15/02/2025 - Fuel pump wiring, starter annunciator wiring, setting v-speeds - 5h00

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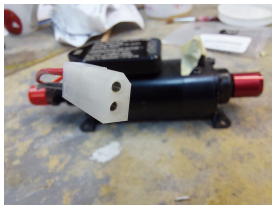
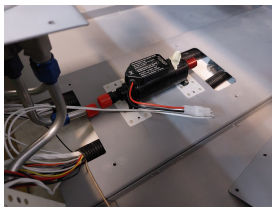
The Andair electrical auxiliary fuel pump is very easy to wire. It just takes a power wire and a ground wire. I installed molex pins on these and installed the connector. The fuel pump is switched on with a SPST switch from the panel and VPX logic on the power circuit is doing the magic. Nothing fancy and plain simple.



Then ran 2 cables through the center conduits up the firewall and ran the power wire to the VPX and the other one straight to the GND block. Unfortunatly I ran out of fast-on connectors so I have to wait for the next order to test this out.



With the time I had left, I tackled the starter annunciator wiring. This is a 2 AWG wire that runs from the starter solenoid 2nd post "I" terminal to the VPX dedicated pin J2-11 for this.
There needs to be a 1K ohm 1watt resistor inline soldered close to the I terminal of the starter solenoid. The resistor is inline and needs to be soldered in the way below to allow for stress relief. There is an image of this in the vpx manual as well on page 29. You mechanically roll the leg of the resistor around the wire and then solder the two together. Soldering is not my favorite thing to do but it worked out well.

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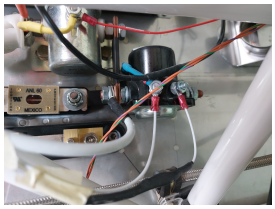
Finally I cleaned the soldering when dry with some isopropyl alcohol to clean of residu of the resin to prevent corrosion.

then applied to small strips of heat shrink to increase the gauge of the wire and installed a longer and large piece that could cover the resistor and when heated shrinks well onto the other heat shrink.

In the image below, the heat shrink is on and a ring terminal installed and fastened on the "I" terminal which is the post on the right of the black starter solenoid box.



Next I looked up some speeds and set them up in the airspeed limitations screen in the Dynon HDX efis. I might want to revisit

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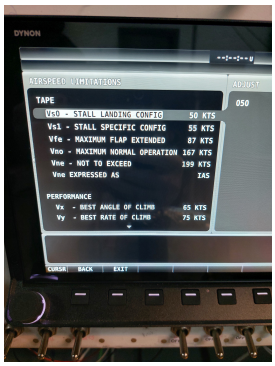
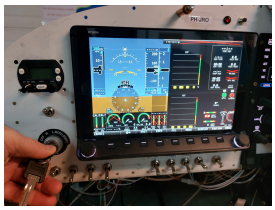
these but this is the numbers I found until now on other POH handbooks from other RV7 planes.



Then it was time to test the starter engage functionality. I had to change the engine screen to include the VPX status and the starter engage indicator led.



Cranked the switch and sow the Starter contactor coming ON (red)

And switching Off again when in the normal Both or Off position. Seems to work fine.

There is also a starter stuck message but this can only be tested when the engine is actually running. The Dynon EMS communicates the RPM over the data bus to the VPX over the data line.
The starter annunciator 'warning' message will only come on when it is actually is stuck on and the VPX sees more than 500 rpm, (cranking and

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rpm > 500).

In that case, the starter power J10-1 pin switches off automatically above 500 RPM on the engine to protect the starter engine.

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