CANADA AVIATION MUSEUM AIRCRAFT

BOEING-VERTOL CH-113A LABRADOR
CANADIAN ARMED FORCES SERIAL 11301

By Donald R. MacNeil
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Canada Aviation Museum Exhibit  
Boeing-Vertol  CH-113A Labrador  
Canadian Armed Forces Serial No. 11301

Introduction

Beginning in 1963, the Canadian air force and army began receiving new turbine powered helicopters. The helicopters selected were two Canadianized versions of Boeing’s CH-46A Sea Knight, a proven workhorses of the United States Marine Corps and US Navy. The air force received six utility models beginning in 1963 for their search and rescue (SAR) role and which were designated the CH-113 Labrador. Twelve aircraft designated the CH-113A Voyageur were delivered to the army beginning in 1964 to meet their tactical airlift role.

The Canada Aviation Museum’s Boeing-Vertol, CH-113A Labrador (originally a CH-113) Serial Number 11301 helicopter had a long and distinguished career in meeting the needs of the Canadian Armed Forces (CAF) and the Canadian people. It was purchased in 1963 and was the first turbine powered helicopter acquired by the Royal Canadian Air Force (RCAF) serving primarily in the SAR role. Retired in 2004, the museum’s aircraft was also the last of its type in service in Canada. It had thousands of missions to its credit and 17 625 hours on the airframe. During its service life, No.11301 was involved in many life-saving search and rescue missions, some of which are described here, as well as a brief outline of its development and service history up to its transfer to the Museum 27 July 2004.

It should be noted that the Labrador and Voyageur shared a common two digit serial number prefix within the serial range assigned to each aircraft. The Labrador was assigned CAF serial numbers 10401 to 10406 and the Voyageur 10407 to 10418. In December of 1971 at the time of the Labrador and Voyageur rebuild program described later in this document, the range was changed by the CAF to serial numbers 11301 to 11318. Thus the museum aircraft originally numbered 10401 was later re-numbered 11301.

Cover photo caption:

CH-113 Labrador, CAF Serial 113301, being shut down for the final time following its arrival at the Canada Aviation and Space Museum on 27 July 2004. (Bill Upton Photo).
Origin, Development, Manufacture, and Evolution of the Aircraft

Boeing Helicopters Background

- The creation of Boeing-Vertol began when the Vertol Aircraft Corp. (formerly the Piasecki Helicopter Corp.) was acquired by Boeing in 1960.
- The Boeing Helicopters name was adopted in 1987 when Boeing acquired McDonnell Douglas and merged the former Mesa, Arizona operations of Hughes Helicopters into Boeing Helicopters.
- Boeing Helicopters is now part of Integrated Defence Systems, a division of the Boeing Company.

Boeing-Vertol – CH-113 and 113A Variant Origins

Designed and manufactured by the Vertol Division of Boeing Corp., the CH-113 and CH-113A are Canadian variants of the CH-46A Sea Knight helicopter, a medium lift, assault helicopter, used by the United States Navy for shipboard delivery of cargo, personnel, and for search and rescue. The CH-46E is also used by the United States Marine Corps to provide all-weather, day or night assault transport of combat troops, supplies and equipment.

The CH-46 Sea Knight was first procured in 1960 under the old designation of HRB-1 to meet the medium-lift requirements of the United States Marine Corp. The final production version was the CH-46F. In all, 524 CH-46s were produced for the U.S. Navy and Marine Corps. The last American Sea Knight rolled off the assembly line in February of 1971.
Canadian Forces Acquisition

In the late 1960s, the Department of National Defence (DND) purchased new medium-lift helicopters for both the Royal Canadian Air Force and the Canadian Army. These new helicopters were acquired to replace an ageing fleet of CH-125 Vertols (designated H-21 Piaseckis prior to integration of the Canadian Armed Forces (CAF) and later converted to H-44Bs) serving both forces, as well as a fleet of Grumman Albatross, fixed-wing, amphibious aircraft used by the RCAF for SAR work. Both were becoming obsolete with the advent of gas turbine powered helicopters and aircraft.

