The six Vampires that made the jet crossing; the author's aircraft, VT864, is nearest the camera.

Jets Across The Atlantic

On July 14, 1948, RAF Vampires made the first jet crossing of the Atlantic;

Wg Cdr Bill Wood recalls the preparations for and execution of this historic event.

AT THE END of 1947, the 54 Squadron aerobatic team broke up with the postings of Sqn Ldr Lyne and Flt Lts Colquhoun and Stacey, leaving me as the only Vampire display-team pilot in the command. It was extremely unlikely that a fresh team would be allowed to be formed with me, a Warrant Officer, leading it, so I reckoned that my display career had come to an end.

Sqn Ldr Howell was posted in to command 54 Squadron but he showed no desire to lead a new team. Colin Colquhoun was replaced by Flt Lt Frank Woolley who also appeared unenthusiastic. But in early March 1948 Woolley asked me to show him the nitty gritty of formation aerobatics e.g. what you have to do as a leader. From this, a new 54 Sqn team was established comprising Woolley as leader, W/O Skinner as No.2 (who had done a few surreptitious manoeuvres with me leading) and myself at No.3. Our first authorised practice, I note, occurred on March 9 and was followed by practically nothing else for the rest of the spring. Why this I thought?

A letter from the US Air Force had been sent to the Air Ministry asking if it was possible to have a jet fighter squadron carry out the annual good will visit of the RAF to the USA. This had previously been done by Lincoln bomber squadrons but now the Americans thought a change to fast jets would be beneficial. Presumably they had in mind that the aircraft could be shipped across on an aircraft carrier. The Air Staff must have been in a bit of a quandary over the suggestion due to the difficulties arising and the cost.

After the head scratching, they called in Bobby Oxspring, the CO of 247 Squadron Odiham and asked him how they should go about it, or should they just say no-can-do to the USAF. Then, as Bobby told me later, someone at the meeting who wanted to air his voice said "Why not just fly them across?". Bobby told me he nearly fell off his seat, but all the brass thought it a great wheeze — "come back in a week Oxspring, and let us know your plan". It was taken as read that the fighter outfit that was sent would have to be the RAF Display Squadron, No 54, to demonstrate the new and exciting displays as seen in 1947.

There were three squadrons on the Odiham wing, 54, 247 and 72. I reckoned that the Squadron Commanders of all three had been ordered in early March to produce an aerobatic team apiece. Confirmation came when Howell asked me to see Sqn Ldr Oxspring. I went over to 247's hanger and he gave me a sketchy outline of what was going on and he said he had asked Howell if he would mind having me show him the ropes of leading a team so that he could work it up to display proficiency as quickly as possible. He emphasised that this was a Wing requirement and that I should not withhold information for the sake of loyalty to my own squadron! Since the 54 Sqn team had started practising before that meeting, I took it that the work-up had already been ordered. So, after giving Oxspring a thorough ground briefing on engine RPM setting, rate of roll, pitch angle above and below the barrel roll axis, etc, I took him aloft for a few sorties with him in No.2 slot until he considered he was satisfied he knew what was required.

Shortly afterwards, Howell was tragically killed when taking photographs of the squadron's aircraft returning from an exercise; he, apparently, misjudged his distance from the perimeter track when looking through his camera's viewfinder and was struck by the wing of one of the taxiing Vampires. Sqn Ldr Oxspring then took over command of 54 Sqn. Display practices were now going on at a tremendous rate. The sortie count from March 9 to May 18 for the 54 Sqn team was 37. It must have been around this period that Roy Skinner and I dreamed up a variation to our display routine by the introduction of a formation change in mid-manoeuvre. This was the first time it had been done, previous thought having assumed that any change during an aerobatic manoeuvre would be too dangerous. But during a practise, we found that it was quite feasible and even less dangerous than the Vic formation roll. It was simply a change at the top of a line astern loop to reform into Vic. A competition was held and judged by the C in C Fighter Command on May 19 to select which of the three teams was to represent the RAF for the goodwill tour. He decided that two aerobatic teams, 54 Sqn and 247 Sqn would perform the formation parts of the displays and that three pilots from 72 Sqn would also travel, two of whom would fly the solo aerobatic co-ordination role, and the third would be deputy leader of the Vampire team. The composition of the aircrew for the tour was as follows:

a. Blue Section

Sqn Ldr R W Oxspring - Blue leader and overall Vampire leader.

