

Mount the Engine

For your firewall placement, I suggest that you measure the distance from F1 to the front of the cowl and subtract for the length of the engine. Allow for at least 1/8-inch clearance for the spinner back plate.

We used 2-1/2 degrees of right thrust but wanted the motor mount to fit flush against the firewall. The firewall must be angled from square to accomplish this. The angle also means that the engine will need to be offset from the center of the firewall in order to exit at the center of the cowl.

Because the dimensions of the DA and the motor box are almost equal, the offset of the firewall centerline is the same as the offset between the two motor-box sides. In other words, the right side of the motor box should be, in our case, 1/4-inch shorter than the left side, giving us 2-1/2 degrees of right thrust.

In order to keep the engine centered in the cowl with the offset angle, we will need to move the centerline of the engine 1/4 inch to the left side of the airplane. The measurements are indicated on the plans but double-check everything for your particular set-up.

Most plywood has a slight amount of bow or bend so you'll need to make sure that when you glue the firewall everything is straight. Glue the 1/8-inch light plywood bottom of the motor box on first, clamping everything in place to keep the motor box square to the fuselage.



When measuring the firewall for the engine placement, use the aircraft thrustline as the horizontal centerline. For the vertical centerline, offset per the plans or your own calculations for 2-1/2 degrees of right thrust.

We used 1/4-inch aircraft plywood doughnuts as a doubler for the motor mounting 1/4-20 blind nuts, and installed them before the firewall was glued to the motor box. The blind nuts aid in easy installation and removal of the engine while performing setup operations.

When the engine is installed for the final time, nylon lock nuts will be added and cinched down to the blind nuts. Once you're satisfied with the placement of the firewall, glue it in place allowing the fuselage sides and bottom to overhang if necessary. After the epoxy sets, trim and sand the overhang flush.

We used hardwood tristock on the inside corners of the firewall and a 3/8-square balsa gusset for the bottom inside corners of the motor box. The top section of the motor

box sides get a length of 3/8-inch square balsa from F3 to the firewall to eliminate flex in the motor box.

A 1/2-inch spruce tristock is also added to the outside corners of the motor box on the sides and bottom at F1. Erik covered the top of the motor box with 1/8-inch light plywood and added a tristock gusset, but the box is strong enough without a top piece.

I do recommend some type of cover to prevent pressure build up inside the fuselage during flight. I like to build a removable hatch—builder's discretion. As a last step, pin the firewall to the motor box with 1/8-inch dowels and wrap the front of the firewall with six-ounce fiberglass cloth.