![RCAF CH-125 Vertol (H-44B) (Bill Upton Collection)](image1)

![Grumman Albatross (DND Photo)](image2)

The museum aircraft was the first of the six CH-113 Labrador helicopters delivered to the RCAF beginning in 1963. During their service life Labradors were based at Canadian Forces Bases Greenwood Nova Scotia, Trenton Ontario, Comox British Columbia and Gander Newfoundland. The museum’s aircraft was the first and last CH-113A to serve with the Canadian Armed Forces.

Twelve cargo versions were delivered to the army beginning in 1964. They were used for training and to form a transport helicopter platoon at the Canadian Joint Air Training Centre, Rivers, Manitoba. These were designated the CH-113A Voyageur.

Both the Voyageur and the Labrador were powered by two axial flow, 1,250 shaft horsepower, General Electric T58-GE-8B turbo-shaft engines, mounted side by side in the aft pylon area and separated by a stainless steel firewall.

The CH-113 Labrador, however, was equipped with two larger capacity external fuel sponsons each with a capacity of 1,706 L (375 Imp.Gals) giving a longer range of 1,050 km (650 miles).

All aircraft were later re-manufactured to the new CH-113A specification.
CH-113 and CH-113A CONVERSION AND UP-DATE

In 1975, international negotiations regarding the extent of Canadian national territorial waters resulted in Canada extending it's off-shore boundaries to 370 km (200 nautical miles). This put strains on the air force SAR capabilities, requiring the six CH-113s to cover a vastly larger search area. As well, with unification of the Canadian Armed Forces and the creation of Air Command in 1975, the army needed a more capable transport helicopter. This was met by replacing the army's Voyageur helicopters with the Boeing CH-47C Chinook.

To provide the air force with more aircraft for the expanded SAR role, it was decided to re-manufacture the twelve army Voyageurs and the six RCAF CH-113's to a new CH-113A specification.

As part of this two step program, Labrador's were to receive the Voyageur's hydraulics and Auxiliary Power Unit (APU). The hydraulic upgrade allowed for a more powerful rescue hoist and the ability to power down the aft ramp.

The Voyageur's received the Labrador's two larger 1,706 L (375 Imp. Gal.) fuel sponsons, Omega weather radar and an auto-hover capability among the many modifications carried out. After modification, all aircraft were designated as CH-113A Labradors, regardless of their origin.

Boeing Canada Ltd. of Arnprior, Ontario was selected to carry out these modifications and the entire program took five years to process all 14 aircraft.

Phase One, the “Interim Avionics Program”, included a complete rebuild of the cockpit and new electronic systems which included VHF/FM marine band radios, weather mapping radar and improved IFR capability. The museum's aircraft, Serial Number 11301 was the lead airframe to begin this refit on 1 May 1978 and when finished was returned to it's base, 103 Rescue Unit in Gander where it received rave reviews by squadron personnel.
Phase Two was called the “Search & Rescue Capability Upgrade Program (SARCUP)” and was developed to include modifications which would better equip this aircraft for the SAR role. Modifications included a new front door hoist, weather radar and new cockpit instrumentation. All of the aircraft were given a new high visibility yellow paint scheme and placed in CAF service for their expanded SAR role. This modernization program resulted in a much more capable helicopter for the SAR role and a larger aircraft fleet allowing the air force to cover all of the new 370 km (200 nautical mile) Canadian off-shore territorial limits.

**Detailed Specifications**

**CH-113A Labrador Ser. No. 11301**

**Type:** Twin-engined transport helicopter.

**Rotor System:** Two, three-blade rotors in tandem, rotating in opposite directions. Blades can be manually folded for storage. The *Labrador* incorporates electrical rotary wing de-icing.

**Rotor Drive:** Engine power is transmitted from each engine through individually-overrunning clutches into the aft transmission which combines the engine outputs to an interconnecting shaft which enables both rotors to be driven by either engine.

