

**Canadair CF-104 "711", as flown by Major Laurence Sianchuk, June, 1976 to July, 1983**



**Major Laurence Sianchuk with CF-104 "784", CFB Cold Lake, circa 1983**

**The kit:** 1:32 Italeri 2502 F-104G/S

**Aftermarket decals:** Leading Edge 32.05 for camouflage scheme

**Ejection seat:** Eduard Brassin F-104 Starfighter C2 Ejection Seat EDU632047

**Aftermarket pitot:** Master AM-32-037 F-104 Starfighter - Pitot Tube

**EPU:** Verlinden 1:32 A/M32A-60A USAF Airbase Generator Gas Turbine powered EPU 2751

**Canopy masks:** Montex Mini Mask F-104G/S Starfighter Italeri SM 32150



# A few shots of the completed model





**"711", without Radar Warning Receiver (RWR) antennas**



**"711" without RWR antennas and variegated camouflage;  
note the deployed speed brakes, while the aircraft is taxiing post-landing**



**Not 711; however, Radar Warning Receiver antennas visible (arrowed)**

**Model color scheme; parts are approximated:**

**Undersurfaces: XF-80 Royal Light Grey (+/- 4 parts) + XF-2 Flat White (+/- 1 part)**

**Green: XF-61 Dark Green**

**Base Grey: XF-19 Sky Grey (+/- 2 parts) + XF-24 Dark Grey (+/- 3 parts)**





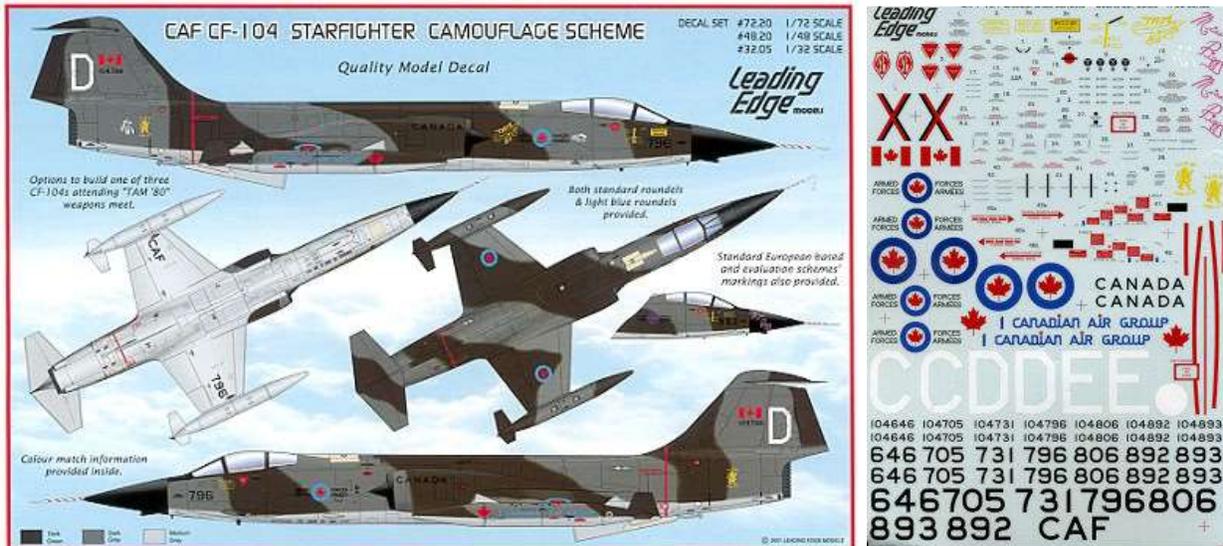
I lost all previous photographs of the build. Note the 2" wood screw to protect the nose landing gear strut, and the red playdough to prevent tail-sitting



Cockpit covered with precisely-cut cardstock, attached with drawing gum; instrument panel covered with drawing gum; jig made from 2" thick memory foam, with extrusions for landing gear struts and ventral fin aft of wings



# From Scott Van Aken, a highly-respected reviewer:



“Since 1:32 Starfighter kits do not supply the Radar Warning Receiver (RWR) antennas, those have been supplied in resin for you. Two go on the back and the paired antenna mount is under the nose. The casting on these is quite good so should provide no problems. The only kits of which I am aware in this scale are by Revell and Hasegawa, and now the far superior Italeri.

