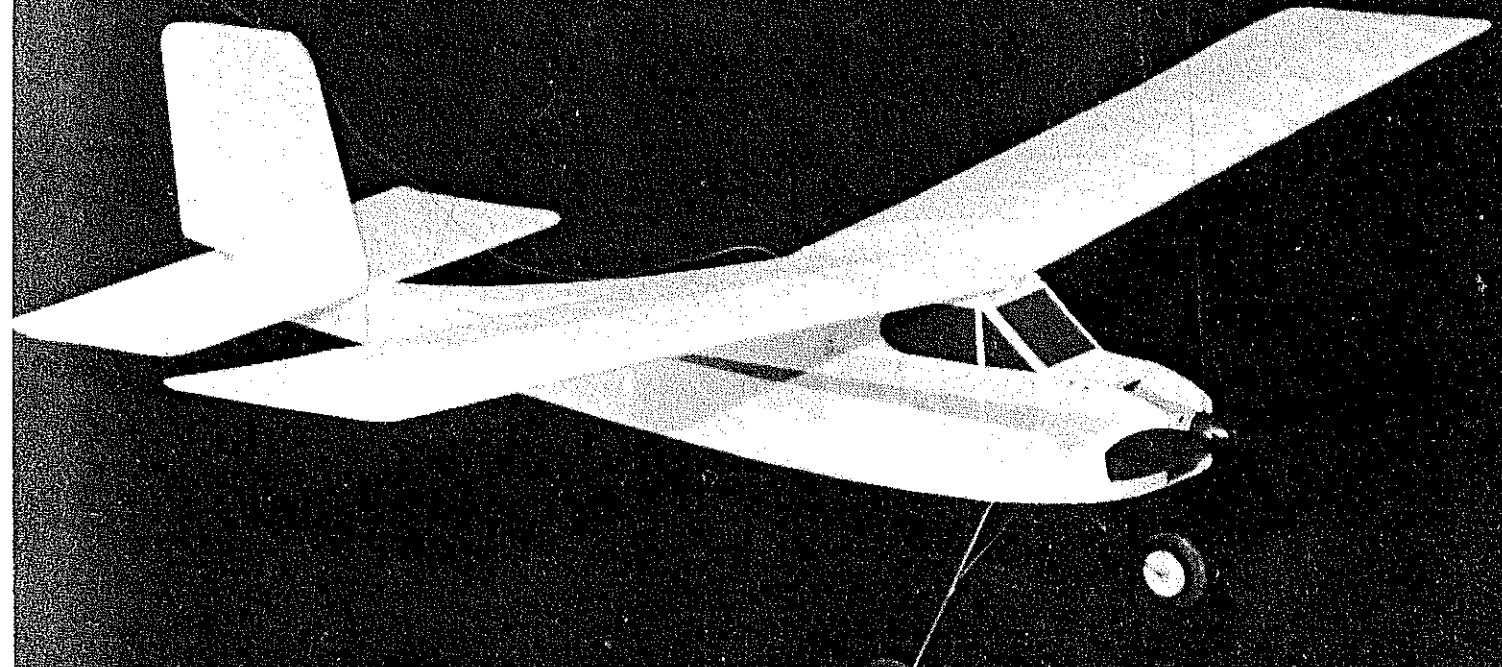


09-50



INSIDER

An electric-powered RC model designed expressly for flying indoors.

