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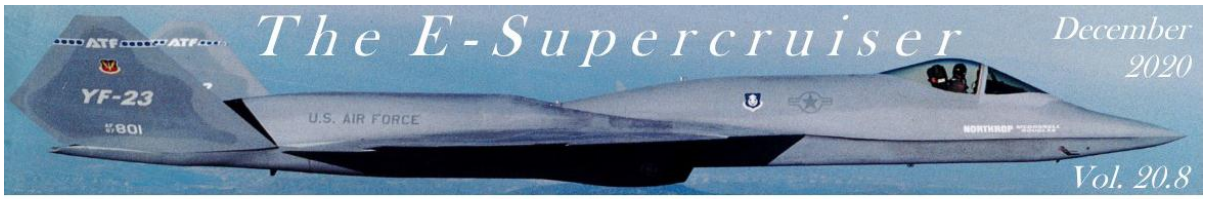


Western Museum of Flight

The Newsletter of the Western Museum of Flight

Director's Notes

Cindy Macha

Despite the limitations of the lock down, we have still managed to achieve some meaningful benefit for the museum, our members and our supporting public. Specifically, the generous grant from the Norris Foundation of $10,000 for our Women in Aerospace exhibit, the JPL Voyager model for our Space Exhibit; and we have upgraded our surveillance system to provide us with wider coverage and higher fidelity. Also, we still enjoy the gratifying level of support from our financial donors especially with the addition of several new members to our Patron Society. We are really looking forward to the time when we can get back to normal operations. But, in the meantime, we really are finding ways to keep life interesting. Merry Masks and Happy Distancing!

Editor's Notes

James Keniston

Christmas is almost upon us, and so wraps up what has certainly been a year that none of us could have expected. I do hope that you have been able to engage in some new activities during this period of slowing down. In the many conversations had this year I noticed that a recurring theme has been people picking up a new hobby or 'first'. There are a couple of other 'firsts' to highlight this month. December marks the maiden flight of the Lockheed SR-71 Blackbird (Dec. 22nd, 1964) - an event that is perfectly timed with Jim Shelton's fascinating article about his gruelling reconnaissance mission during the Yom Kippur War of 1973. Also of importance to our museum specifically is the 80th anniversary of the first flight of the

Northrop N-3PB Patrol Bomber, which also falls on Dec. 22nd (Piloted from Lake Elsinore by Vance Breese). Many of you will know of the significance of this aircraft to our museum, and some of you were involved in the restoration of this beautiful aircraft that prompted the formation of the Southern California Historical Aviation Foundation. The N-3PB was also Jack Northrop's first aircraft to enter production at his Hawthorne facility. You can learn a little more about the service history of this type below. All that remains is to wish you all a Merry Christmas and to thank you for your continued support of our organization. Please drop us a line anytime: edit@wmof.com. *Photo: The first Northrop N-3PB nearing completion in December 1940 (WMOF archive)*

Yom Kippur Missions

Jim Shelton

LTC Gary Coleman (my RSO) and I (LTC James Shelton) were in the Standardization Office at Beale AFB, CA (we were the senior crew) and received a phone call from Col. Pat Halloran (the wing commander) to come to his office. When we arrived there, he said we were selected for a very important mission. It was to take off from Beale AFB and fly through the Middle East and recover at Mildenhall AB, England for an 8 ½ hour mission. Our State Department needed to know how the Yom Kippur War was going. We could not move a Spy Satellite out of the Russian orbit to cover the War area, so the SR-71 got the call. The mission was to Aerial Refuel (A/R) locally, proceed to Nova Scotia for the second A/R, then proceed west of Portugal for the third A/R, then proceed through the Mediterranean abeam the island of Crete for the fourth A/R. We were to then turn right going south and follow the Nile River south of Cairo and make a 270 degree turn to the right around Cairo, crossing the Nile River again, creating a large X over the battle area and return to the Crete A/R area, and finally land at Mildenhall. Gary and I then went to mission planning and studied the route of flight and emergency landing fields. I even went to the flight simulator to practice landing approaches into Mildenhall. We were told to go into crew rest and return for an 11:00 PM Mission Briefing. We returned for our briefing and received a weather and intelligence report. I remember the intel briefer advising us to not be surprised if the Egyptians or the Israelis shoot at us because our government had not told either country that we would be flying over their areas. At about the time to go get into our pressure suits for flight, the mission was cancelled, and we were told to go home and get back into crew rest.

