

I started my aircraft-wrecking career in the late 1960s at Akrotiri in Cyprus, a wonderful place to be in your early twenties. For reasons never explained to me, the Royal Air Force as part of CENTO decided to base two squadrons of Vulcans there. Numbers 9 and 35 squadrons were selected, and I was a member of the former, whose motto was and is *Per Noctem Volamus*, which approximates to something like *We Fly By Night*. This was in recognition of their early role in the First World War when there was very little flying by night, a rather dangerous thing to do at that time. Life was certainly good for us on the island. In the summer, the afternoon was more-or-less free as it was too hot to do anything. So we tended to start early and would be in the bar by 12.30, except, of course, when we were flying.

On the 6 May 1969 we were detailed to fly Vulcan B2 XL445 on a low level sortie around Cyprus. I always loved low level flying, whizzing up valleys, over hill and dale, pretending to bomb bridges or installations and taking pictures with the vertically mounted F95 camera. On this occasion we had just coasted in when I noticed that the hydraulic pressure indication was abnormally high - in fact, full scale deflection with the needle almost out of sight. At first, I thought it was just a gauge failure, although if that was the case, the needle would have flopped to full scale deflection left and not to the right, a powered position.

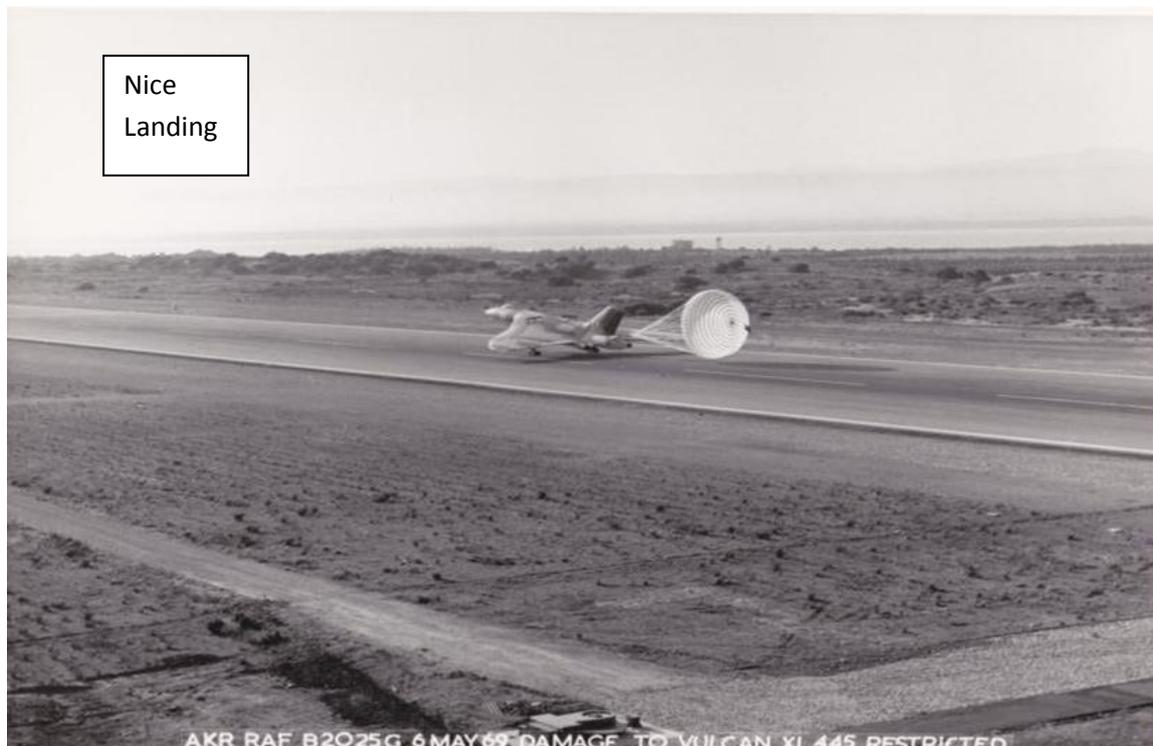
Tentatively we sought to relieve the pressure by operating the toe brakes. Sure enough the pressure did reduce but only momentarily. Very soon it was back in the red. More drastic measures were needed. We tried operating the bomb doors several times. Each time, this reduced the pressure but only briefly before it climbed once again.

