

# COMBAT

## AIR MUSEUM PLANE TALK

October-December 2023  
Vol. 39, No. 4



## From *Wamego* to *Warthogs*

By Dennis Smirl

Retired Air Force Reserve Colonel Dewayne Burgess was the speaker for CAM's August membership meeting and brown bag luncheon. Colonel Burgess is a Kansas native and a graduate of Kansas State University with a major in Wildlife Conservation. His entry into the Air Force was through the KSU Air Force Reserve Officers Training Corps program. He graduated in 1972 and transitioned to active duty shortly thereafter.

After other assignments, Colonel Burgess was selected for pilot training and graduated from undergraduate pilot training in 1974.

Subsequently, the Air Force selected Lieutenant Burgess to be an instructor in the Cessna T-37 aircraft, where he trained new pilots in the basics of operating an aircraft powered by jet engines.

Later, Captain Burgess transitioned to the A-10 Thunderbolt II, affectionately known as the "Warthog." During his flying career, he accumulated 4,500 hours total jet time with 3,000+ hours in the A-10. He retired from the Air Force Reserve at the rank of colonel with a credited service of 33 years and 80 days.

His presentation to the CAM membership began with a highly informative 20-minute video, "Grunts in the Sky," which focused on the A-10 in combat. Some of the highlights of the video included demonstrations of the incredible maneuverability of the Warthog in a close-combat environment. Agile and quick when the fight is down and dirty, the A-10 can deliver effective, on-target ordnance when our ground troops are as close to the enemy as 100 meters.

The video treated viewers to scenes of the A-10 delivering conventional munitions (bombs, rockets, and 30-millimeter ammunition) along with some quick shots of the incredible damage that can be done to enemy armor by employing the aircraft's internal GAU-8 Avenger 30-millimeter rotary cannon firing



Dewayne Burgess  
(K. Hobbs photo)

depleted uranium ammunition.

After the video, Colonel Burgess treated the group to several highly interesting anecdotes from his time flying the A-10. Not a fan of the weather over most of Europe, he related a story about flying with another A-10 in total overcast and being unfamiliar with the airfield that was their intended destination. When they were less than an hour from that airfield, the pilot in the A-10 in lead had a control problem and had to hand over lead

to Burgess. Now in tight formation, Burgess had to depend on his instruments (and his skill as an instrument-rated pilot) to get the two aircraft to the destination airfield. He talked about how difficult it was for both pilots and said that he didn't see the airfield until he was flying low and slow over it. Then the other pilot was able to land safely while Burgess circled in zero-zero visibility until it was his turn to land. The whole time he was telling the story, the meeting room was utterly silent as members sat in rapt attention to the compelling narrative.

Colonel Burgess spent most of his career with the Air Force Reserve's 442nd Fighter Wing, initially based at the former Richards-Gebaur Air Reserve Station in Grandview, Missouri then, in 1994, at Whiteman Air Force Base near Knob Noster, Missouri. He retired in 2006 as the Wing Vice-Commander.

Following a bit more anecdotal information, Colonel Burgess opened his presentation to a vigorous question-and-answer session that was enjoyed by all. ♦



442d FW Fairchild A-10 "Warthog" (Air Force Reserve photo)

INSIDERS

**2** From the Chairman's Desk  
Gene Howerter

**3** "That's All, Brother!"  
Kevin Drewelow

**4** D-Day Stripes and "TAB"  
Dave Murray | Visitors

**5** My Dad and "The Stripes"  
Richard Knight | Next Membership Luncheon

**6** The A V Roe Vulcan B2  
Julian Grenfell

**8** Museum Notes  
Kevin Drewelow

**10** Convair's Delta Winged Jets  
Dennis Smirl

**11** Forbes Air Force Base Finale  
Kevin Drewelow

**11** New & Renewing Members

**13** In Remembrance | Calendar

**15** Ways You Can Support CAM

**16** RAF-The Ancestors  
Cecil Day Lewis

# PLANE TALK

COMBAT  
AIR MUSEUM

2

THE OFFICIAL NEWSLETTER OF THE COMBAT AIR MUSEUM  
**COMBAT**  
AIR MUSEUM

## Topeka Regional Airport

Hangars 602 & 604  
7016 SE Forbes Avenue  
Topeka, KS 66619-1444  
Telephone (785) 862-3303  
www.combatairmuseum.org

Website Hosted by  
Rossini Management Systems, Inc  
Email: office@combatairmuseum.com

### Board of Directors

Wes Barricklow, Jon Boursaw, Stu Entz,  
Gene Howerter, Mike Madden, Dave Murray,  
Sharon Nolde, Tad Nolde, Tad Pritchett, Mike Welch

### Officers:

Gene Howerter ~ **President, CEO**  
Dave Murray ~ **Vice President, CFO**  
Tad Pritchett ~ **Secretary**  
Judy Murray ~ **Treasurer**

### Operations Staff:

Kevin Drewelow ~ **Museum and Education Director**  
Nelson Hinman, Jr. ~ **Office & IT Manager,**  
**Volunteer Coordinator**  
Nathan Benfield ~ **Grounds Maintenance**  
Klio Hobbs ~ **Museum Photographer**  
Deb Lamere ~ **Chinook Restoration Manager &**  
**3D Projects Manager**  
Mike Madden ~ **Flight Simulator CIO**  
Ted Nolde ~ **Director of Engineering, Facilities**  
John Plumb ~ **Flight Simulator Instructor**  
Danny San Romani ~ **Restorations Manager**  
Chuck Watson ~ **Art Curator**  
Mike Welch ~ **Director of Facility Projects**  
Steve Wodtke ~ **Librarian**  
Joe Wulfkuhle ~ **Restorations Manager**  
Huw Thomas ~ **International Consultant**  
Richard Knight ~ **International Correspondent**

### Museum Guides:

Bruce Couch, Paul Frantz, Ralph Knehans,  
Mike Kozubek, Bill Newman, Dennis Smirl,  
Joe Turner, Carter Vincent, Chuck Watson

### Gift Shop Staff:

Gene Howerter ~ **Gift Shop Manager**  
Jon Boursaw, Chari Broughton, Kay Foster,  
Paul & Betty Frantz, Filip Garner, Ron Gray,  
John Moyer, Sharon Nolde, Bill Stumpff

**PLANE TALK**, the official newsletter of the Combat  
Air Museum of Topeka, Kansas, is published quarterly.  
*We welcome your comments!*

Newsletter Layout by Megan Garner

## MUSEUM HOURS

**January 2 - February 28/29**

Mon.-Sun. Noon - 4:30

Last Entry Every Day is 3:30 P.M.

**March 1 - December 31**

Mon.-Sat. 9 A.M. - 4:30 P.M.

Sun. Noon - 4:30 P.M.

Last Entry Every Day is 3:30 P.M.

### **Closed**

New Year's Day, Easter,  
Thanksgiving, Christmas Day

Your membership is important to us! Join the  
**COMBAT AIR MUSEUM**



## From the Chairman's Desk

By Gene Howerter, Chairman, Board of Directors

As the Museum is now into the fourth quarter of its fiscal year, it is possible to look in the rearview mirror and assess our current situation. Two of our highest priorities include attendance and finances. As attendance is critical to our financial position, let me share with you the good news. Our goal for 2023 is to reach, at a minimum, 12,000 paying visitors. With three months remaining until the end of the year, we have tallied 10,556 paying visitors to date. It looks very likely that we should exceed our goal of 12,000 visitors in 2023, despite the normal slowdown of visitors in the colder fourth quarter months.