In common with all other Leading-Edge decals, there is an outstanding instruction sheet. This is full of hints and tips, as well as providing outstanding placement information. Since these camouflaged Starfighters rarely had any fancy unit markings on them, by using Leading Edge's standard black numerals sheet in the appropriate scale, nearly any then-extant CF-104 can be modeled.”

**My notes:** mercifully, there now is a 1:32 newer (2013) and superior kit on the market: the Italeri 2502, which I am using here. And these Leading-Edge decals have a very strong adhesive, so one must soak each decal in hot water for quite some time; my advice: test with one decal you will not be using on your model.

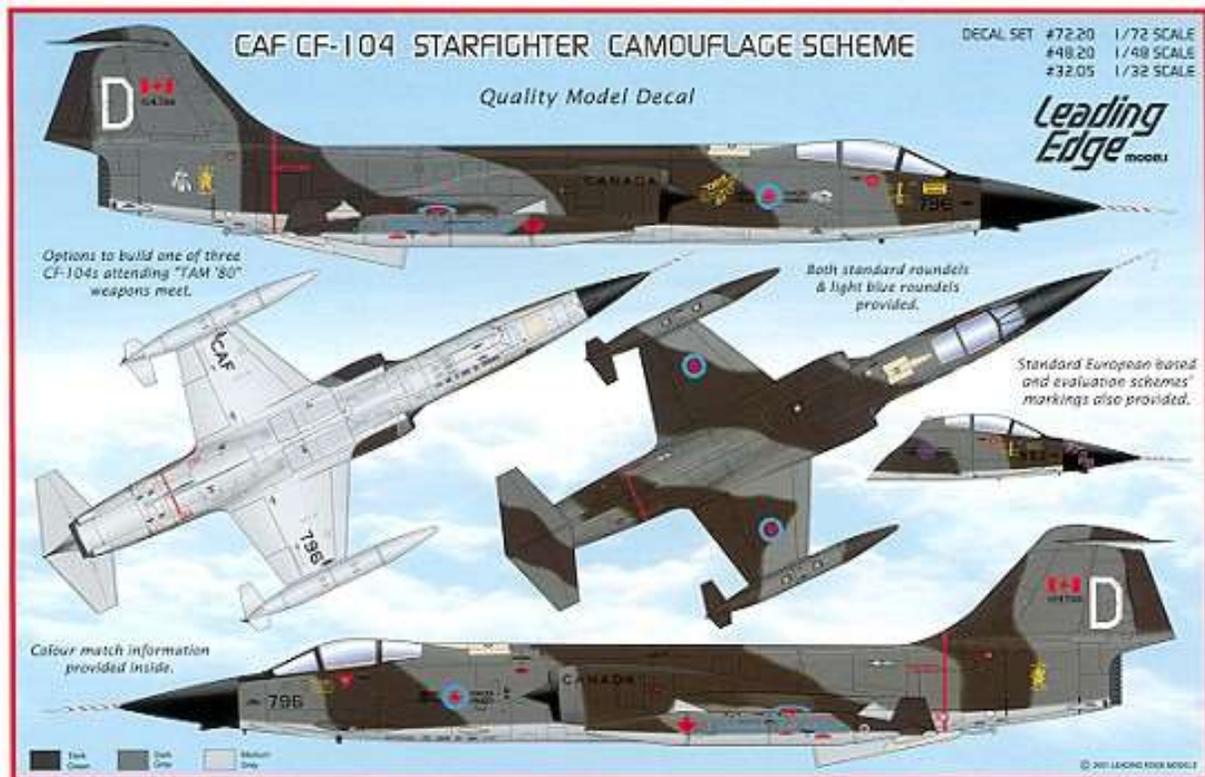




Rear Radar Warning Receiver antennas clamped on; glossy black "receiver" end covered with drawing gum



