

**CANADA AVIATION MUSEUM AIRCRAFT**

**GRUMMAN CS2F / CP-121 TRACKER  
ROYAL CANADIAN NAVY**



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## **Introduction**

The predecessor to the CS2F TRACKER, the S2F, was conceived in 1950 by the Grumman Aircraft Company in response to a United States Navy (USN) Bureau of Aeronautics requirement for a twin engine, carrier borne Anti-Submarine Warfare (ASW) aircraft. An interesting stipulation in the original (USN) specifications was that the aircraft must be small enough, with the wings folded, to operate from a relatively small CVE-105 (USN) class aircraft carrier. These smaller aircraft carriers were normally equipped with aircraft elevators located inboard on the flight deck centerline, one forward and the other aft. The dimensions of these elevators governed the size of aircraft that could be moved up and down from the hangar deck below.

This elevator configuration and the respective dimensions were almost identical to those of the British built MAJESTIC Class aircraft carriers of which the Canadian aircraft carrier Her Majesty's Canadian Ship (HMCS) BONAVENTURE was a derivative. This design feature was probably the single most important reason for selecting this aircraft for use in the Royal Canadian Navy (RCN).

## Development History

The initial TRACKER built by Grumman Aircraft at Bethesda, Maryland was designated XSF-1 and first flew on December 4, 1952. The aircraft was powered by two engines, was configured with shoulder-mounted wings, and was additionally equipped with a tricycle undercarriage. The design incorporated numerous advanced features to solve control problems previously associated with the operation of twin-engine aircraft aboard aircraft carriers and to provide sufficient space for a crew of four. It was large for a carrier borne aircraft in the sense that it could house a generous quantity of ASW detection equipment and anti submarine weapons within an airframe small enough for operations aboard MAJESTIC Class escort aircraft carriers.

Because of the foregoing the USN S2F became the RCN's first choice as early as 1954 only two years after it had first flown. This acquisition program would see replacement of the venerable TBM AVENGER aircraft which first saw duty with the United States Navy in the Pacific during World War II.

There was initial talk of a quantity order directly from the Grumman Aircraft assembly line, but a predisposition existed within the Canadian political community that they be built and manufactured under license in Canada. Meetings between Canada's Department of Defence Production and several competing Manufacturers served to establish a national plan for the production of 100 of these aircraft in Canada. Subsequently de Havilland, Canada was selected as prime contractor and would assume overall responsibility for construction and assembly of the TRACKER at a new plant located at Downsview, Ontario.

Shortly after the new plant opened, the scope of the manufacturing plan became known; it included a wide spectrum of Canadian companies. For instance, the wings would be built by Canadian Car and Foundry of Fort William, the rear fuselage section by Canadair, Montreal and the tail section by Enamel and Heating Products located in Amherst N.S. The engine nacelles were to be produced in the West by MacDonald Bros. Aircraft, Winnipeg. The undercarriage shock struts were to be made under license by Jarry Hydraulics, Montreal, the nose undercarriage and tail bumper by Dowty Equipment of Ajax and the bomb bay doors, hatches and covers by Fleet Manufacturing of Fort Erie. DH Canada, as prime contractor, would build the forward fuselage section and the pilot's compartment, assemble the aircraft, look after the installation of the electronic gear, manage the overall program and finally, test and prepare the aircraft for RCN acceptance.

The \$100 million defence contract was the biggest since WW II. Even the engines were to be manufactured in Canada as the Dept. of Defence Production had negotiated the building of 400 Wright Cyclone engines, under license, by Canadian Pratt and Whitney (CP&W). In the meantime the RCN bought one Grumman built S2F-1 as a test model. The aircraft for RCN use were to be called the

CS2F-1 and given the name "TRACKER". This all-weather, twin-engine, high-wing, anti-submarine aircraft was to employ the most sophisticated electronic gear in the hunter/killer role and be capable of carrying a wide variety of weapons. It was a formidable ASW aircraft indeed.

### Design Features

The TRACKER aircraft incorporated many unique design features. Particularly significant, were the measures adopted to permit the aircraft to operate on a single engine in the event of an engine failure on the opposite side. To allow the aircrew to maintain the aircraft in a balanced flight and permit a single engine carrier approach and landing, the aircraft was equipped with a large vertical stabilizer and rudder, the latter split vertically into two sections. The forward section was hydraulically actuated during take-off and landing and was required during single engine operations to supplement the manually operated rear rudder section. The wing control surfaces included flaps which spanned over 85% of the trailing edge; circular arc spoilers supplemented the relatively smaller ailerons. Lift was augmented by employing fixed leading edge slots.

The multi-spar wings could fold asymmetrically above the fuselage employing hydraulic power. This allowed the wing span to be reduced from 72 ft. 7 in. with wings spread to just 27 ft. 6 in. when folded. Also noteworthy was the use of large under wing nacelles to house the Wright R-1820 nine cylinder radial engines and to provide space for the main undercarriage and rear-launched sonobuoys. Another unique feature was the search radar, powerful enough to detect submarine snorkels, using an antenna small enough to fit into a retractable "dustbin" radome beneath the rear fuselage.

Non-acoustic submarine detection equipment included an Electronic Counter Measure (ECM) suite which could detect any surface radio transmissions initiated by ships or submarines operating on the ocean surface. A retractable "stinger" Magnetic Anomaly Detection (MAD) boom allowed the aircraft to fix a submarine's underwater position by measuring the variations in the earth's magnetic field caused by large underwater metal objects. A steerable 70 million candle power searchlight was installed in a fairing beneath the starboard wing. The pilot/co-pilot cabin, located just forward of the wings had superb visibility and the aircraft additionally included two detection systems operators.