Getting a little anxious, we aborted the mission and fled southwards back to Akrotiri. At some point, the needle now suddenly moved across the face of the pressure gauge from full right to full left, the *no pressure* position. If that was a true indication, we now had a problem in that we had no main braking system pressure, although we had the emergency accumulators. The indication, however, on both accumulators also showed zero while the hydraulic power pack produced no response.

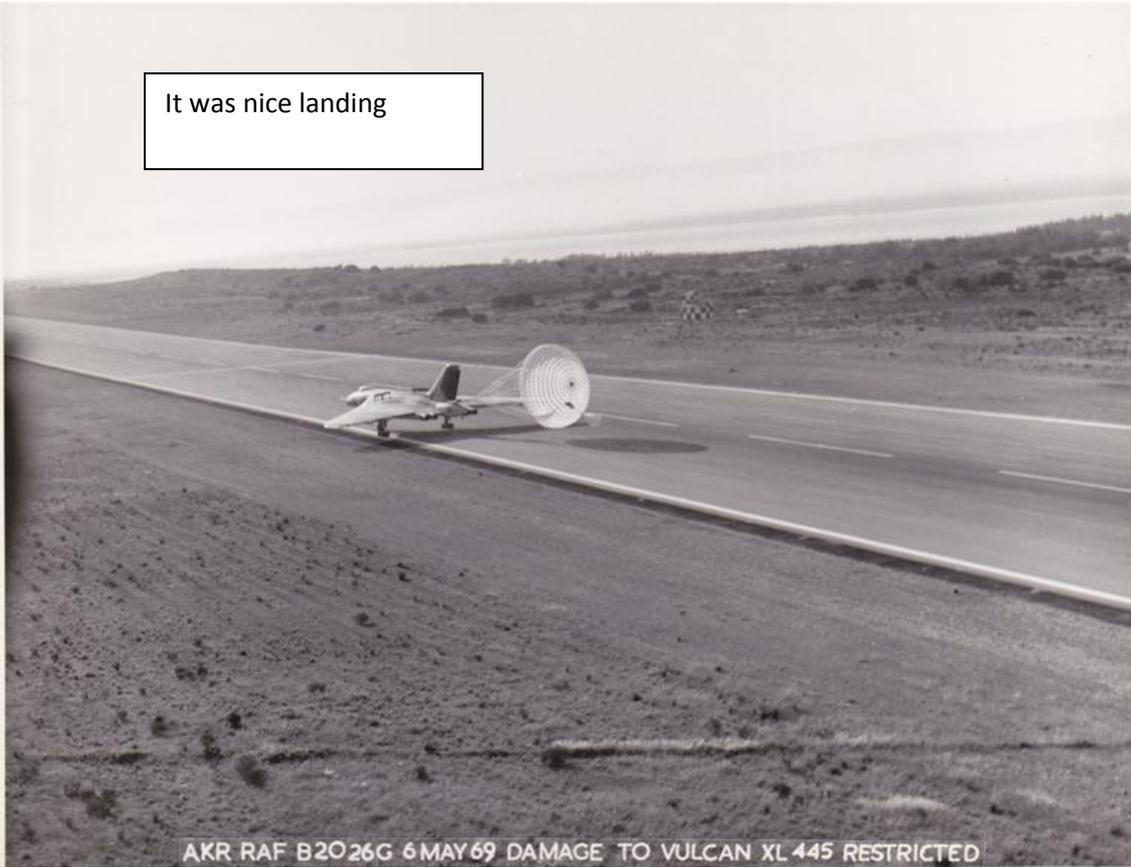
We were to learn later that the system pumps had failed to de-stroke while the pressure kept building until somewhere around 6000psi, the lines ruptured and all the fluid leaked away. Perversely, the failure occurred across the shuttle valve between the normal and emergency systems, hence no pressure in either. No brakes, no steering, but quite a lot of fuel. We called Akrotiri to tell the Duty Pilot, who, shocked, told the Duty Commander Flying, who, shocked, told the Station Commander, who, shocked, told the transport Squadron Commanders to get their aircraft off the apron as a runaway Vulcan might arrive on their doorstep in the very near future.

