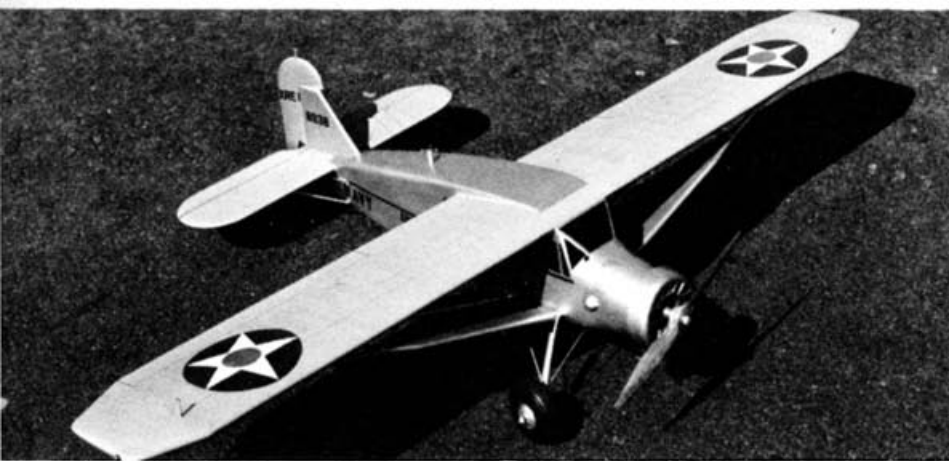




How's this, dad? Nifty, we'd say, and those old insignia sparkle. Good for sport flying.

Navy Bellanca



Silver airplane with chrome yellow on top surface of wing, black trim, decals, follow Navy

In their time, Bellanca's with efficient wings, lift struts, and airfoil-profile, great weight

color scheme of the time. Ship stunts best on a .23—if you must. A sight on 100-ft. Mono-line.

lifters. Apparent wing droop, optical illusion. Lay ruler along wing trailing edge center pic



by **WALTER MUSCIANO**

Generous wing area makes the ever-popular cabin job good flier on engines of .19-.35 displacement. Not bad stunter—been proved.

► Profile scale and semi-scale stunt control-line jobs are very popular. However, these seem to be half-way measures which result in good stunt models but poor scale jobs. There are numerous full-size planes which are readily adaptable to scale stunt replica with little or no modification.

All pre-war Bellanca single-engine airplanes are ideal candidates for stunt models with their enormous wing area and moderately short tail moment arms. Several have been built and flown successfully by the author. The latest is presented here and sports U.S. Navy colors and markings which are authentic. This craft is almost identical with the commercial Bellanca "Skyrocket" but it was felt that it would appear more logical if a Navy craft was seen executing intricate maneuvers rather than a private plane!

Our model of the Bellanca XRE-1 Navy personnel transport, cargo carrier and liaison plane was built to the scale of one inch equals one foot. Any engine of from .19 to .35 cubic inch displacement can be used; we consider a .23 to be ideal for good stunting in this model.

As part of our scale multi-engine, scale-speed and scale-stunt evaluation models using Mono-line controls, our XRE-1 was fitted with a Stanzel "Stuntmaster" Mono-line control system. The prototype model exceeded our highest expectations of performance at the end of the single line. Those model builders who are interested in sport flying can install a conventional Mono-line control mechanism in the sport location shown on the plans. The model should balance at the forward balance location for sport flying.

The wing span is under four feet with a projected area of 300 square inches. Airfoil is original with a 15 percent thickness, with a sharp leading edge which we have found to be an advantage on control-line craft. Wing construction is strong but light while the fuselage is a simple box.

Construction begins with the fuselage by cutting the bulkheads, formers and sides to shape. Cement the sides to the formers, using pins as clamps. Pull the sides together at the rear and set aside to dry.

The Stanzel (Continued on page 59)

Navy Bellanca

(Continued from page 12)

Mono-line mechanism should be firmly attached to the $\frac{1}{8}$ " plywood sheet using the hardwood wedges furnished with the Stuntmaster unit. Insert this into the fuselage and cement it well to the sheet balsa braces as shown. Use plenty of cement and be certain that the Mono-line unit is at the correct angle. Add the control rod.

Engine mounts and fuel tank are installed at this time. The experienced stunt flier will undoubtedly install his favorite tank; however, the tank shown performed in a most satisfactory manner in the prototype model.

Bend the wire landing gear to shape and firmly bind the joints with thin copper wire and solder very thoroughly. Attach the landing gear to the support with strong thread and cement. The entire landing gear assembly is now securely cemented to the fuselage and bulkheads.

Cover the fuselage top and bottom with sheet balsa with the grain running spanwise for greater strength. Add the cabin and nose blocks after they have been roughly cut to shape. When dry, complete the carving of the blocks. Sand smooth and remove the nose blocks carefully. Hollow as the plans indicate and recement in place. Sandpaper the entire fuselage now.

