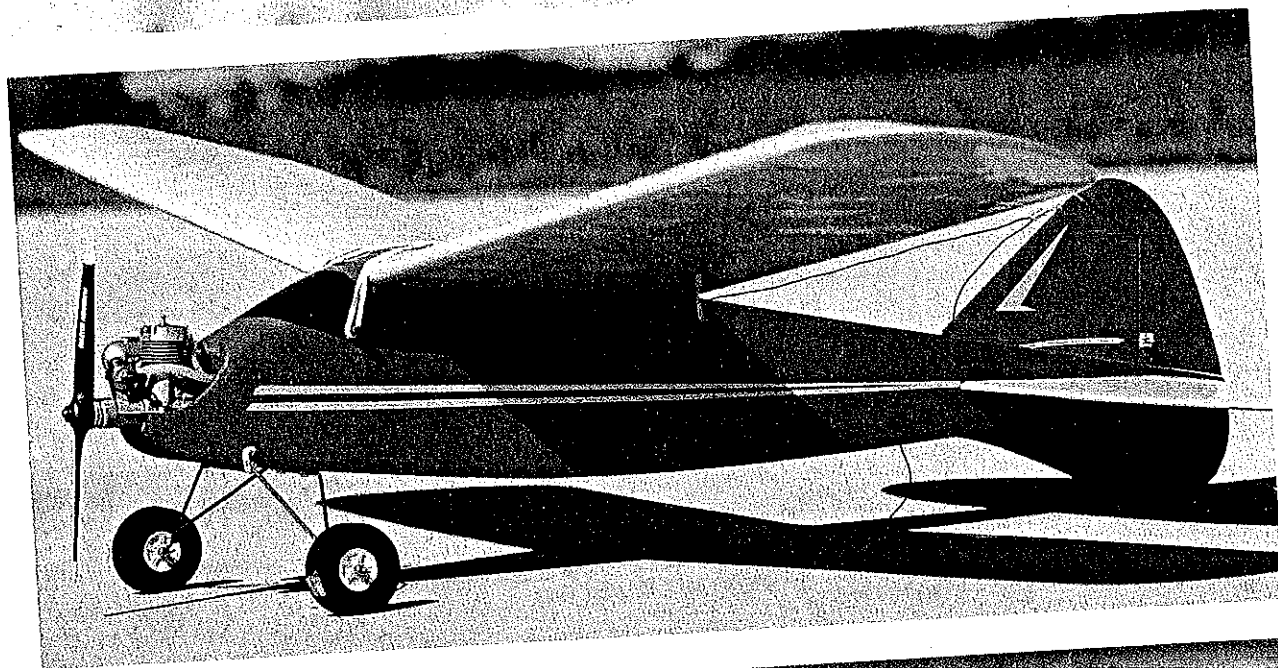


#779



Leapin'

Lena

■ *Fred Lehmborg*

Take a trip back to RC's Golden Years with this 1950s-vintage "Lady"

It seems that every sport, hobby, or political movement has a period called **The Golden Years.**

I believe it was Hal deBolt who gave this name to the nostalgic years we include in the era of RC model aircraft catalogued and perpetuated by the Vintage Radio Control Society.

The aircraft presented in this article appeared in the 1950s and was guided by those early RC systems of questionable reliability that moved the control surfaces by rubber-powered escapements or energy-gulping actuators. (The latter electromechanical devices were to become a part of the "Galloping Ghost" control system.)

These craft had a very low mean-time-between-failures. It was this uncertainty of performance, however, that gives aircraft of this era the romantic appeal to modelers who flew and crashed them so many years ago. Many of these models were of excellent design, and would be great models for

today's virtually faultless RC equipment.

