Bill Evans and Hank Bishop, of Bishop, California, with their D-3000's. Sierra's Mount Tom in background, and look at all that open space. Seldom if ever do we wait for a frequency at the Eastern Sierra Flyers' field.

DESPERADO 60 & 3000

D-3000 fly-by with Bill and Hank looking on. Photos by James Evans.

The Desperado Sixty is something to experience. Looks great, builds easy and performs. The Three Thousand is a floater on landing, it sets down like a hang glider. You'll enjoy them both . . .

By Bill Evans

Among the Twenty-First Century Simitar Series, I have a group of Variants called the Cowboys. The Desperado is one of the three, the other two are the Top Gun and the Shooter.

Appearance is the key feature of the Desperado. Its large fin, swept tip plates, stepped down spinner fit to fuselage, and supersonic cut of the canopy, all make it unique. The crowning touch is the almost 2" of anhedral in the wing. Written in the pages of aviation theory is that an aircraft of the low wing type with anhedral will have a great tendency to go into, and remain in, a spiral turn once a wing tip is down. Sounds like it makes sense. However, this condition does not apply to the Desperado; it flies through turns like water through a hose. Why? Perhaps it's because, with anhedral, it's merely like flying inverted when it's right side up. Sounds good, or better yet, maybe it's because the Desperado hasn't read the theory books.

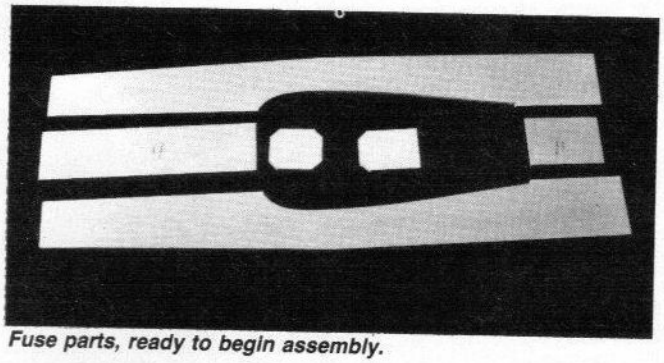
In spite of its appearance, the Desperado has all of the flight advantages of all of the previous Variants of the Simitar Series. First, it will not stall and, second, the speed range is from 20 mph to all the power you can give it; yes, even 180 mph plus. Finally, it is directionally stable; that is, the ship will hold its attitude until given control command to change.

John Ludwig of Bishop, California, with his Desperado Sixty.

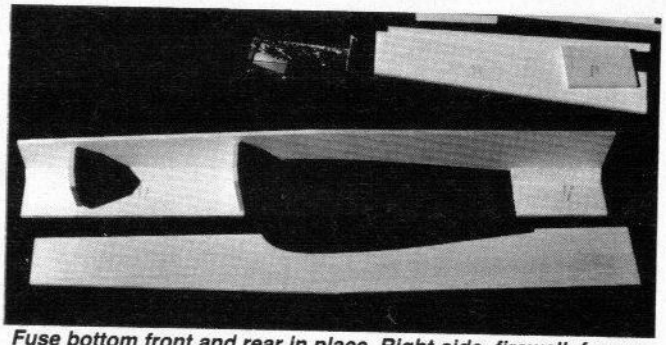
ABOVE: Two Desperado 3000's flight line ready. LEFT: S.T. 3000 shown with Mac's header and pipe, proved to be an excellent combination.

A forty size Desperado, which appeared as a construction article in the April 1984 issue of Model Aviation, proved the design and served as the test bed for development of the Sixty and Three Thousand. Though hundreds of the forty size have been built, all reports are positive.

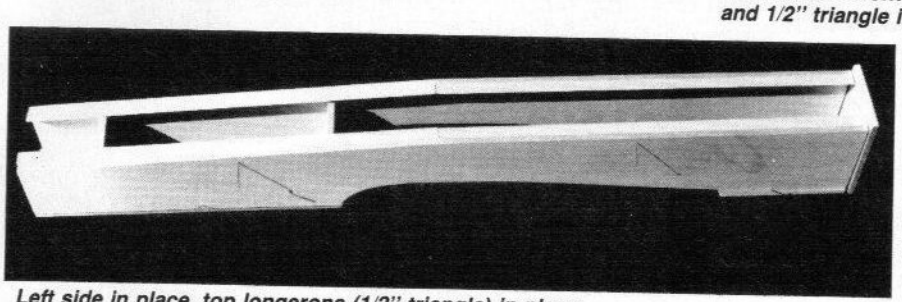
Specifications for the Sixty are: span 60"; wing area 820 sq. in.; average weight 7½ lbs.; and the wing loading is near 21 oz./sq. ft. Any good sixty starting with the K & B .61 will do the job well. A rear exhaust ABC .60 will deliver outrageous vertical performance.



Fuse parts, ready to begin assembly.



