



The NStar Chronicle

The Project North Star Association of Canada

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Editor's Notes

Roger Button

As the President has noted the Association has, through its volunteers, expended thousands of hours on the North Star's restoration since 2004. In the last couple of years, however, various developments at CASM have resulted in a diminution in the amount of restoration work we have been able to do. The result has been a decline in the number of volunteers working on the aircraft, and a corresponding decline in our membership. This in turn has led to an overall decline in the Association's activities, including the publication of this newsletter. CASM has made some important changes to its personnel, including those directly responsible for the restoration of the North Star. The Association is already experiencing a positive change in its relationship with the Museum which can only be to the good. We look forward to a renewed partnership with CASM to our mutual benefit.

PNSAC

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Notes from the President

Richard Lodge

The last NStar Chronicle was published in March 2016 and since that time we have continued our work on the aircraft, but at a greatly reduced pace. Last summer the Museum staged a Star Trek event in the Reserve Hanger which affected our ability to work on the North Star. We were not asked to suspend our work until the end of September, unlike in 2014 when preparations for the Star Wars event were being made.

At the end of September 2016, Mike Irvin, the Museum's Conservation Special Projects Manager, retired and we were asked to suspend work on the aircraft until a new manager was appointed. In January, Réjean (Rej) Demers was appointed as the new Special Projects Manager. Our work on the aircraft resumed on January 30th.

When Project North Star was originally formed in 2003, the Association was treated with considerable scepticism by the Museum. It was felt that restoring an aircraft of the size and complexity of a North Star, to the exacting standards of a national museum, was likely to be beyond the capabilities of a group of volunteers and that the project would probably fail.

We have now completed approximately 70,000 hours of volunteer work over a period of 14 years, restoring everything we do to what is acknowledged to be a very high standard. Scepticism is a thing of the past and we are now treated as a respected and ongoing part of the Museum operations.

Respect must be earned and comes through hard work and in the case of aircraft restoration work, attention to detail. Our team of volunteers needs guidance both from the Museum staff and from our own senior volunteers. One volunteer has been particularly important in helping us get to the position we are now in. Last year he reached a milestone only achieved on two other occasions by a volunteer and in each case the volunteer worked at the Science and Technology Museum. Our volunteer has worked 10,000 volunteer hours on the North Star and for most of this time he also acted as our Project Manager for everything except the engines. Bruce Gemmill probably was not aware that he had reached 10,000 hours when during June, his remarkable contribution was recognized by the Museum and in a private event he was presented with a certificate and a gift by Cedric St-Amour, the Museum Corporation

Volunteer Co-ordinator.

I have always seen our Association as having multiple roles. First and foremost, we are restoring a major artifact with our volunteers. Secondly, we show off our restoration work to the public which in turn brings visitors and revenue into the Museum and thirdly through our experienced volunteers we help transfer skills to younger and less experienced volunteers.

Planning our work in conjunction with the Museum management and the Conservation staff is something we must continuously work at. It is often a fine balancing act to decide when to do work on the aircraft in relation to when the Museum is having a major event such as Open Doors Ottawa and Canada Day. I am hoping that in future we can regularly update our work schedule in conjunction with our project plan so that we can more readily have the aircraft available for public viewing at the times when the Museum would like us to do so, without having to delay our restoration work unnecessarily.

During the last year, we were able to hold two of our successful Lecture Series events and are planning to hold another one in May of this year. More details of the next event will be available soon.

The Annual General Meeting of the Association was held on March 11, 2017 at the Museum. It was gratifying to see a good turnout of members, given the difficult times our organization has gone through in the past few years. Both the Museum's Volunteer Coordinator, Cedric St. Amour, and the new Special Projects Manager Réjean Demers gave up their Saturday mornings to come and address our members. Their presentations were very well received and are further evidence of a new era in our relationship with the Museum.