## Aircraft Specifications

Power Plant: Two 1,525 h.p. Wright R-1820 82 WA nine-cylinder air cooled radial engines driving three-blade constant speed metal propellers.

### Dimensions:

Wing Span: 72ft. 7in.  
Width Folded: 27 ft. 4in.  
Length: 43 ft. 6 in.  
Height: 17 ft 6 in.  
Wheel track: 18 ft. 6 in.

Wing Area: 485 sq. ft.

### Weights:

Empty: 18,315 lbs.  
Max. Takeoff: 26,147 lbs.  
Max. Landing: 23,435 lbs.

### Performance:

Max Speed (S.L.) 280  
mph  
Patrol Speed: 150  
mph  
Service Ceiling 22,000 ft.  
Range: 1,350 miles  
Endurance: 9 hours  
Min T.O Run: 1,112 ft.



Armament: Two homing torpedoes or depth charges located in the bomb bay and six underwing attachments for torpedoes, depth charges or rockets. These included different combinations of Mk. 41, 43, 34 anti-submarine homing torpedoes, Mk.54 depth charges and mines.

Housing for sonobuoys and marine markers were located in the rear of the engine nacelles. The aircraft was also fitted with a retro ejector for Marine markers, a dispenser for Practice Depth Charges (PDC-s) which provided the underwater sound source for the JULIE and in later years the JEZEBEL detection system and the ability to carry a wide variety of acoustic sensors. A photograph of a TRACKER firing rockets is attached

## **CS2F Models Employed in Naval Aviation**

The anti-submarine versions of the TRACKER employed by the RCN between 1954 and 1990 were of three major variants, the CS2F-1, the CS2F-2 and the CS2F-3. All used the same airframe but were different with respect to the anti-submarine and over-water navigation systems installed. Following the collapse of the Soviet Union a fourth version was developed to accommodate new national priorities such as fisheries patrols, and pollution surveillance. On occasion they were also employed by providing aid to the civil power in monitoring potential off-shore drug activity. This latter version of the TRACKER was the CP 121. All variants of this aircraft are described briefly below.

### The TRACKER CS2F-1

As previously noted the Canadian manufactured CS2F-1 was a version of the USN Grumman S2-A . This aircraft, originally numbered X500, was used as a test bed for assembly purposes. It was later upgraded to the CS2F-1 standard and assigned Serno.1501. Forty-Two CS2F-1 aircraft, Serno 1502 to 1543, were built in Downsview.

The Canadian version differed from their USN counterparts mainly by adding JULIE/JEZEBEL acoustic anti-submarine search equipment. The first Canadian built aircraft delivered with this equipment flew at Downsview on 31 May, 1956. Subsequently, in 1960, 17 CS2F-1 model aircraft were transferred to the Royal Netherlands Navy (RNN). Two others, 1534 and 1540, were modified as Carrier Onboard Delivery (COD) transports in 1964. The COD aircraft was stripped of all systems to reduce weight and included additional seats which allowed it to carry a crew of two and six passengers. These versatile conversions allowed mail and staff to be transported to and from HMCS BONAVENTURE and facilitated early movement of ships company ashore for compassionate reasons.

As a footnote to the evolutionary upgrades to the CS2F-2 and CS2F-3 versions, most of the research and testing was performed by Experimental Squadron TEN (VX-10). For the reader interested in this development work it is recommended that THE VX-10 Story be read as it superbly illustrates the challenges encountered and how they were overcome. The book was written by Commodore (Ret-d) Peter Charlton CD RCN (Ret-d).

### CS2F-2

The last 57 Canadian built TRACKERS (1544-1600) were fitted with the Litton Industries tactical navigation equipment and were designated CS2F-2s. Previously tactical navigation was provided by the co-pilot using a manual plotting board. The inclusion of this first generation automated navigation equipment provided an enhanced level of accuracy over large open ocean areas by providing automatic computations of present position when the aircraft was actively prosecuting underwater submarines.

### CS2F-3

The CS2F-3 designation was given to 43 CS2F-2s which were modernized to a common standard with a second generation AN/ASN-501 tactical navigation computer, Marconi AN/APN 503 doppler radar, and the Sperry Company, stable platform. It also included an updated JULIE/JEZEBEL equipment suite. The development, testing and evaluation of the AN/ASN-501 (initially called the Anti-Submarine Warfare Tactical Navigation System or ASWTNS), by VX 10, is in itself a fascinating story and again, is well described in Peter Charlton's book "THE VX 10 STORY". At the same time numerous other systems were upgraded or replaced.

### CP-121

When the new Canadian military aircraft designation system was adopted, the CS2F-1s, 2s, and 3s respectively became CP-121 Mk.1s, Mk.2s and Mk.3s. At that time, the RCN Sernos 1501 to 1599, with the exception of the 17 that had been transferred to the Royal Netherlands Navy, were replaced by Canadian military Sernos 12101 to 12199.

Between 1974 and 1981 a number of TRACKERS were either disposed of, or placed in storage, and of the twenty that remained, all were stripped of their ASW equipment and arrestor gear. VS 880 retained most of these aircraft, the remainder were allocated to VU-32, VU33 (at CFB COMOX) and 420 Air Reserve (AR) Squadron at CFB SHEARWATER. The crew complement was reduced to three, including two pilots and an electronic sensor operator. The aircraft were modified to carry either 6x36-rocket underwing pods for use in the sea surveillance role or a day/night photographic pod beneath the starboard wing for pollution detection and fishery patrol.

## CS2F Naval Air Squadrons

The TRACKER was the mainstay of five fixed wing Naval Air Squadrons over the life of the aircraft. These Squadrons and their function are outlined below. A photograph of four TRACKERS in formation approaching HMCS BONAVENTURE for recovery on-board is shown below.