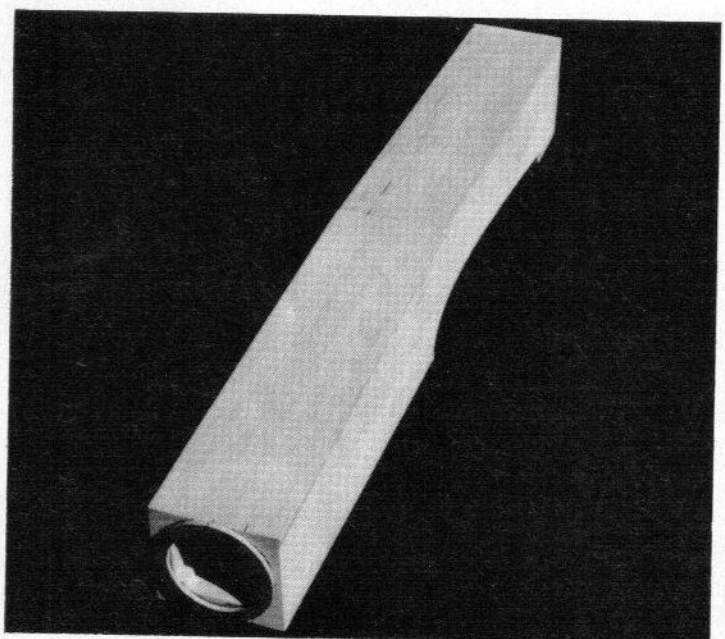
Fuse bottom front and rear in place. Right side, firewall, former and 1/2" triangle in place.



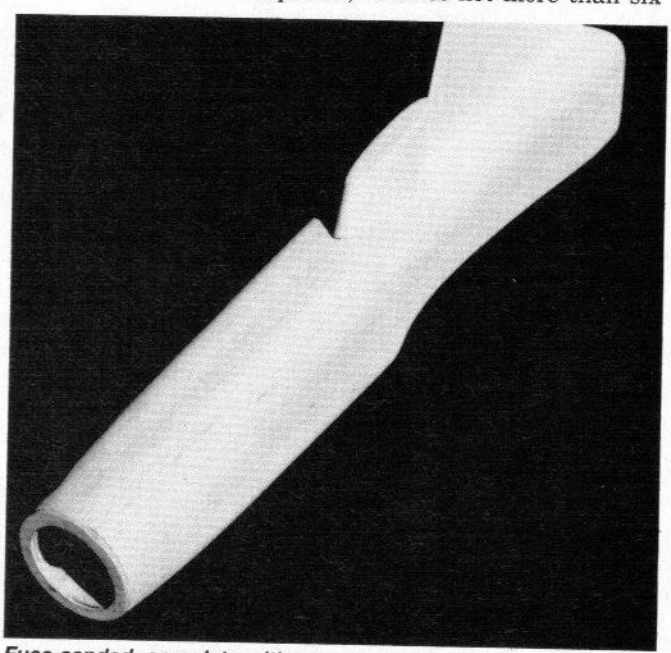
Left side in place, top longerons (1/2" triangle) in place.

Why? Because of the size. The easier they are to see, the easier they are to fly!

Sound too good to believe? Well, the simplified construction is even more interesting. Given the parts cut to shape, the Sixty fuselage can be assembled in 15-30 minutes. Sheeting the cores with Corefilm takes about an hour. Following the text construction sequence, it takes not more than six

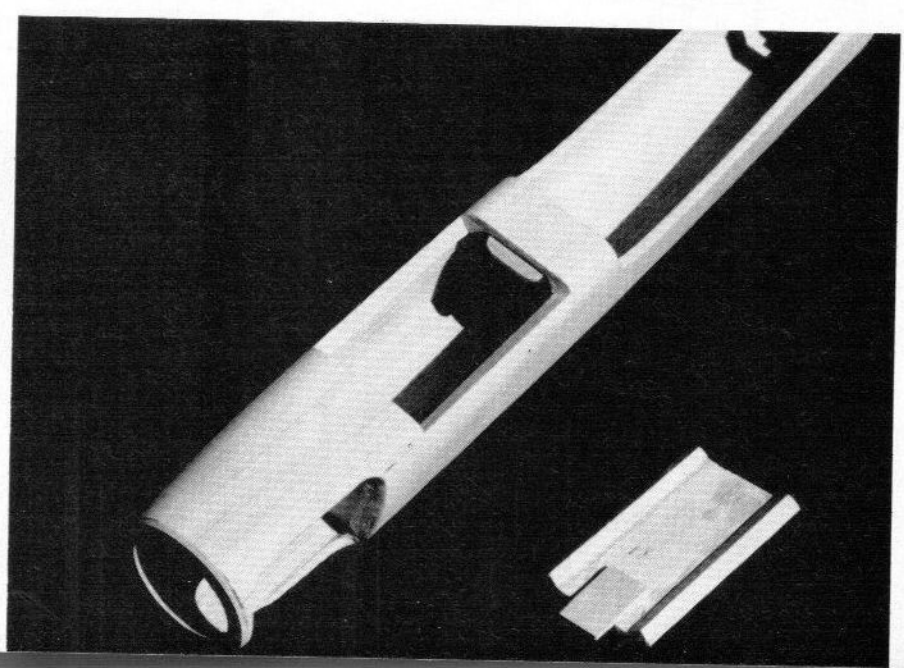


Top front and rear in place, spinner ring and inside nose blocks installed.