I will conclude with an invitation to any of our members not volunteering at present to come and join us. Although we have a limit on the number of volunteers who can get their hands dirty working on restoration, our organization needs volunteers to assist with other Association activities including merchandise sales, special events, fund raising, communications and administrative work. Whether you are working on the plane or doing other Association work you will meet likeminded people and have the opportunity to speak to the general public. You do not need to be an expert on aviation or on the North Star to contribute. You can contact me by email at the address at the end of this newsletter if you would like to find out more about volunteering.

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Project Progress Report

PNS 2016 Status Update

Bruce Gemmill, Peter Trobridge, Garry Dupont

Nr 4 Engine

Work has continued on much of the ancillary equipment for the engine. The supercharger and inter-cooler have been completed and installed, as well as the reduction gearbox. The radiators and header tank have been restored and painted, and two of the three radiator sections have been installed. Restoration work has begun on the air intake system, and many of the fuel and oil lines.



Volunteer Peter Trobridge inspecting the air intake fairing from engine #4 prior to beginning restoration work.



Volunteers Robert Desjardins, Bruce Gemmill and Michel Cote hold the refinished coolant tank from engine #4. Hours of polishing were required to get the tank to look like new.

The starter motor was found to be very corroded,

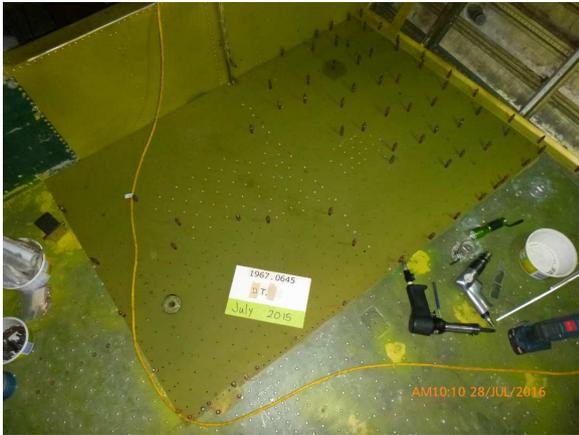
and disassembly and repair not viable. A new unit has been ordered and will be installed once delivered. The fire suppression lines are complete and will be installed along with the cowls when ready. Some of the cowl panels have been restored, although it has been found that this engine has more corrosion than the other three engines, possibly it had been in service longer? This has meant that more work is required to refurbish each of the many panels. We still hope to have this engine ready for installation by next spring.



Volunteer Garry Dupont working on the re-assembly of engine #4.

Fuselage and Main Cabin

With the aircraft moved outside in March, little work was done in the aircraft over the winter. Once the temperatures warmed up, we continued work in the main cabin to prepare for completion of the painting started last year. Repairs to the rear bulkhead are now complete with the installation of several new pieces of aluminum to replace corroded ones. A new section of flooring was installed where the rear wash-room was situated. This required replacing about 1000 rivets!



A single new floor panel at the rear of the main cabin required over 1000 rivets. Cleco clips are used to accurately align the panel during riveting.

Cleaning and corrosion removal continued throughout the cabin. It seems whenever we feel we are near completion, we find more corrosion. We had also planned to finish priming the floor and painting the rear bulkhead before the aircraft returned to the hanger later in the year, but this was delayed by the shutdown of the project while a new Project Manager was hired by the museum. The wood floors and walls still need to be repaired, or new panels made, and all will require painting.

Cabin Liners

All the large pieces of liner have either been repaired or replaced, but with limitations on space, most remaining work on the cabin liners has been postponed. New window surrounds have also been made, but then all liners will require painting and stenciling, and this must wait until there is more room in the shop and the paint booth. Liners were

also made for the top of the heater ducts.



One of the refurbished heater duct sections with a new fabric headliner secured to the top. The sides are covered with mica insulation that was removed, cleaned and reattached after repairs to the metal duct. These will be installed in the main cabin.

PNS 2017 Update

We were able to restart work on the aircraft in late January, following the arrival of our new Project manager, Rej Demers. So far, we have completed the top cowl panels and one of the radiator flaps, which required a repair patch to the outer skin, and the electrical harnesses, which are now waiting for painting. Work continues on the air box and the remaining cowl panels.

