

Beaver Rush

This is my story of rush, of failing to follow procedure, of being terrorised by a senior into acting against that ‘gut feeling’, and of ignorance. It’s not the first story of its kind – sadly, it won’t be the last.

My logbook had just passed 700 hours total time and I was on my way to building enough flight time to join a regional airline.

I was flying for a small Part 135 outfit (cargo and people) and had been hired early that summer to fly Cessna 180s, 185s, and 206s in and out of a 1400-metre uncontrolled airfield with both seal and grass strips.

For weeks I’d seen the big DHC-2 Beavers coming and going, their Pratt & Whitney R-985 roaring on takeoff with 450 hp of power, spacious interiors, and sitting in a three point stance well above the ground.

I was envious of their pilots chatting in the airport café about how well the planes handled in all phases of flight, and their payload capability. I dreamed I would get to fly one.

That dream finally became reality when the boss, Jack – who we called “Screaming Jack” behind his back – said, “Here are the pilot notes for the Beaver. Study up tonight and we’ll go through the numbers in the morning and get you checked out”.

That night I did my homework, getting the limitations and basic systems operation straight in my head. I knew I was ready...



Photo: Gavin Conroy

The next morning, my ecstasy while pulling the orange Beaver out of the hangar was rudely interrupted by Screaming Jack bursting out of his office and barking urgent tasks at us.

He yelled that the day's plans were out the window as more charters had come through. "I'll let you know when I figure out what you're doing today, now fuel and oil everything".

As he finished, I carefully raised my right hand in a questioning manner and he stared at me and barked, "WHAT?"

"Would you like me to fuel and oil the Beaver?" I figured the question would remind him of the planned checkout he had scheduled for the morning, and allow a pre-flight to be started on the aircraft.

"No!" he shot back, "I got it ready last night. Get the two 185s ready to go and meet me back at the Beaver in 30 minutes."

I sorted the fuel and oil on the two Cessnas, and tried dressing the interiors for the pilots coming to pre-flight before their busy day's schedule.

I hurried the tasks as if a thumb was pushing me squarely in the back. The self-induced rush was uncomfortable, but I was focused on that orange Beaver.

As several of us were pushing a Cessna back to a parking spot, I saw Screaming Jack about 50 metres away, pulling the

propeller through on the Beaver. Apologising for abandoning them, I broke away from the others, running up to the aircraft as Screaming Jack was closing the cap of the forward belly fuel tank on the left side of the aircraft.

He said sharply, "Climb in the left seat, and strap yourself in. See where everything is, get comfortable and I'll finish the pre-flight. You know the 985 (the engine), so be ready to start once I'm in. You have a charter at 12 noon".

I really wanted to get to know the aircraft prior to flying it, but I knew that, with his experience, Jack would get it all done thoroughly. After all, I was going to fly a Beaver, legendary bush plane and aircraft extraordinaire. I had a charter at noon! Learning the pre-flight could wait till after the flying.

I climbed up into the spacious cabin and slid into the left seat. The study from the night before and previous after-work forays into the cockpit helped me become quickly familiar with the layout. I was beginning to relax when the left cabin door slammed closed and a voice exploded from behind me.

"Start the engine," Jack said as he slid into the right seat, "We don't have time for this!"

"Chocks in?" I queried.

"Feet on the brakes, no chocks."

Checklist sitting on my left knee, I ran through it in a blur,



De Havilland Beavers at a 2010 agricultural aircraft reunion in Gisborne.

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calling out each item and required position. I yelled "CLEAR" out the left window, making a great effort not to look at Jack who was fighting with his seatbelt harness and completely disengaged from what I was doing.

I hit the starter, and the whine converted to blade rotation, and two blades later, the reliable R-985 rumbled noisily into life in a swirling cloud of white smoke. Set 1000 RPM, oil pressure steadily came up and passed 50 psi. I pushed the prop to fine and proceeded to complete the after-start checklist, verifying all was in order from the trim to the fuel selector.

I took my time, knowing we needed oil temperature of 40°C to do the run-up.

It worked well until we hit 30°C when Jack looked at his wristwatch and shouted, "Do the run-up now!"

"The book says 40°C to do the run-up," I said, pointing to the oil temperature gauge.

"We'll have 40°C once you've done it, and I own the aeroplane," Jack fired back.

