



GEEF

Geef hunters, rejoice! Here are the plans plus details of this much publicized model plane — plus complete flying instructions, adjustments

by Dan Sobala

● Development of the "Geef" design started in 1955 and has progressed to a point where we feel it will more than hold its own in any company. As evidenced by its First place position in the F.A.I. Gas Event at the Nationals with a record time of 22 min. 8 secs. Flown in competition from coast to coast, it has proven itself a consistent winner. Even Junior flyers, building their first large gas model, have been successful in building and adjusting it. On the other hand, experienced builders using a "hot" .19 engine have easily obtained dead air times in excess of the A.M.A. 5-minute flight limit on a 20 second engine run V.T.O.

The use of a small (33%), thin stabilizer is a departure from earlier designs but has considerably improved the glide. The wing with its higher aspect ratio and more efficient low speed airfoil can better carry the load. Several flat-bottomed wing sections were tried and discarded in favor of the under-cambered section shown here.

FUSELAGE: Full-size plans are not necessary. Just draw the fuselage side outline on $\frac{3}{32}$ " sheet balsa using the full-size formers as a guide. The top, obtained in the same manner, should be pinned to a flat board, the formers cemented to it and the sides added. Don't forget the $\frac{1}{16}$ " sheet doublers used to strengthen the fuselage sides near the stabilizer seat front. Do not cover the fuselage bottom under the pylon until the pylon is installed so that a strong cement joint may be obtained on the inside. The pylon installation should be deferred until the model is almost completed, so that the proper balance point may be obtained.

Install the $\frac{1}{4}$ " plywood firewall with 5° down-thrust and zero side-thrust. Use five or six coats of cement and use gauze, pinking tape or even fiber-

(Please turn to Page 46)

FLYING MODELS for May 1958

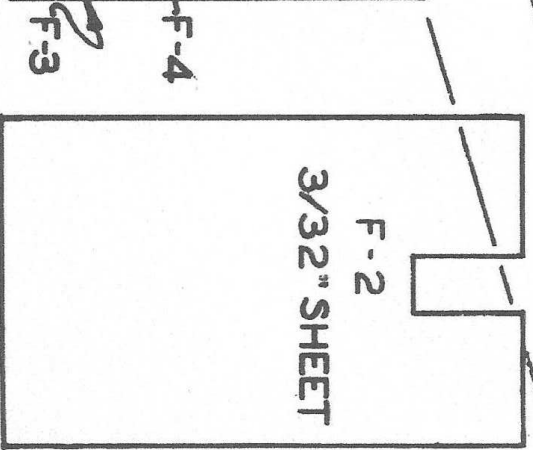
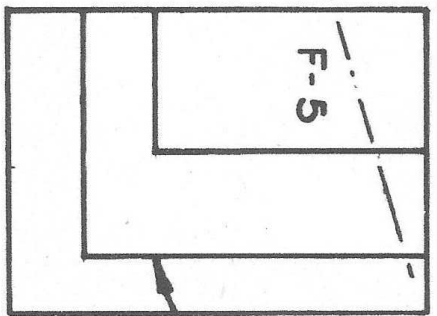
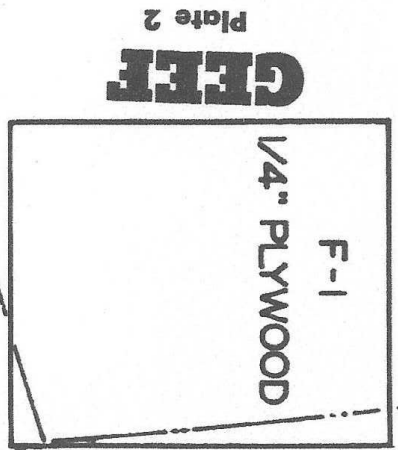
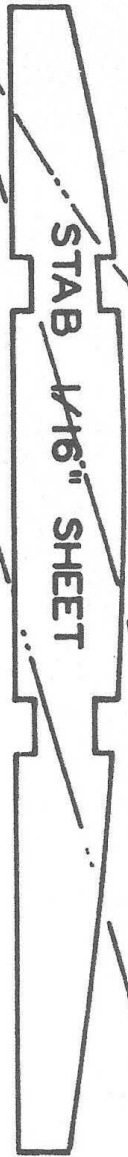
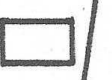
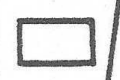
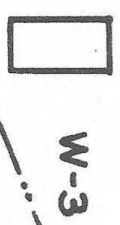
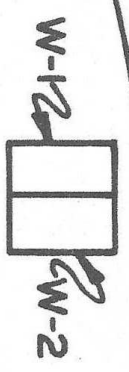


From a vertical launch the model climbs at a high angle screaming up into the bright blue. Highlights of the design are the thinner tail section and the slow speed wing — typical of East coast designs of yore which found local winds upsetting. Use of this layout permits greater flight stability which results in a consistent contest machine—much needed to win at meets.

ALL FULL WING RIBS - 3/32" SHEET
ALL 1/3 AND 2/3 RIBS - 1/16" SHEET

PYLON - 1/4" SHEET

W-7 TO HERE



F-3, F-4, F-5 1/8" SHEET



FULL SIZE PARTS

GEFF
Plate 2

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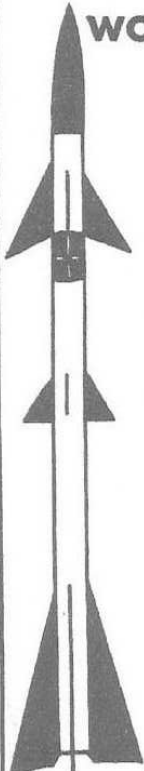
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GEEF

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glass to secure it. Blind mounting nuts are a convenient, inexpensive and a proven means of mounting the engine radially. If beam mounting is desired, run the hard maple mounts about 6" into the fuselage.

