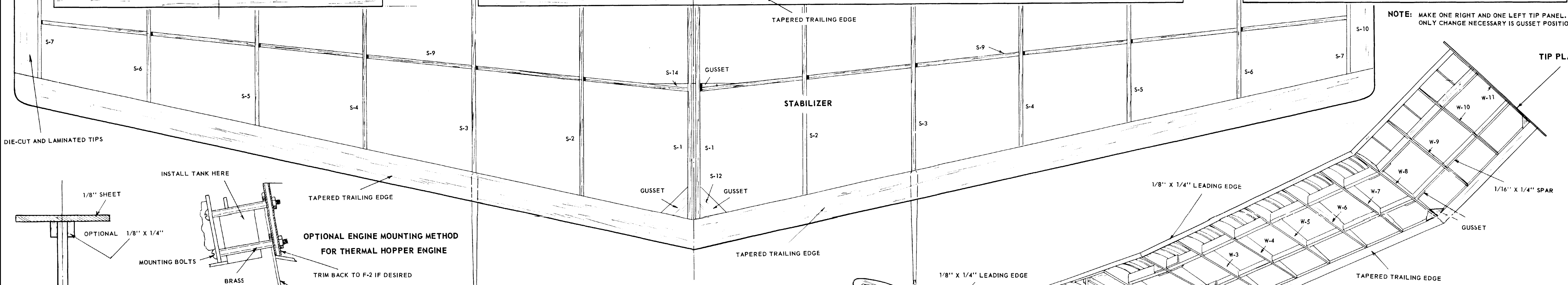
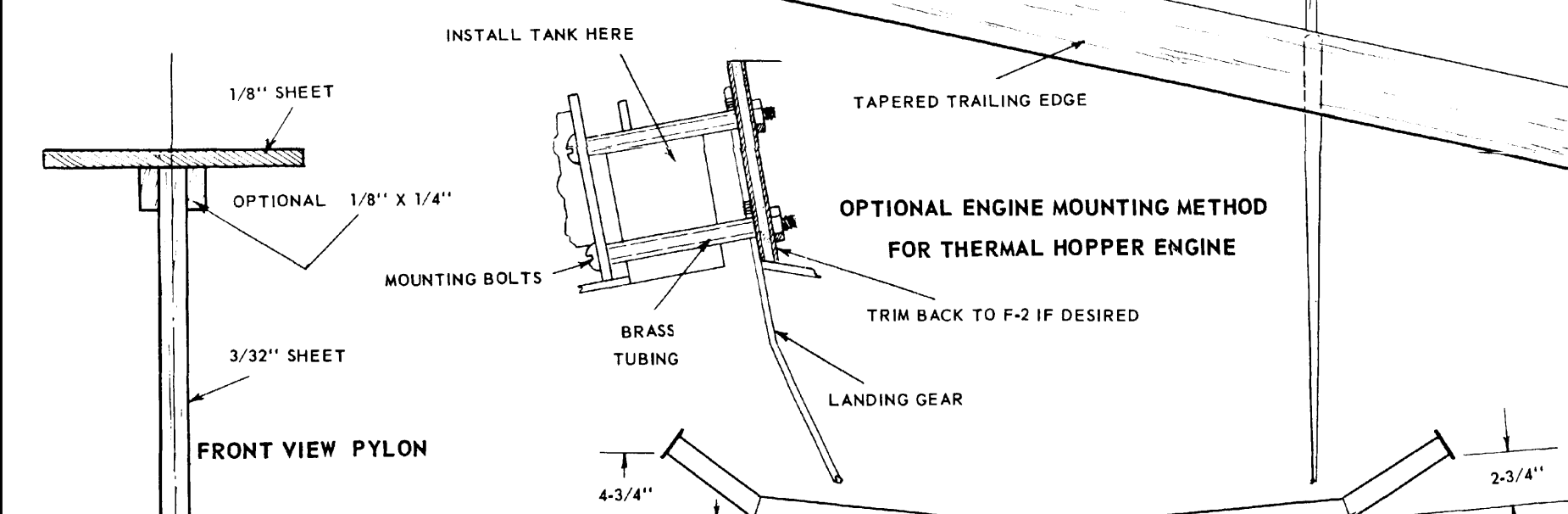