### VX 10 Squadron

As earlier noted VX-10 was responsible for ensuring that modifications and upgrades to the aircraft were appropriately evaluated and tested. The Squadron was staffed by RCN pilots who had completed either one of three advanced technical courses: the USN PATUXENT RIVER Test Pilots Course, the U.K..equivalent in FARNBOROUGH, England or the Aerospace Systems Course. The first TRACKER to be evaluated by VX-10 was a Grumman built S2F which was on loan from September, 1956 to September 1957. From this date until VX 10 was disbanded in 1970 at least three TRACKERS remained on the VX-10 Unit Establishment for test and development projects. The first Canadian built aircraft was accepted by VX-10 in May 1956 and delivered to VX 10 at HMCS SHEARWATER shortly afterwards.

### VS 880 and VS 881 Squadrons

VS 880 and VS 881 Squadrons were the two operational Squadrons. VS 880 received the first allocation of aircraft in May 1957 and VS 881 converted to TRACKERS a short time later. VS 881 was the first RCN Squadron to operate from HMCS BONAVENTURE in Sept. 30, 1957. These two Squadrons shared responsibility for providing detachments of eight-aircraft aboard HMCS BONAVENTURE. This continued until VS 881 amalgamated with VS 880 in July 1959. Following amalgamation VS 880 provided CS2F detachments aboard the aircraft carrier until the last aircraft was launched in Bedford Basin, Nova Scotia on 12 December 1969. Subsequently, HMCS BONAVENTURE was decommissioned and disposed of four months later.

VS 880 continued to fly ASW, pollution, surveillance and fishery patrol operations from CFB SHEARWATER during the early 1970's. However, with the collapse of the Soviet Union, anti-submarine warfare played a progressively lesser role in TRACKER operations until it was phased out by 1974. In 1975 VS 880 was re-designated MR 880 reflecting its changed role to Maritime Reconnaissance. In March 1981 MR 880 was moved to CFB Summerside, Prince Edward Island where the primary missions of the CP-121s remained maritime surveillance and fishery patrol.

### VU 32 Squadron

Throughout the life of the TRACKER VU 32 was tasked with ensuring a comprehensive training program to supply aircrew to the operational squadrons. This included initial and refresher pilot training as well as extensive ASW sensor operator training. The training function continued until the Squadrons- roles were changed in August 1974. This Squadron had a unit establishment of four aircraft which could be augmented in the event of a heavy training program.

### VU-33 Squadron



VU-33 Squadron was established at Pat Bay, British Columbia to support air requirements of West Coast ships of the Royal Canadian Navy. Three TRACKERS were retained on Unit Establishment in addition to two T-33 SILVER STAR jets used for drogue towing for ships gunnery purposes. In 1974 the Squadron was relocated to COMOX, B.C. where the TRACKERS continued to operate from that location.

### The TRACKER as a Forest Fire Fighter

In 1970 the Ontario Ministry of Natural Resources purchased a CS2F-1 from the RCN and had it modified to evaluate the Tracker in the forest fighting role. Successful trials led to the modification of eleven additional surplus CS2F-1/CS2F-2s for use in Ontario and Saskatchewan. The next TRACKER conversion undertaken in Canada was made by Conair Aviation which, in 1978, first flew the prototype of it's FIRECAT, fitted with turbo-prop engines . Subsequently Conair converted more than thirty ex-USN S2Fs and ex Canadian CS2Fs for it's own use or for sale to the Saskatchewan and French Governments.

### **The TRACKER 1587 Story**

#### Early Years

CS2F-2 1587 was accepted on 4th April 1960 and taken on RCN strength at that time. It was subsequently flown to CFB SHEARWATER and allocated to VS 880 on 28 November 1961. A

photograph of 1587 with the radome deployed is shown in the attached photograph.

TRACKER 1587's first deployment at sea was on Exercise "FALLEX" in southern waters and entailed visits to Bermuda, Charleston, North Carolina and Quonset Point, Rhode Island. The aircraft also saw service for the 1962 spring cruise, commencing mid-January. TRACKER 1587 participated in almost a month of heavy flying activity until February 5th when a heavy landing and some associated "moderate" damage (starboard wing and engine etc.) curtailed further flying activities.



TRACKER 1587 required three months of work and was sent to the Fairey Aviation overhaul facility to have the damage repaired. The aircraft was placed into stored reserve until once again re-allocated to VS 880 in August, 1962. Routine shore based exercises and work-ups were part of TRACKER 1587's schedule until she sailed aboard HMCS BONAVENTURE en route to Rotterdam, on 17 September.

