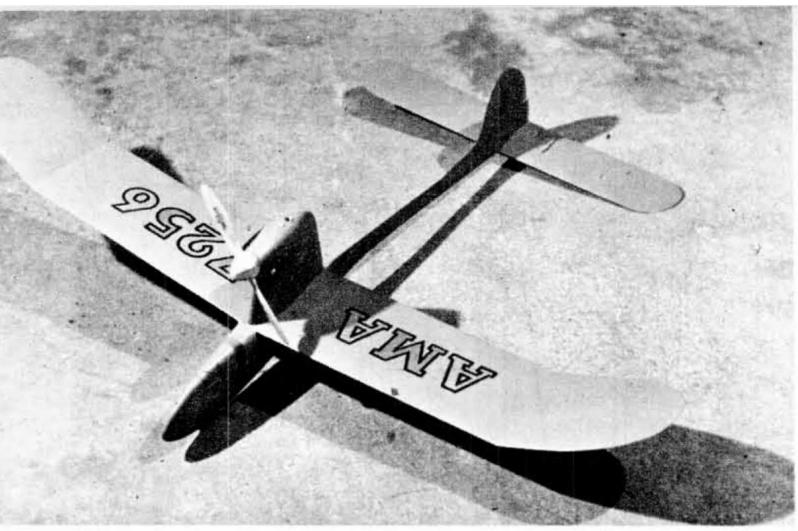

In powered form, G.G. takes engines from .035 to .099, but offers contest performance even with the smallest because of clean design.

Profile views of G.G. and the designer P.D.G. You'll note that the model is by far the more streamlined! Towline version is below.

Gorgeous Gertie

A winner in 1952's Mirror Model Flying Fair, this five-way free flight took top beauty honors

By PAUL E. DEL GATTO

■ What do you prefer in a design: flyability, versatility, originality or ease of construction? Whatever your preference, you'll find *Gorgeous Gertie* has them all. Here is the answer to the free flight modeler who says he can't find the time to build a contest towline model, or for the towline modeler who makes an opposite claim.

Originally the design started out as a combination all-balsa hi-start and towline with the accent on streamlining and simplicity, but while in the midst of evolving the basic configuration, we struck upon the idea of making it a gas free flight as well. Since there was no problem as to where to locate the ignition, it was a fairly simple matter to design a compact nacelle which could be keyed in position above the wing.

When completed we found *Gertie* could be flown five different ways: hi-start, towline, Class AA free-flight, Class A free-flight and sport. It performs with equal merit whether it is flown as towline or free-flight gas.

As a towline it lends itself beautifully to flying, even under adverse weather conditions. The design is stable, climbs steadily on the towline and will maintain a tight left spiral with a low rate of descent. Despite the model's small size, performance is comparable to designs of much greater proportions. This can be attributed to the high degree of streamlining that was achieved.

As for gas, believe us when we say that if you're contemplating using an engine of similar power to the .074 Cub that we have used, you had better keep those dethermalizer fuses handy and have the car motor running because the model really travels. Even with the .049 Cub, which is easily interchangeable with the .074 Cub, performance was still contest caliber despite the fact that the model weighed slightly under eight (*Continued on page* 71)

Converting from free flight gas to towline is but the work of a few minutes. Although Gertie balances out differently when flown without power, ballast box speeds trimming.

Gorgeous Gertie

ounces. Without nacelle unit, towline weight was slightly over five ounces. With the addition of approximately one ounce of ballast for glide trim, the model's weight was boosted slightly over six ounces, just about what the A. M. A. rules specify for the wing area used.

The actual building of the model can be accomplished in just a few evenings because of the all-balsa construction. With the exception of the fuselage boom, we used medium or soft balsa throughout; however, base your selection of balsa upon what you particularly would like to fly the model as.

Detailed building information may be found on the "AT" full-size plans available.

"Gorgeous Gertie"

Starting with the fuselage, cut the individual laminations to the shape indicated and cement them all together. Allow ample time for the laminations to dry before starting to shape the fuselage. The fuselage is then carved to the desired contours; to complete it just apply a little elbow grease to the sanding block.

The landing gear is simply a single wire strut bent around a 1¼" diameter wheel and fixed in position. Before cementing the strut in place don't forget to groove the fuselage to the contour lines of the strut. After the landing gear has been affixed and the cement has dried, fill in with wood filler and sand flush with fuselage contours.

Next cut out the ballast hatch cover in the approximate position shown and hollow as indicated.

The wing on our model was originally fixed in position, primarily because we didn't want to run the risk of vibration setting up while the engine was running. However, we found this precaution to be entirely unnecessary as long as there is a tight fit between the nacelle assembly and the plywood mounting base. Therefore, insert dowel pegs as indicated and reinforce the leading and trailing edges with thin aluminum or celluloid to withstand the pull of the rubber.