Flt Lt E W Wright - Blue 2 - attached to 54 Sqn for the tour.

W/O S Evans - Blue 3 * - attached to 54 Sqn for the tour.

b. Red Section

Flt Lt F G Woolley - Red leader.

W/O R J Skinner - Red 2**.

W/O W C Wood - Red 3*.

c. Deputy Vampire Leader and Solo Aerobatics

Sqn Ldr R N H Courtney - Deputy Vampire Leader - attached to 54 Sqn for the tour.

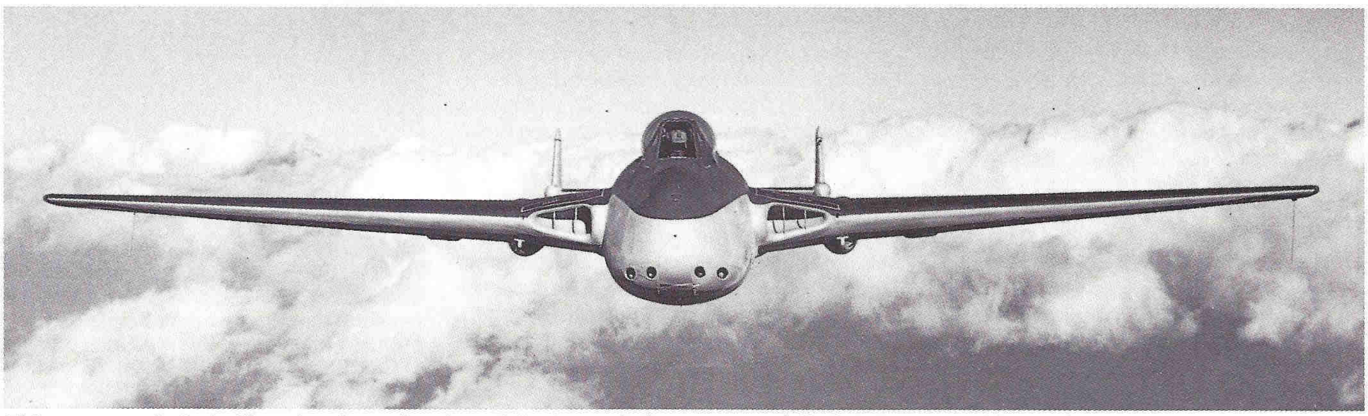
Flt Lt C I Colquhoun - Solo Aerobatics - attached to 54 Sqn for the tour.

Flt Lt N Heale - Solo Aerobatics - attached to 54 Sqn for the tour.

Having solved the problem of the composition of the display teams, the next critical matter was whether or not the Vampire could do the job. The Vampire Mk.1 certainly could not because it did not have the necessary fuel capacity. However, the Vampire Mk 3 was coming off the assembly line at this time, and six of them were bagged by the new-look 54 Squadron. This mark had increased internal fuel capacity and could carry two overload fuel tank under the wings. The total capacity gave sufficient range to cover each leg of the crossing with a small margin in reserve. A maximum acceptable flight-planned time of 2 hours 45 minutes was imposed as a limit.

But that limit assumed little or no deviation from track, so very accurate navigation was required; it was just not possible to get it from the Vampire fit. Its only pretension to a navigation system was a Magnesyn compass which any jet fighter pilot of the time will tell you was laughable, even for cross-countries in clear blue 20-mile visibility over land. The drill for its use was to set the directional gyro indicator (DI) to the Magnesyn's heading when the aircraft was perfectly still on the ground prior to take off, and at every 10 to 15 minute intervals during flight provided absolutely straight and level conditions at a steady airspeed were maintained. The DI, in effect, became the heading to look at

Pilots of 54 Sqn plus the Met Mosquito pilot and the Force Commander; L-R: Jeep Heale, Ricky Wright, Frank Woollet, Buck Courtney, Bobby Oxspring, Wilson MacDonald, Micky Martin, Bill Wood, Taffy Evans, Roy Skinner, (Colin Colquhoun missed the photo call).