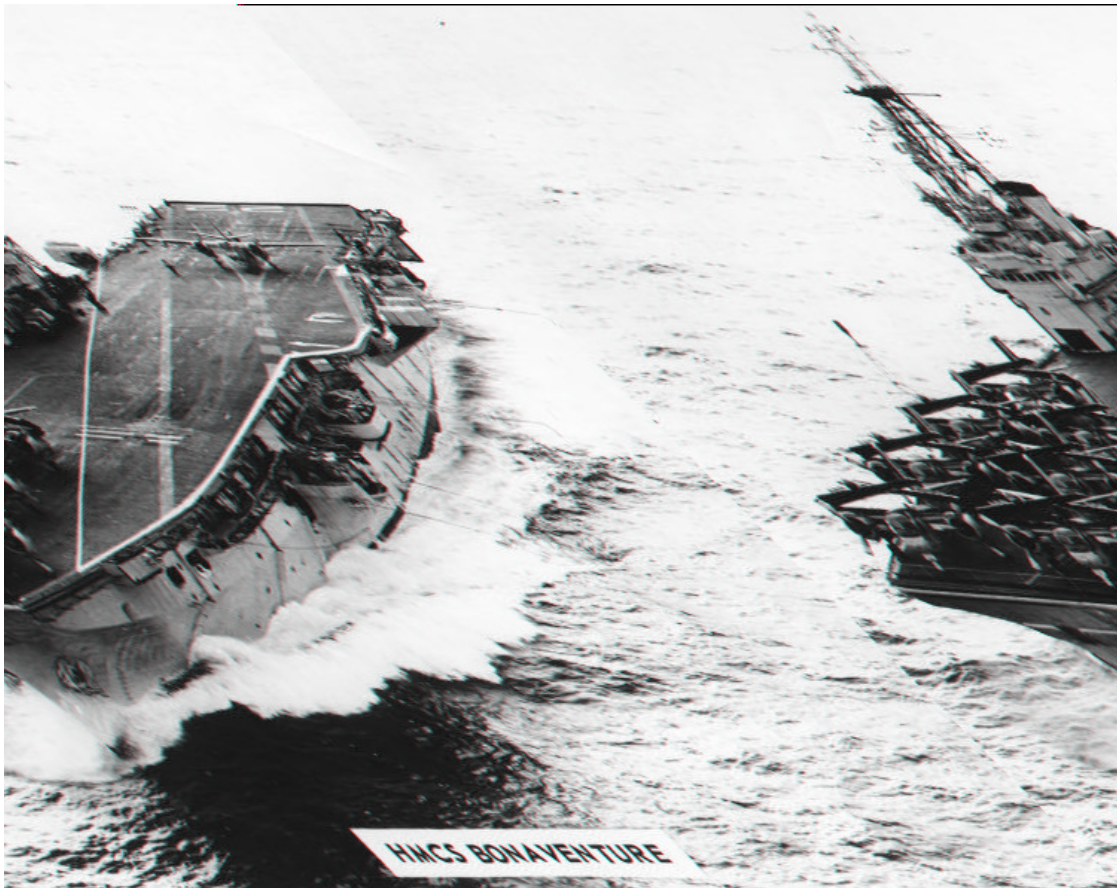
While in transit to Europe TRACKER 1587 was employed in an unscheduled emergency when HMCS BONAVENTURE and all her aircraft became involved in a search for possible survivors of a ditched Flying Tiger Super CONSTELLATION. This aircraft, en route to Germany from the USA with 76 servicemen and their dependents, was forced to ditch in mid-Atlantic after in-flight failure of three of the four engines. Forty-eight survivors were rescued by a merchant vessel in the area and four were transferred by ships-helicopter to the aircraft carrier. The remainder of the trip to Rotterdam was uneventful and after a short stay HMCS BONAVENTURE sailed for Exercise "SHARP SQUALL V1". During this exercise VS 880 kept five TRACKERS continually airborne for 96 hours. Not a record but a pretty good average.

On completion of the exercise HMCS BONAVENTURE and accompanying ships tied up at Portsmouth, England until 23 October when President Kennedy's broadcast heralded the onset of the Cuban Missile Crisis. All ships sailed almost immediately for Halifax, Nova Scotia where they refueled. The fleet was in the process of moving to a support position North of Cuba, as participants in the initial Aquarantine® of the island. When tensions eased HMCS BONAVENTURE with TRACKER 1587 on board were not required and remained in Halifax.

### The Middle Years

In early January, 1963 while HMCS BONAVENTURE commenced a three month refit in St. John New Brunswick, TRACKER 1587 operated out of HMCS SHEARWATER carrying out various crew training exercises including weapons, ASW and instrument training until rejoining HMCS BONAVENTURE in April. After a few weeks Ashakedown® including pilot carrier qualifications (CARQUALS), HMCS BONAVENTURE sailed for southern waters. The first port of call was Charleston, North Carolina from 5 -20 May then to Bermuda for ASW exercises and more operational tactical training.

During this exercise series, while doing a MAD trap at very low level over the sea, TRACKER 1584 caught a wing tip in the ocean and cartwheeled into the sea. The co-pilot and one operator managed to evacuate the aircraft, however, the pilot and other operator perished. After returning to Halifax TRACKER 1587 was allocated to the Air Maintenance Depot for the first 600 hr. inspection, returning to VS-880 on 22 August.



On September 25 HMCS BONAVENTURE with TRACKER 1587 on-board, sailed for Europe. After completing carrier qualifications and carrying out other work-up exercises, the aircraft carrier arrived



off the NE coast of Scotland ready to commence Exercise "SHARP SQUALL". This exercise, the seventh in a series of such NATO exercises, involved 40 ships including 2 aircraft carriers. The setting was the Greenland, Iceland, United Kingdom (GIUK) gap where weapons training and tactical ASW phases took place from October 3-25. In spite of poor weather the TRACKERS were able to locate all seven "enemy" submarines using, for the first time, JEZEBEL relay, a detection system developed by the RCN. This success was much to the chagrin of one Royal Navy Flag Officer who thought the positions of the submarine had been identified to the aircrew beforehand. On completion of the exercise the ship sailed to Bergen, Norway for a few days and then to Portsmouth, England arriving on the 5 November.

On the 21 November HMCS BONAVENTURE sailed from Portsmouth, in the teeth of a gale, en route to Quonset Pt. Rhode Island. However, because of the severity of the weather which included waves breaking over the flight deck of the aircraft carrier several TRACKERS received some damage and a severe salt water soaking. Rather than accept the risk of further damage HMCS BONAVENTURE diverted to Halifax and disembarked the affected aircraft for inspection. VS-880 finished the year conducting carquals from December 6-12 for those pilots who had not made the cruise.

