

## **Sharing the skies with balloons - what novice pilots should know.**

One of the amazing things about our Rockcliffe aerodrome is that it offers so much of interest to the aviation enthusiast. We must have one of the most beautiful practice areas in the country. We have the museum for inspiration. We have such a wide variety of fields to fly to: grass in Embrun, another ex-military strip in Carp, a regional airport like Gatineau and a full blown international airport in Ottawa - all minutes away.

We also have another rarer aviation attraction - ballooning - with a major launch site, just on the edges of our circuit. I can't forget that we also have sea planes operating right next door, as well as a VFR corridor which also keeps things interesting.. All in all, a pretty busy airspace.

Sharing the skies with our ballooning brethren is something that the novice pilot is perhaps less focussed on because we are looking out for the harder to see and faster moving types of aircraft. However, balloons are part of Rockcliffe life and we should expect to see these aircraft crossing the field, operating in our normal circuit airspace as well as landing at the field on occasion.

Thus, understanding the flight characteristics of a balloon is definitely worth a quick review and I suggest the reader consider the FAA's Balloon Flying Handbook at <http://www.faa.gov/library/manuals/aircraft/media/faa-h-8083-11.pdf>. There may be a Nav Can version but I was unable to find one.

With this in mind, I want to share a recent experience I had while flying solo circuits. That "learning opportunity" brought home to me that I should not assume I understand this aircraft type just because it is a familiar sight in our local skies.

In summary, the lessons I learned that day are the following:

1. Balloons are not necessarily slow. They can move very quickly.
2. Balloons can make erratic changes in direction and altitude. They do not necessarily fly straight. They have to be watched just as closely as you would another powered aircraft in order to avoid conflicts.
3. Communication of intent is essential for the safety of both pilots.
4. Just as with a normal takeoff, it is a good idea in a touch-and-go to do a circuit check at some stage on the base leg, to look for conflicting traffic in the area of the climb-out and crosswind leg in particular. On final, it is natural to focus on the approach and landing. Like me, you may be assuming that all traffic flies the circuit as well. That is not the case. This traffic check is now part of my touch and go procedure and will be done after landing as well, before aborting the takeoff is no longer an option open to me.

So now for the story...

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One fine evening summer, I was doing touch and go practice off of runway 27. After takeoff I noticed balloon traffic over the city to the south at an estimated 3 miles. Winds were light from the south west at five knots. The sun was low on the horizon and right in my eyes on final and for the climb out.

After three touch and go's I noticed that the balloon was now over Vanier at about 2000 feet as I turned cross wind. It was getting closer, but it's slow, so I thought, "no problem." I went through my normal pre-landing checks.

I made my approach, landed, and powered up for takeoff, pleased with myself. My major concern was that there were now lots of birds on the runway. As they were getting out of my way, my eyes and attention were focussed on them. The sun in my eyes didn't help either.

Just as I rotated, I heard the radio crackle - "Rockcliffe traffic, balloon xyz is west of the field and is descending."

I looked up and there was that slow flying balloon now approaching my trajectory but at about 2000 feet, just over the pond in Rockcliffe park. I immediately radioed, "Rockcliffe traffic, GWZA is airborne from 27, balloon traffic in sight, remaining in the circuit."

Now I was faced with several options and an immediate decision was required to avoid a problem. I was at 300 feet, climbing, and could do three things - go left, go straight or go right. I could also continue to climb or level off at some higher altitude. Descending was not an option.

My first assumption - that balloons are slow, was rapidly being "deflated." I knew he was descending, but how fast? He was also noticeably drifting into my 12 o'clock. He looked high, certainly higher than my normal flight path, but with me climbing and him descending, along with his 5 knot drift into my circuit flight path, what to do? As I made 500 feet, that balloon certainly seemed to be filling up my windscreen pretty quickly. I also noticed that he was dropping much faster than I thought balloons could go.

The FAA manual, mentioned above, states that normal rates of ascent and descent for balloons are usually between 200 to 300 feet per minute. However, balloons can easily do 700 to 1000 feet per minute and in some cases, that is considered a normal rate of descent. One rule of thumb mentioned in the manual is that a normal rate of descent is proportional to altitude AGL. For example, at 7000 feet then 700 feet per minute, 6000 ft then 600 ft per minute, etc. With my climb rate added to his descent rate, you can easily see that what seems to be slow can, in fact, be fast. In essence, we had a closing speed of approximately 70 knots in the horizontal and maybe 500 to 1200 feet per minute in the vertical. This chews up time/space in a hurry.

My initial assumption that he was going to stay above my flight path was no longer valid. I then could go right or left or make a change in climb rate or both. Now in conflict situations, the book says pass on the right. However, given that he was drifting left to right, by turning right and continuing to climb, I was thinking that I would have to do a pretty steep turn at low altitude and low air speed to avoid a conflict. Not a happy combination.

So, could I level off and increase airspeed and fly under him? I felt that it was also not a good plan to have that big balloon come down on top of me. He was descending rapidly, as he too was trying to get out of the potential conflict as quickly as possible. There were also two other aircraft in the circuit at the time. Others may feel differently, but I will never consider flying under a balloon, for the rest of my flying days. The potential rate of descent is too hard to judge. Just better to give balloons the respect they deserve and make a heading change. They have the right-of-way in any case. Any collision is going to be my responsibility.

So my decision was to make a smooth turn to the left and decrease my rate of climb to almost level, in case I had misjudged our closing vector. This also gave me increased air speed (I was at about 800 feet elevation at this point). Thus, I went around the balloon with him still above me, but not directly above. After clearing the balloon, I re-established myself on the normal circuit flight path and made my crosswind turn just slightly further along than normal.

As I turned downwind, I looked back to see where the balloon was. To my surprise, he was perhaps 100 feet above the centre of the river. His rate of descent must have been well above 500 feet per minute and his horizontal speed must have picked up as well. Balloons can move fast.

He then shot up and by the time I was on short final, he had popped up in the middle of the circuit to about 1700 feet and was drifting over the downwind leg. As I cleared the active after my landing, the balloon called that he was leaving the Rockcliffe frequency for Gatineau.

I hope my “learning opportunity” is of use to novice pilots who do not have much experience flying with balloons. I learned that I need to have better anticipation of the future so as to minimize the need to resolve conflict situations and a greater situational awareness of the circuit airspace at all stages of flying the circuit. I can’t just be focussed on what is in front of me. I also learned that my assumptions about balloons - essentially just a fixed obstacle to be avoided - were wrong. It is a manoeuvring aircraft and judging its movement is not so easy or predictable. I am so thankful that the balloon pilot radioed his intent. It allowed me to make a better decision about what to do.

Best regards to all and safe journeys.

Mark Fletcher  
Student Pilot