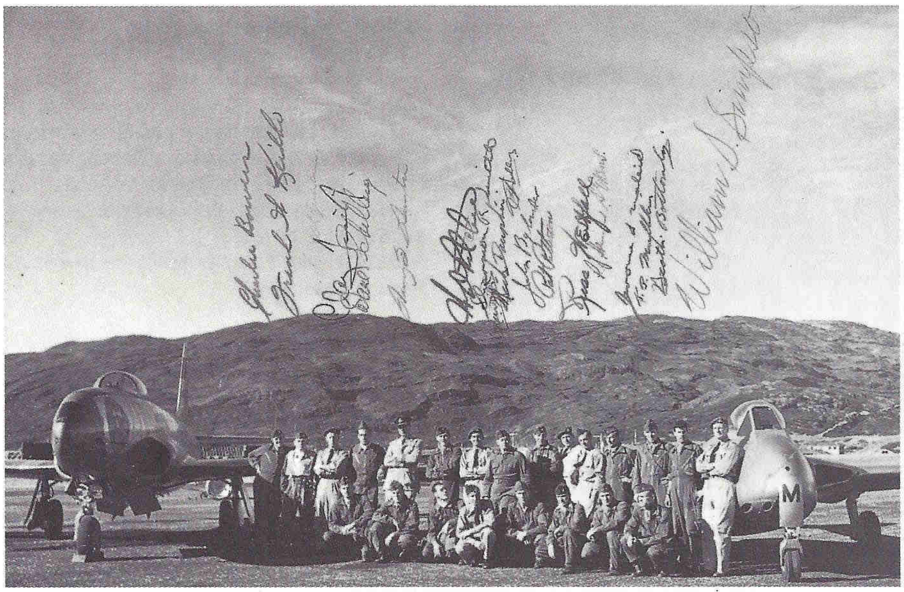


This nose on shot of a Vampire shows just how tight the cockpit was - especially for long-range flights. (FP Collection)

for virtually the whole flight. In addition, the constantly moving magnetic variation across the North Atlantic (14° to 28° west on one leg), aggravated the situation. The solution could only be found by employing an aircraft to show us the way, using Loran (long-range air navigation system).

There was also little knowledge at this time on the behaviour of the upper winds, and any forecasted wind velocity above 20,000ft (6,000m) on the route was not thought to be accurate, eg. there were no 'actual' wind reports obtainable from the old-fashioned piston-engined airline aircraft as there is now from the thousands of jet flights at 30,000 to 40,000ft (12,200m) levels. Reliance at this time had to be placed on the reports from a mere three weather ships anchored in the Atlantic (plus the few land-based meteorological stations). So we needed yet another aircraft, capable of flying at the altitude required, and ahead of the Vampires by at least two hours, passing the 'met' information back to the convoy leader by W/T.

Really accurate 'actual' forecasts at the destination airfields were also vital, as there were no diversionary airfields at all on two of the legs. But I suppose the most frightening aspect of the crossing was that one was flying in a single-engine aircraft which had no engine relight facility. A flame-out over the ocean we knew would result in a probability of one's demise of about 0.99, I should think. Rescue for such an unfortunate consisted of an immersion suit to wear in flight, a standard Mae West, a standard dinghy-parachute cushion, a Lincoln aircraft carrying a jettisonable lifeboat and plying the Stornoway to Iceland leg, and a B-17 Flying Fortress doing the same over the Iceland-Greenland-Labrador legs. There were also a number of support aircraft: three hree Mosquito aircraft, one to act as the convoy leader and as the navigation aircraft. The second was to act as a shepherd to the Vampires and also to act as navigator. The third was, as previously stated, to provide meteorological information on the route at least two hours in advance of the convoy (this aircraft was flown by Sqn Ldr Micky Martin, one of Guy Gibson's flight commanders on 617 Sqn's Dam Buster raids); plus three York aircraft to transport the Force Commander, the technicians, the spares pack, and any 'loot' collected on the tour.



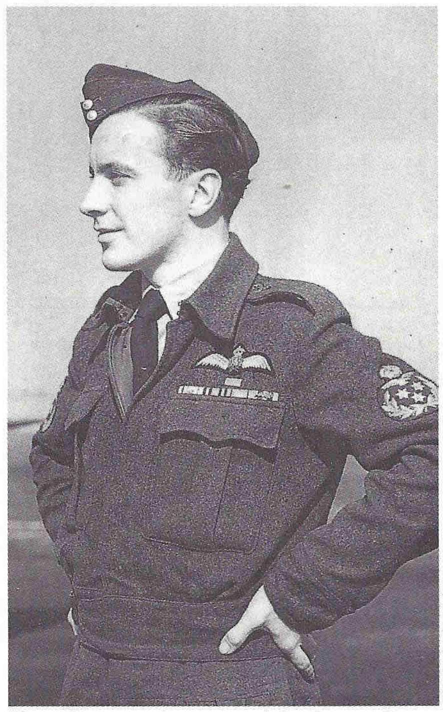
Historic meeting of pilots - 54 Sqn Vampires and Col Schilling's F-80 crews at Bluie West 1, Greenland, July 14, 1948.