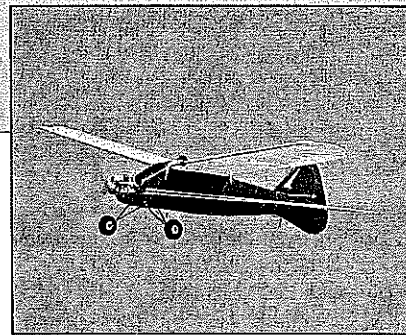
Leapin' Lena was a sturdy little bulldog that lived through many of these equipment malfunctions and pilot errors and required little repair to return to flight-ready status.

Leapin' Lena is the third model of a development project to produce a stable and aerobatic aircraft. It was kitted in 1952 by Model Tech Specialties on the East Coast. This little company consisted of Charlie Underhill, Eddie Steffenhagen, and myself. In the late 1980s it was again kitted by Lehmborg Enterprises in Oxnard, California. As of this writing it is no longer manufactured as a kit by anyone.

Back in the '50s Leapin' Lena did well in competition all over the country. Bernie Shipiro of Central Islip, New York was a fantastic flier with the simple escapement. He could execute a snap roll without elevator with this device requiring pilot recall of the direction of his last turn!

In the late '80s Lena was being built and flown in Australia. Merv Buckmaster, editor of the fine magazine *Airborne*, liked the design very much:

"Fred claims his creation to be a trainer and sport flier, designed for performance, prefabricated for simplicity. There is nothing warped about those claims! If I weren't an

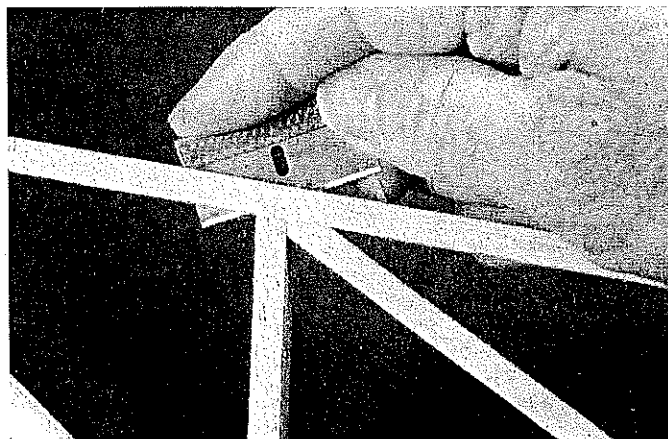


Old-Timer myself, I could indulge in a little adolescent exuberance and call the Leapin' Lena a Little Ripper!"

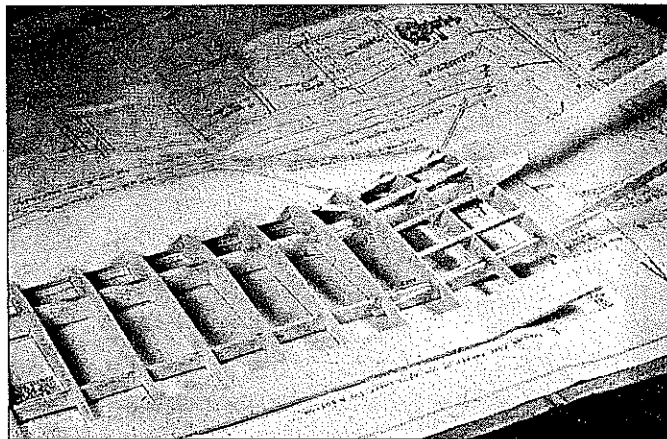
Randy Randolph of Dallas, Texas obtained a kit shortly before Lehmborg Enterprises terminated kit production, and he wrote a really neat review for a leading publication. The publication contacted me perhaps a year later, and learning the kit was no longer available, returned the unpublished package to Randy. After more time passed, I asked Randy what had happened to the magazine article. He filled in the picture and sent me the package, saying I could use the material any way I saw fit. . . as follows:

Leapin' Lena is a trip into the past. This 54-inch sport model looks like—and is—the Old-Timer aircraft typified by a short nose, big stab, subrudder and up-front landing gear.