The next day, I went into operations and found out the reason the mission was cancelled. It was that when Col. Halloran and the maintenance recovery team landed at Mildenhall AB, the British said "the SR-71 could not land there because they relied on Middle East Oil and that they wanted no part in helping us with the mission". I was told that we would fly to Griffiss AFB, NY that evening and would fly our mission out of Griffiss and return to Griffiss. Now instead of an 8 ½ hour mission, it just increased to 11 hours and 20 minutes with 6 A/Rs. The reason Griffiss was selected as the base to fly from, was that the Test Force's SR-71 was scheduled to fly out of Griffiss the next week to conduct low altitude electronic evaluation missions on some new equipment, so there was a tank car

with our special JP-7 fuel on a siding on base and a Lockheed maintenance team from the Palmdale plant on the ground to support the test force mission.

Now the easiest changes for the mission planner to make were to have us fly subsonic from Griffiss to the Nova Scotia A/R and pick-up the original route. Then once we left the Crete A/R the second time, we would reverse our route back to the Portugal A/R, then to the Nova Scotia A/R and return to Griffiss subsonic.

Gary and I took off at 6:30 PM to fly to Griffiss from Beale AFB. Little did Gary and I know that the mission planner drew a straight line from the end of the local A/R area to the holding fix for Griffiss. Normally, the mission planners will avoid heavily populated towns and cities but not tonight. On route to the holding fix, we flew south of Chicago and north of Indianapolis and I could see both cities as it was so clear. I told Gary that we must be creating a major sonic boom because the sky was so clear. Little known to us, the second aircraft that was to follow us by one hour, was stopped on the runway and given another route avoiding populated areas to fly to the Griffiss holding fix, because there had been so many phone calls complaining about sonic booms and broken windows. The Air Force said they would investigate, but the next morning a professor in one of the northern states said a meteor must have created the sonic booms because it covered such a large area. When this article came out in the local paper, the Air Force stopped investigating.

As I approached the runway at Griffiss, I turned on my landing light which shines down as we are landing with about 7 degrees nose up, and unless I have clouds or the runway just below me I cannot see if the landing light is on. Just as I started my flare for landing, I saw that the landing light was out, so I moved the switch to taxi light, which is not pointing down but straight ahead as the nose of the aircraft is on the pavement when taxing. The Lockheed maintenance personnel parked us and helped us get out of the cockpit. Well, the Base Commander was there to meet us and he said, "SAC headquarters said there was a Highly Classified Mission coming and supply whatever they needed. He said the mission must be very secret because I did not turn my landing light on until I was over the runway". I did not want to burst his bubble, so I didn't tell him that the landing light was out. I told him that Col. Halloran and the maintenance team would arrive from England soon and that we need quarters and food for our team. Gary and I went into crew rest and prepared to fly in a day or two.

In the morning after landing, I went to the Flight Surgeon's office to get one sleeping tablet so I could make sure I got plenty of rest before the long flight. He was not going to give me the one sleep tablet I requested, so I told him to call the Flight Surgeon's office at Beale AFB as they will approve me getting a pill. He finally gave me the pill without calling. In our crew rest window, I took the pill and it must have worked well, as Gary said, "I knew my pilot was resting because the snoring woke me up!".

At the mission briefing, the weather man said "We would have weather in the Nova Scotia area, but after that the weather was good for the rest of the flight". We took off about 11:00 PM. This would put us over the target area between 11:00 and 12:00 so the photo interpreters

could determine heights of objects by their shadows. The weatherman was correct about the weather in the A/R area. The visibility was very close to our limit of one mile to conduct A/R's (I don't know anyone that did not press ahead to the tanker). Once on the tanker boom, it was so turbulent that the Stick Shaker started activating and at that point I strangled the control stick to make sure I would not be bounced off the boom. The weather improved as I finished refueling and climbed through 45,000 feet on my way to the Portugal A/R. The mission was planned to cruise at Mach 3.00 to make sure we have fuel enough for the mission. I had already flown a 10 ½ hour training sortie at Mach 3.00 and I was beat when I got out of the aircraft because every time the Mach varied plus or minus by .02 Mach I would make a power adjustment. So on this flight I let the Mach vary by .05 Mach before I would make a power adjustment. I knew I had to pace myself.

Once I made contact with the tanker at the Portugal A/R, the tanker pilot said that the Air Controller for Portugal kept advising him that there was an aircraft in his vicinity and did he see it. Of course he said, "no contact". Once we completed our A/R, we headed for the Mediterranean, I got a little hungry - I had 2 tubes of apricot paste so I opened one. I forgot my science about pressure. The tube looks like a tube of tooth paste with a seal on the end. We are given a plastic tube (fits into the feed port in our helmet) that screws onto the tube and as you make the final turn connecting the tube, it breaks the seal and apricot begins to flow. As I said, "I forgot my science about pressures and altitudes". The tubes are manufactured at Sea Level, but when we are flying at altitude, our cabin altitude is 26,000 feet, a considerable difference in pressure. Well, when I broke the seal on the food tube, I had apricot spraying out like crazy, so I stuck the plastic tube into a pocket in my pressure suit to catch it. I only lost about a quarter of the tube's contents.