### 1964

On January 16 Exercise "GOOEY DUCK" brought HMCS BONAVENTURE and 14 TRACKERS into the waters off Bermuda to exercise with other Canadian ships including two Royal Navy submarines. During this exercise the carrier was visited by the then Minister of National Defence, Paul Hellyer. During his stay they carried out a "Jack-Stay" transfer of Mr. Hellyer from HMCS BONAVENTURE to an accompanying destroyer. They did not actually dunk him but may have got him wet as he requested that he be transferred to HMCS BONAVENTURE by helicopter rather than take a chance on another Jack Stay transfer!

From Bermuda the ship proceeded to the Mediterranean arriving at Gibraltar on 6 February then to Toulon France. On 18 February Exercise "MAGIC LANTERN" commenced and on completion of this exercise the carrier returned to Halifax arriving on 7 March. The ship immediately commenced loading 95 army soldiers, 54 vehicles and 160 tons of equipment for Peacekeeping duties in Cyprus. Twelve TRACKERS and the ship's rescue helicopter APEDRO were also embarked. The ship departed for Cyprus 18 March arriving in Famagusta 30 March.

On April 1, 1964 the ship weighed anchor and after short stays in Malta and Gibraltar arrived in Norfolk, Virginia 22 April and loaded two United States Navy A4Es SKYHAWK fighters. These small but accomplished aircraft were successfully flown from the aircraft carrier as part of an evaluation leading to the replacement of the F2H-3 BANSHEE. On completion of these trials and with the twelve TRACKERS aboard Exercise "SILEX" commenced using 18 NATO submarines as the "enemy". During this exercise four to six TRACKERS were airborne continuously for five days. On completion of the exercise the flotilla arrived back in Halifax May 14. TRACKER 1587 left the squadron at that time to go into Operational Reserve until allocated to VU-32 on 14 September.

### The Later Years

TRACKER 1587 remained with VU-32 until 16 September 1964 when the aircraft was once again taken on strength by VS-880 and shortly thereafter joined HMCS BONAVENTURE for her next cruise. After sailing on 8 September the ship remained in local waters to re-qualify TRACKER aircrew for day and night operations, then set sail for Portsmouth on 14 September. Enroute to Portsmouth a 48 hr. period of sustained operations was carried out and after some minor training exercises the ship entered Portsmouth harbor for a nine day visit.

The aircraft carrier then proceeded to Plymouth for briefings on NATO Exercise "TOTEM POLE". On October 4 she sailed well into the Atlantic turned around and headed back to Portsmouth, carrying out a convoy exercise enroute. The enemy consisted of a number of submarines, hovercraft and aircraft. It was most successful in that it proved the professionalism of the TRACKER crews while operating

under abominable weather conditions. Following several days rest the carrier set sail for Halifax via Bermuda arriving 19 November 1964.

### 1966

On January 12 HMCS BONAVENTURE set sail for South America as the flagship for the largest Canadian task group ever to visit this area of the world. The first port of call was Trinidad, arriving on 21 January and sailing again on 26 January. They remained at sea until February 26, exercising 16 hours a day during the period, until arriving at Rio de Janeiro on that date. Leaving Rio on 12 February visits were made to Montevideo, Bahai (Salvador) Brazil and San Juan, Puerto Rico before returning to Halifax on March 25. TRACKER 1587 flew ashore and one month later HMCS BONAVENTURE left for Lauzon Quebec for a mid-life refit.

TRACKER 1587 remained at Shearwater with VS-880, until 25 October when taken on strength by VU-32. After only a month the aircraft was sent to Fairey Aviation to be modified to a CS2F-3 configuration. This modification, consisted of the installation of the ASN-501 tactical

computer/navigational system, the APN-503 Doppler radar and improved JULIE/JEZEBEL ASW sensors.



### 1967

Re-configured as a CS2F-3 TRACKER 1587 was allocated to the Aircraft Maintenance Depot in January 67 and subsequently, on October 19, was returned to VS-880. With HMCS BONAVENTURE back from refit it was once again carrier qualification time for the TRACKER pilots. After a period of ASW workups there was a short cruise to Bermuda and back to Halifax on 8 December.

### 1968

On 15 January HMCS BONAVENTURE set course for Bermuda waters for the last part of the month. The 31 January brought some sad news when the Canadian Armed Forces Act was passed into law. Accordingly, the beloved RCN ceased to exist (except in the hearts and minds of those who proudly served in it).

February 9 found the ship in the beautiful harbour of San Juan, Puerto Rico. Shortly thereafter the TRACKERS participated in the annual "MAPLE SPRING" exercise and on completion of this exercise the aircraft carrier and accompanying destroyers sailed to New Orleans, Louisiana for several days. Following the visit the ship participated in several short Caribbean exercises returning to Halifax on March 17.

May 5 found HMCS BONAVENTURE at sea for carquals for some new crews and refreshers for the old hands. A short stay in New York followed and at the beginning of June the carrier and her aircraft became part of Task Group (TG) 26.4 as part of a covering force for Exercise "RACER RUN". Sustained Operations (SUSTOPS) with four aircraft continually airborne for 24 hrs. a day, 7 days a week was the order of the day until June 23 when all were treated to a much needed break in Fort



Lauderdale then back to Halifax on July 3.

On August 28 Exercise "SHOPWINDOW" was held in an attempt to impress a number of Parliamentarians who embarked for a day. After suitably impressing the parliamentarians, the carrier returned to Halifax to offload them and to take on the necessary provisions etc. for the forthcoming European cruise. On September 4 HMCS BONAVENTURE departed for Europe and came alongside at Belfast, Ireland on September 12. They sailed for NATO Exercise "SILVER TOWER" on 16 September and after a most successful ASW exercise dropped anchor in the Firth of Forth on 28 September.

