

AFA 335

TENNESSEE VALLEY FLYER

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74th Air Force Birthday Celebration

Chapter 335 celebrated the 74th Birthday of the United States Air Force at Fractal Brewing in Huntsville. Decade-long Community Partner and Vietnam Veteran Andy Bevilacqua of Bevilacqua Research Corporation even helped cut the cake. We had a great time sharing war stories and talking about the future of our great Service!



The RF-4 and Operation Desert Storm

A Heritage Article By John Pennell, Lt Col, USAF (Ret)

In August of 1990, Saddam Hussein and the Iraqi Army invaded the Middle Eastern nation of Kuwait and claimed its oil rich land as the 19th Province of Iraq. The world's economy was finally recovering from the results of the oil crises of the previous decade, and the formerly cash heavy nation of Iraq found itself in need of replenishing its bank accounts after a nearly 10 year war with Iran.

President George H. W. Bush (Bush 41) condemned the invasion and demanded Iraq's withdrawal. When Saddam refused, the US began building a worldwide coalition to force the retreat.

I was a young Captain, and an Instructor Weapons System Officer in the R-4C Phantom, the Reconnaissance Version of the venerable McDonnell Douglas Fighter Bomber. We were the relics of both Vietnam and the Cold War in Europe and had been told, "There's no need for you, we have technology now." Our jets were all 1968 and 1969 models. I had recently graduated from the USAF Fighter Weapons School, and was immediately tasked with putting together Tactics and Techniques for employing our jets against the Iraqi threat array.

Meanwhile, from August until December 15th, our wing was continually told, "We don't need the RF-4s. You aren't going." Very few active duty RF-4 Pilots and WSOs still had actual combat experience, and since there hadn't been a shooting war since Vietnam, we were all completely disheartened. We weren't going to get to prove ourselves in our chosen profession. Then everything changed.



RF-4

General Chuck Horner, while developing his airpower strategy, called the national satellite folks for intel. "I'm going to need photos every day for the first 10 days of the war of these 200 or so targets." The answer, "You aren't the boss of us, so wait your turn." Gen Horner, said, "Well I do know who I am the boss of -- 67th Tactical Recce Wing, saddle up." We arrived at Shaikh Isa Air Base on Bahrain on 13 January 1991, two days before the Storm. From 16 January 1991 to 1 March 1991, I personally flew 41 combat missions and logged over 110 hours of combat time. The squadron's 12 Phantoms flew over 1000 sorties, with a 97% Target success rate and provided pre-strike and post-strike reconnaissance for CENTAF planners and strike crews.

We photographed airfields, bridges, surface to air missile sites, and road strips. We went on hours-long scud hunts in the western desert of Iraq, mapped the burning oilfields in northern Kuwait and southeastern Iraq, and photographed the notorious "Highway of Death", from Kuwait City to Basrah, where the Iraqi Army was destroyed by waves of helicopter and A-10 attacks, finally forcing Saddam to the surrender table.

We redeployed to Bergstrom in May of 1991, without losing a single jet or aircrew member. I flew home with our Squadron Commander, Lt Col Jim "Recce" Mills, who had flown Army helicopters in Vietnam, and I remember asking him, "Back in January, did you think we'd bring everyone home?" With a catch in his voice, and with great pride, he replied, "I didn't, but I thank God we did." Desert Storm had been a total success, we had done our part, even with the fleet of museum-ready Phantoms. I will carry the memories of flying combat missions as a young Captain with the finest group of Americans until the day I die. The fabulous Phantom RF-4C, "Alone, Unarmed, Unafraid!"



Space Academy/ Aviation Challenge Scholarship Recipient Thank You Letters

Michael Babinack IV

Air Force Association Chapter 335 Awarded Michael Babinack IV a scholarship to attend the Space Academy, and he sent in the following thank you letter:

"Thank you and the Tennessee Valley Air Force Association for the opportunity to attend Space Academy this summer. I truly enjoyed my time at Space Academy and learned so much about space exploration and working in space.