Some of you may wonder how visitors say they learned about the Combat Air Museum. We question all visitors at the Museum check-in desk upon arrival. Here is the breakdown of their responses, in numerical order through the end of September 2023, the aggregate visitors' responses:

- #1 Repeat Visitors / Been Here Before: 2,821 or 26.7% of the 10,556 total YTD
- #2 Referrals - Family, Friends, Residents, CAM Members: 2,444 - 23.2%
- #3 Internet - Website, Facebook, Mobil Devices: 2,265 - 21.5%
- #4 Road Signs / Billboards / Banners: 1,346 - 12.8%
- #5 Bus Tours & All Field Trips: 1,232 - 11.7%
- #6 Tourism Offices/Publications: 336 - 3.2%

Concerning the Museum's finances: as mentioned above, at the end of September 2023 our year to date (YTD) visitor total tally was 10,556 paying visitors, which is 11.5% above the 2022 YTD number. When considering all paying visitors, adults, children, military and others, our breakdown for entrance fees average looks like this:

**Average Entrance Rate for all Visitors \$5.26**, up 1.0% from 2022 YTD

**Gift Shop Net Average Profit/Visitor \$2.39**, down 10.7% YTD. (This 2023 average is more in line with our historical average intake from visitors)

**Combined Total \$/Visitor \$7.65** down marginally 2.7% YTD

Besides the entrance fee and gift shop sales, the Museum still depends on other income such as donations, membership dues, memorials, financial gifts, unrestricted donations, flight simulator donations, fund raising events, kid's educational classes, grants and transient bed tax money, just to name a few.

I hope this bit of information will serve as a snapshot to inform you in part as to our financial picture. We are confident that we are in a sound fiscal state. So many of you who support the Museum in various ways deserve a big "thank you" and an idea as to what is involved in keeping the Combat Air Museum's doors open now and into the future. We are proud to have served so many individuals in many ways for the past 47 years and plan to continue serving you and the public for many more years to come. I encourage everyone to check our quarterly newsletter for all the different locations which our visitors represent, not only local and statewide but from places other than the good old USA. I think you will find this information as interesting as we at the Museum do. Thank you for your continued support. ♦

# “That’s All, Brother!” Comes to CAM

*By Kevin Drewelow*

People visit the Combat Air Museum to learn about aviation history. In July, aviation history visited CAM.

A green Douglas C-47 wearing D-Day invasion stripes taxied in and parked at CAM on July 10. Several restored C-47s have been here before, including our own “Kilroy,” but none have a service record equal to our latest visitor.

The Douglas Aircraft factory at Oklahoma City completed this aircraft, serial number 42-92847 on March 7, 1944 and delivered it to the Army Air Force a day later. An Air Transport Command crew took it to England on April 16. 847 was assigned to the 87th Troop Carrier Squadron of the 438th Troop Carrier Group at Royal Air Force Base Greenham Common, west of London. The C-47 was quickly modified with the addition of special “Rebecca” direction finding equipment which would be used to drop paratroopers on a location where the corresponding “Eureka” transmitter was operating.

Lieutenant Colonel John Donalson, a former member of the Alabama Army National Guard and now commander of the 438th, ordered the name “That’s All, Brother!” painted on the nose of 42-92847, a personal message to Hitler that the end was near. On the night of June 5, 1944, Donalson and “That’s All, Brother!” departed Greenham Common loaded with paratroopers of the 2nd Battalion, 502nd Parachute Infantry Regiment, 101st Airborne Division. “That’s All Brother!” led a fleet of 821 other C-47s carrying 13,000 paratroopers and dropped them over Normandy to begin D-Day, the invasion of France.



“That’s All, Brother” (K. Drewelow photo)

“That’s All, Brother!” participated in several other operations, dropping paratroopers and towing gliders throughout the war. It departed for the United States on August 4, 1945. It was sold as surplus after the war, passing through more than a dozen owners until it ended up with a company in Wisconsin which rebuilds DC-3s into turboprop-powered

aircraft. In 2006, a sergeant in the Alabama Air National Guard was researching the history of his unit. He learned about Lt. Col. Donalson’s role in World War II, which led him to research “That’s All, Brother!” After the news of the aircraft’s history was known, the Commemorative Air Force (CAF), a group well-known for restoring and flying vintage military aircraft, raised the money to buy and restore “That’s All, Brother!”

The CAF assigned the aircraft to their Central Texas Wing in San Marcos in 2017.

CAF members painstakingly restored the aircraft, even down to the point of matching the June, 1944 crudely applied invasion stripes. “That’s All, Brother!” made its first post-restoration flight in 2018. In May of 2019, “That’s All, Brother!”, in the company of other C-47s and DC-3s, flew to France to mark the 75th anniversary of D-Day. They followed the same route and stops used during the war to ferry these aircraft to war.

The CAF Central Texas Wing, based in San Marcos, flies “That’s All, Brother!” across the country, visiting cities where they share the aircraft’s history and sell rides to support the operation and maintenance of this amazing airplane. The Wing contacted the Combat Air Museum earlier this year and asked us to host a visit in July. We quickly agreed, and began working with them to publicize the visit and help sell rides. The CAF informed us that anytime “That’s All Brother!” took off with paying customers, CAM volunteers would be invited to fill any vacant seats for free!

As scheduled, “That’s All Brother!” arrived at CAM on the morning of Monday, July 10. After we parked the aircraft, we discovered hydraulic oil all over the left main landing gear, caused by a leaking brake assembly. The CAF cancelled rides for the day and began looking for help. Before long, our friends at the nearby American Flight Museum and Million Air saved the day. Million Air towed “That’s All, Brother!” to hangar 619 where American Flight Museum mechanics removed and replaced the leaking brake. The American Flight Museum owns and operates “Spooky,” restored to represent an AC-47 gunship used in Vietnam, so they had the skills, experience and tools needed to return “That’s All, Brother!” to service.

Tours and flights began on Tuesday, but extreme heat limited flights to morning hours. The CAF had a merchandise tent set up inside hangar 602 with a great selection of patches, hats and T-shirts, among other items. Severe weather had been forecast for a couple evenings, but Million Air kindly donated hangar space to keep “That’s All, Brother!” safe on those evenings.

Several Army reenactors from around eastern Kansas and even Nebraska spent one day with the famous C-47. One reenactor brought two artifacts that were carried by noted Topeka history teacher and paratrooper Sherman Oyler when he

*Continued on page 7*

## *D-Day Stripes & “That’s All, Brother!”*

By Dave Murray

In the period leading up to the invasion of France by Allied forces, planners for the aerial portion of the D-Day activities realized that they needed to come up with a common set of unique aircraft markings to prevent the loss of vital aircraft from “friendly fire” by ground forces. The existing system for identifying friendly aircraft, Identification Friend or Foe (IFF), would in all probability be overwhelmed by the sheer number of aircraft in the invasion fleet.

Ground anti-aircraft forces could be “spooked” by so many aircraft overhead and conclude that some were Luftwaffe planes.

