

# Stardust Remover

by Bob Kirkby

Pilots need to stay current, both on the aircraft we fly and the ways in which we fly them. I've discovered if I don't fly a given aircraft type for 2 months or more I need to do what I call a "Dust Remover". After not flying it for awhile I find the familiar is not so familiar anymore and a little practice is required to re-automate some of my techniques. Similarly, for VFR pilots holding a Night Endorsement there are some very unique techniques that tend to vaporize if left unused too long. So, a hiatus from night flying is reason to do what I like to call a "Stardust Remover".

Transport Canada specifies that you must do a minimum of 5 take-offs and landings at night within the previous 6 months to be considered current and to permit passenger carrying. I think it takes a little more than that to keep the stardust off and keep one's night flying skills fresh.

Night flying presents some different challenges that are foreign to daylight flying. Five landings will dust off your landing skills and help prevent you from slamming into the runway at night but it won't do anything for your navigational skills permitting you to find your destination in the pitch black.

And so it was that I planned to do some night flying one morning in January. The winter temperatures had let up a bit and it was warmer than minus 10 at night (my limit for comfortable flying in my Cherokee) and we were experiencing some pretty good weather.

I like to get up early in the morning and plan a take-off in the dark at about 6:00 am, fly for a couple of hours, and return home about 8:00 am just after the sun comes up, and in plenty of time to get to the office by 9:00. I include a couple of lighted airports in my trip where I pause and do a few circuits. This time I planned a triangular course from Chestermere-Kirkby Field to High River, Vulcan and home. It would consist of 45 minutes en route and one hour doing circuits. I filed a 2-hour flight plan to depart at 6:15 am.



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The weather was good and forecast to get even better as the day developed. The ceiling was 8500 feet in broken cloud. There was no moon, so this would be a black flight. With a full moon you can see lots of details on the ground, especially in winter, but without it the only details to be seen are lights.

I took off at 6:15 heading south to High River at 5000 ft. As expected, no surface details were visible except lights and vehicle headlights. Stars were visible in between the clouds high above.

I didn't have much time for sightseeing anyway. I was very busy removing the stardust from my brain.

During day VFR cross countries I always make map reading (pilotage) my primary means of navigation supplemented by navigational aids, such as GPS, VOR or ADF. Usually I only have the GPS turned on. At night, however, it's the reverse. I rely primarily on nav aids and pilotage becomes secondary. This was especially true on such a black night.

This night I had the GPS on and programmed with my course, the VOR tuned into Calgary and the ADF tuned into Vulcan (High River doesn't have an NDB). Every now and then I would look at the ground to see if I could identify any lighted features. South of the Bow River I concentrated on my instrument scan, trying to clear away the stardust; artificial horizon, altimeter, airspeed, heading indicator, GPS, CDI; all the while doing mental math on the numbers. Occasionally, I'd look outside to see if I could identify the town of High River.

Within 10 miles it should have been easy to pick out streetlights twinkling between the trees. Instead I saw only a white mushroom glow coming from that general direction. I looked around and saw nothing but black everywhere else except in the direction of Okotoks, which also radiated a white glow. Was it stardust fogging my brain or, was there something else going on here? Was I on the bridge of the Enterprise looking out at a distant nebula in the Romulan star system?

I went back to my scan and electronically confirmed I was on course. I took another look around and it dawned on me - there was a solid blanket of fog between me and the ground. Everything was black above and below for several miles around except for the white glow directly ahead. Ground lights twinkled clearly a couple of miles to the east indicating the extent of the fog.

This called for corrective action so I decided High River wasn't an option and started a left turn east toward Vulcan. I could see a distant group of lights where Vulcan should be so I felt comfortable that I wasn't flying into more of the same.

In the turn I did exactly what I shouldn't do. I looked outside and marveled at the black hole below. I soon detected an acceleration in the seat of my pants that should not be there (no jokes please). Quickly, I turned my attention back to the panel and discovered I was entering a spiral dive. In the few seconds I was sightseeing I had lost 200 feet, the nose was pointing down and I had over-steered my new heading.