For example, I enjoyed learning about what type of materials they use for rockets, shuttles, and space suits. I also enjoyed learning about the Artemis Program which will be our next visit to the moon. I enjoyed meeting new friends from all over the country. We worked together on many projects throughout the week. One of my favorite projects was building and launching a rocket with a C-65 rocket engine. Our group's rocket went the highest out of everyone else's rockets.

My favorite part of Space Academy was when our group did missions. Our missions had us work in shuttles, space stations, and Mars bases. I really enjoyed being the pilot on one of our missions. My objective was to bring the shuttle back home to Earth safely. With the help of our team we all brought the shuttle home safely.

After graduation, I led my parents, grandparents and siblings on a tour of the Space & Rocket Center. They were impressed by how much I had learned during my time at Space Academy. My dad is a space enthusiast who has read many books authored by former astronauts and has watched numerous documentaries about the space program. He was impressed by how much I learned at Space Academy and said I taught him things he had never heard before. It was awesome to get to share this experience with him. If it works out for next summer, I would like to attend Aviation Challenge.

Thank you again for the opportunity to attend Space Academy. It was the highlight of my summer and I will remember this experience for the rest of my life.

All the best,

Michael Babinack IV"



Michael Babinack IV, at Space Academy

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Mya E. Lacey

Air Force Association Chapter 335 Awarded Mya E. Lacey a scholarship to attend Aviation Challenge and she sent the following thank you letter:

"I am so grateful to have had the opportunity to attend Aviation Challenge 2021. I would like to say thank you to the Air Force Association, and to all the staff at camp. During my time there, I met lifelong friends from around the world that I still keep in contact with to this day. The days started early and were long, but were filled with fun activities that at times challenged me. I was introduced to flying a fighter jet and loved the combat scenarios in the flight simulators.

I will never forget this opportunity I had, and I hope that many others get to have an awesome experience, as I did. This camp taught discipline, responsibility, integrity, respect, time management, and so many other great qualities. I am so grateful to have had this opportunity and will not let the lessons learned be forgotten.

*Thank you,
Mya Lacey"*

Air Force Association Chapter 335 greatly appreciates the support from our community partners that allows us to provide scholarships such as these. We are happy to continue supporting future generations!

Mya Lacey at Aviation Challenge (fifth from the left)



BOMARC CIM 99B - My Experiences

A Heritage Article By Daryl Carpenter, Lt Col, USAF (Ret)

I, as a USAF 1744 Weapons Controller, became operationally familiar with the BOMARC as a weapons system in 1970 at Canadian Forces Base (CFB) North Bay, Ontario Canada. I was assigned to the newly developed SAGE (Semi-Automatic Ground Environment Control) system designed for the Air Defense of North America. This was my 2nd NORAD SAGE tour, the first was at Malmstrom AFB in Montana. This was the 1st tour where BOMARCs were available as an interceptor defensive resource. As a Senior Captain and like several other assigned USAF exchange duty officers, I was assigned to a rotating crew duty as a Weapons Director cycling through 3 shifts (days, nights, swings and 2 days off in a 11-day period). Day shifts and some night shifts involved controlling live fighters running live intercepts against other fighters, CF-100s and CT-33s, or USAF bombers transiting through our region (basically the Eastern half of Canada).



Newly promoted Major Carpenter on a training flight with the Canadian Air Force

We would have a large scale, no-notice, worst-case scenario (such as the highly anticipated massive Russian manned bomber attack against Canada and the US) training exercise on a usually quarterly basis. Nearly everyone was recalled for duty for these exercises. Note that at that time Strategic ICBMs were just starting to be fielded by the Russians and their manned Bombers were still the core threat. To train for that threat USAF SAC (B-52, B-57, B-58) bombers and Canadian target aircraft would conduct a large simultaneous simulated attack on North America by coming south from the far polar north through the region.

All the regions' resources were stress tested by the large number of attackers, ECM jamming and chaff corridors. It was an important and effective training tool. On routine day shifts we would only run a few live intercept missions using the available CF-101 fighters at CFB Chatham and CFB Bagotville. During the evening shifts we occasionally ran live intercepts but more often we would run computer generated simulation programs replicating those mass attacks and simulated CF-101 interceptors and simulated BOMARC interceptors. When not running simulated programs, we were to be studying weapons systems technical data and test bank questions about every aspect of our mission and systems. As to be expected at night we would occasionally slip in a nap as the operations room was very dark except for dim blue light hence the nomenclature of the "Blue Room". As with nearly all military operations it was characterized by long periods of boredom punctuated by brief periods of intense but organized pandemonium.

