A PILOT'S DIARY (1954-60)

8 December 2004

Claude Montour (130769)

R.C.A.F. (Royal Canadian Air Force)
Department of National Defence
C/M Publications

20 MAY 1954 - RECRUIT

To-day I celebrate my twenty-first birthday... In front of the law, I have COME of AGE!

Three years ago (already) I was preparing to leave for the 1951 summer camp under the University Reserve Training Plan (URTP) of the Royal Canadian Air Force (RCAF). I had joined that corps during my first year at the university solely to earn sufficient money to pursue my engineering studies paid for, to this day, by my parents. At that time, I paid little attention to the options offered. My selection criteria being solely and directly related to income! As the Flying Crew gets additional Flying Pay, I did, like the others in my group, give PILOT as my first choice followed by NAVIGATOR and by RADIO-OPERATOR as my last option.

Everyone knew that, out of the intensive tests, few of us would be accepted as pilot and that some of us would even be rejected from the other two options. Nevertheless, off we all went to Toronto to take these tests. And came the day of decision: I was last on the list to be given his results. One by one my friends came out of the selection board: rejected as PILOT, accepted as NAVIGATOR!

When my turn came I was quite surprised to hear that I was accepted for the pilot's course... Faced with the fact of being separated from my French-Canadian friends and without much more interest for one or the other options, I bluntly asked to join them on the navigator's course. Never could I forget the expression of astonishment that this unexpected request provoked on the selection board members' faces... A cold shower would have had the same effect!

I realised later the dilemma so created to them because, of our group, there were to be only one to go on the pilot's course and that by refusing I was drastically disrupting their plans. Once the state of shock over, they accepted my request and offered the posting that I refused to the second best candidate on their list who jumped on the occasion.

The selection criterion must definitely be valid based on what happened later. This narrative will tell you in much detail what happened to me while the other person that had to be named here to replace me on the pilot's course never made it through the aptitude tests and got dismissed a few weeks later.

In the mean time, I ended up in Summerside, Prince Edward Island, for the navigator's course: 'SAT 3 ANS' or Summer Air Training, # 3 Air Navigation School. I entered an unknown universe by which I was swiftly conquered...

The first days of ground school covering theories are much interesting but the infatuation effect of those beautiful BIRDS that can be seen from so close and in such number is such that resistance seems useless even though the fear of them still has to be overcome.

Much like wild beasts to be tamed, we gradually and carefully get closer to them, minding not to scare them... or. is it vice versa?

And the big day comes. It is our AIR christening. Our wings are the Douglas DC-3, DAKOTA, veteran, soft, experimented, and who has earned its colors in every skies. For this first flight all members of the course surge into the same aircraft. The weather is marvellous and the cruise is magnificent. Fears shade off automatically. Once returned to Earth, only one envy fills our minds: get back in the air!

During that summer I acquire knowledge of air navigation that was to become most useful to me later. Yes, but the effect of that summer on my life was not at all expected as it is bringing to light a taste of flying that I had never felt before.

Back to school in the autumn I frequently dream, mostly during the day, of the pleasures of flying, no longer as a navigator but now, as a pilot of these steel monsters, the world's most beautiful monsters!

World affairs are uncertain. The Korean War seems on the verge of degenerating into a world conflict. Reports from Vietnam are smelling worse each day. And I am of age to be called in - I make

my choice! It will be AIR FORCE and PILOT for me! I just can't visualise myself in the Army or even less, in the Navy... I am twenty-one, to-day, I decide for myself, no need for co-signer.

My demand for enrolment in the Royal Canadian Air Force is submitted this same day... The process that leads me to that decision will have lasted almost two years, and it had simultaneously brewed, and for the same reasons that lead the occidental forces to decide to rearm in order to assure the protection of their liberty.

As a member of N.A.T.O. (North Atlantic Treaty Organisation), Canada selects air defence as its prime weapon that confirms my decision to become part of it. In addition, we are to develop ourselves and for the first time, our own equipment: end to the dependence on the United-States and England. We will build our own air force ourselves: we can and we will. We have already proven and demonstrated our superiority with the JETLINER: first turbo-jet propelled transport aircraft to fly in North America if not in the world. We would nevertheless have to put it aside in order to concentrate our efforts to mass production of a fighter meeting our needs and stamped: MADE in CANADA.

The result of the collective efforts from thousands of Canadians will be the CF-100. And that is the plane that I will be flying as soon as it becomes operational on our squadrons!

Once my demand is formally submitted, events start to precipitate at a tremendous rate. Within two weeks I am submitted to multiple and intensive medical examinations and physical ability tests: heart, eyes, nervous system, reflexes, etc. All these get done here in Montréal by a number of specialists that I have lost count of, spread all over town and that got me running like a fool in order to respect the appointment schedule given me. And then, complete silence for a few days while the results of these tests are getting compiled. After this mad race, one starts to wonder!

I forgot to mention that during that same period I had to write numerous tests aimed at determining my aptitudes towards the role of pilot and others to establish my intelligence quotient. I was particularly concerned by the eye tests given that for a year or so I had to wear glasses to read and work. At last, I get the results: good all the way. My personal file, as signed by the Montréal recruiting office, includes the following: eligible for the officer/pilot course in London, Ontario. Mother tongue: FRENCH. Recommended for the ENGLISH course (this without any language test!).

Knowing that this course would add a considerable delay to my entry in OPERATIONS, I must accept, but not without difficulty, considering my knowledge of English quite sufficient. I leave with the firm objective to avoid it.

8 JUNE 1954 - LONDON, ONTARIO

SELECTION and CLASSIFICATION of CANDIDATES

Beginning of a second phase, in a foreign scenery, submerged in an English-speaking majority. In fact, the word MAJORITY is not strong enough because, of the sixty candidates, only SIX are French-speaking... It sure is not long before we regroup in order to converse in our own tongue and, almost by default, become friends! Without any doubts though, the same question is shared by all candidates regardless of where they come from: who among us will survive until the next phase? Many called, few elected! That, everyone knows...

I settle in one of the barracks: will it be the first and the last at once?... I am confident that it will not be! We are given the agenda for the first week; it is a very tight schedule including all sorts of tests and exams: physical aptitudes, leadership, (we must qualify for officer training), mental alertness, mind vitality, fast mental and physical reflexes, self-control, character strength, retention of good judgement under various pressure conditions, etc.

Early on that week I notice that the French-speaking are all part of the same team leading me to ask why from our assigned group assessor. His answer comes out nice and clean: in order to afford a fair chance to all of the recruits, we are evaluated on a separate base from the English groups taking into consideration our handicap as all tests and instructions are given and written in Shakespeare's tongue. On the other hand it implies inevitably that our handicap would need to be eliminated by taking the English

course at St-Jean (Qué) lasting a minimum of two months. Realising the urgency, I demand to see the Commanding Officer to negotiate a transfer to one of the anglophone groups in my pursuit to bypass that language course that I continue to consider a waste of time, at least as far as I am concerned.

At that interview, I explain the reasons for my intervention and my arguments are accepted while requesting twenty-four hours for consultation. I impatiently wait for the verdict and, finally, I am called in the C.O's (Commanding Officer's) office.

Following a short conversation (in English, naturally) with the latter and for his self-satisfaction, he renders his decision: I am left free to decide - I join the Anglos and be treated as they are, without particular regards, or I stay where I am and enjoy all the chances afforded to Frenchies not only through this phase but all those that will follow. I am given until the next day to deliver my final decision.

First thing the next morning I present myself with decision in hand: IMMEDIATE TRANSFER!
My concern was growing as time went by due to the recovery necessary to re-align myself with those that were not only progressing as I was negotiating but doing so much faster in their own language than we had been in our 'foreign' language.

And here I am as a black sheep in the middle of teams already formed, no one interested in taking me along with him, the competition being strong and tight. The inherent nature of the tests in progress prevents the monitors to force anyone in accepting me. I am in fact generating a situation for a real chief to resolve (while each member of the teams is trying to prove that he is the chief) but no one's reaction becomes apparent. I am summoned again: no one has shown the spirit necessary for me to transfer to their unit. Dilemma! Could I work on being accepted? What if I was to bring a team not only to accept me but to wish me part of itself, would it be acceptable? The answer comes without hesitation:
YES, most certainly!

Given carte blanche, I start immediately that same evening in exploring the grounds on some of my English friends belonging to different groups that, be said openly, have nothing against me personally, but who, as all of us here, are under the great pressure of close competition between each other.
Let me tell you that such situation generates an ambience (cannot find better word) to say the least unique and at the same time indescribable of self-taught. Why? Because that all of us, here, find ourselves in the same bath: each competes the others, no one knows each other (we all met here for the first time), everyone is open-minded to friendship, all have demonstrated through previous tests of a certain level of aptitudes above the average as leaders and now, they are facing the process of elimination among themselves. They are all conscious of that situation, but none has lived such experience previously and nobody is there to help the other. It's everyone for himself. On the other hand, outside competitions we do live our spare time together and under the same roof, far from our respective homes and ROOTS...

Such a tension bath can't but bring friendly ties, even changing for the majority the significance of the word FRIENDSHIP. Communication difficulties between minds of high calibre but yet different has but one challenging result in filling the communication gap to better exchange. All of this to say that: the participants' mother-tongue has little importance; appreciation of others vs self quickly changes to friendship; .an INTERNAL selection occurs on its own, without animosity, based on GOOD SENSE and .the proverb: 'Charity begins at home' is the rule of the game.

But all these nice thoughts do little towards the resolution of MY problem. Who do you think must find the solution? ME, evidently. It depends solely and only on ME. I am I in front of I. I cannot and must not count on anyone but 'I' to do what 'I' want to do. That is absolutely NORMAL... My friend (who ever he might be) has enough of himself to worry about! A moment of reflection and all becomes clear... I must get recognised as leader by one of the anglophone teams. I take on the members of the team that I judge to be the weakest hoping to augment my chances. The ease with which I manage to convince them, separately, one after the other to wish me, surprises me more then they. Once together, they agree as a group and greet me in their team with the hope that an additional person would augment the chances of success of the whole team.

And it is with that WEAK team that I complete my tests of the week. Well, our evaluators do not see it the same way because, with their competence, they classify it first! Why? The other groups are penalized for not reacting correctly in front of the situation that I was the cause! SO FAR, SO GOOD.

15 JUNE 1954 - BEGINNING OF THE OFFICERS' COURSE

Although the final results of the tests from the previous week were not released yet, we all start the officers' training, exception made of the French-Canadians who are to go to St-Jean (Qué) for their English course before returning here, as soon as their results are published.

And the long waited for results are coming out one after the other: who is to be pilot? or navigator? or radio-operator? and how many will simply be rejected? Impatience reigns and as time flows the selection progresses. Of the fifty-eight candidates that we are and for whom the dice are rolled, twenty-six are accepted and will pursue the officers' training program while the other thirty-two will pack their bags and go home in search of new horizons.

Of the remaining twenty-six, fourteen will go on the pilots' course, eight as navigators and the last four will head for the radio-operators' training assuming that all of them successfully come out of the on-going officers' course.

I am of the fourteen: what joy! It is not without sadness that I see my French friends depart for St-Jean: will I ever see them again? On the other hand, taking the lead by skipping that course overrules. To-night, at the mess, congratulations abound as well from 'fortune mates' as from those monitors right up to the CO who have followed my progress these last days. All confess their concerns about my success while hoping that I would make it.

It needs to be said that I was the cause of a precedent and many wondered about it being in accordance with established procedures. I do feel that my success got some out of the spot who would otherwise have had to justify their decision on my case if that experience had ended in a failure.

18 JUNE 1954 - OATH

Memorable day on which I sign my enlistment to the R.C.A.F. (Royal Canadian Air Force) and pronounce my solemn oath of allegiance to the queen of Canada, ELIZABETH the SECOND.

I feel kind of lost in this different world, strictly English. Boredom is frequently my fate, too frequently. I feel lonely, far from my kin: deserted. Each day, I write to parents and friends as to get closer to them. How would I like them to do likewise! Useless to describe the comfort that I feel from the first letter received.

The following six weeks are of the toughest and most discouraging. The officers' course is no game! DISCIPLINE only gains its full meaning once you lived through this. No spare time as outside of school hours we must polish, shine, rub up buttons, boots, floors, rifles... Every day, hours of DRILL come hell or high water and these days are the hottest of the year in the hottest part of the country. Such is the strain that by the time the final exams comes all desire to continue has pretty well vanished. Results: failure in two of the exams.

Again, called-up to face the evaluation committee: admitting to my indifference and to the lack of efforts given to studies, I declare that I would willingly return to civil life although I am prepared to get a hold of myself and retry if such is their decision. After reflection and evaluation of my antecedents, I am given the benefit of the doubt and enlisted to carry on with the pilots' course.

My enthusiasm returns just like magic and I leave London in the best condition in the world to finally get started in pilot training.

3 AUGUST 1954 - CENTRALIA, ONTARIO

Cloudy day... On the other hand this base is brand new and welcoming. It transpires a feeling of well-being. After settling in our private rooms (so far we always enjoyed dormitories filled with double-deck bunks!) we regroup at the mess hall where we meet student-pilots with whom we gradually get acquainted.

Of them a few are French-speaking: Laroche, Beauséjour, Desrochers, Carrier, Champagne and Roberge. Carrier, Roberge and Champagne just arrived from St-Jean will be of the same course as I.

The others have at least one month lead on us.

The aircraft used for training is the HARVARD and we will have to take two weeks of ground-school before we ever come close to them. The strident scream of sirens reminds us of the risks of the trade at least one day out of two which is not without inducing reflection. And then, the day of our first flight comes.

It will be on a Sunday, under ideal weather conditions that my instructor, F/O Elliott, takes me for my first familiarization trip. For this first ride I jump in the back seat and we merely enjoy the local scenery without elaborated manoeuvres. All goes well and I rejoy to be back in this world of vastness but, what a difference between this single-engine aircraft and the DC-3 of Summerside of two years ago. The former being the motorcycle while the latter is the bus!

Back at the base, we immediately prepare for another trip: it will be my first lesson! My instructor and I switch places: I in front, him in the back. It is still he who masters the aeroplane that affords twin controls at both positions. I follow with great care the manoeuvres of my monitor. At an altitude of ten thousand feet, he hands me the controls. Slowly I exercise light pressures on the BROOM STICK and get the feeling of the plane's reaction. I find it difficult to maintain the bird in stable state which makes me doubt of ever getting able to master it some day. This is the twenty-second day of August and my LOG BOOK registers my first two official flying hours.

A few days later I am to discover that my instructor is only assigned to me on a temporary basis, being already tied-up with students of more advanced courses. There is a shortage of instructors and I am one of those to suffer from it. As a consequence I will only fly twelve hours and five minutes over the first four weeks of training. Moreover, F/O Elliott is off on his annual vacation at the end of the third. I manage, just the same, to pass with success my fifteen-hour test on the twenty-fourth of September after being through the hands of three different instructors.

We are advised that the base at Centralia will, from now on, be reserved for the training of pilots from N.A.T.O. countries other than Canada, and that us Canadians of our course and those following will be shipped out west immediately. Consequent to that decision I find myself nailed to the ground with some twenty-eight hours of flight done and ready to take my SOLO CHECK that never comes...

11 OCTOBER 1954 - MOOSEJAW, SASKATCHEWAN

While travelling by car from Centralia to Moosejaw with Gordon Kelso, Wes Allen, John Muijlaert, Pat Cunningham, Georges Champagne, Don Seabrook and Steve Esplen I realise that we have already lost some of our original gang along the way.

Since my arrival at Centralia some French friends had to quit for different reasons: Saint-Pierre, after having failed at the MID-TERM exams, saying to those who cared to listen that he could not continue because his eyesight was weakening! Beauséjour, lacking co-ordination could not pursue his training. Laroche left to get married (the rules required that one would remain single until the end of the training period and at least 23 years of age). Carrier failed his 'fifteen-hour' flying test after multiple attempts. Deslauriers could not overcome vertigo while flying on instruments 'under-the-hood'. Roberge, whose legs were too short, could not push the rudder pedals to their full positions: he got transferred to the navigators' course.

On my course (the '5408': eighth in 1954) Champagne and I are the only French-Canadians left. We have left behind us Desrochers of '5404' who will complete his course in Centralia. He scared all of us just before our departure from Centralia in landing with his wheels still up! Forgetting to lower the landing gear resulted in serious damages to the plane but he walked out of it without a scratch...

So, on this eleventh of October we settle in Moosejaw. This brand new base helps in forgetting the desolation of the surroundings: it is deadly FLAT!

Once unpacked and re-oriented, we resume our training and on the nineteenth I fly for the first time here with my new instructor F/O Marshall who, after three hours and forty-five minutes of revisions, declares me ready for my first SOLO.

21 OCTOBER 1954 - SOLO on HARVARD

To-day, I go up with F/O Pollock for my solo test flight and who, after one hour and five minutes of aerobatics, orders me back to base. Stretching the suspense to the end, he waits until I park and start the engine shut-down procedure to tell me to keep the engine running and let him out! God, I have passed! He secures the backseat harness and completes his freed position pre-flight check for me, locks the cockpit and waves me off... I have control, no one is there behind me!

In leaving me, his instructions were quite clear: once around the circuit and back you come. Respecting those directives and without losing sight of the airfield, I get ready to land: a thousand feet of altitude, air speed adjusted, landing gear down and locked, two green lights, propeller pitch 'full fine', carburettor heat 'cold', twenty-five degrees of flaps, ninety-five knots IAS (indicated air speed) on the dial, oil pressure 'normal', CANOPY 'closed and locked', harness 'locked', ready... I have got a 'green flare', I am authorised to land, and so far everything looks good, better than I would have hoped! Touch-down without a bounce and here I am rolling down the runway, the three wheels firmly on the ground as I prepare to start applying the brakes when it seems that the plane tends to gradually lean to the left, more and more so - what is happening? A flat tire? Is the wheel coming back up? And the end of the runway which is getting rapidly closer and closer... Full throttle and off we go again!

Back on final again, ready for another attempt, all checks done over twice if not more... What lies ahead? This time, no question, I must stay down what ever happens. I touch-down, all seems normal, I get to the same place as I did the first time and again the same thing happens, the plane leans slowly to the left.

God help me, I press on the brakes! I finally get to the end of the landing strip, get off to the right as normal to free the runway and complete my POST-LANDING CHECK. Pitot tube heating: OFF, flaps: UP, radio-compass: LOCKED, oil pressure: NORMAL, all temperatures: OK., ??! I suddenly realise that my ship handles perfectly, standing straight on its legs and that I had had no reason to worry as the defect was not from it but, rather, from the runway itself!

I had used this landing strip for the first time since I got here. It was written that the wind would have to change direction during my first solo flight... Sheer luck, I suppose! Nevertheless proud of my achievement, of having taken the right decision in doubtfulness, I now get ready for the reception at the ramp: the 'traditional shower and tie clipping' reserved to 'First Solos' by the welcoming party...

The first solo is an important milestone, surely, but it is, in fact, only the starting point...

AEROBATICS

The time for advanced aircraft handling lessons and precision flying exercises has now come. During my first lesson of this type my instructor teaches me how to do loops and rolls but, not getting to do the latter properly himself, he suggests that I go and do loops without insisting on the practice of rolls.

Here I am again, alone this time, at nine thousand feet of altitude: the area is clear, no danger of collision, no free objects on board. I adjust the throttle as needed (manifold pressure at 28" Hg) and I ease the nose down to gain speed: from 110 knots I cross 125, 140 and at 155, I pull the nose up while maintaining, from the corner of each eye, the aircraft in the horizontal position, I increase the pull on the 'broom stick' my weight tripling under the centrifugal force. I am temporarily in the vertical plane, the nose pointing to outer space and a few seconds more and I am on top of the loop. My feet 'up in the air' and my head thrown as far back as it can possibly go, I search for the horizon that is not long to appear and to make way for the ground in a breathtaking dive that gradually shades off as I slowly return to normal straight and level flight (and normal weight) after completing a full circumference in the vertical plane. All is well: NOTHING THERE!