Wow! For years I have been doing spiral dives intentionally but this was the first accidental one, or at least the start of one. It's unbelievable how easy it is to slip into one accidentally. No wonder spiral dive and spin accidents are so prevalent in marginal weather.

Fortunately the seat of my pants is very sensitive to accelerations in any direction and in this case gave me a warning quickly. I leveled the wings and just let the airplane do the rest. The increased speed caused the nose to pitch up. The extra kinetic energy was quickly converted back into altitude, and voila, I was back to 5000 ft. I still had to adjust my heading, which I now did with full attention to my instrument scan.

Well, *that* certainly cleared away a lot of stardust. For the rest of the way to Vulcan I concentrated on the panel and ignored the pretty sights. I was still under radar coverage from Calgary Terminal so I left much of the collision avoidance to the controller.

It wasn't long before Vulcan appeared under the nose and the ARCAL dutifully lit the lights when commanded. The sock indicated a slight cross wind favouring runway 16 so I joined a left downwind and got into landing mode.

This too requires greater attention to the panel than in daylight so I kept busy running the techniques through my head as I turned base and final. On final I reviewed landing technique, though perhaps not quite thoroughly enough. The first one was heavy with the nosewheel arriving first.

More Stardust shook off. I've never figured out why the landing light on the Cherokee is pointed down at such a steep angle. One has to correct for this by looking down the runway and using the runway lights as a height guide. It seems to me landing would be a lot easier if the light shone straight out.

I continued doing stop-and-go circuits and could just feel the stardust evaporating as the techniques smoothed out and I started getting back in the groove. At the end of an hour I was feeling quite happy with my performance so I headed home as the sun began to peek over the horizon. The adventure wasn't over yet though.

By the time I was north of the Bow River it was bright enough for day VFR and I could see what I didn't want to see - more fog. In the daylight it was pure white and impossible to mistake. There was a neat band of it running southwest to northeast right through Chestermere, and beyond. While I was in Vulcan the fog had been busy spreading out from High River and it looked like it went all the way to Beiseker. At Chestermere it was only a couple of miles wide but Kirkby Field was right in the middle under a solid, opaque blanket.

Time to exercise more options. With two hours of fuel left there were lots of options. I looked over toward Indus and it was under the same band. The next two that came to mind were return to Vulcan or go into Calgary International to wait it out. I chose Calgary since I could at least take a cab to work from there if the fog lasted a long time. However, the high broken cloud was very thin so I expected the sun would have no difficulty burning off the fog in an hour or two.

I advised the terminal controller I wouldn't be able to land at Chestermere-Kirkby and requested a landing at YYC. It was now 8:00 am, in the middle of ATC's rush hour, but the controller fit me in with apparent ease.

"X-ray Yankee Bravo, turn left for a right base for runway 34. You're number 2 behind a 767 on final," he intoned without missing a beat.

On final I advised the tower I would be heading for the southeast corner of the airport and was asked to take the first right turn if able. I could see why. There were three heavies holding short waiting for me. The first right was 2000 ft from the button so I responded with an affirmative,

touched down on the numbers and turned off as requested. (Touching down on the numbers of a 12,000 foot runway is a piece of cake.)

I taxied to the hangar where my AME operates. He wouldn't mind me parking there for a couple of hours. As soon as I shutdown I used my cell phone to close my flight plan and a computer told me I was number 3 in line for a Flight Service Specialist.

While on hold I sat in the cockpit reflecting on the morning's flight. The Stardust Remover had certainly been successful. I felt I was back in the groove and ready for more night flying. Only next time I would pay more attention to the temperature-dew point spread. My faithful Cherokee 235 had taken me through another flying adventure. I only wished the pilot had been as consistent as the airplane!

I spent two hours relaxing and visiting, then called home to learn that the fog had lifted. At 10:15 I headed out to the ramp to discover one more surprise. While sitting there the Cherokee had become covered with fresh frost. Twenty minutes of scrubbing and I was finally ready to go.

The morning rush had subsided so I was cleared out right away to an uneventful 5 minute flight home. It's always great to be back and tuck the airplane away in its hangar after an adventure full of surprises.

Now I feel the need for a long cross country flight coming on. I wonder what surprises *that* will hold.