Saturday, November 21, 2009
297th Cobra flight, 308th PIC, 8 landings

Belen 1:36pm Midvalley 2:15pm
MidValley 3:38pm Belen 4:08pm
Today's Airtime: 1.3hrs
Total PIC Time : 783.8 Total Logged Time 805.0

On my backcountry flying trip earlier this month, I found myself in the uncomfortable situation of not knowing exactly how much fuel I had in my tanks. I very rarely get below 5 gallons in my tanks, and so the fact that my gauge is not accurate at the low end does not normally bother me. But on my trip to Utah, I ventured down to 2 gallons was very uncomfortable.

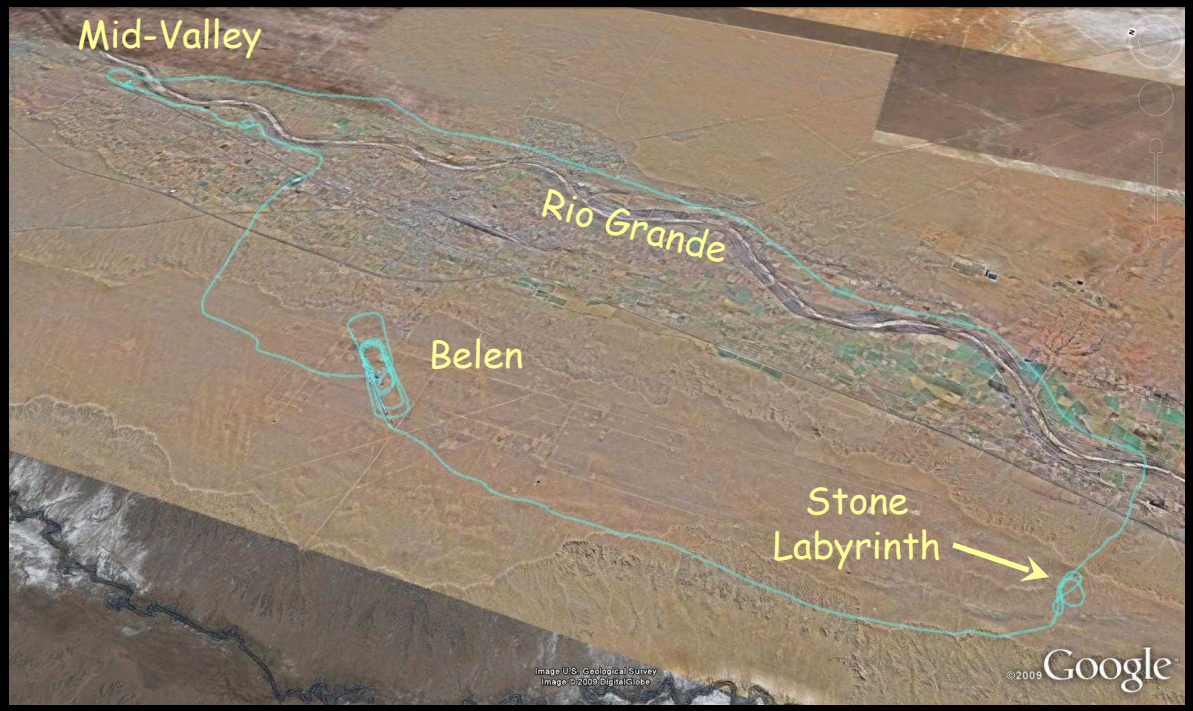
In-flight, my trike is pitched nose up, with affects the fuel gauge measurement. I needed a way to measure my in-flight pitch angle so that I could reproduce it in the hangar when I calibrated the fuel gauge. After a while, I came up with a solution.

I found a circular bubble level at an RV store, and attached it to a plastic hinge mounted on my front panel. I took my trike for a short flight and adjusted the angle of the hinge so that the bubble was centered. As long as I didn't bump it, I had the angle.

I saw someone working on the stone labyrinth last month, so I flew over there to see what it looked like now. The heart maze was finished. It is exactly on a east-west line, lined up with the first maze. I want to land down here and check it out on foot some day.

I headed over to the Rio Grande Valley and flew over the fields. I worked my way north to Mid-Valley airport and landed, hoping to talk Mike. Mike wasn't around, but I talked to his wife Jan for a while, then headed back to Belen.

In the hangar, I propped up the nose of my trike under a cinderblock. I was surprised when it was not high enough to center the bubble level. I added two 2X4s, and it was level now. That was good. I knew how to repeatably set up the trike to make fuel measurements in the hangar now.

I drained my tanks with the nose high, and added a galloon of gas. Looking in through the fill neck, it looked empty. I added another gallon, still empty.

It took three gallons to budge the float off the floor of the tank and cause a line of fuel I could see in the tank. I mounted a red LED outside my tank at the level of the gas (the tank is translucent). I wired up the LED to my landing light switch. When I turned it on and looked in the fuel neck, I could see the LED glowing outside the tank. If the fuel was below the LED, I would know I was less that three gallons. Now all I need to do was build some sort of bracket for the bubble level so I can prop my trike in the field for a repeatable measurement. I think that will work.