By mid-May 1944 these planners came up with the idea of a common pattern of stripes for all aircraft to provide for ground and aerial identification. Three white and two black stripes would be applied on all aircraft of the invasion fleet. These stripes were to be painted around the rear of the fuselage ahead of the empennage and around both sides on each wing to satisfy ground identification.

To prevent providing enemy spies with any advance knowledge, orders to paint invasion stripes were not issued to the D-Day air fleet until June 3rd for the troop carriers (more than 1,200 C-47 Skytrains and gliders) and June 4th for the fighter and bomber groups.

Orders were given for the stripes to be applied within 24 hours. Given the urgency of the task, it was not possible to meticulously mask off each plane for the paint job. Crews used what was available to them, mops, paint brushes, rags or whatever could be corralled and utilized from their stores, for the rush job. Consequently, the outer lines of the stripes were often irregular, but it was surmised, correctly, that from aircraft flying hundreds or thousands of feet in the air, ground personnel would easily recognize white and black stripes, however rough and ready the application. Period photographs attest to the often rough and uneven appearance

of many of the applications.

It was said that the enormous quantity of paint required for thousands of aircraft exhausted most of the black and white paint in Britain.

One month after D-Day, Allied forces had gained such superiority over the Luftwaffe that the D-Day stripes were ordered to be removed from all aircraft to make them more difficult to spot on the ground at forward enemy bases in France.

On the recent Commemorative Air Force’s C-47 “That’s All, Brother!” visit to CAM, these “irregular” stripes exactly match what was painted on this plane in June 1944. Within the first white stripe is an irregular square, dubbed the chalk square where a chalk number was added to indicate the correct plane for paratroopers to board on June 5/6th. ♦



July 2023 photo (D. Murray photo)

★ ..... ★

### Visitors

1,980 people from 38 states, Puerto Rico, Argentina, Belgium, Canada, Costa Rica, El Salvador, Germany, Mexico, Norway, Poland and Scotland visited the Combat Air Museum in July.

In August, 1,420 visitors from 42 states, Puerto Rico, Australia, Brazil, Canada, China, France, Germany, Great Britain, Hungary, Japan, Lithuania, Mexico, the Netherlands, New Zealand, Norway, Poland, Scotland and Singapore toured your Museum.

1,529 people from 38 states, Puerto Rico, Brazil, Canada, China, Czech Republic, Finland, Germany, Great Britain, India, Mexico, Poland, Spain and Switzerland visited the Combat Air Museum in September.



June 1944 photo (www.thatsallbrother.org photo)

## My Dad & “The Stripes”

By Richard Knight  
*Plane Talk International Correspondent*

It was June 6th, 2004, and my mum and dad both had “Veteran Passes” to the D-Day, 60th anniversary remembrance event at Portsmouth because both were D-Day veterans. They were allowed to be accompanied by two guests and my wife and I couldn't wait to join them. It was a big event with full Army, Navy and Air Force participation and the Queen in the Royal Yacht Britannia performed the salute. We watched the warships from the shore at Southsea, where my mum and dad had courted and got engaged in late 1944. At noon there was a massive flypast of Spitfires, Hurricanes, Dakotas, Lancasters and Wellington bombers.

As they approached us flying along the shoreline, my dad started to shake and as I looked at him, I could see he was crying. He just kept saying, “They've got the stripes; they've got the stripes!” Now I had seen Spitfires and Hurricanes flying at airshows, but they had never had the black and white stripes I was now seeing, so I asked, “Dad, what's with those stripes on the planes?” and this is what he told me.

On the night of Wednesday June 7th, 1944, Dad was given orders to take all necessary tools and go aboard the steam trawler “Grampian” (commandeered by the Navy) which was moored in the River Itchen at Woolston, just outside the bombed out Supermarine factory where the Spitfire was designed. His orders were to be the engineer officer to a small flotilla of barges. It was only 18 days after his 19th birthday and the Grampian was on its way to the Normandy Beaches.

Dad didn't know what the purpose of the mission was as you were only told what you needed to know, and his orders were to keep the engines and mechanical bits on the flotilla in full working order. Most on board knew that the invasion had begun that morning but only the Grampian's Captain knew where they were heading. By daylight they saw literally hundreds of other ships: landing craft, destroyers, cruisers, and battleships all around them, including the American battleship USS Arkansas firing salvo after salvo over the Grampian to the Normandy shore. To add to the melee, the destroyers were weaving in and out of the bigger ships laying down smoke to make it more difficult for the German shore batteries to spot them.

The Grampian's captain ordered a double watch to get as many eyes as possible looking out for possible collisions. The lookouts were also briefed to look out for hostile German aircraft as in the early days of the invasion the Royal Air Force had not gained air superiority. Dad told me that several times an hour a lookout would shout, “Be aware, aircraft approaching!” The Grampian was not armed so everyone would have their favorite place to get their head down should they be fired on by a German plane. Dad said he would drop down into the engine room as he hoped the heavy metal steam engine would offer him some protection!

Then they would hear the lookout shout enthusiastically, “It's

got the stripes; it's got the stripes” and everyone would breathe again and crawl out of their hiding holes. The mental strain of those few days was clearly still wired into Dad's brain and his subconscious brought back all the emotion he must have felt as a 19-year-old lad every time “It's got the stripes” was shouted out. And 60 years later it all surfaced again.

During my research into Operation TOMBOLA, which was the code name for the mission Dad was on, I learnt that the Grampian and its accompanying four barges should have sailed straight into Port-en-Bessin harbor on the Normandy coast when it arrived on the 8th of June. However, the original plan for 47 Royal Marine Commando to capture the port by June 7th missed its target due to immense unforeseen German resistance. It was two days later that the Grampian was able to sail into the harbor, so the ship and crew had been three days “treading water” off the Normandy coast in the middle of the largest seaborne invasion ever mounted. I think my dad deserved to get emotional after what he had been through. So now when I see a Spitfire or any plane carrying “The Stripes” I get emotional too! ♦

## Next Membership Luncheon

The next Combat Air Museum membership luncheon will take place on Monday, December 11 at 11:30 a.m. Unlike our usual luncheons, this will be a covered dish, pot luck event. Chuck Atherton will be our speaker; he will tell us about his experiences serving with the 1st Air Cavalry Division in Vietnam from 1968 to 1969. ♦

### LOGBOOK

#### Great Aviation History



**LOGBOOK** magazine is a print journal chronicling the entire range of aviation history. We would be happy to send you a complimentary issue.

If you would like to review **LOGBOOK** magazine, please drop us a note at:

[www.logbookmag.com](http://www.logbookmag.com)

Click on “Contact”

or, send a note to: P.O. Box 31, Pensacola FL 32591-0031

Offer good while supplies last. Fly Safe!

## The AV Roe Vulcan B2 – A Cold War Jet Bomber

By Julian Grenfell

*Those who were exhausted from building the aerial tools of the Second World War were once more being called to the anvil, and were tasked to design and build a miracle of air war, an aircraft so advanced that even those who wrought it were open mouthed when it first took to the air.*

This short article describes the evolution of the Royal Air Force (RAF) Vulcan B2 nuclear bomber and looks at those ingredients that brought about the need for such a bomber, through what was called in the RAF, an Operational Requirement (OR). An OR for a weapon system is driven by political and military needs and, in turn, looks at the technology needs. After the end of the Second World War, it was clear to the RAF's OR Branch that its piston-engined bombers were underpowered, under protected, unmanoeuvrable, and were inaccurate in weapon delivery. It was the two major inventions of the Second World War, the nuclear weapon and the jet engine, that were to improve a bomber's ability to survive in air combat. With the jet engine the bomber could fly higher and faster than previously, even outpacing some fighters<sup>2</sup> in speed and altitude. The Vulcan's air combat space was to be in a region of the stratosphere hitherto not flown in by combat aircraft. Nuclear physics was to provide a weapon capable of great damage, such a weapon providing heat, radiation, blast, and an electromagnetic pulse over comparatively large areas.