The Force Commander's job was given to Wing Commander S Wilson-MacDonald who could control events, if required, by W/T with the Mosquitoes. The target date for blast-off was to be July 1. In the month prior to it, we were taken over the route by a York to see what faced us. The route to Canada was to be via Stornoway in the Hebrides, Keflavik(Iceland), Bluie West I (Greenland), Goose Bay (Labrador) and then in slow time to Trenton in Ontario where we would base ourselves in Canada prior to the commencement of the tour in the USA. The airfield at Bluie West I looked the most daunting, and with no alternative on the legs to it and from it, the forecasting of the weather conditions there needed to be accurate before venturing past the point of no return. We made several long-distance flights in the UK in the company of the two navigating Mosquitos, to simulate a crossing leg. These lasted up to the two and three quarter hours limit we had imposed on ourselves. With no pressurisation and little, if any, cockpit heating, we found heavy icing forming on the cockpit canopy during the decent from, what was considered then, the very high altitude of 30,000ft (9,140m); we could foresee trouble here. Finally we flew some formation trips for the benefit of the press photographers and gave a display for the BBC and the press. We were ready to go.

At last the day that we had awaited dawned. Medium cumulus at Stornoway, our take-off drill was for the two accompanying Mosquitos to take off first (the 'met' Mosquito had already departed). We in the Vampires then lined up on the runway in Vic formation, sections line astern. When the Mosquitos were running in off their orbit round the airfield, they would call 'go' to the Vampire leader who released brakes and rolled, followed by the other section at 1,000 yards (900m) astern, with the Mosquitos taking up station behind. A snake climb and then the formation changed to the cruise pattern when cloud penetration was complete. The flight to Stornoway took just two hours with no problems on the way. On landing, we were told that the upper winds were on the nose at 120 to 150 knots (222 to 278km/h) and there was no hope of continuing that day.

Our 'met' Mosquito had gone through Stornoway to Keflavik in Iceland and had confirmed the forecast. The upper winds remained unabated for eleven days. At some point during this time, I got out my Vampire Pilot's Notes which I carried aboard my aircraft. I wanted to check the range tables given in it. There were no other performance data to refer to than this (unless we telephoned de Havillands). For the uninitiated, optimum range in a jet aircraft is always obtainable at the higher altitudes due to the reduction in air density. But our flight plan time was being extended beyond our time limit by the powerful winds at these altitudes.

When I checked the Pilot's Notes range figures for a low-level profile at say, 5,000ft (1,500m), I concluded that, with the winds greatly reduced at this height, we could trade the hurricane speed winds at high altitude for the increased fuel consumption penalty at low altitude and could get to Keflavik with enough fuel to spare and with the additional bonus that we would gain by having no canopy icing to delay us when we arrived for landing. I put it to Buck Courtney, the Deputy Vampire leader, but it was turned down after discussion with the Force Commander and Bobby Oxspring, but I believe it would have worked. Micky Martin could have obtained accurate winds at low level, and the Mosquito navigators could have worked out a flight



Note the new aircrew rank badge on the author's left sleeve; this was introduced in the '1947 experiment' by the Air Ministry for non-commissioned aircrew and in Category A there were five ranks running from Master Aircrew (the only one to survive the fairly rapid change back to the old system) through Aircrew 1 to Aircrew 4. The author is denoted as Aircrew 1 by the three stars and crown.

plan to check the elapsed flight plan time and therefore the consequent fuel consumption, to determine whether or not it was feasible. Hell's teeth, it could have been simulated anyway, without a Vampire having to leave the ground.

I should add that my main reason for trying to get the circus going again was that the grapevine from the British Joint Services Mission in Washington had alerted us that a team of USAF F-80s (Shooting Stars) were preparing to beat us across, under the command of a Colonel Schilling, and that his attempt was imminent. I felt that we were being too inflexible and not trying hard enough to explore other options and that we had better do something quickly or the Yanks would beat us and that would be bad news for the RAF.

