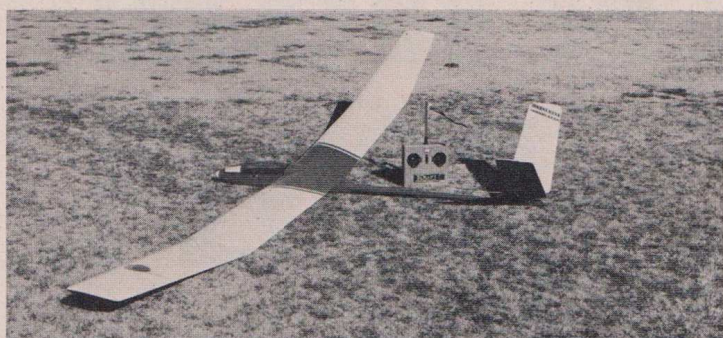


# RCM PRODUCT TEST

## AIRTRONICS GRAND ESPRIT



● Doing this product report for the Grand Esprit is almost like doing a review of a motion picture that has already won the Academy Award. First introduced on the cover of the July 1973 issue of RCM, the giant sailplane has been going strong ever since. Whenever you read an article about big gliders there's usually some mention of it. You may recall Tony Estep's article in the December 1974 RCM — "The Grand Esprit has achieved the widest acceptance of any kit plane among serious NSS Contest fliers in the geographical area — a couple of hot-shot competitors have abandoned their original designs to go the Esprit — which is perhaps the ultimate tribute."

With regards to the kit, everything you'll need except the covering and radio is included in the kit, including the Vector Director for elevon control, pushrods, horns, hinge material, adjustable towhook, instrument housing, skid, etc. All of the wood parts accurately machined and packaged and labeled in plastic bags.

There is no doubt that the Grand Esprit is a rugged ship. It has plywood pod sides with 1/2" balsa floor and 1/4" plywood keel insert. The boom is glass epoxy. The wing has double hardwood spars with plywood webbing on the inboard panel and geodetic ribs. To make the elevons sturdy, a hardwood sub leading and trailing edge is used along with geodetic cross members. The instructions are quite good and program you through the building sequence as well as offering many good building ideas.

In addition to glassing the bottom of the pod to make it more resistant to rock dings, we also glassed the wing from the root to the first bay to decrease the possibility of cracking the wing root sheeting when putting the wing on and taking it off. All-in-all, the building went easier than we had anticipated, and there was nothing unusual at all to installing the radio equipment and adjusting the pushrods and spoiler linkage.

For our first glide test we had to add a couple of ounces of lead to the nose to achieve the proper Center of Gravity. We held the glider high and pushed it off. And away it went, steady as a rock into a breeze to a smooth landing about 50 to 60 feet in front of us. After a couple of additional tries to test the elevons, we tried the spoilers. With the same hand launch it made a smooth landing, in about 15 to 20 feet — they work!

Next, we made the long trip up the hill and tossed it off into a four mile per hour breeze. A little down trim was added and up it went, just as Lee Renaud said it would in the building instructions. Whether on a Hi-Start, electric winch, or on the slope, everything they say about it is true. The graceful lines make the Grand Esprit a beautiful and distinctive sight to see up there.

And it does fly well for the serious Open Class competitor or the glider enthusiast desiring to move up to a high performance sailplane. □

IMPRESSIONS	E	G	A	F	P	IMPRESSIONS	E	G	A	F	P
Packaging	●					Pre-Shaped Parts	●				
Plans		●				Parts Match to Plans	●				
Written Instructions		●				Overall Parts Fit	●				
Quality of Hardwood	●					Ease of Assembly	●				
Quality of Fiberglass			NA			Fidelity to Scale			NA		
Other Materials	●					Flight Performance	●				
Accessories	●					Overall Appeal	●				
Die-Cutting			NA								

E=Excellent / G=Good / A=Average / F=Fair / P=Poor

## SPECIFICATIONS

Name	Grand Esprit
Aircraft Type	Sailplane
Manufactured by	Airtronics 45 E. St. Joseph Street Arcadia, California 91006
Mfg. Suggested Retail Price	\$129.95
Available From	Manufacturer and Retail Outlets
Mfg. Recommended Usage	Sport Sailplane, Competition Sailplane — Open Class
Wingspan	134 inches
Wing Chord	9 inches
Total Wing Area	1100 sq. in.
Fuselage Length	52 inches
Radio Compartment Dimensions	(L) 10" x (W) 2 1/4" x (H) 2"
Wing Location	Shoulder Wing
Dihedral (each tip)	4 degrees
Polyhedral	4 degrees
Airfoil	Eppler 385 flat bottom
Wing Planform	Constant Chord center panel w/double taper tips
Stabilizer Span	36 inches
Stabilizer Chord (incl. elev.)	6 7/8"
Total Stab Area	170 square inches
Stab Airfoil Section	Flat
Stabilizer Location	V-Tail
Mfg. Rec. Engine Range	NA
Recommended Fuel Tank Size	NA
Landing Gear	NA
Recommended No. of Channels	Three
Recommended Control Functions	Rudder, Elevator, Landing Spoilers
Basic Materials Used In Construction:	

Fuselage	Plywood, balsa, fiberglass
Wing	Balsa, Spruce, Ply
Tail Surfaces	Balsa and Spruce
Hardware Included In Kit	Complete hardware package — everything needed
Plan Size	24" x 53" (2 sheets)
Building Instructions on Plan Sheets	Yes
Instruction Manual	Yes (11 pages)
Construction Photos	No
Kit Includes	Shaped parts
Mfg. rec. flying weight	64 ounces
Wing loading based on rec. flying weight	8.4 oz./sq. ft.

## RCM PROTOTYPE

Weight, ready to fly:	64 oz.
Wing Loading	8.4 oz./sq. ft.
Covering and finishing materials used	K & B Superpoxy, MonoKote and Luminar iridescent foil trim
Engine Make and Disp.	NA
Muffler Used	NA
Radio Used	Kraft
Tank Size Used	NA