To construct the wing, first cement the two required full lengths of blasa sheet together. When dry cut the sheet balsa to the approximate airfoil outline, after which the wing is sanded to completion. The wing is then cut at each dihedral joint, beveled for the dihedral and then notched to receive the dihedral gussets. Join the center panels first and afterwards one tip panel at a time.

The stab and rudder are also shaped from sheet balsa in the same manner as was prescribed for the wing. The dethermalizer tab is shown located on the right stab panel as on the original, the effect of which when it pops up is to stall the model and eliminate the turn. Location of the tab on the opposite side on our model would produce a descending spiral which we frankly are adverse to. However, we don't recommend adding the dethermalizer until the model has been completed and at least test glided.

The nacelle is the key to the model's success as a multi-purpose design; therefore, extreme care should be exercised to obtain the desired results.

First, cut out the bulkhead and formers needed. The leading and trailing edges are then cut to the required length and laminated together. Note as mentioned on the plans that the middle strips are shaped to the contour of the nacelle mount. Cementing all these parts together will produce the basic nacelle frame.

Cover the completed frame with sheet balsa and then cement the keying braces in position, but do not drill the keying holes as yet. The remainder of the nacelle is shaped from soft balsa blocks. Perhaps the simplest way to do this is first to cut out the engine mount and then lightly cement the blocks to be shaped in their respective position. By doing this we can use F-1 and the engine mount as a guide for obtaining the correct shape.

Once the blocks are roughed out and sanded to the desired shape, pry them loose and start whittling out the inside until they are as complete as indicated on the plans. In the event you're thinking of using an engine other than the .074 Cub it may be necessary to make minor adjustments for the exhaust, intake, or other details.

To provide necessary current for starting, fasten a piece of shim brass stock to the nacelle side in such a position that it will connect with the plug under tension. Another lead can be soldered to one of the nuts which hold the engine in place.

The next step, which is the most important, is aligning the keying holes to obtain a tight fit. If the keying holes have not been drilled in the nacelle mount, then do so now.

A small pilot hole is next drilled in the mating nacelle unit at the desired position. Place the nacelle unit on the mount and check the alignment by running a small size dowel through. If the dowel moves freely the alignment is accurate enough and the hole can be enlarged to the required diameter. However, should the dowel not move freely through, then the holes should be drilled off center sufficiently to realign the mating holes.

Finishing the model is comparatively simple. Just apply three to four coats of your favorite clear or colored dope, sanding with very fine sandpaper between coats. If you're using a diesel, a fuel proof dope is not absolutely required. If you're contemplating using a sanding sealer as a base for your finish, be certain it is the same name brand or its contents are the same as the dope you are putting over it. Trimming is largely a matter of preference. We personally spend very little time at it, as we are more anxious to fly the model. Decals or Trim-Film are two neat time-saving methods for dressing up a model.

When it comes time to fly the model, remember to make your adjustments slowly. We definitely recommend using the propeller on backwards for the first few flights to minimize the thrust. This will provide an opportunity to observe the model in flight with a minimum of risk during the adjustment stage.

Once the adjustments have been made, add the dethermalizer unit on the side needed for the preferred type of descent. Check out the dethermalizer with a few short flights to determine the best location of the stop.

As a towline, you will find it necessary to alter the adjustments somewhat with respect to C. G. location and turn adjustments. Since the model is easily trimmed, this is no problem.

Bill of Materials

(Balsa unless otherwise specified)

3—5/16" x 3" x 36" soft, fuselage sides and wing trailing edge. 1—5/16" x 3" x 18" med., fuselage core. 1—5/16" x 1" x 36" hard, fuselage boom. 1—5/16" x 2" x 36" med., wing leading edge. 1—⅛" x 3" x 18" med., stab. 1—3/32" x 2" x 18" med., rudder, bulkhead and formers. 1—1/16" x 2" x 18" med., nacelle sides. 1—1" x 1½" x 10" soft, engine pod and nacelle units. 1—⅛" x 2" x 10" plywood, dihedral gussets, engine and nacelle mounts. 1—⅛" x ⅜" x 18" med., nacelle leading edge. 1—⅛" x 9/16" x 18" med., nacelle trailing edge. 1—.032" dia. x 36" wire, tow hooks, dethermalizer hooks and trail skid. 1—¼" dia. wheel, landing gear. 1—.063" dia. x 6" wire, landing gear strut.

Cement, dope, spinner, dowel, aluminum foil, eyedropper tank, .039 to .09 displacement engine fabric for hinges, nuts and bolts.