**Fuselage:** Square-section, stressed-skin, semi-monococque structure built primarily of high-strength bare alclad aluminium alloy.

**Landing Gear:** Non-retractable tricycle type with twin wheels on all three units and oleo-pneumatic shock absorbers.

**Power plants:** Two 1,500 shaft horse power General Electric T58-GE-100 (upgraded in 1997 from the original T58-GE-8Bs) shaft-turbine engines mounted side-by-side at the base of the rear rotor pylon and separated by stainless steel firewalls. The engines are positioned horizontally with exhaust casings positioned aft. An engine, complete with accessories, weighs approximately 154 kg (340 pounds). An engine and rotor transmission system permits single engine operations in the event one of the two engines fail.

**Fuel Capacities:** Two self-sealing fuel tanks in sponsons, with total capacity of 1,706 litres (375 Imp. Gallons). Refuelling points are located above the tanks. Total oil capacity is 16 litres (3.5 Imp gallons).

**Amphibious Fuselage:** The *Labrador* is a true amphibious helicopter with a watertight hull. This makes marine landings not only possible but very stable with the ability to float for over two hours even in rough waters. The all aluminium metal fuselage is of semi-monococque construction and incorporates a rear-loading ramp, a front-side, split stair-door, two rescue hoists, an 5,000 kg (11,000 lbs) cargo hook. The power operated, rear loading ramp is operable on the ground or in flight and permits long objects to be air lifted internally or discharging of payloads in flight.. The fuel cells, located in the rear landing gear stub wings, have a fuel capacity of 1,703 l (375 Imp. Gal.) each. The stub wings provide lateral stability for water landings.
**Landing Gear:** The landing gear consists of two main gear assemblies and one nose gear assembly fitted with dual wheels which can swivel a full 360 degrees.

**Accommodation:** Standard accommodation is provided for two pilots in the cockpit. The rear compartment provides seating for 18 people. In the SAR role, the *Labrador* is operated by a crew of five. This includes two pilots, a Flight Engineer and two Search and Rescue Technicians (SARTechs). A door at the front of the passenger compartment on the starboard side is of a split type: the upper half rolls on tracks to a stowed position in fuselage crown; the lower half is hinged at the bottom and opens outward, with built-in steps. A loading ramp at rear of fuselage is 1.8 meters (6 feet) high and 1.8 meters (6 feet) wide which allows maximum flexibility in that it can be used in flight or on the water!
**Electronics:** Instrument-flying instrumentation is provided. Communication and navigation gear includes very high frequency radio, AM/FM radio, ultra high frequency radio, Global Positioning Satellite Navigation System, Tactical Air Navigation System, Automatic Direction Finder, HF, BENDIX weather radar (the radome on the nose of the helicopter) and IFF (Identify Friend or Foe - radar identification system).
Optional Equipment: Includes cargo hook, powered winch and floor hatch for external cargo or rescue work, and a NightSun external searchlight.

Systems: The cabin is heated by a Janitrol combustion heater. The hydraulic system provides 105 kg/cm² (1,500 lb/sq in) pressure for flying control boost, 210 kg/cm² (3,000 lb/sq in) for other services. Electrical system includes two 40 kVA AC generators and a Leland 200A DC generator. An auxiliary power unit (APU) manufactured by Solar provides power for aircraft starting and systems check-out.

Flying Characteristics: Flight controls include a dual stability augmentation system (SAS) to aid the pilot by stabilizing the aircraft on three axes: longitudinal (pitch), lateral (roll), and directional (yaw). It gives the helicopter handling characteristics similar to a fixed wing aircraft and make it very suitable for operation under instrument flight conditions by assisting the pilot in maintaining stable aircraft control in adverse weather conditions.