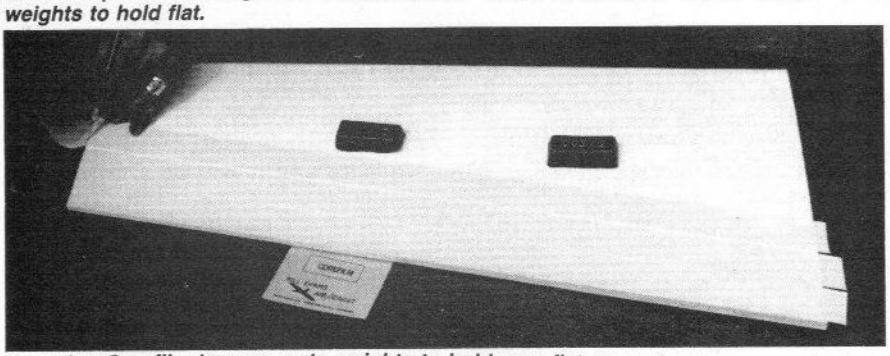
Fuse sanded, complete with canopy and fin fitted.

The area of the Desperado Three Thousand (3000 for the Super Tigre 3000 we used) is just over 2000 sq. in. (that's about 14 sq. ft.). At seventeen pounds, the wing loading is 19.43 oz./sq. ft. This one is a floater; on landing it sets down like a hang glider. You just have to see it to believe it. Though I have flown this size ship on a standard O.S. .90, to prove how easy it flies, I suggest nothing lighter than an S.T. 2500. One of these days I'm going to try a Bully or something larger to make the Three Thousand really smoke! This, the largest of the Desperados, is the most easy to fly.

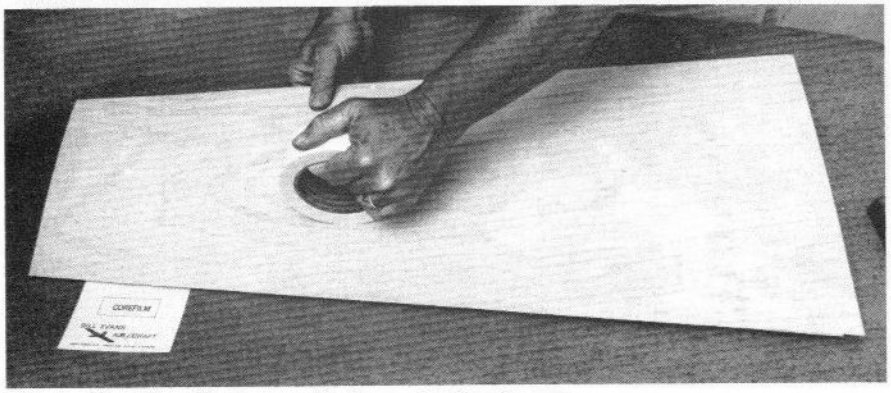


Fuse sanded complete. Bottom access hatch cut out.

Glue and pin the leading and trailing edges to cores, set aside in cradles to dry. Note weights to hold flat.



Applying Corefilm to core, note weights to hold core flat on surface.



Using roll of Corefilm to smooth down sheeting to core.

hours of work time to have an airframe ready to cover. Covering takes me at least six hours and add another six for radio, engine, etc.

If you're not ready to do your own foam cutting, or if you have a problem locating 1/64" ply sheeting, you may obtain these from Soaring Research, 454 Wildrose Lane, Bishop, California 93514 (phone 619-873-4932). D-Sixty cores are $16.00 per set, and ply for the Sixty is $18.00. Add $5.00 for shipping. D-Three Thousand cores are $60.00 per set and ply for the Three Thousand is another $60.00. Add $25.00 for UPS oversize shipping on the Three Thousand. California orders should include 6% sales tax.

CONSTRUCTION

My advice is to build the Desperado per the plan. If you wish to try some modification, it's best that you first fly it as designed.

Construction is typical of the Simitar Series, quick and simple. The ply sheeting on the foam cores gives great strength. In a way, it is much like case hardened steel. The skin provides a hard protective shield for the inner core which serves as a shock absorber for the skin.

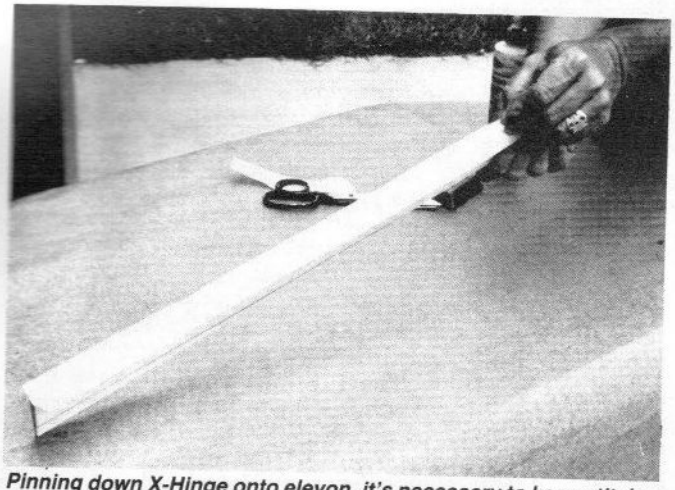
The fuselage is built on a flat surface, utilizing the Simitar Series' style of box construction with triangular stock in the corners to provide enough material for rounding and streamlining.