# Paint scheme: off to the paint booth



**Under-surfaces: XF-80 Royal Light Grey (4 parts) + XF-2 Flat White (+/-1 part)**  
**Upper surfaces base: XF-80 Royal Light Grey (4 parts) + XF-2 (+/-1 part)**  
**Camouflage Green: XF-61 Dark Green; all paints Tamiya acrylics**



**First coat of XF-80 Royal Light Grey (4 parts) + XF-2 Flat White (+/-1 part)**



**Under-surfaces partly masked; some modelers might not fully mask the vulnerable surfaces; however, I always choose to completely mask the surfaces that may be at risk of contamination by stray molecules of paint as a result of airbrushing the upper surfaces**



**I used white 12mm Tamiya flexible tape first, and green painter's tape, trimmed to fit, to fill in the gaps; the widest flex tape available is 12mm, and is expensive when compared to the cost of painter's tape; below: detail, port fuselage aft of the wing root (model upside down)**





Upper surfaces base grey (my own brew); model in the double paint booth, on a Lazy Susan



**Circled, right: forward RWR antennas**



# Creating variegated masks

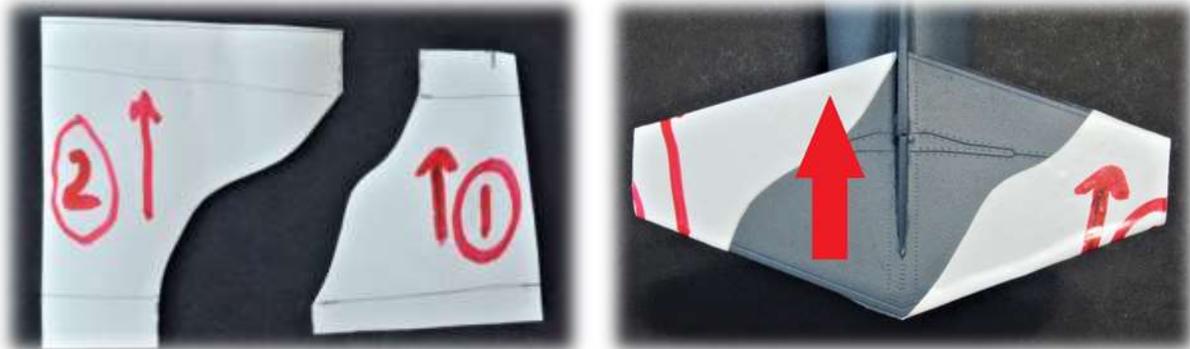
1. Freehand from the Leading Edge Camouflage Scheme decals positioning drawing CAF CF-104, as depicted earlier in this document.
2. From the same drawing, have Staples (or any other office supply shop equipped with the necessary photocopiers) blow up the three relevant drawings; port and starboard fuselage: 290%; upper surfaces: 450%.  
Below: I used an 8mm fisheye lens to get the complete three sheets in a single photograph; all three drawings on these sheets are +/- 21.75" in length; close enough, as the model is not quite 22" in length:



# Camouflage masks

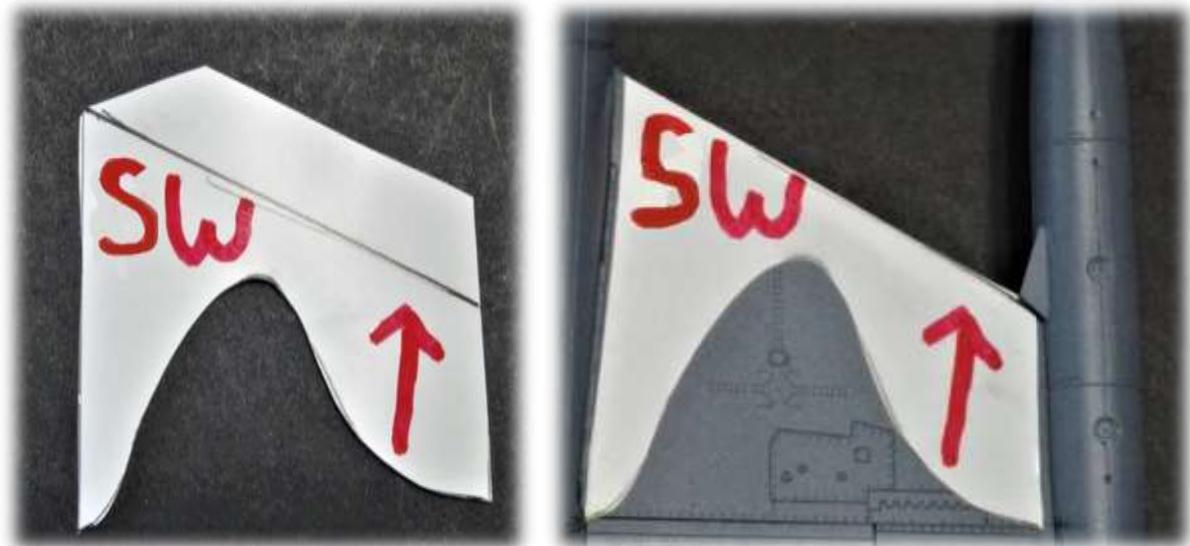
No CF-104 camouflage masks, in any scale, are commercially available. You will have to either free-hand these, or create your own, using self adhesive vinyl paint mask; this masking material is manufactured in, and imported from Wales. Tedious but far more prototypical than the free-hand method

## Stabilizer



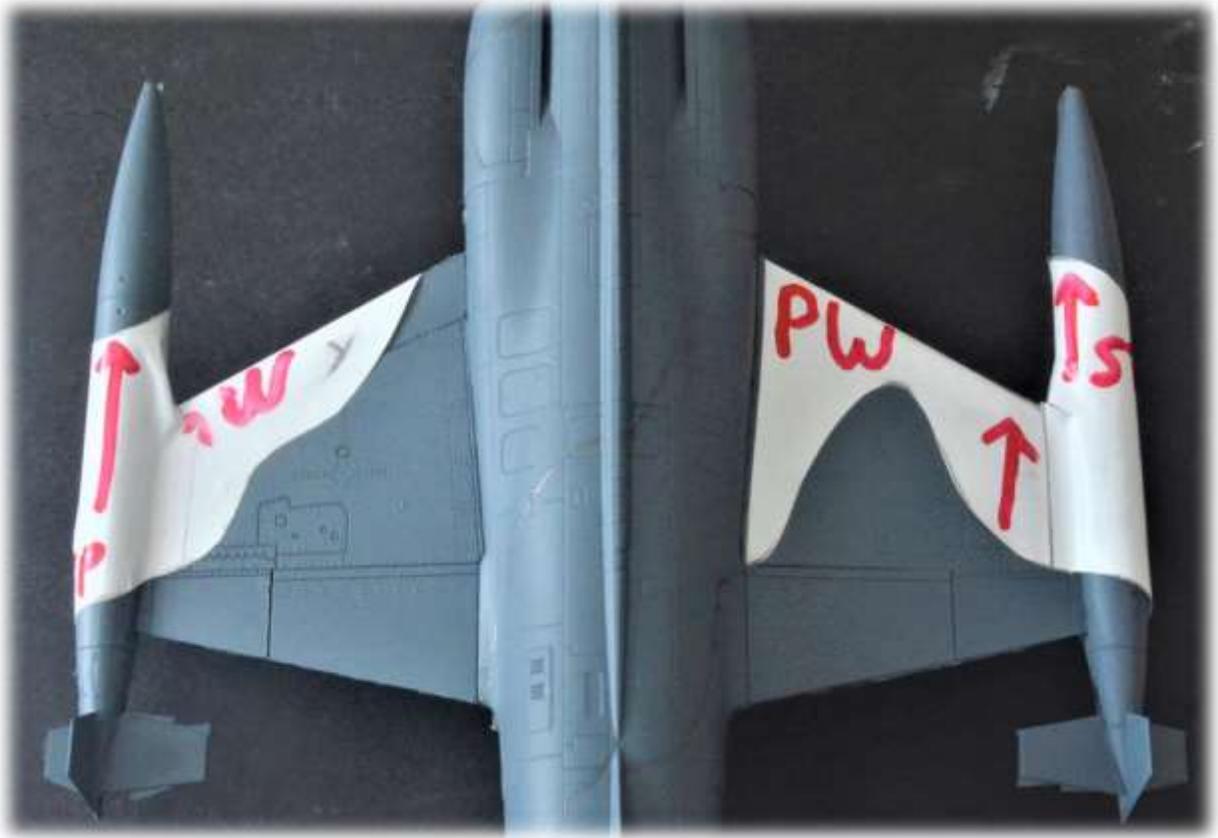
Left: number 2; right: number 1; arrow points forward

