

COMBAT

AIR MUSEUM

August 2019 | September 2019
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From German Zeppelins to American Airships: a Life Spent Aloft

By Dennis Smirl

Dr. Paul Kindling, a retired Topeka heart surgeon, was the speaker at the CAM Members' Luncheon on Monday, June 10th.

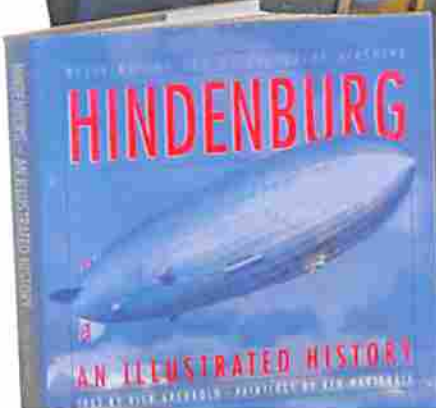
He shared with us information about his father's involvement with the German airship program. Paul Kindling, the elder, was born in Germany in 1900 and served in uniform in World War I. Too young to be

involved with the airship program before and during World War I, he enrolled in higher education after the war and studied the emerging science of ergonomics.

After school, the elder Kindling became involved with zeppelins and quickly rose to helmsman, an extremely important and highly respected position. Along with crewing the airships, he helped design them and was directly involved with the design of Zeppelin LZ127. *[Editor's Note: The LZ 127 mentioned in Dr. Kindling's talk was built at the German Zeppelin Airship Company (Luftschiffbau Zeppelin) and was christened "Graf Zeppelin" by Countess Brandenstein-Zeppelin in July 1928. The name was derived from her father, Graf (Count) Ferdinand*

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Photo by Klio Hibbs



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PLANE TALK





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- Bill Stumpff ~ Dick Trupp
- ~Mike Welch~

Museum Hours

January 2 - February 28/29

Mon. - Sun. Noon - 4:30 P.M.
 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

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 of the Combat Air Museum
 of Topeka, Kansas,
 is published bi-monthly.
 We welcome your comments.

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



**From the
 Chairman's
 Desk**

By Gene Howerter,
 Chairman, Board of Directors



At the Combat Air Museum we welcome all of our volunteer members into the organization with open arms as long as they enter our doors in good faith and with good intentions. We feel that the major reason we have been successful for the past forty two years is the fact that members with diverse backgrounds have provided enormous input. Although we are a military-oriented Museum, some but not all of our members have military experience. For those who have been in the armed services, most have had diverse experiences in the world of work after their military lives; our members come from many backgrounds. We have members who are or were truck drivers, school teachers, engineers, bankers, attorneys, auto mechanics, aircraft mechanics, management in large corporations, firefighters, clergy, pilots...the list goes on and on. It's due to this diversity, input, and knowledge that the Combat Air Museum has survived the past forty two years and has grown stronger. It is hard to believe that our Museum has lasted longer at Forbes Field than did the Army and Air Force since the airfield's beginning in 1942.

My point is that we all know and understand very few organizations can survive if they continue living in the past. At the Combat Air

Museum, we have seen many talented members come in greatness only to pass on way too early. We miss them dearly but that is just the way the world is made and has always been.

Where do we go from here? The obvious answer is all organizations need not only new volunteers, but talented youth who have a real interest in what we have to offer. Possibly far too often we have a tendency to reject youth at a time when they need encouragement the most. In the mail this week I received this quote: "It takes courage to grow up and become who you really are - E. E. Cummings." Here at the Combat Air Museum we try to do our best to encourage youth in every way we possibly can as they are the life blood of our future. You can read about our Young Aviator classes and Girls in Aviation Day elsewhere in this issue. Please read them with your full attention and then lend your support.

Finally, I would like to make you aware of something that I feel will be a big part of our future. Over the years I have seen many people who became Museum members as kids, went on to join the labor force or entered the military after high school and later returned as volunteers. This year we have welcomed two

Museum Notes

By Kevin Drewelow



Boeing CH-47D Chinook:



The Boeing CH-47D Chinook helicopter update: The General Services Administration, working through the Kansas Federal Surplus Property office, donated Boeing CH-47D Chinook 85-24346 to the Combat Air Museum (CAM) on July 2. CAM paid a \$1000 donation fee to complete the transaction. Cheryl Buxton, Tim Hutley and Charles Scott of the Kansas Federal Surplus Property office visited CAM and were extremely helpful in helping us obtain the Chinook in a timely manner.

