

VOLTS

July 30, 2005
Billings, Montana

The last time we were in Billings was in 2005, and we didn't intend to go there. We were flying from Saskatchewan to a family reunion in Rapid City, South Dakota in my Cessna. "We" consisted of Bear and I, with Riley and her cousin Marissa in the back seat. Billings wasn't on the original flight plan, but circumstances conspired to send us there.

They call Montana “*Big Sky Country*” for a reason. The sky in Montana isn't any bigger than anywhere else – but there are few land-based obstructions to limit the view, and no smog.



Saskatchewan describes itself as “*Land of the Living Skies*”. The Canadian prairie sky goes beyond “big”. It stretches from horizon to horizon at every diagonal on the compass.

During the day the prairie skies are flooded with light, at night more stars appear than most people dream possible. Northern lights often dance across the entire canopy of the night sky. Early morning seeps colour into existence and by evening, every cloud is a pallet, a whirling blend of vibrant hues.

Our trip in 2005 started in the *Land of Living Skies* to pick up Marissa and traversed *Big Sky Country*.

From the perspective of a light aircraft flying two miles above sea level, the volume and vibrancy of the prairie sky is beyond *Big* or *Alive*, it is *Overwhelming*.

We were all in awe as our tiny capsule of aluminum slipped through ever changing skies. It is a surreal feeling to be floating on air watching the majesty of nature drift by.

We were especially enthralled by boiling dark Towering Cumulous (TCU) clouds building in the south. The radio would occasionally crackle in response to distant lightening, but we felt secure in our flying machine, watching the TCUs at a distance. It is a powerful feeling.

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And then, something happened to remind us just how very insignificant our power is in relation to the sky and nature. A little red message appeared on the aircraft display panel. **VOLTS** That single word changed power to vulnerability in an instant.

Airplanes, like cars, have alternators which generate battery power. If the alternator in your car fails, a light comes on and you pull over to check it. In most cases you can carry on to your destination or find a repair shop. An inconvenience for sure, but not life-threatening. When the alternator light comes on while you are two miles vertical, it is a different story.

The warning indicator immediately diverted my attention from sky watching, to damage control. Situationally we were safe, and the aircraft's other functions were all stable, so there was no immediate danger. I checked circuit breakers and increased RPM, but it was clear that this was not a glitch, it was a real problem.

An aircraft will fly just fine without an alternator, it is all the electrical gadgetry that suffers. If the battery is not being supplied with power it will drain, and all electrical functions go with it. Radios, navigation equipment and handy little things like flaps for landing, won't work. It is important to preserve power and get on the ground before really bad things happen.



Photo courtesy Gervais Goodman

Suddenly *Big Sky Country* was no longer a positive attribute. *Big Sky* implies remote towns, fewer still with an airport.

I shut off every non-essential electrical drain and punched NRST on the GPS. This handy little button prompts a display of every airport in the vicinity. There are countless airports in Montana but most of them are remote airstrips, without maintenance facilities. I was looking for a place to land where they might have a spare alternator kicking around. I scrolled through the list, eliminating towns like

Sweetgrass Springs (which sounds lovely, but is probably in an alternator-free zone). Five, ever-distancing airports later, KBIL popped up.

Billings! That's a big town and only 55 nautical miles south. I hit the "direct to" button on the GPS and banked the airplane to a heading of 180 degrees.

While I was diagnosing the electrical problem and finding alternate airports, I was still flying the airplane, monitoring the radio, watching the weather, and maintaining the confidence of my passengers. The plane was flying smoothly, and I was in uncontrolled airspace, so there wasn't much radio work to do, I filled my co-pilot in on our situation and our revised destination. Bear kicked into full *on-duty* mode.

Hey girls! There is a town close by that has great restaurants and a shopping mall. Do you want to go there for the night?

Yes! Yay!

✓ I clicked *Passenger Management* off the checklist.

Now, my problems were down to two, battery life and weather. My Cessna flies at about 135 knots per hour; KBIL was now 50 nautical miles away. With that distance to cover, airport circuit maneuvering, landing and taxiing time, I calculated that I needed the battery to last another 45 minutes. It seemed possible, but I didn't really know how much juice it had left.

The weather was a bigger concern. The storm we had enjoyed watching from a distance had become a malevolent force. It seemed to be more than 50 miles away, but it was directly in our path, growing, and moving toward us. It was a case of which comes first, KBIL or TCU.

I did a final assessment of the situation and made a decision. KBIL seemed achievable, but there were some alternate airports along the way if things went very wrong. I doubt Sweetgrass Springs has a shopping mall, but the girls would get over it if we had to land there.



It was time to talk to somebody.

Billings Tower, this is Cessna 182 Gulf, Sierra, X-Ray, Sierra, we are on a VFR flight plan, from Great Falls to Rapid City. Currently 50 miles north of your position at 9500 feet. We have a mechanical issue and wish to divert to Billings for landing.

Sierra, X-Ray, Sierra, Billings Tower. Are you declaring an emergency?

Billings Tower, Sierra, X-Ray, Sierra. Negative on the emergency, we have an alternator failure but should have enough battery life for landing KBIL. Could we get a weather check, please?

Sierra, X-Ray, Sierra, Billings Tower. You are cleared straight in runway 1-6, altitude at your discretion, you are number one. There is thunderstorm activity in the vicinity. Current conditions visibility 5 miles, wind 150 at 10 knots, temperature 28, dew point 22, altimeter 2-9-9-9. Squawk 5-4-5-3.

Billings Tower, Sierra, X-Ray, Sierra. Squawking 5-4-5-3, straight in 1-6, number one, descending through 8,000. Anticipate the field in 15 minutes.

Sierra, X-Ray, Sierra, Billings Tower. Read back correct. We will keep you posted on weather changes.



15 minutes isn't very long, but it seemed like an eternity that day. I checked on my passengers, Bear was concerned, but focused, Riley and Marissa were playing *rock, paper, scissors*.

Landing preparation routine, emergency checklist and weather monitoring kept me busy, and I soon had KBIL in sight. We had slowed down to 110 knots and descended through 5,000', so I put down 10 degrees of flaps. It was early, and it would slow us down even more but, if the battery failed, at least we would have some brakes.

The cloud south of KBIL was growing, a towering black monster now. It was not over the airport yet but close enough that there would be turbulence. There were a few other aircraft in the control zone, but I could tell that KBIL Tower was positioning all of them to come in behind us.

Billings Tower, Sierra, X-Ray, Sierra. We are on three mile final 1-6. If we lose radio-contact our intent is to exit at the first available taxiway and proceed directly to the Shell apron.

Sierra, X-Ray, Sierra, Billings Tower. Cleared to land. Winds 1-5-0 at 15 gusting to 25. You are cleared to the Shell, taxiway of your choice.

Sierra, X-Ray, Sierra. Cleared to land, and taxi.

That's a first, a taxi clearance before I am on the ground.

Mother Nature reminded us of who is boss as we touched down. Lightening lit up the sky and thunder overwhelmed the sound of the engine. A micro-burst lifted us back off the ground and we burned up some runway settling back to earth. The fading radio unleashed a crackle that sent a tingle up my spine.

It will be fun to be back in Billings. I even look forward to a thunderstorm while we are there. This time, my retina won't be branded with the word...

.... VOLTS

Marissa and Riley - Model Passengers (or, Passenger Models) - 2005