In the meantime, we were ordered not to make a landing but to orbit the field. From above, it all looked rather funny. Initially there was no ground movement and then, one by one, the Hercules, Argosies and VC10s all started moving from one end of the airfield to the other. This pantomime took quite some time to complete and so we just ate our sandwiches and chocolate bars which might be our last.

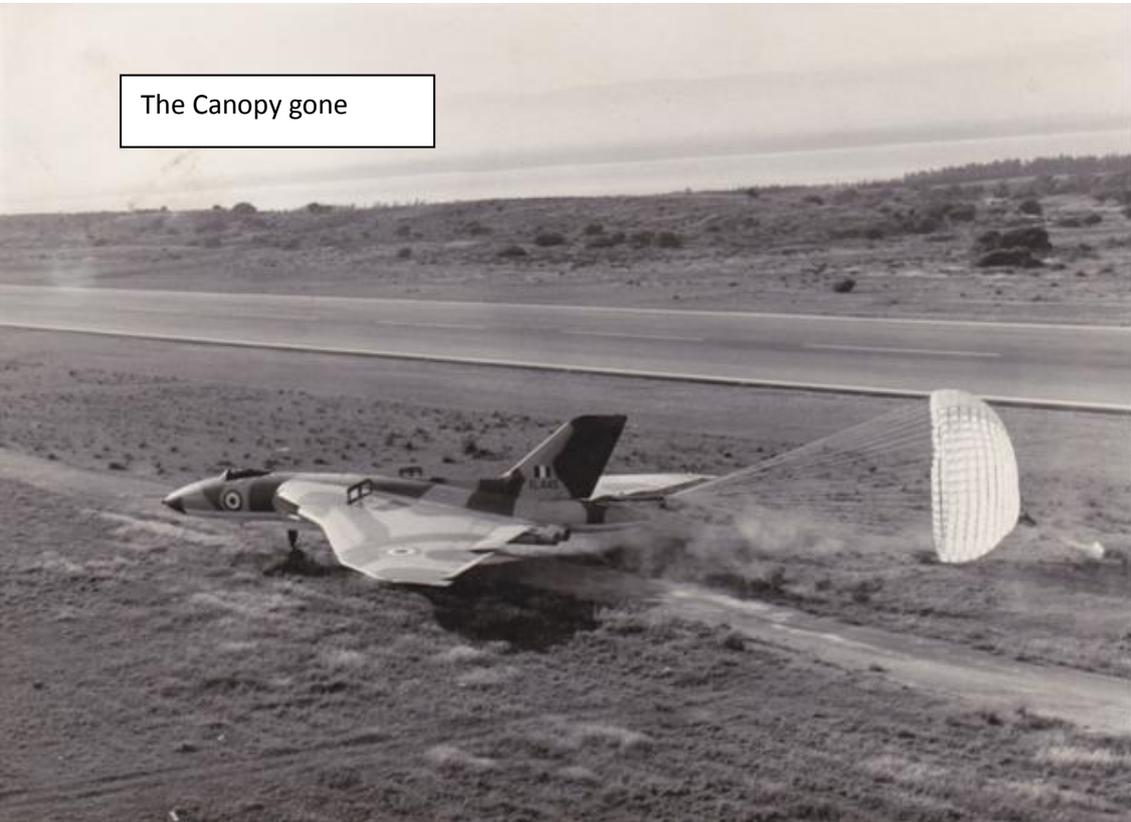
What to do? Should we jump out or attempt a landing. The weather was nice and there was only a ten knot crosswind. After much discussion, the bosses decided we should land. This pleased the noble rear crew who quickly, helpfully, and, I thought, over-eagerly replaced our ejection seat pins to ensure we did not abandon them if things ever got too hot. The approach and landing were uneventful but as we slowed and lost aerodynamic control, the crosswind took charge and blew us gently off the runway. As we hit the boondoo, the ride became very rough and although we were ordered to blow the canopy - my first, by the way - I could barely get my hand on to the canopy jettison lever and needed one hand to steady the other. On finally tugging at the lever, there followed a very satisfactory bang and we were travelling across country at about 100knots in our Vulcan open coupé. We started to slow but the ride remained very harsh and I thought the undercarriage would fail. Eventually we stopped and shut everything down.