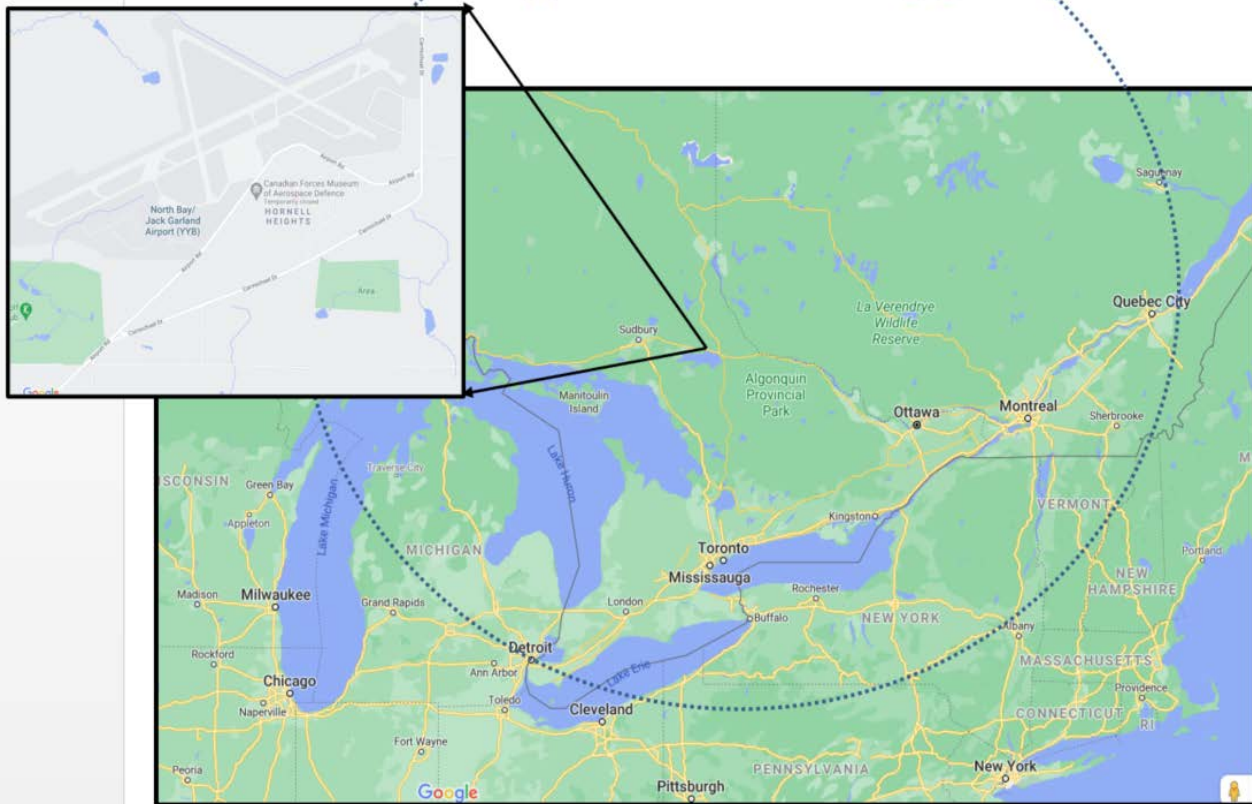
The Canadian SAGE center was a marvel of engineering. Nearly replicating the Cheyenne Mountain complex in Colorado Springs. We were a 4-story windowless cement structure with 2-foot-thick cement walls built on springs 700 feet under the solid granite of the North American Cambrian shield. Two tunnels led down to the entrance of the building which was shielded by an immense 30-ton steel door. One tunnel was 1 ½ mile long and the other was ¾ mile long. The tunnel was one lane wide with one key spot wide enough for opposing buses to pass. It was an exciting, never-ending ride as the young bus drivers drove at 55mph with walls mere inches away. The bus drivers made the trips every 20 minutes, so they were quite skilled at it.