The days dragged on in idleness. On the 7th, we air-tested our aircraft and buzzed around the Hebrides to wake up the 'wee frees'. Then we lapsed into idleness again. On the morning of the 12th, however, the winds relented and were down to the 50 to 60kt (93 to 111km/h) mark. Hurriedly the aircraft were checked to be fully topped up with fuel and then towed to the end of the runway (to save fuel) and lined up ready to start. We climbed in and waited for the Mosquitos to take off, then started up. With the Mosquitoes running in, we released brakes and rolled. The cloud was stratocumulus, a rather thickish layer, from about 1,500ft (450m) to 5,000 or 6,000 (1,500 or 1,800m) tops. We snaked up to penetrate. All seemed well, until we broke through the cloud tops, looked ahead for Blue Section, saw nothing. What the hell, I thought, what's gone wrong now; "I don't believe it" I screamed inside my cockpit.

Luckily, very luckily, I spotted them way off course by about 2 miles (3.2km), level, at 9 o'clock, heading for mid Atlantic; they were very small specks at that range. I vectored them in to join the convoy, led now by the Mosquito leader. The problem was, I am sure, that Blue Leader had set his DI to the Magnesyn compass heading on the runway all right, but forgot to pull the DI button out to uncage the gyro.

The flight from then was uneventful, passing over a front near Iceland. We sighted land through broken cumulus with about 80 miles (129km) to go, discarded the Mosquitos and snaked down to land at Keflavik, the journey taking 2 hours 40 minutes for the 586nm (1,000km/h) distance. Sea fog began to roll in that afternoon and persisted all the next day. Another day lost, making 12 from July 1. We heard that the F-80s of Schilling's team were now at Goose Bay preparing their aircraft; a USAF contingent had for sometime been a fixed feature of Goose Bay with so many of their heavier piston-engined aircraft operating from it and there was quite some rivalry between the US personnel and the Canadians of the RCAF. We now realised that we could not afford another lost day.

The fog at Keflavik had cleared on July 14 and the forecast for the leg to Bluie West I was what we had been looking for during the last fortnight. This was just as well because this leg was the one most feared because of the severe limitations at Bluie West's airfield. The distance to it from Keflavik is 652nm (1,200km), the safety height around it is 10,000ft (3,000m) (the height you must not descend below if you cannot see the area of ground underneath because of cloud); there is no alternative airfield on this route. In instrument conditions, no let-down is allowed. Just yards from the eastern end of the single runway, rises a glacier to the 8,000ft (2,400m) ice cap and a long narrow fjord houses at its head the airfield, surrounded by mountains up to 5,000ft (1,500m). There is a decoy fjord branching off the one you want, up which you must not go unless you wish to commit suicide. All landings must be made towards the glacier and all take-offs may only be made towards the fjord. But all the apprehension was for nothing.

It was clear blue all the way with the awesome Greenland scenery appearing mid-way. However, we noted some stratus at the fjords entrance, which gave us some concern for the next leg. When we landed, the forecast for that afternoon mentioned that the stratus would become fog and creep up towards the airfield. So we got out of our flying kit and went off to sit out the day. We had lunch and won some money out of the one-armed bandits when we heard the roar of jet aircraft.

Schilling and his F-80s had arrived. We went out to greet them when they dismounted and we all gathered around a Vampire and an F-80 for an historic photograph. When they went off to eat, we returned to our respective messes. Shortly, panic let loose. Transport arrived for us. Get into your flying gear at once was the order. We tore down to the aircraft dispersal, viewing the F-80s taking off for Keflavik. We had to go, caution was chucked out the door; we had to get airborne as

BLUIE WEST 1 - GOOSE BAY

TRACK 226° T DIST 675 n.m.

COURSE E.T.A.