It was nice landing



The Canopy gone





Unknown to me, the noble and heroic rear crew had already fled the scene through the normal exit door which was on the underside of the aircraft but I was convinced that the gear had either failed or very soon would, with a very good chance of my getting squashed flat by a Vulcan if I used the normal exit. Not wishing to hang about, I decided to jump out on to the nose, slide down to the air-to-air refuelling probe and drop down on to the ground, thereby avoiding any possibility of being flattened by the aircraft. To my horror, I quickly realised that I was still a very long way up and that there was no way I was going back inside. In any event, a great crowd of ghouls had gathered to watch the fun and I could not possibly disappoint them now. Wriggling on to the probe, I eased down, suspended by my arms, and then dropped on to the ground which was quite a long way. No harm was done, the only hurt being to our lovely steed where the canopy struck the rear of the wing.

It is generally accepted that the test pilot course is a most demanding year of one's flying life with technical studies in the morning, flying in the afternoon and endless report-writing on the test exercises. At the time, the ethos seemed to be minimal instruction or conversion and just go and learn for yourself. Not for nothing the motto *Learn to Test, Test to Learn*.

One day when I was not scheduled to fly, I was sitting in the crew-room enjoying a cup of coffee when a friend came in and announced that he was to fly a Canberra T4 and would I like to come along as he needed a scribe to take down the erudite observations which he would no doubt make during the flight. The test was a simple one as they always were in the early part of the course - cruise performance and a few fuel flow and rpm readings at different speeds and heights. I agreed to come along but protesting all the while that I had never been in a Canberra before. He replied that he had a whole hour on the type and that I would be fine.

The trip was duly authorised and we wandered down to the line hut to sign the 700 (the RAF form which in effect is the technical log of the aircraft) and from there to the aircraft, an elegant enough looking thing but internally an ergonomic nightmare. The means of entry was by a small door mounted low-down on the right hand side of the aircraft. One had to bend down to get under the lip of the door and then scramble up into the cockpit, squeezing past the ejection seat on the right, which was oddly hinged at the top so that it could be swung out of the way, thus allowing the left-seat pilot access to his side of the cockpit. He was then followed by the other chap, who had to strap in at this odd angle of dangle. Once secure, he asked the ground crew man to swing him up to the correct position for flight.

This was a strange conversation because the only bit of the ground-crew man, which was visible at this stage, was his feet, the rest of the body being obscured by the **funny** little door. This was where the ground chap got his kicks. He lived a fairly dull sort of existence, was not paid very much, and had to do something to ease the monotony. Over-confident young pilots were easy targets. First, he swung you up too high that your helmet struck the canopy and your head was twisted to one side. 'Too high' you squeaked and he dropped you down to a level that was too low. Predictably, you squeaked, 'Too Low'. The fun over, he swung you into a position from which manned flight might be possible. He closed the little door and moved to await your start signals.