We have decided not to move the aircraft outside this year. With our efforts concentrated on completing engine #4, it is unlikely we would have the resources to also complete the repair work in the cabin needed to allow for priming and painting, which is the main reason for moving the aircraft outside in the summer.

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Our Members

Interview with Jim Riddoch

Jim Riddoch is one of the earliest and longest serving members of the Association. He has made a significant contribution to the operations of the Association including working on the aircraft as well as being an officer and member of the board of directors. Although officially retired from formal positions in the organization, he can still be counted on to help out when needed.

1. What is your background in aviation?

I started with English Electric Aviation Company in 1956 as an apprentice technician eventually being assigned to the Mechanical Engineering Department as a fuel systems technician. I remained there for 5 years until I was 28 years old and married with a daughter. After immigrating to Canada in March 1966 I joined DeHavilland Spar Division in Malton and then moved to Montreal with Jarry Hydraulics as a development engineer. I remained there for 2 years working chiefly on development proposals for the wing sweep actuators for F111 aircraft and Boeing's proposed supersonic Concorde.

In 1968 I joined Air Canada as a junior engineer in the Mechanical Systems Department and assigned as a landing gear technologist until I achieved Professional Engineer status in 1974. I then moved around several other departments in engineering and maintenance until I was promoted to Superintendent of DC 9 maintenance. In that capacity I was involved in the accident investigation into the loss of one aircraft at Cincinnati.

I eventually returned to engineering as Director of Interior Systems and Equipment to supervise extensive fleet modifications and new aircraft acquisitions. I remained in that position until I retired in 1990. Following a short stint with First Air I was asked to join a newly formed Canadian Aviation Maintenance Council to standardize aircraft maintenance trades basic training. I was hired as the Accreditation Manager to approve various training establishments including schools, companies and military programs, I eventually also took on the job of Registration Manager to accept qualified trade technicians.

2. How long have you been involved with Project North Star and how and why did you get involved?

Following my retirement from the Canadian Aviation Maintenance Council in 2003 I was approached by Robert Holmgren to participate in a voluntary program to help restore an the Canadair North Star aircraft parked outside at the Canada Aviation Museum. Along with Tim Timmins and a few others we formed a steering committee to approach the Museum about forming a voluntary work force to assist the museum staff to restore the aircraft. At first we met with opposition from some staff members who felt their jobs were being compromised and possible staff reductions. Slowly we were approved by the Museum staff with limited supervision and controlled access and work direction. I was assigned by the Project North Star Association as Chief Engineer of the project although all work was controlled and supervised by the Museum's staff manager.

3. What has been the history of your involvement to date?

I worked on the Project for 10 years starting in 2003 both as a "hands on" volunteer as well as a member of the board of directors and officer of the Association. Generally I put in at least two days per week and sometimes more.

4. What has been the highlight of your involvement?

The chief highlights have been the high level of workmanship of the volunteers and displaying the aircraft to the public and interested persons.

5. What has been the most challenging part of your involvement?

Keeping the Museum staff and management on side with our goals and objectives and recruiting enough new volunteers to keep the project going.

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Reunion of Giants

Bruce Grant

The "Reunion of Giants" video came to the Canadian Aviation and Space Museum's theatre on May 14th, courtesy of the Canadian Warplane Heritage Museum in Hamilton. CWHM sent along the pilot Captain Leon Evans (retired Air Canada), and Dave Rohrer, CEO, as well as Morgan Elliott the videographer. Also present were two World War Two decorated Lancaster pilots Don McKechnie and Bill Button. With almost a full house of 200 it was a very successful Project North Star public event.

The outstanding feature of the story is the audacity of CWHM to fly Canada's only airworthy Lancaster to England for a reunion with the only other flying Lancaster in the world. The Lanc is the flagship of the CWHM, its biggest attraction and an irreplaceable historic artifact. In a typical year it flies only about fifty hours, attending aviation events in Canada and every move is calculated some years in advance.

In England, the arrival over the North Atlantic route of our Lanc was embraced as a tribute to the quality of the machine and the courage of its crew. It reinforced the link with Canada which provided so much support to Great Britain during the war.