## Wings and tip tanks



Some touching up will be done on the mask joints later  
By now, you get the idea; the fuselage masks are trickier,  
as these masks must reflect the 3-D nature of the surfaces.





Vertical tail surfaces



## Port fuselage



Nose cone will be attached post-green paint. The shock cone mask on the engine intake, highlighted in red, is simply a business card cut to shape and inserted between the cone and the fuselage; the new tool (2013) Italeri kit I am using has the distinct advantage of having the prototypical spacing between the shock cones and the fuselage over the much older (1975) Hasegawa kit in the same scale, and is far superior in overall detail quality and fit. That spacing makes it possible to insert those “masks”, making it far easier to paint the cones black. Which kit to build? The far superior Italeri, despite its excessively deep panel lines of the Italeri kit

## Starboard fuselage

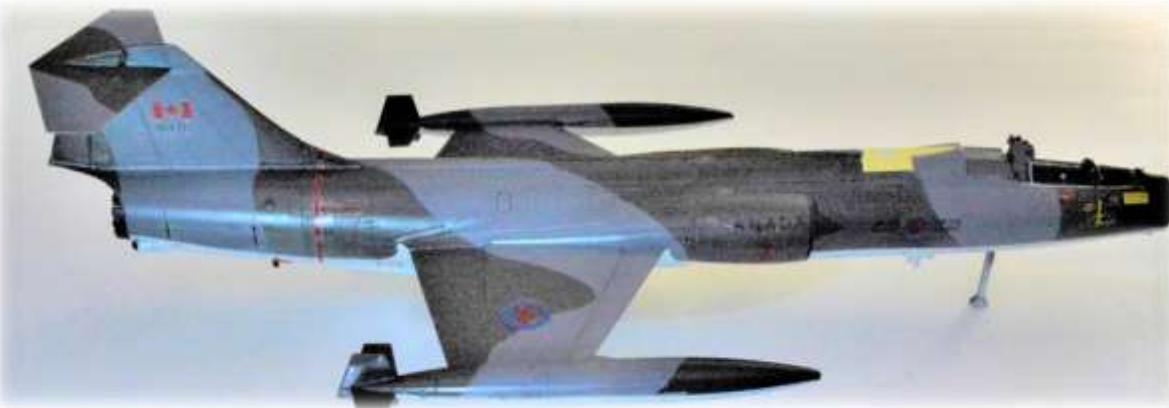


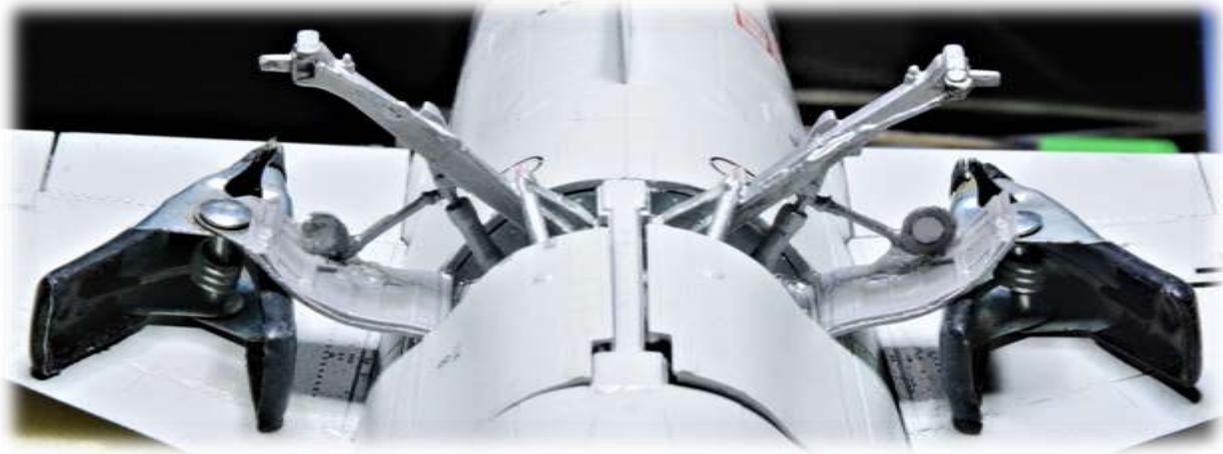
Once all masks are sealed with Future wax, back to the paint booth, for the Tamiya XF-61 Dark Green





The nose gear strut did break; extremely vulnerable; I had a spare Scale Aircraft Conversion full landing gear, white metal, SAC32149, precisely because of that eventuality/probability; this is my third Italeri 2502 1:32 F-104G/S build; hence, I knew all too well about the fragility of the kit's nose gear strut and was ready to resolve the issue







## The “Jugs”: pylon tanks



**Each pylon tank fuel capacity: 1267#. By comparison, each tip tank fuel capacity: 1105#**

...so I may not have perfect recall here but I am at least positive that the standard load was 5746# (internal) + 2210# (tips), for a total of 7956#...in other words, the total tip tank capacity was 2210#, which in turn implies that the pylon tanks had been 1267# each. As we rarely flew with them on a single, I don't really remember off the cuff what the load was with tanks on a single but, if I work at it, it was probably 