Everything in the cockpit was out of reach and you resorted to switching on fuel pumps and low-pressure cocks by flicking them with the check-list which gave a little extra arm extension. The starter button was pressed, an action which produced a long slow sort of explosion while a plume of black smoke billowed from the engine cowling. Each engine was started by the firing of a large brass cartridge, the energy from which spun the engine into starting

A few more checks, a call to ATC for taxi, a happy wave to the man and we were off. But it was all rather uncomfortable, the seats being hard while the space was limited - and if the sun was shining, it could get very warm under the perspex canopy. Before long we arrived at the take-off point and completed the checks. It was always checks and more checks on a challenge-and-respond basis. I read out the check and my colleague replied, hopefully correctly. This process went roughly

from left to right around the cockpit in an effort to give some order to the chaos surrounding us.

On this machine, there was a check which I challenged with the words 'Navigator's Hatch Safety Switch.' If there had been a navigator on board, he would have been sitting in a cubby hole behind us and would have squeaked in reply 'Flap Flush and On.' This however was the beginning of our undoing because at this point in the check-list, the pilot's eyes lit upon a small flap mounted on the right hand side of the cockpit and behind which lurked a switch. I duly read out the check and my colleague responded by saying that he could not remember if they had made that switch on his previous and only exposure to the beast. I told him not to worry but to complete the other actions, returning to this one when finished. Good idea, he replied.

As we got to the end of the checks, I asked what we were to do with this flap and switch. He replied that he did not know. When I looked at him enquiringly, he said 'Just do it.' I did as bid and there was an almighty bang followed by a faceful of grit and a lot of debris in my eyes. Surprised at this unexpected turn of events, I enquired as to what might have happened. We had blown the canopy, he replied, but I knew this was untrue. Indeed, the canopy was still in place, although there were admittedly lots of strange little wires dangling down – they had definitely not been there a moment earlier.



Yes, we had blown the canopy off but, because we were stationary, it just went up and then came straight back down such that it was now resting precariously on the cockpit coaming. Asking what we should do now, I offered the helpful suggestion that we could get airborne and pretend that it fell off! Not surprisingly he did not think much of this idea and advised that we would have to go back, which we did with the canopy wobbling unsteadily above us.

Unknown to us at this time the episode was spotted by an eagle eyed Wing Commander who was having a quick puff of his cigar on the balcony of Flying Wing Headquarters. Quickly he stubbed out the cigar and jumped into his official yellow land rover to meet the incoming heroes. On opening that silly little door on the right hand side, a cheery face popped into view to greet us with the words, 'Well you guys are for it now'.

Disconsolately, we trudged back to the crew room, where I had enjoyed my coffee only minutes earlier, and awaited summary execution at the hands of the Chief Test Flying Instructor, Wing Cdr Bainbridge, a not very cheery fellow. We were both marched into his office and told to sit down. He bellowed, "Who did it?" I had no choice but to say that I was the incompetent who had made the selection and it was I who had caused the damage to his lovely little bomber. He ordered me to stay behind, dismissing the other chap who promptly left the room. He then looked a little reflective and asked if I had ever been in a Canberra before? When I admitted that I had not, he shouted 'You out, Him in'

My colleague received a verbal lashing but no further action was taken against us. Had we been in the front line, we would certainly have been court martialed. We were just proving the ethos of the school, *Learn to Test, Test to Learn*. That colleague was Harry Nelson, later to be with Airbus and a Stopping the Rot speaker. The cheery Wing Commander was Robby Robinson who, to his eternal credit, in later years would hire both of us as test pilots at Woodford, a real act of faith in the audience. (Robby Robinson was in the audience)

I was certainly fortunate to fly nearly one hundred types of aircraft, big ones, little ones, fast ones, slow ones, new and old. It was my time at Shuttleworth that was a most enjoyable experience and I was privileged to fly many of their machines, although by no means did I get my hands on all of them. There were, however, several lucky individuals who spent longer and became more closely involved than I ever did. Of the aircraft I flew there, I particularly liked the SE5a and, more appropriately, the Avro Tutor.