In level flight, automatic corrections made by the SAS continuously fly the aircraft without the pilot having to constantly change position of the flight controls in the cockpit to maintain the desired flight path. In the event either system fails, one half of the system will shut down and full control is assumed by the remaining system, regardless of selector position in the cockpit.
External Dimensions

- Diameter of main rotors (each): 15.24 m (50 ft 0 in)
- Distance between rotor centres: 10.16 m (33 ft 4 in)
- Length overall, blades turning: 25.4 m (83 ft 4 in)
- Length of fuselage: 13.7 m (44 ft 10 in)
- Width, rotors folded: 4.4 m (14 ft 6 in)
- Height to top of rear rotor hub: 5.1 m (16 ft 8 1/2 in)
- Wheel track: 3.9 m (12 ft 10 in)
- Wheelbase: 7.6 m (24 ft 10 in)
- Passenger door: Height 1.6 m (5 ft 3 in); Width 0.9 m (3 ft 0 in)

Internal Dimensions

- Cabin, excluding flight deck:
  - Length 7.4 m (24 ft 2 in)
  - Normal width 1.8 m (6 ft 0 in)
  - Max height 1.8 m (6 ft 0 in)

Weights and Loadings

- Weight empty, equipped: 4,868 kg (10,732 lb)
- Basic operating weight: 5,104 kg (11,251 lb)
- Mission Take-Off weight: 8,797 kg (19,394 lb)
- Max Take Off and landing weight: 9,700 kg (21,400 lb)
- Max disc loading: 26.6 kg/m² (5.45 lb sq ft)
- Max power loading: 4.0 kg/shp (8.77 lb/shp)

Performance at All Up Weight of 8,797 kg (19,394 lb)

- Maximum permissible speed: 300 km/h (186 mph)
- Max cruising speed: 256 km/h (159 mph)
- Average cruising speed: 241 km/h (150 mph)
- Econ cruising speed: 237 km/h (147 mph)
- Max rate of climb: 442 m (1,450 ft)
- Service ceiling: 4,850 m (15,900 ft)
- Service ceiling, one engine out: 335 m (1,100 ft)
- Hovering ceiling in ground effect: 3,090 m (10,150 ft)
- Hovering ceiling out of ground effect: 6300 ft (1920 m)
- SAR Range: 926 km (575 miles)
- Ranges with 2,720 kg (6,000 lb) payload to hover in ground effect at 4,070 m (13,350 ft), 10% fuel reserve: 139 km (86 miles)
CH-113A Strengths as a Search & Rescue Platform

The Labradors were much loved by the crews who maintained and flew them. The key attributes which endeared them to pilots and crew were as follows:

**Amphibious Hull** The amphibious hull permitted the aircraft to land on water, but it could also taxi in rough water, force-land on water, open either the rear cargo ramp with the water dam in place or the side door all without fear of rolling over or sinking. In fact several CAF Labradors, which had to be ditched due to mechanical problems, did so without the loss of the aircraft or crew members. In one case the crew was able to water taxi the aircraft to shore under its own power.

![Labrador 11301 in original RCAF 10401 service number and colours landing on water (DND PCN67-908 and DND](image)

Since the rear cargo ramp could also be opened even with the aircraft floating on the water, the SARTechs could launch inflatable boats from the rear cargo ramp to retrieve victims or ferry personnel or material to other boats or locations not accessible by the helicopter.

**Tandem Rotor** The tandem rotors essentially eliminated the aircraft’s sensitivity to wind direction in the hover configuration. Tail rotor configured helicopters are especially hard to handle when the wind is coming from directly behind the tail. The Labrador's tandem rotor configuration made it very stable and easier to handle in high wind situations when hovering over something like a rolling or pitching ship in high wind and sea states regardless of wind direction.

The tandem rotors also meant that no engine power was lost to drive a tail rotor that only provided directional control and not lift.

**Rescue Hoist Position** The hoist position was right behind the right-hand seated pilot making it easier for the pilot to position the aircraft over a rescue site. The hoist drive mechanisms were originally electric and tended to overheat. These were replaced during the refit program with hydraulically driven hoist motors thereby improving reliability and winch power.
**Gentler Rotor Downwash** For rescue victims being lifted on the hoist and the SAR Tech’s who sometimes had to enter the water or deploy on the ground, the softer down-wash from a tandem, three blade rotor system provided a less hazardous environment when entering or leaving the aircraft in flight.