- ### BUILDING INSTRUCTIONS:
- 1 - Study plan and kit contents carefully. Remove die-cut parts from sheets, and group according to letter or use, fuselage, wing etc.
  - 2 - Pin wing center-section trailing edge to plan, and cut 1/8" x 7/16" and 1/8" x 1/4" spars to length.
  - 3 - Slip spars through ribs W-1 and W-2. Cement ribs to trailing edge.
  - 4 - Cement spars to ribs W-1 and W-2. Align ribs, pin till dry.
  - 5 - Cement 1/16" sq. strip to rib s, and position leading edge.
  - 6 - Install wing gussets as indicated.
  - 7 - Position false ribs as shown on the plan.
  - 8 - Pin trailing edge of main panel to the plan.
  - 9 - Cut spars to exact length as on the center-section.
  - 10 - Assemble the main panel in the same manner as before, differing only in that no gussets are cemented to these spars at this time. Remember also that two panels are necessary. Allow each panel to dry well before removing from the plan.
  - 11 - Layout the tip wing panels in like manner, positioning gussets for one left and one right.
  - 12 - Bevel all edges to meet at dihedral and polyhedral angles shown.
  - 13 - Pre-coat all end grain with a priming coat of cement.
  - 14 - Cement panels together, blocking up and aligning carefully.
  - 15 - Trim and sand leading edge to airfoil, add gussets etc.
  - 16 - Sand entire wing to prepare for covering. Fillet wing joints with cement skin. Tip plates should not be cemented in place till the structure is covered.
  - 17 - Layout the stabilizer trailing edges on plan, pin in place.
  - 18 - Pass die-cut stabilizer spars S-8 and S-9 through ribs.
  - 19 - Cement rib ends to trailing edge and spars to ribs. Align.
  - 20 - Install leading edge as on the wing panels.
  - 21 - Add laminated tips, die-cut gussets etc. Allow to dry.
  - 22 - Remove from plan and trim and sand prior to covering.
  - 23 - Assemble die-cut rudder units over flat surface.
  - 24 - Trim and sand smooth to airfoil section.
  - 25 - Splice die-cut 1/20" sheet fuselage top and bottom units. Pre-coat all end grain, sand splice smooth when dry.
  - 26 - Splice fuselage sides in like manner. Allow to dry well.
  - 27 - Pin fuselage top flat against the plan, over side view below. Align over centerline.
  - 28 - Test fit the fuselage sides, bending in slightly toward the tail to follow the contour of the fuselage top.
  - 29 - Test fit each of the formers in place.
  - 30 - Cement formers F-3, F-4 and F-5 to the fuselage sides.
  - 31 - Next, cement the fuselage sides to the top, and along the top edge of the three formers, where they come in contact with the fuselage top.
  - 32 - Remaining formers are now slipped into position.
  - 33 - Lay the landing gear wire on the plywood rectangle. Drill holes around the wire and bind gear in place with copper wire, or if you prefer, make a sandwich to retain it in position.
  - 34 - Cement in place along with forward plywood engine mount, gussetting both for added support.
  - 35 - An optional engine mount is shown on the plans. If you elect to use this method, only the rear plywood former is used. The fuselage sides may then be cut down to any length convenient.
  - 36 - Drill engine mounting holes, and solder nuts to wire or metal strip to prevent unwanted rotation.
  - 37 - Install tank to be used between plywood formers. If a timer fuel cut-off is to be used, install it as far forward as your fuel tank will permit. Eliminate harsh bends in fuel line.
  - 38 - The pylon is now formed of the 3/16" sheet die-cut parts. Sand smooth and trim to outline shown. Round off edges as desired.
  - 39 - 3/32" sheet is provided for the wing platform. Note change in grain direction in the center of this wing platform.
  - 40 - An 1/8" x 1/4" strip may be used to reinforce the platform. This is optional. In either case pre-coat all end grain and fillet with cement. Trim the 1/8" x 1/4" to form fillet also.
  - 41 - Sand all edges necessary on the pylon assembly and install wing rubber hold-down wire hooks. Cement thoroughly.
  - 42 - Fuselage 1/20" die-cut sheet bottom may now be installed.
  - 43 - The 1/20" die-cut stabilizer platform is now cemented into place.
  - 44 - Sand entire fuselage smooth prior to doping.
  - 45 - Clear dope all sheet surfaces with fuel-proof dope. Add color trim as desired.
  - 46 - Test covering material by tearing a small area to determine grain direction. It will tear easiest in one direction. This direction must run spanwise to minimize sag between ribs.
  - 47 - Cover wet or dry according to your preference. If covering is applied dry, wet afterwards to remove wrinkles.
  - 48 - Clear dope with fuel-proof dope, add color trim as desired.