In the early days of flying gas models the engine, spark coil, and battery were the



Fuselage sides are built by the stack method. Razor blade separates sides where glue may have seeped in between.



Full wing spars are built first, then center section, left wing, and right wing are built in sequence.

heaviest components and were mounted together in the nose, so keeping the fuselage short was the ticket to proper balance. This dictated a short moment arm and a large stab. The parameters, correctly applied, make a good free-flight design an excellent RC aircraft as well.

Leapin' Lena could have been a successful kit of the 1930s despite its birth nearly 15 years later. At the very least, her designer must have been in a nostalgic mood, and thinking of earlier days as he sat at his drawing board in the early 1950s.

CONSTRUCTION

Building Leapin' Lena will be something of a learning experience for those modelers who are accustomed to following the one-two-three steps of a manual.

Build the two fuselage sides first. Place the plan on a building board; soft acoustic construction board is very good and quite inexpensive. Rub the fuselage side view with furniture oil or cooking oil. Build one side, holding the strips in place with T-pins.

Don't forget the slots for the elevator and rudder pushrods—one per side! Take the time to make good, tight, wood-to-wood joints, and use cyanoacrylate (CyA) glue. I suggest Pacer's ZAP. A drop of this on each joint will bond it quickly and firmly. I like this and other Pacer products because the fumes do not affect my eyes or schnozz.

When the side is complete, remove the pins and cover the just-completed side with Justrite waxed paper. (*Do not* use plastic wrap—ZAP will stick to it.) Then build the second side over the first. When complete and all holes have been drilled, remove the two sides from the plan. Use a razor blade to separate the sides from the waxed paper.

The crosspieces under the wing are equal in length. Cut the required number and join the two sides with these pieces, using squares to insure alignment. Join at the tail

Leapin' Lena

Type: RC Sport

Wingspan: 54 inches

Engine size/type: .15-.19 glow

Number of channels: Three

Construction: Built-up

Covering/finish: Optional

and install the remainder of the crosspieces in the fuselage rear.

Build up the bulkheads of 1/4 balsa and install the engine bearers as the nose section is completed. As you do this and install the nose blocks over the tank, plan the tank installation and the fuel, vent and fill lines for zero maintenance—or install the after-bulkhead so the tank is removable from the inside. Be sure the middle of the tank is at the same height as the needle valve.

Wing: Build the spars on the plan before starting the rest of the wing. After oiling the plan, pin the spars down over the center-section and add the ribs, trailing edge, and leading edge. It is a good idea to add a couple of false spars on the upper surface to hedge the rubber bands that hold the wing in place. Tilt the wing so that the left spars are flat on the plan and build the left wing. Cut the tip pieces and install the ribs, leading and trailing edges. Shape the tip pieces as you install them so the transition from leading edge to trailing edge is smooth and proper.

When the left wing is finished, remove the assembly, turn the plan over, and oil the back side. Build the right panel as you did

the left—with the left panel and the center section sticking up in the air. This might sound tough, but in practice it is easy and it makes for a true wing with the same dihedral in each panel.

Empennage: Cut all the stab, elevator, fin, rudder, and subrudder parts. Streamline and shape these parts as shown. Quite a bit of material must be removed by plane, sander, and/or sanding block. There is a lot of work here, but it must be done or you will have an ugly, poor-flying model that is also tailheavy.

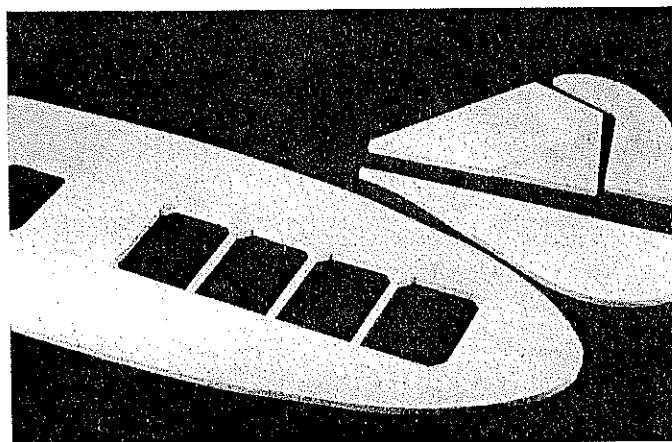
Assemble the parts on the plan, CyA them together, and finish sanding. Cut the elevator from the stab and install the dowel carry-through at the center leading edge of the elevator. Don't forget to relieve the fuselage slot above and below this member so the elevator will work smoothly.