While on a final approach in England, the super-charger on engine #3 went to pieces and the plane

landed with a trail of smoke. A replacement engine would have to be found. The replacement that turned up was a Rolls Royce Merlin that would have to be substituted for the Packard Merlin in our Canadian-built Lancaster. This presented a challenge in sorting out the elements of QEC with incompatible Whitworth and SAE fasteners. The new engine would be a "bitsa" (bitsa this and bitsa that). They did it in about three days and got the plane back in the air.

On the return flight, stronger than anticipated headwinds raised the risk of running out of gas over the Davis Strait. They diverted to Narsarsuaq in Greenland.

Following the showing of the film there was a spirited question and answer session with CWHM's representatives moderately by Mike Pearson (retired Air Canada pilot of the Gimli glider fame). There is no doubt that all those in attendance enjoyed themselves thoroughly and gained some understanding of what it meant for those involved in this project.

At Project North Star, we have some appreciation idea of the scale of CWHM's accomplishment. As our members know we are in the twelfth year of our project to restore the last surviving North Star. But, we are restoring it only as a museum artifact, not an airworthy machine. The video is available for sale at www.warplane.com and the trailer can be viewed at www.suddenlyseemore.com.

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Canada Day 2016

Bill Tate

Canada Day at the Museum always provides us with an opportunity to show off what PNSAC is and does; and July 1, 2016 was no exception. Fortunately the weather was ideal for most of the day. Our volunteers partially set up our display on June 30th and the balance was done early in the morning of July 1st.

Our display, unlike the picture shown below from 2011, was limited by the nose section being shrink wrapped in plastic to prevent water damage. Consequently, we were unable to show off the cockpit because of lighting issues and ventilation. This could have been rectified with additional fans and lights but

with restoration work being done on the main cabin floor, visits were limited to viewing from just inside the aircraft rear cargo door.

Although not widely known we are also limited by the number of people we can have inside the aircraft at any one time. There is a reason for this as an empty aircraft "generally" has the centre of gravity in the aft range limit and with the engine #4 off the aircraft this becomes even more pronounced. For this reason sand bags have been placed in the forward cargo hold to help keep the centre of gravity as far forward as possible. This limits us to having a maximum of four adults or a family with children in at one time and yes we have to include our volunteers so that we do not exceed the equivalent of six adults.



Canada Day 2016.

The weather forecast that day was for thunder storm activity and as the day progressed the skies darkened. For the safety of our volunteers and public we shut down our display earlier than normal because as the wind increased we had some of our story boards blown over by gusts of wind. As an aside, airports with "Thor Guard" cease ramp operations when a thunderstorm is within 6 nautical miles.

Our display attracted many visitors and there was a continuous line of people waiting patiently for their turn to climb the steps and view the aircraft interior. As in previous years we also took the covers off engine #2 so we could show an engine to our vis-

itors after it had been fully restored.

I would like to thank all our volunteers who made Canada Day such a success and to mention the very demanding work performed by Bruce Grant and Jim Riddoch who handled crowd control, and John Thibert and Charles Baril who spent several hours in the hot interior of the North Star talking to our visitors about the work that went on inside the airplane.

Any suggestions to improve our display, who we are and what we do would be most appreciated. Please send to Bill Tate.

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Calendar of Events

Thursday, April 13, 2017

Board of Directors Meeting

Saturday, May 6, 2017

PNSAC Speaker Series. Once again, PNS is hosting a lecture at the Canada Aviation & Space Museum given by Jim Mason. The event will include a brief history of the TCA Lockheed 10A service, followed by the history of the restored Lockheed CF-TCC, it's early restoration and events, as well as participation leading up to Air Canada's 70th Anniversary.

Tuesday, May 23, 2017

Volunteer Appreciation Dinner

Saturday and Sunday, June 3 & 4, 2017

PNS volunteers will display the North Star during the Open Doors Ottawa event.

Saturday, July 01, 2017

Canada Day. PNS volunteers will, as usual, take part in the Canada Day celebrations and display the North Star to the public

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