Many people responded to our appeal for funds to underwrite transportation of the Chinook from Olathe to Topeka. Then Ryan Kitchen of Kitch's Towing and Recovery offered to move the Chinook at no cost to the Museum! To sweeten the deal, a friend of his in Olathe will crane the helicopter onto Ryan's trailer in Olathe and then travel to Forbes to lift the helicopter and put it on the ground, once again at no cost to CAM. The Museum will contact those who donated to help with the cost of transportation to ask if they would like a refund or direct their donations to the Chinook restoration fund.

Friends and members of CAM are assisting in other ways too. Museum lifetime members Ralf and Laura Salke generously donated \$1000 towards the Chinook project; Ralf, a former US Army officer, then gave a further \$500 to the Museum general fund. A number of people with Chinook and other helicopter maintenance experience are interested in helping to disassemble and reassemble the Chinook for transportation. We plan to move the helicopter in August after members of the 7-158th return from annual field training. CAM volunteers made use of their time in July to order, receive and fabricate parts

Museum board member and structural engineer Ted Nolde specified for mooring the Chinook on its parking spot just outside hangar 604.

MARC DONATES MIG-17

MARC donates MiG-17 to CAM: On July 11, John Tallichet, president of the Military Aircraft Restoration Corporation and the son of CAM benefactor David Tallichet, signed the paperwork donating his Polish built MiG-17 to the Combat Air Museum. CAM



Chairman Gene Howerter said the elder Tallichet planned to donate the Cold War-era jet to CAM, but passed away in 2007 before completing the deal. Gene contacted John recently and was able to help complete the transaction. The aircraft is actually a Lim-6bis, a license-built Mig-17 constructed by PZL-Mielec in 1964. This version features two hardpoints for rocket launchers between the fuselage and wing drop tanks and the addition of a drag chute fairing below the rudder. The Polish Air Force withdrew CAM's jet, NATO reporting name *Fresco*, from service between 1985 and 1990. David Tallichet acquired *Red 611* shortly thereafter and it arrived at CAM disassembled on a flatbed truck in the summer of 1992. Now that the jet belongs to CAM and is in no danger of being removed, we can begin to restore it. **Contact the Museum if you are interested in helping bring this Cold War warrior to life!**

New & Renewing Members

(After May 10-July 18, 2019)

NEW

Carolyn Bell & family
Paul Busateri & family
Scott Fellers & family
Mark & Cheryl Fink
Tim Graham
Debra Graybeal & family
Cory Horinek & family
Tom Hostmeyer
Gregory Laughlin
Jedediah Makin & family
Hank & Nan Nelson
Billy Peterson & family
Sandy Roten & family
Donald & Gayle White

RENEWING

Wes Barricklow & family
Shelly Buhler & family
Ron Cates & Marna Walker
George L. Catt
Thomas Crafton
Donald & Shirley Crenshaw
Bill Davis
Michael & Wanda Dixon
Paul & Betty Frantz
Richard Gates
Ralph Knehans
Raymond & Cheryl Kulp
Joseph Ledbetter
Larry Morgan

Daniel Pulliam
Carl & Betty Quarnstrom
Donald & Bonnie Schonasky
Jeremy Seemann & family
Gerry Sibley
Maj. R.J. Soldani
Capt. Herschel L. Stroud
(ret.)
Larry & Diane Todd
Chuck Watson
Mark Washburn & family
Mike Welch & family
Joe Wulfsuhle & family

In Memoriam

Judge William A. Cleaver

September 2, 1940 - May 24, 2019
CAM #3992



Judge Cleaver joined the Combat Air Museum in 2007. He joined the Navy in 1958 where he served as a combat information crew member on WV-2 Warning Stars, the Navy's airborne early warning radar version of the Lockheed Constellation. During his time on WV-2s, he helped provide radar cover during the Bay of Pigs invasion of Cuba in April 1960. He graduated from Wichita State University in 1966 and completed his law degree at the University of Missouri-Kansas City in 1972. He was appointed to the District Court of the 10th Judicial District of the State of Kansas as a judge in 1991 and retired from the bench in 2002.

John D. "Jack" Meisinger

October 16, 1944 - July 10, 2019
CAM #1679



Jack and his siblings ran Executive Beechcraft, the firm their father Dan began in 1938 as Topeka Aircraft Sales and Service at Billard Airport, at its five locations across the Midwest. Jack donated thousands of Beech 18 parts to CAM for our Beech SNB.