Fit the hinges, but do not secure them until the stab and fin have been installed and CyAed into place. Install the pushrods just before the fuselage is covered.

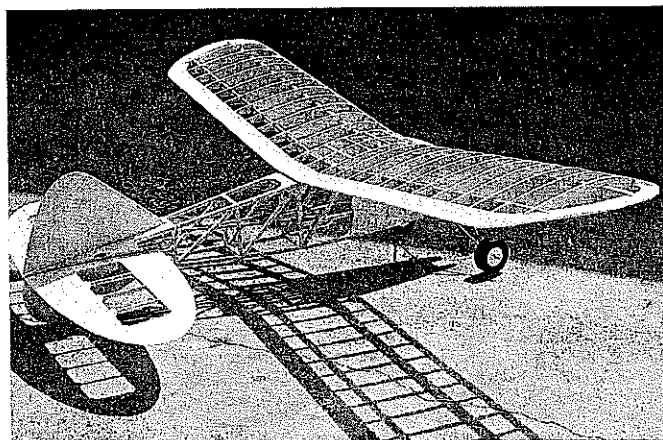
Covering: The material used is optional. In the Olde Days, Leapin' Lena was covered with silk, silkspan, or nylon, and was finished with clear and colored butyrate dope. Today, MonoKote is probably most popular, though the finished cloths are durable and easy to use. John Gates is partial to Micafilm finished in clear butyrate, and Randy Randolph likes Oracover the best.

Be sure to seal the firewall area with epoxy paint. I have discovered that Rust-Oleum is a good fuelproof paint, but its drawback is that none of the aircraft dopes will stick to it.