The following sequence is recommended to make the best use of elapsed time.

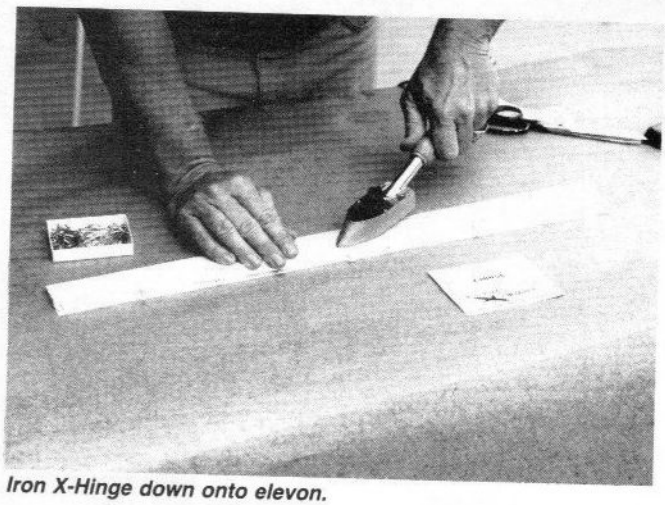
Glue (aliphatic works nicely) and pin the 1/8" leading and 1/4" trailing edges to the foam cores. Keep the cores free of curves or bends; set these aside to dry. Cut out the fuselage parts. Pin the front and rear fuselage bottom pieces down on a flat surface; use the sides, flat, against the front and rear for alignment. Pin the 1/2" triangle pieces for the right side down on the front and rear pieces and set with Hot Stuff. Pin the right fuselage side, the firewall, and the former in place and then set pieces with Hot Stuff. Pin the triangle pieces for the left side in place and set. Pin and set the left side of the fuselage in place. Pin and set the rear cap in place. Install top 1/2" triangle stock on both sides. Be sure to remove all pins inside the fuselage before setting the front and rear fuselage top pieces in place. Sand the fuselage front square and set the 1/8" ply spinner ring in place. The fuselage is now ready to cut and sand to shape. Now cut and sand the canopy and fin to fit. After final sanding, cut the fuselage to fit your engine and make the hatch cut.

Trim and sand the balsa leading and trailing edges of the wing so that the ply sheeting will fit nicely over them (be careful not to sand the core). Cut the ply sheeting to shape, leaving about 1/2" extra all around. Clean the cores and sheeting with a vacuum. We used Corefilm to bond the sheeting to the cores. Trim and sand the sheeting flush with the edges of the wing, then glue and pin the 3/8" leading edge cap in place. Trim and sand the leading edge to shape. Join the wing panels with 5-minute epoxy. Install the tip plates. Mark and cut to install (use epoxy) the gear blocks into place. Cut, trim, and sand the elevons to shape. We used X-Hinge to hinge the elevons to the wing.

Final sand all parts and cover with your favorite heat shrink material, or

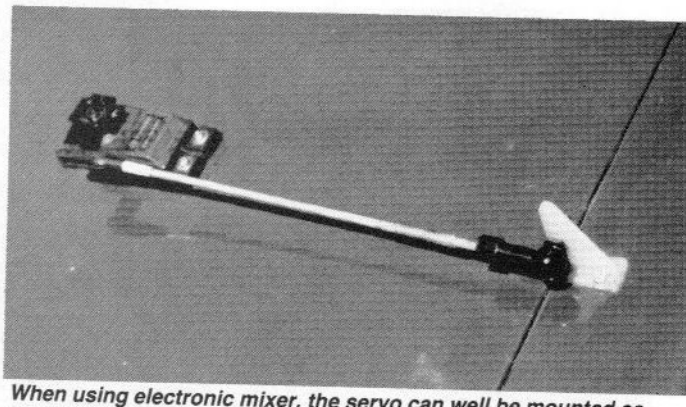


Pinning down X-Hinge onto elevon, it's necessary to keep stitch at hinge line (center of elevon L.E.).