The Vulcan's aerodynamic regime was to be the transonic regime. The technology needed was to include the aerodynamics for flight approaching the speed of sound, as well as a ground-mapping radar to improve the accuracy of weapon delivery. For accurate, self-contained, navigation and bombing the Vulcan was to have the world's first integrated Navigation and Bombing System (NBS). The reduction of drag divergence caused by high-speed flight was first presented in a paper on swept-back wings by Doctor (Dr) Adolph Buseman in the 1935 Volta conference in Rome, though little notice was given to his paper at that time. Much work on high-speed flight, *inter alia*, was done by aerodynamicists such as Dr von Karman, Dr Alexander Lippisch, and Dr Hans Multhopp. The RAF OR required the Vulcan to have manoeuvrability at height, so the AV Roe design used a delta planform to obtain the advantages of lift and speed, with manoeuvrability being achieved through the use of the elevon, a mixture of elevator and aileron function over several control surfaces; the Vulcan had four such surfaces on either wing trailing edge. In terms of manoeuvre, the Vulcan's in-service flight envelope gave it a 3g



Vulcan B2 (RAF Museum photo)

capability at 25,000 feet (ft) which meant that a 4g capability in war was achievable with a bank angle of more than 60 degrees; a remarkable accomplishment for the AV Roe aerodynamicists and engineers in the late 1940s and early 1950s. The AV Roe test pilots<sup>3</sup> would roll the Vulcan regularly after take-off and would also roll the aircraft off the top of a loop<sup>4</sup>.

Vulcan survival of enemy defences would be bettered by addressing the susceptibility and vulnerability of the aircraft to enemy air defence systems. Survival would also be improved if the aircraft did not have to be in close proximity of enemy air defences, the defences being in the form of the surface to air missile (SAM) and anti-aircraft artillery (AAA); thus, a rocket-powered stand-off nuclear weapon<sup>5</sup> with a range of some 110 nautical miles (n mls) was developed in parallel with the jet bomber. An example of susceptibility is a large radar cross-section (RCS) of the airframe, or a large infrared (IR) signature from the engines. Whereas an example of vulnerability reduction is providing fuel tank suppression should the tank be breached as a result of the detonation of a weapon close to the bomber. Multiple routing of electrical AC and DC wiring was another example of vulnerability reduction to battle damage, together with emergency electric supplies for use at both high and low altitudes.

Vulcan survivability was also increased by the use of electronic countermeasures (ECM). The Vulcan's ECM would interfere with the SAM and AAA fire control radars, as well as Soviet fighter air-to-air missile (AAM) weapon guidance. In the late 1950s to early 1960s the Vulcan's ECM capability was second to none. For evidence, see North American Air Defence (NORAD) and Strategic Air Command (SAC) Exercise Skyshield I and Skyshield II conducted in 1960 and 1961.

For weapon delivery, the circular error probable (CEP)<sup>6</sup> needed to be low to achieve the desired damage to enemy military installations. The Vulcan carried a 1.1 megaton (MT) weapon with a CEP of some 300 yards, was designed to fracture missile silos, make airfield runways unusable, and reduce the functioning of Soviet ground-based air defence systems.

Crucial to all air operations is what is called the air doctrine, the fundamental principles by which military forces guide their actions in support of their objectives. The original nuclear doctrine required the V-bombers to fly at high altitudes, 45,000 ft plus<sup>7</sup>. However, there was a huge increase in the number of deployed Soviet<sup>8</sup> SAM systems, which had been predicted in 1958 by Britain's Ministry of Supply. As a consequence, weapon delivery at high altitudes by Britain's

## “That’s All Brother” *Continued from page 3*

V-force would become untenable, thus in the early 1960s the V-force air doctrine changed to attacking Soviet targets at low altitudes (300 ft). The philosophy of platform protection changed from that of force protection at high altitudes, to one of individual protection at low altitudes with the Vulcan using terrain following radar (TFR) it was now being flown tactically. In the foregoing context, the Vulcans were not being equipped with advance ECM, the crews being let down by the politicians who refused to purchase the desperately needed equipment.

In 1969 the RAF handed over the British deterrent to the Royal Navy, the RAF’s guardianship was now at an end. For those Vulcans based in Cyprus, their role was now in support of the Central Treaty Organisation (CENTO), the Vulcan’s nuclear weapon now a WE 177 450 kiloton (kt) low-level laydown-land device. The Vulcan scrapping programme started in the early 1980s, hastily cut short owing to the Falklands War. The Vulcans flying bombing raids of 16 hours non-stop from Ascension Island to the Falklands and back. In 1982 the remainder of the Vulcans were either scrapped or flown to museum sites in the UK, the US, and Canada; thus was the end of Britain’s Cold War icon. [Ed. note: Vulcan B2 XM573 is on display at the Strategic Air Command Museum in Ashland, Nebraska]

*Books authored by Julian Grenfell*

- [1] LeBrun, John, Anthony Wright, James Vinales, and Julian Grenfell, *Flying the Vulcan: A Crew’s Work in Preparing and Flying a Training Sortie During the Cold War*. Amazon, 2022.
- [2] Grenfell, Julian. *The Vulcan, Soviet Air Defence, and the Cold War*, Helion and Company, 2023.

*Julian Grenfell has 4,500 hours flying Royal Air Force (RAF) Vulcan B2s, and held several Electronic Warfare (EW) appointments in the Royal Air Force. Following his time in the RAF, Julian spent 35 years in the Defence Industry as an Aero Systems Engineer, Mathematician, and Scientist, and worked for several major UK Defence Companies, finally running his own EW Consultancy company.*

- <sup>1</sup> *There is no need to say British Royal Air Force because there is only one Royal Air Force.*
- <sup>2</sup> *We do not use the term ‘fighter-jet’ since we do not use the terms ‘bomber-jet’ or ‘transport-jet’.*
- <sup>3</sup> *Roland Falk and Tony Blackman.*
- <sup>4</sup> *The manoeuvre is called an Immelman.*
- <sup>5</sup> *To be called an air-launched cruise missile (ALCM) or Stand-off weapon.*
- <sup>6</sup> *A standard measure of accuracy for air delivered weapons, whereby 50% of the weapons fall inside the stated limit, and 50% outside.*
- <sup>7</sup> *The B2 version of the Vulcan could reach 64,000 ft.*
- <sup>8</sup> *It was the Voyska Protivovos Dushnaya Oborony Strany (PVO) which was the Soviet Air Defence of the Homeland, not the Soviet Air Force which was the Voyenno Vosdushnaya Sili (VVS). ♦*

jumped into Normandy as part of the first wave. Since “That’s All Brother!” led the first wave, the reenactor wanted to take Sherm’s artifacts, a small 48-star American flag that he had tucked inside his jacket and a Ka-Bar fighting knife strapped to his ankle. Just seeing and touching those items filled onlookers with awe. The reenactors then recognized CAM member Deb Lamere for her service with the 101st Airborne in Iraq and Afghanistan as a Chinook helicopter crew chief and flight engineer.