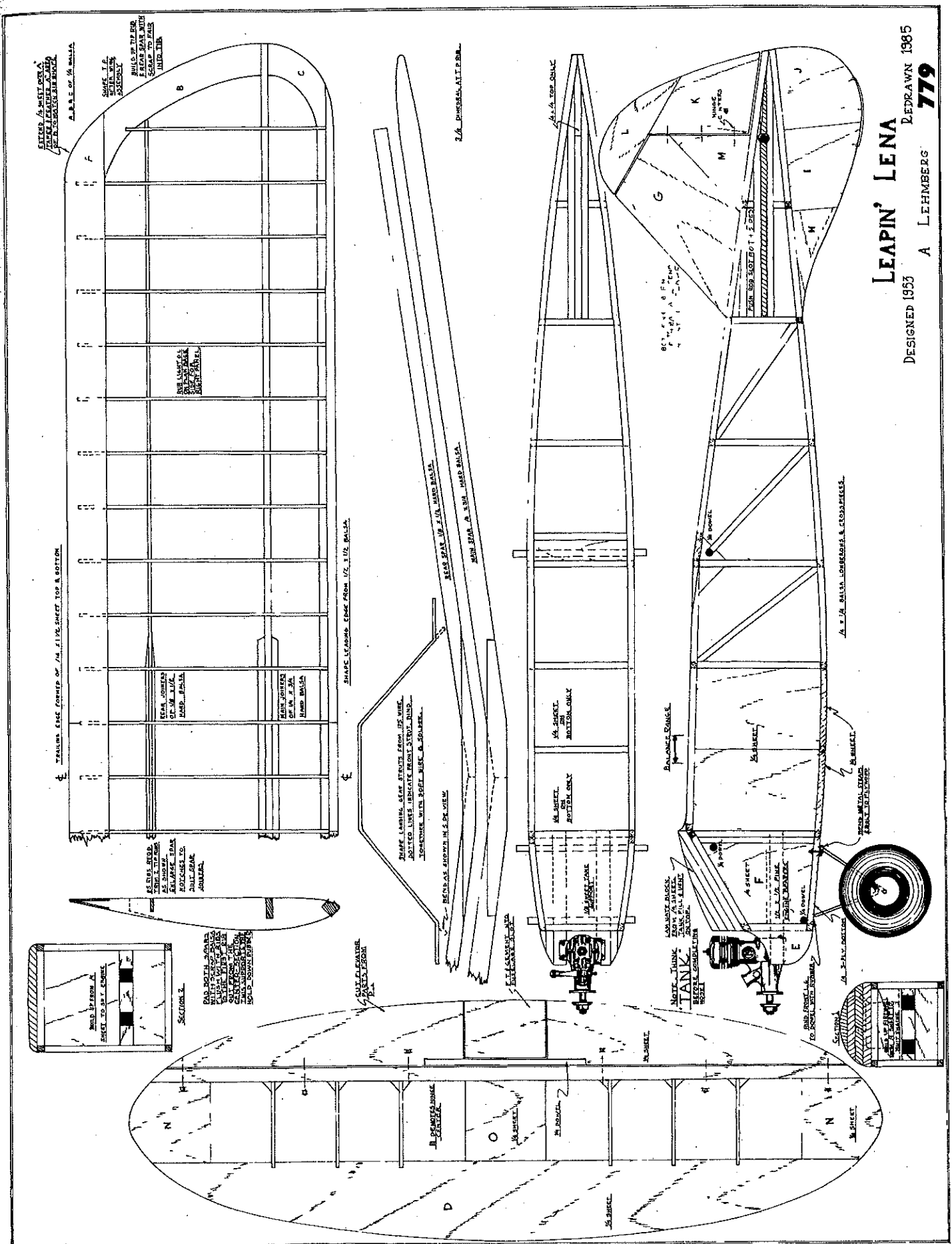
Preflight: After the engine is mounted and the flight instrumentation has been installed and checked out, be sure the balance point is in the range shown on the plan before flying.



Leapin' Lena's stab and rudder require lots of sanding to achieve a streamlined cross-section and reduce weight.