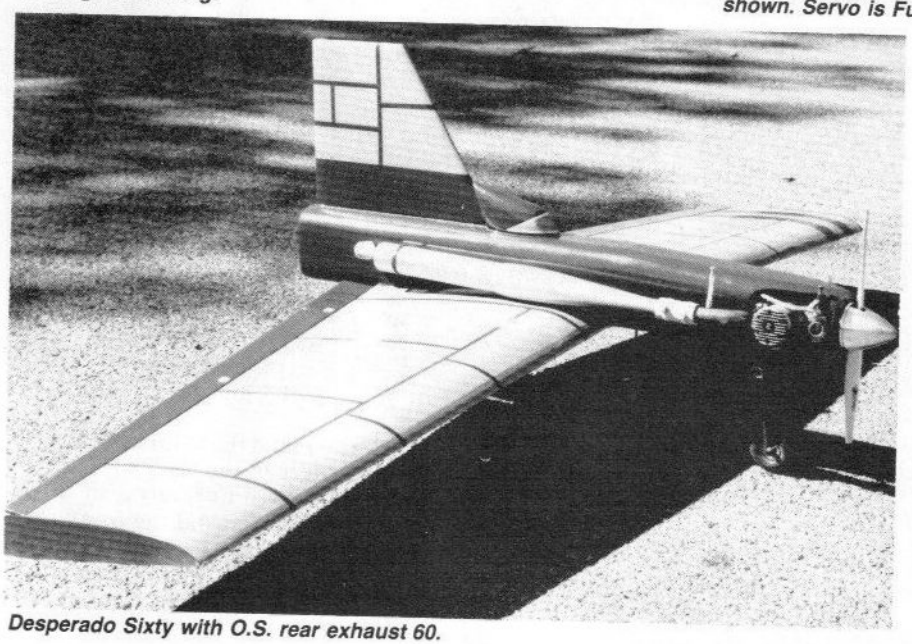


Iron X-Hinge down onto elevon.

Elevon pinned in place against wing, use iron to smooth down X-Hinge onto wing.



When using electronic mixer, the servo can well be mounted as shown. Servo is Futaba 134 with 4-40 Du-Bro rods.



Desperado Sixty with O.S. rear exhaust 60.

paint in your choice of colors. The original was done in orange and blue. Install the control linkage, making sure that the left aileron control in the transmitter results in the left elevon going up and the right elevon going down. Neutral position of the elevons is with the trailing edge raised 3/32" to 1/8" above the normal neutral spot. This is to provide a slight reflex which is required for all of the Simitar Series.

Flying:

I have two suggestions. First, it may be to your advantage to take a few short flights to become oriented with the Desperado's appearance.

Second, take into account that the ship will go where you point it. When making a turn, give aileron command to begin the roll, then pull in some elevator and, as she comes around, give opposite roll command to complete your turn.

Build the Desperado to plan and follow the suggested construction sequence and it will be a rewarding project.

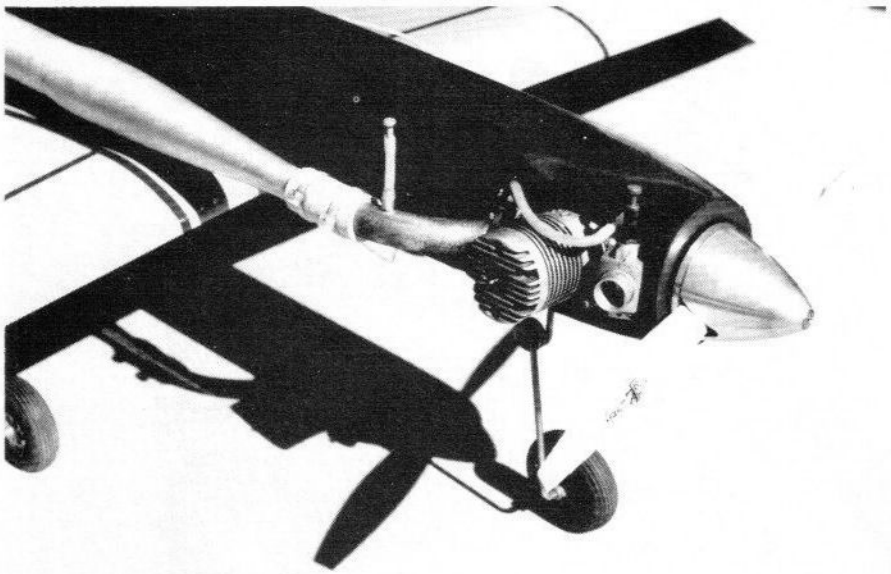
Construction of the Three Thousand is the same as for the Sixty, except for heavier lumber. You will find that about four rolls of covering will do the wing and another roll is needed for the fuselage. You should note that heavy duty servos for the elevons will give an advantage. I used Futaba 134s on mine and they serve quite well.

There was a point in time when the preparation of a construction article about one of the Simitar Series' ships was two dimensional. The process did not end upon publication of the article. In the past, there has been a serious and involved second part — acceptance. Due to the many articles published about Variants of the Simitar Series, and the countless thousands that have been built and flown, there is no longer a need to dwell on acceptance. Aircraft of the Twenty-First Century Simitar Series are accepted as a proven reality with superior flight performance!

Since its inception, the Desperado has been my favorite because of the way it looks and the super smooth way it moves through any maneuver. Bill Winter once explained that he felt that the Desperado was an extension of himself in the air, and that he was

sure that the ship has a computer linked to his mind. He explained that the Desperado seemed to start a maneuver before he thought of it. It had the habit of always doing the right thing.

Come and join with pilots of the Simitar Squadron and fly into the Twenty-First Century. □



O.S. 60 installation shown with Mac header and pipe.