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Ventilation was critical in the SAGE building and tunnels and was accomplished by huge fans at each end of the tunnel. Power was provided by diesel generators inside the building which vented exhaust 700 feet straight up pipes through the rock. In theory the facility was designed for surviving a direct hit from a nuclear warhead, but I am not sure our communications were fully sustainable. It was also considered a back-up location for other Canadian Government functions. Today the facility is too expensive to maintain, and is a deteriorating unmanned government surplus property.

Because the BOMARCs were provided by the USAF, 24 missiles with nuclear warheads were physically located and maintained at a small US only base located about 15 miles from the SAGE center. US 2 Man Control was required at all times in the SAGE facility to control/prevent the unauthorized launch of the BOMARC missiles. Employing the weapons could only be accomplished by USAF personnel and required several steps.

Canadian Forces Base - North Bay Ontario with approximate BOMARC Engagement Zone



An Emergency Action Message (EAM) directing/authorizing the use of nuclear weapons had to be received from NORAD Headquarters' Cheyenne Mountain. A special USAF only safe had to be opened and "cookies" had to be cracked open to verify the authorizing/launch codes. That message had to be authenticated by two USAF officers and then a special key carried by the most senior USAF officer was inserted into the Senior Weapons Directors Console while being closely observed by the other USAF officer and the senior Canadian officer. Turning that key immediately initiated the launch sequence of an already selected BOMARC. The missile was simultaneously assigned to a Weapons Director console and subsequently guided to a hostile target by the SAGE computer while the Weapons Director (US or Canadian) oversaw the BOMARC intercepting the target(s).

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The BOMARC could be diverted /reassigned to different targets if required. The missile had an on-board terminal radar and would detonate when it got within 1000 feet of the target. There was no “Dead man’s” switch so if there was no target the missile would be steered to an unpopulated area and allowed to crash. All these events occurred amazingly fast as BOMARC flew at Mach 2.5 and had an operational radius of 450 miles, thus, the longest flight time was less than 15 minutes. The warhead was a W-40 which meant about a 7-10 kiloton detonation (about half of the Hiroshima blast). The blast range was designed to take out flights/formations of bombers within the several thousand feet. The Probability of Kill (Pk) of the BOMARC was especially high (greater than 90%) and collateral damage from the blast was considered acceptable as nearly all of the authorized Canadian air defense battle area (which excluded cities) and within range of the BOMARC was rated as unpopulated, i.e., less than 2 people per square mile.

Canadian Forces BOMARC Test Flight



Although the need was apparent, there had been considerable controversy and acrimony within the Canadian Government in originally deciding to allow the US Government to station nuclear weapons in Canada. It caused one Government to fall and much public debate and pressure. Finally in 1972 it was determined that Nuclear tipped Strategic ICBMs were now the paramount threat from Russia and that the manned bomber threat was greatly diminished. As a consequence nuclear armed BOMARCs were no longer necessary for air defense. The weapon systems were quickly deactivated and withdrawn back to US facilities thus ending the BOMARC era. The missiles were ultimately used as targets at Tyndall AFB for other defensive systems.

Thus, no live BOMARC was ever launched in Canada and the actual control and training for use of the missile was all simulated. During our exercises it was theoretically a formidable and very effective defensive weapons system. Fortunately, the USSR never launched an all-out air attack and we never had to prove it.



Community Partners



Aero Thermo Technologies

Former chapter President Rick Driesbach, presents Wingman Community Partner renewal medallion to USAF Major (ret) Leroy Huntington of Aero Thermo Technologies. Thanks to Aero Thermo for being a strong partner to aerospace education in the Tennessee Valley!



Conditioned Air Solutions

Victoria Erickson, Director of Customer Relations at Conditioned Air Solutions, points proudly to the Community Partner Plaque signifying 6 years of continuous Wingman-level support by her company to the Chapter 335 Aerospace Education Program! Thanks so much for your support of our students and teachers!



