

BALLERINA

by Charles Lickliter



● Two years ago Bob Randall, 1958 Open Stunt Champion and myself joined forces with two other Indianapolis modellers, Don Ogren and well-known designer-flyer Charley Mackey, to try to promote stunt flying in Indianapolis. At that time we formed the Stunt Masters Precision Acrobatic Club. The Stunt Masters have tried to help anyone who was interested in stunt flying. We think that the amount of new modellers in and around the Indianapolis area shows that to some degree we have helped. After last year's flying we had many talks about new designs for this year. The Ballerina is my answer after talks with Bob Randall on the effect that the looks

of a plane had on the outcome of a contest.

My point was that a plane could be designed and painted to make good flights look even better. I think that the Ballerina will do just that. As to the performance of this ship it is the easiest handling, smoothest flying ship that I have ever had the pleasure of flying. It flies well on any kind of a day, be it windy or calm. On mean overhead figures and in the sharp corners it never goes slack on the lines. This plane will almost guarantee perfect takeoffs and landings by nearly flying itself.

Construction is very simple if the plans are followed exactly. The body

is built first and then the wing is built right through the body sides. This type of building gives a very strong airplane. The plans are simple and complete but they must be read and completely understood before starting any building what-so-ever. Templates should be made and all parts cut out. After the parts are cut out, assemble the motor mounts on the plywood doublers and then assemble the sides to the doublers. The sides are assembled by use of the firewall and the bulkheads for the fuel tank compartment. After the sides are together tack cement the top, bottom and side blocks as shown on the plans. Trim and sand the blocks to the desired body contours.

After the body is shaped remove the blocks and hollow them out to reduce weight. The next step is to install the "I" beam, leading and trailing edges and the wing tip ribs. Be very careful of alignment at this time. Hinge the elevators and stabilizer together and cement in place, again paying special attention to alignment. I stress alignment at this point because in my opinion the alignment of stabilizer, wing, and motor mounts is the most important single step in getting a good flying plane.

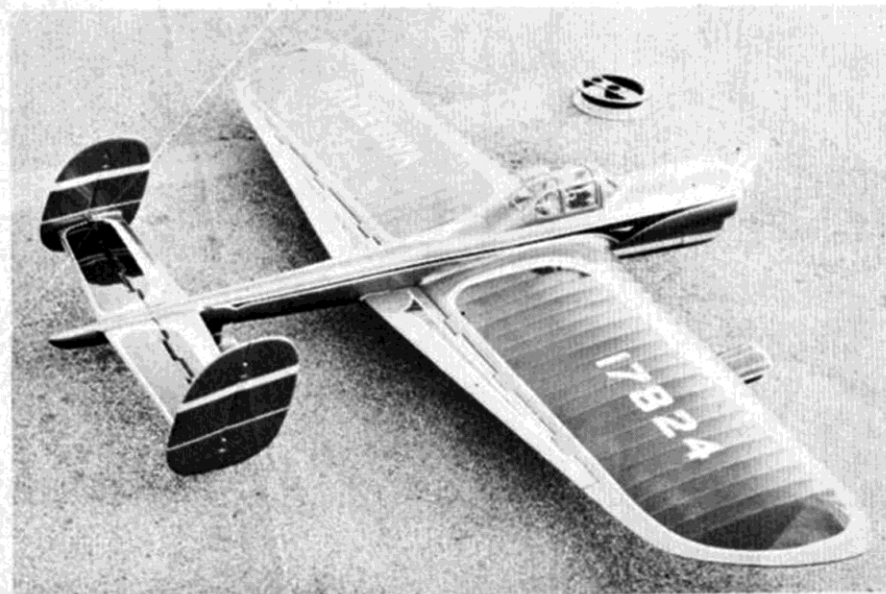
Flaps are installed at this time along with the wing tips. Next, all controls are put in. You will note that I have given sketches on the plans for the control system. This control system seems to be best for this airplane. At this time the landing gear should be installed. You are now ready to cement the blocks on. Make sure that the tailwheel is installed and that blocks are hollowed out as much as possible without weakening them.