Let's be foolhardy and attempt a roll. Let's apply the theory while forgetting that its application didn't quite work out when my instructor showed me before. So, speed: 140 knots, nose up at about 15 degrees above the horizon, ailerons to the right, elevators at the neutral position, rudder to the left as so to get the nose to describe a full circle around an imaginary fixed point in space and return to straight and level flight without too much difficulties. Not bad... Not bad!

Well, so good for a roll entered from the right. Should not be different when entered from the left. Abrupt entry, I think, I feel that the nose was not raised quite enough at the start, and I suddenly recall from ground school that this aircraft does not react similarly from both sides, kind of late to think about it as I am now in a dive as terrifying as unexpected: QUICK! Throttle back and propeller pitch to full coarse in a radical attempt to save the engine which is revving-up and getting awfully close to its pressure and speed limits.

Forcefully, I pull on the stick as the ground is becoming a growing menace. In doing so, the centrifugal force crushes me on the seat as I reach more than four times my normal weight for a few seconds and find it difficult to move. I slowly let go as I am now almost pointing straight up, quickly regaining those five to six thousand feet of altitude lost.

As all my efforts are to get this machine in a normal position, the speed drops rapidly, such that the engine comes to a grinding halt: stalled! HUM! Not surprising: pitch full coarse, throttle closed and hardly any speed to speak of: nothing goes. WELL! Will it restart?

First, let's get this thing in a controlled glide path and then go through the emergency restart procedure. Propeller blades: full fine. Throttle: open to half an inch. Carburettor mixture: full rich... Interminably long few seconds and, there: It starts!

Enough of this craziness for to-day! Let's head back home before getting into more frights...

As time flows training continues: day navigation trips, initiation to night flying, circuits and bumps followed by night navigation trips and then formation flying.

I now have full confidence in my capabilities as a pilot and I form one body with my bolide: today, it is I that master it and no longer the other way around. Where I want it, it is! I know it in depth, I feel its limits, it no longer scares me.

As we get to four-plane formation training the second half of the flights are devoted to 'dog fights' out of which I rarely come out not being the only 'survivor' even when experienced instructors are involved.

As we start night flying it is right in the middle of winter. In Saskatchewan winters are extremely cold and in HARVARDs the heating system is so poor that we literally freeze in them.

I never knew why, but for some reason, the Mk2's are almost exclusively used for night flying. So far I have only flown onboard of Mk4's. As it appears, the Mk2's were designed for six-footers. I could not, at 'five-six', have full control on the rudder pedals, my legs being too short to apply full rudder in a comfortable position.

The solution is quite unorthodox: I have to be equipped with two sets of gear 1) standard seat-pack parachute for the Mk4 and 2) back-pack parachute supplemented with a foam-rubber cushion for the Mk2. What a mess! Eventually my night landings somehow become more accurate than those by daylight - contacts with the ground are imperceptible. I even come to prefer flying at night...

Graduation is near and a recap of incidents is in order: one of the French-Canadians that I knew killed himself near Centralia. A few days later, another (English, this time) crashed in front of the very eyes of his fiancée, near her home in Ontario. Desrochers (still in Centralia) 'ground loops' on landing, breaking a wing off his plane and, once again, gets out of it without a scratch. Turgeon (English) retracts by error his landing gear instead of his flaps as he is rolling down the runway: propeller and flaps totally scrapped, the engine seriously damaged, both wings ripped off. My friend Leo Wolfe ends up 'nose down' on landing after applying too much brake: material lost only... One of the Turk trainees here, crashes up-side-down in the middle of a field unable to describe what happened. He gets out of it without a scratch. On the other hand, on a formation training mission a mid-air collision claims the life of two of us...

7 APRIL 1955 - GRADUATION

This morning I do the last flight that completes the syllabus. Twice to-day the sirens sound the

alarm: two CRASHES. Fortunately nobody gets hurt but two HARVARDs are scrapped.

This evening our graduation is formally crowned at a MESS DINNER strictly respecting the decorum dictated in the BOOK for such an event. For us it is our first! For over a month we have been visiting the local haberdasher's shop where our officer's uniforms were tailored. All 'dressed to the nines' we receive our officer's certificate, our pilot's licence and our diploma. We are also told where we will next go for our advanced training; all of us are to pursue our training in Gimli, Manitoba, on the T-33 SILVER STAR

Some of us are deceived, expecting their advanced training to be on transport aircraft (opening the doors to a career in commercial flight, their real aim in joining the Air Force...).

Personally, I'm flying high as I have not given up the idea that the CF-100 or the F-86 (SABRE) are for me and the T-33 is the trainer that will lead me there unless I get stuck on the latter as an instructor!

22 APRIL 1955 - OFFICER

Official date on which my officer's commission in the Royal Canadian Air Force becomes effective carrying the seal of Her Majesty the Queen Elizabeth II, the signature of the governor general of Canada, Vincent Massey and that of the minister of national defence, Ralph Campney.

25 APRIL 1955 - #3 AFS, GIMLI, MANITOBA

This base located some one hundred miles north of Winnipeg, at a short distance from the west coast of lake Winnipeg, has little to offer outside the type of planes that it houses.

First of all the road that links it to Winnipeg is a real swamp, specially at this time of year. The buildings are getting old and the barracks, built of wood, although clean and comfortable, clash with those left behind in Moosejaw.

Once settled we head for the officers' mess (and not for the flight-cadets' anymore) for our dinner and to meet, at the bar, friends that got here before us such as Desrochers and others. It is not long before our introduction to the base is over as we are made aware of our predecessors' exploits. It is that way that we learn that our first two weeks will be spent at ground-school before we even get close to our first T-33.

It will be long, but we also realise that there is a lot to be learned about that new bird before setting our hands on it.

To see and hear those JETS to and fro across the sky, nourishes an increasing desire of mastering these engines generating pins and needles in one's legs. These two weeks seem to stretch indefinitely when the day of our first flight comes.

Those two weeks kept us quite busy: decompression chamber, ejection seat, oxygen equipment in addition to detailed studies of the multiple components of the plane: instrumentation, pressurisation, hydraulic and electrical systems, fuels, envelope characteristics, etc.

I missed to mention that of the fourteen candidates that we were at first in Centralia, only eight were left as we got to Moosejaw and six here at Gimli. One of the latter two is Champagne who couldn't make head or tail of meteorology. I am now sole French-Canadian left in '5408'. Of the original fifty-eight that started out in London, six have survived thus far.

Of the two accidents that took place in Moosejaw the day before we left, we get more details. The first one, landing short of the strip, plowed into the mud while the second stalled some twenty feet above the runway to crash onto it. Under the impact, the landing gear pierced through the wings, the engine broke away from the rest of the plane and came to rest some fifty feet from the body: the plane was a total loss. Thanks to God, everybody got out without serious injury.

Surprisingly enough, '5408' has never had any serious accident from the start. God must be protecting us as few of the courses, if any, holds such a record. Let's hope that this will continue for ever!

17 MAY 1955 - FIRST JET RIDE

What a machine! From the old HARVARD to the gleaming T-33 no comparison is possible: can a Ford model 'T' be compared to a Jaguar or a Ferrari? The enormous progress in aeronautics that came between the conception of the first and the production of the other can be found in each and every one component: aerodynamics, hydraulic and electric systems, instrumentation, pressurisation, oxygen, radio, defrosting, servo-controls, emergency systems, ejection seat, diving brakes, jet-propulsion, new material such as plastics, aluminium, new alloys of incredible resistance relative to their weight, meticulous presentation, etc, etc.

But, so many dials and indicator lights! Switches, levers, buttons all over... The CHECK LISTS are without ends. And, on top of that, we will have to memorise every item that they contain and, also, in the right order. Luckily on the first few trips our instructor will be there to do all of this.

F/O Pardey, my new instructor, introduces himself and as we get acquainted he describes in great details the contents of our first flight. Together we examine the log book of our aircraft, number 21366, which describes its history: repairs, problems, etc, and from which we can get a fair idea of its weaknesses.

With our signature we take full charge of the plane and then file our flight plan by telephone to air traffic control. Our parachutes on our backs, oxygen masks and helmets in hands we head for the parking lot where the planes are lined up: the TARMAC. Complete inspection of the plane from outside: the 'external check', no oil or fuel leaks, all tank caps screwed and locked, security pins removed from the landing gear, protection covers removed from external sensors, oleo jack extensions at a minimum of two inches, no obstruction to control movements, ailerons, elevators and stabilisers, tire pressure normal, 'tail pipe' clean and without metal dust sign of engine wear or imminent failure, grounding wire brushing the ground.

Our 'chutes are strapped to our body before getting on board. I climb first, in the front, followed closely by my instructor who jumps in the back. Adjustments to the rudder pedals, the ejection seat, connection of the parachute to the seat, of the oxygen mask to the oxygen system, of the earphone and mike to the plane's radio transceiver, adjustment of the helmet and sun visor. The auxiliary power unit is already in place and the ground technicians are making signs that they are ready.

Them, yes! But, not me... At least not quite yet! I'm only at the first few lines of my long check list... I try, by signs, to tell them to be patient. After a few seconds of quick orientation in this jungle and trusting my 'guardian angel' sitting in the back seat, I give the signal to energise: once the power applied I check the circuit breakers, start the fuel pumps, the radio, depress the starter switch and while the engine winds up before ignition time I do a quick check of the contents of all fuel tanks, the oil and fuel pressures and that no indication of anything abnormal occurs. Finally, I push forward the throttle and carefully watch the tail pipe temperature matching it to the tachometer: normal start, I give the OK sign to unplug the auxiliary power unit and, ensuring that the brakes are well on, request that the wheel locks be removed.

Once the CANOPY closed and locked (giving the feeling of being sealed in a tomb!) I complete aloud for the benefit of my instructor the rest of the check list (as he is still interested in what's going on up front) and request from the control tower the authorisation for taxiing out to the takeoff runway.

How SMOOTH this is when compared to the noisy HARVARD with its piston engine, its propeller and the vibrations they generate. It's luxury comfort and silence: we hear only what needs to be heard, that is the radio conversations between us and the outside or the other member of the crew, his breathing rate included...

As the ground handling of this type of plane (tricycle) differs from the HARVARD, I move slowly and with some difficulties to quickly realise that it is preferable to move faster to maintain control of the nose wheel. Outside vision is excellent and there is no need to ZIGZAG as was the case previously. It is easy and quite frequent to have the nose wheel cock 90 degrees after a slow manoeuvre, forcing the pilot to call for help from the ground support personnel to straighten it up: MOST EMBARRASSING!!

Before takeoff, I hand over controls to my instructor. I can now relax and enjoy the scenery while savouring my first 'tour'. Not a cloud in the skies, a pilot's dream. The air is dry, absolutely no

obstruction to vision, your eyes are the limit. In any case, the speed at which I'm making the check list and the rate at which this thing is consuming fuel it is definitely preferable that he takes control otherwise we'll never leave the ground because there will be no gas left for takeoff!

Takeoff clearances, full power... The thrust is such that I am crunched against the seat. Such power! The strip unrolls at a tremendous speed, we leave the ground, the undercarriage retracts, the flaps follow, the nose points up, we are already doing two hundred knots, the altimeter seems out-of-order indicating: five, six, ten, twenty thousand feet of altitude and we just got airborne! We level at thirty thousand feet and silently float at five hundred miles per hour in the middle of the immense space.

Never before had I been above eighteen thousand feet. We are so high that we seem suspended, almost speedless, our line of sight spreading a radius of more than one hundred miles around us, the topography
of the earth below us being at the scale of a geographic map. The sky above our heads is of such an intense blue that it is almost black: we are sitting on top of the 'weather', no more humidity in the air that could cause reflection of light.

Once the plane adjusted (TRIMMED) my instructor asks me to take control. These are extremely sensitive and that for two reasons: first they are power-assisted (something like power steering and power brakes on cars) and, secondly, at the speed that we are flying, a little change causes a large effect on direction. I just can't keep the machine in a stable condition and we continuously oscillate up and down and from left to right.

On HARVARDs, I used to grab the stick firmly and sort of drive it by force. This one needs to be handled from the tip of the fingers. I get the impression that this first trip is only to demonstrate this major difference.

After a few minutes of practice I almost manage to overcome this tendency of 'over-controlling' the plane's movements, at least during simple manoeuvres.

The returning descent is just as much impressive as the starting ascent. The engine idling and diving brakes out (of surprising efficiency) we literally dive towards earth to suddenly find ourselves at one thousand feet of altitude and three miles away from the tip of the runway on which we are going to land. At that point, the air brakes are retracted and power reapplied to maintain this altitude and a cruising speed of 250 knots.

Ready for the FIGHTER BREAK (peculiar to high performance fighters and unsuccessfully copied by others) to become the standard landing circuit from now on. As soon as the tip of the landing strip is reached at one thousand feet above ground level the throttle is pulled back, ninety degrees of bank is applied to engage the jet into a tight circle as the speed brakes are deployed. Simultaneously the plane is nosed up to four G's (four times the earth's gravity pull) which suddenly raise my weight from 135 to 540 pounds!

Once half a circle is completed, a momentary return to horizontal flight is done just long enough to lower the landing gear, apply 15 degrees of flaps, do a quick instrument check and simultaneously obtain landing clearances (two, three seconds at the most) and the 180 degrees left to complete the circle are entered at a decreasing speed in the neighbourhood of 190 knots, 45 degrees of bank is all that's needed now and the loss of the last thousand feet is initiated.

The eyes, fixed to the end of the runway where touchdown is to occur, will only be distracted for split seconds to quickly carry the multiple pre-landing checks: minimal air-speed, landing gear down and locked, flaps fully extended, rate of descent... And, on final, alignment to the landing strip, rounding-up just before touchdown, throttle closed. As the main wheels touch the ground and the aircraft stalls the nose is pulled up to use the airfoils for braking until such time that the elevators also reach their stall point. The nose gradually comes down as this happens and when the nose wheel reaches the ground the brakes are applied to slow down to taxiing speed and to steer the plane off the runway and back to the ramp.

And so ends this first flight. I enter one hour and thirty minutes in my Log Book under Single-Engine JET. Because of its high speed, the turbojet plane creates a stronger demand of physical effort to which we will have to develop a special resistance over time. That is why we will be limited, at first, to

one flight per day to give us a chance to recuperate. By the end of the first month we'll be capable to absorb two trips a day and by the end of our training we should be capable to take four of them -each flight varies between an hour and thirty minutes and an hour and forty-five minutes.

After some ten hours of training, I am ready to take my SOLO CHECK. The first time you're up there - alone in one of these - you feel kind of lonesome!

Once the external check completed and the back seat inspection done, I get onboard and attach my 'chute to the seat connectors. Then I tie myself securely to the ejection seat, adjust the headset containing the earphones - over my head, cover that with my helmet and fix my oxygen mask - with integrated mike -that holds all of these together firmly over my head and face. I connect my oxygen hose to the oxygen supply and my radio leads to that of the plane. The emergency brake lever on, the pressurisation ducts opened, the cabin pressure dump valve closed, no loose or foreign objects, control movements: free in all directions, fuel jettison switch: secured, landing gear: locked, all circuit breakers: in, armament panel switches: inactive and secured, tip tanks release lever: locked, all fuel pumps: stopped, throttle: closed, speed brakes: down, flap lever: neutral, landing lights: off, main fuel shut off switch: off, heat control: 10 o'clock, aileron boost: on, high pressure cock: off, oxygen pressure: one thousand pounds minimum, standby compass: serviceable, altimeter: set to field elevation, accelerometer: reset, clock: serviceable, fuel counter: full load, radio compass: off, JATO arm switch: off, canopy jettison handle: secure and safetied, airstart switch: off, engine master switch: off, battery master switch: off, generator switch: on, pitot heat: off, navigation lights: off, emergency hydraulic switch: off and safetied, defrosters: off, radio and IFF: off, emergency hydraulic lever: normal and safetied, map case: closed, fuel low pressure warning light: on, fuel tank switches: gangloaded, fuselage tank: on, others: off, low pressure warning light: off, push test all lights, fire warning system: test, trim tab: test operation and return to neutral, gear indicators: down, cockpit lights: as required, liquidometer: contents, engine master switch: normal, starter switch: push two seconds, high pressure cock: on, check instruments: jet pipe temperature 500 degrees and not exceeding 900 for longer than three seconds, RPM rise to 18% approximately, oil pressure 3 PSI minimum, hydraulic pressure: 1000 to 1150 PSI max. 1150, APU (auxiliary power unit): out, engine master switch: off, increase idle to 30%: generator light out, starting warning light: out. Radios on, IFF (Indicator Friend or Foe) on standby for warm-up, speed brakes: up check hydraulic pressure, flaps: check operation and set 32 degrees, circuit breakers: in, mask and headset: on and plugged in, emergency bail out bottle: connected, oxygen: mask, connections, regulator, press to test, contents, blinkers, 100%, inverters: test, canopy: closed and locked, red light out.

Radio check: .. - Gimli Tower: This is Air Force Jet Two / One / Four / Three / Zero: Over Four / Three / Zero: Gimli Tower: Over - Gimli Tower: 4/3/0: Radio, Time, Taxi, Altimeter Setting: Over -4/3/0: Gimli Tower: Radio Check, Time 0/5, Altimeter 3/0 point 9/4, Clear Taxi, Runway 3/2, Wind Calm and Variable: Over. - 4/3/0

And here we are taxiing towards runway 32. As we move, I check the flight instruments: altimeter set at 30.94, compasses: gyroscopic and radio, artificial horizon, accelerometer, needle and ball, etc. Pre-take off check: brakes, tip tank switch: on, harness: tight and locked, all temperatures and pressures: OK ..-Gimli Tower: 4/3/0: Line-Up: Over - 4/3/0: Gimli Tower: Clear to Take-Off, Runway 3/2: Over

- 4/3/0
Ready to takeoff, last check of the brakes before getting lined-up onto the runway, tip-tanks pressurisation switch on, full throttle on and as power reaches 70% takeoff switch on, and at 100% thrust, a final verification of all temperatures and pressures as the brakes can hardly hold on. Moment of truth, engine full blast and the brakes ready to give up. The brakes are released and the run for takeoff is engaged...

At near fifty knots, the rudder starts to react, providing direction control thus far maintained by alternatively depressing the right and left brake pedals corresponding to the main wheels. At sixty knots the elevators gain sufficient effect to lift the nose and free the front wheel from the ground. At ninety-five knots the aircraft longs to takeoff and at a hundred and ten we are airborne.

Immediately, the undercarriage is retracted and the flaps raised. A quick shake test to ensure the gear is locked and the Take Off and Emergency Switch is turned off. The tip tanks, now well pressurised, are properly feeding and no siphoning is apparent from the wings fuel caps. Oxygen system: OK. Speed picks up rapidly on horizontal flight to reach 275 knots. The machine is pointed up to the sky heading for higher altitudes.

In less then six minutes we reach 20,000 feet. The first exercises are limited to the practice of stalls under various conditions: CLEAN, wheels down, flaps opened, air brakes out, etc. Once the fuel load reduced such as to allow aerobatics, now the fun starts with rolls, loops, barrel rolls, clover leaves, spins, etc.

Finally, it is time to return to base and, from my current position, I will attempt a forced landing: I am at some 50 miles from the landing strip with 20,000 feet of altitude. Throttle off. Let's do it right... Engine cut-off with a practice re-light in flight: there's always the possibility that it won't restart! But no problem - the relight goes well and I leave the engine at idle to pursue the powerless emergency approach.

Ideally, such an approach requires us to be positioned directly over the landing strip at 5,000 feet of altitude from which point a 360 degree circle is undertaken on a gliding path during which the undercarriage is lowered, the flaps are adjusted so that by the end of the circle we are in perfect position to land.

Once this exercise is completed and relatively well done and after a one thousand foot roll on the runway I reapply the throttle, retract the wheels and flaps, and climb back up towards the 20,000 foot level where I will undertake a standard high speed descent under instrument control and the help of the two radio transmitters lined-up with the main landing strip.