5746#+2210#+2534#, a total of 10490#...which does sound a bit familiar all these years later! Incidentally, while I again do not remember exact numbers, I vaguely recall that the basic aircraft weight was somewhere down around 14000# while the max takeoff weight was some 24000#. In the nuke days, with only the centreline 'weapon', this would make the total amount of fuel with jugs close on 50% of takeoff weight!

While basic airframe weight was around 13000# without fuel, the addition of jugs on a tipped single made for a very heavy machine as fuel weight then accounted for some 40% of the takeoff weight. On takeoff out of Winnipeg, for the second leg of Exercise Starleap, on a hot and humid July afternoon, the tower wouldn't let us use runway 36, a very short taxi from the ramp. Hence, even though the winds were calm, we had to taxi two miles out to the button of runway 18. This of course meant a southern departure over the city, the built-up area of which started pretty much right off the end of the runway. We lined up and thundered off down the runway; all was normal except that I was immediately aware that this was going to be a long

takeoff run because of the heat. I was not, however, concerned as we had 12000 feet of runway and so were easily airborne with runway to spare. The problem, such as it was, was that the heat made for a very slow acceleration and, with fighter pilot RK on my wing, I couldn't simply pull up into a steep climb as I was already back a notch on the afterburner so's he could keep up.

I signaled gear up as soon as we were airborne but, when the cycle was complete, we still had the takeoff flaps down with about 250 KIAS (knots of indicated airspeed) at this point. Given the somewhat less than effective aerodynamics of the 104 wing, one did not normally raise the flaps until at least 350 KIAS. However, with the full loads we were sporting, 400 KIAS was the more prudent number as the old Starfighter simply did not perform very well without flaps at anything under 400 KIAS.