Majorie S. Roy

November 4, 1928 - June 23, 2019
CAM #3232



Marjorie was generous with both her time and money at the Combat Air Museum. She loved working at airshows and was a long-time supporter of the Museum's Winged Foot Run annual fundraiser for many years. She was a true patriot and loved her country. During her life she worked and volunteered for many federal organizations throughout the nation before calling Topeka her final home and resting place.

Visitors



1103 people from 39 states and Australia, Brazil, Canada, China, Great Britain, Japan, Mexico, the Netherlands and Turkey visited the Combat Air Museum in **May**.

In June, 1637 visitors from 47 states and the Northern Mariana Islands, Canada, China, Costa Rica, Czech Republic, Germany, Great Britain, Israel, Thailand and Ukraine toured your Museum.



In the Hangar:

By Dennis Smirl **North American's**

F-86 Sabre - a Mid-Century Marvel

One of the outstanding exhibits within the CAM collection is the North American F-86H Sabre. Currently under extensive preservation and restoration—in the capable hands of Danny San Romani—our Sabre will eventually be fully reassembled and painted in the colors of the 101st Fighter Interceptor Squadron, Massachusetts Air Guard, where it served between 1957 and 1963 at Logan International Airport in Boston.

As an example of the Sabre, it is special in that it was the final United States Air Force (USAF) version of that airframe, and by all accounts, the best of the lot as a heavy hitting fighter-bomber.

How North American Aviation (NAA) and the USAF got to that point is a tale fraught with twists and turns that few expected. If one starts with the idea of a jet fighter being produced by NAA, the story then begins with the FJ-1 Fury, built for the U. S. Navy. A rotund little fighter of the mid-1940s, the FJ-1 was barely acceptable for use aboard an aircraft carrier, and even less so as an aircraft that might have been forced into combat against the

MiG-15. Straight winged, pudgy, and slow, the FJ-1 Fury gave the U.S. Navy a supremely underwhelming jet fighter and almost gave the USAF a straight winged P-86 that looked a lot like an FJ-1 and performed no better.

As the fortunes of war would have it, the U. S. Army captured tons of material related to German aeronautical research; within that material was data on swept wing designs. After some spirited

4,000 pounds of thrust, became the USAF's first transonic fighter.

If there was a problem with the XP-86, it was the Allison engine. Its 4,000 pounds of thrust wasn't enough to offset the weight of the airframe. Acceleration and climb were considerably less than optimal, and with the Allison the P-86 (it became the F-86 early in 1948) would have been noticeably inferior to the MiG-15.

A new engine appeared at exactly the right time. The General Electric J47 produced 50% more power than the J35, and in the new F-86A, gave the USAF an aircraft that was almost the equal of the MiG-15. As an

aside, the J47 would also power the North American B-45 Tornado, the Boeing B-47 Stratojet, and in pods hung way out on the wings, add power and altitude capability to Convair's B-36 Peacemaker.

The F-86A was indeed a thoroughbred. Sleek, fast, and deadly when flown by capable hands, the USAF almost took a step backward by producing an F-86B. This aircraft would have had larger main wheels and tires allowing its use on low-quality



Photo by Timothy Sandland, 102 IW, MAANG

disagreement among the aeronautical engineers at North American Aviation, management scrapped the almost-completed designs for the straight wing P-86. Everyone went back to the drawing boards to design a swept wing fighter that also featured a much better fineness ratio, the ratio of airframe length to its widest cross-section. The result, appearing in 1947 was the XP-86, and with an Allison J35 providing

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Museum Notes

Betsy's Biscuit Bomber Visits



Left to right:
Kevin Drewelow, Wes Barricklow,
Dave Murray, Chuck Watson,
Mike Kozubek, and John Plumb

