

**BUILDING HINTS**

The latest thoughts in stunt flying are those of the intermediate size airplane. Why build a neighbor annoying, fuel guzzling monster when a carefully designed smaller airplane can do the full stunt pattern?

The Magician 15 introduces a new concept in control line flying. In the past if you wanted to fly stunt you had to build up a basket full of parts with long hours of labor; the easily built profiles flew like a hot-rock and took lightning reflexes just to keep out of trouble, much less stunt. Magician 15 is the profile designed with only stunting in mind. With its tremendous wing area and light loading it really flies thru maneuvers allowing plenty of time for precision corrections in control. It is ideal for beginner and expert alike.

We have taken great pains to furnish the finest material and the highest quality workmanship in this kit; build it with care and you will be rewarded with many hours of superior stunting pleasure. The plans are quite detailed, so we shall only pass along some tips in these notes. If you are a beginner we suggest you refer to some of the books and the model magazines for complete general information on construction.

**Wing:** This is the heart of the airplane. Build it true and warp-free. Start by pregluing and splicing the leading edge and 3/16 square cap-spar pieces. Now assemble the ribs to the slotted spars - note that the inboard wing is longer than the outboard. Pin the lower halves of the 2 piece trailing edge to your working board over the plans, and glue the splice joint. Drop the spars and ribs into place, and glue the ribs to the trailing edge (they will match sheet nicely if spar is propped up 1/4" from working board). Add top half of trailing edge now. Add preglued 3/16 square cap-spar and pre-spliced leading edge. Add tips, tip weight, and tip braces. Next install control system and push rod. Sheet the center section, and the wing is complete.

**Fuselage:** First glue the maple bearers to the engine cutout in the fuselage. Now add die-cut plywood doublers. It is best to use white glue for this operation and leave the assembly under weights overnight to dry. Glue fuselage top section, (turtle deck) to the main fuselage. Note that it is offset at the rear. Add rudder, also offset slightly at the rear. Using balsam planes, much sandpaper and considerable elbow grease, form fuselage to cross-section indicated on plans. When removing stock at the rear of the fuselage, be sure to work only on the inboard side - this will produce the desired rudder offset effect. Drill the holes necessary to mount the engine and landing gear. Slip the landing gear into place and install wing and align accurately. Glue thoroughly. Use fiberglass applied against the fuselage. Be careful to get them straight and level when viewed from the rear. The flaps may be hinged and made operational if desired, though it is not required on this design. Shape and install the stabilizer, and the wire elevator connector which you have bent to shape. Drill the elevator carefully to receive this connector. Glue thoroughly and hinge to the stabilizer. Install control horn (we have used a "Bonner" nylon R/C horn with excellent results). Now connect control well, dope, sand again, dope and sand once more and you're ready to cover.

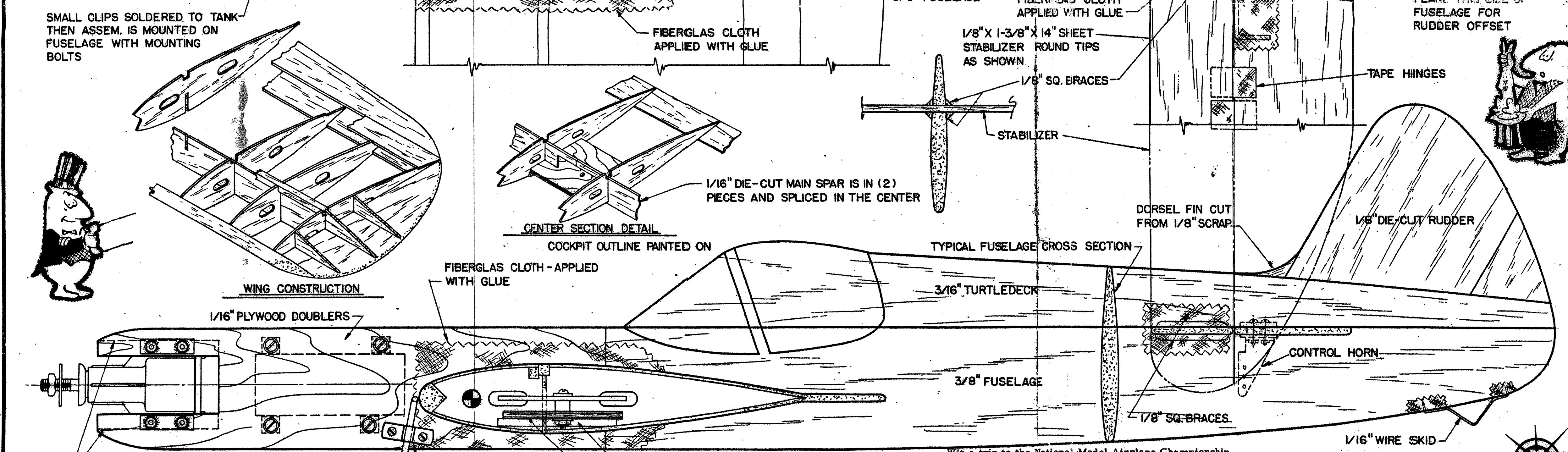
**Covering:** Best results will be obtained using silk, although other materials are acceptable. We suggest covering only the wings.

**Finish:** If you use colored silk, we recommend 5 to 7 coats of clear butyrate dope on the wings and about 5 coats of clear and 3 coats of color on the rest of the plane. Remember, clear is much lighter than color dope and a lighter airplane will always perform better. We strongly recommend the use of TMP plasticizer and anti-blush thinner in your dope. They are available from your dealer.

**Final Assembly:** Assemble motor, tank, wheels, etc. to your Magician and locate balance point. It must be where indicated on the plans. If not, add ballast until it is. Note the washers producing out-thrust in the engine. This, the top weight, and the offset rudder will keep your Magician 15 out at the end of taut lines thru every maneuver. Use 52' .010 or .012 lines. If you notice some wobble on square corners, it is due to a built in warp in the wing. If you cannot steam out this warp, add a small trim tab to the outboard wing to correct for it.

Good luck and good flying!

We will be pleased to hear any comments or questions regarding your Magician 15.



Win a trip to the National Model Airplane Championship

Ask your local Hobby Industry Association member dealer for complete information including date and location of local meet. Magician 15 can win this event for you and send you across the country to the Nationals. It meets all the requirements.

Tips: For the stunt event - Magician 15 can do the entire pattern - can you? Get out and practice; then practice some more. Run your 15 engine a bit rich and it will peak on the difficult maneuvers.

For the speed event - Use a 7-6 prop and peak out your engine carefully - maximum power but not too lean or it may quit too soon.

For the endurance event - You should be using a 3 oz. tank. Use a 9-6 prop and peak your motor very carefully; too rich wastes fuel and too lean may cause overheating and an early stop.

For this AYSO event, as for all general flying, we suggest the use of a 15 engine. Magician 15 is the ideal airplane to win with; practice enough and we'll see you at the NATS!

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# MAGICIAN 15

INTERMEDIATE SIZED—DESIGNED FOR PRECISION STUNT PERFORMANCE

Designed by Jim Silhavy—Grand National Stunt Champion

Drawn by: Don Hecoy

**SPECS:** Span: 34" Length: 24" Area: 240 in. sq. Total Weight: 15 oz./ Power: 15 preferred - .09 or .19 for special events/ Airfoil: NACA 63-.015 modified/