So without hesitation, and feet on the brakes with the stick back, I performed the run-up as per the checklist, trying to maintain a sensible pace. As I marked off the last item in the checklist, the oil temperature was just approaching 40°C.

"Now let's go!" Jack demanded, pointing to the grass vector about 50 metres ahead.

"Can I taxi to the end for full length?" I asked sheepishly.

"When has a Beaver ever needed full length?" he barked back.

I added some power and began to taxi forward, turning the nose slightly to the left to see if anyone might be departing the grass vector or turning final.

I did a control check with the yoke and called, "full and free". When I pushed left and right on the rudders, they felt as if they had very limited travel. It seemed extremely odd for rudder pedals to move so little. I stopped the aircraft at the edge of the vector.

"The rudder's travel is really limited, is that normal?"

"Yup, Beavers have really sensitive rudders, doesn't take much. Let's go!"

I put that morsel of DHC-2 Beaver knowledge away in my 'good things to remember' box, just like that 40°C is not required to do a run-up, even though the Flight Manual says so.

I increased power, and using the brakes, lined up midfield into the wind. Jack quickly and calmly talked me through using the flap selector and pumping the flaps down to takeoff position.

He looked at his watch again, and said, "Ahead of schedule, three touch and goes. Let's go."

I smoothly increased power up to about 24 inches to get an initial feel of the aircraft. I found that the rudder input to compensate for torque and P-factor needed a smooth application of the opposite brake.

The tail came up quickly, and soon we were trundling along on the main gear, and I pushed the throttle on up to 30 inches. While not alarming, the control harmony of the legendary Beaver was not nearly as nice as advertised. It felt a bit crossed up and uncomfortable, which I passed off as me being new to the aircraft. I eased back on the yoke and the aircraft leaped into the air.

I pitched up to maintain 75 mph into climb attitude, and symptoms that had developed during the takeoff roll became more exaggerated.

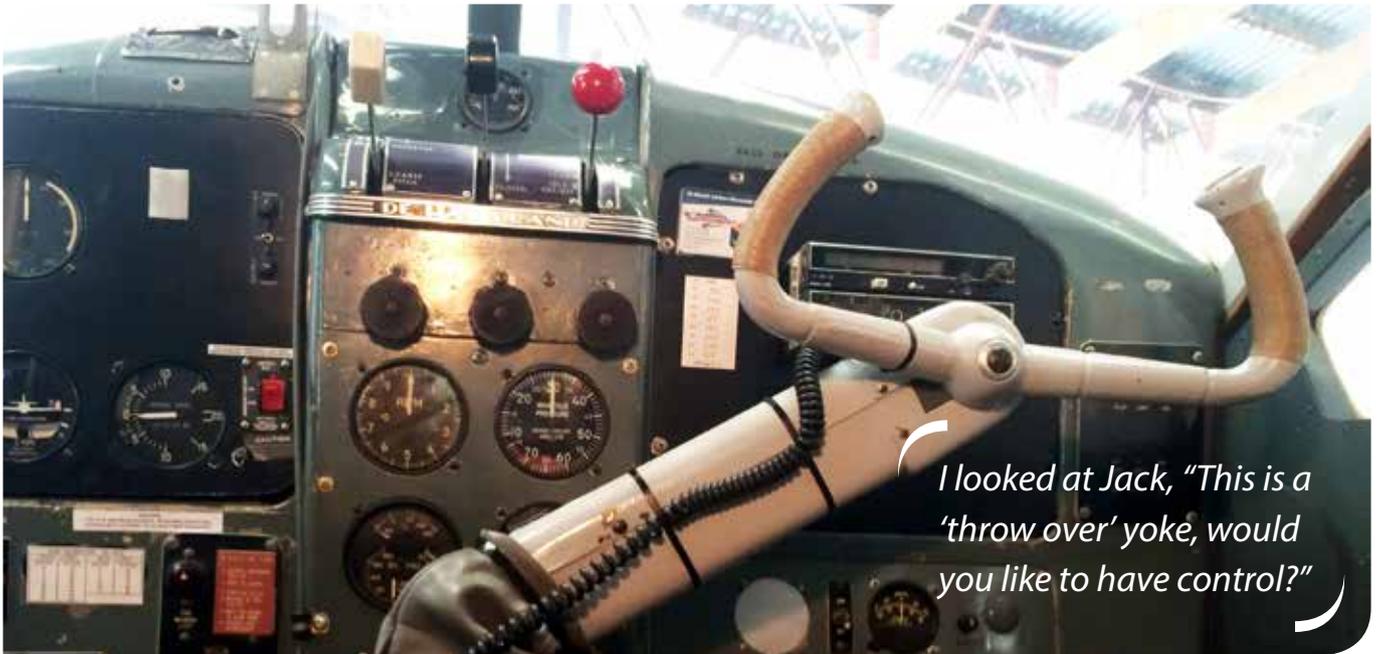
The aircraft had a distinct yaw to the left, with right rudder input, a small right aileron input with a few degrees right wing low to keep going straight.

