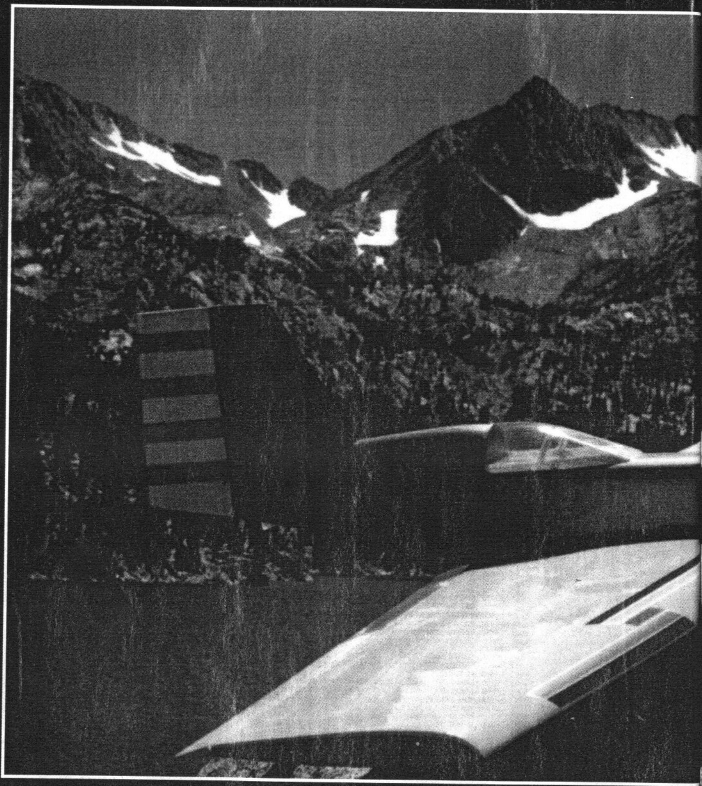
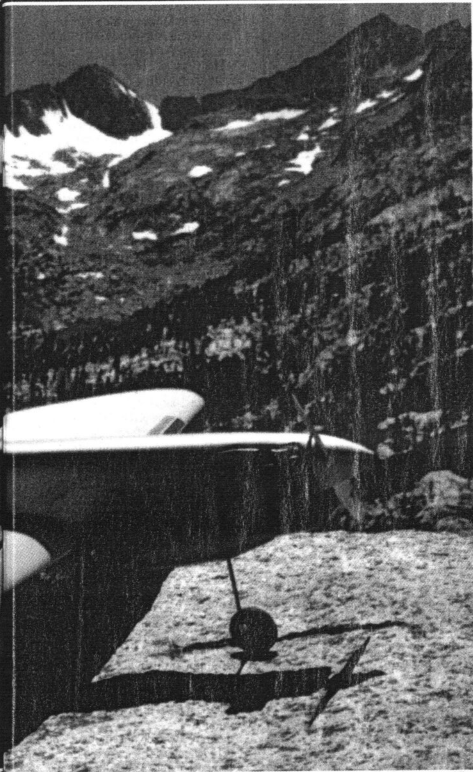
Simitar



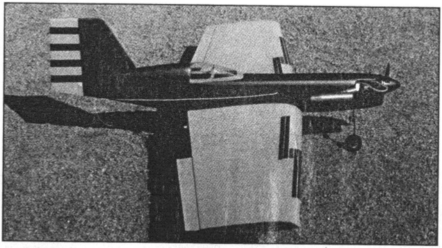
A .40-.60 Powered Simitar with the Looks of a 1930's Classic!

