

## CENTERING ENGINES AND HIDING PUSHRODS

By George Gaydos Jr.

With the control line Profile Scale event permanently fixed in place for the last ten years, and as of this year, made a part of the Sport Scale event in the AMA Rule Book, I have been asked by our "Newsletter" Editor Wayne Gilchrist (who also happens to be a fellow Scale modeler) to reveal my methods for making the normally ugly Profile Scale model "better looking"! The two areas that are the worst view of the Profile model are the engine and the pushrod locations as seen from the top and front view on the 3-view drawing. Traditionally, all profile models had their engine mounted on the right side of the fuselage in an off center configuration when viewed from the top or the front. This can be acceptable in a profile stunt or carrier model but in a scale model it sticks out like a sore thumb! This practice in a multi-engine model results in an even uglier look mainly because of the number one engine (left) being closer to the fuselage than the number two engine (right)! Of course I am speaking of multi-engine models that have engine nacelles mounted on the wing, such as my current Profile Scale model, the B-26B INVADER. This airplane includes the very improvements that this article talks about!

First we will discuss: "CENTERING THE ENGINE(S) IN THE FUSELAGE OR NACELLE". If you are going to use this procedure on a 1/2A to .25 size engine then it can be accomplished using narrower motor mounts, plywood doublers, and fuselage plank balsa. However, most Profile Scale modelers are flying .29-.35 and larger engines displacements these days so the focus of this procedure will be on models using this larger engine size. It is a must that you take advantage of the 1" maximum allowable thickness for the fuselage and/or nacelle that is stated in the current AMA Profile Sport Scale rules (Event #521).

Taking the maximum 1" thickness you can start out with a 3/4" fuselage and/or nacelle balsa plank. Cut out the shape of the fuselage and/or nacelle from this size balsa according to your building plan or blown-up 3-view outline if you are at that level of Scale ability.

Whatever size engine you are using, make sure that the motor mount spacing is consistent for that particular engine and that you make every effort to use the entire twelve inch length of the mounts when you glue them in position in the fuselage and/or nacelle plank. In using a 3/4" plank you must use 3/8" x 3/4" hardwood mounts. These always come 12" in length! Prior to gluing these in- you must position the engine where it will be mounted on the mounts and trace around the engine mounting lugs as well as mark the mounting bolt holes. Next step is to drill out the bolt holes preferably on a drill press so they will stay perfectly straight when drilled.

Now, cut out on a jig saw the mounting lug area making sure you don't go any further than half the distance of the 3/4" width of the mount! You now have a mounting area 3/8" x 3/8" enough even to hold a .60 size engine solidly! If you are skeptical about the strength of the mounts, my B-26 is a good example of longevity (5 years- about 50 flights). You will notice now that the engine shaft is centered in the 3/4" fuselage and/or nacelle. At this point, you may want to consider using blind nuts in the motor mounts if the engine is in the .35 size range. Using the correct size mounting bolts, the engine can be installed when the airplane is finished without having any protruding screws or nuts on the doubler that is on the bottom side of the engine. I would suggest that you do mount larger engines with the bolts protruding through the doubler mentioned for added strength!

Centering Engines/Pushrods continued...