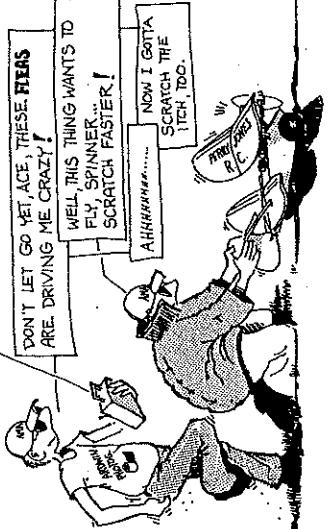
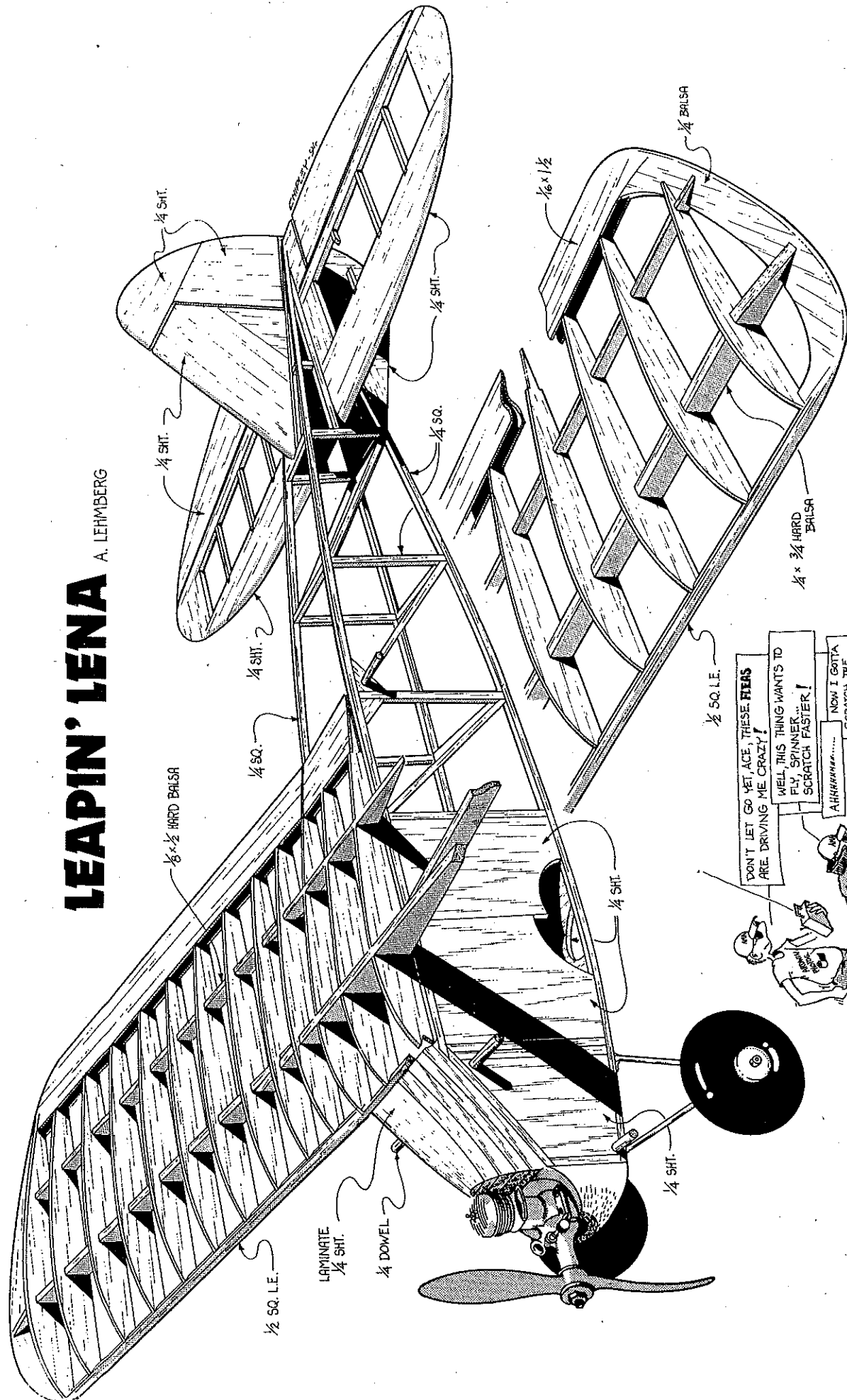


Completed structure has a classic look. Wingtips are washed-out during covering to improve stall characteristics.



LEAPIN' LENA

A. LEHMBERG



DON'T LET GO YET, ACE, THESE FEELS ARE DRIVING ME CRAZY!

WELL, THIS THING WANTS TO FLY, SPINNER... SCRATCH FASTER!

AHHHHHHHHHHH... NOW I GOTTA SCRATCH THE 17CH. TDO.

I like to wash out both tips several degrees on nearly all models (trailing edge raised, leading edge lowered). This is easily done using a heat gun on the top surface and twisting the wing. The amount isn't too critical, but checking on a table top will insure it is the same in both panels. This improves the model's stall characteristics.

I must give Randy's description of the first flight verbatim, with my comments in italics:

"Lena is a Lady! My version was powered by a very good Schmuertle-ported O.S. .25 because a .25 was recommended on the plan. Believe me, a .10 or .15 would fly Leapin' Lena with a very large reduction in the fuel bill and a very slight reduction in performance—and that in only the rate of climb.