Cut the tail surfaces to shape, sand well, and cement to the fuselage, being sure to connect the control rod to the control horn.

The wing is light but rugged and can use the scale or stunt airfoil, as desired. Slip the ribs onto the main spar. Use plenty of cement and hold the ribs in place with pins until dry. Follow this by adding the auxiliary spars, and leading

and trailing edges. Cover the center section and leading portion of the wing with sheet balsa. The solid balsa tips complete the wing structure. When the cement is dry, the entire wing structure must be well sanded. The entire wing, including the balsa covered leading edge and tips, should be covered with silk. Use heavy dope, thin cement, or a combination of the two as the adhesive when covering with silk. Before the wing is attached to the fuselage it should receive at least five coats of clear fuel-proof dope.

Cement the wing into the slot in the fuselage. When dry, the wing can be given five more coats of clear dope. A gentle sanding here and there will eliminate any roughness. Use very fine finishing paper or very smoothly worn sandpaper.

The fuselage and tail surfaces are sealed

at this time. Brush the sealer very liberally onto the wood and sand only when it is thoroughly dry. A minimum of eight coats will be required to seal the balsa, but do not hesitate to apply additional coats to thoroughly seal the wood. Sand thoroughly after each coat is dry.

Add the control-line guide to the wing and apply more clear dope to the wing until a total of at least ten coats has been applied. Thin the last three coats with about 10-percent thinner.

The cowl is made from rings cut from sheet balsa and cemented together. Carve and sand gently and apply filler until grain is sealed. After a final sanding, the model can be painted as noted on the plans. Paint the dummy cylinders black and cement in place as shown. Add the cowl.

All insignia, lettering and cabin windows were cut from sheets of "Wondur-Cal" decal. This is fuelproof, adheres tenaciously, and requires no protective coating.

The struts are not removable on the prototype model and no difficulty was experienced during operation. The XRE-1 aircraft were often used for experimental purposes such as automatic course plotting, because of its ability to lift heavy loads and the inherent stability of the design. Plans and the photograph of the full-size plane illustrate a massive radio mast and complex rigging used during the testing of a German automatic course plotter.

This is entirely optional and is shown for those modelers interested in the unusual. It is suggested that this rigging be eliminated on the stunt version.

Carefully cut off the cowl with a sharp razor blade and thoroughly paint the cowl interior and engine mounts with several coats of fuel-proof dope. Install the engine now and replace the cowl after cutting openings for the engine cylinder, etc.

Be certain that the model balances as indicated on the plans. The addition of lead weight in the extreme nose or tail, securely fastened, will remedy any unbalanced condition.

Mono-line control lines are available with the ends made up ready for flying. It is suggested that sport fliers use .020" diameter wire and experienced stunt fliers use .028" diameter wire for extra sensitivity. The most attractive feature of Mono-line flying is the ability of flying on extra-long lines without worrying about slack wire and loss of control. Mono-line affords complete control even with a slack line. Line lengths from 50 to 100 feet can be used on this model with absolute safety. After a few test flights, and the model characteristics become known to the flier, there is no reason why 150 foot lines cannot be used following the line diameters recommended by the manufacturer. This is real control line flying!
(Editor—Beware of power wires when flying on such long lines.)

BELLANCA LIST OF MATERIAL

NO. REQD.	MATERIAL	SIZE	USE
5	medium	3/16 x 3 x 36	fuselage sides, top and bottom
2	hard	1/4 x 3/4 x 36	wing main spar
1	soft	3/8 x 3 x 36	tail surfaces, wing tips
4	hard	1/8 x 1/4 x 36	wing auxiliary spar
1	hard	1/4 x 3 x 36	fuselage formers, cowl
4	medium	1/16 x 3 x 36	wing leading edge covering
2	hard	1/2 x 1/2 x 36	wing leading edge
2	medium	3/8 x 1 x 36	wing trailing edge
3	hard	1/8 x 3 x 36	wing ribs
1	plywood	1/8 x 6 x 12	wing spar joiner, Mono-line control foundation, bulkhead, landing gear support
2	hardwood	3/8 x 5/8 x 8	engine mounts
1	medium	2 x 4 x 18	nose block, cabin front

MISCELLANEOUS

Eight ounces Aero Gloss Clear dope; eight ounces Aero Gloss Balsa Filler coat; four ounces Aero Gloss Silvaire Aluminum dope; four ounces Aero Gloss Cub Yellow dope; one ounce Aero Gloss Cub Orange dope; one ounce Aero Gloss Jet Black dope; Red, White, Blue and Black "Wondur-Cal" fuel proof decals; thread; cement; straight pins; Mono-line control unit; Veco control horn.

Note: Add one ounce of orange dope to the yellow to make it chrome yellow for the top of the wing.