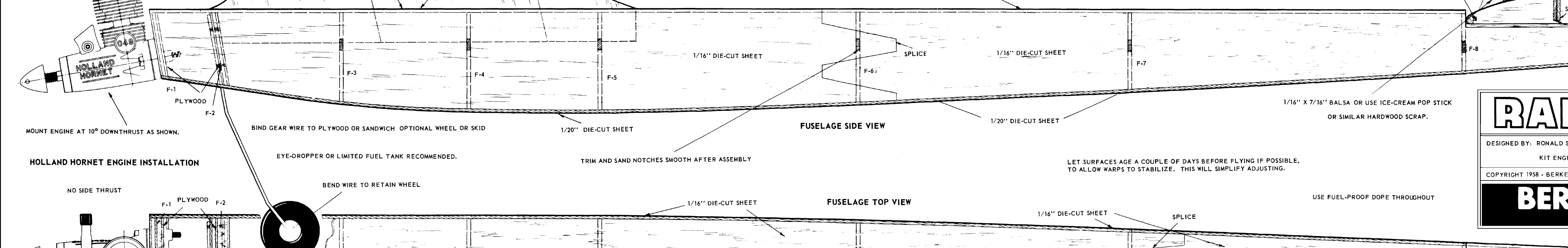
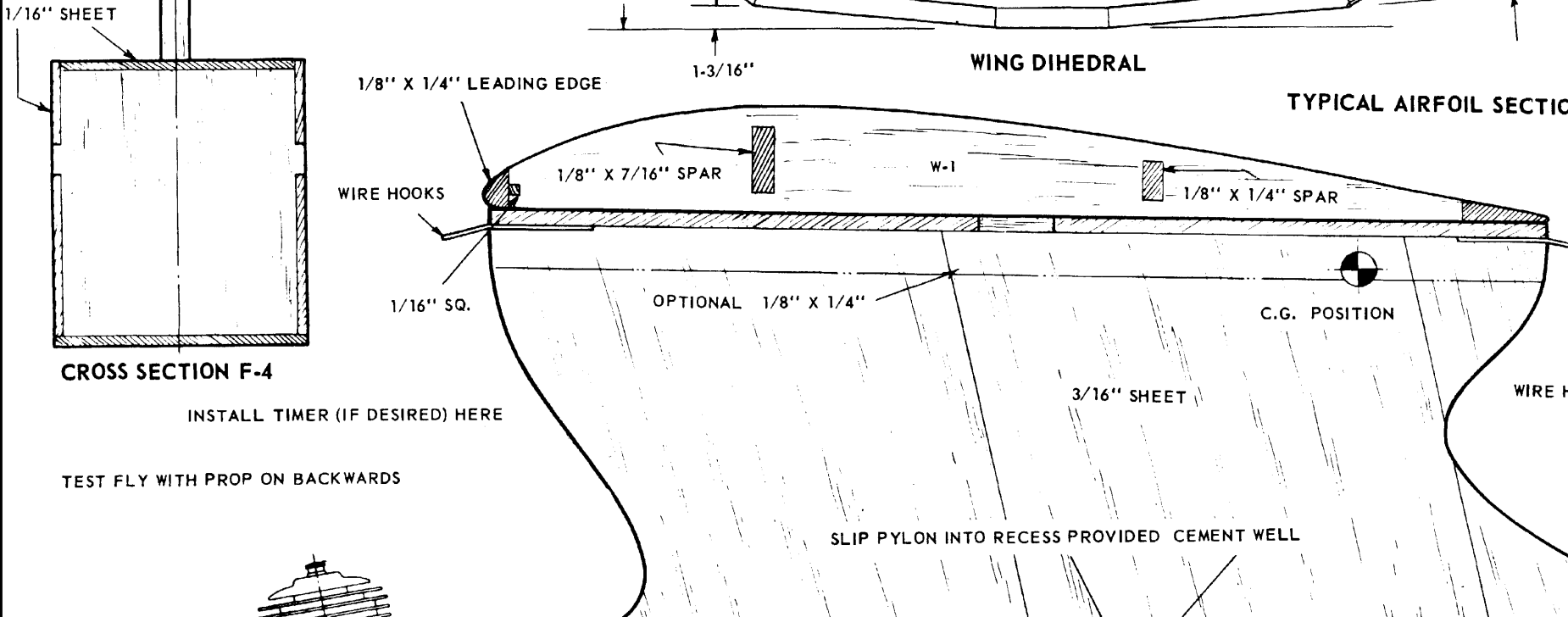
NOTE: MAKE ONE RIGHT AND ONE LEFT TIP PANEL. ONLY CHANGE NECESSARY IS GUSSET POSITION



### FLYING INSTRUCTIONS:

After model is completed, check it over for any unwanted warps. Steam out over tea kettle, twisting an equal amount in the reverse direction. Allow surfaces to set, preferably a day or so, and check again, adjusting as necessary. Originals flew best with stabilizer flat or warp free, and slight wash-in in the right panels, (positive incidence) to induce left turn. Test glide and shim incidence as necessary for a floating medium to wide left hand circle.

If you wish, the rear of the stab may be left un-keyed for the initial flight, to determine the correct setting. Pin temporarily to prevent shifting. This should not be attempted if thermals are in evidence, as the stab is not free to pivot upward. Set rudder slightly to left for the initial flight. Run engine rich with prop on backwards. Model should bank 15° to 30° to the right. A short motor run is recommended, but allow the model to get up a little ways to observe the flight path. Once it goes along this flight pattern, put the prop on right and try again on low power. The angle of bank under high power is quite similar to the bank encountered on low power. This made the model very easy to adjust. V.T.O. take-offs are ideal with this model, as it can be launched at 90 degrees to the ground, yet tuck its nose forward and into its climb pattern. Happy landings!



# RAMROD "250"

DESIGNED BY: RONALD ST. JEAN    DRAWN BY: DON MCGOVERN    FOR "1/2A" ENGINES    40-1/2" WINGSPAN

KIT ENGINEERED BY: BILL EFFINGER    250 SQ. INCH WING AREA    KIT NO. 17-6

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