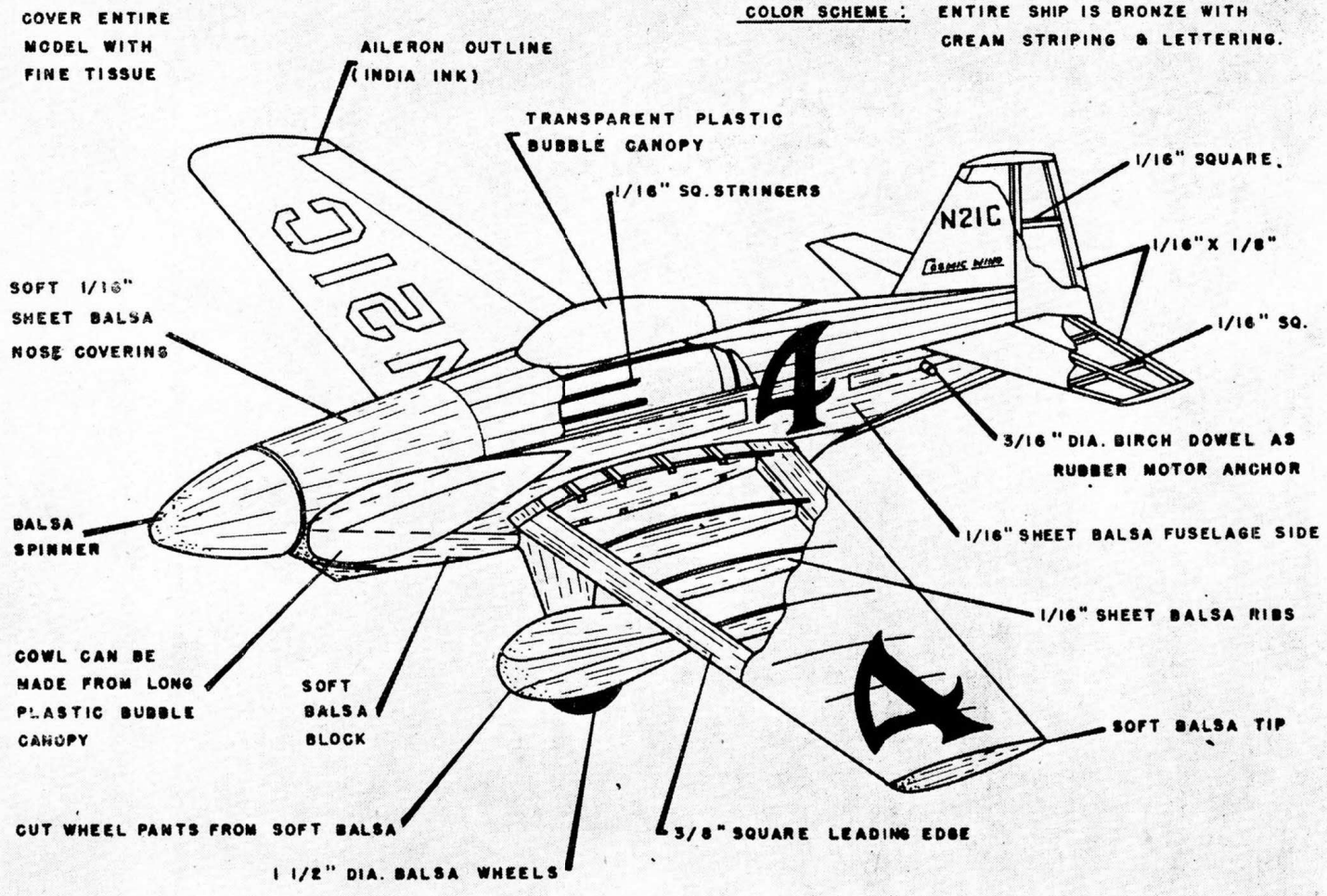


COLOR SCHEME : ENTIRE SHIP IS BRONZE WITH CREAM STRIPING & LETTERING.



COSMIC WIND

This makes a fine rubber job, but the plans may be used for any other type model—they are made from official drawings with no outline changes

by **WALTER MUSCIANO**

ONE of the most interesting and oldest types of aircraft modelling is the rubber powered scale job. Yet modellers in recent years have shown a decided lack of interest in this absorbing activity, although a few outstanding model builders including Struck, Stahl and Lanzo continue with scale models.

This lack of interest on the part of the majority is not without reason. In the old days the "modern" jobs—such as Curtiss Robin, D. H. Moth, Polish Fighter etc.—were perfect subjects for rubber scale models. But now it's different! Let's see you get even 2 minutes from a small scale F4U Corsair or other modern plane. You can't? Well, this article describes one that will top most of the modern "good lookers." Tony Le Vier and associates designed and built this sleek job, called the Cosmic Wind, as an entry in the Goodyear Trophy Race. Generous rudder and wing area, long nose, and sufficient dihedral make this design perfect for scale rubber flying.