Paratrooper reenactors pose with ‘That’s All, Brother’ (K. Drewelow photo)

As promised, the CAF crew allowed CAM volunteers to fill empty seats on local area flights. A young reenactor was along on one flight and it reminded the rest of us that while we were enjoying a pleasure flight, it was all business on the night of June 5, 1944. The CAF crew also provided rides for the American Flight Museum members who changed the leaking brake on their first day.

Before we knew it, the day for 847 to depart for Omaha was upon us. Once again, the threat of severe weather, delayed their departure until Saturday morning. We learned a lot from the team that brought “That’s All, Brother!” to the Combat Air Museum and we hope to host similar visits from touring warbirds in the future. To learn more about this historic aircraft and the plans to return to Normandy for the 80th anniversary of D-Day in 2024, visit <https://thatsallbrother.org> ♦



“That’s All, Brother” over CAM (C. Hanna photo)

# Museum Notes

*By Kevin Drewelow*

We often say volunteers are the backbone of the Combat Air Museum and that was proven time and again throughout August, September and October.

**Spencer Duncan Make It Count 5K at New Century AirCenter...**The Combat Air Museum has been privileged over the last few years to staff an information booth at the annual Spencer Duncan Make It Count 5K run near Olathe, Kansas. The event raises money for many veterans' programs and honors the memory and service of Army Reserve Specialist Spencer Duncan, a door gunner on board Extortion 17, an Army CH-47 Chinook shot down in Afghanistan on August 6, 2011 which killed everyone aboard, the largest single-incident loss of American life in that conflict. Deb Lamere and Kevin Drewelow set up a display about our museum; Kevin told visitors about CAM and Deb, with the help of friends and family, walked the course! Whether you walk, run or simply attend, it's time well spent for a very good cause.

**New sign on hangar 604...**A few days later, technicians from Knox Signs and Graphics installed a new sign above the flight line doors on our south hangar, complementing the flight line sign on our north hangar. Some of our visitors arrive by air and taxi right up to our museum so the signs make it clear they've arrived at the right place!



New sign on hangar 604 (K. Drewelow photo)

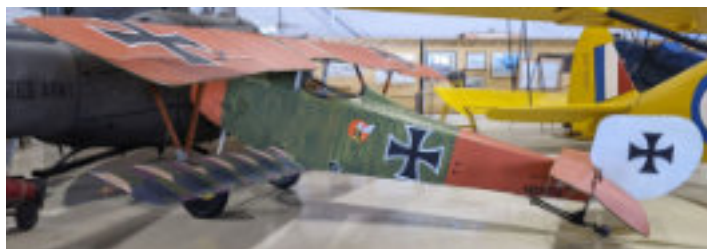
**CAM visits the Flint Hills Discovery Center...**Chuck Watson and Kevin Drewelow traveled to Manhattan, Kansas on August 26 to participate in Aerospace Day at the Flint Hills Discovery Center. There was a long line of people waiting to get in when we arrived at 9 a.m.; when the doors opened an hour later, the visitors kept coming until the event ended at 5 p.m.! The event was intended to inform youth about aviation and its many opportunities, and many aviation organizations from across the state were there to spread the word. We were so busy we didn't have time to eat lunch! It was a great event and we hope they hold it again soon.



Chuck Watson at Aerospace Day (K. Drewelow photo)

Afterwards, Kevin and Chuck visited Kite's in Aggieville to see the legendary pub that played a role in the rescue of Roger Locher, a K-State grad and F-4 Phantom weapons system officer who was shot down 40 miles from Hanoi on May 10, 1972. He escaped and evaded for 23 days before he was rescued, but that's another story-see the display about this event next to the Combat Air Museum's Phantom!

**CAM receives a new aircraft...**CAM received our 47th aircraft, thanks to Marvin and Nancy Story of Kansas City, Kansas. Marvin and 13 of his friends began building 7/8 scale replica Nieuport 17s in 1994. He thought one of the 13 Nieuports should be an adversary so the others had someone to attack, so he turned his project into a Siemens-Shuckert D.I, a German copy of the Nieuport 17. He even put together a correct German uniform which he wore from time to time to complete the effect! Marvin's D.I was a staple of the World War One fly-ins that took place at the Gardner, Kansas airport for decades, flying alongside Dick and Sharon Starks, the other members of the Kansas City Dawn Patrol, and many more. We're grateful to Marvin and Nancy for adding to our collection of World War One replica aircraft!

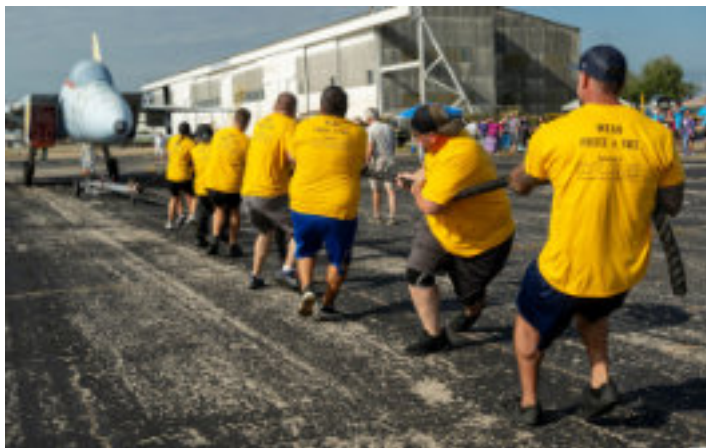


Siemens-Shuckert D.I replica (K. Drewelow photo)

**Plane Pull helps two great causes...**We had not heard of Be Filled of South Topeka until Brandi Brown and Jamie Jalil, executive director and deputy director respectively, stopped by in June to say hello. Be Filled of South Topeka is a food bank, community closet and resource center, located at 200 Airport Road, Building 818, Suite 1 on Forbes Field. They were interested in holding a plane pull fundraiser to benefit both organizations. We agreed and chose to use our CH-47D Chinook and F-15A Eagle. The Metropolitan Topeka Airport Authority (MTAA) cooperated fully, and they even entered a team! We looked at plane pulls held



by other organizations and modeled ours on one in particular. We ordered custom two-inch diameter ropes which arrived just in time. Be Filled lined up eight teams of 10 people each from Advisors Excel, Lewis Toyota, MTAA, Shawnee County Sheriff's Office, Topeka Police Department, Topeka Rescue Mission, Walmart Fulfillment Center and Washburn Rural USD 437. On Saturday, September 16, 168 people came to CAM to watch and the event was a great day for family fun with food trucks, face painting and superb weather. It was an exciting day for all and we learned that 10 people have very little trouble pulling a 21,000-pound aircraft! The MTAA team took first place; it seemed appropriate as they said themselves, "We have the home team advantage!"