SAFETY Ht. 5500 ft. Varn 39° - 33° W

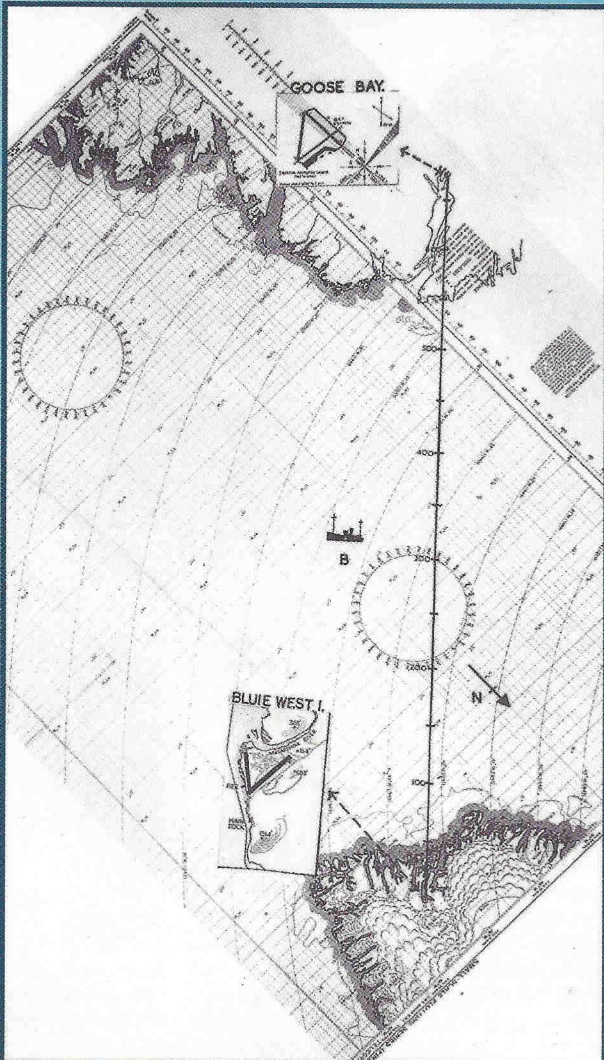
AIRFIELDS
MAIN GOOSE BAY 53.20.N 60.25.W Alt. 150
There is no alternative or emergency airfield on this route

RESTRICTIONS.
Obstruction :- At Goose Bay, masts 250 ft .SSE.
Height Restriction :- Greenland - Labrador even thousands
Labrador - Greenland odd thousands.

RADIO AIDS		V.H.F. D/F.		
GOOSE BAY	c/s	Goose Airways	126.18	B
		" "	116.1	A
		" "	137.88	C
BLUIE WEST 3	"	Bluie West 3 Homer	116.1	A
		" " " "	137.88	C
CAPE HARRISON	"	Harrison Airways	137.88	C
		AIRFIELD CONTROL		
GOOSE BAY	"	Goose Tower	116.1	A
		" "	126.18	B
BLUIE WEST 1	"	Bluie West 1 Tower	126.18	B
		G.C.A.		
GOOSE BAY		On Tower freqs. at 1 hrs notice		

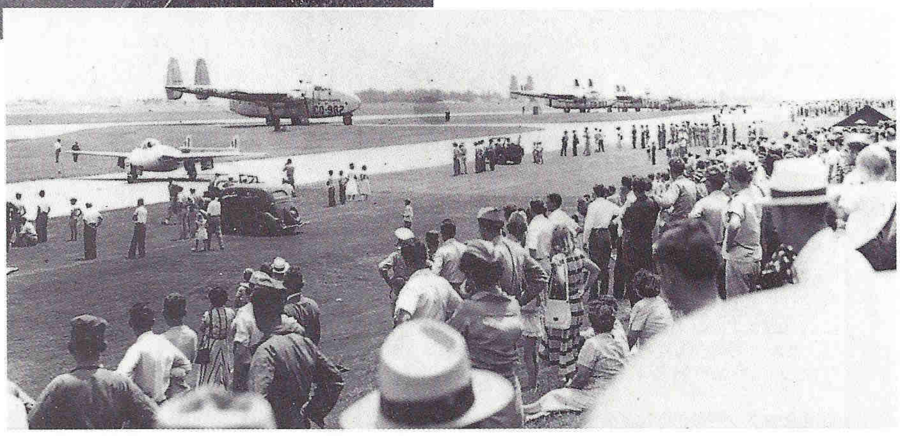
SEARCH AND RESCUE FACILITIES
Aircraft from Bluie West 1 and Goose Bay. Weather Ship 'B' posn 56.30.N 51.00.W will pass RADAR bearings and distances on 116.1 and 140.58 (Emer Only) A, & D.

AIRCRAFT INTERCOMMUNICATION
126.18. Channel 'B'



Nav Card for the leg Bluie West 1 to Goose Bay plus the associated map.

The extra fuel capacity of the Vampire FB.5, including the underwing tanks, gave the aircraft a permissible flight time of 2hrs 45mins. The six Vampires are lined up for a press visit before departing on the record-making flight across the Atlantic. (FP Collection)



Although the Atlantic crossing was the record-making part of the exercise, the Vampires subsequently took part in a series of air displays in the USA and Canada' here Red Section are taxying back to dispersal after their display at Greenville. (All author unless stated)

quickly as possible before the stratus became fog and ruined our chances. We got airborne in snake but did not climb immediately.