Classic

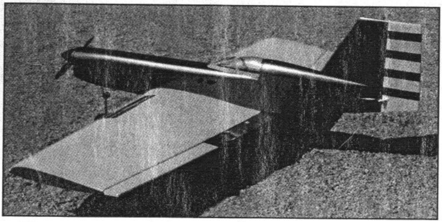


SIMITAR CLASSIC
Designed by:
Bill Evans
TYPE AIRCRAFT
Sport Flying Wing
WINGSPAN
64 In.
WING CHORD
14 In. (Avg.)
TOTAL WING AREA
880 Sq. In.
WING LOCATION
Bottom of Fuselage
AIRFOIL
ESA (Evans Simitar Airfoil)
WING PLANFORM
Tapered Wing
DIHEDRAL, EACH TIP
1/2 Inches
OVERALL FUSELAGE LENGTH
43 Inches
RADIO COMPARTMENT SIZE
(L) 14" x (W) 2-1/2" x (H) 2-1/2"
STABILIZER SPAN
N/A
STABILIZER CHORD (inc. elev.)
N/A
STABILIZER AREA
N/A
STAB AIRFOIL SECTION
N/A
STABILIZER LOCATION
N/A
VERTICAL FIN HEIGHT
10 Inches
VERTICAL FIN WIDTH (inc. rud.)
9 Inches (Avg.)
REC. ENGINE SIZE
.40-.60
FUEL TANK SIZE
6-10 Oz.
LANDING GEAR
Tricycle
REC. NO. OF CHANNELS
4
CONTROL FUNCTIONS
Rud., Throt., Elevons, Nosewheel.
C.G. (from L.E.)
1-1/2 Inches
ELEVON THROWS
3/8"-1/2" Up — 3/8"-1/2" Down
RUDDER THROWS
1/2" Left — 1/2" Right
SIDETHRUST
0°
DOWNTHRUST/UPTHRUST
0°
BASIC MATERIALS USED IN CONSTRUCTION
Fuselage .... Balsa & Ply Wing .
Balsa, Ply & Foam Core
Empennage .... Balsa
Wt. Ready To Fly .... 72 Oz. (4 Lbs. 8 Oz.)
Wing Loading .... 12 Oz./Sq. Ft.

By Bill Evans



Author with new Simitar Classic, High Sierra mountains in background.



Often I am asked how I come up with ideas for a particular design in the Simitar series of model airplanes. Most of the time it is in hangar flying sessions with my friends in the hobby where someone says something that triggers an idea. A typical example of this was the Simitar Slo Motion which came from a request by Bill Winter for a slow flying Simitar.

The Classic, however, was the result of my sitting in my shop, wool gathering and reminiscing. I looked at the array of designs hanging above me and decided that I wanted one with more Classic lines of the aircraft of the late 1930's and early 1940's. These were low wing, single place with streamlining and a "turtleback" fairing into the vertical fin. Some had air cooled radial engines and others had liquid cooled Vees or in-lines. I opted for the liquid cooled type as it is better suited to the 2-stroke model engines. Also, although the full-sized aircraft of the era were all taildraggers, I chose to fit the Classic with tricycle gear because most R/C modelers find it easier to handle during take-off and taxi. So, now you know the genesis of the Simitar Classic. As to power, the ship will fly well with 40 to 60 size 2-strokes, but my preference is the K&B 48.