**Centre Split “Dutch” Cabin Door** The side cabin door is a “Dutch-door” design that allows the bottom half of the door to remain closed while the top half was open. This served both as a safety feature for the winch operator who could keep the bottom half closed until it was necessary to recover a rescue victim from land or water. It also preserved a watertight condition with the bottom half closed on water (see righthand photo on previous page). It also helped aircraft ventilation when on the ground. The bottom half with it’s integral stairs served for boarding the aircraft when lowered.
**Labrador Number 11301 Service History**

The next section provides a few summaries of rescues completed by this aircraft to highlight the challenging conditions of SAR missions which are often conducted in the worst weather conditions and often hundreds of miles out over the open ocean. SAR missions involve emergencies ranging from medical evacuations, flood relief operations, victim recovery from downed aircraft to rescues of seaman from life rafts or sinking ships rolling and awash in the open ocean.

11301 was acquired by 103 Rescue Squadron based at Canadian Forces Station Gander, Newfoundland from 413 Squadron of CFB Greenwood, Nova Scotia. It served much of its service life there before finishing its career with 424 Squadron at CFB Trenton, Ontario until it was retired to the Canada Aviation Museum on 27 July 2004.

**103 Squadron Background**

103 Search and Rescue Flight was established in Dartmouth, Nova Scotia (N.S.) on 1 April 1947. That same year it moved to Greenwood and three years later it was renamed 103 Rescue Unit (RU).

In the 1960s, while at the Greenwood base, the Squadron purchased Albert, a rescue dog, as a mascot from a barber in Nova Scotia. Later the Unit adopted "Albert," the Saint Bernard Rescue Dog for its crest. Today he adorns the Squadron's badge. His goal is the same as those who serve 103 squadron, whether on the ground or in the air: To "seek and save". The squadron also took on the motto "Seek and Save" – which made a suitable symbol for the Unit's search and rescue role.

To alleviate crowding at CFB Greenwood caused by the integration of the CAF in the mid 1960’s, the Unit was moved in July of 1968 to Summerside, Prince Edward Island and was renamed 413 Transport and Rescue Squadron. It was disbanded in 1969 and for the next eight years, remained dormant. It was resurrected in 1977 in Gander, Newfoundland to meet the unique search and rescue demands of the frigid North Atlantic. It has been stationed in its permanent hangar on the grounds of the Gander International Airport since then.

103 Rescue Unit was granted squadron status in March 1997 and suitably renamed "103 Search and Rescue Squadron." In June of that year, His Royal Highness, Prince Philip presented the Squadron with its Standard.

**Sample Rescue Missions**

*Labrador* 11301 was a key resource involved in many harrowing rescue missions during its time with 103
Squadron. The following are but a few examples of the missions which 11301 and her highly trained crews played a key role. It should also be noted that without the essential skills and professionalism that ground crews demonstrated in maintaining the aircraft in a high state of readiness, the flight crews could always depend on launching and executing their mission in "dark and stormy night” conditions in which these rescue missions were often executed.

**MV William Carson Rescue Mission**

On the evening of 2 June 1977, the passenger ferry William Carson was navigating through ice flows near the Labrador coast. The ship was carrying 91 crew members and 37 passengers to Goose Bay. At the time, seas were calm and visibility was good.

Shortly after 20:00 hours and 29 km (18 miles) off the Square Islands, Labrador, the engine room reported to the bridge that they were taking on water through a hole in the starboard side. All pumps had been activated to evacuate the water but were not able to stay ahead of the flooding. At 21:43 hours, the Captain sent off a "Mayday" giving the ships position, advising that his ship had hit an iceberg and that the ship was in danger of sinking. Soon afterwards, he reported that he was giving the order to abandon ship.