'So there we were'... 😊 ...low & slow...waiting for that magic elixir that made the 104 'work'...speed! And so it came to pass that an indelible vision was forever etched in my memory, a vision of two 104s 'staggering' across the always busy Portage Avenue - just a mile off the runway end - at barely 200 feet and full afterburner! We were pretty well at the southern limits of Winnipeg by the time we were able to safely get the flaps up and back out of burner. Blacks 3 & 4 followed us by a minute or so and were in turn followed by Blues 1 & 2 and then 3 & 4. I doubt that their experience was any different than ours. Thus, it came to pass that when Golds called for takeoff, the tower decided to let them use runway 36, the departure end of which led out over pastoral, relatively unpopulated, scenery. I'm guessing that Winnipeg Air Traffic Control was besieged by noise complaints that followed in the 'wake' of the Black and Blue section takeoffs. They should have let us use 36!?... 😊



3/16" holes, previously filled in, now drilled out anew



Locator pins must be sanded because the thickness of the primer and paint causes the locator pins not to fit in their destination holes; shown above: locator pins sanded



No adherent; perfect fit. Below: modified pylon data stencils applied (only on outboard facing surfaces)



Red arrow: F-104 camera pod; the CF-104 was not equipped with such a camera; gingerly use a Dremel with a sanding bit; the thus sanded panel will be painted over later, so you do not have to worry about sanding “scratches” if you are careful with the Dremel



Apply the outside Montex masks and seal in place with Future wax; paint and let dry thoroughly; should the paint bleed under the masks (and it invariably does bleed slightly in spots), scrape off the excess with a dry (as in not soaked in thinner) toothpick



Note the variegated colors on the main canopy

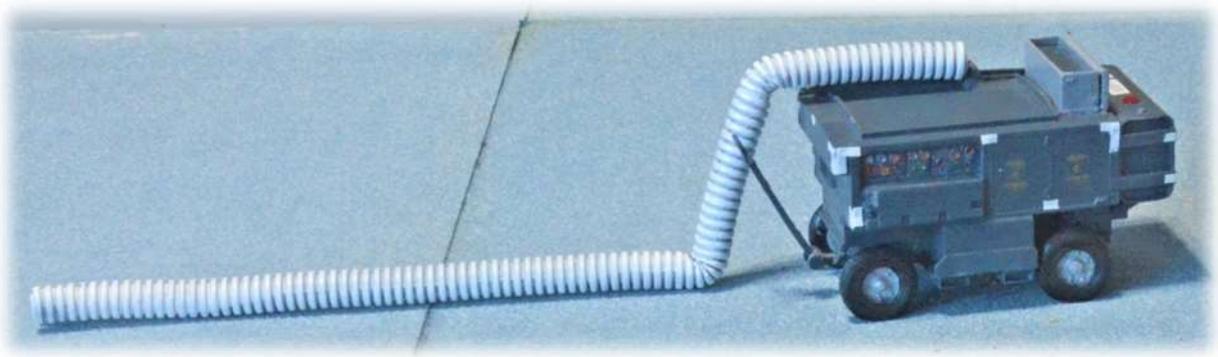


Make your own mirrors from your spare parts stash; the two PE mirrors supplied with the kit are a) one too few, as CF-104s had three mirrors, and b) attempting to attach these PE mirrors as per the instructions is the most assured path to joining The Donald and Vlad at the Funny Farm, "once they've come to take me away, ha ha" dixit Napoleon XIV





Port AoA sensor; a similar "kicker" sensor adorns the starboard side, nearer the radar cone



Verlinden EPU



# Starfighter 711, as flown by Major Laurence Sianchuk in 1983, 417 Squadron, Cold Lake, Alberta

CF-104711 spent most of its operational life in Cold Lake, Alberta, on the inventory of 417 Operational Training Squadron, the unit tasked with Starfighter pilot training. Accordingly, it would have arrived, circa 1962, and it left on the 2<sup>nd</sup> of July, 1983, with myself at the controls. CF-104 training had just been phased out with the arrival of the CF-18. However, as eleven of the 417 Squadron aircraft were deemed to be still mission capable, a plan emerged to fly them across the 'pond' to Europe, a first despite 20+ years of Canadian Starfighter service. In the early days, newly minted Starfighters were partially dismantled and loaded up in C-130 Hercules for the flight to Europe. A dearth of Hercs in 1983, however, made the case for simply flying this lot over. Air Command designated the exercise as Operation Starleap.

