

Climb to Land

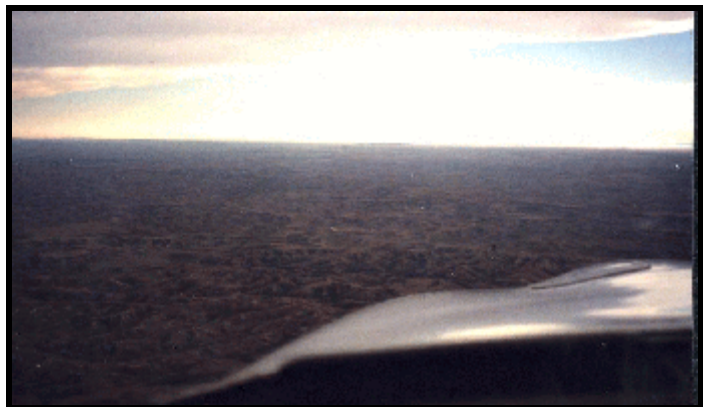
By Bob Kirkby © 2000

It was 6:30 in the morning and I was on the Internet checking the weather between Calgary and Colorado. The plan was to fly south to spend a long weekend with my son and his family in Colorado Springs, just south of Denver. This would be my third trip there this year with the first two having had weather challenges. Now, in early October, I was hoping for good weather all the way.

My hopes were dashed as I scanned each terminal forecast along the route. Every place was good except for IFR and MVFR conditions all across Montana. Undaunted, I switched from the Internet to my Flightstar program to plan a different route. This is a great program. Within minutes I was able to find the closest airport of entry east of the weather system, had a new route planned and kneeboard flight logs printed. My new route would take me over Medicine Hat to Williston, North Dakota for customs clearance and fuel. Then along the western part of North Dakota, South Dakota, and Nebraska, into southern Wyoming and, finally northern Colorado. This route would add 2 hours to my original 6.5 hour route through Billings, Montana, but I'll never complain about getting a little extra time in the log book over some new and interesting terrain. The distance itself would only add an hour but flying around the northeastern edge of the weather system would present significant headwinds that I estimated would add another hour. Back to the Internet to re-check the weather then I was ready to draw my new route on the charts, file a flight plan and begone.

As expected the first leg was less than wonderful with 6-8 mile vis, fairly low ceilings and some rain, but it was VFR all the way. However, 30 minutes out of Williston and the sky opened up to sunshine and some spectacular scenery. The southern part of North Dakota has been intricately carved into thousands of rivulets by ice-age runoff, with fingers reaching westward toward the mountains. This is definitely no place for a forced landing. On to South Dakota and the Black Hills. I never knew how they got their name but with a bird's eye view I was able to quickly figure it out. The contrast between the dark green trees covering the hills and the surrounding tan coloured flat lands makes the hills look decidedly black. My route took me along the western edge of the Black Hills so I was unable to see Mount Rushmore on the eastern side. Alas, this will have to wait for another trip.

My planned altitude for this leg was 8500 feet. Increasing headwinds, however, made me reconsider and about half-way along I descended to 5500, or 1500 AGL. I picked up 10 knots ground speed



Southern North Dakota is a landscape of rivulets

so decided to stay there as long as possible. This gave me an interesting view of western Nebraska and eastern Wyoming as the sun started to go down. My route was crisscrossed by escarpments separating old flood plains from newer ones. Small, flat-topped buttes popped up periodically from the barren landscape and cast eery shadows eastward.

My destination was a small but busy general aviation airport just outside of Colorado Springs called Meadow Lake. En route I would bypass the Denver airspace on the east side, and once abeam Denver would have about 60 miles to go. Since descending to catch more favourable winds I had been gradually climbing again to maintain 1500 ft AGL. Now, passing Denver, I was at 6500 ft. I listened into Denver tower to get the correct altimeter setting because I now had some serious terrain avoidance to do. Meadow Lake is at 6874 feet elevation with a pattern altitude of 7700 feet, so I still had to climb to join the circuit. Before that, however, I had to hop a ridge that peaked at 7410 feet. Just to make things a little more challenging I was now into the last official 10 minutes of daylight.

As I crossed the ridge I could clearly see the rotating beacon emanating from Meadow Lake, about 10 miles away. I tuned into their frequency but heard no traffic. About 3 miles back I keyed the mic three times to activate the ARCAL lights and was greeted not only by the warm glow of the runway lights but also a mechanical voice on the frequency rattling off the current conditions at the airport. This was a welcome surprise (not listed in my airport facility book) since it gave the wind direction and speed, altimeter setting, density altitude and even suggested an active runway. A welcome surprise because I was expecting a strong crosswind and the voice confirmed the wind was at 17 knots across the runway with a density altitude of 7500 feet. This would present a good test of my cross-wind skills.



Southeastern Wyoming could easily be mistaken for the moon

I turned parallel to the runway in the upwind direction and scribed a wide right arc to join the left downwind for runway 15 on a 45 degree angle, as is the American custom. Since there was no other traffic I decided to extend my downwind giving myself a long final to get set up for this high-altitude, high-crosswind, semi-night landing. On final I converted my crab to a forward slip and slowed to over-the-fence speed early so I could determine if I had enough rudder authority for the crosswind. Normally I would carry extra speed and fly it on with this cross wind, but at a 7500 foot density altitude my true airspeed was about 12% faster than my indicated airspeed. Since the crosswind was 90 degrees off the runway I had no headwind component so this would be like touching down with an 8 knot tailwind. I didn't need to complicate matters by having the airplane bouncing along the runway.

So down final we went, the Cherokee and me, successfully holding centre line and carefully adjusting indicated airspeed. We slowed to just above stall with rudder to the stops as the wheels kissed the pavement. Just a little too much ground speed, because they skipped and touched again, then skipped again. One of the things I like most about the Cherokee is the instant-action Johnson bar flaps and the forgiving oleo struts. It was time to use them. Just as the second skip settled I raised the flaps and the Cherokee plunked onto the runway under the sudden lose of lift. The oleos dutifully absorbed the impact and the tires clung to the pavement like tiger paws and rolled to a stop using up 4000 of the 6000 feet available. This was the first time my destination airport was higher than my cruising altitude!



High altitude landings present new challenges

The next morning my son and I went out to the airport to fly some circuits. He hadn't flown the Cherokee in months and needed currency, and I was interested in what circuits were like at this altitude. Being a Saturday morning the flying school was busy and we took off into a full pattern of Piper Archers and Cherokee's. The first thing I noticed was that they were doing tight 500 foot circuits. Clearly that was to speed things up given the poor climb performance at this altitude. Everything seemed to take a bit longer that expected, except for touchdown when the runway goes by faster than usual. After a couple of circuits my son was showing up the old man by greasing his landing.



Passing 10,000 foot Laramie peak in central Wyoming

The rest of the weekend we relaxed around the house then I headed home early Monday morning. The flight back was fantastic with blue skies and only a slight headwind all the way. This had been another wonderful flying adventure with a twist to enter in my log book.