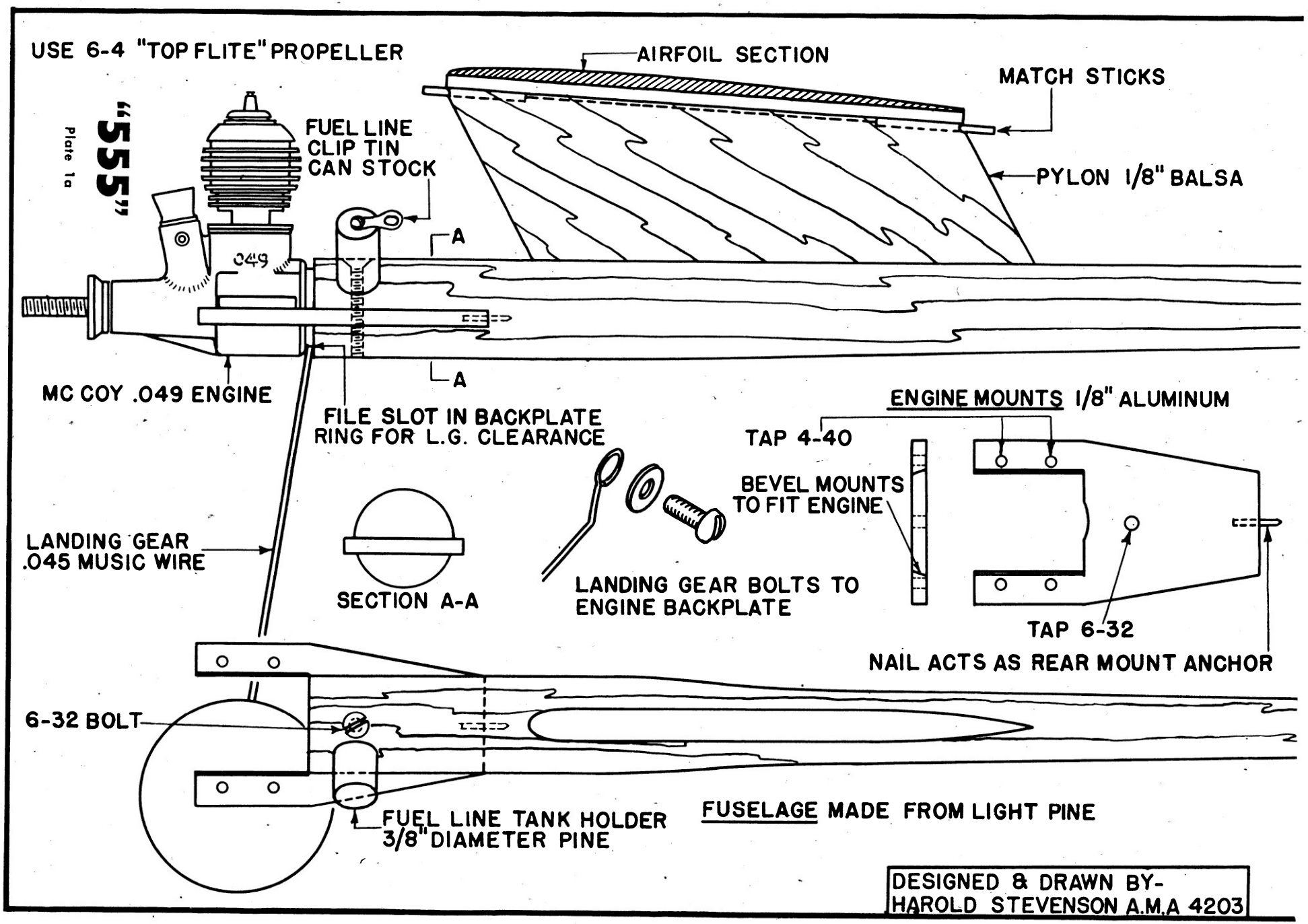
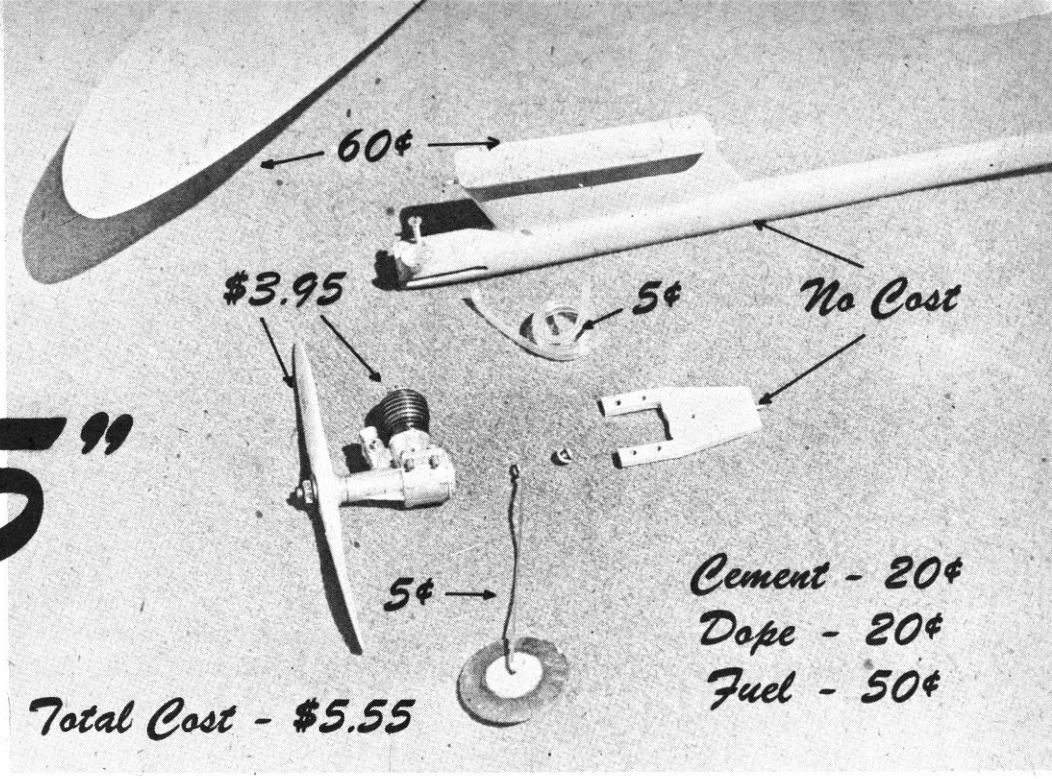