ANSON

The Anson, or more correctly the Avro 19, G-AHKX, was acquired from Strathallan by Harry Holmes in the early-1980s and brought to Woodford as an apprentice-training project. I suppose it was always hoped that the aircraft would fly but it was not perhaps the express

intention at the time. It was not until 2001 that she flew, having been brought to that condition by the indefatigable efforts of the retired brigade under the leadership of Mike Taylor. The senior management of the day, with whom I had a generally good rapport, was, however, not quite as emotionally involved in the love of aircraft as we were. So we thought it best just to keep her largely out of sight and thus out of the minds of those with a more financial inclination. Quite unknown to me, the MD had forbidden me for a reason that I never found out to fly the aircraft. It was a strange edict as flying was my job. But as far as I can recall, he had never told me so directly, and, if he ever told my boss, the latter either forgot to tell me or, kindly, just let me have my fun.



It was on March 8th 2001 and ably accompanied by Mike Taylor, that we re-acquainted the old girl with the airborne environment after a twenty year restoration. She handled beautifully, although noisily, and was almost impossible to land badly. A real delight to fly, I loved displaying her before the crowds at Shuttleworth as we would swoop elegantly up and down, resplendent in the light blue colour scheme of what I think was Treffield Aviation, a company started by Lord Trefgarne and Charles Masefield - hence the name.

Shortly after the happy occasion of this return to flight, my happiness was dimmed when the MD, incensed at my defiance, formally forbade me to fly her again. So what to do? From what I could see, it was only me who had been proscribed from flying her so I asked fellow test pilot, George Ellis, to continue with the test programme. If the MD ever found out about this, I never knew but George pressed on anyway and a *Permit to Fly* was duly issued. We now had a flying aeroplane which was also a valuable asset. To avoid the close scrutiny of the accountants, we persuaded the management at Shuttleworth that Old Warden was the right place for

this lovely machine. She was subsequently moved to Old Warden to reside alongside other girls of her age. As I had been forbidden only from flying her at Woodford, I felt that flying her from Old Warden did not contravene the spirit of the managerial edict.

AVRO TUTOR

The Avro Tutor was another aeroplane that I liked very much. When considering other aircraft of the 1930s, who thinks of efficient brakes, roomy cockpits with adjustable seats and rudder pedals, a tail wheel that usually faces the right way, and a variable incidence tail plane. A large and quite heavy aircraft, her take-off performance was somewhat ponderous but once airborne she did everything well. Docile in the stall, pleasant at higher speeds and easily trimmed, she was a lovely, forgiving aircraft to fly. Perhaps, under the harsh gaze of an instructor, she was just a shade too easy as a student's faults might be all too readily masked by the generous nature of this fine machine.

AVRO RJX

This last version of the 146/RJ family of aircraft was re-equipped with new fuel efficient Allied Signal 977 engines, and furnished with updated avionics. The first flight had been successfully made by Alan Foster and Mark Robinson early in 2001 but by the end of that year the programme, which was well underway, was unexpectedly cancelled. To us, this all happened in the strangest manner possible. Aircraft had already been sold to both FlyBe and Druk Air but initially the flight test programme was continued in case the contract could not be annulled. There was great disappointment amongst us all at Woodford. The project was well advanced and the test aircraft were now being joined by production machines. The aircraft, as the last civil aircraft likely to be built in this country, held an important place in our history and hopes.



Although I believed that I had a warm relationship with the Managing Director since the Anson saga - and Mike was still my MD – I guessed that I would not get approval for a formation photo shoot. So I decided not to ask him and just do it. On 10th January 2002, with senior management unaware of our plan, we briefed our unapproved air –to-air photo shoot and in poor weather set off to rendezvous above cloud out over Lincolnshire.