"Even though the landing gear is well forward, the takeoff roll is dead straight, with only a little initial correction needed. Turns are smooth, with none of the tail wag that is typical of rudder-only airplanes. (Under no conditions should ailerons be used or dihedral reduced on an airplane of Leapin' Lena configuration.)

"Rolls are easy and almost axial if down elevator is applied at the proper time. Loops are round and smooth, and will not snap, even with the balance point well aft in the designated area.

"This airplane will fly herself. Throttle back and Lena will find a comfortable glide and make her way back to earth in a most dignified fashion. Leave her alone and she will settle in to a nice three-point landing."

"On the very first flight it took fifteen seconds to trim Lena and hand her over to the next guy in line, who flew her in close for an 'in flight' picture. Before that flight ended three more people, including a very new pilot, a Scale aficionado and a Racing expert, took the box and agreed that 'Lena is a very sweet date.' Yes, Leapin' Lena is definitely a lady."

Anyone wishing additional detail on this aircraft is invited to write the author at 21337 Oak Park Lane, Anderson CA 96007. Of course, a SASE is greatly appreciated and will ensure an answer. →

TNR Technical Inc.
279 Douglas Avenue • Altamonte Springs, FL 32714
(407) 682-4311 • Fax (407) 682-4469
Authorized SANYO Distributor
1-800-346-0601



GROUP A					
	SIZE	DIA	HI	OZ	PRICE
N50 AAA	1/3 AAA	.394	.591	.14	\$3.00
N110 AA	1/3 AA	.551	.657	.25	3.00
N150 N	N	.453	1.12	.32	3.00
N225 AE	1/3 A	.650	.642	.39	3.00
N250 AAA	AAA	.394	1.72	.35	3.00
N270 AAA	2/3 AAA	.551	1.16	.49	3.00
KR600 AE	2/3 A	.650	1.09	.63	3.00
N600 AA	AA	.543	1.94	.81	2.25
N-700 AAC	AA	.543	1.94	.81	3.00
KR600 AAE	AA	.543	1.94	.81	3.00
KR1300 SC	SUB C	.866	1.65	1.58	3.00
4 Cell Receiver Packs					\$12.00
5 Cell Receiver Packs					15.00

SPECIFY SOLDER TABS - FREE OF CHARGE

GROUP B					
	SIZE	DIA	HI	OZ	PRICE
N650 SC	1/2 SUBC	.866	1.01	1.02	\$4.50
N800 AR	A	.650	1.90	1.16	4.50
N1000 SCR	2/3 SUBC	.866	1.29	1.44	4.50
KR1000 AE	4/5 A	.650	1.65	.95	4.50
KR1200 AE	A	.650	1.90	1.06	4.50
KR1400 AE	A	.650	1.90	1.09	5.00
N1400 SCR	SUBC	.866	1.65	1.87	4.50
KR1800 SCE	SUBC	.866	1.65	1.65	4.50
KR2000 C	C	.992	1.92	2.71	4.50
4 Cell Receiver Packs					\$18.00
5 Cell Receiver Packs					22.50

SPECIFY SOLDER TABS - FREE OF CHARGE

GROUP C					
	SIZE	DIA	HI	OZ	PRICE
KR1700 AE	4/3 A	.650	2.59	1.48	\$7.50
N1700 SCRC	SUBC	.866	1.65	1.90	7.50
KR2300 SCE	5/4 SUBC	.866	1.92	2.04	7.50
KR2800 CE	C	.992	1.92	2.57	7.50
4 Cell Receiver Packs					\$30.00
5 Cell Receiver Packs					37.50

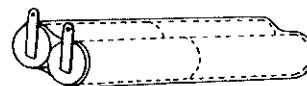
SPECIFY SOLDER TABS - FREE OF CHARGE

GROUP D					
	SIZE	DIA	HI	OZ	PRICE
N4000 DRL	D	1.27	2.36	5.64	\$ 9.95
KR4400 D	D	1.27	2.36	5.11	9.95
KR5000 DEL	D	1.27	2.29	5.28	12.00
4 Cell Receiver Packs					\$40.00
5 Cell Receiver Packs					50.00