All eight lifeboats were launched and safely pushed away from the stricken ferry. Three hours later they watched their ship sink beneath the ice into 180 meters (600 feet) of North Atlantic water.

A CAF Argus CP-107 aircraft from CFB Summerside was the first rescue resource to arrive on scene followed by a CAF Buffalo aircraft. The aircrew soon reported that all 128 people had survived the sinking and were adrift among the ice flows in lifeboats. At 21:00 hours the 103 Squadron standby Labrador helicopter, "Rescue 301" was airborne and heading directly to the scene, from Gander, Newfoundland. Rescue 301 was crewed by Major Hayes, Captain Decasse, Master Corporals Halton and Rollings, Sergeant Smith and Corporal Clark.

Working with the Buffalo which was flying top cover, Rescue 301 located all the survivors at the scene and landed on a nearby ice floe. A SAR Tech was left on the ice to assist those in need of medical attention. Twenty passengers were evacuated by Rescue 301 to hospital at Mary's Harbour, Labrador. An additional Labrador, Rescue 306, crewed by Captain Wilson, Captain Smith, Corporal Grey, Sergeant Clark, Sergeant Wood and Master Corporal Pilgrim was airborne two hours after 301. Rescue 306 picked up 22 survivors from the ice and took them to the hospital in St. Anthony, Newfoundland. At approximately 03:00 hours, before the helicopters could return, the Canadian Coast Guard Ship "Sir Humphrey Gilbert", which was 72 miles away when the first distress call went out, arrived at the ice floes and gathered up those remaining survivors.

All parties involved brought all 128 originally aboard the ill fated ferry safely to shore although some 4432 cases
of beer that the ship was carrying to Goose Bay went down with the ship.

**MV Bill Crosbie Rescue Mission**

The 1,600 ton Canadian freighter *Bill Crosbie*, en route from Montreal to Ireland, issued a distress call on 4 January 1980. She was approximately 804 km (500 miles) east of St. John's, Newfoundland, and the cargo had shifted giving the vessel a severe list in strong winds and high seas.

Fourteen of the 17 man crew abandoned ship in a lifeboat and were picked up by the ocean-going tug *Hirtenurm*, which also took the *Bill Crosbie* in tow. Three days later, 103 Rescue Unit received a call from the Rescue Coordination Centre in Halifax to retrieve the three men now stranded on the ship because the weather conditions were now worse than ever. *Rescue 301* was dispatched 15 minutes after receiving the call from Halifax and headed east toward the stricken ship, still some 482 km (300 miles) east of St. John's.

Unable to make the return trip without refuelling, 301’s aircraft commander, Captain Rudy Preus, decided to land on the oil rig *Sedco 709*, drilling 315 km (196 miles) off the coast, where fuel was provided for the *Labrador* helicopter. Upon reaching the MV *Bill Crosbie* the 103 rescue unit crew reported a list of 55 degrees, complemented with a rolling motion from forty foot waves, which at times caused the funnels to become partially submerged. Through skill, hard work, and determination, the helicopter crew safely hoisted the three stranded men aboard and returned to dry land after one more fuel stop on the rig.

Two days later on 9 January, 1980, the *Crosbie* arrived in St. John’s harbour in what appeared to be the end of a dramatic rescue and towing operation. However, some six hours after being berthed at Pier 16 the ship took a further list, rolled over on her port side, and sank in about 12 meters (40 feet) of water.

**Portuguese Factory Ship Maria Teixeira Vilarino Rescue Mission**

On 4 September 1980, the Portuguese factory ship *Maria Teixeira Vilarino*, pushed by high winds reaching 140 km/h (85 mph), dragged her anchor onto a reef near Black Tickle, Newfoundland. The lives of 64 men were now at risk. A shore party managed to bring 35 crew members to shore by breaches buoy before *Labrador 11301*, flown by Captain. Mike Clarke and co-pilot Captain. Mark Levesque, along with SAR Tech Bill Smith could reach the scene. Progress from their Gander base to the ship was hampered by a very low ceiling, which at times was under 60 to 90 meters (200-300 ft.). The risks associated with the low ceiling and poor visibility were compounded by icebergs which at times extended into the cloud base making progress slow and dangerous.

