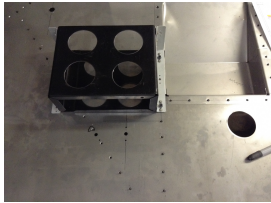


Category: 3.1. Firewall

Published: Friday, 22 March 2013 12:54

Hits: 2131

The battery box is positioned and ready to be installed. I decided to leave the other parts like the spacers and the aluminum bar for later when I do the actual installation (yeaaaaaars from now...)



Next up on the list of holes to drill are the connection points for the starter solenoid and master relay. The installation details of these can be found on the same plan as for the battery box (DWG 31A).

Locate the existing rivet hole on the diagonal stiffener indicated by the arrow on the plan. I have drawn a circle on it which you can see in the picture below. This is the starting point and forms the left ear of a K1000-3 nutplate for an AN4 bolt. So the center hole must be 1/4" and another nutplate attach ear to #40 on the other side.

There are many ways to do this. Some people sacrifice a nutplate, drill out the tapped wire and use the center hole as drill guide while putting a cleco in the left ear. I find this not very accurate.

The only accurate way to do this is by making a nutplate template in a thick piece of aluminum.

I first drilled and reamed a 1/4" hole in the template piece. Then attached a nutplate on it with some washers and an AN4-4 bolt and then drilled the #40 holes with the nutplate ears as a drill guide. This provides you with a perfect template. I made a second one with the same distances but a #30 hole in the middle.

My final procedure was the following. Use the template with the center #30 hole. Attach the template to the hole with the circle on the firewall. Align and clamp and drill #40 the other nutplate ear hole. Put a second cleco, the ears are now made. Now drill #30 the center hole.

Next, remove the template and updrill the center #30 hole to between #1 using small steps up. (#19, #12, #5, #1).

Now take the second template with the 1/4" hole in the middle. Attach it again using the nutplate ears. As you updrilled in the pilot hole you should see a smaller opening in the center of the middle 1/4" hole. Now it's easy to finish the hole precisely to 1/4" with a 1/4" reamer.

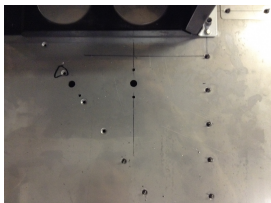
Category: 3.1. Firewall

Published: Friday, 22 March 2013 12:54

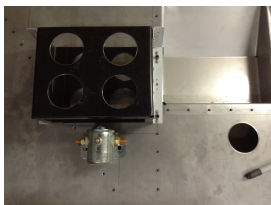
Hits: 2131

The image below has been done with that technique.

To locate the second hole, present the master relay over the first hole and level it. Or measure is using the first rivet hole on the right stiffener as reference point (Tha's what I did). Same procedure for the right side 1/4" holes.



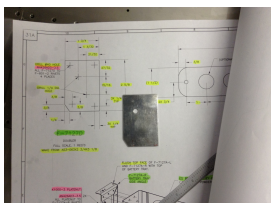
This is how it looks with the master relay positioned over the holes.



Next you need to create the F-127D doubler out of 063 stock sheet. (this is the little stock sheet that is delivered with your battery box kit).

Cut and deburr according to the plan and drill the upper 1/4" hole.

If I would have been smart, I also would have drilled the AD3 rivets on the sides at this point and positioned the doubler on the firewall now before drilling the second 1/4" hole. I did this later and the result is that the plate slightly moved when drilling the second 1/4" hole. So When attaching it to the firewall, it wasn't completely square anymore. Distances are fine everywhere, it's only cosmetic. But it's something to remember if you want to win the beauty contest.



Drilled also the next holes for the starter solenoid using the same procedure.

Deburred all the holes and dimpled the firewall. Countersunk the doubler plate and stiffener.

Category: 3.1. Firewall

Published: Friday, 22 March 2013 12:54

Hits: 2131

A little tip for removing burrs on the firewall holes. Don't use the swivel deburr tool. The head will wear out quickly. Just use your die grinder with 1" scotchbrite wheel and gently touch the burrs. Then, use the swivel tool and give it one or two spins.

This is the vief from inside the fuselage to the front

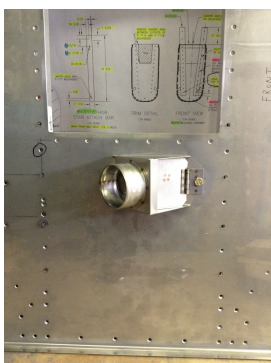


That completes positioning of master relay and starter solenoid.

I am not drilling the hole of the fuel line passthrough yet. For this, I will order a special piece from Andair. Hugo told me that this fuel passthrough is drilled very close to the starter solenoid (according to plans) and that maybe it would be better to move it an inch or so to the right. I'll wait to see how his setup turns out before I drill mine

Next up in the list of holes to drill is the 2 AN3 bolt holes that hold the heater box in place. I drilled the large hole before so it was very easy to just locate the heat box over the hole and drill the 2 #12 holes (updrill and ream, drilling precisely with large drills is a pain in the butt in steel).

One tip here, drill the left hole first and use the right one (visible in the picture) to matchdrill.



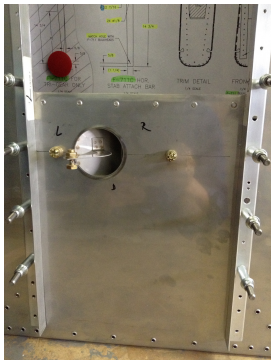
View from the inside. Pay attention to the orientation before

Category: 3.1. Firewall

Published: Friday, 22 March 2013 12:54

Hits: 2131

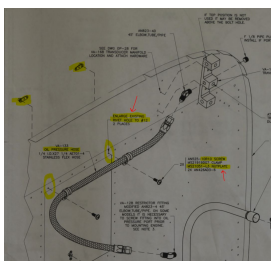
drilling. The pull arm on the inside points to the left side.



Then I drilled the #10 hole in the stiffener on the right. This hole is used to pass the cable that operates the heat box. Easy to drill on the drill press when you remove the stiffener. Nightmare with an angle drill if the firewall is already rivetted. So do it now, or face misery later !



Plan OP27 describing the oil system makes a drawing on the left side where the VA-133 oil pressure hose is guided to the transducer manifold via some clamping on the top line of the firewall recess. Fortunate enough, I received a photo of this plan from a fellow builder.



The oil hose gets connected to the firewall with 2 adel clamps that are hold to the firewall using a MS21051-L3 (one leg) nutplate through recess, firewall and upper stiffener.

I marked the two holes on the recess, clecoed all in place and drilled

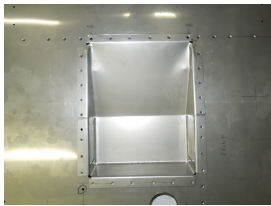
Firewall Accessories - 16/3/2013

Category: 3.1. Firewall

Published: Friday, 22 March 2013 12:54

Hits: 2131

the holes to #12 as indicated in the plans.



Then removed the stiffener, temporary attached the nutplate with some washers and a 10R10 screw and drilled the 2 nutplate ears #40. Couldn't be easier. Again, here, much more risk and difficult if your do this later when you do the firewall forward work.



Another advantage of doin it now, is that you can only drill through the stiffener for the nutplate ears and countersink the stiffener. That's two holes less through the firewall.



That's all I could find so far that I can drill safely now.