Davis Strategic Innovation

Chapter President John Pennell presents Andrew Davis Vice President of Davis Strategic Innovation with his Wingman Medallion. This marks Davis Strategic Innovations' 12th year of outstanding support as a Community Partner to our AFA Chapter!



Mary's Wine and Spirits

Steve Golpaye, owner of Mary's Wine and Spirits, proudly displays his Community Partner Plaque recognizing his 8 years of support to Chapter 335's Aerospace Education Program as former Chapter President, Rick Driesbach, looks on. Thanks for being such a 'spirited' Community Partner!

Community Partners



Intuitive Research and Technology

Rick Driesbach, former Chapter President, presents Community Partner renewal medallion and thank you letter to Celia Lee (l), Community Relations and Protocol, and Arlee Holmes (r), Director of Engagement & Communications for Intuitive Research and Technology. Many Thanks to Intuitive for being a Wingman Community Partner!



NeXolve Technologies

Mona Gatlin, office manager of NeXolve Technologies, proudly accepts NeXolve's Community Partner renewal medallion from Rick Driesbach, former Chapter President. NeXolve has been a loyal Community Partner for 11 years and thereby was awarded a second plaque to display their medallions. Thanks to NeXolve Technologies for their steadfast support of aerospace education in the Tennessee Valley!



US Space & Rocket Center

Former Chapter 335 President Rick Driesbach presents the 2021/22 Community Partner renewal medallion to Robin Soprano at the US Space and Rocket Center. USSRC continues to be a strong Community Partner to AFA as we all look forward to the 30th anniversary of Aviation Challenge in October.



Lamar Advertising

Marcus Villalobos accepts the Community Partner Thank You Letter and Renewal Medallion for Lamar Advertising. Many thanks to Lamar for their unwavering support of the Air Force Association and Chapter 335!

Community Partners



CrossTek Construction

Clark Crosson, owner of CrossTek Construction, shows off his 2021-2022 Medallion and his new plaque in recognition of becoming an Ace Community Partner. Thanks to CrossTek for their outstanding support for aerospace education!



Radiance Technologies

Chapter 335 President John Pennell presents Radiance's President and CEO Bill Bailey his "Ace" Community Partner medallion for 2021-2022. Radiance Technologies has been a great friend to the Tennessee Valley Chapter!

AFA's 75th Anniversary

AFA

**IT'S YOUR STORY!
IT'S YOUR AFA!**

LET'S CELEBRATE
In commemoration of AFA's 75th Anniversary we are telling our AFA story!

CONFIRM YOU'RE IN THE FIGHT
Let us know that you are in the fight with us by verifying your membership information.

SHARE YOUR STORY
This is the time for our AFA family to speak up, loud and proud and share their Air Force, Space Force, and AFA Pride.

GET YOUR LEGACY BOOK
Your AFA Legacy Book will be available for purchase in several packages. Pick the one you want as an AFA Anniversary keepsake.

ON YOUR WING
We are always on your wing!
Thank you for your dedication and commitment to our AFA.

**FOR QUESTIONS ABOUT
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CONTACT MEMBERSHIP@AFA.ORG**

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*Annual Giving Levels: Ace: \$500, Wingman: \$250, Basic: \$90
 Want to become a Community Partner at the Ace, Wingman, or
 Basic level? Contact George Krym at george.krym@yahoo.com.*

UPCOMING EVENTS

10 Oct: Executive Council Meeting

11 Nov: Veterans Day Parade

18 Nov: Executive Council Meeting

Chapter 335 Officers

• **President**

John Pennell

johnpennelljr@aol.com

• **Treasurer**

Jack Royster

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• **Vice President**

Guy Broadhurst

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• **Secretary**

Eric Jackson

eric.jackson1969@gmail.com

Chapter 335 Special VPs

• **Aerospace Education:** Jay Carlson

• **Community Partners:** George Krym

• **CyberPatriot:** Bob Hovde

• **Webmaster:** Eric Silkowski




• **Newsletter:** Kathleen Mason

• **Veteran's Affairs:** Zig Jastrebski



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