USE 6-4 "TOP FLITE" PROPELLER
AIRFOIL SECTION
MATCH STICKS
PYLON 1/8" BALSA
FUEL LINE CLIP TIN CAN STOCK
"55"
Plate 1a
049
A
A
MC COY .049 ENGINE
FILE SLOT IN BACKPLATE RING FOR L.G. CLEARANCE
ENGINE MOUNTS 1/8" ALUMINUM
TAP 4-40
BEVEL MOUNTS TO FIT ENGINE
LANDING GEAR .045 MUSIC WIRE
SECTION A-A
LANDING GEAR BOLTS TO ENGINE BACKPLATE
TAP 6-32
NAIL ACTS AS REAR MOUNT ANCHOR
6-32 BOLT
FUEL LINE TANK HOLDER 3/8" DIAMETER PINE
FUSELAGE MADE FROM LIGHT PINE
DESIGNED & DRAWN BY-
HAROLD STEVENSON A.M.A 4203

# "555"




**For less than six bucks you can build this ½A-powered Free-flight model that's rugged, dependable and fast**

**by Harold Stevenson**

● Old veteran free-flighters, please take a back seat! The "555" is strictly for newcomers. Of course, if the old-timers want to tag along and build a ship that is inexpensive, flys like "mad" and is just plain fun, they are welcome too.

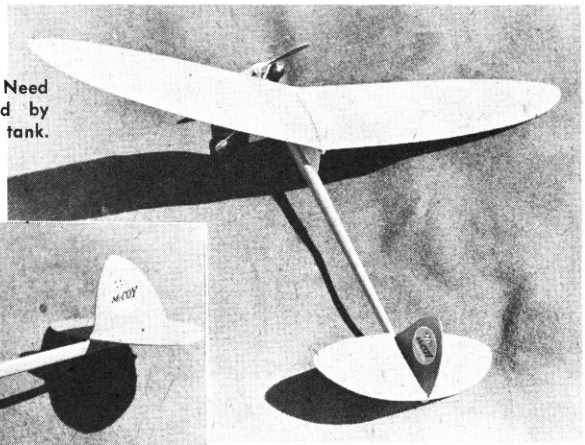
The "555" derives its name from it's cost. This model cost exactly $5.55 to build and fly! This includes everything —fuel, prop, cement, dope, engine, etc. The model was designed with this low cost in mind. True, a smaller and less expensive model could be built, but it was decided not to sacrifice performance just to cut cost to a bare minimum.

The ship looks and acts like a regular contest-type free-flight and so makes an excellent trainer for the youngster without denting his allowance too badly. All the tricks of adjustment may be experimented with on this model, giving the tyro a good basic working knowledge of the flight characteristics of free-flying models. When he graduates into the larger high performance ships this knowledge will be invaluable.