Betsy's Biscuit Bomber Visits CAM: Less than a month after participating in "Daks over Normandy," the mass flypast of Douglas C-47s and DC-3s over the beaches of Normandy on the 75th anniversary of D-Day, the crew of "Betsy's Biscuit Bomber" stopped briefly at the Combat Air Museum on their way home to California. CAM member Hector Camacho of Andover, Kansas and his son Nick help fly and maintain "Betsy's Biscuit Bomber" and served as part of the crew that took the aircraft and many like it from North America to Great Britain in June. Hector facilitated the sale of some spare C-47 parts from CAM to The Gooney Bird Group, owners and operators of the Douglas, and the crew stopped at Forbes on July 8 to thank CAM...and to give some lucky members and visitors a ride! On very short notice, Wes Barricklow, Kevin Drewelow, Mike Kozubek, Dave Murray, John Plumb, Danny San Romani and Chuck Watson were able to take advantage of Hector's generous offer for a quick hop in "Betsy's Biscuit Bomber." We invited a Museum visitor with a very nice camera to fill the last available seat; he was stunned and delighted to accept the offer! The group boarded the aircraft, listened to a short safety briefing, and off we went. While the temperature and humidity were quite high, the interior decibel level was remarkably low, especially for an aircraft with no soundproofing materials in the cabin. We made two circuits of the local area just east of Forbes, and much too soon we were on final approach; two very small chirps announced our return to Earth. A Million Air fuel truck replenished the tanks and before we knew it, "Betsy's Biscuit Bomber" was off and en route to her next stop. It was a pleasure hosting "Betsy's Biscuit Bomber" if only for a short time, and we look forward to seeing Hector

and his Gooney again soon. Learn more about "Betsy's Biscuit Bomber" at

<https://www.betsysbiscuitbomber.com/>

Former Fighter Pilots



Jerry
Irwin



Brian
Koenig

Photos by Kevin Drewelow

Former fighter pilots get reacquainted with their old steeds: A pair of fighter pilots, one Air Force, one Navy, recently visited the Combat Air Museum where they described some of the highlights of their very interesting careers.

Jerry Irwin grew up in Marysville, Kansas; a neighbor's son, who was a fighter pilot, would make low passes over his family's house whenever he was in the area, inspiring young Jerry to get into the business. Jerry graduated from Kansas State and then joined the Air Force right after the end of the Vietnam War. After completing training to fly and fight in the McDonnell Douglas F-4C Phantom, the Air Force sent him to a unit flying the Republic F-105 Thunderchief! Jerry learned to fly the "Thud" and loved it! He said unlike the Phantom, a Thunderchief pilot only had to flip one switch to change from ground attack mode to air-to-air combat mode. He said the Thud was like a Cadillac compared to the Phantom. Jerry transitioned to Phantoms after the Air Force retired the Thunderchiefs. He felt fortunate to have realized his dream of flying fighters, and especially fortunate that he never had to eject from an aircraft.

Unlike Jerry, naval aviator Brian Koenig *did* have to eject once during his career; happily, the helicopter rescue worked as advertised and he didn't spend much time in the water. Brian's career took him through a variety of aircraft, including the Douglas A-4 Skyhawk, McDonnell Douglas F-4 Phantom and Grumman F-14 Tomcat. After retiring from the Navy, Brian worked for a defense contractor and now volunteers at the Patuxent River Naval Air Museum in Lexington Park, Maryland. Learn more about the museum at

<http://www.paxmuseum.com/>

Ways You Can Support CAM

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/account/enrollCommunityRewardsNow>

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 \$851 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!**

It's That Time of Year Again!



It's that time of year again when the Combat Air Museum starts planning for its second major annual fund raising activity.

The 10K/5K runs and 4K walk will take place at 8 a.m. on Saturday, September 28, 2019 at the Museum. In a few days we will mail our annual letter to all previous sponsors in the hope they will once again lend support as a sponsor. We would like to encourage any previous sponsors or *new sponsors* to either call our office to sign up or send us your sponsorship partner check. By doing this you will not only save the Museum a lot of valuable volunteer time but the cost of the communication as well. Sponsors who wish to have their name printed on the back of the race shirt must submit their donation

by September 3, 2019.

We graciously thank each of our sponsors as their contributions create the revenue which helps the Museum pay our bills during the slower winter months. If you have not been a sponsor in the past, let me add that sponsorships start at the \$100.00 level. We print the names of our sponsors on the back side of the official race shirt and as a sponsor you will be entitled to a shirt. I know many of you are now giving extra as you pay your annual dues and we thank you graciously as this has become another tremendous help in keeping this 99% volunteer operation open. **We thank you profoundly for your support!**

Pilot's Notes: A Book Review

PILOT'S NOTES

"Gun's 'n' Gunships: What It Was Really Like To Fly Combat Helicopters in Vietnam"

by Mark Garrison

Reviewed by Kevin Drewelow



Mark Garrison ran out of money in 1967 and had to quit college after two years. He got a job but knew it was only a matter of time before he would be drafted. When his draft notice arrived, he visited an Army recruiter in hopes of having a small amount of control over his future. Mark's older brother had learned to fly and the experience intrigued the younger Garrison. Less than a month later, he was on a train bound for Fort Polk, Louisiana for warrant officer basic training.

