

Right: John Tatone adjusts the needle-valve setting on "The Frisco Kid," just before launching it on another long flight. Note the unique mousetrap dethermalizer system beneath the fuselage, near John's left hand. Actuated by a second timer and a Tatone-designed tripper device, it is hooked to a pop-up tail and keeps the plane in sight.

Below: While this ship is easy to build and fly, it also is very rugged. Here is a typical R.O.G. take-off on rough terrain. And as for ingenuity—spot that Coca-Cola carton holding the booster batteries?



Above: The ship in the foreground is a Class B version of "The Frisco Kid"—John's holding the F.A.I.-Gas model. Plagued with a defective timer, the "Kid" wound up in 11th place at the 1954 Air Olympics, despite the fact that it had the flight potential needed to take first.

● Here is a real competition airplane. Originally designed for F.A.I. competition, it has won its share of prizes in Class A, in tough California contests. Simple to build, clean in design, the "Frisco Kid" barrels up there, right in the groove, flight after flight.

This plane takes off beautifully, a small item, but important in F.A.I. competition. And because of its speed, the "Frisco Kid" rolls out on top of the climb, without any loss of altitude, into a nice floating glide.

If you want to collect a little hardware, read on, partner, and we'll tell you how to make one of these things!

The quarter-size plans are very easy to scale up, due to the straight lines of the model. All ribs and bulkheads are shown full size. The wood used should be picked for strength and lightness.

FUSELAGE: Select two evenly matched $\frac{1}{4}$ " sheets and cut out the

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fuselage sides. Cement $\frac{1}{16}$ " sheet backing to the tail end of the sides. Cut out the plywood firewall and landing gear bulkheads.

Next, fasten nuts on the back of the firewall to hold the engine. Our method for securing nuts is simple: Cut $\frac{1}{4}$ " off of the point end of some pins. Push these points into your bench, on each side of the nut. Then, apply a drop of solder to each pin. That's all there is to it! These pins will pull into hardwood with ease, and never fall off.

Now, bend up the landing gear and fasten it to the plywood with copper wire. This installation is light and very strong. Next, mark the fuselage sides for the bulkhead locations. Cement the tail ends of the sides together and cement the plywood bulkhead in place.

While this is drying, build the pylon on the side view of the enlarged plan. Use hard balsa for vertical members. Cement all bulkheads except #1 in

place. Then, finish the pylon completely, slip it up from the bottom of the fuselage, and cement it in place. Now add bulkhead #1. We use $\frac{1}{4}$ " trailing edge stock on each side of the bulkheads from #2 forward. Use plenty of cement around the pylon and firewall.

Install the tank in its proper place and cement. The top of the fuselage is planked with $\frac{3}{32}$ " sheet and the bottom is covered with $\frac{1}{16}$ ". Note that $\frac{3}{32}$ " sheet is used from the landing gear forward.

Finally cut out the aluminum wing rest as shown on the full-size plans, and attach it to the fuselage. We find that it takes less time to make an aluminum wing rest than it does to build a balsa platform. It can also be used again on other ships.

WING AND TAIL: The construction of the wing and tail is very simple.

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THE FRISCO KID

by John Tatone

Here is the hottest free-flight gas design to appear during 1954—just in time for this year's International F. A. I. events!



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CARRIER MODELS

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Note that the top sheet will have to be gouged out to permit room for the elevator horn. Install the wing and pushrod and reassemble the fuselage. Use at least 1/16" wire for a pushrod to obtain sufficient rigidity.

TAIL: Make the elevator and stabilizer as shown on the plan. The small section just aft of the elevator horn and the elevator should be cemented securely to the top of the fuselage, as shown on the fuselage side-view. Connect the pushrod and elevator horn and fair in this unit while reassembling the fuselage.

FINS: The auxiliary and main rudders should be cut from 1/8" sheet balsa and sanded to shape. Cement them securely in place. The rear of the main rudder should be offset to turn the model toward the outside of the circle—a 1/8" offset is sufficient. Note that the auxiliary rudders and the stabilizer interlock. Cut the auxiliaries to the shape shown on the side view.

FINAL ASSEMBLY: Two searchlights are carved from balsa blocks, following the outline shown. These are round and have 1/8" plywood struts cemented into them so that they fit into the slots at the wingtips. Cement these in place under the wingtips. Note that the inboard one acts as a line-guide and that the outside one is hollowed and filled with lead. This helps to prevent the model from rolling in on the lines during low-speed flight.