The first of these is at fifteen miles from the strip while the other is at three miles. Observing this clearly defined procedure I touch the strip again, overshoot for a close circuit and finally for a complete landing.

That was the day of my FIRST JET SOLO: 31 MAY 1955 and these would be the exercises to be practised over the days to come until such time that I will be able to do them perfectly.

14 JUNE 1955 - NEAR MISS

At 20,000 feet I'm executing prescribed manoeuvres near lake Winnipeg. I make a final check of the environment in order to assure myself that no one is close by. Another verification: all is clear. Throwing myself into a dive to loop the loop and, as I initiate the ascent at over six hundred knots, I detect a point in front of me. I break rapidly to avoid colliding with one of my mate (so-called 'nearmisses') coming directly at me from the opposite direction: was there twenty feet between us when we crossed two seconds later!

Closing in at each other at some twelve hundred miles per hour about a mile separated us when I saw the black dot two seconds before our crossing! Only by luck is the fatal collision avoided...

This brings me about to open the parentheses on visual pinpointing in space. On earth, the eye adjusts itself 'instinctively' to the distance between it and the observed or searched object by association to visible landmarks. In space where no landmark exists, the pilot has to 'manually' sweep in depth as he normally sweeps his field of vision. That is to say that unless the eye is adjusted to the distance of the object, this object will not be SEEN. This same phenomenon can be experienced with binoculars as the focus is adjusted.

15 JUNE 1955 - INCIDENTS

One of my friends, Wesley Allen (we are together from the beginning in London) has difficulties in coming out of a spin: rapidly losing altitude he enters the clouds losing sight of the horizon. Coming out of the clouds and in a last attempt to avoid crashing in, he pulls 9,5 "G's" which accidentally actions the canopy jettison system.

Back to base, sound and safe, in his most up-to-date 'convertible', our friend finds as he examines his craft, that the wings are twisted, that the tail is out of alignment and that the flaps are completely out of service! He will shortly come out of the shock, but his aeroplane will never takeoff again! Once stripped down, its salvageable pieces will be used as spare parts for sister ships...

A few days later it will be a Frenchman's turn (from France) who was to raise his wheels prematurely on takeoff and touch the runway with the belly before taking off, tearing off the pitot tube, ambient

air source for the most important flight instruments: air speed indicator, altimeter and rate of climb indicator.

Material damages minimal but how important for he who is on board. How to bring back the pilot and his plane safely to earth? Without speed indication, even an experienced pilot would not attempt such a risky landing aboard one of these jets.

As emergency procedures are initiated, our friend is radioed to circle high enough over base at a speed relative to power setting. An instructor who is already airborne is also contacted to return to base immediately and as quickly as possible.

The whole base is on alert. Finally the recalled instructor reports to be in sight of the base and requests the position of the distressed pilot to eventually identify him and join him. Once in close formation with him they would fly around long enough to burn sufficient fuel as to consider a landing: the problem being that one was too heavy while the other was getting pretty light! Nevertheless, the instructor was to bring the student-pilot in position for landing that was well completed by the distressed soul.

27 JULY 1955 - DOG-FIGHT

Today, in a DOG-FIGHT, I will exceed the allowed limit on STRESS by pulling 7,8 'Gs'. After verification, the plane was found without damage. On the other hand, that same day, one of ours, P/O Walsh, is declared missing. He was never to be found, even after almost a week of intensive researches.

More than 10,000 square miles would have been scrutinised in all directions without results. It was presumed that he had crashed in lake Winnipeg leaving no trace...

28 JULY 1955 - NIGHT FLIGHT

First night flights: the first with my instructor and the second, alone. My last night flight goes back to the first of March in Moosejaw on HARVARDs. I always felt more at ease on night flights than on day flights and I now believe to know why. My eyesight is much better at night than during daylight.

Nothing surprising there once we know that the eye does not use the same elements (cones and rods) or uses them in different proportions as light intensity varies; my RODS are much more sensitive or efficient than my CONES. And that's why!

Although alone on board, I'm far from being alone on the CIRCUIT. We must be at least fifteen practising landing approaches around the base, once back from night navigation trips.

To-night I was first to leave and, consequently, should have been first to return. After four TOUCH AND GOES and associated circuits I Line-Up on final with only 70 gallons of fuel in reserve. Nothing there as this time I'm going to land, the strip wide-opened before me.

FALSE... The one preceding me (a NATO Dane, this time) is now blocking the runway. He forgot to lower his landing gear before touching down! As I followed him fairly closely, I did notice trailing flames behind him as he made contact with the strip: the diving brakes were literally burning by friction with the pavement... - unbelievable!

Consequently, I can't land and find myself at the trailing end of the merry-go-round, behind all others who, like I, are now becoming more and more anxious to get down.

My fuel level is getting low. The dashboard lights up like a Christmas tree with so many red lights each indicating an empty fuel tank and, now, it's the amber light that starts blinking indicating that the minimum safe limit of 50 gallons has been reached...

I stretch my circuit so to give sufficient time to those who are in front of me to land while reducing my speed to minimise fuel consumption, all of this while the ground crews are feverishly working at clearing the runway to let us in.

I must land, and quickly! This is my last chance. There's no question about going around again, no fuel for that: what are my alternatives? Forced landing in an opened field? No way at night, and lake

Winnipeg close-by somewhere. Eject? Out of the question also, I'm too low and won't make it anyway... I MUST land without fail! Happily, I touch the ground, clear off the landing strip and manage to reach the parking area without having to call for help from anyone. Assuming that the gauges indicate correctly, I have less than two minutes of 'engine time' left...

15 AUGUST 1955 - COURSE 5404 GRADUATES

Graduation of the course preceding us: my friend Gilles Desrochers gets his WINGS. He is to continue his training at Cold Lake, Alberta, on CF-100s. A few days ago we both went to Winnipeg for one of our common friend's graduation, Jean-Marc Roberge, who had just completed his navigator course: he too was heading for Cold Lake and, most likely, to be on the same course as Gilles. They promise to form a team once up there, keeping their fingers crossed.

I envy them, keeping the hope of being selected just like them to fly the CF-100. I share their joy and we leave each other with high hopes to meet again soon.

16 AUGUST 1955 - CHANGE of INSTRUCTOR

Switch of instructor for the second phase of our training. F/O Knarr will be mine to complete this second and last cycle. Oddly enough, he just finished seeing Gilles through...

Concentration on formation flying, tactical and instrument flying: all aimed at high precision handling, including precise navigation.

13 SEPTEMBER 1955 - MINUS TWO FRIENDS

Bad news: two French-Canadians meet their fate as their CF-100 crashes at Cold Lake. Their names cannot be disclosed yet as their families haven't been reached. I am sure to know who they are, while praying God to reverse my suspicions... Unfortunately, the truth comes out. Implacable: it was Gilles and Jean-Marc... Two at once: how life could sometimes appear to be unjust.

The shock caused by this event generated a lot of food for thoughts around me, here at Gimli, for those who had rubbed shoulders with Gilles so recently.

F/O Knarr particularly affected, and understandably so, has to take a break while I am re-assigned to F/O Anonsen to continue my course now reaching completion.

20 SEPTEMBER 1955 - GRADUATION

Our turn has come to receive our WINGS. But I'm left with a few hours to do as I'm nailed to the ground following an ear infection. I nevertheless partake in the ceremony.

The dice are rolled: all of us will go to Trenton, Ontario, to pursue their training to become instructors on T-33s. All but one of us.

By some combination of unforeseen circumstances, that one would be me! The course in Trenton is scheduled to start in a week and, because I'm behind on my schedule, I will not be able to make it on time for the start. I am therefore nominated by default, to the despair of the one that I'm now taking the place.

One must say that I then become the only member of my course to be on his way to squadron duty, and that, on CF-100!

I'll need to be patient as the teams are getting trained more rapidly then the AVRO company can deliver its machines, delayed by the multiple problems detected in those already delivered.

I take advantage of this respite to take part of my vacations as I have until the thirty-first of October before reporting at MacDonald Air Force Base in Manitoba.

During my stay in Gimli, I bought my first automobile: a little sport car, an AUSTIN-HEALEY, thoroughbred perfectly suited for a professional pilot! Before totally closing on Gimli, I must mention

that a day or two after Gilles' death announcement, one of the members of the course next to ours, collided with one of his companion in mid-air: both trainees were killed, pulverised instantly.

The last words recorded originating from one of them were: YOU TURN LEFT, I TURN RIGHT.... Fatal error: in doing so while heading for each other both turned in the same direction resulting in the inevitable. Time after time we were told from the beginning: ALWAYS turn RIGHT to avoid collisions, instinctively!

One final incident worth relating was the one that I personally experienced while in number three position of a four-plane formation, practising aerobatics manoeuvres. In such manoeuvres, where identical airlines are involved, the formation LEADER has full responsibility of the group as the others are solely concerned with maintaining their relative position to the one preceding them.

Their sole preoccupation is of maintaining that position whatever the leader does with the confidence that the latter makes sure that no risks exist and that the limits of his own machine are being respected.

We have been merrily fluttering about for quite a while when, suddenly, I perceive an abnormal sound that originates from the rear of my Silver Star.

Like greased lightning my eyes leave my team mate for a quick sweep of the instrument panel: my vision is back on our number two as I gently but quickly cut to the right while reducing the throttle.

In the quick sweep of the instruments I had picked up an abnormally high temperature of the tail pipe, synonymous to imminent danger. Hoping that number four on my right wing would have noticed that all wasn't well anymore and that he would have dropped out on his own, I let the leader know over the radio while attempting to establish my own position.

It is then that I realise that I am practically vertical, pointing to the sky, almost at the point of stalling.

I gently regain horizontal flight, avoiding a spin or worse, a tumble, to finally analyse the situation. The other three members of our formation stay within sight but, also, at a distance... I am nevertheless happy to feel them close, just in case.

The engine idling, the temperature seems still to be much higher than normal: I risk a throttle advance with, as expected, a gain in power but definitely not related to the temperature increase. No doubt, something is radically wrong.

From the leader I get our current position: 190 miles north-east of the base. Might as well say that we're at the back of beyond! I request him to immediately see me back home while freeing the others to continue as they wish with the exercise. I need someone to orient the search if I don't make it. He promises to keep me in sight but from a fair distance (I'm a potential flying armed live bomb!) while I get in contact with the base to report the emergency and request a STRAIGHT-IN approach as quickly as possible.

Quite certain that there is no risk of explosion as long as I keep the temperatures within allowable limits, I manage to get sufficient thrust from the engine to consider the possibility to safely making it home without difficulties. My leader is now very close to me and cannot detect any anomalies that can be seen from outside.

As the base is in sight, I free him immediately after his confirmation that my landing gear is fully down thanking him for his help and inviting him to the mess bar in one hour...

I touchdown, pursued by the fire trucks and the ambulance, to finally come to a stop once the landing strip cleared but unable to taxi to the parking area: the engine can't produce the energy to go any further. I cut everything and abandon ship on the spot to the ground crews and jump onboard the first vehicle that comes about to carry me back to the FLIGHT.

While my plane was being towed to the service hangar, my three friends have time to catch up with me before I can find the reason that was the cause of the 'great disturbance'.

We are to learn it at the same time. Following the failure of one of the power turbine blades, which broke against the shroud, the other 51 blades followed suit breaking like the first almost exactly in half their length, drilling a hole, six inch in diameter, through the fuselage. The engine turning at some 12,500 revolutions per minute at the time of failure, those 'half-blades' came out the side of the fuselage like machine gun bullets and, fortunately there was nobody on the trail of their unbridled, wild race. Our number four was the lucky one: he was on the side of me where they came out but slightly below their trajectory.

Shortly before the incident we were in an 'echelon right' formation and just completed a change to 'line astern'. The four of us, silent, are listening to the technician who is describing the damages and the possible causes, conclusions of his investigation. "I'm surprised this thing didn't blow up right then", says he. We leave him without a word to finally regroup at the mess for a drink and talk about everything else but this incident which never came back up for discussion. Each, on his own, has correctly concluded that we are still all here after coming as close as one would dare think of no longer being around to talk about it! Risks of the trade... - 'Hey! Claude, which new aerobatics movement could we try tomorrow?...' and off we are again, calculating and drafting some new figures! Marvellous!

31 OCTOBER 1955 - #1 PWS

#1 Pilot Weapons School, MacDonald, Manitoba

During my wait, I'm entitled to a small gift! The weapon school is normally reserved for our NATO students and for those Canadians selected to stay there as instructors. I'm here to pass the time, time of an undetermined duration yet...

The course itself is relatively short: three weeks at the most, and those who have to take it, more as a formality then anything else, would prefer to skip it and return to their respective countries as soon as possible after being away for over a year by the time they show up here. This added to another move: packing and unpacking again for a mere 3 weeks.

The base is relatively small and far from any place worth mentioning: Portage-la-Prairie, the closest town is 25 miles away and has very little to offer. I, nevertheless, enjoy myself here knowing that I'll be here long enough to accept the troubles of the move but not permanently.

As usual, we're deprived of flying during the first few days devoted to ballistics studies this time around. Once the theory absorbed, we are ready to put it all in practice aboard our T-BIRDs that we're beginning to regret.

All training exercises are to be done in four-plane formations. We start with 'tracking' exercises which consist in trailing the plane that precedes us maintaining it in the gunsight at firing distance. Our progress is recorded on film to be later analysed to correct our faults.

Next comes the practising of quarter attacks against a target towed by another aeroplane, still using movie film and that until we are judged qualified to use live ammunition.

This advanced training course turns out to be most interesting and, for the first time, we realise the usefulness of all that we have learned so far and the 'why' of it becomes evident. What is more, each and everyone's adroitness is put to the test. Just as a maths problem: you've got it or not! There's no in between.

As the stress limits of our machines are the criteria to be observed, individual's resistance must be helped. That is why we march at the G-suits adjustment parade. Wearing these presents another danger given that the plane's stress limits can now be exceeded before our own. It gets scary: how long will our planes resist? Eight of them in a short time are exposed to more than their seven point eight 'G' limit and must, therefore, be submitted to a general examination. Having been told beforehand, the 'detractors' find themselves obliged to clean the plexiglass canopies of all planes as penalty for their mischief!

20 FEBRUARY 1956 - LOSS of a FRIEND

Very bad news reach us to-day from overseas.

Second Lieutenant d'Aviation Michel Laurent (French Air Force) lost his life in the crash of his F-84F in France. He was one of ours in Centralia and Gimli...

During a weapon exercise as I was doing quarter attacks on target above clouds I notice that my fuel pumps have stopped functioning.

Only sixty gallons of petrol left accessible for me to use from the one tank that the pump still works. I immediately turn towards the airbase and, because of the clouds, I must descend to six thousand feet before coming out of them and be VFR which is under Visual Flight Rules. I finally touch down with at most a minute left of accessible fuel. Ouf!

Air-to-air gunnery practices completed we embark upon air-to-ground firings. From an altitude of around five thousand feet we dive at speeds in the neighbourhood of 500 miles per hour towards the target and once at two hundred feet from it we open fire for a maximum of two seconds and pull the nose up just skipping over the ground, one behind the other.

The same type of attack is used again but now with rockets instead of machine guns or cannons.

From the beginning of the month, my role here has changed: from student I have become instructor (always in this wait for my course on CF-100 at Cold Lake).

To drive from the back seat requires some adjustments. From this position, the points of references change quite appreciably. There is not the worst obstacle to surmount: how does one endure and accept the bloody stupid moves coming from the student-pilot who's driving the show from up front?

Following a period of bad weather, us in MacDonald, get the unusual task of filling in to complete their courses with students from Gimli and Portage la Prairie where 'bottlenecks' are occurring. So long for the pleasures of weapon practices! Back to high-school... and, on top of that, with students late on their schedules generally caused by personal difficulties in the first place.

I pick up one Canadian and two Blokes. These two from England must graduate come hell or high water. One of them can't even control his plane on the ground and taxi it without getting in trouble!

One month and we all get out of it. I first, as I finally receive confirmation to show up in Cold Lake for the seventh of March next. At long last!

I notice that I have skipped over my activities for the month of January. Although few pilots had this chance, I am one of those to live that experience: Survival Training!

Experience yes, but tough. One full week in the Colombian forest immediately followed by a second week in Arctic isolation.

Loaded with more than seventy-five pounds of equipment (tent, sleeping bag, snowshoes, hatchet, blanket, etc,) we are dropped in the middle of the woods. All we get as food is a box filled with 16 'jujubes', instant coffee for eight cups, four chocolate bars and some vitamin pills. Given that on the first day you don't eat and live on your accumulated calories, these supplies are to be sufficient to live through the next six days to come.

So as to make sure that we are convinced that one should not waste his energy on exhausting activities, the first day we are forced to cover a distance of five miles loaded with our 75 pounds on snowshoes through virgin forests.

As the night approaches we must establish camp in the middle of the wild nature under a temperature of 40 below zero (-40C). Even if we only have the needles from spruce and fur trees as bed springs, we sleep as if we never did before.

Once the week over we return to Edmonton, empty stomachs, week long beards, looking like fur traders coming to town. Once shaved, showered and civilised again, it is in the nick of time that we

show up at the best restaurant the city could provide. "Never have I seen so much food disappear in such a short time by so few guests"! (Pardon me, Weston)

CAMBRIDGE BAY, VICTORIA ISLAND, NWT.

ARCTIC survival course: 300 miles inside the Arctic circle. Temperatures at this time of year: 35 to 60 degrees 'F' below zero (-37 to -61 'C'). The snow, hardened by the cold, sustains our weight very well. We are wearing white hair covered suits giving us rabbit-like appearances. The days are at their shortest of the year and the sun shows up at the horizon only between eleven o'clock and two in the afternoon without completely leaving the earth's arc. We live miserably in cold and humid igloos. On the other hand, we have food in large quantities if not in quality...

For one of those long nights we have to build our own shelter for the next twenty four hours. By digging 'fighter trenches' the extracted blocks of hardened snow are used for the sides and roof. Just to add a final touch to the scene, a typical polar snowstorm decides to join us this same night.

The following morning we are totally camouflaged under a fresh coat of new snow and literally have to dig ourselves a passage to the surface.

Just like marmots, one after the other we emerge from our hole: it is funny and amusing to watch the appearance of these 'ghosts' but how worrying at the same time.

'Everybody out yet? Let's see: one, two, three... sixteen! One short. Ah! There he comes... Ouf! We're all here.'

The last day in the vast north is received with applause as the situation is getting insupportable. The six mile return walk to the base seems less tedious than on the way out. Due to mechanical problems, our C-119 Flying Boxcar will be nailed to the ground for an extra two days, stretching once more our resistance. This is not a 'survival' course! It's a test of how far one's patience can go...

This experience, I appreciate a lot now that it's behind me but I wouldn't repeat it of my own free will!

28 FEBRUARY 1956 - PLEASURE TRIP

Last 'working' day before my departure from MacDonald. I jump on the occasion with three other instructors (team mates by now) to evade in a four-plane low-level formation flight.

It's moose hunting season, I'm told by one of the other three who's about to take his vacation to go and enjoy this sport. The weather is splendid. We follow the iced rivers, jump over the hills, causing the trees to bend their heads, forcing the wild beasts to gather together in one area (our friend hoping to find them there next week!) and, in a nutshell, really enjoy in its full dimension the vastness of the Canadian West which seems to belong to no one but us.

The air is cold and dense. More so at this low altitude. Our engines bite greedily into it as to surpass themselves, the planes do the same in harmony and we enjoy this moment of pure ecstasy...

MARCH 1956 - #3 AW(F) OTU, COLD LAKE
CONVERSION to CF-100 MkIII & IV
AW(F) OTU = All-Weather (Fighter) Operational Training Unit

On board of my little Austin-Healey and in the company of 'John' Hébert, I takeoff in the middle of winter heading north-north-west to reach Cold Lake via Regina, Moosejaw, Saskatoon and Vermilion.