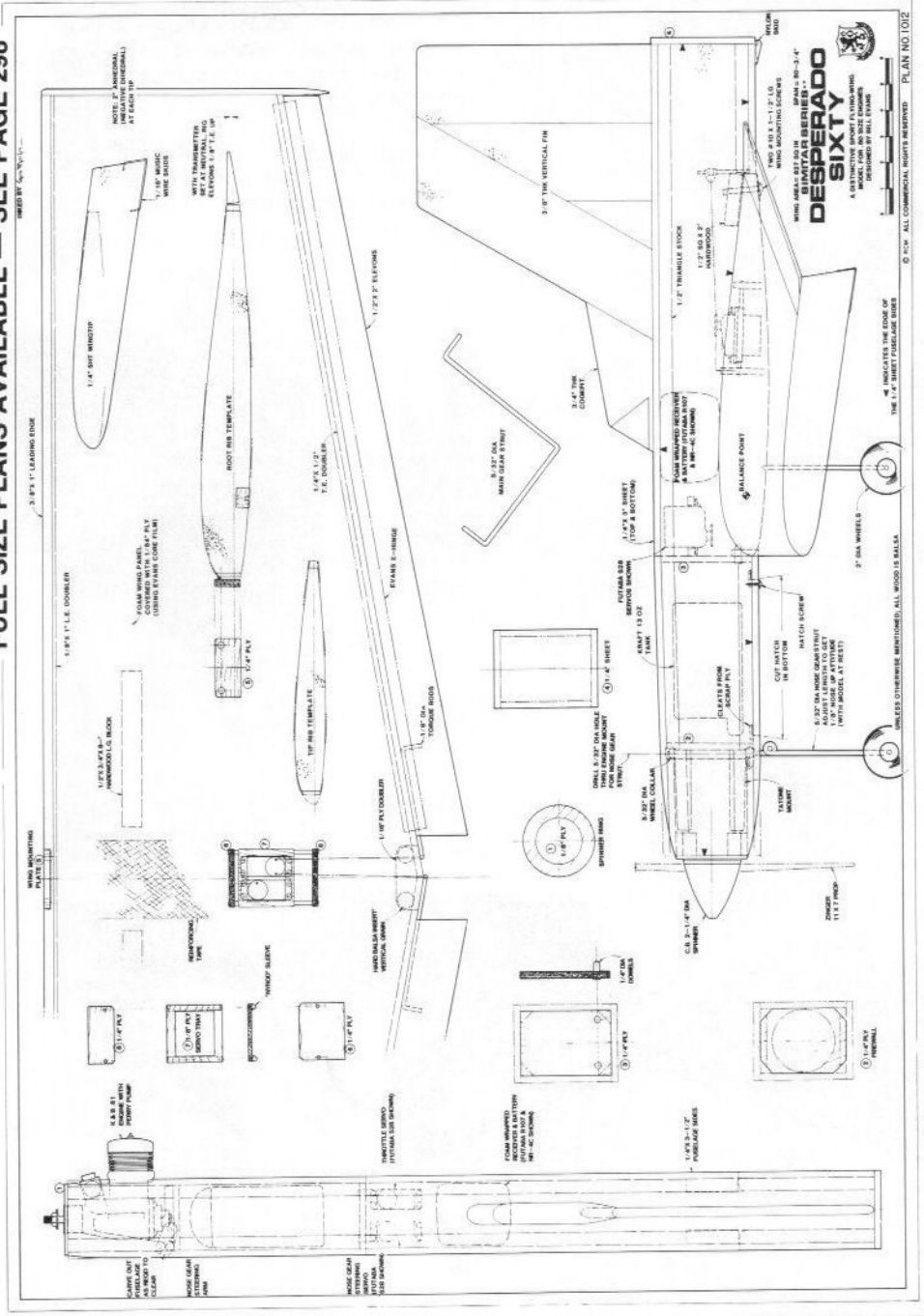
Dave Hooks, Faridavit, Minn., Desperado Sixty.

Paul Sampras, Denver, Colorado, Desperado Sixty.

Steve Hosner, commander of the Montrose, Colorado Simitar Squadron, and Desperado Sixty. The field is rough, but the pilots are the best.

Stan Smith, North Platte, Nebraska, Desperado Sixty.

FULL SIZE PLANS AVAILABLE — SEE PAGE 298



DESPERADO SIXTY

Designed By:
Bill Evans

TYPE AIRCRAFT
21st Century Similtar Series

WINGSPAN
60 Inches

WING CHORD
13⅞ Inches (Avg.)

TOTAL WING AREA
820 Sq. In.

WING LOCATION
Low Wing

AIRFOIL
Evans Semi-Symmetrical Reflexed

WING PLANFORM
Swept Forward T.E.

ANHEDRAL (each tip)
2 Inches

OVERALL FUSELAGE LENGTH
33½ Inches

RADIO COMPARTMENT SIZE
(L) 19½" x (W) 2½" x (H) 2½" (Avg.)

VERTICAL FIN HEIGHT
9 Inches

VERTICAL FIN WIDTH (incl. rud.)
8½ Inches (Avg.)

REC. ENGINE SIZE
.60 Cu. In.

FUEL TANK SIZE
13 Oz.