■ **Leo Vartanian**

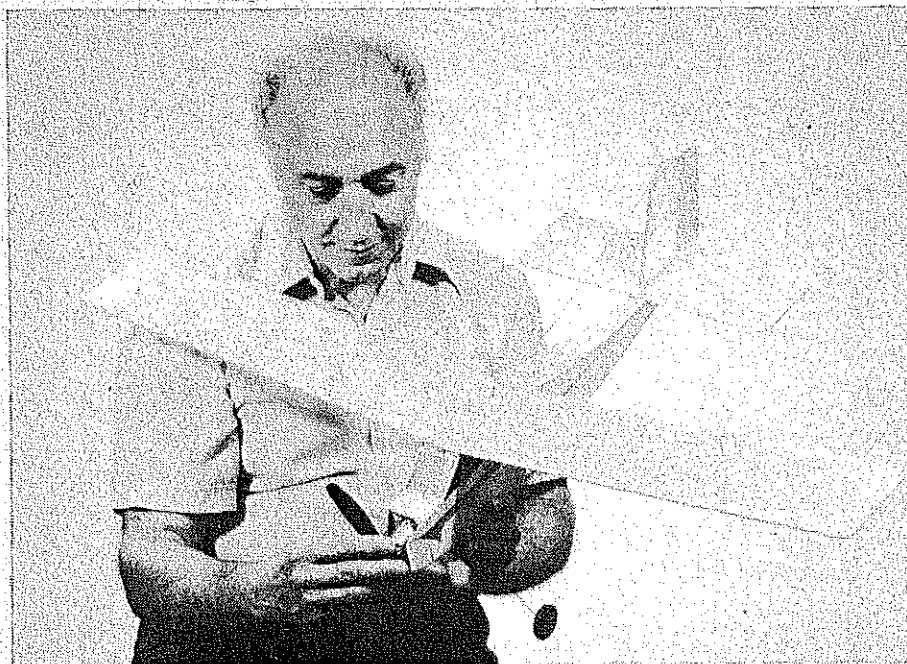
THE IDEA of flying indoor RC has been on my modeling program ever since I read an article in *Model Aviation*, two or three years ago, describing a CO₂ powered Taylorcraft with Cannon radio.

Having neither a CO₂ engine at the time, or a super mini-radio, I decided it would all have to wait. Then, one day, I saw a Mattel electric-powered foam model in a hobby store. That, plus the new VL Products flight systems, and the various electric power articles, got me on track. I did have a couple of single-channel pulse radio systems around; so I decided to try a pulse-rudder Electric-powered model.

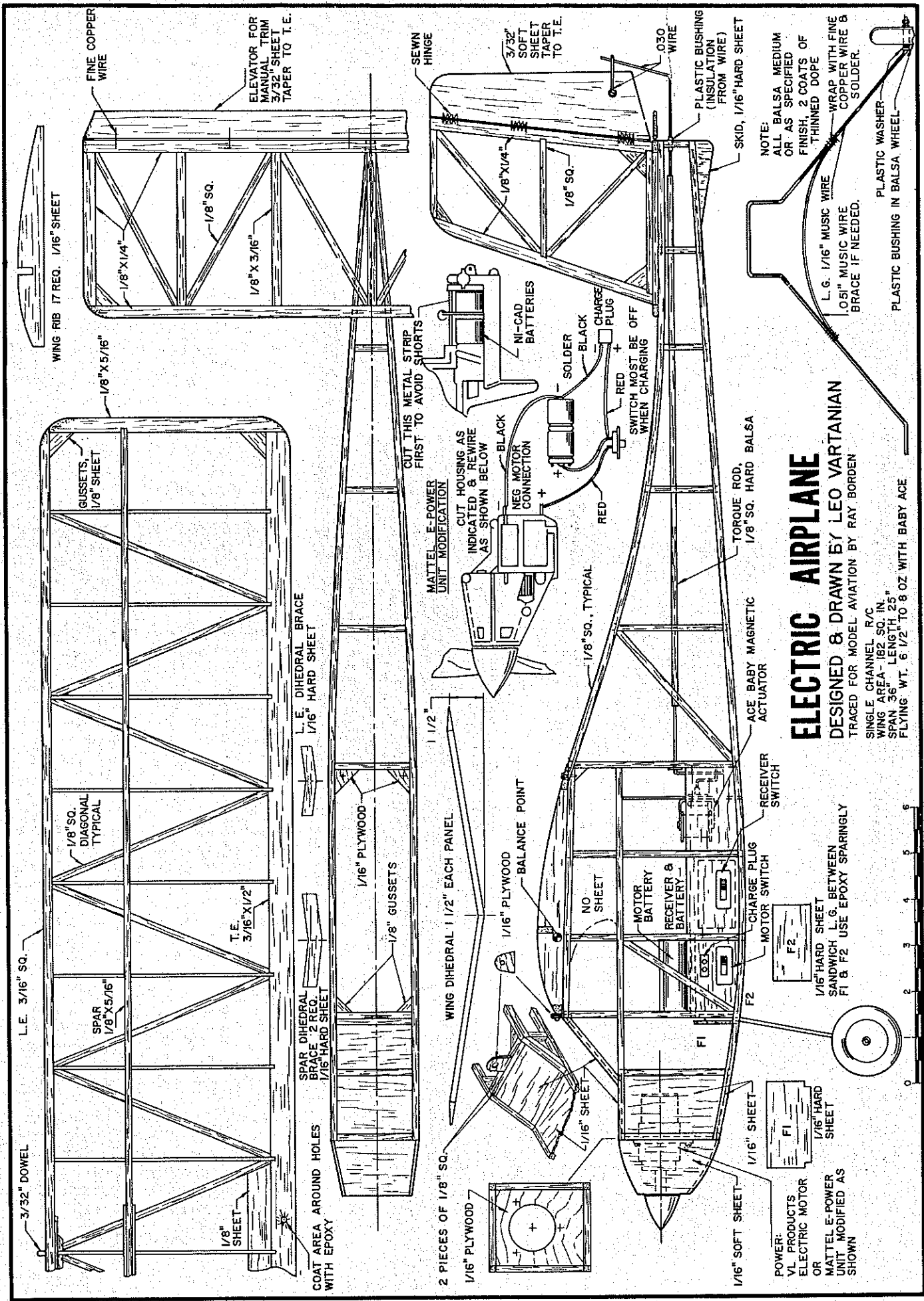
The results have been gratifying, especially during the winter months. When the snow and wind do away with outdoor flying, you can fly indoors as comfy as can be. I flew the prototype during the winter of '76-'77 at the Madison Street Armory in Chicago, on days when the Chicago Aero-nuts or other clubs were having contests. Of course, I always cleared it with the C.D., to keep out of the contestants' way.

