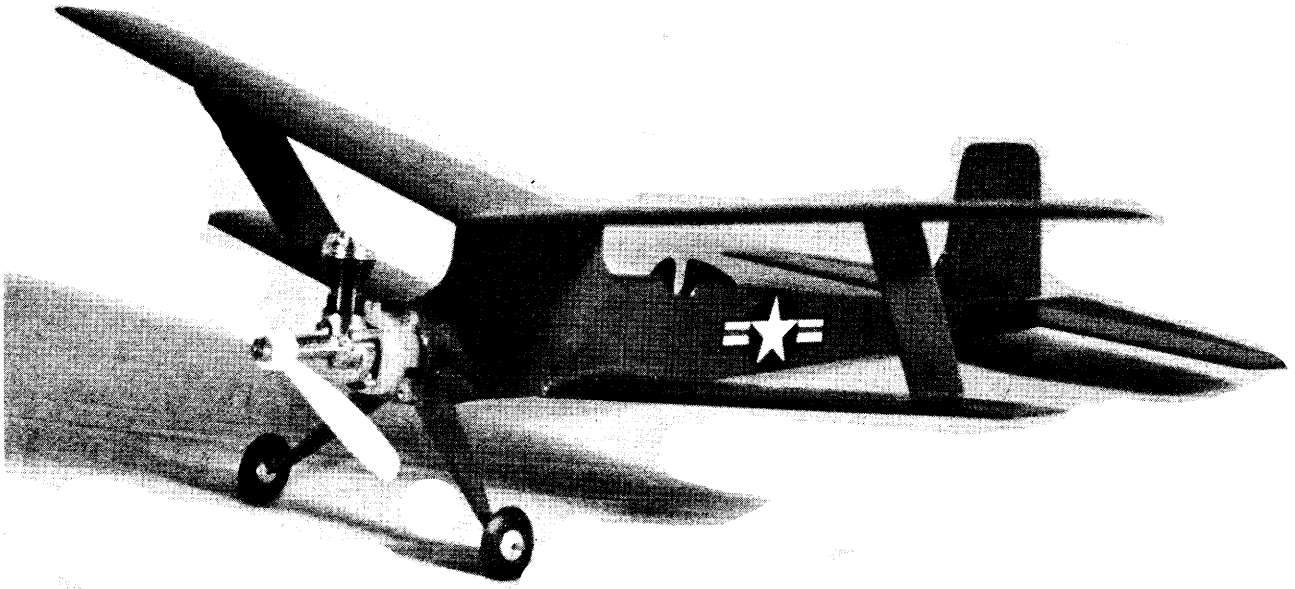

Take some sheet balsa, an inexpensive .049 engine, and a few evenings of spare time — follow the plans herewith — adjust the completed model as indicated — and you've got yourself the makings for hours of fine flying. Best of all, your "Cupcake" can be flown safely from small fields.

"CUPCAKE"

by J. Richards

Here's a bipe that's simple to construct, low in cost, high in performance, and ideal for carefree weekend sport flying.

● Looking for a realistic, semi-scale, easy-to-build sport model? One which you can fly safely from a small field? A model bipe which will give you snappy R.O.G. take-offs and realistic landings?

Then get busy—our ½A free-flight "Cupcake" is made entirely from sheet balsa and can be completed easily in only a few evenings of spare time. Plans are shown half-size—just double all dimensions to scale up to full size.

FUSELAGE: Cut the fuselage and pylon from ¼" medium-hard sheet balsa. The pylon is butt-joined to the body, and cemented securely.

Then, the firewall former is traced from the plan pattern onto ⅛" plywood. Cut it out with a coping saw or sharp knife, sandpaper the edges square and smooth, and drill four $\frac{3}{32}$" holes for the engine-mounting bolts. If an engine other than the .049 Space Bug Jr. is used, different mounting holes must be drilled.

Now, drill the $\frac{5}{16}$" central hole for the air intake, and groove the firewall to receive the landing gear. The firewall is then butt-jointed to the fuselage and securely cemented in position.

After the firewall-body joint is thoroughly dry, extend the central air intake passage by drilling a $\frac{5}{16}$" hole ⅜" deep into the balsa fuselage. Then bend the landing gear from $\frac{1}{16}$" music wire, and install it in the firewall groove, cementing it liberally around the all wire-to-wood joints.

Let the landing gear joint harden, and then mount the engine, bolting it securely to the firewall. Apply cement generously around the retaining nuts at the back of the firewall.

Soft balsa cowl "cheeks" are now carved from scrap balsa, and cemented in position on each side of the fuselage. Drill an air tunnel in the left "cheek," making sure the hole meets the original air-intake tunnel at a right angle.

The tail skid is formed from $\frac{1}{16}$" sheet balsa and cemented in place. Cut the landing gear struts from $\frac{1}{16}$" sheet balsa and join them to the wire gear. The struts must be aligned parallel to the line of flight. The entire fuselage is then sanded, rounding the corners to a semi-streamline cross-section.