On arrival at the scene, they found the ship rolling heavily in high seas putting the remaining 29 men awaiting rescue in grave danger. SAR Tech Bill Smith began hoisting survivors into the helicopter. Due to the large number of men to be hoisted, the electric hoist motor began to overheat. Failure of the hoist could have been disastrous for those remaining aboard. To resolve the over-heating problem, Captain Mike Clarke turned the aircraft so that the prevailing wind would cool the overheating winch motor.
As soon as the first ten men were safely aboard the aircraft, they were flown to shore and Labrador 11301 returned to the ship and lifted the next ten men safely aboard. In all, three groups of ten men were hoisted aboard the helicopter and ferried to shore. SAR Tech Bill Smith had to physically manhandle the last man aboard the aircraft. True to maritime tradition, the ship's captain seemed determined to go down with his ship and be the last man rescued, but, thanks to Bill Smith, he lived to see another day.

This mission was also the first for the Canadian Marine Rescue Auxiliary (CMRA), a Coast Guard sponsored volunteer rescue organization was involved in a major rescue operation.

**Arctic Explorer** Rescue Mission

The seven-years-old MV *Arctic Explorer* was a 49 meter (160 foot), 193 049 kg (990 ton) vessel under charter by an American company to do seismic exploration work in the waters off northern Newfoundland.

At 0500 hrs on 3 July 1981, the Arctic Explorer, with 32 people on board, sailed out of the harbour at St. Anthony on the tip of Newfoundland's Great Northern Peninsula. No distress signal was sent and the first indication of the ship's disappearance came on Saturday 4 July, after she was reported to have missed a communications check and could not be raised on the radio. A full scale search began about noon on the 4th, involving 103 Squadron helicopters, Coast Guard ships, and a number of Canadian Forces fixed wing aircraft. On Sunday 5 July, a 413 Squadron *Buffalo*, flown by Captain Pat Phelan, spotted paddles and life preservers and requested the Labrador Rescue 301 to investigate and confirm the origin. While this was being done, the *Buffalo* crew found one empty life raft and shortly afterwards a second raft with nineteen people on board. Twelve were hoisted up to Rescue 301 and taken to the hospital in St. Anthony, and the remainder were picked up by the CCGS *Grenfell* in the area. The other thirteen crew perished. It was later determined that the ship sank in twenty minutes with very little warning.
Service Termination of the CH-113A

By the 1990s, the heavy use and turbulent weather conditions of air-marine rescue were taking their toll on the Labrador fleet, resulting in increased maintenance costs. In 1992 it was announced that the Labradors were to be replaced by a version of the Agusta-Westland EH101 to be called the CH-149 Chimo, with 15 on order. This was subsequently cancelled by a different government in 1993, resulting in cancellation penalties, as well as the prospect of another decade of service for the Labrador fleet. In 1998 a Labrador from CFB Greenwood tragically crashed on Quebec’s Gaspe Peninsula while returning from a SAR mission, resulting in the deaths of all crew members. It was evident that the fleet required replacing. Therefore, the same government, under pressure to find a Labrador replacement to fulfill the Canadian Forces’ search and rescue role, returned to the EH101 manufacturers and placed an order for 15 aircraft to be called the CH-149 Cormorant.