Since its inception the 190 cu. in. Goodyear Race has gradually come to be looked on as the feature attraction at the National Air Races, because it encourages the development of original designs rather than the adaptation of stock military fighters to racing work. Three Cosmic Winds were entered this year and No. 4, piloted by Herman "Fish" Salmon of Van Nuys, Calif. crossed the finish line first with a speed of 169.608 mph. Incidentally, Cosmic Wind is one of the few all metal designs in its class.

The plans have been drawn half size; all formers and ribs are full size for the builder's convenience. Enlarging the plans is made easy by the preponderance of straight lines. First cut the fuselage sides from 1/16" thick balsa sheet (soft) and attach the crossbraces and nose former (A) in place. Be sure to cut a space for the wing centersection. Cut out the formers

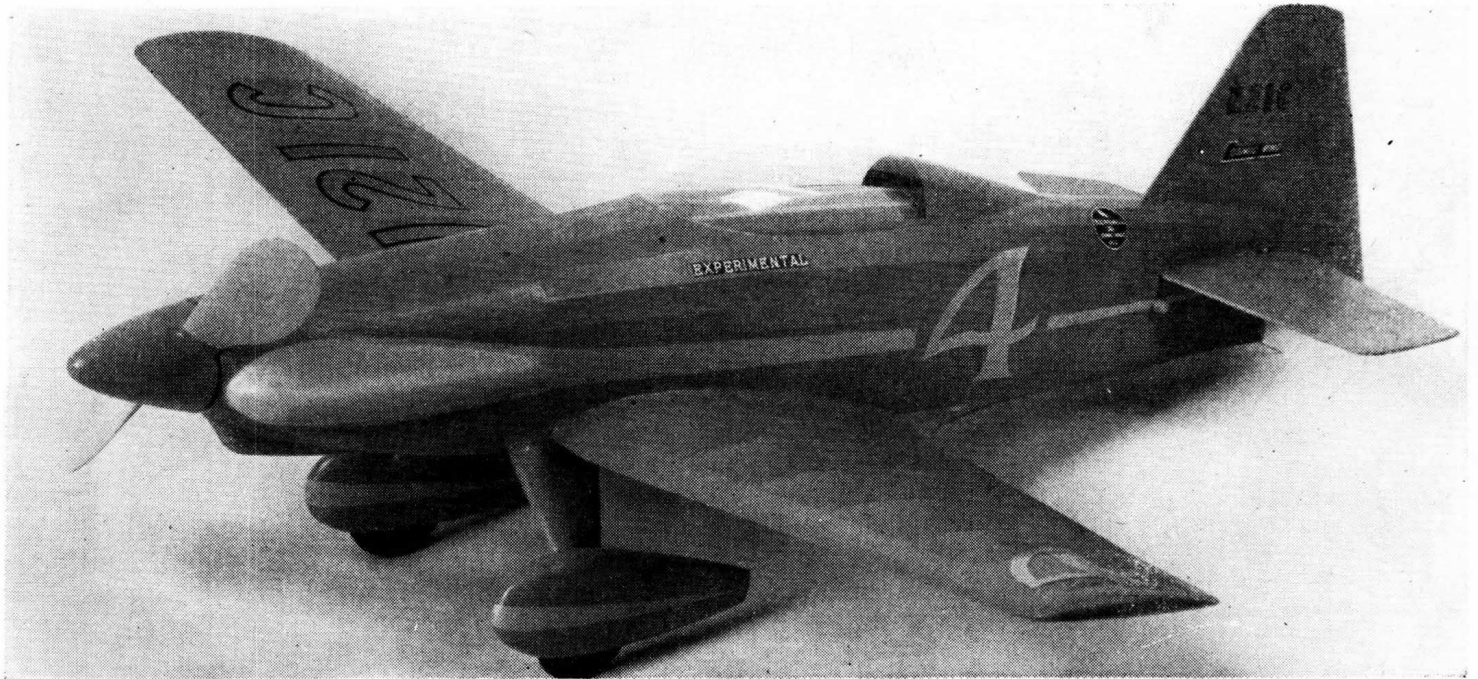
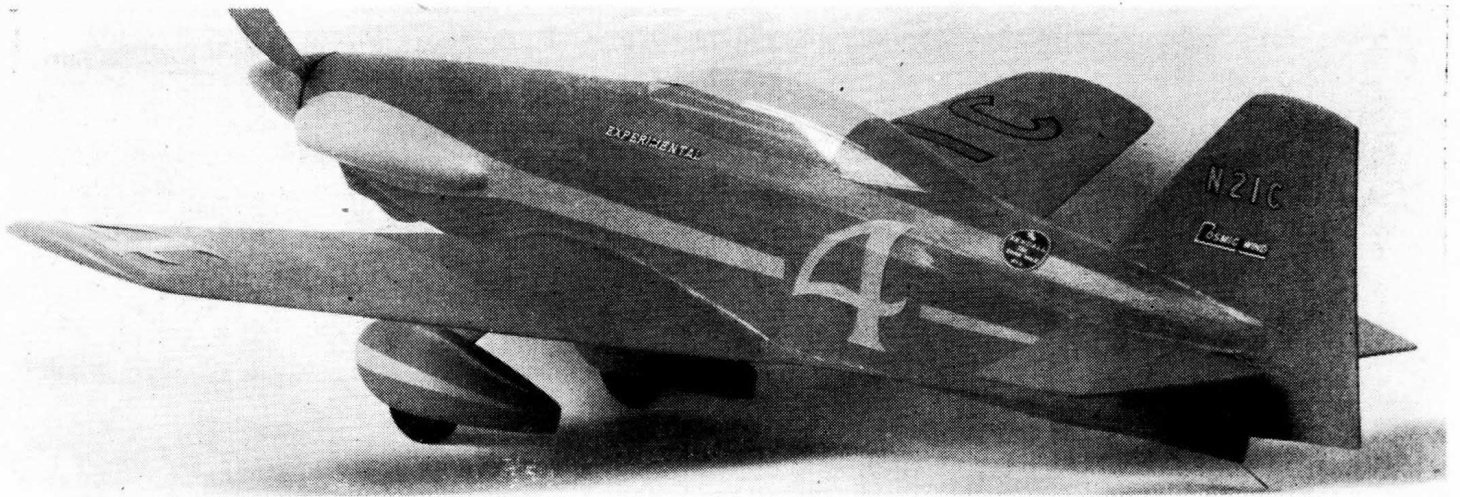
from soft sheet and attach only the top ones in place. While this is drying, the stabilizer and rudder can be made by pinning the specified stock to plan and cementing well. Using superfine tissue (not Silkspan) cover the tail surfaces and cement the stabilizer to the fuselage.