On the way we break one of the car's back springs that we get repaired in Moosejaw. Not far from our destination we get stuck in the snow, so deep my car cannot plow its way through it anymore. Passers-by eventually get us free and clear the way for us in their 'big' American car! The Austin-Healey clears the ground by only four inches under its muffler... In Siberial weather (we're at the end of February), by storms and winds, in deserted roads that are poorly maintained, we have travelled over the past thirty-six hours, including eight for sleep and repairs, almost one thousand miles.

Even if my Healey could reach 120 miles per hour (200km/h) she's clearly out of her element on bad roads, which is easy to get by around here! With 4-inch clearance only, the bumps have to be light...

COLD LAKE: Huge base, new and modern, but lost in the middle of nowhere...

13 MARCH 1956 - WHITE TICKET

After a week of ground school, it's to-day that I get my hands back on a T-33. Once back into flying conditions and haven gained a minimum of familiarity with the area, I take my first test for a WHITE TICKET that certifies me to take off or land under minimum weather conditions of one thousand foot ceilings and three mile visibility.

Ground school on the CF-100 continues until the beginning of April before I can lay my hands on one of them. The many systems: electric, hydraulic, pneumatic, fuels and lubricants, de-icing and pressurisation, radar and instrumentation, ejection seats and oxygen, guns, rockets and firing systems, engines and components, flight controls and their powered assistance, radios and auto-pilot, etc. and, most important, the flight envelope and its peculiar characteristics. And, at last, the day of days is here...

9 APRIL 1956 - On CF-100 "CANUCK"

Flanked by two engines, 14,000 horses each, we take off like an arrow and the next instant we go through 20,000 feet of altitude, then 30,000 and soon we find ourselves at forty thousand feet of altitude cruising at six hundred knots!

Recognising our ignorance of the CF-100 and our inability to appreciate it to its just value, it is quite evident and easy to realise that we have here a thoroughbred under our control, powerful and by far superior to all that we have touched so far. In addition, we start our training on MkIIIs, first model of the type produced after the prototypes. This one carries serial number 18155. (18101 being the first prototype)

This model, converted for pilot training, has no radar nor armament, and just like the HAR-VARDs and T-33s, has dual controls organised in tandem. My instructor is F/O Jensen. Tomorrow we'll fly together again and that should be my SOLO-CHECK. No 'fooling around' here!

10 APRIL 1956 - SOLO on CF-100

First solo flight on CF-100 MkIII, no. 18120. I log my first hour as first pilot, MULTI-engine aircraft. Not as soon landed that I get off again on no. 123 this time for an hour and fifteen minutes of practice.

These three flights on the same day seem to me to be easier to take. I must surely be developing a better resistance!

On the sixth of April it was the 'wedding' ceremony: up to that point pilots and navigators/radar operators took their training in isolation without any contacts between them.

Time had come to mate them. The formula is simple and efficient. All the INTENDEDs are invited to share a special meal followed by a party during which they get acquainted and team up. All had succeeded in their own specialised training and the chances of error were, in fact, minimal.

On the other hand, it is preferable to proceed this way rather than arbitrarily assigning one to others without consultation. This way, not only are the physical qualifications taken into account but also the psychological aspect, so important in bounding a solid team from all points of view, is brought into play. And that's how F/O Ross 'ROSIE' Drinkle and I join after feeling that our respective temperaments are compatible.

While us, pilots, pursued our studies of aircraft handling on CF-100s, we could bring our navigators along when these were free to do so in order to speed up our adaptation to each other and to reinforce our ties.

Our first flight together takes place on the twelfth of April for a navigation trip. On 13 April: aerobatics exercise followed by a two-plane formation flight and a third and final for the day in a four-plane formation this time.

16 APRIL 1956 - FIVE FLIGHTS

On this day I establish a new personal record by going up in five consecutive flights! Instrument test flight with an official controller. Four-plane formation flight with Ross, my navigator, on which we are in third position. Night flying test (first here in Cold Lake) with my instructor. First solo night flight on CF-100, with my navigator. Night flight, all alone.

TOTAL: six flying hours between nine o'clock in the morning and four o'clock the next morning... My longest day (or night?) so far... Tonight, the 17th, only one trip on the schedule: night navigation with navigator during which we literally wrapped around the province of Alberta in less then two hours. Without seeing much of it, though, being either in the clouds or above them for the full duration of the trip.

This journey, on its own, is more exhausting then the five of yesterday put together. From start to end on instruments! The mixed effects of the clouds and the northern lights are such that the horizon appears to be at a 45 degree angle when the flight instruments are indicating that we are STRAIGHT AND LEVEL.

Yesterday, on my first night flight with my instructor, I come close to cause some serious damage to our ship while scaring my passenger to death. As we are about to land I inadvertently bring the machine to its stalling point at some twenty feet up in the air. The plane drops sharply, tilting to the left. I have but just the time to slam full thrust on, re-adjust the wings and cut the power off again to smoothly kiss the airstrip unperceivably.

I believe that my monitor is sufficiently reassured by this manoeuvre that he has no doubts about my capability to manage on my own after this one try. A case that seldom happens am I to learn later. Most of the others are up three times with their instructor before being allowed to go solo.

I always ask myself after this if my instructor was so frightened on our first trip that he preferred to get rid of me rather than facing the risk of two more trips with I at the controls. I wouldn't blame him for that, remembering my short experience as an instructor in MacDonald!

From this very first night flight I realise how easy it was for the pilot to let himself be led into believing that the flight instruments are defective. The accident that had caused the death of my two friends, Gilles and Jean-Marc, right here in Cold Lake last September is still so fresh to my memory: Gilles' last words before the impact were: MY INSTRUMENTS ARE UNSERVICEABLE, I'M FLYING VISUAL... and this, only seconds after takeoff, in front of helpless witnesses watching flabbergasted.

Self explained: the night is extremely dark in this northern region from the end of August to the beginning of June. In addition, the northern lights are at their maximum intensity. As a result, instrument flying becomes an absolute necessity as soon as the runway lights disappear from sight behind us on takeoff. And this, on clear nights!

Around the base there is no concentration of population. The scattered lights on earth and the stars in the sky look alike to the point that we have a very strong tendency to push the nose down as we are led to believe that we are climbing vertically.

Under such circumstances, only the instruments can be of any help to save you. Never trust your own impressions. It is a tough fight with oneself, difficult to describe, and that Gilles unfortunately lost. All indications tend to that conclusion. This close to the ground, these fights are won or lost in very few, short seconds...

18 APRIL 1956 - HANDLING TEST

I pass my HANDLING TEST on CF-100 with F/L McGALE. This marks the end of my training in as far as the handling of this aircraft is concerned. Now the learning of it as an air defence weapon

begins and this with my navigator as the three of us (the plane, he and I) must get to work as one.

Back to ground school again. For the next few days, no more flying. Tough!

30 APRIL 1956 - ON a "REAL" CF-100

First flight on a MkIVA, no. 18253. More powerful than the MkIII, it is the OPERATIONAL model with the pilot station in front and the navigation/radar operation in the rear. Armed with machine-cannons and rockets it is currently the prime air defence weapon of the whole North American continent, at least the most sophisticated. How proud are we to be its master!

Clear step forward on its predecessor, the pilot station has become functional: one must admit that on the MkIII, this aspect was pitiful. The instruments appear to have been placed where they would have landed if someone had taken them and just thrown them in the cockpit haphazardly! Levers, gauges, meters and dials are everywhere except where you would normally expect to find them!

The CF-100 being the first plane of full Canadian conception, couldn't be expected to be perfect on its first issue from all aspects: performances, aesthetics, functionality, etc.

It has, first, achieved the essential criteria to gain its stripes and then, given time, refinements were brought about. Once the major manufacturing bugs eliminated, time has come to pay more attention to the flying crew. The cockpit is therefore adjusted to the pilot's human body rather then the octopus as the original appeared to be suited for!

So, the MkIVA included the MADE IN U.S.A. of the T-33 to the MADE IN ENGLAND felt in the MkIII, of the LANCASTER's days back in the second world war era.

Access to the technologies of these two GIANTS in the hands of Canadian genius places us in a unique position, envied at that: it becomes ours to decide what to do with this strength and aeronautics are not the only domain where that is at our disposal. I will surely return to this subject later as it is evident to me that too few Canadians are conscious of the collective effort put together to achieve this first and extraordinary plane, tangible proof of our capability to create something good, indeed superior, here at home and put a stop to this copying controlled from the outside.

Right from the start, ROSIE and I get along well together: neither he nor I dread making an effort. Both respect the other. Our training is well underway and we're in it full tilt!

And this is how, pushed by our common search for perfection, that we graze with total physical exhaustion: for example, this day that we start with a ten o'clock flight in the morning followed by another at two o'clock in the afternoon with just enough time for lunch in between and then a double-quick dinner, up again by seven o'clock in the evening, coffee and cookies, takeoff at eleven o'clock, coffee and coffee, to finally undertake our last trip at two o'clock the following morning: on our return, it is the dawn of a new day...

The strain reflects on the reflexes: the pilot's eyes constantly sweeping the instrument panel, recording at each glance a new set of readings, reacting to the results of these indications and dictating almost automatically to his limbs the necessary reactions to apply to the plane's controls in order to make the required corrections.

The effects of fatigue seem (and, here, I speak for myself) not to disturb the processes as long as the eyes can pursue their sweeping... But, that is it, suddenly, these cling to one of the instruments for no particular reason. Some would ask the question as to whether the eyes stop because the mind no longer can register the transmitted messages or they stop because they are tired... Whatever the reason, when it happens, it is no longer time to analyse why it does!

The first reaction is to ask oneself: how long have we been 'clung'? Second reaction: panic! Third reaction: control of the panic. Fourth reaction: a double speed sweep of all instruments and corrections at the same rate.

The results are not always as simple and easy to relate, for as long as one is still around to do so! During a rapid descent (20,000 feet per minute, 333 feet per second) through a very thick cloud formation,

at night, I do find myself in that situation. The altimeter is difficult to track in such a descent even in the best of conditions the tenths of thousand foot indicator needle gets misleading.

Because of that we have taken on the habit of counting our position mentally every time the thousand foot needle goes by zero, and that at just about every three seconds (approximately the same duration as a complete sweep across all instruments).

So we are in our descent when I realise that I'm 'stuck' on the artificial horizon. Reactions: (see above) 1- split second? or seconds? how many? ...at more than 300 feet per second heading straight down towards earth... 2- ...we're done!! 3-'KEEP COOL MAN'! 4-position? not bad. Temperatures and pressures? Normal. Fuel? No problem. Speed? High, why? OUPS! Oh yes... We're in a dive... Altitude? 2,000 feet. Two thousand feet? Ground level around here is 1,800 feet above sea level, REMEMBER?... Brakes and P-U-L-L my friend! It's almost later! We'll analyse after, for as long as we get out of this mess alive, that is. No use breaking the wings off though, that wouldn't help any!

And Rosie back there, maybe that he would be interested in knowing what's going on, no? Ain't got time! Let go as we are now losing speed radically... Euh! We're at some 14,000 feet... Impossible! Well, let's get one's breath back... It is true, we really are at 14,000 feet!

Let's re-establish ourselves into our descent before completely losing the face and start explaining to Rosie who is surely in need of reassurance by now, the poor soul.

Following my 'clinging' the sweep across the instruments at double speed and the loss of my mental count for altitude control, I had to rapidly interpret the altimeter reading. The needle shows two thousand -is it ten plus two or simply two (it cannot be twenty plus two as we were well below that altitude at the previous good reading). It was therefore best to react as for the worst case and analyse later. That's what I did, preferring finding myself ten thousand feet too high than ten thousand under!

To my great surprise, Rosie's reaction to my explanations is most unexpected! He hasn't suspected anything to be abnormal! Gee! Is my flying that bad he wouldn't notice the difference?

I never dared to ask him if my explanations pulled him out of a deep sleep afraid that I was to hear him say: YEP!

2 MAY 1956 - B-25 MITCHELL

I get on board of a MITCHELL for the first time. This twin-engine aeroplane, remnant of the second world war, has served as a substitute to the CF-100 in the evaluation and the refinement of the radar systems destined for the CF-100. It has continued thereafter to serve as a radar-operator training platform and, still today, pursues that role due to the shortage of CF-100s.

Even if the navigators get as much out of these as out of the CF-100 in terms of training, it cannot be said the same for the pilots. It is very difficult to participate to this comedy even if the exercise is worthwhile for the navigators. As far as I am concerned, this is but the only occasion to add another type to my log book. The ambience is really lacking...

As usual tonight, escaloped tomatoes are available as entrée, just like they are at almost every meal. Fond of them, Rosie, as he is accustomed to, fills his bowl and I decide to do the same this time.

As I taste them, I find that they have a 'tin can' taste and decide to put them aside. Before I could talk to Rosie about it he has finished with his without having noticed anything wrong with them. We complete our meal paying no more attention to the incident.

The meal over, we leave the table to head directly towards the hangar where our bird is waiting. A few moments later we are at thirty thousand feet up in the air practising intercepts as per tonight's schedule.

For almost an hour and a half we play cat and mouse with our partners before separating to return to base. Normally, the journey back to base is 'the lull after the storm', the stress of the exercises being over. Nevertheless, tonight this will not be the case: Rosie warns me that he seems to have digestive problems! Nothing critical judging by the tone of his voice, besides we're on the way home anyway:

what more can be done?

Less than a minute flows by that, without further warning, I get through the INTERCOM a strange sound originating from the back seat. I question Rosie about what's going on: no answer -dead silence! And then my ears are staved in by a noise that, this time, I identify as being that of a microphone opened freely to the cabin noise. Indices chain to each other and I conclude that my team-member is sick, that he cannot communicate with me because he vomited in his mask that he had to remove from his face by fear of suffocating but, at the same time, depriving him from the source of oxygen absolutely necessary to survive at this altitude.

There's no time to waste! At thirty thousand feet of altitude without oxygen one cannot last very long... I must dive below twelve thousand feet as fast as I can, altitude at which the oxygen volume in the air is sufficient for one to survive.

Rosie, in the other hand, had no other choice but to remove his mask, life source, but that had become a death instrument once the valves are blocked, dooming him to suffocation.

Such a dive in the night, towards the invisible ground, in pitch-darkness, has nothing appealing let me tell you: at six hundred miles an hour, the ground is coming at you at the rate of 1000 feet a second. Less than 30 seconds separate us from the impact. At minimum, five thousand feet must be reserved to recover to the horizontal in these conditions. In addition, at this rate, the altimeter could lag by as much as two thousand feet on true position. Ground level here being at some two thousand feet above sea level: quick mental calculation - fifteen seconds or 17,000 feet at the altimeter are the limits: the first of these two to be reached and I must level off. I count the seconds and closely watch the racing altimeter... Fourteen seconds and the altimeter almost simultaneously reads seventeen thousand feet: I pull up energetically, keeping an eye on the artificial horizon until horizontal position indication. Engine thrust is re-established to maintain a constant speed. We are now stabilised: from MACH .85 (MACH 1 = speed of sound) during the dive we are now at an indicated speed of 300 knots, the accelerometer that touched the seven 'G' level at the bottom of the trajectory is back at '1', and, finally the altimeter stabilises itself at ten thousand two hundred feet or so.

I reduce, slowly now, the altitude to maintain a comfortable eight thousand feet as the ROCKIES cannot be too far below us by now.

Radio and radar have very little range at this low altitude and I can't get into communication with anybody. In addition, all seems to gradually garble up. What's going on? My oxygen reserve is more than sufficient, it cannot be that. I blink my eyes as I look outside: the position lights at the wing tips are but masses of green on one side and red on the other, as if we were flying in a thick fog, and yet the night was clear as a bell a minute ago. It cannot be me: I feel very well, and, in wiping the instruments, they become very clear and readable... Finally, the light comes on! Our bolide is covered with frost just like a POPSICLE out of the freezer on a torrid and humid day!

We have just spent over an hour in the freezer at sixty below zero (-50C) and our sudden dive to this level, hot and humid (relatively) has had the effect of generating a layer of frost on the outside surface of the plane and a mist on the inside surface.

It is not long for the external frost to melt under the heat generated by the friction of the air. Nor is it the same for the internal steam where, using my gloved hand, I must wipe the instruments to read them, the mist regenerating just as fast. The plexiglass bubble covering our heads drips on us as it gradually becomes translucent, exception made of the bullet-proof solid thick glass windshield that accumulates frost like that of a car in winter without defrosters. Forward vision is therefore absolutely nil.

Our position re-established, we are now approaching the base. I'm still without news from Rosie, and my prime preoccupation is to get us both back on the "cow's floor" as soon as possible.

I request a direct approach for an emergency landing which is given me at once by the control tower.

Assisted by Ground Control Approach (GCA) I should by now, according to them, see the landing strip: but I can see nothing! Our position: a quarter of a mile from the runway, three hundred feet of altitude, landing gear down and ready to touch down, all I need now is a runway on which I can

land! Only one solution left: open the CANOPY and, at one hundred and fifty miles an hour, put my head out to see where I'm going!

To complete the dish, here it rains! (Explanation for the high humidity contents of the air encountered in our descent, two hundred miles away from here, as this cool air mass was approaching).

To circulate at high speed in rain, be it light, makes me muse over what a sand storm in the desert without protection could be as I lower my visor to protect my eyes.

I cannot hold a smile: the ultimate in eccentricity The HOLLYWOOD STAR! - In a convertible, the top wide opened in the rain, in the middle of the night with sun glasses on! - Unbelievable... But true! And the moment has nothing to laugh about!

We finally touch the flooded ground and I manage to clear the runway without problems; I open the CANOPY to its fullest to be able to see the back seat post where I notice Rosie, well alive, signalling me to close the dome to protect us against the pouring rain. I close it as fast as I can while breathing a moment of relief.

I let the control tower know that we will get to the tarmac on our own means and that they can call back the emergency crews.

From his greenish look that he had in getting out of the plane Rosie has regained his normal colours the next day.

Once recovered from this experience we produce a report covering multiple points that were to bring many important modifications to the assembly of new planes and some corrections to existing models produced so far. This is how a heating element would be incorporated to the windshield to automatically prevent icing and frosting; the pressurisation system will be modified so that the humidity content of the air at the source would be minimised by 'bleeding' off a later compressor stage of one of the engines. This last modification would also bring the additional advantage of providing hotter air for improved comfort of the passengers, a warmer interior less prone to condensation.

4 JUNE 1956 - BLINDFOLDED

Our training continues and is coming to an end. The exercises are becoming more and more advanced. Attacks are made at increasing altitudes: from 20,000 feet at first, we have now reached 38,000 feet and, that, from more complicated starting positions relative to the target. Head-on attacks. Night attacks with lights out. Etc.

Reliance on one's abilities increases, knowledge of our machine allows us to practically verify the limits of this theoretical baggage combined in many different ways.

Our repeated attacks, lights out in the impenetrable night or under the thick cover of clouds, give the chills to our ground crews. There is matter for concerns, knowing that chaser and chased cross paths, without seeing each other, at the same height, only feet apart, at converging speeds in excess of one thousand miles per hour.

Well aware that the flying crews place their lives in their hands, the technicians surpass themselves in efficiency. Errors in calibration of the instruments, most specially the radars, would have fatal consequences. They directly take part in the action.

We are here for something precise: to see to our country's defence, to our beloved's protection. Simulated attacks must stick to reality. The eventual enemy will definitely not warn us of his intrusion and will do his outmost to dissimulate his presence... And, for sure, will not show up with lights on!

For the same reasons, he who will search to intercept him will try to take him by surprise. Useless to delude ourselves in front of the facts. The precision of our equipment is at the root of our system; without it we're losing our time... If it has to be fully tested then it is now the time to do so and not when the time to use it will have come: it will be to late by then!