Delivery of the Cormorant aircraft began in 2003 and a Labrador made its last official flying display at CFB Trenton on 26 June 2004, after 41 years of faithful service and countless rescues with close to four hundred proud Labrador and Search and Rescue (SAR) community members on hand. Captain Levesque had the honour of flying this last mission, which included the last water landing and last parachute drop by CAF Search & Rescue Technicians from a Labrador.
Service Locations for the CH-113A Labrador in the Canadian Armed Forces

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<tr>
<td>442 Transport and Rescue Squadron, CFB Comox, British Columbia</td>
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<tr>
<td>424 Transport and Rescue Squadron, CFB Trenton, Ontario</td>
</tr>
<tr>
<td>413 Transport and Rescue Squadron, CFB Greenwood, Nova Scotia</td>
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<tr>
<td>103 Search and Rescue Squadron, CFB Gander, Newfoundland</td>
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</tbody>
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Museum Aircraft Delivery Flight

Sudbury native and Aircraft Commander, Captain Mark Levesque, was also given the honour of piloting the Labrador on the delivery flight from Trenton, Ontario for its final journey to Ottawa, Ontario and the Canada Aviation and Space Museum. Having the highest number of flying hours aboard the Labrador of any pilot in the Canadian Forces, he had completed countless missions and close to 6000 hours in the Labrador. This “last
flight" was one of many such flights for Captain Levesque. He also flew the last Labrador out of Gander, Newfoundland and Greenwood, N.S..

His crew for the museum delivery flight included Captain Livio Paronuzzi as co-pilot and Flight Engineers, Sergeant Ray Charlebois, Sergeant Brad Saunders and Sergeant Kevin Gray. The aircraft was flown to Ottawa previously from Trenton but an "official" reception had been planned to mark the aircraft's arrival. This required the crew of 11301 to make another flight from Ottawa to Amprior and back to the Museum two hours later. In Amprior they stopped at the Boeing-Vertol plant where over 300 employees who had performed overhaul and maintenance work on the CAF fleet of Voyageurs and Labrador had an opportunity to say a last goodbye to a well loved aircraft.

For Captain Levesque it was a poignant two hour flight. His initiation to the Labrador was on 11301 in Gander in 1979 and now he had to put his old workhorse to pasture. When asked in 2006 if CAF pilots liked the Labrador he replied, "No, they loved the Labrador!"

The following crest was designed as a memento for those involved in this last flight of their beloved Labrador. It includes the dates of service and the four CAF squadrons in which this helicopter served: 424 Squadron in Trenton Ont.; 442 Squadron in Comox. B.C., 103 Squadron in Gander Newfoundland and 413 Squadron in Greenwood N.S..

Conclusions

CH-113A Serial Number 11301, as the first and last of its type to serve, is representative of the Labrador and Voyageurs that have served Canada so well over their forty-one years with both the Canadian army and air force. Labrador 11301, with its 17,625 flying hours and the magnificent crews that manned it, saved countless lives under the most adverse conditions and situations experienced by search and rescue crews. Similarly, the Army's Voyageurs performed their tactical roles in an outstanding manner. These aircraft served Canada with
distinction and it is our good fortune that one has been preserved in the Museum to represent all the others whose stories are told elsewhere.
Bibliography

The information contained in this document was obtained from the following sources:

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4. MacDonald, Grant, Capt. & Stracel, Terry, Capt., *442 Squadron History*, Nanaimo Printers
5. National Defence WEB Site - 2004-06-01 Update
Annex A
CH-113/CH-113A's Acquired Initially for the RCAF

<table>
<thead>
<tr>
<th>Serial Number</th>
<th>Original Designation</th>
<th>Squadron Service</th>
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<td>11301</td>
<td>Labrador</td>
<td>103, 424</td>
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<td>11307</td>
<td>Voyageur</td>
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<td>11318</td>
<td>Voyageur</td>
<td>442</td>
</tr>
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</table>

* Denotes aircraft that crashed prior to renumbering to the 113 series.
Vertol H-21Bs in service were converted to H-44Bs along with the original 2 H-44As and all were commonly referred to as "Vertols".

Source: Taylor, John W.R. et al., Jane's All the World's Aircraft, 1964-65, p194 - 195

Telephone interview with Capt. Mark Levesque, April 22, 2006

National Defence WEB Site - 2004-06-01 Update


Telephone interview with Capt. Mark Levesque, April 22, 2006

Smith G.Y., Seek & Save – The History of 103 Rescue Unit, Erin: The Boston Mills Press, p118