On October 1 HMCS BONAVENTURE sailed for Copenhagen where she remained until 10 October. She then sailed for Portsmouth and subsequently left for Halifax on October 22. Rather than a steady diet of ASW a little variation was injected into the flying program by scheduling a number of rocket, bombing, Carrier Controlled Approaches. Controller exercises were also carried out in transit to Halifax when the ship arrived on October 30, 1968.

### 1969

In January it was once off again to Southern waters and another "MAPLE SPRING" exercise off Puerto Rico. It was after the second visit to San Juan, from 9-14 February that a TRACKER received a "cold shot" catapult shot because of a BRIDLE snapping. After the aircraft hit the water all the crew

escaped but the pilot, who remained standing up in the hatch, was thrown clear when the carrier hit the aircraft and he was carried under the carrier from bow to stern. He was rescued by "PEDRO", the rescue helicopter, but only after losing a leg when passing through the ships propellers while coming to the surface.

After a stop in the West Indies, another "SHOPWINDOW" exercise and a short visit to Trinidad the ship sailed for Halifax. During some rough weather, one aircraft, on a "bolter", hit a parked aircraft, lost four feet of its right wing and after approximately thirty minutes of flight under very difficult circumstances had to ditch, at night, into the sea. The crew was rescued unhurt. The carrier arrived in Halifax on March 21.

On the 3rd April Prime Minister Trudeau announced a new defence policy of a "phased reduction" of Canada's contribution to NATO. Although not specified in this "new defence policy" many suspected that HMCS BONAVENTURE could well be a part of this reduction. Later in the year these suspicions became fact and in essence the death knell for Canadian naval fixed wing aviation was sounded on the above mentioned date.

Because of this possibility the next set of carquals were the most extensive and intensive ever carried out on Bonaventure or, for that matter, any Canadian aircraft carrier during peacetime. Accordingly, it was decided that every pilot in 880 (and some other old "sweats" as well) should be given the opportunity to be re-carqualed or, for first tour copilots, carqualed for the first time. Between August 21 and 26 thirty six crews, plus a few "old sweats," completed in excess of 72 sets of carquals. With the enthusiastic support of Captain Jim Cutts, HMCS BONAVENTURE's Commanding Officer the impossible was accomplished. This feat encompassed 1,224 arrested deck landings and a multitude of catapult launches including a large number of touch and go landings. Furthermore, this was all accomplished without a major incident and every 880 Squadron pilot, including the first army pilot and the first air force Crew Commander, were successfully day qualified. Following this event all Crew Commanders completed their night qualifications.

Subsequently, HMCS BONAVENTURE set sail for Europe on September 8 with a quick Exercise "SHOPWINDOW", for a group of parliamentarians, on the 9<sup>th</sup>. Upon arriving off the West coast of Ireland, she commenced participation in the NATO Exercise PEACEKEEPER.

On the night of September 20, during a SUSTOP in the middle of Exercise "PEACEKEEPER", Cdr. Air and the Squadron Commanding Officer were in the operations room anxiously awaiting news of the arrival of four aircraft at Lossiemouth. These aircraft had been diverted because of weather conditions in the operating area which had gone below landing limits. Shortly after hearing that the aircraft had landed safely at Lossiemouth, Scotland, the joy and relief of this news was quickly replaced by the devastating news heard on the CBC short wave service. HMCS BONAVENTURE was to be decommissioned and scrapped; VS 880 was to be shore based and slated for disbandment.

This was a blow to everyone, who had been working like Trojans around the clock. It was now obvious that the end of an era was emerging on the horizon, much to the dismay of everyone connected with naval aviation. However, in the usual professional, efficient and successful fashion HMCS BONAVENTURE and 880 Squadron completed exercise "PEACEKEEPER" with only one minor accident during the entire exercise.

On completion of this exercise a visit was made to Rotterdam between September 25-29. It was during this period that the Squadron received official news of the impending disbandment and the Squadron C.O. informed all Squadron members. Further that the first phase of this politically proposed disbandment was to be a 1/3 reduction in unit strength. In spite of this bad news the flying did not suffer as everyone settled in to relish their last few trips off the carrier. Prior to sailing for home HMCS BONAVENTURE made a couple of quick trips to Oslo and Portsmouth. On October 28, shortly before arriving in Halifax, the last operational night landing was carried out in TRACKER 1596.

All aircraft, including TRACKER 1587, flew ashore on October 29 and the aircraft carrier came

alongside in dockyard to remain there for the month of November. At the beginning of December the aircraft carrier carried out a short Christmas cruise to Boston, Massachusetts and returned December 12.

### The Finale

As HMCS BONAVENTURE approached Halifax, early that morning, a final number of touch and go landings was carried out. Fourteen TRACKER aircraft, including TRACKER 1587 participated in a "daisy chain" type circuit carrying out touch and go landings for the best part of an hour. Included in this "exercise" was Admiral O'Brien riding as co-pilot with the Squadron CO. On completion of this session ten TRACKERS proceeded to Shearwater, two recovered on board and two remained in the circuit. In one aircraft was Cdr. Shel Rowell and Capt. APop@Fotheringham. (Pop was the first RCN pilot to land on board HMCS BONAVENTURE following initial commissioning) . Admiral O'Brien and Cdr. David Tate were in the second aircraft. The plan was that the two aircraft would do a few more touch and go landings; after the Admiral and Tate "trapped" Fotheringham and Rowell would make the final arrested landing.