Accordingly, on July 2<sup>nd</sup>, 1983, on an overcast Saturday morning and having just had the 417 Squadron Close-out Mess Dinner the previous evening, eleven Starfighters started up for the last time in Cold Lake. The flyover had been my chief concern over the past few months and, as it happened, 711 was assigned as my 'steed' for the duration of Operation Starleap. We taxied out as three formations of four, four and three respectively and, leading the Blacks, I made a wide sweeping turn to the south after liftoff on runway 12, so as to be able to come back across the 417 ramp where a small crowd of well-wishers was assembled. The skies were truly 'leaden' that morning as I don't think I got much above 800 feet while trying to stay below the cloud. Blues and Golds were about a minute each behind the Blacks as we made the last 417 Squadron flypast in Starfighters at Cold Lake. It was reported as an emotional event for those who had come out to see us off. Of note, World War I Ace, Major Donald R. MacLaren, was in the crowd and had wished us well at the Mess Dinner the previous evening. Six days later, the Deadeye Blacks, with aircraft 711 in the lead, emerged from the Rhine Valley mist for the first – and last - 417 Squadron Starfighter flypast at Baden-Soellingen!

Looking over my log book, I see nine flights in 711 between 1976 and the 1<sup>st</sup> of July, 1983. During those missions, I had employed all the capabilities assigned to the aircraft, although I can't actually remember any particular details..., a good point in that it means they were all routine and therefore lacking any memorable moments of unexpected stress, not that that hadn't happened on other occasions during my time in the program! Regardless, flying the Starfighter in Europe was certainly a high point in my flying career and so it was a bittersweet moment on takeoff out of Royal Air Force Leuchars, Scotland, as I throttled that old J79 back out of burner for the last time and set sail for Baden. Starfighters continued to patrol the skies of Europe until the last sortie in March 1986. In fact, CF-104711 continued to fly for a few more years with the Turkish Air Force and, today, it is on display at the Etimesgut Museum, Ankara.

The Starfighter's design is iconic, it looks 'fast' even just sitting on the ramp. While we mostly flew with tip tanks, I elected to go with the 'jugged' version as that was 711's configuration on the occasion of my last flight in a Starfighter.



## A few words about the M61 Vulcan cannon

While the Canadian Starfighter was employed in the nuclear role, the space for the gun was taken up with a fuel tank of some 80 Imperial gallons. When the government decided to switch the force from nuclear to conventional, circa 1971, the Vulcan M61A1 20 mm cannon was installed in place of the fuel tank. The transition was complete by the time I converted to the 104 in 1976 and a typical load for a practice weapons trip was six bombs (with marker smoke charges only), four rockets (inert) and one hundred rounds of 20 'mikemike ball' (slugs!).

M61 engineering was impressive (GE truly brought good things to life!) - an ad from the days... 😊, as each round was fired while the respective barrel - there were six - still had 19 degrees to rotate before the muzzle was aligned with the fuselage exit port. The firing rate was set at 60 rounds per second! Of course, there were some developmental problems. For reasons unknown, probably parsimony, it was decided that Canada didn't need to be a part of the US Air Force system safety reports. Hence, on an early trial flight in Cold Lake, the test pilot fired off a burst...and the engine promptly flamed out!



Subsequent investigation revealed that a 'proverbial nut' that held everything in place was supposed to be lock wired! Hence, when the gun fired, the 'not lock wired nut' backed off, alignment became 'unaligned' and 20 mm slugs began tearing out chunks of the fuselage, bits of which were then ingested by the engine air intake thereby causing engine failure. In other words, the force had achieved its first 'kill' with the Vulcan cannon!? In the fullness of time, it proved to be the 'only one' but, fortunately, no one was killed as the pilot ejected safely. The USAF had lost a 104 the same way a few years earlier...but Canada wasn't getting the system safety reports...a classic example of penny wise and pound foolish!

*Laurence Sianchuk*

# Gallery

Please note that the difference in the upper surfaces grey color in the photographs below is simply due to the fact I was using daylight, as opposed to artificial lighting, when I photographed the completed model







## Heritage Model Aircraft



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