A 3/4" rubber tail wheel should be mounted on a 1/16" piano wire strut. This is tied to a small square of 1/16" plywood. Cut a slot into the bottom of the fuselage rear, and cement the unit in place. At this time you can also drill a hole for the arrester hook, and insert grommets as noted. Bend the arrester hook from a piece of 1/16" piano wire, insert it through the grommets, and secure it with a spot of solder. Mount a small hook 1 1/2" forward of the arrester hook to secure a rubber band. This is used to hold the arrester hook in "down" position. Put in a stop to keep the hook at 60° maximum down.

Before installing the nose ring and front cowling top, mount the engine and fuel tank. Our model has been designed for a Fox .19, or a similar engine. While the forward upper section of the fuselage is open, connect a pair of .030" piano-wire lead-outs and form loops on their ends to secure the control lines. Next, install the two-speed control of your choice. Then, connect the third line and pass it through the center hole on the inboard searchlight.

Add the forward top blocks and carve them to shape. Cut out the cowl block to permit the engine head to stick through. Mount a small metal strip on the underside of the cabin block, then drill and tap it to engage

the hold-down bolt. Once the interior work is finished, cut the nose ring to shape and cement it in place on the front of the model. Carve and sand the nose section to completed shape.

FINISHING: The model is painted with two coats of fuel-proof sanding sealer and is rubbed to a smooth finish. Three coats of Corsair Blue fuel-proof dope then are painted on, with light sanding between coats. Use colored dope or decals to put on the insignia. Our model uses a white star, with two horizontal white bars split by a red bar. There is one on either side of the fuselage and also on the upper right and lower left wing panels.

The celluloid cockpit is added last. This is put on in two pieces. If you desire, you can make two soft-wire forms and mount them in place, as shown on the cockpit side-view. Use care when assembling and try not to smear the cement.

The 1/4" landing gear wire can be covered with a piece of silver plastic tubing. This gives the appearance of a scale oleo strut. A four-bladed prop can be made by notching two 7" diameter/4" pitch propellers so that they mate at the prop shaft hole. Paint the prop black, with yellow tips.

FLYING: About this time, you'll be hooking up the lines or flipping the prop. There's little else we can say except, fly from a smooth field. Carrier models are not designed to take the beating of hand-launch flights and landings into high grass. Besides, you'll envy the slick lines and finish of this model too much to abuse it!

BILL OF MATERIALS

(Balsa unless otherwise specified)

2—1/4" x 3" x 36".....Wing
2—3/2" x 3" x 36".....Fuselage top, fuselage bottom, cowl, nose ring, searchlights
1—1/8" x 3" x 36".....Stabilizer, elevator, rudder, fin, auxiliary rudders, bulkhead
1—1/2" x 3/8" x 8" (hardwood).....Engine bearers

3/32" piano wire; 1/16" piano wire; plastic tubing; plywood; 1/16" plywood; soft wire; solder; ballcrank, elevator horn; grommets; 1 1/2" wheels; brass sheet; 4/40 bolts and nuts with washers; cement; sanding sealer; fuel-proof clear dope; fuel-proof Navy Blue dope; fuel-proof white dope; fuel-proof red dope; celluloid; cloth hinges; Fox .19 engine or similar; two 7" diameter/4" pitch propellers.

FRISCO KID

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Just use care in selecting your wood. The spars should be rock hard, the leading and trailing edges medium. The rib stock should be as light as possible, but do not use mushroom. Double-coat all joints and spar overlaps with cement. Tail skids are easily formed over over a gas flame.

FINISHING: We covered all parts with Jap tissue. If this is not available, silkspan will do nicely. We used three coats of nitrate and three of butyrate dope on the wing and stab. The fuselage should have at least four or five coats of fuel-proof dope or butyrate.

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Sorry - We Goofed!

Our apologies—some errors crept in to the FM Data Sheets #14 on Multi-Channel R/C Equipment, which ran last issue.

You file form "505" for a station license—not "550" . . . the Bonner escapement unit operates as follows: one control pulse always gives you right rudder, two pulses left rudder, and three pulses supply auxiliary control . . . and you plug headphones into the special phone-jack—not into the meter jack. Sorry!

THE EDITORS

FRISCO KID

(Continued from Page 28)

We've been painting our fuselages and rudders white lately because it gives a terrific reflection in the air. It also is easy to spot in the fields. And, if you want to keep that tissue from fading, just add about one ounce of colored dope to six ounces of clear. This will give your wings and tails a nice translucent effect which will look good for years. You can vary the amount of colored dope to suit your own taste.