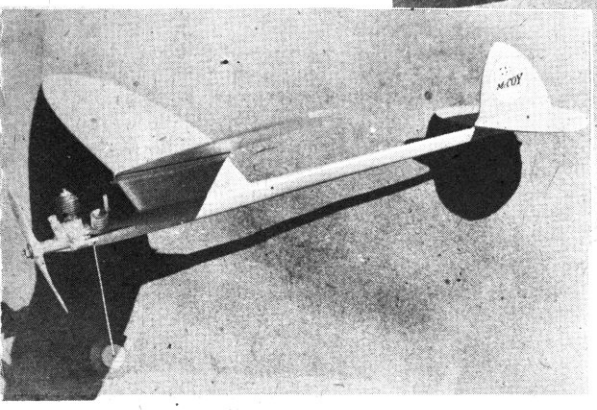
A few years back, a ship like this would have been impossible at this low cost, but with the advent of small low-priced engines, efficient and inexpensive models may be built. The "555" uses a McCoy .049 which retails at $3.95. This is the most expensive item on the bill of materials. With but two exceptions, all materials were bought at a hobby shop. There were no discounts or "breaks" in prices. Note the list and cost of everything you need to build and fly the "555."

The cost of the fuselage and engine mounts is listed as zero. The mounts are made from a 2½" x 1¼" piece of ⅛" aluminum which may be obtained from your local hardware store who has a "do-it-yourself" aluminum display. He usually has many pieces of scrap lying around which he can give you at no cost. The fuselage is made from a piece of pine ¾" x ¾" x 18½" which you can probably find around your own house. Failing that, a local lumber yard or cabinet maker will have plenty of waste pine that will just fit the bill.

Now that everything is bought, and paid for, let's start building. If you have ever built a handlaunch glider, you will have little trouble with the "555."



The "555" is a sleek pylon model. Need for a flight timer is eliminated by using plastic tubing for a fuel tank.