This took place as planned and the last landing by Fotheringham was duly recorded as #20,590. On completion of this final landing Bonnie proceeded towards Halifax harbour. As HMCS BONAVENTURE sailed up the harbour the 4 TRACKERS remaining on board would spread and then fold their port wings in a symbolic salute to Admiral O'Brien who had previously flown ashore and was awaiting the sail past at the reviewing stand ashore. The TRACKERS were then to be catapulted from the ship in the vicinity of Georges' Island and join up with 16 other orbiting TRACKERS for a fly past. However,

due to a catapult unserviceability these plans had to be adjusted. There remained two alternatives to launching the four remaining TRACKERS from HMCS BONAVENTURE. They could be craned off and moved by barge or they could be flown off by using a "free deck" launch.

Captain Cutts recognizing the importance and significance of the occasion proposed they be launched in Bedford Basin, a novel idea. Accordingly, "cranking" up all the knots he could, while circling within the confines of Bedford Basin

Captain Cutts was able to obtain sufficient "wind across the deck" to launch one aircraft each time the ship settled, briefly, on a predetermined launch course. After the fourth circle around Bedford Basin the last free launch of an aircraft from an RCN carrier became history. It was a performance never before accomplished and never again to be attempted.





This was the "Grand Finale" for HMCS BONAVENTURE and RCN fixed-wing carrier operations which had been accomplished with pride, dedication and professionalism over 23 years. Such performance would never have been possible without the devoted and skilled efforts of all who sailed in this magnificent ship. However, a very special tribute must be made to all the men who kept the aircraft

flying, the air maintenance trades, and those who took care of them on the flight deck, the aircraft handlers.

## ERA OF THE CANADIAN CARRIERS (1946 - 1970)



As an epilogue and a tribute to carrier aviation the following words, written by an unknown aviator, can best sum up the feelings of all those who participated:

*"It gave us moments of fear and loneliness, kinship and challenge, joy and sorrow, pride, tragedy and triumph. It became part of us then and is part of us now. It will be with us til the end of our days----THE CARRIER EXPERIENCE."*



### 1970---1974

With the carrier gone and the government announcement that MR 880 would be disbanded it appeared that TRACKER 1587 and the squadrons days were

numbered. However 880 Squadron would not roll over and play dead as everyone on the squadron, plus some other "believers" at CFB SHEARWATER and MARCO, knew that the TRACKER could play useful and important shore based role. Accordingly, with a squadron of superbly trained, dedicated and competent aircrew and ground crew, the squadron embarked on a campaign to convince the decision makers that 880 and its TRACKERS could still make a meaningful and essential contribution to MARCOM's roles. Through a variety of P.R. maneuvers, submission of staff papers and countless briefings to anyone who would listen, VS 880 set about to prove that the TRACKER remained a useful and versatile vehicle in many roles. To name a few: coastal surveillance, sovereignty protection, ice patrols, fisheries protection as well as inshore ASW.. These efforts were successful and the decision to retire the TRACKER fleet was rescinded in 1970. This decision was further reflected in the 1971 White Paper when VS 880's primary tasking became coastal surveillance and fisheries protection.

Prior to this decision, however, TRACKER 1587 left MR 880 in January 1970 and became part of the VU 33 unit establishment at Patricia Bay on the west coast, performing tasks similar to those of VS 880 at CFB SHEARWATER. In June 1970 TRACKER 1587 was changed to CP 12187. Subsequently the aircraft provided support to the Pacific Coast Fleet as well as support of underwater weapons trials at the Nanoose, British Columbia underwater acoustic range, police support, spotting for firefighters and search and rescue.

### 1974--1978

In April 1974 TRACKER 1587 left VU 33 and once again took up residence, for a few months, with CFB SHEARWATER. Shortly thereafter TRACKER 1587 was once again on the Unit Establishment of VS 880 (subsequently MR 880 in early 1975) performing all of the tasks previously mentioned . TRACKER 1587 remained with MR 880 until Feb. 1976 when she was allocated to Air Reserve Squadron (ARS ) 420. In June 1976, along with a number of other TRACKERS, 1587 underwent some upgrade modifications for its new roles . These included removal of the tactical navigation system, the arrester gear, new radar, upgraded communication and navigation systems and a day/night photo capability.

#### 1978--1990

In October 1978 the aircraft was returned to MR 880 and in June 1981 the squadron re-located to CFB SUMMERSIDE performing identical roles to those conducted at CFB SHEARWATER. TRACKER 1587 remained at CFB SUMMERSIDE until it was donated to the Canada Aviation Museum and flown to Ottawa 2 April 1990. Until 1998 the aircraft remained in flying condition, having its engines run and wings spread once a year. Because of the excessive maintenance requirements necessary to be able to perform these operations the yearly run-up was discontinued.

TRACKER 1587 remains one of the museums most cherished possessions .