That does not mean that one would have to take useless risks: nobody carries the intention of

using his machine as a cannonball and less so while practising These attacks qualified as 'suicide' or again as 'blind man's buff' by some probably don't carry much more risks than any other parts of flying.

I saw, here in Cold Lake, a friend who left half of his plane's rudder in the belly of someone else's plane during such an exercise. Nobody was hurt and the planes made it back, got fixed and eventually got back in service.

On the other hand, I also saw on a bright day, two others hitting head-on, planes and them blown to pieces, and they were not even practising attacks!

All resides in the knowledge of the possibilities, the limits, the variations of our equipment: things that cannot be assumed at any time but be thoroughly verified before hand and continually tested under real conditions.

He who joined the armed forces for the glory, the honours, the stripes, the uniform, the money or the pride must now make an about turn or quit. We're not engaged in a simple game; our country invests enormous sums of money to see us trained and be ready for a precise reason: our defence in case of need.

The nation chooses its best candidates and puts into their hands its survival in the face of the enemy. We therefore must face the challenge of this mandate: perfection.

The cost of these efforts is high and is not paid only in dollars and cents but also in human lives: fact much less known by the societies claiming their security with loud cries... Few people realise what such a demand entails. In general we are led to believe that the militaries which are already costing too much are exaggerating with their continuous demands for more money and equipment while the feeling is that they are playing games and having fun at our expense collecting high salaries that they don't deserve, etc.

We're in peace time, sure! But, was a sudden crisis to occur and everyone would turn their hope to those that, so far, they had more or less respected, even denigrated during the quiet days.

11 JUNE 1956 - GUNNERY PRACTICE

Live ammunition gunnery practices. The CF-100 versions MkIVA and MkIVB, are equipped with eight machine guns giving them an unequalled fire power (equivalent to four T-33s or two F-86s). They shudder to their very womb when these cannons are put to action. After a few days of simulated attacks, we get to experience them. On T-Bird with its two small machine-guns, beside the sound of firing and the smell of burned gun powder, the firing had little more impact. A salvo of eight cannons simultaneously spitting in unison is remarkably different: the ear and nose are no longer alone to perceive its thunder. Considering the plane's weight and stability and the effect of the salvo on it, it is easy to conclude on the importance and amount of fire-power carried here on-board.

As its sixteen tons move at seven hundred per hour, the recoil of its guns seems to slow its course down. These guns are installed directly under the pilot's position. It seems that we cross a 'washing board' road each time we depress the trigger.

On return from a firing exercise, freed of the armament weight and with a few minutes free, I decide to find the answer to the following question: what is the maximum altitude that the CF-100 can reach in the minimum of time?

At fifty feet off the ground I push our bird to maximum speed, full throttle, and I pull it up to vertical while Rosie registers in his notebook the results as I call them. Readings: Mach .85, altitude 4,850 feet, elapsed time 4 seconds. Both ORENDAs letting their 29,000 horses out, release the maximum of their power, as if they knew that this test depended entirely on their own performance while the CANUCK, not to be depreciated, makes itself as light as possible while dragging along its many pounds of security, knowing very well that these would be welcome some time or an other... And we register on the log book our crossing of 15,000 feet at zero plus twenty-two seconds, 17,000 feet at plus thirty-six seconds. The speed is dropping rapidly and we are starting to doubt reaching twenty thousand feet: at plus sixty-eight seconds we are just about there with only ninety knots left on the dial. Ninety knots??? But! This kite no longer 'flies' at that speed!... That is to say that the controls no longer respond due to

the lack of air flow or pressure, if you prefer, and that, all that's left to have an influence on the plane's attitude is engine thrust.

The speed drops right down to zero and we are most likely moving in reverse (tail first to the ground). This is confirmed by the altimeter that shows less than 19,000 feet. Never were there mentions of the way to pilot a plane 'while in reverse'... I get the impression that this was never considered as being possible as no provision was made for rear-view mirrors on board!

Presumably, the controls should react in reverse to normal operation. In any case, let's be gentle: we enjoy all the altitude needed to get ourselves out of any awkward position. Nevertheless, what an odd feeling: never before have I found myself in such a situation ever since my first flight.

I neutralise the controls so as to nullify their influence while gaining negative speed. I wait for a few seconds before applying a light deviation to the rudder and simultaneously, I pull with just as much precaution on the joy stick in an attempt to prevent the craft from falling on its back, the weight of the nose pulling us in that direction. I throttle back completely on the right engine while maintaining the thrust of the left one in order to help the rudder in a rotation of the craft to its right...

Slowly and smoothly, the plane pivots on itself, the horizon soon to appear to my right and rapidly readjusting itself to line of movement while I throttle off the second engine and neutralise the rudder. The dive brakes are extended quickly as we are now in a steep dive heading directly to the ground below us, our speed picking up rapidly.

The plane now under control, we assess the situation of our experiment that, values in hand, is conclusive even though it had us live through a few seconds of anguish. We now know more about the performances and the limits of our CF-100! Not only do we have in our hands the answer to the question asked but we can also say that we reversed, in a plane, in flight!

14 JUNE 1956 - ALL-WEATHER FIGHTER PILOT

Final test in the presence of S/L Bayliss as navigator, marks the end of my training at Cold Lake. In a few days we will know the name of the squadron that we are to join.

The squadrons are located at Bagotville (Chicoutimi) and at Saint-Hubert (Montréal) in Québec. At Uplands (Ottawa) and at North Bay in Ontario. At Comox (Vancouver) in British-Columbia.

I learn with pleasure as we receive our diplomas on 25 June that Rosie and I are transferred to St-Hubert, just next to my hometown, Longueuil. We are to report there in early August after taking our annual vacations.

I use that opportunity to make a short touristic visit to Banff and Lake Louise: marvels of the Canadian Rockies. Even though it is still early in the season to find them at their best, the Rockies are always impressive.

AUGUST 1956 - #425 AWFS ALLOUETTES
#425 ALL WEATHER FIGHTER SQUADRON (ALLOUETTES)
ST-HUBERT (QUÉBEC)

But! Where am I? - Without totally realising how lucky I am, here I am where for over two years, I have been dreaming of being without hopes, considering as very slim my chances in seeing it happen!

I can hardly believe it! Firstly, I'm a pilot, I've got my wings right there on my uniform to prove it. Around my wrists, ribbons indicate without doubts that I am an officer. Secondly, not only am I a pilot, but that on CF-100, 'mine' and the best. Finally, it is right here, in St-Hubert, right close to home, that I will fulfill my role: safeguard of our rights and liberties!

Once settled in, registered, equipped, etc, I introduce myself to my new boss at work: the Commanding Officer is 'Group Captain' Jardine, the squadron commandant is 'Wing Commander' Hillock and my flight commandant is 'Flight-Lieutenant' Strathy. We rapidly get acquainted and without losing any time he introduces me to 'Flying Officer' 'Willie' Milne who will show me the base and surroundings on

board of a T-33, while giving me my 'Unit Check-Out'.

This first flight consists in an initiation of 'newcomers' on a base to the particularities of the place: landmarks, restricted and prohibited areas, security zones, etc.

Back from this trip I'm given a CF-100 MkIVB, having more powerful engines than Cold Lake's MkIVA, on board of which I takeoff with Rosie after two long months of abstinence. What joy to return to our beautiful birds!

13 AUGUST 1956 - The MARK 5 (MkV)

We are just getting used to the surprising characteristics of these MkIVB that today we experience a totally new plane, freshly out of the assembly line: it is the MkV! -This one is completely different from all models produced so far. In fact, it represents the synthesis of all the experience gained on the others. It is the proof that the Canadian aircraft industry has won its aeronautical engineering degrees, and that with 'HONOURS'.

Everything was brought into play to correct the anomalies: the interior arrangement, the instrument panel lay-out, the straightforwardness, the visibility, the efficiency, the precision, etc.

The weight of the craft has been reduced to the minimum by the removal of the guns (judged useless for Canada's defence), of the leading edge de-icers (superfluous on jets) and a number of items that, with the use of new materials and techniques could be reduced to a fraction of their weight while maintaining (and in many cases in improving) their original characteristics and features.

The wings and the tail plane were extended to markedly increase the lift ratio. And, finally but not least, the engines are again more powerful and lighter, of increased endurance and requiring less care.

Significant impact of these improvements: ceiling raised from 45,000 to 55,000 feet. Stalling speed reduced by 10 knots under all circumstances. Take off and landing runs reduced by 15 to 20%. In as far as its capability to reach high altitudes in record time, Rosie and I will have to repeat our test (see 11 June of last year) in order to find it out. And that should not be long coming because we are anxious to beat our own record!

Our flight of to-day would nevertheless be strictly devoted to us getting familiarised with this new machine and the start of in-depth studies of its major components in order to fully understand its limits before pushing it to them.

It will be in it that I would reach the 50,000 feet of altitude for the first time in days when the survival equipment technology didn't exceed 48,000 feet. When this got realised, the 48,000 feet limit was imposed and until the time when new equipment, trustworthy to these altitudes, becomes available.

That equipment only became available many years later, reason why Rosie and I shared with a very limited number of members of the Canadian Air Force, the altitude record for quite sometime.

A few months after our arrival here at St-Hubert, the whole squadron gets ready to be en route for Cold Lake for a 'rocket shoot' practice, now the only armament aboard our new MkV. For the first time, I undertake a voyage that would take me 'elsewhere'. So far, I always landed at the same base from which I took off from.

From St-Hubert to Cold Lake is equivalent to the crossing of the United States from Miami to Los Angeles. From our starting point we plan our flight with stopovers in North Bay, Ontario, in Lake-head (changed to Thunder Bay since) on the west coast of lake Superior, in Portage-La-Prairie west of Winnipeg in Manitoba and, finally, Cold Lake in Alberta.

The preparation of such a voyage has to take into account weather forecasts along the route at the times that we expect to be there: wind speeds and direction at all levels up to and including 50,000 feet, all temperatures at these same levels, the expected conditions at the airports where we plan to land plus those within a 100 mile radius of the others, as they are to be our alternate airdromes.

Taking into account the above mentioned meteorological information, detailed preparation of the flight plan: heading and altitude to be maintained between St-Hubert and North Bay considering the winds, fuel consumption at the preferred altitude, calculation of the fuel reserve to reach the alternate airfield would something prevent us from landing at North Bay, identification of the landmarks along the way to be used for readjusting our course, if and when necessary, etc., and so on and so forth for each lap that is to get us to our goal.

It's under such circumstances that my studies in navigation done while in Summerside in 1954 demonstrate their value even if, as pilot, I do not need them necessarily, having a professional navigator at my disposal.

Our stay in Cold Lake is of short duration but firing practices are always very interesting. After a few simulated attacks using cameras in lieu of live ammunition, time has come to use real rockets: unusual sight to see these 'flying sticks' go before us in a mad pursuit towards the target each leaving a white trail behind itself.

Contrasting difference with guns: absolutely no recoil action, noiseless, no vibration. On the other hand, they generate an artificial cloud before us that is peculiar to them.

And the time to return home has come. We have to do the same planning work but in reverse now. One main difference is that, the winds helping, we will only have to stop once, about half way, at Lakehead. After three and a half hours of flight we are in St-Hubert: just to say that, not long ago, I did the same route by car and it took two and a half days of frenetic and exhausting driving to cover the same distance on earth...

OCTOBER 1956 - STANDBY

Already the effects of winter can be felt. What a difference in the meteorological conditions found here, in the eastern part of the country, as compared to those experienced in the Prairies. Those conditions have a great impact on flying, it is now easy to understand why most of the training is carried out west in the prairies where the climate is forbearing, cold at times but almost continually clear.

Nevertheless, bad weather is no impediment to our activities. However, it would nonetheless be because of it that I find myself forced to land without even seeing the runway before touching it, twice in the same week! Visual conditions were so poor that sighting of the field became possible just as the landing gear skimmed the pavement and the wheels started to roll on the landing strip.

Squadron work resumes itself quite simply: 'surveillance of aerial space'. Easier said then done given the amount of space involved, considered in its three dimensions: width, depth and height. Here in St-Hubert, there are two squadrons. Each have a quota of twenty teams (not necessarily filled, but budgeted). At all times, two teams are on STANDBY, one from each squadron. One after the other we take turns at it. On constant readiness, we are on the alert. In any case, all without exceptions, must be ready and continually maintain contact with his base so to be there and available within two hours. The only exception being for the 'lucky' on vacations when forty hours are then allowed to rush back to home plate. If, while on vacation, one needs or wants to go further away from base then it is possible to return within the forty hours, then he must make sure that he can reach another base within that time and then his vacations will be authorised only once all these conditions are respected and agreed by all parties involved.

Subordinate to and in direct communication with the early warning radar systems deployed across the continent, the squadrons are to go and verify any unidentified flying object in its assigned air space as detected by the ground observers working around the clock. Only their position differs: they are placed such that they can 'see' the 'intruders' early enough to give us a chance to run after them before they can reach areas of concentrated populations, hence their qualifier of 'EARLY WARNING'.

This complex system, involving a variety of personnel proficient in many different skills, requires constant verifications, modifications, improvements and tests. Outside the time spent on STANDBY, it is at that that the squadron's efforts are devoted.

As a sample of what can happen when we are on STANDBY, the following fact is representative. It's a night just like any other: the world sleeps safely and like a log. The time is five in the morning.

Not quite. The red phone rings out! Not yet off the hook that it roars at one's still sleepy ears

'SCRAMBLE: 2 - 0/1/5 @ 2/5'

URGENT need for TWO armed, all-weather fighters, on a trajectory of FIFTEEN degrees relative to true north at an altitude of TWENTY-FIVE thousand feet.

My navrad (NAVigator/RADar operator) takes note of what I transmit to him as I put down the phone. Simultaneously, we jump into our flying gear and strive across the space separating us from our plane. Less then three minutes later we get in radio communication with the control tower, already aware of our mission. We swiftly climb to 25,000 feet, heading 015 north closely followed by our cohort from the other squadron. Experiencing some difficulties in bringing in the landing gear, I have to reduce my speed and let my number two take the lead.

Number one's role in these tactics is to identify the intruder while number two's is to get in position for an eventual destruction of that unknown were he to be identified as an enemy.

This time, the intruder is identified as a commercial transport loaded with passengers en route from London to New-York and totally inoffensive. But our intervention isn't in vain as this plane is sufficiently off track to be considered in distress without realising it as yet. Our appearance on the scene is welcome. We escort them back to Montréal. From there, they are now in position to easily re-establish themselves on a new course to New-York city.

Similar cases occur quite regularly as the commercial companies, in tight competition, are searching ways to reduce their costs by all means while improving services.

Logically, the most advantageous route to take between two points is the straight line joining them. Around a sphere, earth for example, that line is a great circle. And, in these days and age, flying the great circles does not come without some risks. Coming across the Atlantic by great circles still poses some serious problems to navigators lacking the navigational aids to satisfactorily do their job.

Luckily, they can count on the military aviation to pull them out of trouble once in a while, even if I believe it to be a 'miscalculated' risk as compared to the limit I impose to myself. For us, we do not quite appreciate these underhand intrusions because, until proof of the contrary, they are considered as the enemy, placing us ready for action until such time that their identification has not been firmly and positively completed. And this, not only happens here in St-Hubert, but across all Canadian and American bases also.

Outside our STANDBY, we work on perfecting our defence system in close collaboration with our southern friends in the States. These have, in addition to the defence role, that of retaliation in the event of an attack. Hence their need to equip themselves for the attack as well as for defence. Trusting on us for a major part of their defence, they can now concentrate their efforts on retaliation means.

Working in concert with them, we measure the efficiency of one's attack capabilities against the other's defence expertise. Our defensive strength is considered the best in the world, even by our southern neighbours, which is not an understatement coming from them! The following describes this other function that we must fulfil.

17 JANUARY 1957 - S C R A M B L E

One of the U.S. Air Force 'Strategic Air Command' (SAC) bases is located in Plattsburg, New-York, a short distance from Montréal. Its squadrons are equipped with B-47 bombers in progress of being replaced by the new B-52s, bigger, more powerful, reaching higher altitudes and at much greater speed. Their own exercises bring them to fly over Canada and northern regions. As they return to base, coming from the north, they become the authentic replica of the expected invaders (namely the Russians, in these days). Without advance warning, arrangements take place 'at the top' so to have us taken by surprise and test the defence system in its minute details as if it was for real. For us, it is!

To-night, the whole base is pulled out of bed by sirens, bells, telephones: SCRAMBLE! The stampede is on. Everybody rushes and within seconds the turbines of the first planes whistle in the cold

and dry air. The humble hissing give place the roaring howls of CF-100s taking to the air and spitting fire behind them! As we get in communication with the radar stations, three minutes after our departure, we are approaching 10,000 feet of altitude at some twenty or so miles north of Montréal.

It's only then that we are informed that this is only a practice and that we are to continue our ascent to 45,000 feet while maintaining constant our present direction. Our target is not yet 'seen' locally but that should not be long coming. The 'enemy' is presently under the Dew Line surveillance which is way up north. We are flying over the Abitibi region when contact is established by our ground radar team who directs us for the three hundred miles separating us from our target and eventually brings us into striking position at fifty miles. Between thirty and twenty miles our own onboard radar detects the target and we complete the attack with a perfect SPLASH. Absorbed as we were in the manoeuvres to this point, we hadn't noticed that we had gone over the fifty thousand feet mark of altitude and that we were skimming the sound barrier, at the threshold of the limits of our machine. We quickly conclude that our target couldn't have been a B-47 but, most likely, it had to be one of their new and famous B-52s that were supposed to be 'out-of-reach' as they claimed!

We are to learn, a few days later, that we had intercepted one of the three B-52s that were in the process of establishing a new 'round the world record. In forty five hours and nineteen minutes, nonstop, they had circled the globe. Flying tankers had air-refuelled them three times during their journey around the world. This new technique developed by the Americans, coupled with the performances of this bomber would maintain the record for many years upon completion of this historic flight.

22 JANUARY 1957 - RADIO FAILURE

This evening, as for every night exercise, we takeoff in pairs for a high altitude training session. The ceiling (base of the clouds) is at about two thousand feet above ground level as we leave the air base. We get 'on top' at some forty thousand feet and continue our ascent to forty-five thousand for our work over-looking Québec's far northern area. Once our practice over, we independently take the way back to base.

A short time later, as I am trying to contact St-Hubert's tower, I realise that our radio is 'on the fritz'. I don't know if I can transmit and be heard by others but one thing for sure is that I can't receive anything others are saying. Net results: I have no contact with the rest of the world.

As prescribed for such circumstances, I start describing an equilateral triangle in the skies with my plane, figure that should get detected and identified as a distress signal by the ground radar stations who, in turn, should communicate this message to the closest airbase for it to 'scramble' a fighter to our rescue. In the pitch-black night that prevails, and using the flight instruments, I maintain my current position in repeating this triangle while Rosie screens the horizon with his radar hoping to detect our saviour's generated blip. In less than thirty minutes of this game and the position lights of an other plane become visible. I return to straight and level flight in order to ease its pilot to come closer and move into close formation on us.

So far so good. And, surprisingly enough, we can communicate with each other by radio at this short distance. I indicate to my new 'body' to move forward so that we switch positions: he taking the lead and I flying formation on him. No sooner are we in that relative position to each other than communications are lost between us. No problem as all I have to do is follow him and he will get me back to base. But, that is not to be the case! The pilot of that plane happens to be new on the squadron and has little experience as a formation 'leader', even less so by night and, on top of all, in the 'suds' (in heavy clouds). His manoeuvres done too roughly along with sharp power changes get us in such risky positions relative to each other that I get to the point of having no other choice but to break away from him and to get off on my own rather than to plow into him.

Convinced as I am that the radar stations have me identified and under surveillance, I trust them to make sure that any other traffic be diverted away from my path. So, I undertake my descent to lower levels, groping along and hoping to come out of the cloud formation before hitting the ground. Rapidly losing altitude down to 5,000 feet, I reduce our rate of descent till our emergence under the clouds. We come out of them at 1,800 feet with, in front of us, a lightened area that we manage to identify as the city of Grand'Mère. From there, we can now establish our way back to St-Hubert that we eventually reach at low level but in the clear. In order to let Approach Control know of our presence, we make a slow and low pass by the tower while 'flipping our wings', as agreed upon to indicate communication

failure. We get a green light and complete our approach and landing as normal.