MTAA team plane pull champions (K. Hobbs photo)

**Girls in Aviation Day...**One week after the plane pull, it was time for Girls in Aviation Day, the second of four events on consecutive weekends. Women in Aviation International (WAI) is a nonprofit organization that encourages the advancement of women in all aviation career fields and interests. WAI started Girls in Aviation Day in 2015 to help girls learn about aviation and to meet women who fly, maintain and support all kinds of aviation. The Kansas Commission on Aerospace Education once again provided a \$500 grant to the Combat Air Museum to provide free admission for the day. The day began at the Museum of the Kansas National Guard where girls heard from area women pilots and other aviation fields about how they got into the business, education and experience requirements and the benefits of working in aviation. Kansas STARBASE put on a STEM demonstration where the girls worked as aeronautical engineers to evaluate two competing paper airplane designs to determine which design functioned best in two separate performance tests. The girls also toured the museum. Then they came to the Combat Air Museum for a



Laura explains air traffic control (K. Hobbs photo)

range of experiences. They made and flew paper airplanes and saw members of the Foundation for Aeronautical Education demonstrate radio-controlled aircraft. Former skydivers Laraine and Rance Sackrider helped the girls make coffee filter parachutes which they placed in an innovative machine which would lift the parachute up to a large airplane where it released and drifted down, much to the delight of the children! Two members of the Professional Women Controllers Association explained air traffic control and communication to the girls, and staff from the Amelia Earhart Hangar Museum helped girls build a roller coaster to learn about the forms of energy. Outside, girls could tour a range of aircraft and speak with the crew members. The 190th Air Refueling Wing, 71st Flying Training Wing, Air Explorer Post 8, American Flight Museum, the Great Plains Balloon Club, and Kansas Highway Patrol all displayed aircraft and the MTAA showed their latest all-terrain fire truck. Over 300 people attended the event and we look forward to next year's event!



The Sackrider parachute factory (K. Hobbs photo)

# Convair's Delta Winged Jets

By Dennis Smirl

Sometimes it's fun to take a step outside the box because it often provides an interesting learning experience. In that vein, how about something different, as in what's *not* in our hangar? Here's a partial list. Begin with the XF-92, proceed to the XFY-1. Continue through the F2Y Sea Dart, a jet-powered, water-based fighter, then watch Convair struggle with the speed of sound in the F-102 and with Mach 2 in the F-106 and the B-58. One of the great aircraft manufacturers in the period shortly after the end of World War II, Convair built some very interesting aircraft that have all but disappeared into the mists of history.

Begin with the XF-92, later the XF-92A. A 'one and done' aircraft that managed to survive the airplane crushers/used aluminum buyers and now has a home at the USAF museum at Dayton, Ohio. The job of the XF-92 was to evaluate the practicality of a sixty-degree wing sweep in a delta configuration. The aircraft was built with a tapering cylindrical fuselage, delta wings, and a triangular vertical tail, but no horizontal stabilizer. It was a research aircraft built on a budget, even using parts of other, obsolete aircraft because they were less costly.

Tests of the XF-92 went reasonably well. The engine chosen for this X-bird was the General Electric/Allison J33, a reliable workhorse that was used in the Lockheed F-80/F-94/T-33 series, among others. The nose gear was borrowed from the Bell P-63 and when it failed, ended the F-92 program.

The XF-92 was subsonic. The J33 just didn't have enough power to get it to the speed of sound, let alone past it. The Air Force and Convair knew they had a problem. They needed data from prototype and experimental aircraft routinely flying at speeds past Mach 1.

Maybe an afterburner held the answer. This was a new technology in the late 1940s, and for a while they were custom made with almost every afterburner being somewhat different from every other afterburner. Allison and Convair worked together and built an afterburner for the '92—a decision which added a few feet to the length of the airframe, all behind the wing. The XF-92A was sort of an ugly bird to begin with, and with the addition of the afterburner and the sheet metal to cover and streamline the addition, it got a lot faster and quite a bit uglier. Before its retirement, Chuck Yeager flew the XF-92A to altitude, kicked in the afterburner, rolled inverted into a dive, and exceeded the speed of sound, but, too little, too late. The job of building and installing the afterburner had taken far too



XF-92 (NMUSAF photo)

much time, and the data it provided was unfortunately obsolete.

Simultaneously, there was a program for a Navy shipboard interceptor that would take off and land vertically. Convair and Lockheed each built 'one and done' airframes, and making these aircraft was all but impossible. The better of the two designs, Convair's XFY-1, took off, flew horizontally for some distance, and landed safely on several flights, but only under the control of a highly experienced pilot. It was not suitable for deployment aboard ships that were moving, let alone ships that were experiencing rough seas and the idea of putting the aircraft in the hands of a younger, less-experienced pilot in even the best of conditions was unthinkable.

On the plus side, the engineering behind the Convair XFY-1 and Lockheed's XFV was cutting edge. The engine in each of the two experimental aircraft was the Allison YT40-A-6 turboprop producing 5,100 shaft horsepower and the performance of the XFY-1 was remarkable for its time. The YT-40 engine drove counter-rotating propellers, eliminating most of the yaw problems encountered with a single propeller. It also introduced some problems, mainly because the YT-40 engine and especially the propeller required a lot of maintenance between each flight to keep things operating safely.

After being displayed for several years at Naval Air Station Norfolk, Virginia, the XFY-1 was moved to the National Air and Space Museum in Suitland, Maryland, where it currently can be viewed as a static display.

At about the same time, Convair was awarded a contract to build a delta-winged, jet-powered, sea-based fighter/interceptor. The idea was that the jet seaplane could be based almost anywhere one could find a decent-sized body of water free of floating hazards.

Problems arose with the decision to use retractable jet skis. On takeoff, the F2Y Sea Dart would rise out of the water, hydroplaning on the jet skis, or jet ski, and get a horrible shaking by even mild swells before the aircraft could get into the air. After that, it was smooth flying

*Continued on page 12*

## Forbes Air Force Base *Finale Fifty Years Ago*

*By Kevin Drewelow*

81 years ago, only a few months after the attack on Pearl Harbor, construction began on Topeka Army Air Field (TAAF). Six years later, it was renamed Forbes Air Force Base. Fifty years ago, the Department of Defense closed the base and turned it over to the city of Topeka.



Headline on April 16, 1973 (CAM photo)

During World War II, TAAF was a bomber training and modification site. Crew members brought their newly built aircraft to be modified to the latest standard while continuing to train on “loaner” bombers until their original aircraft was combat ready. B-17s, B-24s and B-29s all passed through before heading into combat.

When the war ended, TAAF served as the only refueling stop for the daily Air Transport Command transcontinental flight and other cross-country military flights. It also became an aircraft storage location and personnel separation center. The Defense Department inactivated TAAF in late 1947 and the aircraft hangars were used for grain storage! The base reopened briefly in 1948-1949 as a Strategic Air Command (SAC) base and had a new name: Forbes Air Force Base. Major Daniel Forbes was born in Carbondale, just south of Topeka and was a combat veteran. He and his crew died in the crash of a Northrop YB-49 Flying Wing in 1948. The base was inactivated in October of 1949, but not for long.