LANDING GEAR
Tricycle

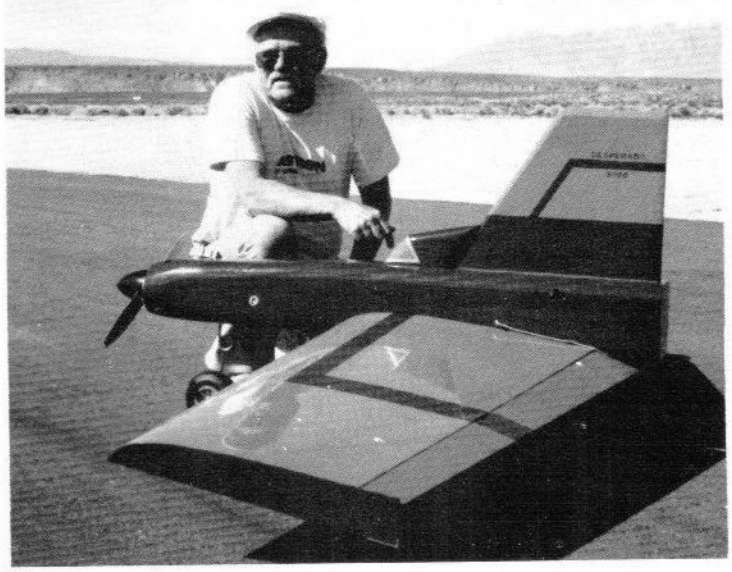
REC. NO. OF CHANNELS
4

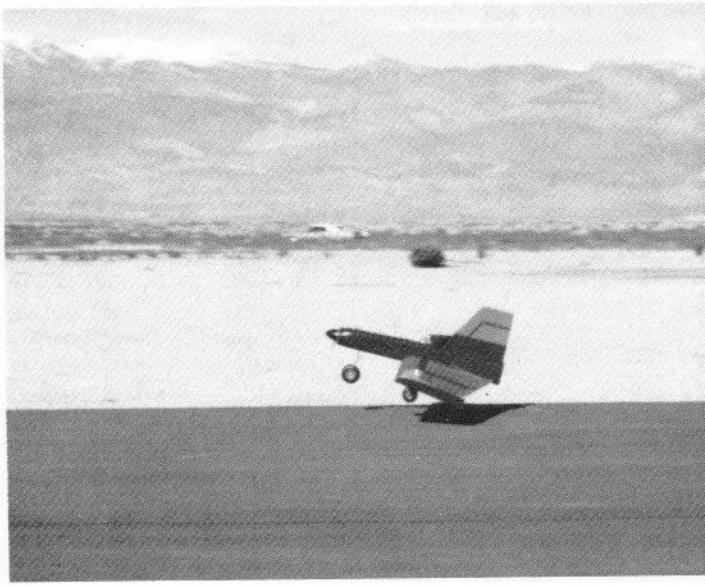
CONTROL FUNCTIONS
Elevons, Throttle, Nosegear

BASIC MATERIALS USED IN CONSTRUCTION

Fuselage ..... Balsa & Ply
Wing ..... Foam, Balsa, & Ply
Empennage ..... Balsa

Wt. Ready To Fly .... 116 Oz. (7 Lbs. 4 Oz.)
Wing Loading ..... 20 Oz./Sq. Ft.





DESPERADO THREE THOUSAND

Designed By:
Bill Evans

TYPE AIRCRAFT
21st Century Similtar Series

WINGSPAN
85 Inches

WING CHORD
22½ Inches (Avg.)

TOTAL WING AREA
2000 Sq. In.

WING LOCATION
Low Wing

AIRFOIL
Evan Semi-Symmetrical Reflexed

WING PLANFORM
Swept Forward T.E.

ANHEDRAL EACH TIP
3 Inches

O.A. FUSELAGE LENGTH
50¼ Inches

RADIO COMPARTMENT SIZE
(L) 26" x (W) 4" x (H) 4"

VERTICAL FIN HEIGHT
13½ Inches

VERTICAL FIN WIDTH (incl. rud.)
12 Inches (Avg.)

REC. ENGINE SIZE
1.5 & up 2-stroke
Strong 1.20 & up 4-stroke

FUEL TANK SIZE
16 Oz.