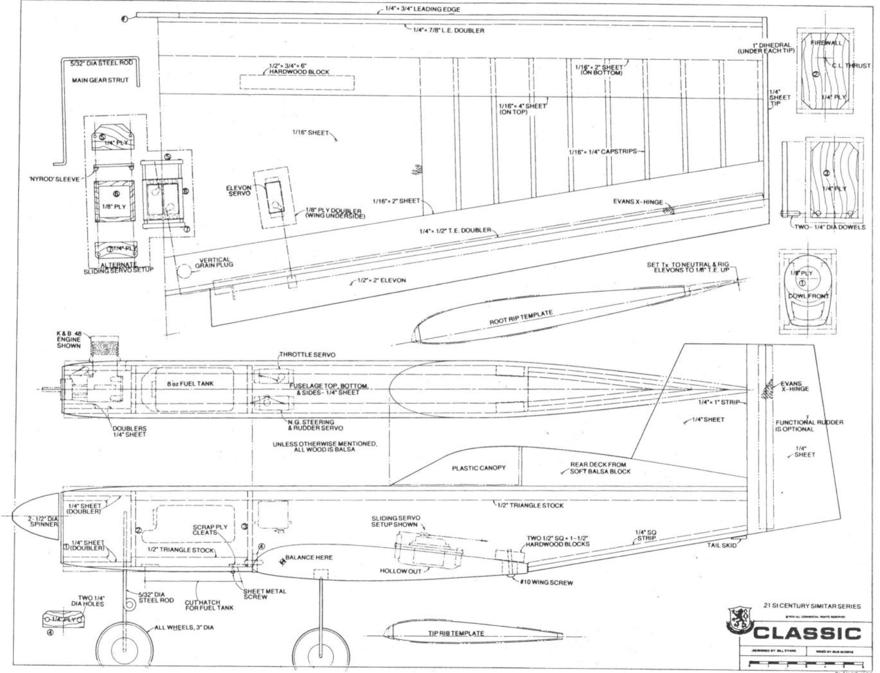
The Classic performs like all other Simitars, with aerodynamic stability over a wide speed range, no tip stall and full aerobatic capability. It will fly slow and easy for the beginner, yet it will rip at full power. Trim it out, come back on throttle and put it in a gentle turn, let go of the controls and it will continue to do 360s until you give it another command. This is a handy feature to give you time to get over the "white knuckles." We have flown the Classic in 40+ mph winds; it will hover, fly backwards, and land or take off vertically.

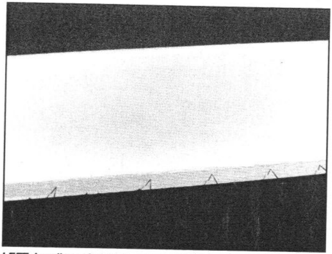
Enough of this hype. Now you want to build your Simitar Classic.

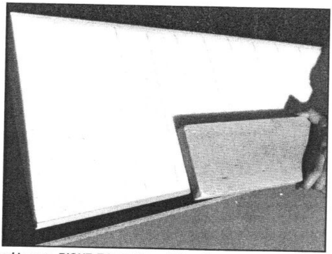
CONSTRUCTION

Wing:

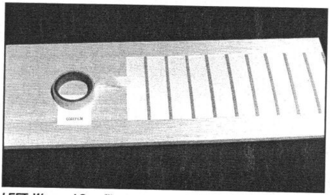
For those who do not cut foam, you may order cores for the Classic from Soaring Research, 454 Wildrose Lane, Bishop, CA 93514, (760) 873-4932. Cost of wing cores is $22.00 plus $8.00 for shipping. Make sure the wing panels are flat and straight; use weights with the core on a flat surface if necessary. Cement the 1/4" leading