When I made contact with the tanker at the Crete A/R, the tanker pilot said that "Air Traffic control at the base in Spain delayed his take-off 30 minutes, so when he arrived at the A/R point he only had time to make one orbit before I made contact". Had I been about 2 minutes early, I may have missed the refueling and would have had to land in Crete. The tankers are normally at the A/R point 30 minutes before the scheduled A/R time. We got our fuel and headed to the Nile River. Once we reached the river, we were at Mach 3.15, the Egyptian SAM sites started tracking us for a short distance. I also saw some aircraft condensation trails far below but lost them and the tracking just before it was time to make my 270 degree right turn around Cairo. When I straightened out the SAM site started tracking us again and as I headed N.E. I saw more contrails below me. I don't know if they were Egyptian or Israeli. Once I was out of the Israel area, we started down toward the Crete A/R. Our tankers had to go to an air base in Turkey to fill up with our JP-7 fuel, but they could not fly an operational mission there, they had to go to the base in Spain, refuel and then fly the operational mission from there.

From this Crete A/R, we flew back down the Mediterranean to the Portugal A/R and then on to the Nova Scotia A/R. From the first Nova Scotia A/R to this one our filed flight plan stated we were Visual Flight Rules on Top for almost 6 hours so no Air Traffic

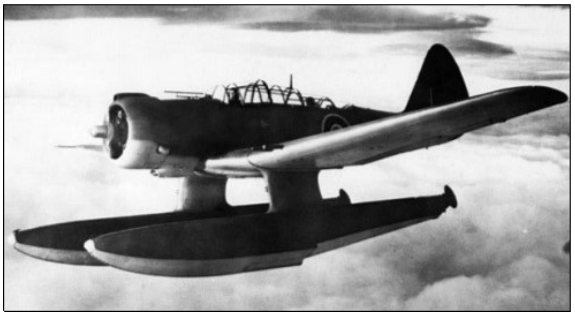
Control had any idea where we were going. At the 6th and final A/R at Nova Scotia, we went subsonic back to Griffiss AFB. The weather was clear at Griffiss so, I pushed the throttles up to military power (just before the After Burner range) to have the aircraft go Mach .98 to .99. This way, I would use more fuel as I did not need the fuel to proceed to an alternate base because of the clear weather. As I went from each Canadian Air Traffic center, the center would ask me what type aircraft we were. This call threw me, so I responded "As filed". Again, at the next control center they asked the same question and again I responded, "As filed". When I got back on the ground, during the mission debriefing, I asked the mission planner "what type aircraft did you file our flight as?" He said, "a KC-135". Now it was clear why the Canadian Air Controller wanted to know what type of aircraft we were, because a KC-135 is about a Mach .7 (7 or 8 miles a minute) aircraft and we were going Mach .98 (10 or 11 miles a minute).

Needless to say, Gary and I were tired when we landed but adrenalin kept us going during the mission and it took me a while to unwind before I could take a nap. Within four days, Admiral Moore (Chairman of the Joint Chiefs of Staff) invited Gary and myself to the Pentagon to say, "Thank you for a job well done". We saw staffers carrying enlarged photos from our mission briefing to other staff agencies. They showed destroyed or damaged tanks, guns and other armament. The State Department wanted to see the destroyed equipment as the U.S. promised to replace all the destroyed equipment.

Gary and I received a Distinguish Flying Cross for this mission due to the importance of the photo intelligence received and we were named the 15th Air Force Reconnaissance Crew for 1973.

Photos, from top:

- *LTC James Shelton in SR-71 pressure suit (Author's collection)*
- *Blackbird SR-71 Family (Lockheed-Martin)*



Viking Roundels

James Keniston

Since I began working with the museum I have always been interested in the Northrop N-3PB and the fascinating account of its restoration and return to the Royal Norwegian Air Force Museum. I've also been rather curious from the pictures I have seen why it was restored with a British Royal Air Force livery and roundels. It's interesting to note that an American aircraft built in Hawthorne, with RAF roundels, that was recovered from a river in Iceland, now resides in Norway. The answer lies in the formation of 330 Squadron of 18 Group RAF Coastal Command, of which this aircraft was a part.

During World War II, as the Nazis ravaged the nations of our European allies, those aircrew that could escape formed squadrons within the RAF as Britain hosted those nations' governments in exile. Always assigned a number in the three-hundreds, these squadrons were comprised of aircrew from Poland, Czechoslovakia, Holland, Belgium, Greece, France, Yugoslavia and Norway. 330 Squadron was the first made up of exiled Norwegian personnel,

from the Royal Norwegian Navy Air Service. Although 24 N-3PB's were ordered by the Norwegian Purchasing Commission in 1940, by the time of their delivery in 1941 Norway had fallen to the Axis powers. The squadron was based at RAF Reykjavik, Iceland where they flew missions to attack German U-Boats and protect shipping traversing the gauntlet of the North Atlantic.