LANDING GEAR
Tricycle

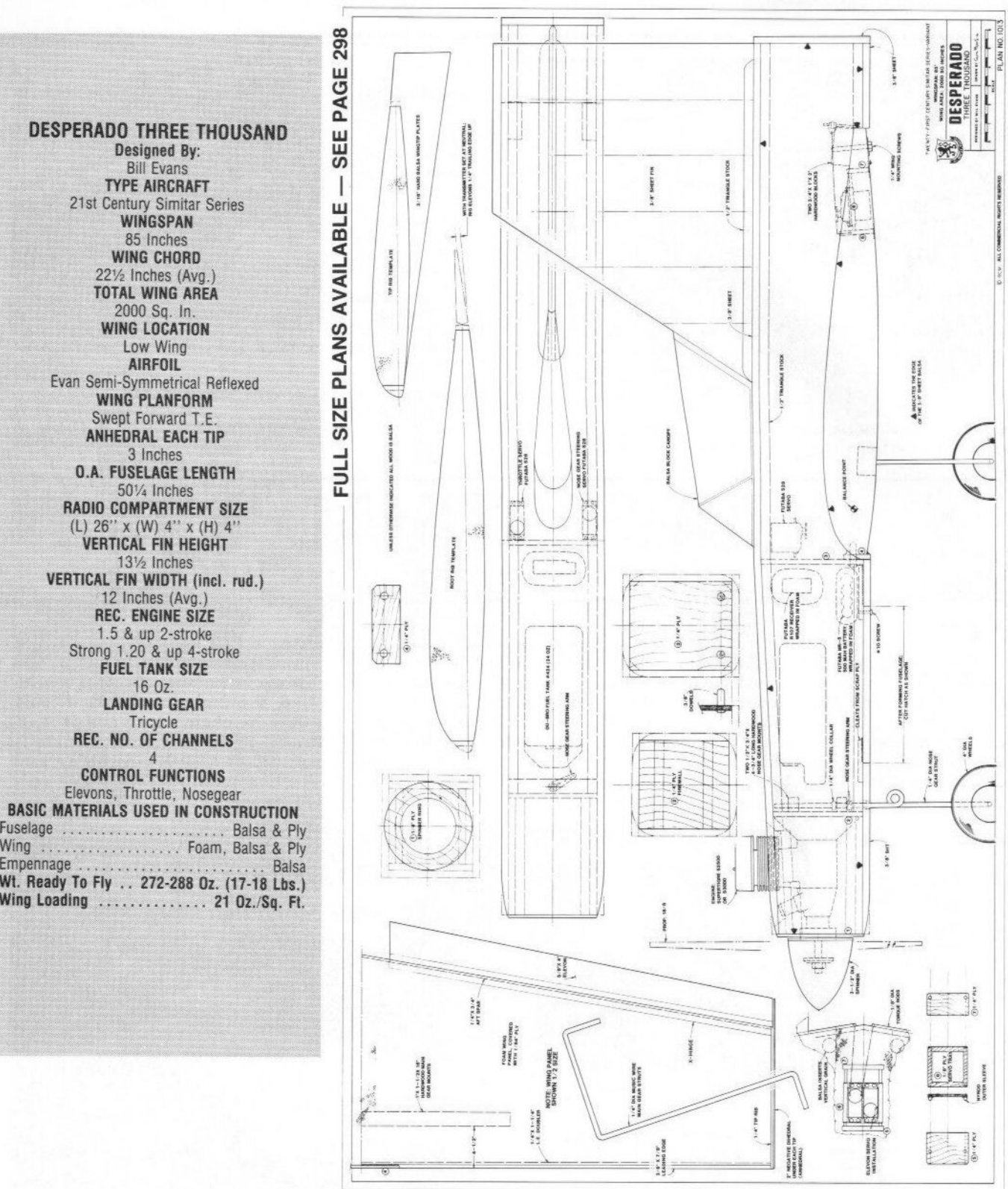
REC. NO. OF CHANNELS
4

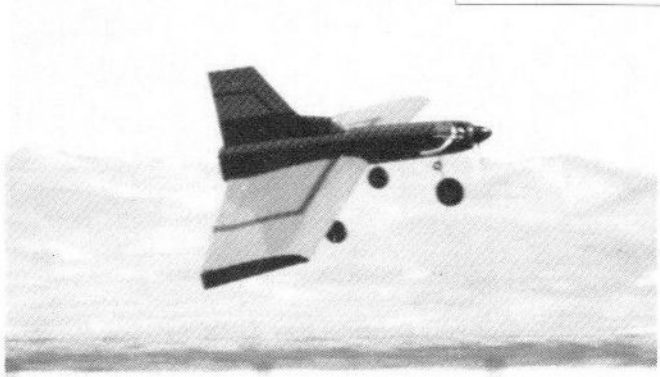
CONTROL FUNCTIONS
Elevons, Throttle, Nosegear

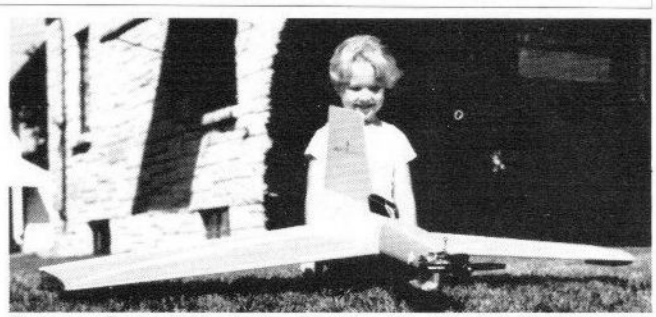
BASIC MATERIALS USED IN CONSTRUCTION

Fuselage ..... Balsa & Ply
Wing ..... Foam, Balsa & Ply
Empennage ..... Balsa
Wt. Ready To Fly .. 272-288 Oz. (17-18 Lbs.)
Wing Loading ..... 21 Oz./Sq. Ft.

FULL SIZE PLANS AVAILABLE — SEE PAGE 298







Reanna Stahl with dad's Desperado. Gordon Stahl is the president of the Milwaukee Similtar Squadron.