Forbes reopened 16 months later when the Cold War brought SAC back to Topeka with a succession of piston-powered heavy bombers, reconnaissance aircraft and refueling tankers. By February of 1954, the Jet Age arrived and led to the extension of the northeast-southwest runway to accommodate the Boeing B-47

*Continued on page 14*

## New & Renewing Members

### New:

John Brown & family | Kenton Conway | Chris Dellasega & family | Sharon & LJ Efird | Jerry Hinkle & family | Mack Innis | Megan Storm Jay & family | Mike Kaye & family | Jeremy Livingood & family | Jim McKay & family | Amanda Mosier & family | Chris Rounds | Finn Willard & family

### Renewing:

Wes Barricklow & family | Ted & Cindy Berard | Bruce Bevitt | Ron & Nancy Bond | Charie Broughton | Juan Chavarria & family | Bruce Couch | Thomas Crafton | Robert Crapser | Thomas Davidson | Kyle Dehn & family | Kevin & Susan Drewelow | Robert Eichkorn | Adam Fast & family | Tim & Suzanne Felks | Joe Fives | Virginia “Kay” Foster | Eugene Francis | Frank Gannon | Dale Gay | Richard Gates | Charles & Dagmar Gorges | David Gurske & family | John Hamilton | Robert & Pamela Hanks | Chuck & Peggy Hanna | David Harbert & family | Jessica Heinen & family | Paul & Jean Henson | William & Marilyn Hensley | Nelson Hinman Jr & family | Donald & Kathy Jensen | Jeffrey Keating | Dr. Kay Kile & family | George Laliberte | Marcy Lee & family | Rodney Longhofer & family | Terry Love | Bravo-Lowell family | Ron Lutz | Jamie Massy & family | Becky Mathers | Sharon McDorman | Jolynn McFall & family | Col. Ronald McKay & Susan Stokes | Dave Meggars | Bob Miller | Danny Munck | Larry A. Morgan | David Pierce | Adam Polter & family | Tad & Dee Pritchett | Bill Shaffer & family | Christopher Shields & family | J. Arron & Cathy Small | Jonathan & Georgia Small | Gary & Therese Smith | Darlene Thomas | Ryan Vincent & family | Thomas Ward & family | Christopher & Dawn Webber | Dr. Rees Webber & family | Mike & Carla Welch | Robert & Donna Woodhead | Conrad & Sharon Youngblom

### New Lifetime Members:

Chris Miller | Steve Miller

## Convair *Continued from page 10*



F2Y Sea Dart (US Navy photo)

(almost Mach I) until it was time to return to the sea, lake or river, at which time the shaking and pounding returned with a vengeance.

Still, the Navy believed in the program and ordered two prototypes and twelve production aircraft, more than were needed to display the kind of problems that just wouldn't go away. Among those problems were the engines. The aircraft was designed around the afterburning Westinghouse J46 engine, but that engine wasn't ready, so Westinghouse J34 engines without afterburners were substituted, creating a severely underpowered aircraft. Finally, the J46 became available, but it never achieved its thrust potential, and the idea of a jet-powered, sea-based interceptor died a well-deserved death.

A Convair F2Y Sea Dart is on display at the San Diego Air & Space Museum in Balboa Park. Another can be seen at the Wings of Freedom Aviation Museum at Naval Air Station Joint Reserve Base Willow Grove in Pennsylvania.

Coming closer to success, Convair won a contract for a supersonic manned interceptor that would be armed with, at the time, the latest and most accurate air-to-air missiles. This was the F-102 Delta Dagger program, and more than 600 of the type were constructed and flown in squadron service. One problem emerged very early into the production cycle. The XF-102 wasn't capable of supersonic speeds in level flight. Maybe it was the lack of timely data from the XF-92/ 92A program. In any event, the chubby, tubby XF-102 came very close to early termination.

Enter Whitcomb's Area Rule. In short, make the fuselage resemble a Coca-Cola bottle, pinching the fuselage to make up for the drag of the wings. It worked and the XF-102A exceeded the speed of sound while climbing out from take-off on its first flight.

There were other modifications to the F-102A before it became what the Air Force wanted. The theoretically perfect delta-wing aircraft would have wings and vertical tail swept at sixty degrees. The early F-102As had to be retrofitted with a vertical tail swept at forty-five degrees due to a problem with handling and control. Later production blocks came equipped with the forty-five-degree tail.

Apparently, all early models of the F-102A, save one, got the forty-five-degree vertical stabilizer, and that aircraft was loaned to an outdoor museum in South Carolina. When that museum closed, the aircraft moved to the Carolina Aviation Museum in Charlotte, North Carolina, where it was displayed in pristine condition after a thorough renovation. Now known as the Sullenberger Aviation Museum, the Dagger remains in the museum's collection.

The next step in single engine interceptors was the F-106 Delta Dart, a serious upgrade of the F-102A design. The wings remained the same, but the fuselage was slimmer and more obviously area-ruled, while the intakes were moved up and back from their placement on the F-102A. In addition, the F-106 Delta Dart used the Pratt & Whitney afterburning J75 engine with more than twice the thrust



F-106 (archives.gov photo)

*Continued on page 14*

## In Remembrance



Col. Paul Fortin

### Paul E. Fortin

August 21, 1930–July 22, 2023  
U.S. Air Force veteran  
CAM #3682

A few sentences in Plane Talk are inadequate to describe Paul Fortin's life. He was a pioneer electronic warfare officer (Raven) on 55th Strategic Reconnaissance Wing RB-47s at Forbes Air Force Base. In 1956, his crew flew multiple trips over the Soviet Union as part of Operation HOMERUN, photographing and gathering electronic intelligence. Six years later, he flew sorties during the Cuban Missile Crisis. He crewed RB-66 Destroyers on over 100 missions above North Vietnam. His PhD in electrical engineering led to many interesting projects before he retired after 30 years in uniform. Paul taught electrical and aerospace engineering at the University of Kansas and later, with his wife Jane, got involved in youth aerospace education. Paul especially loved to share the wonders of aviation with children, as he did with Kansas STARBASE and the Combat Air Museum.



55th SRW Boeing RB-47H (USAF photo)

# 2023-2024 Calendar of Events

## November

- 5—Daylight Savings time ends
- 23—Thanksgiving; Museum closed

## December

- 11—Membership Luncheon—bring a covered dish
- 25—Christmas; Museum closed

## January 2024

- 1—New Year's Day, Museum closed
- 2—Winter hours begin, Museum open  
noon-4:30 p.m.; no visitors admitted after  
3:30 p.m.

## February

- 1—Winter hours continue through the end  
of the month
- 12—Membership Luncheon, Brown Bag

## March

- 1—Normal hours resume, Museum open  
Mon-Sat 9 a.m. to 4:30 p.m.,  
no visitors admitted after 3:30 p.m.;  
Sun noon-4:30 p.m.
- 10—Daylight Savings Time begins
- 31—Easter Sunday, Museum closed

## April

- 8—Membership Luncheon, Brown Bag
- 27—Celebrity Pancake Feed

## May

- 27—Taps Across America

## June

- 10—Membership Luncheon, Brown Bag

## August

- 12—Membership Luncheon, Brown Bag

## October

- 14—Membership Luncheon, Brown Bag

## November

- 3—Daylight Savings Time ends
- 28—Thanksgiving, Museum closed

## December

- 9—Membership Luncheon—bring a covered dish
- 25—Christmas, Museum closed

## Convair *Continued from page 12*

available to the F-102A Delta Dagger. This resulted in Mach 2 performance, a huge improvement over the Delta Dagger's top speed of Mach 1.2. Of particular note was the deletion of a delta-shaped vertical stabilizer for the F-106 in favor of a more conventional swept design. The bottom line is that the F-106 was a winner from day one, worthy of the title 'the ultimate interceptor.'