### Commanding Officers of TRACKER Squadrons

	<u>Name</u>	<u>From</u>	<u>To</u>
<b>VS 881</b>			
Lieutenant Commander	H. J.G. Bird	Nov. 1956	Apr. 1959
Commander	W.H. Fearon	Apr. 1959	Jul. 1959
<b>VS 880</b>			
Commander	H.D Buchanan	Sep. 1957	Feb. 1960
Commander	W.H. Walton	Feb. 1960	Aug. 1961
Commander	D.M. Macleod	Aug. 1961	Apr. 1963
Commander	R.C. Maclean	May 1963	Aug. 1965
Commander	R.L. Hughes	Aug. 1967	Jul. 1969
Commander	D.H. Tate	Jul. 1969	Jul. 1971
Commander	G.E. Forman	Jul 1971	Jul. 1973
Commander	J.M. Stegen	Jul. 1973	Jul. 1975
Lieutenant Colonel	R.G. Armstrong	Jul. 1975	Jun. 1977
Lieutenant Colonel	R.C. Bennett	Jun. 1977	Jun. 1979
Lieutenant Colonel	R.A. Holden	Jun. 1979	Oct. 1981
Lieutenant Colonel	C.F. Poirier	Oct. 1981	Sep. 1983
Lieutenant Colonel	J.E. Gibbon	Sep. 1983	Jul. 1986
Lieutenant Colonel	P.S. Tanton	Jul. 1986	Jul. 1988
<b>VU 32</b>			
Lieutenant Commander	A.T. Bice	Feb. 1957	Apr. 1959
Lieutenant Commander	G.D. Westwood	Apr. 1959	Aug. 1961
Lieutenant Commander	S.R. Linqvist	Aug. 1961	Aug. 1963
Lieutenant Commander	R.H. Williamson	Aug. 1963	Jul. 1965
Commander	D. Ross	Jul. 1965	Dec. 1966
Commander	R.A Lyons	Dec. 1966	Dec. 1969
<b>VU 33</b>			
Lieutenant Commander	R.A. Shimmin	Aug. 1956	Aug. 1958
Lieutenant Commander	A.J. Woods	Aug. 1958	Jul. 1961
Lieutenant Commander	S.E. Soward	Jul. 1961	Jul. 1963
Lieutenant Commander	A.A Schellinck	Aug. 1963	Aug. 1965
Lieutenant Commander	C.A. Borque	Aug. 1965	Apr. 1967
Lieutenant Commander	E.A. Myers	Apr. 1967	Jul. 1970
Lieutenant commander	G.D. Westwood	Jul. 1970	Jul. 1973
Major	D.R. McNab	Jan. 1973	Jul. 1975
Major	J.M. Arnold	Jul. 1975	Jul. 1978
Major	J.E. Gibbon	Jul. 1978	Jul. 1981
Major	D.R. Purcell	Jan. 1981	Jan. 1983

**Commanding Officers of TRACKER Squadrons (Con=t)**

	<u>Name</u>	<u>From</u>	<u>To</u>
<b>VX 10</b>			
Lieutenant Commander	J.C. Sloan	Nov. 1956	Apr. 1959
Lieutenant Commander	B.W. Mead	Apr. 1959	Jul. 1962
Commander	S.W. Rowell	Jul. 1962	Aug. 1965
Lieutenant Commander	R. Heath	Aug. 1965	Jan. 1968
Lieutenant Colonel	K.M.Meikle	Jan.1968	Jun. 1970

**R.C.N. Naval Aviators Who Flew TRACKER 1587**

<b><i>Surname</i></b>	<b><i>Initials</i></b>
Allan	Thomas Steele
Anscombe	Richard John
Arnold	John Martin
Arnott	John
Bailey	Thomas Andrew
Barbeau	Andre Joseph.
Bays	Rodney Victor
Bennett	R.C.
Beutel	Harry Walter
Bissel	Robert Dickson
Bourret	Gilles Roger
Breckenridge	William Phillip
Brown	Robert Campbell
Brygadyr	Stanley William.
Byrne	Thomas Richard
Cantlie	James Stephen
Coffen	Charles Clayton
Copeland	Thomas Henry
Cowper	Raymond Hardie
Dall	William Patrick
Davis	Richard Bedford
Duncan	A.ngus
Edwards	Gordon Lewis.
Eliason	Kenneth Albin.
Field	A.mbrose Joseph
Fischer	Hugh Carl
Forman	George Edward
Fox	Alexander Edward
Fuoco	William John
Gallant	Joseph Isadore
Gibbon	Jamed Edward Henry
Goodfellow	Fredrick William
Grimson	Joseph Leslie Louis
Guest	James Thomas
Hallas	Fredrick J.
Halliday	Anthony James
Heath	Ron
Horner	Albert Ralph
Horseman	Brock Curtis
Hughes	Robin Laughlin
Jarret	Albert Lloyd
Jasper	Alvin Keith
Kennedy	John Kinross
Lambert	Thomas Walter
Linguist	Stewart Ross
Loney	Ffredrick Gordon
Lott	Larry Gordon
Lourme	Ernest Patrick



## R.C.N. Naval Aviators Who Flew TRACKER 1587

<b><i>Surname</i></b>	<b><i>Initials</i></b>
MacLeod	Donald Mac Gregor
Maxwell	Donald Ernest
McBride	Donald Jeffrey.
McBurney	Robert.
McGee	John Ernest.
McIntosh	Alan St.John.
Mead	Bert William
Millar	K.enneth Bruce
Miller	Vernon Ralph
Moffat	William John Bingham
More	Gerald Arthur
Munro	William Donald
Nash	William Hardy.
Neilsen	Arthur R.
Nielsen	Eric
O=Connell	Cornelius Joseph
Ouellette	Richard H.
Poirier	Charles F.J.
Postma	Wessel
Pyper	Roger Michael
Quirt	Ronal Earl
Rhode	Norman Russel
Robertson	Neil Stuart
Ross	Douglas
Rowell	Sheldon MacDonald
Rygh	Peter Roald Francis
Saunders	Gary Rollitt
Schellinck	Anton Albert
Shepherd	Gilbert James
Skinner	James
Smith	Edward Walter
Smith	Calvin Albert
Sosnkowski	Joseph
Stegen	James William
Thoms	Charles Robert Hunter
Tough	James Robert
Tucker	Anthony Terry
Turner	Thomas Wright
Vallee	Jacques J.
Walker	R.B.
Wallace	Donald MacDonald
Walper	K.enneth L
Washbrook	Larry Henry
Westwood	George Douglas
Willis	Frank Cecil
Worth	W.C.Brian
Youngson	Francis Gary