10

### Airfoil Sections

Wing Root	R-III-17%
Wing Half Span	15%
Wing Tip	13%
Horizontal Tail	Symmetrical
Vertical Tail	Symmetrical
Angle of Incidence to Fuselage	7°
Washout	0°
Winch Tow	Yes
Auto Tow	Yes
Airplane Tow	to 113 mph

Aerobatics	Yes
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### Performance

Glide Angle (Maximum)	24.6
Minimum Sink	2.4 f/s
Airspeed at Best	
Glide Angle	45 mph
Airspeed at Best Sink	38 mph
Maximum Design Speed	113 mph
Wing Loading (Test Flight)	4.3 psf
Span Loading (Test Flight)	0.250psf

### Construction and Materials

Wing	Wooden Structure, etc.
Fuselage	Wood
Horizontal Tail	Wood
Vertical Tail	Wood
Landing Gear	Skid

### Aerodynamic Characteristics

$C_{Dmin}$	0.0164
Efficiency Factor	72%