B-58 (NMUSAF photo)

The last of the Convair delta designs was the B-58 Hustler, a medium bomber with Mach 2 speed resulting from the use of four General Electric J79 engines. Displaying cutting edge technology in almost every aspect, the B-58 Hustler would have been a highly survivable design if it only had to face manned fighters and interceptors. But times change, and with them technology, and Soviet development in interceptor missiles consigned the Hustler to an early retirement.

If the Hustler had an Achilles' heel, it was in a never-corrected, never really understood problem with high-speed flight. With all four engines running in afterburner, and the aircraft accelerating toward Mach 2, occasionally the number three engine would flame out, leaving the already busy pilot with a serious yaw problem. Typically, stable flight was not a sure thing until the Hustler had slowed to less than Mach 1, a situation in which the B-58 would have been highly vulnerable to an attack by a manned Soviet fighter/interceptor.

Hustlers can be found in several museums. The nearest example is in the Strategic Air Command & Aerospace Museum halfway between Omaha and Lincoln in Ashland, Nebraska. Seeing any of the Convair delta-winged aircraft is a highly recommended and educational experience. ♦

## Forbes *Continued from page 11*

and RB-47 Stratojets. Nine Atlas E intercontinental ballistic missile site were built in surrounding counties, all controlled by the 548th Strategic Missile Squadron at Forbes. At one point, Forbes had more people assigned to it than any other Air Force base.

1965 saw major changes come to Forbes AFB. The Atlas missiles were obsolete and were decommissioned. Tactical Air Command (TAC) brought the 313th Troop Carrier Wing and their Lockheed C-130 Hercules aircraft to Forbes. A year later, the 55th Strategic Reconnaissance Wing moved their RB-47s to Offutt AFB in Omaha, Nebraska, ending nearly two decades as a SAC base. Forbes gained a photo-mapping unit and in 1967 the 190th Tactical Reconnaissance Squadron, Kansas Air National Guard, moved from Hutchinson to Forbes.

C-130s from Forbes were in constant demand, especially in Vietnam, where units and people from the 313th rotated to support the war effort. As America's involvement in the conflict wound down, big changes were on the way to Forbes. Impending reductions in the defense budget forced TAC to reduce the number of bases it operated. TAC decided it preferred Little Rock AFB to Forbes; in fact, Forbes was last on TAC's list of bases it wanted to keep. Secretary of Defense Elliot Richardson announced on April 16, 1973 that Forbes AFB would be closed; reasons given were that Forbes was too far from Army units in North Carolina, Georgia and Kentucky.

By September, Forbes Air Force Base became Forbes Air National Guard Base. The 190th Tactical Bombardment Group relocated to the north end of the airfield. The Kansas Army National Guard later moved its aviation company across town from Billard Airport to Forbes. Local government officials formed the Metropolitan Topeka Airport Authority (MTAA) to operate the city's two airports. Scheduled air service moved to Forbes in 1976. The 190th traded its Martin EB-57 Canberras for Boeing KC-135A Stratotankers in 1977 and entered the inflight refueling business, a mission it continues to this day. And in 1976, a group of enthusiasts met one night at Washburn University to form an air museum at Forbes, but that's another story! ♦



1963 Forbes AFB Guide (CAM photo)

## Ways You Can Support the Combat Air Museum

### Dillon's Community Rewards Program



If you shop at Dillon's and have a Plus Shopper's Card, you can help support the Combat Air Museum with just a phone call or a few keystrokes. Dillon's Stores donates millions to non-profit organizations. Our Museum benefits from CAM members who have registered with Dillon's Community Rewards Program. Enrolling in this program will not increase your grocery bill and will not affect your fuel points.



Enrolling in the Community Rewards program is a one-time event and no longer requires annual registration. If you've already signed up, no further action is required. Go to <https://www.dillons.com/i/community/community-rewards> to create a Dillon's account before enrolling in the Community Rewards program. You can also call **800.576.4377** and the Dillon's customer service representative will register you. You'll need to provide them with the Combat Air Museum's new five-character Non-Profit Organization (NPO) account number, **GA302**. Thanks to your generosity, each quarter the Museum receives a check from Dillon's that really helps us maintain the collection and facilities and provide the classes and service our visitors enjoy. Last year, Dillon's donated \$815 to CAM; that amount is less than the previous year because we have fewer donors than before. If you haven't joined, why not take a few moments now to do so: Dillon's and CAM will do the rest!

### Volunteer

The Combat Air Museum exists solely upon the money we raise from admissions, donations, grants and gift shop sales. We rely on volunteers to run our gift shop and the need for these volunteers has become even more urgent. We'll train you for this crucial and enjoyable task. If you could spare one day a month, please call the Museum Monday through Friday between 9 a.m. and noon at **785.862.3303** and ask for Nelson, our office manager and volunteer coordinator.

\* ..... \*

### Museum Notes *Continued from page 9*

**North American F-100 update...**Years ago, the Combat Air Museum requested a North American F-100 Super Sabre from the National Museum of the United States Air Force. In June, they offered to loan us an F-100 that was displayed on a pole in Connecticut and was surplus to their needs. We accepted and began looking into the cost of disassembly, transportation, reassembly and the cost of a suitable display pylon or pole, as the F-100 has no landing gear. When two bids came in around \$40,000, we made the difficult decision to decline the loan.

**New universal towbar...**Gary Naylor bought a former Air Force universal towbar on a government auction to use with our F-15A Eagle. Our Saturday crew of volunteers immediately worked to correct some improperly installed parts and had it ready for the plane pull. The towbar will work on a range of aircraft, but is long enough to permit towing the F-15 with its nose gear located well behind the aircraft's cockpit. ♦



Universal towbar  
(K. Drewelow photo)



COMBAT AIR MUSEUM  
7016 SE Forbes Avenue  
Topeka, KS 66619



PLANE TALK

Non-Profit Org.  
US POSTAGE  
**PAID**  
Topeka, KS 66603  
Permit #181

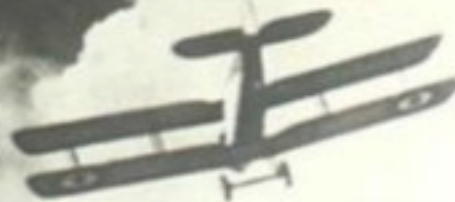
*Visit the Combat Air Museum for fun, information and an educational experience.*

COMBAT 16  
AIR MUSEUM

## RAF- *The Ancestors*

Inventive men, haunted by images  
Of Flight, they worked in power and stress to learn  
The swallow's long endurance, the pacific  
Gliding gulls, the plovers looping turn.

Audacious men, they clothed their vibrant vision  
With wood and linen, flew it in the teeth  
Of gravity, and like enchanters held  
A fragile art between themselves and Death.



Air-worthy men, sons of this element  
That speaks in light and lifts the venturer high,  
They traced a buoyant span from shore to shore  
Or fell like sunbursts from the embattled sky.

Their spirits rose in fine pitch off the field  
Of earth, taking a steep way to the stars:  
History flew beside them, and their bright fame  
Arches her wings above their cloudy war.

*By Cecil Day Lewis*

COMBAT AIR MUSEUM · PLANE TALK