How surprised are we at the way we are greeted as we return to the FLIGHT! The commander leading, all come to greet us as if we came from another world. The concern had grown, first when our practice team member got back and then on the return without us of the one sent to our rescue, to such a degree that to see us arrive safe and sound is cause of an appreciated relief.

Further to this event, it is agreed upon that more emphasis is to be placed on recovery manoeuvres of distressed planes and that no one is to be placed on STANDBY duty before sufficient experience has been gained. The ensuing investigation demonstrates that the interceptor dispatched to our rescue had assumed that our radio was operating correctly after conversing with us at short distance and so had presumed that we could get along on our own without problems. It is therefore established that the one who declares to be in 'distress' becomes the responsibility of his 'saviour' sent after him no matter what happens in the mean time, and that the latter has, with all the means given him, to assume this responsibility.

2 FEBRUARY 1957 - #416 AWFS LYNX

So far, as a member of '425' squadron, I'm becoming one of the pillars about whom '416' squadron will be formed. The strength of '425' has been doubled over the past months in view of this split and I will take charge of a FLIGHT within the new '416'. All of this caused by '423' scheduled to leave shortly for Europe where the CF-100 will participate in the reinforcement of its defence.

My new commandant will be Wing-Commander Drake. One of my first tasks is to introduce our latest newcomers. This allows me to direct those with the best potential into my team. It is to be how I will introduce Serge Alain to the squadron, he who was with me in London at the very beginning and who was one of those that went to St-Jean for the English school, course that, we recall, I managed to avoid...

It is during my first months with '416' that I obtain my GREEN TICKET (12 April 1957), giving authority to takeoff and land in minimal conditions of 500 foot ceiling and/or visibility. This licence is granted only to a restricted number of military pilots, my previous licence being that accessible to commercial airline pilots.

6 JUNE 1957 - THUNDERSTORMS

At 6 o'clock tonight, the forecast calls for probable thunderstorms later this evening. At six thirty, four planes from '425' squadron takeoff for their practice. At about seven o'clock, us from '416' set off on our turn. At a quarter past eight, as we inquire about the conditions at the base, the crews of '425' are all returned and their report indicates a ceiling of 3,000 feet and five to ten miles visibility. No signs of thunderstorms yet but the evening is still 'young'. Organising our return to base we elect to pursue with our planned GCI/GCA five-plane approach consisting of a descent in Indian file. Maintaining ten miles between each other using our onboard radars, only the leader of us five is under control of the base in order to reduce communications to their minimum simulating 'red' conditions. We are, therefore, spread over some forty miles. At twenty thousand feet of altitude, in the darkness of the night and in dense clouds, the pilots have their sight soldered to their instrument panels while the navigators have their heads buried in their radar sets, transmitting to their pilots the necessary instructions to constantly maintain their position in relation with the plane immediately preceding, paying particular attention not to lose track of it. Our relative positions are as follows:

#1- F/O 'Ray' Amey

#2- F/O Claude Montour

#3- F/L 'Pete' Cumberbirch

#4- F/L 'Tony' Slugosky

#5- F/O 'Willie' Milne

Another of our planes, flown by F/O 'Stubby' Holmes, is on a navigation trip and is expected to be back any moment now. 'Ray', our leader, switches to channel 9 to get in touch with 'GCA' (radar Ground Controlled Approach) while we remain on channel 5, keeping on tracing him by radar only. Ninety seconds later I do the same assuming that my turn has come and that my predecessor is sound and safe on the ground. Simultaneously, I reduce power to 75% of thrust, extend the dive brakes and initiate a descent that allows us to maintain 280 knots in those conditions. In reaching 15,000 feet, I call 'GCA' who informs me that they have not yet established contact with our number 1! It appears that he has radio problems that he eventually gets resolved. By now, Ray has gone by the base and is over the city of Montréal. As I am getting closer and closer, followed by three others, the radar operator has to see after the two of us at the same time in trying to get us down before the arrival of the others under his control. Ray and I are flying at the same altitude of 2,500 feet, and to get us apart, I am asked to descend to 2,000 feet. And it is at that moment that we are told of a violent thunderstorm raging on the St-Hubert airdrome. None of us has enough fuel to divert to another base: we must therefore all land here, no matter what! All but 'Stubby' who will head for Ottawa.

My position is now 3 miles from base at 2,000 feet. Looking outside, nothing to be seen other then the glaring flashes of thunder and the arcing between the metal parts of our plane generated by the static electricity of which our aeroplane is charged. I'm asked to turn ninety degrees to the right and to come down to one thousand feet (Mount-Royal reaches 960 feet!). Having reached that height it is still impossible to see anything. Barely can we distinguish the tips of our own wings in the rain. I'm sent on a detour while some unknown is brought in to land. What's he doing here? Another call orders me to turn another ninety degrees, which I do knowing very well that we are now heading directly towards mount St-Bruno with no more than 100 feet of play, assuming that our altimeter indicates correctly, that which is doubtful in the centre of such a severe thunderstorm. Another request to turn ninety degrees again and dropping five hundred feet allows me to presume that we are now on final approach. Around here at St-Hubert, this means about four hundred feet above ground level (where it's flat!): I glance outside with the hope of seeing something: nothing, pitch black it is. Rosie tells me that it is raining on him back there

- impossible, that I tell him... How could that be? And I realise it's raining on me also! Large water drops are falling on us and, now, the flight instruments seem to be disappearing in the fog. Yeah! We've seen this before! Hot, humid air hitting the cold: lets bring out the wipers, that is to say our gloves so to clear the dew of the instruments and make them readable.
The landing strip I'm heading for is oriented at 240 degrees magnetic and my controller says to turn to 195 degrees (that's 45 degrees off course!) and to get down to 300 feet. 'When you get to see the strip, let me know. And, by the way, there's a plane at the end of the runway, be careful'. I reply: O.K., being in no position to embark upon a lengthy discussion or conversation... At two hundred feet above ground and I still can't see anything at half a mile from the runway. I get down to one hundred above ground level while cracking the COCKPIT open to improve my vision and through the rain beating my face I finally catch a glimpse at the 'button' under my right wing: SIDE-SLIP to the right to rapidly lose the remaining one hundred feet while bringing last second corrections to the plane's orientation to match that of the landing strip, under the influence of strong gusting winds blowing at a 90 degree angle to the flooded runway rendered extremely slippery: we're in fact aquaplaning! The right-hand wheels' brakes and the rudder aren't sufficient to hold the plane on the runway: I have to power up the left engine to keep us from leaving the pavement to the left as the runway lights slip away under my left wing. The landing gear can't be more than a few feet from the edge of the strip. Managing to reduce our speed, control over our craft's movements becomes possible and I close the CANOPY as I'm wet enough by now.

Having reached the end of the runway and getting ready to free it, I notice another plane there in front of me: it was a visitor from Bagotville who has slipped off the runway and plowed in the field. And I, who all this time thought that, the plane in question, was at the other end of the runway! Once in the parking lot, it's raining cats and dogs! We get off the plane and start running for home but we stop straight away as we have water up to our ankles and we're splashing ourselves worse than the rain itself. I'm closely followed at landing by 'Ray' who shuts his engines down on the roll so not to do as our friend from Bagotville. He stays on the pavement but, with his engines stopped, he can't get fully off the end of the strip. His navigator, 'Bill' Bland, flashlight in hand, makes desperate signs to 'Pete' who gets the brakes on and blows one of his tires. Losing control, he ends out in the bush. 'Tony', who is next, is coming in with excessive speed and, in the impossibility of stopping his racing plane, end up in the mud at the end of the runway. 'Willie', last to come in, doesn't succeed in keeping his plane on the pavement and takes to the fields in his turn but not without taking a good dozen of the runway lights with him going

past... Luckily, there were no collisions and no one got hurt, other than in their pride...

Needless to say the confusion created by these planes scattered here and there over the airdrome. It is quite by chance that I get to be the only one to have reached the tarmac on my own, without any damage and, hence, without complicated explanations and such to deliver on ensuing reports. This event contributes largely to increase my popularity among other pilots proven by the congratulations received that evening at the bar. I don't believe that I had done anything that extraordinary, luck only was on my side. And, what I did was done mainly to save my own carcass...

INTERVIEW with Roger Varin

The next 5 pages are reproduced
from magazines for students:

"HÉRAULT"

and

"L'ABEILLE"

(October 1957 editions)

16 JUNE 1957 - END OF AN ASSOCIATION

This evening's flight is to be the last with my faithful friend and navigator 'Rosie' Drinkle. He has decided to return to civil life after seven well filled years of military service. I'll regret him as never will I have another to approach his competence. He will return home in Edmonton, Alberta, with his small family to embark on a career in salesmanship. We're reaching that period where the 'old folks' have to make way for the newcomers. I shall have F/O Dumond, of equivalent competence to Rosie, but only to the end of August, as we rank among the best again, and we have to split, Donald being transferred to become operator on a ground radar station. As a result and without a navigator, I am to be, for the following month, St-Hubert's test pilot before coming back to squadron duties.

Each and every test done has its own story that would be much too long to relate here. Let it suffice to say that, from them, I learned in much details the structures and the mechanisms of each system found in the CF-100. As all planes found on the base have to go through periodical in-depth verifications every 400 hours of flight, it belongs to the test pilot to assure that their functional capacity is perfect, that they have been verified. This verification, in fact, consists in taking the plane apart and then to reassemble it after checking each one of its parts, replacing those found defective or judged as candidates to fail before the next inspection. Full restoration, what else?

The plane must therefore be put under tests just as if it came out of its original assembly at the factory. Following the process from start to end I note the comments made by the technicians, mechanics and engineers about the items that should receive more attention during the tests, particularly those mechanisms that have had new or reworked parts used as they were rebuilt. I have gotten to the point of pinpointing the ultimate source of the failures as reflected on the handling of the machine. This capability to direct the mechanics to the precise cause of problems was precious in getting these fixed, considerably reducing the time needed in researching for the 'cause' of the 'effect'. I'm getting to have a taste for this job of JET TEST PILOT just as a navigator becomes available for me on the squadron.

LAST CHANCE

Unconsciously I am about to become the 'pilot of the last chance' for the navigators 'waiting for divorce', rejected by their pilots with whom they can't get along or manage to form worthwhile teams. This task starts with Borg Smeeth who has been without a pilot for awhile and that nobody seems interested in having in his team. I'm 'asked' to team up with him. We start by reviewing from the beginning as if we were doing our training over again at Cold Lake. We gradually climb the ladder towards perfection

one step at a time. In a short time, Borg demonstrates his abilities that I judge above average. The obvious conclusion is that his previous failures were attributable to his ex-pilot and not to him. But, I was not to be the one to 'inherit' him...

Our commandant doesn't see it that way, and he is absolutely right: his goal is to have the maximum number of competent teams at hand and getting close to retirement from squadron duty I am much better used in helping the formation of teams than to be part of one. This is how Serge Alain, who was complaining about his own navigator, would benefit from Borg's qualities while I am called upon to get John Doe (false name), his ex-navigator, out of trouble.

This trade is not to take place without the setting of certain conditions as I have flown with J.Doe a couple of times in the past. I am aware of his laziness, lack of concern, sluggishness. I'm given to decide on his career: I accept and give him his last chance or I refuse and he is dismissed on the spot!

Under such conditions, I accept to attempt the impossible. I have a head-to-head talk with J.Doe that lasts a good four hours during which the cards are clearly laid down on the table. He is to change one's allegiance and demonstrate maturity. His spoilt child's schemes are to be set aside as of our first flight together otherwise it will be his last. In any case, I made up my mind that I wouldn't complain first: he will have to come along with me or let go on his own!

Surprisingly, neither he nor I has to complain, even though I have to constantly maintain the pressure on J.Doe. After a few months of work together, we manage to get back amongst the best teams on the base. We are one of the only three teams who would engage in 'blind folded' attacks at night or in the clouds (see above, at Cold Lake). Rare are those who can shake us off in dog fights or who can hang on to our tail. In the past, J.Doe constantly complained that he could not stand the treatment of such pursuits which, he claimed, were making him sick, to the great disappointment of his pilot. Now, he knows very well that I will not accept any of his complaints and he manages to overcome his feelings of sickness indicating that all he had to do was to put his mind to it.

For the pilots, these exercises are the sought-after occasions to demonstrate one's savoir-faire as these simulated fights call for full in-depth knowledge of the craft in hands. It is, therefore, easy to imagine the determination displayed by every one to get himself behind the other. All want to be in 'pursuit' of others, no one wants to be 'pursued'! All manoeuvres are permitted to the pursued trying to get rid of his pursuers: vertical rolls, loops, side-slips, inverted flights, dives to ground level, pull-ups to tear the wings off and blow the engines to pieces, cork-screw ascents, etc. The 'falling leaf' surprises most... All of this forcing the pursuant in maintaining his nose in the tail pipe of the one ahead of him who is desperately trying to shake him off.

These simulated engagements, alike formation aerobatics, call for all that the pilots can give. The ill-treated planes are often in demand of attention. The fuel in the tanks is going nuts not knowing which way to go to reach the thirsty engines. Out of engine power, the pilot is screwed up unless he gets them going again while maintaining his advantage in the combat. Not at all that easy to do, and one shouldn't count on it!

Offended in our pride by the SABRE JOCKEYS, seasoned F-86 'SABRE' pilots, our neighbours on this base, and whose sole mission in life is to practice this type of combats by daylight and fair weather only, get us to retaliate to their audacity. Five of us, CLUNK DRIVERS as they call us, decide to drive them to hoist with their own petards, their aggressiveness becoming absolutely intolerable.

By a clear and sunny day, we set the trap: sure as we are that they would be looking for some of us practising simulated radar attacks to use as target. Two of us remain as bait at 25,000 feet while the other three set watch at 40,000 feet out of their reach. As expected, a four-Sabre formation comes into play and initiates a dive towards our friends from about 30,000 feet. By radio and on our own frequency, we tell our friends that the show has started and, just at the right moment, tell them to initiate their evasive action as agreed between us. Simultaneously the three of us get into counter-attack. The two planes used as bait have dropped their speed brakes just in time for the four diving Sabres to miss them by a mile in front of them before realising what has happened and react to it given such a rapid and marked change in velocity of their targets. Our two stooges have quickly retracted their brakes and, with their turbos at full power are now heading for 45,000 feet as we are diving to meet the Sabres to 'annihilate' them.

Our two friends, up there under the sun's protection, advise us that four more Sabres are entering the engagement and are preparing to pursue us. We are now five against eight but we intend to maintain our advantage. Used to work as a team we manage to completely surround our opponents, forcing them in returning to the base and land one after the other. Us five gather in a tight 'V' formation for a low-pass over the field, the FIGHTER-BREAK and land maintaining our formation. Their supremacy subjugated brings them to appreciate to their just value the members of our camp.

From then on, the atmosphere around the bar takes a new turn... And for the best!

12 JULY 1958 - VOYAGE to COLD LAKE

From last September, as I took charge of J.Doe, we now make a satisfactory team, nothing more. In spite of his efforts, that I must constantly revive, he evidently lacks competence. This voyage to Cold Lake that we undertake today will provide me the indisputable proof of it. This is to be our first trip together that would really call for the expertise of a true navigator. J.Doe professes to be more of a 'navigator' than a 'radar operator' and would have preferred to be flying 'heavies' rather than the CF-100 for that reason. Here, then, is the occasion for him to prove himself.

Considering myself fully secure and in good hands, I give him full responsibility to get us intact to our destination, as should be. Our flight plan anticipates a stop at Lakehead, at the western-most extremity of lake Superior, from there to Portage-La-Prairie in Manitoba, some one hundred miles west of Winnipeg and finally Cold Lake in northern Alberta. The weather conditions are forecasted to be good to half way between Portage and Cold Lake, somewhere around Saskatoon in Saskatchewan.

From St-Hubert to Lakehead navigation is easy, especially under clear conditions as we fly by Ottawa, North Bay and Sault-Ste-Marie, all easily identifiable. Following J.Doe's directives through this two hour and twenty minute leg, I get the feeling that he knows what he is doing. The second stage is bringing us to fly over Winnipeg before our full stop at Portage and, again, gives no more problems even though our flight path brings us over wild country, but for a shorter distance (one hour and twenty minutes).

The last leg is the most challenging. In direct flight from Portage to Cold Lake all of it is over wild, uninhabited land. Our course passes at one hundred and fifty miles north of Saskatoon, mid-point to our destination and where the only emergency airport can be found en route. Navigation aids are restricted, both in quality and in number. Now is the time for a navigator to deliver perfect work, above all when atmospheric conditions prevent visual contact with the ground, as it is currently the case. I continue to rely fully on my navigator for this last leg, presuming that he has done his homework in calculating our route precisely.

I nevertheless verify our distance from Saskatoon with the radio compass as we are timed to be the closest to it. My evaluation places us at some two hundred and sixty miles instead of the one fifty or so that it should be based upon our flight plan. I ask J.Doe to confirm our position while mentioning my suspicions. He forcibly reassures me that we are on track and that I shouldn't worry needlessly. Surrounded by thunderstorms, I presume that our radio compass has become erratic, pointing to the centre of the storm rather than the radio transmitter that I have the impression of having it tuned to.

Half an hour later J.Doe tells me that we are close to Cold Lake and that I should now have no difficulties in getting into communications with their control tower. I therefore switch channels to 'approach control' and, after multiple attempts, get no response. No answers, total silence. My doubts re-surface and I am convinced that the deviation identified at Saskatoon was real and has gotten worse since then. I figure by now that we may be some two hundred and fifty miles or so, north of Cold Lake. The only other base in the neighbourhood is Edmonton, 175 miles further away, and to the south-west of the former.

Our fuel reserve does not allow to drag on 'figuring' for ever. I elect to head south, knowing very well that 'civilisation' can't be found in any other direction. And if J.Doe happens to be right, this will get us closer to Edmonton anyway.

Using the radio-compass, I search for a landmark: not easy when you are surrounded by thunderstorms, that the transmitters you're searching for are distant and that the needle of the radio-compass

is erratic. I believe that I am detecting the signals from the Cold Lake transmitter. I persist with hope in that direction and as we move along the message becomes clearer and clearer and, God, so reassuring: it is truly Cold Lake and we're heading the right way! Let's not overwhelm with joy just yet because the next question that arises is: do we have sufficient fuel to reach our destination? Assuming that our deviation did not exceed the 250 miles derived from an imprecise measurement of our deviation from Saskatoon, we should have enough to take us to Cold Lake but definitely not to our alternate airfield in Edmonton would Cold Lake be closed for one reason or another (weather conditions, radar failure, runways blocked or under repair, etc.)

Every minute that goes by we try to establish communications with the base in the hope of obtaining more information and all the help they can give us. After ten minutes and one hundred miles of this game and we finally start to perceive an answer mixed in the static. An other five minutes and fifty miles and we can now understand the message being addressed to us: Cold Lake is free from any traffic, weather conditions are quite bad under severe thunderstorms, and Edmonton is strongly suggested as alternative. "Your position: north, north-east at 212 miles, we have you on our radar." 212 miles still? This means that we are some 400 miles from Edmonton... Impossible to get there! I request from Cold Lake a 'straight-in' approach at their place with radar approach assistance making myself very clear about our situation: I only have fuel sufficient for a second approach, would the first be failed and that here, at Cold Lake. Nowhere else!

Calling upon one of their best operators to guide us in (and God knows that they have the best) we are about to experience what I would qualify as the SUMMUM in precision achievable between men and machines (the ground operator and his radar, the pilot and his plane). I admit that a straight-in approach gets prepared from a longer distance than normal, but when adjustments to the flight path are given on a basis of one degree at a time, that speed corrections are by one knot and altitude by one percent and that this all come to end by a conclusive:
Over the Button: Power Off: Flare Out: Touch Down:
and, that in fact, the wheels simultaneously touch the runway, then, that's professionalism! And that is how, on our first attempt, we set foot on earth...