VULCAN XH558

This was one of my favourites. Led by Dr Robert Fleming, the Vulcan to the Sky Trust waged a long and ultimately successful campaign for Vulcan B2 XH558 to return to flight. I always admired Robert's great diplomatic skill. He simply never allowed the authorities to say No. He always managed to keep the door open to further discussion and, by degrees, won his case for approval such that the Delta Lady, the Spirit of Great Britain, once again took to the skies. In October 2007, it was my privilege to carry, into the air, the hopes of all those who had worked so hard and so long on this wonderful project, which, often short on money, was always long on energy and enthusiasm.

After the seemingly interminable waffling by the authorities and other agencies, all of whom seemed to have the power to stop something happening, permission was given for her to fly. In so many endeavours in our great country, success seemed to be more about overcoming establishment objections than winning through positive support. Even within my own company, there were those who were strongly and

vocally against the idea of a Vulcan ever flying again – shame upon them! Notwithstanding all that, the great day came on 7th October 2007. The sun shone the, winds were light, and the aircraft was ready.

We briefed the tests we were to carry out. Nothing very adventurous, get airborne, climb to around two thousand feet, raise the undercarriage, accelerate to 250 kts, check the handling, then have a look at low speed characteristics, come back and land – easy, really. The last time I had flown a Vulcan was in 1984. So twenty three years had passed and, although I thought I knew her pretty well technically, how would I fare as the pilot? But there was no going back. We - myself, Dave Thomas, the other pilot, and Barry Masefield, the Air Electronics Officer - climbed up into the small cockpit and ran through the checks. Everything looked good and the Crew Chief, Taff Stone, crackled cheerfully through on the intercom. Engines were started, systems checked, and we were given permission to taxi down the runway, past the large number of supporters gathered there. Although the flying task was not particularly daunting, the prospect of screwing up in front of all these good people was quite terrifying. If I had made a mistake, I would have had to change my name, grow a beard, and emigrate.

At the end of the runway, checks were completed and we asked for take- off clearance which was duly granted. A quick check was made that all was well and the others confirmed that they were ready for what was to come. 'OK chaps, let's do it'

The engines were wound up to 80%, brakes were checked and we went to full power to be greeted with that awesome Vulcan howl from the engines. The aircraft was at lightweight, probably around 125,000 lbs. Acceleration was very rapid and at 120 knots we rotated and roared into the sky. I had been briefed to keep the speed below 200 knots but with all this power, I only just managed to do this as I tried to balance the speed with a sensible pitch attitude. Looking down I could see that the rate of climb pointer was pinned at the maximum indicated on the gauge which was in excess of four thousand feet per minute.

Very soon we were at 2000ft and it was time to turn towards the east and begin the tests. By this time, I was feeling a little easier about things. Happily, the aircraft handled beautifully and I did not feel that over twenty years had elapsed since I was last in that seat. It all felt very comfortable, like putting on an old slipper, and it even smelled the same. With tests complete, it was time to return to Bruntingthorpe. An over-flight of the airfield was made to see what the place looked like from the air as I had never landed there before. It also alerted the people on the ground of our impending return. The pre-landing checks were completed and with three greens, we turned on to finals at about 600ft and 135 knots.

At Bruntingthorpe, there were large trees close to the touch down zone, and that day they looked close. However, I could not pass over them with any great height to spare as I would then land too far into the runway. Yet, to recover from her second

maiden flight with green stuff in the undercarriage bay would be most unseemly and would probably earn me the rightful wrath of the Crew Chief and Robert.

The attractive thing about landing a Vulcan was that you did not really let it land at all. Cross the threshold at the right speed and just keep holding off and she would settle, rear bogies first, then as lift decayed, she would sit down on to the front bogies. Hold the nose up for aerodynamic braking, stream the chute, and then put the nose wheel on to the ground at about 80-90knots and it would all be over. Only thirty minutes airborne but what a statement she had made. All the effort and hard work had been worth it. On that day, at least, we had made some contribution to keeping them flying. We all got pretty wild that night.