This little (36-in. span) model is very easy to build. It poses no problems for anyone with a little modeling experience. There are no curved tips or complex struc-

tural features. It's just an easy plane to build and it's a lot of fun to fly. I'm quite sure it would fly free flight as well as RC, so if you don't have a radio of the kind



Top: For a boxy design, the Insider is strangely attractive, could easily be scaled up for REM, gas as well as electric, for low-key sport flying. Above: Leo seems to be looking kindly on a model that has given him much pleasure. Because it is quiet he also flies it in city parks.

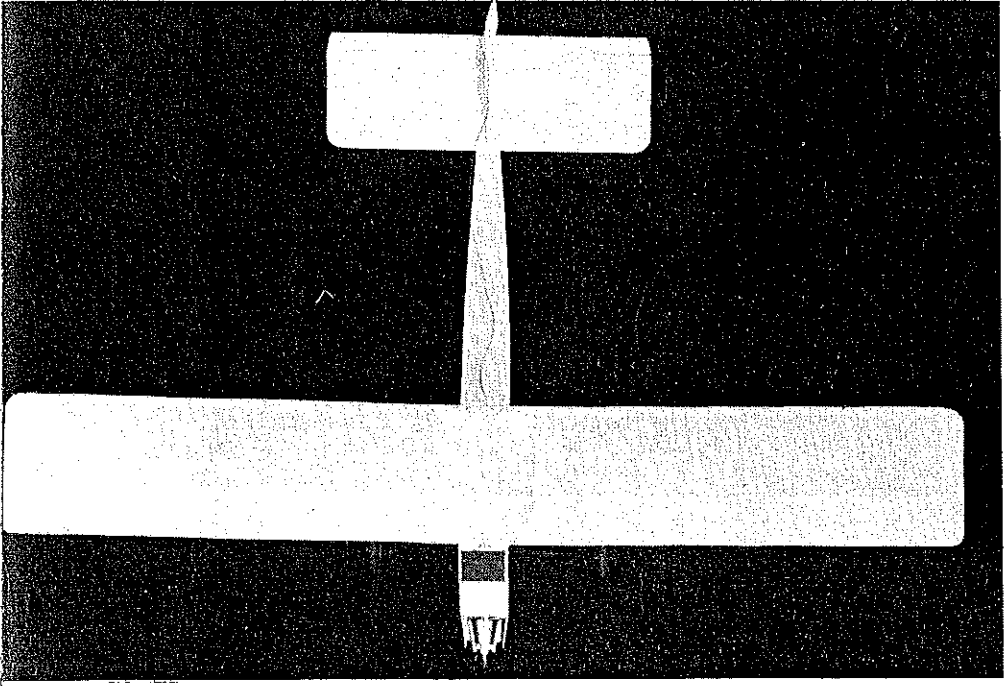


ELECTRIC AIRPLANE

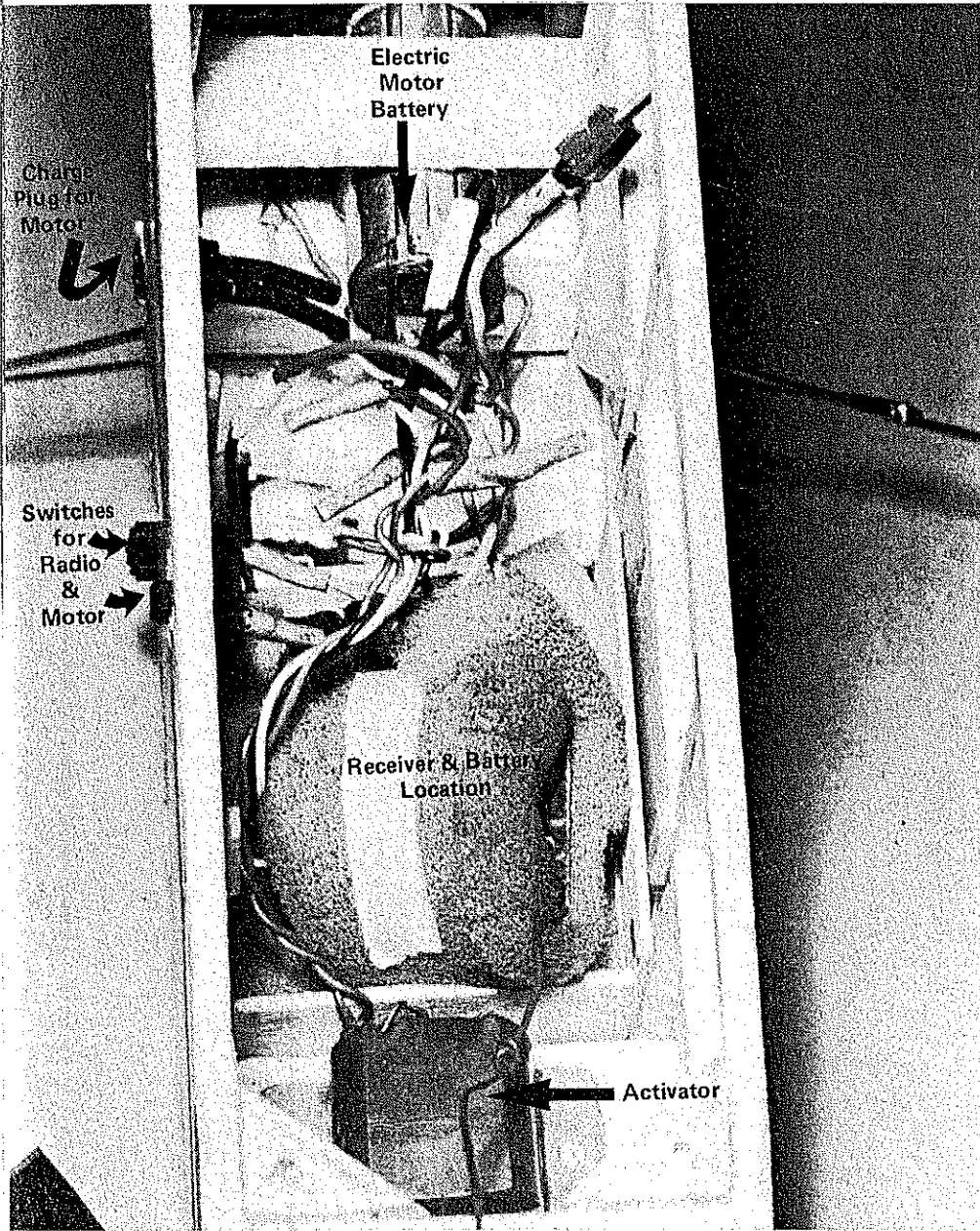
DESIGNED & DRAWN BY LEO VARTANIAN
 TRACED FOR MODEL AVIATION BY RAY BORDEN

SINGLE CHANNEL R/C
 WING AREA - 182 SQ. IN.
 SPAN 36" LENGTH 25"
 FLYING WT. 6 1/2" TO 8 OZ. WITH BABY ACE

FULL-SIZE PLANS AVAILABLE . . . SEE PAGE 104



Straight lines make for rapid building. Note use of diagonals which militates against any warps.