I looked at the needle and ball and it was showing I needed more right rudder. We were climbing straight ahead, in reasonable control, and at this point that was all that mattered. I climbed to 1000 feet agl, levelled off, and turned an uncoordinated left crosswind.

In my peripheral vision, I saw Jack look at me meaningfully as he stated, "I bet I left the rudder lock in".



A rudder lock like this, mistakenly left in, almost led to disaster.



I looked at Jack, "This is a 'throw over' yoke, would you like to have control?"

I envisioned the possibilities.

"Is it from the lower back or up near the balance tab?"

"Two pieces of wood with a bolt up near the balance tab."

The air load in flight would keep it in place. Shaking it loose was not an option. I thought about the little bit of travel I did have from the rudder pedals was the control force being applied at the bottom of the rudder and twisting the whole rudder slightly into the breeze. I decided reducing the rudder pedal pressure to minimal would be best and achieve the same limited result.

I looked at Jack, "This is a 'throw over' yoke, would you like to have control?"

He hesitated, "Nope, I don't have any brakes on my side, and you know how it feels."

"Got any ideas?" I asked.

"Long final, little torque at low power, glide approach, land, taxi in, remove the lock."

I thought for second. "I agree with all of that, but let's briefly see how she handles."

We continued straight ahead, slowly climbing to 1500 feet agl, then levelling off at 70 mph. What we had planned was simple, but we both acknowledged a practice would help us know what pitfalls might exist.

It also would allow an exploration of handling if a 'go around' was required. So after a brief review, I reduced the power to 1000 rpm and Jack slowly pumped in the flaps to takeoff. Landing flap was not required for the ample length of the grass vector and would lessen the drag in the event of a go around.

I brought the airspeed back to 65 mph and the Beaver descended, tracking straight ahead and true. We descended to 1000 ft agl and levelled off, retracted the flaps and set power for 70 mph.

We both got our eyes back outside and turned towards the airfield. Announcing our intentions on the radio we entered the circuit and extended our downwind for a three-mile final.

We turned a good wide base and onto a nice long final.

Jack told me that after we landed and stopped, he'd get out, get the control lock and jump back in.

I told him we should worry about that once we were on the ground. I was concentrating.

"Belts tight, shoulder harness tight?" I said and we both checked they were snug.

"Flaps?" he asked.

"Nearly forgot them, flaps to takeoff."

"Takeoff set." he said looking up at the vector about a mile ahead.

The Beaver flew a perfect profile with the power set and the propeller moved to fully fine. At a half mile to go, we both noted the windsock said five knots straight down the vector. The touchdown was a tail low wheeler that resulted in an arrow straight rollout. It was an anti-climax to the whole experience.

I used the brakes to slowly taxi off the vector and come to a stop. Jack, as promised, jumped out, looked around, made sure no one was looking, and removed the rudder lock, before jumping back in.

We taxied without a word to the aircraft park.

I thought Jack's mind had to be racing the same as mine, with 'what if's'.

He never said so, of course, that was not his style. But in the next few hours I detected a 'Let's start over and do it correctly this time' attitude in him.

We had a coffee. We reviewed the DHC-2 Flight Manual, and went over the limitations and systems of the aircraft.

We completed an extensive pre-flight, internal and external, and fuelling and oiling. And why control lock removal is so important.

We did a proper type rating, which was our penance for doing it half-arsed in the first place.

Jack and I never spoke of it, ever, but our flying improved from that day on. ■