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A ½-ounce tank with only one vent is recommended to prevent fuel leakage over the model when placed vertically for V.T.O. A consistent timer, such as the Tatone Tick-Off, is a must for serious contest work. Provide a hardwood backing for the screws. Carefully check the alignment of the pylon and wing and stabilizer platforms before sanding, sealing and covering the fuselage with Skysail, Silk-Span or Silk. Apply four coats of a good fuel-proof finish such as Testors STA sanding lightly between coats.

WING: Carefully select your wood using harder stock for the center and main panel spars, leading and trailing edges than for the tip panels. This will give strength where it is needed most. Use light "C" cut sheet for ribs. All wing materials, ready for assembly should weigh about 4 oz. for a .15 ship, 4½ for a .19 and 5 for a .23.

Be sure to block up the trailing edge with ½" scrap balsa as shown where the ribs are notched into it. These rib ends are shown longer and deeper than necessary to permit individual fitting and fairing into the trailing edge. The three partial tip ribs (not numbered on the plan) are cut using W-3, W-4 and W-5 as patterns, installed and sanded to final shape. Cement all dihedral joints three or four times, particularly at the trailing edge where gauze, nylon or silk should be used for added strength.

STABILIZER: Material for the stabilizer should not exceed 1 oz. weight. Pick strong, but light straight-grained wood for spars and edges.

Remember to insert a piece of ½" scrap balsa between the center ribs during assembly to assure a good rudder fit. Gussets shown are important, particularly the ones at the center ribs and where the V.T.O. pegs attach. Do not add the keys, rudder, wire hook, or V.T.O. pegs until the stabilizer has been covered and given several coats of dope.

The ¼" wire hook at the trailing edge is sewed in place with nylon thread and securely cemented after the rudder has been inserted. A wire dethermalizer limit made of ½A control-line leadout wire, attached to this hook and the one on the fuselage, should permit the stabilizer to tilt up at a 40° angle.

The ½" sheet rudder, sanded to a streamline shape should be covered with tissue and finished the same as the fuselage before mounting. Do not use a rudder tab any larger than the one shown.

COVERING: Before covering, the model must be carefully sanded to ensure a smoothly finished surface which affects performance greatly. The stabilizer is covered with colored light-weight Japanese tissue, water shrunk, and given two thin coats of nitrate dope and one coat of a good fuel-proof. The wing requires a heavier tissue such as Skysail and at least four

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thin coats of dope prior to fuelproofing. A light sanding with very fine sandpaper (such as No. 5-0) between coats of dope will provide a smooth surface but be careful about cutting through the tissue while sanding, especially along the ribs. To minimize warpage, a plasticized dope (see "Seek," June 1957 F.M. for more complete information) is recommended. Check all surfaces for warps and remove them before attempting to fly the model.

ADJUSTING: All models built to date have been very successful using a right-climb, right-glide flight pattern. To achieve this pattern the following adjustments have been used. 1—Center of gravity location approximately as shown on plan. 2—The right tip (as viewed from rear) of the stabilizer raised to provide a left component for a right glide circle. 3—Slight rudder tab, left or right, as required, to provide a right spiral climb of about one revolution every four seconds. Several models have actually used right rudder tab with no right spiral dive tendencies. 4—About 5° downthrust to provide safe V.T.O. in windy weather. Always V.T.O. down wind under such conditions. 5—A slight wash-out of the left wing tip panel trailing edge higher than leading). 6—Wing incidence as shown on full-size pylon outline. This may vary with model weight, engine power and center of gravity location.

The first flight is best made on a calm day with low power (propeller on backwards may help), 7 or 8 seconds engine run, and dethermalizer set. Make adjustments slowly and gradually increase power on successive flights until a fast, loose, almost vertical right spiral climb is attained. The glide should be slow and flat with a circle diameter of about two or three hundred feet.

BILL OF MATERIALS

(Balsa unless otherwise specified)

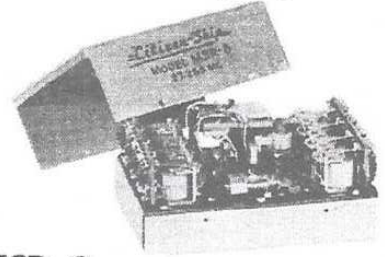
2—¼" x ¾" x 36"	Leading edge
1—¼" x ¼" x 36"	Leading edge
3—¼" x 1" x 36" (tapered)	Trailing edge
1—¾" x 5/8" x 36" (tapered)	Trailing edge
2—¼" x ½" x 36"	Wing spar
2—¾" x ¾" x 36"	Wing spar
4—½" x ¼" x 36"	Stabilizer spars
1—¼" x 3" x 36"	Pylon
1—¾" x 3" x 36"	Wing platform, formers
1—½" x 3" x 36"	Rudder, wing gussets
4—½" x 3" x 36"	Daublers, planking, ribs
5—¾" x 3" x 36"	Sides, formers, ribs, stab platform
1—½" x ¼" x 36"	Wing center brace

1 foot ⅛" aluminum tubing; ⅛", ⅜" and ¼" dowels; 2" finishing nails; ½-ounce tank; Tatone Tick-Off timer; ⅛", ⅜", ⅛" and ¼" plywood; gauze strip; soft block; blind mounting nuts; cement; dope; Skysail covering; Japanese tissue; ⅛" piano wire; assorted sandpaper; ½A leadout wire; engine, prop and accessories.

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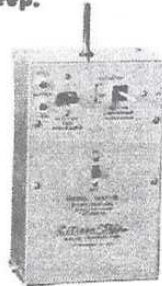
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