From top to bottom: VK or Mattel motor (latter shown), Ace receiver and Baby Actuator. The pigtails suggest Leo is a repressed electrician, but don't knock it—he's had a ball flying it.

needed, fly it free flight. Just make sure the rudder is pinned on in the same manner as the adjustable elevator.

Radio equipment recommended is the Ace R/C Baby pulse-rudder system. I also have used an old Testors' receiver or an old Albin receiver/actuator. They all seem to work well. The Ace system is best, I think, because of its light weight, and the fact that it comes ready to use.

For propulsion, the VL systems electric units are perfect. If you choose the VL systems; I recommend the Flite System with the 32BL battery, because it will run the motor about 50 seconds or a minute. That's a long time flying around inside an armory, but it's fun!

I include a couple of sketches on the plan, showing how to modify a Mattel E-power electric unit, if available; it works well when modified properly. Weight is important in a model of this type, so go easy on glue and finish. After all, there's no fuel goo or fuelproofing to worry about.

Construction is straight forward, just built it straight and true. Covering is Japanese tissue, with two coats of thinned butyrate dope. Make sure all of the balsa is of the grade specified on the plans. Balsa wheels can be bought in most hobby shops, or you can make your own by laminating 1/4-in. sheet. Don't you forget to put a plastic bushing in the wheel axle hole.

Flying: When you've finished the model, balance it at the point shown on the plans. The nose should point down slightly when the model is supported at the C.G. point. To balance the plane, I suggest mounting the motor in the nose, but leaving the battery and switch loose. Now put the battery in the area designated on the plan. On my model the radio battery was placed just ahead of the receiver, with the actuator up close behind the receiver. You may have to rearrange these components to fit your individual model. Try not to add ballast to trim out the ship because the overall weight is important. All-up flying weight should not exceed eight to nine ounces. Mine ended up at six and a half ounces.

