

# QUICK PIANO HINGE PIN REMOVAL

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**THE ZENITH 701/750** aircraft can be flown with the doors off, so being able to remove the doors quickly, easily, and without help is a big plus on a warm summer day.

I found in operation that removal of the full-length piano hinge pin is difficult because you have to pull the whole pin out from the back while still holding on to the door, a real trick without having help.

Looking at some other aircraft makers for ideas, I found that the split hinge pin technique would make removal of the door simpler. Instead of one long piano hinge, I used two shorter hinge pins.

Modifying the door is simple enough when it is on the airplane but would be really easy if you are still building. Start by picking a center point of the door hinge for removal of three hinge ears: one on the door and two on the fuselage.

I used a thin cutoff wheel to do this, but you could also use a 3-1/2-inch grinder with a thin cutting wheel on it or a hacksaw and a file.

Measure the hinge pin to fit each half plus a 90 degree ear to be able to remove the pin. Approximately 3/8 to 1/2 inch will work. The idea here is to use the existing pin and not have to buy more material.

You may want to have a bigger ear than the existing material allows, just for easier handling. I have found that short ears make it more difficult to get the hinge out by hand, without having to use a tool that you might or might not have in the airplane.

Grind a bullet point to the tip of the pin for easier installation.

Hold the door in place and install one pin from the center out. This will take a little bending of the pin to install it at a slight angle for the first ear.

Now the other pin will be bent the same way to be installed in the opposite direction. A little grease or oil on the hinge pin helps ease installation.

You could safety the two hinge pins together for added security, but I have not had an issue with them backing out. The two pins will butt up against each other, and it would be difficult for them to come out.

On any door that uses the gas cylinder you will have to remove that first. Then hold on to the door with one hand and remove the pins with the other. This will make removal of the door quicker and easier on those really nice flying weather days.

## STEP BY STEP