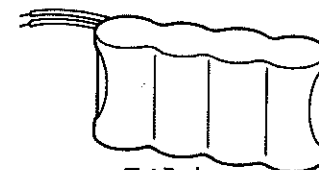
SPECIFY SOLDER TABS - FREE OF CHARGE

TRANSMITTER PACKS		
	PRICE	Available in the following configurations
8N-600 AA	19.95	• 1 Flat Pack of 8
8N-700 AAC	21.95	• 4 Sticks of 2 Squares
8KR-800 AAE	24.95	• 2 Sticks of 3 and 1 Stick of 2

CONFIGURATIONS



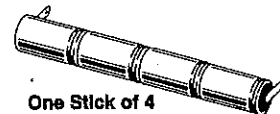
Two Sticks of 2



Flat Pack



Square Pack



One Stick of 4

CONNECTORS

Extensions:

Futaba J	\$4.00	6"	\$5.00
Futaba G	\$4.00	12"	\$5.00
Airtronics	\$4.00	24"	\$5.50
JR/HITec	\$4.00	36"	\$6.00

GELL CELLS

PS 612	6V	1.2 AH	\$12.00
PS 1270	12V	7.0 AH	\$19.95

SHRINK WRAP

Light Weight, Sized By Flat Width

Per Foot		Per Foot	
1 inch	\$1.00	3 1/4 inch	\$2.00
1 1/2 inch	\$1.00	3 3/4 inch	\$2.50
2 1/4 inch	\$1.50	5 inch	\$3.00
2 3/4 inch	\$1.50		

Add \$5.00 shipping & handling • 7% sales tax for Florida residents.

See us at the WRAMS Show. Lower level

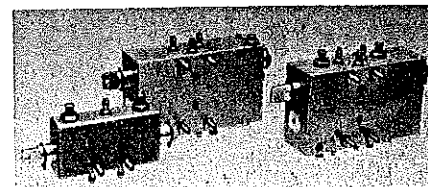
REALISTIC MOTION RETRACT CONTROL VALVES

See us at the Toledo Show

All valves feature exhaust only speed control

We have expanded our range of retract control valves to cover all needs. These valves work from standard servos. The door sequencing is done inside the valve, as is the speed control, so throw away those troublesome restrictors.

NEW ATTENTION SPRING AIR OWNERS You can now have independent speed control of up and down speeds with our new U.P.5. valve \$28.95. **NEW Secondary door control valve U.P.4.** When used in conjunction with the U.P.2, this valve will provide control of the tail-wheel doors on MUSTANGS or any secondary doors that need to stay open when the gear is down even though the main doors are closed, such as on the B25. \$44.95. **NEW 7/16 dia. DOOR CYLINDERS** 1 in. stroke 13 lb thrust, all metal body \$21.85 each. **NEW Door cylinder 5/16 dia. 1 inch stroke 8 lb thrust, all metal body \$19.00 each U.P.1.** Independent speed control & switching of struts \$28.95. **U.P.2.** Strut & door control for Mustangs. Door opens - strut lowers - door closes. Door opens - strut raises - door closes. \$74.65. **U.P.3.** Strut & door control valve for P47. Door opens - strut lowers - door stays open. Strut raises - door closes. \$74.65.



100 INCH MUSTANG RETRACTS 50 LB. RATING

Totally enclosed mechanism - all metal - 1 inch air cylinder - 85 degree retraction. Fits between ribs. \$579.00 including U.P.2. valve

ULTRA PRECISION Technical Services Ltd, 1244 Honeysuckle Crescent, Oakville, Ontario, L6H 2S8 Canada. Phone (905) 842 1703
Dealer inquiries welcome. All prices in U.S. funds. Shipping on valves & cylinders \$4.50.