The N-3PB was in service through 1943 - by which time the squadron had been moved to RAF Oban on the west coast of Scotland. 330 eventually converted to the Short Sunderland Flying Boat after a stint using a mixture of the N-3PBs and the Consolidated PBY-5A Catalina (parts of which were also sub-contracted out to be manufactured by Northrop in 1940). It's difficult to convey the magnitude of the task that the crews of Coastal Command had - making sweeps over vast areas of the North Atlantic with enough aircraft and frequency to be able to detect U-boats that may be surfacing for a brief 30-minute window to recharge batteries and take on air. The need for long-range aircraft was filled later on in the war by other large aircraft that included the B-17 Flying Fortress and B-24 Liberator. In June of 1945 330 Squadron relocated again, this time to Sola Air Station in Norway where they were engaged primarily in air transportation, which was desperately needed in the first few months following VE Day. The squadron was handed over to the Royal Norwegian Air Force in November of 1945. It remains operational today as a Search & Rescue helicopter unit.

The only remaining N-3PB in the world was recovered from the bottom of Iceland's Thjorsa river in 1979 where it had lain ever since being forced to ditch by the pilot some 36 years prior on April 21st, 1943. Bad weather had made the landing somewhat inevitable, but luckily all crew members were able to swim to safety and resume operations. This aircraft, after restoration, was returned to Norway where it is part of the Norwegian Armed Forces Aircraft Collection in Gardermoen. An inscription in Gaelic on the memorial in Oban, dedicated to the personnel of 18 Group Coastal Command who served there, reads: *"Before We Forget"*.

Photos, from top:

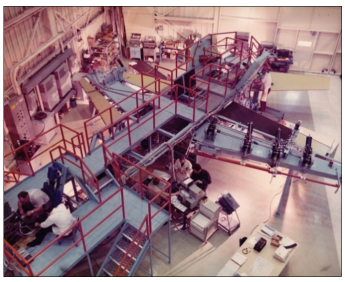
- *Northrop N-3PB in flight (Norwegian Armed Forces Aircraft Collection)*
- *RAF 330 Squadron emblem - motto: 'Guarding the Seas' (RAF Heraldry Trust)*
- *Northrop N-3PB No. 320 in Reykjavik midway to Norway following the 1980 restoration (Baldur Sveinsson)*

Museum Roundup

A small cadre of Northrop Grumman engineers visits the museum to study some of our aircraft with docent, Roy Martin. They are from left to right: Roy Martin, Jim Ueda, Jared Kam, Graham Gregson, Joseph Arias and Chris Yasaki.
Photo: Tim Ufert

Our Exhibit Team has been blessed with the talents of two new volunteers, **Rich Peterson** and **Janis Yee** - both recent Northrop Grumman retirees who are applying their skills to the upgrading of exhibits and assisting in the archives.
Photos: Bill Vas

Archive Extra - Iron Birds



Last month Fred Peitzman gave us a great look at the Flight Control Test Stand - a key component in testing the characteristics of any new aircraft prior to first flight.
Read the article here.


The Supercruiser
The Newsletter of the Western Museum of Flight
Sixty Years Strong and Soldiering On

Become a Contributor

We know that many of you reading this are former members of Southern California's aerospace industry and may have some interesting stories and experiences from your careers. We ask you to consider sharing some of these stories with us, whether about a particular company's aircraft project/program or during the course of military service associated with one of the many aircraft types built in SoCal. An example is this month's story about the *Yom Kippur Missions* by Jim Shelton. We look to preserve these stories before they are lost to time.

Our mission is to preserve the histories of the aircraft built here in Southern California, primarily airframes in earlier times, for the defense of our nation, experimental research air vehicles, spacecraft and commercial airliners. **Lockheed** (Burbank, Palmdale); **Douglas/McDonnell Douglas** (Santa Monica, El Segundo, Long Beach), **Hughes** (Culver City, El Segundo), **North American Aviation/Rockwell/Boeing** (LAX, Downey, Palmdale), **Boeing** (Long Beach), **Northrop Grumman** (Hawthorne, El Segundo, Palmdale), **Vultee** (Downey), **Consolidated/Convair/General Dynamics** (San Diego), **TRW/Northrop Grumman** (Redondo Beach), **SpaceX** (Hawthorne), **Robinson Helicopters** (Torrance), these amongst all the larger companies.

We look to the future as well, as history continues to be written with new initiatives and opportunities for further space exploration. We'll help to polish up the words if you are not a professional writer. Or it may simply be an interesting photo(s) with a caption added to tell the story.

Please contact us directly via email: edit@wmof.com, with your thoughts and comments.

The Western Museum of Flight honors and champions the Aerospace Industry Heritage of Southern California and inspires, motivates, and educates the dreamers and creators of today and tomorrow.

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