Select hard 1/16" square strips for stringers and attach to fuselage top. The top nose section is 1/16" sheet covered.

Now cut out the wing ribs and notch the 3/16" x 1/2" trailing edge (soft) to fit them. Pin the trailing edge to the plan, together with the ribs. Block up the leading edge (soft) to proper height and cement the entire structure.

The wing is made in 2 pieces with centersection to follow later. When the wing panels are dry and soft balsa tips have been added, they are blocked up to correct dihedral angle, and 1/16" sq. strips (hard) along with the leading and trailing edge are cemented in place between root ribs. Apply plenty of cement and let dry overnight. Cover the wing with tissue, then water spray and apply a single coat of dope. Attach wing to the fuselage bottom and don't spare the cement. The nose bottom is cut from a dead soft balsa block hollowed and cemented in place. Now bend the .032" wire landing gear and cement well to former B. Add the bottom fuselage formers and 1/16" strips. Cover the fuselage with tissue (use dope as the adhesive). Use lengthwise strips of tissue; you will find this job easy. Cement the rudder in place. Water spray and dope the tail and fuselage once. Check empennage for warps.

The "cheek" type of cowl can be made from long thin plastic bubble canopies which are available at most hobby shops; they will save the builder time and effort. If bubbles are not available, cut the cheeks from dead soft balsa and hollow to about 1/8" wall thickness. When these are in place install the plastic cockpit bubble. There is no commercial bubble to fit this model but if the builder follows the author's procedure all will



go well. Select a greatly oversize bubble (gas model type) which has the same upper contours as that on the *Cosmic Wind* and cut away the excess carefully until proper size is reached. A little bending here and there will produce a good fit.

Very soft balsa is used for the wheel pants and landing gear fairing. These are attached after balsa wheels are in place. Use commercial balsa wheels or cut them from 1/4" sheet.

The propeller is carved from medium balsa. First cut the blank to shape with a coping saw, then carve the blades. Take care to maintain as much blade area as possible, and carve a considerable amount of camber in the blades because of the restricted diameter. Dope once and sand smooth. Carve the spinner from soft balsa and hollow as shown. Cut the plywood nose piece and cement the 1/4" sheet plug to it. A ratchet type of free wheeling device was used. The model is wound by removing the rubber from the front shaft hook and slipping it on the winder hook. This was done in order not to spoil the scale effect of the spinner with a protruding winding loop. Use a ball bearing washer and sheath the front hook with a rubber tube to prevent the wire from cutting the rubber motor.

We now have the completed model with one coat of clear dope. If you want endurance and not appearance, use colored tissue and apply 2 coats of clear dope. The original model has one clear coat and one *very thin* colored and is not too heavy.

Our model is powered by 8 strands of 3/16" flat brown rubber 2 ft. long, braided to prevent bunching. Lubricate it well. We tried to get a long motor run because we thought the glide would be very steep. The model surprised us with a slightly fast but very shallow glide.

Be sure to balance the model at the point indicated. Test glide from shoulder height into tall grass (at least 2 ft. high) and note glide path. Our model glided perfectly the first try. Continue hand gliding until a flat glide is obtained, warping the elevators to correct the glide. When satisfactory, wind the prop 50 turns and hand launch. Slight right and down thrust were required on the original model.