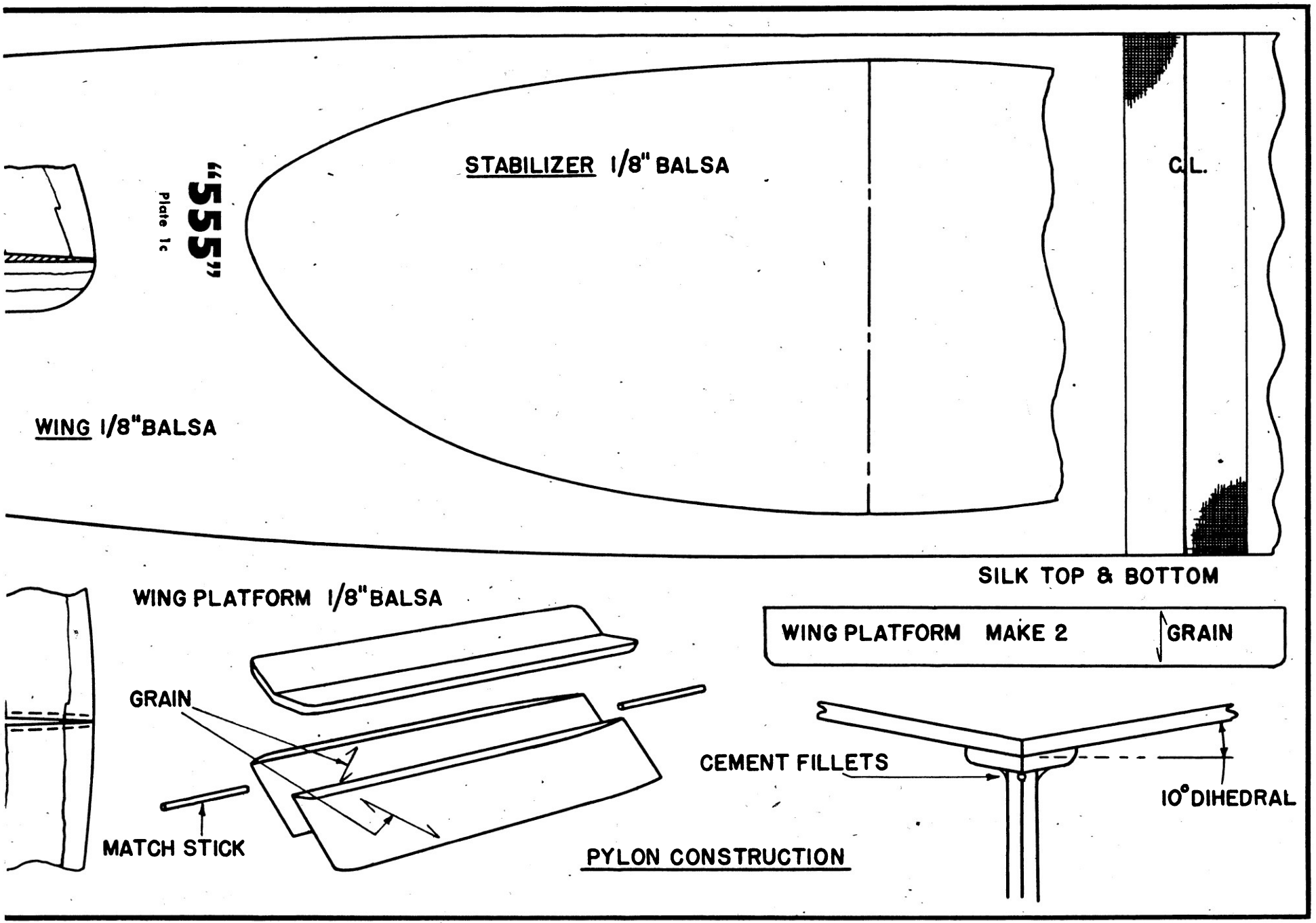


This little ship fills all the needs of the sport flyer. It is strong, flies well and can be built in a short time.

**FUSELAGE:** Start by cutting out the engine mounts from the ⅛" aluminum and drill and tap the holes as indicated on the full-size plans. Insert a length of nail in the rear of the mounts. This is force-fitted and acts as the rear anchor of the mount. Now, bend and form the landing gear from .045" music wire and bolt it, with a 4-40 bolt, to the back plate of the engine. Don't forget to file a small groove in the bottom of the back-plate ring to anchor the landing gear. Construct the wheel from ⅛" balsa sheet as shown, being sure the two pieces have their grain at 90° to each other.

(*Please turn to Page* 35)

CEMENT
BEAD
GRAIN
WHEEL CONSTRUCTION
1/8" BALSA
B
B
"555"
Plate 1b
SECTION B-B
RUDDER
1/8" BALSA


"555"
Plate 1c
STABILIZER 1/8" BALSA
C.L.
WING 1/8"BALSA
SILK TOP & BOTTOM
WING PLATFORM 1/8"BALSA
WING PLATFORM MAKE 2
GRAIN
GRAIN
MATCH STICK
CEMENT FILLETS
10° DIHEDRAL
PYLON CONSTRUCTION

# "555"

(*Continued from Page 19*)

Now, cut the fuselage block to length and carve it as shown. Cut a snug-fitting slot to receive the engine mounts as indicated. Carefully line up the mount and drive it straight to the bottom of the slot in the fuselage to insure correct alignment and centering of the nail point in the bottom of the slot. Now, drill through and tap for the 6-32 mounting bolt. Counter-sink the head. Next, carve the fuel-line-tank holder to a cylindrical shape and secure it in position. Cut out the fuel-line clip and fasten it to the tank holder with a small wood screw as shown. The fuel-line tank should now be cut to a length of about 8½" or 9". Use the small-size transparent plastic tubing wound around the tank holder in spiral fashion. Insert it in the fuel-line clip allowing an inch or so to extend for filling. The other end is fastened to the needle valve jet.

We come now to the pylon which is made entirely of ⅛" sheet balsa. Its assembly is clearly shown on the plans. Make sure the two main panels of the pylon are cemented together cross-grain. The match-stick wing pegs should be securely imbedded in the pylon.

**WING:** Cut the two wing panels to shape and sand them to an airfoil as shown. Bevel the two center-section edges so they fit snugly together at an angle of 20°. This will give the correct dihedral of 10° when mounted on the ship. Place one panel flat on the work bench over a piece of waxed paper and cement the other panel at 20°. Use a block to maintain the correct angle. When this is dry, follow up with three more thin coats of cement on the center joint. Now, cover the top and bottom with silk or muslin and add three more coats of cement followed by a last heavy coat. Allow this to dry thoroughly and a surprisingly strong wing will result.

**TAIL:** The tail assembly is now cut out, sanded to airfoil shape and cemented in place.

**FINISHING:** Remove all metal fittings from the plane and give the entire model a coat of fuel-proof dope, either clear or colored. This is really the only short-cut on the "555." If you want to go to a little more expense, a coat of balsa sealer and a couple of coats of colored dope will add much to the appearance of your model. One coat was found sufficient although the appearance suffered somewhat.

Now re-assemble all parts and attach the wing to the pylon with rubber bands and you are ready to fly.

**FLYING:** Test-glide your ship first to see if the model is properly aligned for flight. Warp in a little "right rudder" so the ship makes a very gradual

right turn in the glide. It should then climb practically straight up under power and circle to the right in the glide.

In filling the tank, an eye-dropper may be used. Turn the ship up-side-down in filling, with the needle valve open. This allows the overflow to drop free and not flood the venturi:

Fly the "555" on a fairly calm day and you will not need a very big flying field. If the right turn adjustment is correct, it will stay right around the launching area eliminating long cross-country chases. The original "555" has been flown many times in a field about 100 yards square, which was bordered by trees.