Garrison describes his experiences and misadventures as a trainee, then student pilot. His initial flight training was on the Hiller OH-23 Raven, his instrument training on the Bell H-13 Sioux, the type of helicopter featured in the *M*A*S*H* television series. As his training progressed, he began to encounter aviators with experience in Vietnam.

After qualifying on the Bell UH-1 Iroquois or "Huey," Mark quickly found himself in Vietnam, starting his 365 day tour of duty. The Army assigned him to the 119th Assault Helicopter Company at Camp Holloway near Pleiku in the Central Highlands. He began as a copilot on UH-1Hs, used to transport troops and known as "slicks" because they had no externally mounted weapons. Slick pilots in the 119th used the call sign "Alligator" or "Gator" while the gunship crews, flying an older, slightly smaller but very heavily armed model of the Huey, used "Crocodile" or "Croc."

The new copilot had to learn a lot in a very short time.

He describes the chaos of his early flights - communicating simultaneously on three different radios; learning to descend through the triple canopy jungle in a space slightly larger than the Huey; and understanding where and when friendly forces would be firing artillery to avoid being hit. Garrison was a quick study and as he gained experience he gained confidence. Six months into his tour, the Crocs invited him to join them, and he quickly learned that flying the heavier and underpowered Huey gunship was quite different from the slicks on which he had cut his teeth.

Garrison had many harrowing experiences while flying gunships. More than once while escorting Air Force C-123 Provider cargo planes spraying defoliant on jungle areas, Garrison flew through clouds of Agent Orange that drenched his flight suit.

The crews of the 119th dedicated themselves to saving as many American lives as they could during their time in Vietnam. **Garrison's account of his time in service is a compelling read that will leave the reader with a very good understanding of how America first went to war with turbine powered helicopters and a better appreciation of the slick and gunship Hueys at the Combat Air Museum.**

educational MISSION



MISSION STATEMENT and GOALS of the COMBAT AIR MUSEUM

"Through the efforts of dedicated friends and volunteers, our mission is to provide a center for education and for the preservation of military aircraft and artifacts by showing their importance to the world today."



2019

CALENDAR of EVENTS

August

12—Membership Luncheon

September

28—Winged Foot Run
5K/10K and 4K Walk

October

5—Girls in Aviation Day
14—Membership Luncheon

November

3—Daylight Savings time ends
28—Thanksgiving, Museum closed

December

9—Membership Luncheon
25—Christmas, Museum closed

continued from page 2

such youth. Jackson Nichols will be a senior at Lawrence High School, Lawrence, Kansas this school year. After Jackson heard our museum director Kevin Drewelow speak at a meeting of Aviation Explorers Post 8, Jackson was convinced he wanted to join our team as a flight simulator instructor. At this time, he is serving on our monthly schedule and doing a wonderful job. After high school graduation, Jackson plans on enrolling at Kansas State University Polytechnic at Salina, Kansas, in the four year professional pilot program. After graduation from the program, Jackson plans to become either a military or civilian pilot. It is our desire that he will always remain a

member of our Museum and come home to roost when the time is right.

Another current volunteer at the Combat Air Museum is Remington "Rem" Stiles. After Rem visited the museum with his father, he enrolled in two of our Young Aviator classes and discovered a new world at his doorstep. Rem is going to be a junior this year at Topeka's Washburn Rural High School. As a member of the school's Air Force Junior Reserve Officer Training Corps (AFJROTC) program, he became a member of our Museum, lending assistance with our flight simulator and learning the gift shop operation. After being away for the month of June, he has returned and is on our flight simulator regular schedule after a very active month. His AFJROTC academic team earned the opportunity to compete at the Championship Academic Bowl in Washington, D.C., this summer. The team is comprised of 6 AFJROTC members at his school. To qualify, the team earned top scores over 440 JROTC teams that competed from around the world. Rem's team was one of only 16 teams in the nation to advance to finals. The competition tests team members on their knowledge of JROTC curriculum, English, math, and science. One of the goals of the competition is to prepare students for college entrance exams. Winners of the AFJROTC competition compete against winners of the US Army, Marines, and Navy JROTC academic bowl teams. After leaving Washington, D.C., Remington then spent a week at the US Air Force Academy in Colorado Springs, Colorado, getting a taste of that school's experience. Rem says he definitely plans to attend school there after graduation. He also tells me he is going to see if he can get other AFJROTC members to volunteer at the Combat Air Museum. It is our goal to attract volunteers and future volunteers so that this Museum will keep going long after many of us are no longer around. **We wish both of these young member volunteers the very best and we will give them a lot of encouragement as they go forward with their future plans.**