DETHERMALIZER: The pop-up tail is the most effective way to bring your ship down. Important points to remember are:

1. Cement keys to locate your stabilizer.
2. Limit the amount of pop-up to 40°. In our neck of the woods, fuses are outlawed, due to the fire hazard. I use a Hillcrest timer, together with the mouse-trap release shown on the plan. An Austin or Elmic timer can also be used. The release will keep the tail of a DC-6 from popping off under power, but when the timer knob touches the trigger, off she goes.

You can use a fuse if you want to, but be sure to light it! I think a timer set-up is better, because you can't fly until you set the timer.

ADJUSTING AND FLYING: All versions of the "Frisco Kid," either ½A, A or B-C, have flown just about the same. Before flying, check ship for warps. We warped ¼" wash-in on the right wing panel. Everything else should be flat. Balance the model 75% back from the leading edge. Add a washer for down-thrust, but no side thrust. Sometimes the firewalls are a little out of line, so the amount of side-thrust will vary with each ship. Our ships usually end up with a degree or two left-thrust, plus the down-thrust.

Try a few hand glides—then you should be ready for power. Calm down, relax! Never test-fly more than four or five seconds on an engine run. With the engine running slow, the very first flight may be a little longer. If nothing radical shows up on the first flight, you can increase the power until the engine is running fast but not tuning. The ship should go into a right, climbing turn. If it goes straight up on this power, add more down-thrust.

After you have it going good with this medium-fast power, you can open it up, but keep the motor runs short until you are sure of it. With a tight right turn, add a little left thrust or a touch of the rudder tab.

While all this is going on, don't forget about the glide. If it turns naturally to the right or left, leave it go that way. Never fight a natural turn. If you have to add more turn to the glide circle, you can do it with a drag tab on the wing, or by tilting the stabilizer. The high side of the stab points to the direction of the turn. Never put

too much weight on a wing tab—it will spin you in.

Most fellows have their own ideas on adjusting. The important thing to remember is to use common sense—and don't rush things! Lots of luck!

BILL OF MATERIALS

(Balsa unless otherwise specified)

- 1—3/8" x 1" x 36".....Pylon
 - 2—3/16" x 5/16" x 36" (medium).....Wing leading edge
 - 1—1/4" x 1/4" x 36".....Stab leading edge
 - 2—1/4" x 1/2" x 36" (rock hard).....Wing spars
 - 1—1/4" x 3/4" x 36".....Wing, stab tips
 - 4—1/4" x 1" x 36" (medium).....Trailing edges, bulkhead reinforcements
 - 5—3/32" x 2" x 36".....Wing ribs, fuselage top
 - 3—1/8" x 3" x 36".....Fuselage sides, bulkheads, rudder
 - 2—1/16" x 2" x 36".....Tail ribs, fuselage bottom
- 3/16" x 2" x 2 1/2" plywood for firewall; 1/16" x 2" x 3" balsa for landing gear; 2" wheel; 3/32" wire; .051" aluminum plate; bamboo; 1/4" x 3/8" x 12" hardwood; 1/8" x 1/2" x 4" hardwood; shut-off timer; dethermalizer timer; Jap Hesse; Dope, Cement; Gas tank; Torp "15" engine, of similar type.

COMBAT QUEEN

(Continued from Page 40)

Aircraft Corporation, and one of the outstanding modelers of the St. Louis area. Without Bill's willing and competent counsel and assistance, my later success would not have materialized.

An act of kindness on the part of Mr. Hank Waimer, District Sales Manager for the Plymouth Corporation, also did much to encourage me as a modeler. He called me one day and advised that Missouri had not used up its contestant quota for the 6th International, and that he would like to recommend me for an invitation as a contestant. Having seen Gary and me flying together at several contests, he reasoned that I would be going to Detroit with Gary and Dad anyway, and that it would be much more fun if I went as a contestant. I was thrilled to receive the invitation later.

Although I failed to place among the high ten in any event, I consider the week at the 6th International as the turning point of my flying career. Whereas I went to Detroit an interested flier, I returned a modeler inspired with the determination to learn to build and fly like the champions I had seen!

Before school started that fall, we moved to Kirkwood, Missouri, where we joined two model clubs: a Plymouth "Pal" club, and a control-line flying club. Much can be gained from club membership. The PAL Club was headed by Don White and Mike Gillen, and sponsored by Ray Rixman Plymouth, Inc. Bill Netzeband was president of the control-line flying club. We learned much at the instruction and discussion periods held by these clubs, and from the advice and assistance of the older members.

The following months were busy ones—building, flying, wrecking, and rebuilding. Weather permitting, we flew every weekend—right through the winter. Sunday afternoon the gang would be out—even when it was 30°

I ran into one difficulty that proved (Please turn to Page 46)

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