Now, cement on the rudder, assemble the wheel pants around the wheels and attach the struts. The last step in assembling is to insert the ribs, trim them to size and cement them in place. You are now ready to do the final shaping. Remember that the smoother you get the plane now, the better finish you will have. You cannot cover up a bad building and sanding job with paint.

At this time, you are ready to build the cockpit and shape your cowling. If you start the cockpit with a small box that will slip in place, you can



This ballerina dances through the stunt pattern gracefully and has that appealing look so often sought by modelling fans. Twin rudders and fancy pants, also.



The author is justly proud of this one and we can rightly say that this model is not for "lazy bones" builders that want hubba-hubba planforms with that "slapped together" look. A little extra applied effort can provide a ship that excels most ships.



build the cockpit in the box and then slip it into place and cement it. In this way you can work on it away from the rest of the plane with plenty of room to do a good job. As for the cowling, start with a block of hard balsa and carve the cowling in one piece. This may sound like a very hard way of doing it, but with the aid of a drill to cut out the inside and a lot of sanding, the final results are well worth it. With the completion of the cowling and the cockpit you are ready to finish the plane.

Put two or three coats of clear dope over the entire plane and sand lightly all over. Cover all wood surfaces with light-weight Silkspan or Jap tissue. Do not cover the wings or tail assembly at this time. You are now ready to seal all the wood areas. Mix your own sanding sealer by using one part thinner, one part talcum powder (good grade), and one part clear dope mixed well together. Put two coats of sanding sealer over all exposed areas including the tail assembly, leading and trailing edges of the wings and the tops of the ribs that the wing covering attaches to.

Now, sand entire plane very well. After sanding the plane, check for bad spots, like low places or spots that are not filled, and work on these places by more sanding. When you have the plane sanded out as good as you can get it apply another coat of sealer and resand. Repeat this until all the exposed areas are glass smooth. Then, seal with two coats of clear dope.

You are now ready to cover the wing and tail assembly. Cover these areas with Jap tissue used dry. After covering spray the Jap tissue with water and allow to shrink. If the covering does not shrink smooth and tight respray and allow to dry again. Repeat this until covering is smooth and tight. After covering, brush the entire plane with clear dope that is about 50% thinned. Keep putting on clear dope, and sanding very lightly between coats until the Jap tissue is filled. When the wings and tail assembly pick up a smooth even gloss all over, without dull spots, you are ready to put on color.

When you apply your base color make sure that it is thin enough to flow well. Use enough coats of the

first color to cover everything good and then wet sand it to a smooth even finish with No. 500 wet-or-dry paper. When you have attained the finish you want on the entire plane, proceed with the color scheme of your choice. After all of the color is applied you are ready to rub the color out to attain a smooth finish that has depth to it. To rub out the color we use a good grade of auto cleaner. After this is done, clean entire plane to remove all traces of the cleaner, this is very important.

When the entire finish is rubbed out and cleaned you are ready to apply a clear finish. The first coat of clear is very important as you have to get it on without pulling or running the colors together. We like to wait about a week after we put on the color before we try to brush clear over it. Of course, if you have a spray gun you will not have this problem. If you use a brush make sure that the dope is thin enough to flow well without leaving brush marks. Make sure that the brush is always full of dope so that there is not the least bit of drag on it.

(Please turn to Page 37)

BALLERINA

(Continued from Page 17)

If you hang the plane up by the tail wheel you can start on the rudder, working around and down the plane to get the entire body at the same time. Then set the plane down and do the wings and tail. Put three or four coats of clear dope on, and then wet sand the entire plane very lightly. After sanding put on one or two more coats of clear, that is very thin, to remove the sand marks. At this time, you are ready to complete the plane by again using the rubbing compound to get the exact finish you want. Install a canopy and put a good wax job on the airplane and you are ready for many happy hours of precision stunt flying.