WINGS: Both upper and lower wings are cut from one sheet of ¼" x 3" x 36" medium balsa. Carefully carve and sandpaper the wings to the airfoil shape shown on the sideview in the plans. Cut the center joints and cement for required dihedral. Allow dihedral joints to dry thoroughly, then cement wings in position on the fuselage.

The incidence settings must be correct for successful flights. The lower wing is set at 1° positive, the upper wing at 3° positive.

The wing struts are then cut from $\frac{1}{16}$" sheet balsa. Cement them in place, aligning them parallel to the line of flight.

TAIL: Cut the stabilizer and rudder from ⅛" medium sheet balsa and sand to the airfoil shape indicated in solid black on the plans. Then, cement soft wire hinges at trailing edges of both fin and stab to keep flight adjustments in position.

Next, cement the stabilizer in place on the body, checking so that the incidence setting is 0°. After the stabilizer has dried in place, add the rudder and dorsal fin and cement in place.

FINISHING: Sand the entire model with a fine grade of sandpaper. Brush on several coats of sealer, sanding after each coat. To follow our original color scheme, dope the entire model light blue, with a black cockpit, windshield and headrest. Add decals after the colored dope has dried. Finally, brush on a good grade of fuelproof dope. After the dope has dried, install the wheels on the landing gear.

FLYING: Select a calm day for first flights. Your model should balance at a point ½" forward of the trailing edge at the upper wing root. Facing into the wind, hand-glide the ship to check adjustments. Warp the elevators up to correct a dive, down to correct a stall.

For your first power flight, put the propeller on backwards and run your engine at low speed. The engine run should be kept short by limiting the fuel supply. Your "Cupcake" should climb gradually to the left, and glide to the right. Add thrust adjustments, if needed, by "shimming" between firewall and engine.

When all adjustments have been made, put the prop on correctly and gradually increase power. Under "full revs," the climb should be fast and snappy. After the engine cuts off, your model should recover smoothly into a flat, fast glide, setting down finally in a realistic three-point

(Please turn to Page 46)

HOBBY SWAP SHOP

Only non-commercial advertisements are acceptable and all are subject to the approval of the publishers. Rate is 5c a word payable in advance with order. All ads must indicate condition of merchandise being offered.

Your ad must show your own name and address—no correspondence can be handled by FLYING MODELS.

Advertisements received by May 15th will run in the August, 1954, issue (on sale July 10th).

No "For Sale" advertisements will be accepted—only "Wanted" or "Swap" advertising.

SWAP

WILL SWAP for the following values in R/C and miscellaneous model plane supplies: Excellent Aristrol Transmitter with batteries plus Aristrol Receiver, $42.00; 26" Mahogany boat with excellent McCoy 29—ready to run, $15.00; Two excellent Good Brothers escapements $8.00 each; new E. D. escapement, $4.00; good Burgess Sprayer, $5.00; new McCoy 19 ignition, $8.00; excellent O & R 60 plus coil, condenser and rotary valve, crankshaft, etc., $15.00; excellent Forster 31, $8.00. Following complete Kits: Cleveland Luscombe Sedan, $6.00; Cleveland Playboy 70", $5.00; Zipper B, $5.00; Super Yogi, $2.00; practically finished indestructible fibre plane—original cost $19.50, value $8.00. Write Clyde Wealand, Adamstown, Penna.

DYNAJET wanted, or even Minijet, M.E.W. 307. Good or bad. State condition, price. Bob Hall, 5070 Winton Road, Hamilton, Ohio.

WILL TRADE brand new Cub Diesel .075 for Atwood 051. Bill Imig, 714 Ridgewood, Omaha, Nebraska.

SWAP 4 Brand New English Diesels; 2 E. D. Baby; 1 Elfin .50; 1 Elfin 1.49; plus "Powavan" FF Kit; for 3 New FOX 35 Motors. A. Schaefer, 11707 Saywell Avenue, Cleveland 8, Ohio.

WANTED

WANTED: VIKING identification metal model boats—German made—scale 1:1250 Inches; especially want harbor set. Send list, condition for prices. Also want certain Navy identification models, student size. List for 3c stamp. D. Schroth, P. O. Box 91, Blue Island, Ill.

TOY TRAINS made before 1925. Dr. Kowal, 1846 Cullerton, Chicago.

WANTED Fox "35" in very good condition. Will trade complete thimble-drone race car. Engine is new and is not broken in. David Lake, 210 River Road, South Pottstown, Penna.

● ARISTO-CRAFT MINIATURES (Newark 5, N. J.) now offer E. D. Aristrol 3-Channel R/C equipment for use in model boats such as Sterling's "Catalina." Three separate controls are used: rudder, motor and full reverse. All controls are proportional, with the operator applying just the degree of control desired. Range exceeds 1½ miles, according to the manufacturer. This equipment less batteries, for 27¼ mc., costs $115.