Gene

Kindling had been the helmsman on the maiden voyage of the German airship *Graf Zeppelin*

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von Zeppelin, the founder of the Zeppelin Airship Company.

When it entered commercial service in 1928, it became the first commercial passenger transatlantic flight service in the world. During its operating life, the airship made 590 flights covering more than 1.7 million kilometers (over 1 million miles). It was designed to be operated by a crew of 36 officers and men.]

Dr. Kindling explained some of the reasons that German airships used hydrogen as the lifting gas. One reason is that hydrogen gives the greatest amount of lift because it is the lightest of all gases. A close second is helium, an inert, noble gas which is also a possible choice for use, but hydrogen has an 8% advantage in lifting ability. Another consideration for airship designers and operators was the difficulty in obtaining helium. It is mined (not manufactured) the same way natural gas is mined, and most helium reserves are in the United States, not in Europe. Another problem was that during the period when Germany flew zeppelins, the United States was reluctant to sell helium to Germany, so the Germans had to make do with hydrogen; while more efficient for lift, it was more dangerous because of its flammability.

One very enlightening and highly technical portion of Dr. Kindling's presentation involved maintaining the amount of liquid used as ballast aboard some airships. He told the group that the diesel engines used for propulsion on zeppelins were clean burning, with the byproducts of combustion being only water and carbon dioxide. But designers had to settle the problem of ballast, as the use of diesel fuel made an airship less massive than it had been on take-off. The way to maintain the weight as closely as possible was to return water from the diesel exhaust to holding tanks in the airship. The engineers designed condensers which would trap the water vapor in the exhaust, cool it to change the vapor into liquid and return it to ballast tanks. It was an ingenious solution to a very real problem.

Dr. Kindling used many period photographs, including one of Dr. Kindling's father as helmsman on the *Graf Zeppelin*. Due to the time in which the photo was taken, the quality of the photo wasn't the best. However, Dr. Kindling was reasonably sure that the man in the photo was the elder Kindling. It was interesting to learn that the elder Kindling had been the helmsman on the maiden voyage of the German

airship *Graf Zeppelin* in 1928. One other photo of interest was a map of the first around the world flight by a zeppelin in August 1929, in which the airship took off from and landed at Lakehurst Naval Air Station in New Jersey. The flight took place entirely in the Northern Hemisphere, but it was still a noteworthy achievement.

In the early 1930s, Goodyear invited Dr. Kindling's father to come to the United States to help the company build and test the *Akron* and *Macon* rigid airships for the U.S. Navy. Although both airships performed to specifications, both were eventually destroyed in accidents related to severe weather. One of the more interesting experiments with the *Macon* involved employing it as an aircraft carrier, using a trapeze system for launching and recovering small, single-engine fighter aircraft of the U.S. Navy. As an aside, the museum is fortunate to have a fascinating exhibit, built by Larry Mann and Ted Nolde, showing the 'aircraft carrier' operation. Paul Kindling, Sr. moved his family back to Germany in 1935 where he tested motorized observation balloons for France and Germany.

An earlier interaction between Germany and the United States was the *USS Los Angeles*, an airship completed in 1924 by the Zeppelin Company in Friedrichshafen and turned over to the United States as a war reparation. The Navy flew the *Los Angeles* until they disassembled it in 1939, thus ending the career of the Navy's longest serving rigid airship.

Dr. Kindling's father moved his family to Wadsworth, Ohio in 1950 and worked for Goodyear in its main offices in Akron, Ohio. He became the chief designer of the lighter-than-air division in 1954 where he assisted in the development of the ZWG class of non-rigid airborne early warning airships. Retirement came later and Paul Kindling's father passed away in 1972 after an amazing career in lighter-than-air aviation.



Kevin Drewelow Dr. Paul Kindling Gene Howerter

Photo by Nita Hobbs

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Photo by Airwallhound

runways. That would have resulted in yet another corpulent NAA fighter. Improvements in tire strength came at right time, and the Air Force changed the F-86B order to an order for 300 additional F-86A aircraft.