As a result of this incident, never am I to blindly give total trust to another concerning the navigation of my plane. I also know it to be futile to say anything about it to J.Doe: he is sufficiently intelligent to conclude on his own. The courses in navigation that I took at the beginning of my career just proved that what ever you learn becomes useful sooner or later and that no occasions to increase one's knowledge base on any subject should be avoided saying: What will this be of any use to me? Still, it is ironical that a pilot should be giving navigation lessons to his navigator...

Of all people I know, J.Doe is one of the rare persons that I don't manage to discern the 'principle motor' driving him. Why did he do what he did? Was he trying to commit suicide? I don't believe he did (he didn't have the 'guts' for it!), on the other hand, he acted as if that was his intention. Unless he is that thoughtless for not perceiving the consequences of his own actions. To top the difficulties of appraising his behaviour objectively, J.Doe could show himself off to best advantage as, for example, on this:

16 OCTOBER 1958 - TO EJECT: YES or NO?

Gloomy autumnal weather, cloudy and scattered with storms, one of which sets off shortly after takeoff on a SCRAMBLE to intercept some American B-52s. Our target flies at forty-five thousand feet and just touched the coast of Labrador en route from Greenland to, it appears, Bangor, Maine. Our point of intercept will barely be in Canadian territory somewhere close to Seven-Islands and requires the maximum out of our craft: the engines needing to run at full power during the complete run of the hypotenuse of a vertical rectangular triangle 45,000 feet in height (eight miles) and a base of more than three hundred miles.

Thirty-five minutes after our departure and we have a SPLASH: mission accomplished. The thrust of the exhausted engines is reduced to normal cruising levels and we make an about-turn to head back for base. No sooner is the turn initiated than the left engine red fire warning light comes on with all its glowing power: within a few seconds the emergency procedure, time and again repeated in practice for such an event is executed (some swore that the only procedure to follow was to eject, and fast, considering the risk of explosion gave no more than three seconds to get out). I give myself those extra three seconds to try to save my plane. Left hand engine feed: off. High pressure cock: off. Low pressure

cock: off. Left engine fire extinguisher: actioned. Transmitter: on emergency channel. Navigator (J.Doe) simultaneously told of the situation with freedom given to abandon aircraft if he so wishes, advice repeated a second time as the warning light stays on after the engine is stopped and the extinguisher has been discharged into it. I communicate our condition by radio to the radar station asking them to direct us to the closest base (Bagotville near Chicoutimi) and to let them know that we are coming in short of one engine. St-Hubert is to be avoided in any case even with both engines running because of bad weather conditions and that Bagotville, not that much better, is definitely much closer. Our only viable alternative would be Ottawa, much further but with favourable weather conditions. I opt for Bagotville and try to forget that blinding red light which, finally, I will cover with one of my gloves to hide it from sight.

A final check with J.Doe to confirm his decision: IF YOU STAY, I STAY! - OK! Then we both stay, whatever happens... All indications lead to believe in a threat of an explosion of the plane still loaded with over six hundred gallons of fuel in its belly. J.Doe's decision to stay aboard was re comforting although I would prefer him out and safe. I have decided to bring my handicapped machine home or die with it. But, as time goes by, it becomes more and more plausible to believe in a false indication of the fire detection system. On the other hand, the abnormal length of time spent at full power, leaves some doubts. Let us assume that there is no fire. Then, our only problem left now is to get down safely without additional damage. Evaluation of the situation: forty-five thousand feet of altitude, about two hundred miles from Bagotville with an engine out of commission. Between us and the ground: thunderstorms and thick cloud formations. From our last contact with the radar station we are heading for the base and it would be about time to check our position with them again. To add to our toll, no more answer from them! Changes in frequencies to the control tower with whom we finally manage to establish contact, how weak may it be. Our radio is fading, why? I suddenly remember that the electrical generator is actioned by the left engine and that, without it, the internal battery becomes our only source of electrical power: quick, lets stop all that is not of absolute necessity. All, and more specifically, the radar system. All that's needed is first, the radio and second, the fuel pump required to feed the right engine.

Initiating our descent, we almost immediately penetrate into a thick cloud formation and head directly to the middle of a chain of thunderstorms. On the other hand, our plane handles relatively well in the absence of one of its engines. The control tower leads us the best it can under the circumstances and after a series of manoeuvres that seems incoherent to have us skirt 'round the storms, we are given the latest weather conditions. As if we didn't know, or as if we cared! That really is the least of our concerns at this time with an engine stopped and possibly on fire and a radio that is gradually and surely fading away on us. Forget the meteo! How about the menu for supper? I'm getting hungry... Following this reply, the nervous voice at the other end gets replaced by another that inspires much more confidence. And, suddenly, the landing strip appears, there, right in front of us at about 150 feet below. I have to land without fail: the soup's getting cold, no time to lose. Slight push on the nose to lose those 150 feet while adjusting our direction to match that of the runway and there we are: we roll on solid grounds, chased by fire trucks and the ambulance which will not be needed after all. Some moments later while our plane gets inspected, J.Doe and I are gobbling up. Net results of the inspection: the failure of a thermocouple,
part of the fire warning system, was at the source of the false indication and the engine, filled with carbonic snow, needs a clean-up before we can envisage returning home. Other teams from St-Hubert, that have taken refuge here also, can now takeoff as the weather conditions are improving rapidly. We'll join them later to-night.

MID-NOVEMBER 1958 - END of a STAGE

I am advised that my stay on squadron will be over next month and that I should be producing my report on J.Doe as soon as possible. Without making direct recommendations as to how to dispose of him, I submit my observations letting the final decision to our squadron leader who finds no ground for a possible recommendation into a career anywhere in the Armed Forces. J.Doe will therefore have to look somewhere else to pursue his career. His dismissal will become effective 15 December synchronised with my transfer. We are to fly together for the last time on 2 December and he and I leave each other on good terms, J.Doe even thanking me for having tried the impossible to help him.

I must also complete another report but on a totally different subject. From last March when the CF-105 ARROW, the eventual successor to the CF-100, flew for the first time, I have been involved in the evaluation of the different radar systems proposed to equip it, the most sophisticated of these times and, by the same token, the most secretly protected. Already, my participation to this project had contributed

to the selection of a specific brand and now I am to submit my views regarding the transition from the concepts presently used on the CF-100 to those required to be developed for the CF-105. My enthusiasm for this new aircraft is such that my sole ambition is turned to it as it had been to the CF-100 five years ago. My fear of being pulled away from its centre of interest has been haunting me until confirmation of my next assignment. How happy I am when asked to report in Trenton, Ontario for the 15th of December. The Air Force has decided to take charge of the maintenance on CF-100s that used to be contracted out to AVRO, allowing the latter to deploy all its resources to the production of the new fighter, the ARROW. Those revisions are to be done in Trenton where I'll become the first test pilot on the type. My fear of seeing my career as a pilot come to a sudden end, to take that of a ground radar operator or worse, to take that of an administrator, fades away on the spot.

15 DECEMBER 1958 - #129 A&FF "FERRY FLIGHT"
#6 RD, TRENTON, ONTARIO
A&FF = Acceptance and Ferry Flight
RD = Repair Depot

I now belong to that organisation of the forces whose role is to see to the maintenance of old planes and acceptance of the new coming out of production. The CF-100 has just been added to a number already respectable of planes under their responsibility: the Beechcraft EXPEDITOR, the Canadian Car & Foundry built HARVARD, the deHavilland OTTER, the Douglas DAKOTA, the T-33 (Lockheed) and the F-86 (General Dynamics) built under contract by Canadair, the CHIPMUNK, the C-119 FLYING-BOXCAR, the CANSO, the MITCHELL, the LANCASTER, and now the CF-100 CANUCK from AVRO. Here is no work shortages! Tomorrow, I'll get to work as if I had been here for ever. On this first day, I'll do a return trip to North Bay with F/O Ratcliffe on an EXPEDITOR. The next day and without advance warning, I'll be off to Winnipeg on a DAKOTA to be dropped off there to pick-up a CF-100 MkIII and bring it back to Trenton for an overhaul. At an average one hundred miles per hour, up wind, we take the day to get there. The following day, after two hours and twenty minutes I'm back home! As we come to land in Trenton (F/O Al MacGillivray is with me on board) the runway is transformed into a skating rink under freezing rain and, with a fair cross-wind, we are forced to power off to assure staying on the strip. The effect of the wind on the empennage of the plane associated with the lack of braking action left us with minimal control. The help from the towing truck is required to bring us to the ramp.

My first real flight out of Trenton as captain takes place on the twenty second of December. Air test of a CF-100 MkV coming out of overhaul after four hundred hours of flight. My passenger is LAC (Leading AirCraftman) Cox. As our role here is to replace that of the manufacturer, the tests must be carried in relation to DESIGN LIMITS and not to the OPERATING LIMITS as was previously done in St-Hubert, the latter being always under those set for the constructor. In fact, for any reason, all tests to be done here are done as if they were acceptance tests for aircraft freshly out of production or following a major overhaul.

ACCEPTANCE TEST for the CF-100
External checks:

Visual checks of all external panels giving access to the plane's internal components. Verifications of the tires, brakes, landing gear, oleo legs, air pressures in emergency systems in case of hydraulic failures, inspection of air inlets for the flight instrumentation, control surfaces, position and landing lights, power turbine and compressor of both engines, radio and radar antennae, canopy movement when energised from the external controls; fuel, oil and de-icer (alcohol) reservoir caps. Before entering, complete verification of both ejection seats to ensure that all components are in place and properly secured.

Pre-takeoff checks:

Once aboard the plane, ejection seat checks: vertical and horizontal positioning, parachute and seat straps, radio and oxygen connections, freedom of movement of backrest. Power-up of external electrical supply: complete verification of all electrical circuits fed by that source of energy. Ignition of turbines: recording of pressures, temperatures and 'rpm' as the engines gain their idle speeds. Removal of external supply. Reverification of all circuits for proper functioning under internal source from accumulators

and engine driven generators. Loading of the other systems: radio, radar, converters, fuel pumps, flight instruments, etc. Tests of the multiple fuel feeds and cross-feeds to both engines alternatively. Instruments checks as we move towards the takeoff strip. Visual checks of flight controls for correct movement. Efficiency checks of the brakes and other controls.

In-flight tests:

Full thrust for takeoff: recording of time to the second, engine pressures, temperatures and RP-Ms for each engine along with air pressures and temperatures for ambient outside atmosphere and inside the cabin, and all these to be taken from ground level at every 5,000 feet right up to 50,000 feet of altitude (45,000 on MkIV and MkIII). Once up there, run the aircraft to its maximum speed taking note of any diversion from normal handling of flight controls and stability (impact of sound barrier). Motors at idle, verification of cabin pressure and electrical current generation for sustained values. SLAM CHECK (slamming of the throttles from idle to full power as fast as possible): recording of the time taken to reach full power, maximum temperatures reached in the process, the maximum thrust achieved.

Sharp dive to 35,000 feet: verification of the aerodynamic dive brakes. Once at 35,000 feet, full stop of both turbines. Restart of each to check their emergency restart systems. Vertical dive from 35,000 to 3,000 feet reaching Mach 9.2 and maintaining it for at least ten seconds followed by a pull-up that generates from six to seven Gs on the envelope to verify its structural integrity. Maintain a minimum of six hundred knots for four minutes at that altitude and then, at full power, climb back to 10,000 feet. Once at that altitude record stalling speeds CLEAN (all in) and DIRTY (all out: landing gear, flaps, air brakes). Disengage the controls' power assistance and perform light manoeuvres and re-engage the power assistance. Ten minutes or so of aerobatics including loops, rolls, spins, etc.

Return to base:

Normal approach and landing while taking note of any possible problems with radio communications, defrosting, stability, control flutter, etc. Landing and verification of the brakes, the flaps and the front wheel steering. Once parked on the Tarmac, total reverification of the exterior of the plane after the tests for any detectable faults (skin defects, rips of the envelope, torn control surfaces, bent wings and rudder, etc.)

Conclusions:

Any machine having successfully sustained these tests is ready to serve on squadrons where the establish limits are set at 15% below these.

24 DECEMBER 1958 - CHRISTMAS EVE

I'm off this morning aboard a CF-100 to be delivered to Bagotville. I'll be coming back with another that I'll deliver to Malton, (Toronto), Ontario. From there, aboard an EXPEDITOR, I come back to Trenton just in time to take a CF-100 and fly it to St-Hubert. In all, eight hours of 'work' of which four and a quarter hours of flying time. I'll be home for Christmas (as the song goes) in Longueuil, just a few miles away. On 30 December I takeoff from St-Hubert on a CF-100 again to bring it to Toronto. From there, I take one back to Trenton where it is scheduled for overhaul. On the morning of the 31st I leave Trenton for Longueuil, but by car this time, for a few days vacation until...

8 JANUARY 1959 - AIR TESTS

No sooner back from vacation that I have a test to do. As described above, I proceed in making all usual verifications. It wouldn't be before the very final verifications that I am to discover that one of the ailerons is about to come off its wing. It had been anchored only at one end and I still wonder today how it managed to resist through the aerial tests without giving up completely.

The officer in charge of overhauls of planes (F/L Pingle) orders an investigation to determine the culprit. I manage to convince him in stopping it while he was trying to be forgiven by buying the DRINKS at the bar that evening. "To err is human. And you risk of losing one of your best mechanics", say I. My role as test pilot is to identify these errors and I'm very conscious of what it means. Otherwise, why am I here for? The next day that same plane makes the test and I take it to its destination: Québec

City airport: Ancienne Lorette. Our MITCHELL brings me back home in Trenton. The following day, I take delivery of a brand new CF-100 in Toronto and deliver it to Ottawa. On 12 January, first trip as second pilot on a DC-3 DAKOTA from Saint-Jean, Québec to Trenton. On the 13th, on a CF-100 all the way to Lethbridge, Alberta, at the foot of the Rockies via Kinross, Michigan and Portage-La-Prairie, Manitoba. Six hours for it all. Return by DAKOTA: two days!

23 JANUARY 1959 - RETURN to the HARVARD

Today, I 're-learn' to fly the HARVARD that I haven't touched since I left Moose-Jaw on the seventh of April 1955: already four years have gone by! After two short flights with Lester Craven, ex-instructor on the type, he considers me capable to get along alone. Nevertheless, it wouldn't be until 20 February next that I will fly it 'solo'. In between times, tests of CF-100s continue and their transportation from Trenton to Toronto, from Toronto to Trenton, from Trenton to North Bay; on 2 February start from Trenton in a DAKOTA, refuel at Lakehead, and an overnight stop at Regina, eight and a half hours after departure from Trenton. Next day, Regina to Lethbridge: over twelve flying hours. Back in Winnipeg on the 4th, I take a CF-100 to be delivered in Cold Lake, 300 miles north of Lethbridge but in a quarter of the time taken in the DAKOTA. Return in a NORTH STAR as passenger, arrival in Trenton two days later...

On 11 February, CF-100 from St-Hubert to Toronto. The 12th: test flight. The 16th, Trenton-Ottawa with one and return with another. On the 17th, beginning of my training on the EXPEDITOR with Dave Royer as instructor: two days later I takeoff, alone at the controls.

20 FEBRUARY 1959 - BLACK FRIDAY

My return to the HARVARD occurs on one of these birds loaned to the Navy and that I have to move from Toronto to Trenton, without radio, in formation flight with an EXPEDITOR: the HARVARD will always be the same, leaving no dull moments to its pilots...

Ironically, I am in Toronto onboard of this relic (this HARVARD) while Deifenbaker's axe kills the plane of tomorrow, the CF-105 'ARROW' and, by the same token, the Canadian aeronautical industry. This day qualified as BLACK FRIDAY truly reflects the end of Canadian independence in the aviation domain and brings it irrevocably under its BIG BROTHER from the south, uncle Sam's control. Nobody wants to believe it so implausible this is: already six planes are finished, ready to fly. To date, five of them flew and have proven the exceptionally advanced technology they represent. This decision of 'my' government leads me to revise my own position: 'is it to protect such stupidity that I risk my life?' Well, no! I'll recall my demand for extended service in the armed forces and get out of them at the end of my present engagement due to take place in a year, almost to the day.

The first week of March sees me battling with the EXPEDITOR every day. From Trenton to Chatham, New-Brunswick and return to Trenton. From St-Hubert to Kinross, Michigan and from there to Lakehead and Winnipeg and then back to Trenton. Twenty-seven hours of flight, day and night, in five days: that amounts to more than the average month back on squadrons (in number of hours, sure, but not in distance!).

10 MARCH 1959 - RETURN to the T-33

F/L Lambros gives me the regulations test on the T-33 that I haven't touched since 4 November before leaving St-Hubert. During the next three days I will fly T-BIRDs exclusively in view of the renewal of my GREEN TICKET while moving them around from base to base. Trenton-Chatham. Chatham-Trenton. Trenton-St-Hubert. St-Hubert-Trenton. Etc.

On the 23rd, I test a CF-100 equipped with wing-tip tanks (292 gallons each of additional fuel) that I fly to Cold Lake the next day: charged with a full load (1700 gallons) I undertake this non-stop trip that is to take four hours and fifteen minutes. No sooner in Cold Lake, I switch this craft with another that I am to drop at Lethbridge for its retirement: it is CF-100 number 114. After a quick lunch there, I exchange my CF-100 gear with that of the T-33 for the return trip: next stop, Lakehead in two and a half hours. With the time zone difference, here it is dark and supper time is well over. So, a sandwich and coffee will have to do while my plane is getting refuelled. At eight o'clock that evening I am back in Trenton. By then, I have covered nearly 4,500 miles in less then nine hours of flying that required no less than four hours preparation to execute. Weather conditions had been favourable all the

way even if temperatures reached some forty-five degrees (F) below zero on earth and eighty below at altitude. Proof that winter isn't over quite yet!

Each time that I go to Toronto (Malton), my rage augments inside me: the CF-105 carcasses are becoming less and less recognisable as they are put to the demolishing torches. Atrocious sight that tears one's heart. And what a contrast in the people. Only a short while ago, thousands of them feverishly worked at the construction of these same machines resulting from numerous years of collective effort, their masterpiece, no less! Today, where are they? Unemployed (real savings for the government!) while the conceptors, the project leaders, have become an easy prey for foreign competitors who have opened their employment offices right here on the grounds of the disaster itself...

It is difficult to hold my feelings on the subject that would require to be treated separately, on its own. Let's get this one over with first; one year to go, and then... I believe that I have said enough so far to give a fair idea of how, in general, time is employed and that I consider to be 'routine', here, in Trenton: tests of CF-100s after major overhauls, movements of various types of craft from bases to bases, etc. I'll, from now, only talk about things that make exceptions to this basic rule.

7 MAY 1959 - MASSIVE MOVE

Consequent to the closing of the basic training base at Penhold, Alberta, we are to re-distribute some thirty HARVARDs. Some of these will remain here 'out west' while the majority of them will be taken back to Trenton, Ontario. This 'operation' will mobilise all of our pilots plus a minimum of mechanics to assure emergency fixes along the way. The HARVARD has, in principle, reached its retirement age over a year ago. This crossing of Canada might well be the 'coup de grâce' for some of them, as very few of these, during their life span, have ever been on such a long and perilous voyage.

Our twenty or so pilots regrouped for this event are worth analysing. Common denominator: all have had their training on this type of plane. Collectively, the group represents more than a century's worth of flying experience as unique as varied. From 're-cycled' Second World War veteran to the Korean War volunteer (MUSTANG), from Coast-Guards (CATALINA, CANSO), to troop transports (DAKOTA, NORTH STAR), the bombers (MITCHELL, LANCASTER), instructors (HARVARD, EXPEDITOR), and finally, the JET-SET (T-33, F-86 and CF-100) everything but the kitchen sink! Memory lapses included... Each consulting the other: the HARVARD, how does it work again? Unforgettable outing party, subject of 'WAR STORIES' more remarkable then the real ones!