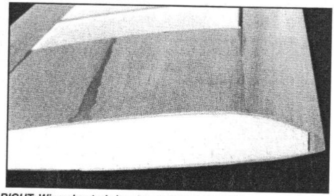

1/4" × 3/4" LEADING EDGE
1/4" × 7/8" L.E. DOUBLER
1" DIHEDRAL
(UNDER EACH TIP)
FIREWALL
C.L. THRUST
1/4" PLY
5/32" DIA STEEL ROD
MAIN GEAR STRUT
1/2" × 3/4" × 6"
HARDWOOD BLOCK
1/16" × 2" SHEET
(ON BOTTOM)
1/4"
SHEET
TIP
1/16" × 4" SHEET
(ON TOP)
1/16" SHEET
1/4" PLY
1/16" × 1/4" CAPSTRIPS
'NYROD' SLEEVE
1/4" PLY
ELEVON
SERVO
1/8" PLY
1/16" × 2" SHEET
EVANS X-HINGE
1/8" PLY DOUBLER
(WING UNDERSIDE)
TWO- 1/4" DIA DOWELS
1/4" × 1/2" T.E. DOUBLER
1/4" PLY
ALTERNATE
SLIDING SERVO SETUP
VERTICAL
GRAIN PLUG
SET Tx. TO NEUTRAL & RIG
ELEVONS TO 1/8" T.E. UP
1/8" PLY
1/2" × 2" ELEVON
COWL FRONT
ROOT RIP TEMPLATE
K & B .48
ENGINE
SHOWN
THROTTLE SERVO
8 oz FUEL TANK
FUSELAGE TOP, BOTTOM,
& SIDES- 1/4" SHEET
EVANS
X-HINGE
1/4" × 1" STRIP
DOUBLERS
1/4" SHEET
N.G. STEERING
& RUDDER SERVO
1/4" SHEET
FUNCTIONAL RUDDER
IS OPTIONAL
UNLESS OTHERWISE MENTIONED,
ALL WOOD IS BALSA
1/4"
SHEET
PLASTIC CANOPY
REAR DECK FROM
SOFT BALSA BLOCK
1/4" SHEET
(DOUBLER)
1/2" TRIANGLE STOCK
2-1/2" DIA
SPINNER
SLIDING SERVO
SETUP SHOWN
SCRAP PLY
CLEATS
1/4" SQ
STRIP
TWO 1/2" SQ × 1-1/2"
HARDWOOD BLOCKS
1/4" SHEET
(DOUBLER)
1/2" TRIANGLE STOCK
TAIL SKID
BALANCE HERE
HOLLOW OUT
#10 WING SCREW
5/32" DIA
STEEL ROD
CUT HATCH
FOR FUEL TANK
SHEET METAL
SCREW
TWO 1/4"
DIA HOLES
1/4" PLY
ALL WHEELS, 3" DIA
TIP RIB TEMPLATE
21 St CENTURY SIMITAR SERIES
CLASSIC
DESIGNED BY: BILL EVANS
PLAN NO. 1285



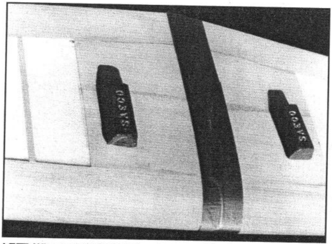


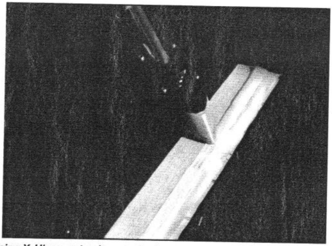
LEFT: Leading edge undercap and trailing edge spar glued and pinned to core. RIGHT: Trim and sand LE undercap and TE spar to fit foam contour prior to sheeting with 1/16" balsa.





LEFT: We used Corefilm to apply the 1/16" balsa sheet to the cores. RIGHT: Wing sheeted showing undercap and LE cap, ready to join wing with epoxy.





LEFT: Wing panels being joined, we used 5-minute epoxy. RIGHT: Ironing X-Hinge onto elevon prior to attaching elevon to wing.

edge undercaps to the leading edges and the 1/4" balsa trailing edge spars to the trailing edges. Use CA-UFO or carpenters glue (do not use regular CA on foam) set these aside to dry.

Fuselage:

Cut out the fuselage pieces; place and pin fuselage top piece on flat work surface. Place fuselage sides along side and mark the location of the firewall and bulkhead on the fuselage top and sides. Pin the 1/2" triangle longerons in place 1/4" in from edge (use fuselage side as guide). Curve these longerons from a 3" fuselage width at wing/elevon hinge location to centerline of fuselage at tail end. Glue these in place by applying thin CA to the inside edge of the longerons (the CA will run under the longerons). Pin fuselage side to fuselage top; pin firewall and former in place against top and side; CA side to top, firewall, and former. Be sure to curve side to center at rear end. Pin second side in position; CA into place. Pin and CA 1/2" triangle bottom longerons into place against fuselage sides. Pin and CA 1/4" sq. strips around back side of firewall. Sand bottom edges of fuselage sides flush with bottom longerons. Pin and CA the front fuselage bottom into place. Pin and CA 1/4" balsa fuselage bottom rear into place. Pin and CA the turtleback block into place. The fuselage construction is now complete. Shape the turtleback and the nose, round the fuselage corners as shown on the plan, and apply sandpaper as needed.