The F-86C was an anomaly, and only two were produced as F-93s. This aircraft was NAA's entry into the Air Force's Long Range Penetration Fighter competition, where it faced off against Lockheed's XF-90 and McDonnell's XF-88 Voodoo. Using a Pratt and Whitney J48 (the Museum has a J48 that came with the Panther), the F-86C/F-93 used check inlets, rather than a nose inlet in the manner of all the other Sabres and was designed for a long-range escort mission. All that extra fuel capacity for the lengthy missions made for what looked to be another portly North American fighter, but by luck or design, the aircraft's area-ruled shape made it transonic. The Air Force used the two aircraft at Edwards AFB for years as chase planes for newer fighters and experimental aircraft.

The F-86D "Sabre Dog" was supposed to be the F-95, the one-man interceptor. Not nearly as good looking as the F-86A, it was equipped with a bulbous radome that necessitated a huge change in the intake opening and a retractable tray that held and dispensed two dozen folding-fin anti-aircraft missiles. One of the more interesting features of the

aircraft was the inclusion of an afterburner for the J47 engine, and even with the less-than-handsome aerodynamic changes, the afterburner-equipped F-86 Ds, Ks, and Ls, were capable of sustained speeds above 650 miles per hour.

The Korean War and the appearance of the MiG-15 resulted in the emergence of the F-86E and the F-86F. Both aircraft were superb dogfighters and changed the dynamic in MiG Alley. The MiG-15 could still outclimb either of the new F-86s, but that was its only advantage. With the superior pilots of the USAF, even that advantage became moot. The F-86Es and F-86Fs ruled the skies of Korea with a kill ratio of better than 10 to 1 and set the stage for a much improved fighter: the F-86H.

Timing is everything. On its rollout in 1954, the F-86H was all the USAF could hope for in a fighter-bomber. The fastest of the USAF Sabres, featuring the largest load capacity with conventional munitions, the F-86H could also carry and deliver a tactical nuclear weapon should the need arise. Equipped with four M-39 20 millimeter cannons, the H-model had enhanced hitting power in a dogfight. An engine change to the General Electric J73 with 8,920 pounds of thrust put the F-86H on par with a climbing speed and

maximum altitude equivalent to the MiG.

The problem: it was 1954, and the shooting part of the Korean War was over. The F-86H never fired a shot in anger. As good as it was, the F-86H's younger sibling, the F-100A, overshadowed it and the USAF didn't have the funds to continue development of the F-86H. Its production run was only 473 aircraft and spares for such a short run promised to be a critical need.

The F-86H was a much better aircraft than the MiG-15 and on par with the MiG-17, the re-winged, afterburner equipped follow-on to the 15. As a second aside, CAM's collection includes a MiG-17, displayed in hangar 604. Had the USAF used the F-86H in Vietnam, the F-86H would have accounted for its share—and probably more—of the North Vietnamese fleet of MiG-17s.

As a final note in this look at the Sabres, both the Navy and the Air Force used F-86Hs to simulate MiG-17s. The F-86H proved to be a superior dogfighter when flown against Air Force and Navy fighter pilots operating newer fighter aircraft, winning far more fights than it lost.

(Part Two of the Sabre story will include a look at the swept-wing Furies and Sabres built by Canada, Australia, and Italy.)



North American FJ-1 Fury



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The Battle of Britian By Cecil Day-Lewis



*What did we earth-bound make of it? A tangle
Of vapour trails, a vertiginously high
Swarming of midges, at most a fiery angel
Hurled out of heaven, was all we could descry.*

*How could we know the agony and pride
That scrawled those fading signatures up there,
And the cool expertise of them who died
Or lived through that delirium of the air*

*Grounded on history now, we re-enact
Such lives, such deaths. Time, laughing out of court
The newspaper heroics and the faked
Statistics, leaves us only to record.*

*What was, what might have been fighter and bomber
The tilting sky, tense moves and counterings;
Those who outlived that legendary summer:
Those who went down, it's sunlight on their wings.*

*And you, unborn then, what will you make of it-
This shadow-play of battles long ago?
Be sure of this: they pushed to the uttermost limit
Their luck, skill, nerve....And they were young like you.*



Cecil Day-Lewis
Poet Laureate of the United Kingdom
2 January 1908 – 22 May 1972