The return route done in six 'jumps' at the rate of three per day over two days, causes the first occasion since I joined this group six months ago of getting to know each other as members of the same team. Up until now, few paid much attention to others that had no relation to his own speciality. The 'common denominator' so insignificant and precarious was it, accomplishes the miracle. The net result is that, less than a month later, a mixed party that brings all these people together is an all-time success! "A spark well placed is worth more than a bomb dropped in the middle of the desert".

28 MAY 1959 - CRASH LANDING

Lakehead airport, many times mentioned so far, is a relay en route to and from the Canadian west. For matured pilots, this base presents no problems. The landing strip, relatively short, is adequate even if by hot weather we know that we shouldn't stop on its asphalt portion but only on its concrete ends, as the tiny wheels of our jets would sink in the soft pavement. As one would expect, an inexperienced pilot, after a successful emergency landing due to a fuel shortage, sees himself forced to abandon his aircraft for reasons that he least expected or imagined. After a perfect landing, his plane was refuelled in the nick of time, and he was ready to takeoff again and pursue his original plans. But the plane charged with its full fuel load and the strip roasting under the sun desperately got after him to pin him down to the ground. One of the main wheels sunk into the soft pavement, the pilot in a desperate effort to pull out of it, brutally applied maximum force on one of his engines. The results were unexpected: under the torque of the engine at full thrust, the leg of the stuck wheel broke and the weight of the plane fell on the wing of that same side tearing it off the body.

Called upon for help, our technicians came to replace that wing on the spot along with the rest of damaged parts. The thing left to do now is to get this bird out of this airport and fly it back to Trenton to have its repairs completed, Lakehead not being equipped to do so. I leave Trenton in a T-33 with Al MacGillivray who drops me off in Lakehead to pick up the handicapped. We left Trenton in the clear but

landed here under a light overcast. After such major repairs, the plane's instruments have to be re calibrated: a quick check indicates that major adjustments are required. But, on the other hand, Lakehead does not have the facilities required for this operation. These would need to be flown in from Trenton if I am to insist on having the instruments re calibrated, which would mean a couple of days here in flying suit, having nothing else with me. F/L Pingle, who supervised the work, will be my passenger (if not my hostage) and assures me that, left alone the instruments, everything else has been done perfectly. Based on this affirmation and backed by his presence on board, I decide to undertake the return trip back to Trenton after a short local test flight.

We hurry our departure so to be in Trenton hopefully before dark. Once en route, the weather seems to get more cloudy rather than the opposite as expected and, in addition, we notice that our radios do not have the range they should as we lose contact with places within abnormally short ranges, reducing by far the navigational value of our radio-compass. I navigate based on the moon's position and the light reflection of cities on the clouds below. Toronto, easily identifiable by its size, is our principal landmark. After an hour and a half of flying, I know that we are nearby Trenton but, I can't get in touch with them, my radio being too weak. Only available alternative is to find a 'hole' in the overcast for us to slide under its cover and pursue our approach in visual contact with the ground. No hole in sight. I decide to dive through the clouds at a point where the thickness appears to be thinner while sufficiently far enough from aerial routes, reducing the risk of mid-air collision to its minimum. I am now at three thousand feet above ground level, under the clouds but, at this low altitude, our position becomes much harder to establish: intuition counts more than anything else as, having to maintain sufficient speed, landmarks are going by at quite a rate.

Finally we identify without doubts our home base and, at five miles away I manage to get proper radio communications with them. From there on, anxiety to return to the fold disappears completely. My friend Pingle, filled with pride to be home, safe and sound, gives me an appointment to the bar at the MESS for a 'gratitude' cocktail and where he is to take over the description of our adventures with anyone patient enough to listen to him...

JUNE 1959 - NEW RECORD

This month, in forty-four sorties, I am to accumulate sixty-five hours and thirty-five minutes flying time distributed as follows: seven hours on T-33, twenty-six hours on CF-100, six-forty-five on DAKOTA, twenty-four-twenty on EXPEDITOR and one hour and thirty minutes on a new comer on my list: the CHIPMUNK. This monthly total lowers my previous record of fifty-seven hours and twenty minutes established in May 1956 in Cold Lake in thirty-four sorties but, on jets alone.

JULY 1959 - COLOMBO PLAN

We just received a much interesting 'contract'. Canada's participation to the Colombo plan includes, among other things, a gift of a certain number of T-33s to some of our least fortunate allied countries within NATO. We have the responsibility of delivering these planes. This month is to be primarily devoted to the preparation of this large-scale operation.

The first phase consists in taking the T-BIRDs out of the 'moth balls' and to get them back into flying status. Each plane requires four or five test flights interspersed with tune-ups before being reaccepted. Being part of that phase, the pilots have to practice formation flying that they have put aside for awhile now. I am not in position to tell how many T-33s were built in Canada over time but, during my career as pilot, I flew on the 649th on the 4th of May last. On the 29th of July I flew the 21st of the series, the oldest to come by me...

10 AUGUST 1959 - FIRST CROSSING

This morning, at five o'clock, a NORTH STAR takes off with a dozen or so of specialised mechanics on the multiple systems of the T-33 in addition to an inventory of spare parts. Its destination: Goose Bay, Labrador. At about ten o'clock, twelve T-33s in turn take off in groups of four, heading for the same destination that is reached a good hour before the NORTH STAR. In the afternoon, while our planes are being fixed as necessary, we, pilots, attend a BRIEFING on ocean crossing: departure at nine o'clock to-morrow morning for Sondre-Stromfjord, Greenland where we are to refuel and depart immediately after for Keflavik, Iceland where we are to stay overnight. On the other hand, the NORTH STAR and its load will leave at four o'clock in the morning and head directly for Keflavik that it should

reach early enough so to meet us as we get there. The ground crew will then make the necessary repairs in time for our departure the following morning for Prestwick, Scotland. Two-day stop at that place will allow the North Star to reach us and its crew to make the final touch to the planes before the delivery trips to their final destinations.

11 AUGUST 1959 SONDRESTROMFJORD - KEFLAVIK

Up at seven a.m., we have breakfast and at eight we arrive at the FLIGHT where we get into our waterproof suits conceived specially to protect us were we to have to abandon aircraft over the sea and jump into the ocean... Relative protection of only thirty minutes before freezing! At nine o'clock the first engines fire-up. This first step of more than one thousand miles over the ocean in single-engine fighters is assisted by two boats positioned on our path to guide us by each transmitting a different code agreed in advance and that we can receive. The approach to Sondre-Stromf is peculiar: we first have to break our formation to spread ourselves five minutes apart. The landing strip is at the bottom of a FJORD, quite short and surrounded by steep rocks to the exception of its mouth pointing at the fjord. A cloud formation covers the western part of Greenland and we need to get down to low altitude (a few hundred feet) above the ocean in order to keep sight of the coast. No radar or other approach aids. Only a weak transmitter from the base for emergency use. At first glance the jagged coast offers many identical 'entry points': which one to take? Close examination and comparison to the map and I come to choose the right one (at least, so I hope). I commit myself to that winding tunnel, in between two ice and rock barriers, that shrinks the more I penetrate it, while the level of the ground raises as the ceiling drops. Turn to left. Turn to right. To left. And to right. Here's the strip! Right ahead and with a rock wall at its end! Wheels down, dive brakes, flaps, power off. Touchdown. Icy a bit. Brakes. Ouf! We made it. Partially snow covered the area is quasi deserted. (Is this truly 11 August?) All happened so quickly, it's hard to believe I made it. Or is this a dream?

This air base isn't really one! It is managed by Americans and is only active on occasions like this one. Otherwise, it is deserted and abandoned. In addition to the one and only landing strip and a parking area sufficient for no more than eight planes the size of T-33s at any one time, there is a shelter of about 30 by 40 feet. The transmitter is the only contact with the outside world, 'world' that only exists when either a plane or a boat goes by within a fifty mile radius of the place, very rare occasion indeed in this region. Everything that can be found is brought in by plane, only means of access. Refuelling of our planes is done manually from rolled barrels out of which the petrol is pumped by hand. We are eager to get out of here, just as much as those few Americans that are manning the place (what have they done wrong to be 'volunteered' for this?) But getting out of here is more hazardous than getting in, as I am to find out fast: the takeoff run is done by rushing in the direction of the rock wall and, as soon as airborne, turning twenty-five degrees to the left to avoid it and, in the clouds, blindfolded, maintaining that heading while climbing until on top of the clouds. An engine failure would be unforgiving... On the other hand we are assured that by following these instructions the surrounding rocks will be avoided. Well! Lets go! It's in God's hands!...

It works! Here I am above the clouds with, on each side, the tops of the rocks covered with eternal ice. I'm only left with the need to head in the right direction that will take me to Keflavik. There we are not authorised to go out of the base limits but, in comparison to the last, this is 'civilisation' no question about it! And we're only here to spend the night. That is, at least, what we think. It is to turn out differently, due to bad weather. Mainly fog, that nails us to the ground and delays us to the 13th of August. After an early start we eventually and finally find ourselves in Prestwick, Scotland at about 10 o'clock after slightly more than two hours and thirty minutes of flight. The sky is clear and nature is gleaming: 48 hour furlough while our planes are overhauled for the last time. I use the occasion to visit the surroundings and meet with the indigenous. Warm welcome, remarkable hospitality! We only leave the place with the hope of being back soon to push our exploration further. Meanwhile...

15 AUGUST 1959 - PRESTWICK - BADEN-SOELLINGEN

In less than two and a half hours we leave Scotland, we cross England from north to south, jump over the English Channel, overfly part of France, Belgium and Luxembourg plus most of Germany. Here, countries go by faster then cities at home! How does one navigate at high speed in such a miniature environment? Airports can be found everywhere! Which one is ours to choose? To top it all, my LEADER signals me to take the lead having lost his radio... Boy! Am I stuck! Where are we? I know that we are close to our destination and, now, at low altitude I have at least three airports in sight! Which one to pick? My leader takes the lead again to point me to the right one (this is not his first visit,

that you can tell). Once correctly 'pointed' I bring our team down to our planned destination, it seems...

We have reached the destination of this first delivery. We take advantage of two days' respite to rapidly visit the surroundings before getting on the bus that takes us to Marville, France from where we head back home on board of the North Star that followed us to Prestwick. This part of Germany, theatre of the worst engagements of World War II, shows no remnants of these purgatory days of war. To the contrary: everything is inviting, new, clean and filled with life, reflection of a proud and logical nation whose eyes are turned to the future in order to forget the past. What a contrast awaits us once we have crossed the German-French frontier! From modern auto routes or turnpikes (Autobahn) we end on paths. Dirty farms, falling into decay, flash before us. It is questionable as to who were the conquerors and who were the defeated! While our Canadian hosts in Baden had difficulties in making a choice for our short two day stay, our fellow country men in Marville found nothing better for us to do during our half-day with them then a visit to Luxembourg, outside France's boundaries! It seems to emerge from all of this that Paris is France and that outside of Paris, France is nothing...

The return trip is done with stops in the Azores islands and in Gander, Newfoundland, in three days or there about...

1 SEPTEMBER 1959 - SECOND CROSSING

Back in Trenton we start into the second cycle, similar to the first one, on 24 August. The 30th T-BIRD built in Canada is be mine to verify and then deliver to Turkey. The scenario would remain the same for the different crossings. Only differences that would affect their unfoldings would come from varying weather conditions and unpredicted mechanical failures. On this second edition, I drop a cohort in Ottawa en route from Trenton to Goose Bay, travelling out of formation as a consequence and, hence, on my own from Ottawa to Goose Bay, Labrador. Again, my navigation expertise pays off. The experience gained on our first trip makes this one almost routine. The fact that we lose two days watching movies in Keflavik because of bad weather conditions instead of in beautiful Scotland changes nothing to the objectives of our mission.

9 SEPTEMBER 1959 BADEN-SOELLINGEN - MALTA

Our destination is Turkey. From Baden to Eskishehr in a straight line could be done in one single hop, but not here in Europe. Why? Well, this line starting in Germany, flies over Switzerland, Austria, Italy, Yugoslavia, Albania and Greece before reaching Turkey. Switzerland does not want military planes of any kind, armed or not, to violate its neutral air space. Its reaction would be diplomatic, not military, were we to trespass. Italy would defend its air space against any violations unless approved, and, she won't approve the passage of our twelve fighter plane armada, making doubly sure we recognise the consequences of exposing ourselves to her military retaliation! And these are 'friendly countries': is it worth talking of those who are members of the communist bloc? Better stay away from those and keep them at a fair distance, specially without armament and this to the risk of launching the third world war... And finally, that Greece and Turkey are 'on our side' does not suddenly mean that they have become 'good friends' for that. Well to the contrary! They are still and will most likely and openly stay sworn enemies for ever...

It is therefore, as a consequence of these extended FRIENDSHIPS, that we have to calculate our route with precision, avoiding all risks of violation of aerial corridors, being respectful of territorial and maritime boundaries of each and everyone. So to go south-east we first head due west to reach France, then bend southward to reach the Mediterranean Sea close to Marseilles and, continuing south, avoid Italy's island of Sardinia staying safely away from Africa, and then edging one's way between it and Sicily to land in the English possession of Malta island, that we reach after some two and a half hours of intense attention to our navigation. Malta has a landing strip that I would qualify as unique in the world. First, both ends stop at the sea. And then it was built on a curved surface, something like a sphere, that results in that only about half of its length can be seen at one time. So, on landing or takeoff runs one cannot appreciate how much of it is left to either stop or lift-off. The planes preceding disappear without leaving any signs of their fate! This situation is no cause for accidents, only temporary heart seizures! As we have until tomorrow to get over it, it is quickly forgotten and replaced by the search for the best restaurant in town!

10 SEPTEMBER 1959 MALTA - ESKISHEHR

This morning, as we prepare our flight plan, we meet with some RAF pilots, members of the local squadron. They're equipped with CANBERRA bombers and generally perform the same work as I did while on squadron in St-Hubert. They are to takeoff just before us in a short while. The latter part of our route today is our sole problem as three quarters of the way we have to fly east over the Mediterranean up to the point where we need to edge our way in between Greek islands to reach Turkey. Two hours from ground to ground and we are here greeted like kings. It is true that we are delivering a much valued gift, but we are not personally deserving so much honours. We have to be on our guards, nevertheless, as at the banquet the choice of food and drinks are of different compositions to ours and so much so that their impact on our stomachs had to be watched: these weak North-American stomachs of ours! The best hotel in town is put at our disposal for the night: we are lucky at that! In accordance with our 'standards' it is quite 'ordinary'...

The next day we undertake our return trip aboard our good old and noisy North Star. First stop: Naples in Italy where we spend two nights, meaning that we have a full day to visit the place. Here extremes go side by side, NOTHING IN BETWEEN it seems: ancient and modern, rags and riches, ruins and magnificence. Our tourist appearance is not without being noticed and we find it risky to walk alone. Solicitation is intense and varies with the time of day: from children to PICK-POCKETS, from PIMPS to MAFIOSI, the whole shebang! Half competing the other half, defending their territories, and all of this at our expense. Two eyes aren't enough to anticipate the attack. Two hands don't suffice to protect our property. Impossible to identify who can be trusted. The cab drivers are members of the network, the police have lost control and seem snowed under and helpless! We join in the game and imitate them. The only plausible solution under the circumstances: we offer better to the best offer and automatically confound the competition! By the same token, we acquire the necessary respect that was to get the doors opened almost any where. The BLUFF disappears and word spreads rapidly. By chance we are only here for a short time! All in all, we get a good laugh and the experience is quite a game.

From Naples to the Azores, Gander to Trenton where on the 14th of September we start the preparation of our third crossing: destination Lisbon, Portugal. Departed from Trenton on 22 September I reach Marville, France on 30 after a two day stop over in Prestwick, Scotland that allows me to see Glasgow and Dunfermline having crossed Scotland from the Atlantic to the Northern Sea. I rent a car to do so. All is in reverse: right-hand drive and on the wrong side of the road. No wonder that one can cross this country and return FROM COAST TO COAST in less then two days with sufficient time left over to visit and take a good night sleep. Try that in Canada!

2 OCTOBER 1959 MARVILLE - LISBOA

At the beginning of October we are, I must say, enjoying clement weather conditions this year. It seems to me that fair weather prevailed almost everywhere I have been over the past months. Again today, we are travelling under clear skies and mild temperatures.

From Marville to Lisbon nothing peculiar other than the need to fly over Spain once across the Pyres. Will we need to skirt around them by flying over the Atlantic and doubling the distance that separates us from our destination? It would appear so! The Portuguese and the Spaniards, not quite comparable to the Turks and the Greeks, continue to cultivate their traditional and mutual hatred. There are no Canadian bases in Spain but our American friends see to Spain's defence. In agreement with the latter and under the cover of an exercise for them, they do get permission from the Spanish authorities to carry a practice interception on us as we fly over their territory. That without specifying that we are Canadians and, foremost, that we are on our way to deliver our jets as gifts to Portugal!

The American bases in question have recently been re-equipped with the most recent fighters F-100 SUPER-SABREs. They know that we are flying T-33s. What they don't know is that the Canadian version is different from the one they are familiar with in that it is motorised by Rolls-Royce's Nene much more powerful then the one used on the American model: net results, our cruising speed at 38,000 feet of altitude is more than they could have hoped to reach at 30,000 feet, ceiling of the American model.

We had agreed that we would be an easy prey that would not take any evasive actions, maintaining our heading and 'cruising speed'. We were anxious to meet our 'aggressors' while chuckling away to

ourselves. We listen to their radio communications between pilots and ground radar operators as they are getting closer to us. They had fallen into the trap! Not believing the instructions given by the radar of our position they show up at 30,000 feet instead of 38,000 where we are, because to them the T-33 can't fly over 30,000 feet. Realising their error, they try to reposition themselves by use of after-burners to rapidly gain height and speed so not to lose us but have to give up anyway as they are running out of fuel. Only one makes it close enough for us to see him but never reaching the position necessary to be considered 'dangerous' as he too, has to drop out short of fuel. We land in Lisbon shortly before noon and we are again welcome as kings. After a succulent meal we are taken to the MUNDIAL hotel, brand new and prematurely opened for us. As we are to stay here for almost three days we develop our tourists' plan: night clubs, concerts, corrida, visits to forts, museums, restaurants, boutiques, etc. The dollar is worth a fortune. We take advantage of it! Finally on 5 October we are heading back home at the end of this third and last trip overseas.

NOVEMBER 1959 - RECORD MONTH

This month marks a record in my career in as far as flying hours are concerned: 46 flights totalling 67 hours. Four hours and twenty minutes on HARVARD Twenty-three hours and forty minutes on EXPEDITOR Three hours and fifteen minutes on DAKOTA Seven hours and fifty-five minutes on CF100 Twenty-six hours and fifty minutes on T-33 And, finally, my first hour on deHavilland's OTTER

As I am approaching my 'retirement' date, I'm led to evaluate my position after almost six years in the RCAF as an OFFICER. I realise that I have gained much experience in Leadership, that with a capital 'L'. I have had good teachers in those that, ahead of me, reached their positions because of their PROVEN qualifications and skills. Not because of some 'political' connections... I knew I could trust my 'boss' and almost blindly follow him as he made sure to exploit my capabilities to their maximum: no need for me to waste my time trying to prove that to him (he would smell something's fishy if I did, anyway).

So, as long as you're lead by real leaders whose prime objective is to get the best out of you then all you need to do is the same with your own people. And, it works! Let's hope that my future bosses will also be leaders. But, unfortunately, there's no guarantee at that...

The months of December, January and February are to slip by unnoticed and I am to put an end to my career as a pilot and officer in the Royal Canadian Air Force with a last flight on:

4 M A R C H 1 9 6 0

- The End -