THE MAIL BAG

● FRED SCHRUL of Hopkins Road, Getzville, N.Y., writes to ask for names of companies that manufacture radio-control model planes. We're sorry to say that complete ready-to-fly R/C model planes are not available as yet. So, in answer to Fred, we are listing some of the current manufacturers of R/C model plane kits:

Paul K. Guillow (Wakefield, Mass.), The deBolt Engineering Co. (Williamsville, N.Y.), Berkeley Model Supplies (West Hempstead, N.Y.), Sterling Models (Philadelphia, Pa.), Junior Aeronautical Supply Co., (N.Y.C.), R/C Models Co. (N.Y.C.) and Kenhi Products (Burbank, Cal.).

R/C has come a long way in the past few years, as you can see by this lengthy list. Check with this column for highlights on new models in the future. We'll run the latest news on R/C models as soon as we hear about them.

CLUB NEWS

● Secretary JERRY SMIESKA of the MILWAUKEE FLYING ELECTRONS writes about the many activities of the club's thirty-one members. They've been flying everything from a "Live-Wire Kitten" with a North American two-tuber, up to a 7-foot Cub Cruiser with a three-channel Rockwood audio-tone set. The Cub has a new actuator aboard for rudder control, which will soon be marketed by FRANK ADAMS.

Two of the members are experimenting with audio equipment, and—a hint to you experimenters—they are trying Hammond Organ audio chokes to work up a six-channel set. More information about the club can be had from Jerry, whose address is 2100 E. Webster Pl., Milwaukee, Wisc.

● The INTERNATIONAL RADIO-CONTROLLED MODELS SOCIETY announces that its Annual International Contests For R/C Models will be held in Birmingham, England, July 10th & 11th.

Events for r/c model boats will be held on Saturday, July 10th—events for r/c model airplanes on Sunday, July 11th. F.A.I. rules apply to airplane events.

If interested in entering, write to: Hon. Contest Publicity Secy. H. CROUCHER, 27 St. Johns Road, Sparkhill, Birmingham 11, England.

● More club news—this time from the RADIO CONTROL CLUB of Detroit. Club secretary E. S. KRATZET has sent us advance notice of this club's Second Annual Great Lakes Region R/C Meet, to be held this summer.

In addition to an excellent flying field, an interesting feature for all beginners is the double entry list. One group will consist of experienced fliers who have won contests previously. The other is called the Novice group, and is open to all beginners and those with limited contest experience. We like this idea, and we hope that all of you in the area will get out there and fly. At least you don't have to worry about the experts running away with all of the prizes.

Speaking of prizes, there will be plenty of them for both groups. A beautiful perpetual trophy is the big prize of the fray.

If you're anxious about the complete dope on the meet, as well as the club's future activities, drop a line to the club at 1112 Book Building, Detroit, Mich.

Whether you build planes or model boats, drop us a line with your R/C news or problems. Let us hear about the latest goings-on in your area, what your club is doing, future plans for contests, etc. Don't stand by, like a dead battery—shoot your letters in to: R/C Channel Chatter, Phil Greenberg, c/o FLYING MODELS, 215 Fourth Ave., N. Y. 3, N. Y.

Remember, FLYING MODELS pays up to $5.00, on publication, for clear, glossy pictures of model builders in action. Why not send in a few for us to look at?

WHAT'S YOUR PROBLEM?

(*Continued from Page 34*)

engine of excess fuel, and start over again with a new valve setting.

After getting the engine started, it might run for a brief period then pick up speed and quit. If this happens the engine is being "starved" or the needle-valve setting is too "lean." Should this happen, open the valve some more to let in more fuel, then try it again until you learn the proper setting for keeping the engine running after starting.

Sometimes after getting the engine started it will sputter and quit after running briefly. Chances are the engine is getting more fuel than it can use, or the needle-valve setting is too "rich." If this happens, close the valve some, and go easy on the prime. When adjusting the needle-valve while the engine is running, give the engine a chance to react to the adjustment before turning the valve too much one way or the other.

Try to remember what you do each time you run the engine, and the results you get, until you learn its characteristics under various conditions.

Glow-engines usually start more easily in warm weather than in cold weather. In cold weather your batteries and plugs should be in top condition, and you should use the best fuel available.

Finally, don't tamper with your engine. Don't take it apart to see what makes it run, or to try to find the reason for your difficulty in starting. Rather, if you can't get it started, try to get someone who is experienced to help you. If this fails, take it back to the dealer. He will either help you get it started or send it back to the manufacturer.

"CUPCAKE"

(*Continued from Page 12*)

landing. For R.O.G. take-offs, use smooth level ground and release the ship directly into the wind for best results.

BILL OF MATERIALS
(Balsa unless otherwise specified)

1—¼" x 3" x 36" (medium)	Wings
1—¼" x 2" x 36" (medium-hard)	Fuselage
1—⅛" x 3" x 36" (medium)	Tail
1—⅛" x 2" x 2" (plywood)	Firewall
1—1/16" x 1" x 18" (medium-hard)	Landing gear and wire struts

1/16" music wire; 2 K&B 1" wheels; soft balsa for cowl "cheeks"; color dope; fuelproof dope; cement, decals, .049 Space Bug Jr. or similar engine.