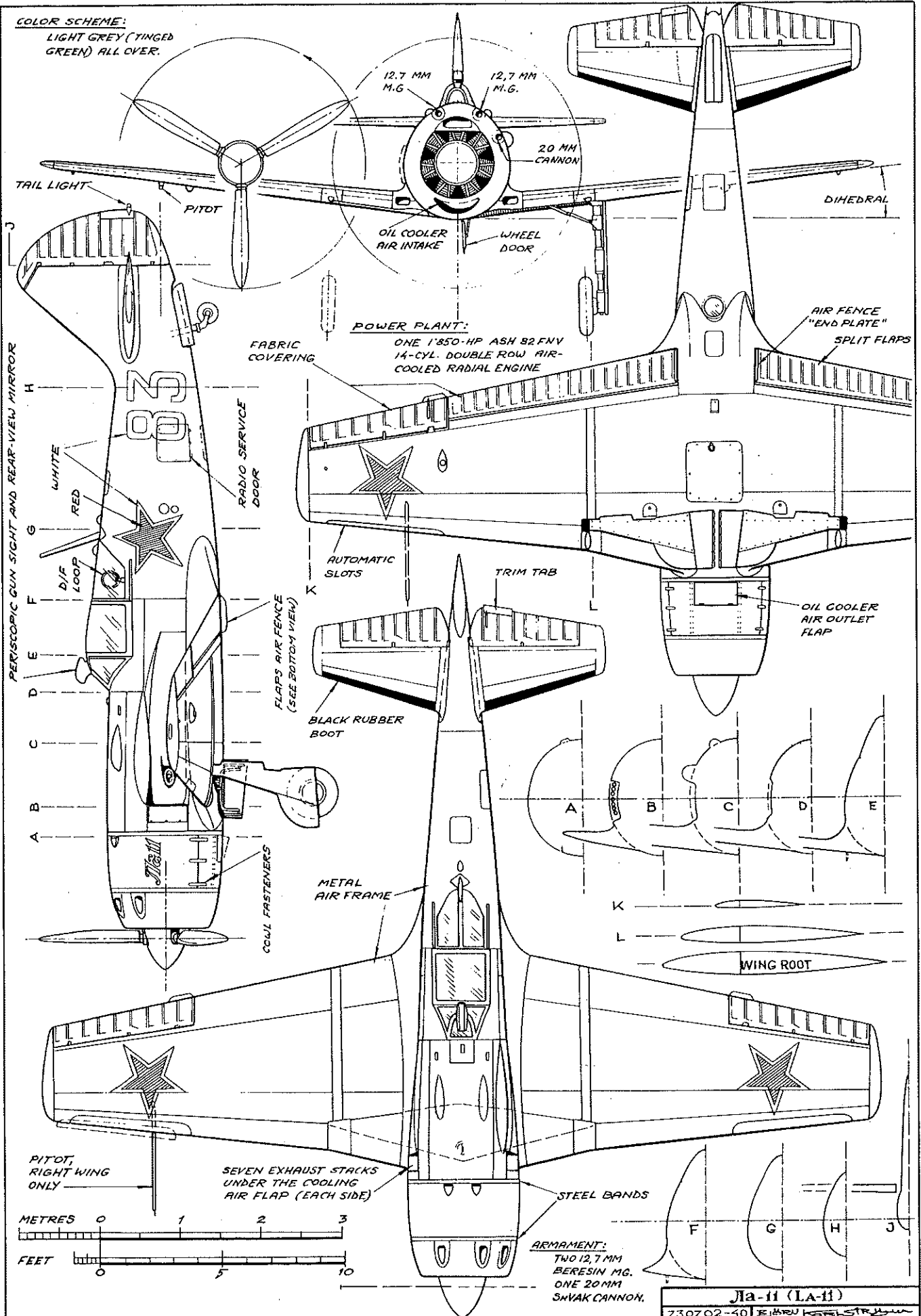
Once you have your installation finished, check to make sure left is left, and right is right, on your controls. I test flew my model indoors, letting it take off from a smooth floor with just enough of a charge in the electric motor to get it airborne. After I was sure everything was okay, I gave it a full charge, and it flew just fine with only a bit of up trim needed in the elevator.

You also can test-fly it outdoors on a calm day by hand launching it over high grass, gently launching it straight ahead, watching to see if trim is needed.

One of the advantages of electric power is that you can go to the local park or schoolyard and fly your model without making the noise that most people object to. I hope you have as much fun and enjoyment building and flying this model as I did.

COLOR SCHEME:

LIGHT GREY (TINGED GREEN) ALL OVER.



TAIL LIGHT

PITOT

12.7 MM M.G.

12.7 MM M.G.

20 MM CANNON

OIL COOLER AIR INTAKE

WHEEL DOOR

DIHEDRAL

POWER PLANT:

ONE 1850-HP ASH 82 FNV
14-CYL. DOUBLE ROW AIR-COOLED RADIAL ENGINE

FABRIC COVERING

AIR FENCE "END PLATE"

SPLIT FLAPS

PERISCOPE GUN SIGHT AND REAR-VIEW MIRROR

H
G
F
E
D
C
B
A

WHITE

RED

RADIO SERVICE DOOR

D/F LOOP

AUTOMATIC SLOTS

TRIM TAB

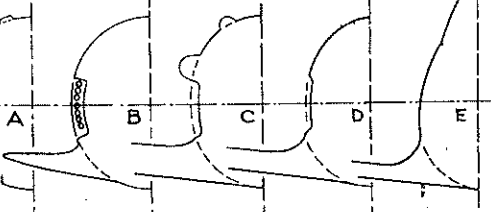
FLAPS AIR FENCE (SEE BOTTOM VIEW)

BLACK RUBBER BOOT

OIL COOLER AIR OUTLET FLAP

COUL FASTENERS

METAL AIR FRAME



K

L

WING ROOT

PITOT, RIGHT WING ONLY

SEVEN EXHAUST STACKS UNDER THE COOLING AIR FLAP (EACH SIDE)

STEEL BANDS



ARMAMENT:
TWO 12.7 MM BERESIN M.G.
ONE 20 MM SHVAK CANNON.

Ja-11 (LA-11)

730702-40 REIMU KHELSTROM