The stratus was fairly low, about 1,000 feet if my memory serves me right, and we were therefore presented with a tunnel formed by sheer sides of the mountains along the fjord and the stratus forming the tunnel's roof. The drill was to use plenty of RPM to get sufficient speed to zoom climb, hoping to avoid hitting the sides and get through the stratus to pick up the formation leader's section which had to be, repeat had to be, dead ahead on the centre of the fjord's track.

We formed up speedily enough and things seemed to settle down to normal as we climbed to 25,000ft (7,600m). We heard on the R/T that the fog had extended to cover the airfield at Bluie and we then knew that there was only one place on the planet where we could put down safely, Goose Bay, positioned at the greatest distance of any of the legs, 675nm (1,250km). The forecast for the route was that a weak occluded front was lying across our path about mid-way, with its tops at 14,000ft (4,267m), and that there was a possibility of cumulo-nimbus around Goose Bay.

As we were approaching the mid-point, we began to encounter cirrus cloud as we started our climb to 30,000ft (9,000m) when the drop tanks had emptied. Initially, I thought it might be some isolated cirrus which would clear soon. But it became evident that it was not, and that it was becoming thicker. My previous experience of flying in cirrus at these altitudes was that the visibility in the cloud was quite sufficient to fly in a reasonably loose formation at about 100 or 200 yards (91 or 193m), but this cirrus was reducing visibility, by the minute, to below that.

Oddly, I thought, neither of the section leaders were closing up on the Mosquito and, from my experience on ferry work, an alarm began to sound. I straight-away swung over from my far port position, under the section leader and Red 2, and took up a close formation position on the lead Mosquito; after a pause, the others then followed suit. It was not as bad a situation as might be found in monsoon heavy cloud, but when there is a fear that if you don't do something to avoid being stranded on your own over the Atlantic with a useless navigation system, you are a damn fool.

The Vampire leader then called for a continuation of the climb to 35,000ft (10,600m) to get above the cirrus but when our climb rate had fallen to zero, the cirrus was still there and was probably stretching up to 40,000ft (12,200m); he then called that he was going to descend to get below the cirrus and into the clear.

So down we went and my heart sank with every foot of lost altitude; if this carried on much longer, we were not going to have enough fuel to reach Goose Bay. At 18,000ft (5,500m), the penny dropped when it became evident that the cloud was sloping right down to deck level, so a call to clamber back up to 30,000ft was ordered.

We had no means of accurately calculating the extent of fuel lost by this diversion from the flight plan and each Vampire pilot must have known that he was facing the distinct possibility of a bale-out, at best over the barren Labrador countryside, at worst into the sea.

From our navigation card of the route we would be over a tongue of land when we had 125nm (230km) to go to Goose. On the run-in to the coast, the cloud cover below us was complete, and incessant calls, it seemed, were coming from the Vampire leader to the lead Mosquito to give him time-to-go to landfall. An argument between them developed when we crossed the coast. The Vampire leader wanted to descend immediately to get contact with the ground but was persuaded by the Mosquito leader to remain at height; the distance to go was still in the order of 100nm (185km) and fuel was really running low now. I knew that we needed some reserve to allow us to de-ice the canopy before landing, and that it would be touch and go.

With about 50nm (93km) to run, we entered a cloudless region and peered ahead for a sight of the airfield which was at the far end of Lake Melville over which we were now flying. Ahead we could see the heavy cumulo-nimbus backing Goose Bay. It was now nearly dark and we had no night flying equipment other than navigation lights. It was a race to get in and beat the cu-nimbs before they drifted onto the airfield.

At last we were overhead and the whole formation broke up into individual aircraft, the pilots desperate for the heavy canopy icing to melt away and worried about the number of teaspoonfuls of fuel left in the tanks, and the fear of colliding with others.

There was tremendous relief when the wheels greased onto the runway and we had all gathered at the RCAF hanger in the semi-darkness to be the first jet pilots to cross the Atlantic. We had landed 2 hours 55 minutes after leaving Bluie, 10 minutes longer than the flight plan limit. The official time from Stornoway to Goose Bay was 8 hours 18 minutes. I reflected that we had just beaten the USAF F-80s by a single leg of the route.