The AMC Museum **Hangar Digest** is published quarterly and is dedicated to the preservation of our airlift and tanker heritage. All articles, unless otherwise noted, are written by the editor. **Viewpoints** in this publication are those of the contributing authors and do not necessarily reflect the opinions of The AMC Museum Foundation or of the Museum’s staff. **Subscriptions** are free and are mailed via nonprofit standard mail to paid-up members of The AMC Museum Foundation Inc. **Contributions.** Reader comments, articles and ideas are solicited for future issues. Mail to The Hangar Digest, 1301 Heritage Road, Dover AFB DE 19902-5301; fax 302-677-5940; or email piffbrown1898@gmail.com. **Contact** Editor Master Sgt. Jeff Brown, USAF (Ret.) via email at piffbrown1898@gmail.com. **Photos** are by Jeff Brown, unless otherwise noted.  

Cover: U.S. Army Air Forces 1st Lt. Raymond A. Firmani receives the Distinguished Flying Cross April 25, 1945, from Col. Glendon P. Overing. Firmani and his crew survived 25 combat missions over Europe while assigned to the 486th Bomb Group in World War II. The now-retired Firmani told of his experiences in a June presentation at the Air Mobility Command Museum.

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**Air Mobility Command Museum Mission Statement**

The mission of the Air Mobility Command Museum is twofold:
- To present the history and development of military airlift and tanker operations.
- In a goal closely aligned with the first, to portray the rich history of Dover Air Force Base and its predecessor, Dover Army Airfield.

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**What is the Air Mobility Command Museum?**

Located in Hangar 1301 on Dover Air Force Base, Kent County, Delaware, the AMC Museum is part of the National Museum of the United States Air Force’s field museum system.

One of the reasons your AMC Museum continues to provide a great educational experience is that we stick very closely to our reason for being.

So exactly what is our “mission”? Broken down by numbers our mission is 70 percent airlift and air-refueling, 20 percent Dover AFB history and 10 percent Air Force general history. Our aircraft and artifact collection sticks very closely to that breakdown. But we work hard to be much more than numbers. We tell the stories of the people who have served in our nation’s Air Force, and we offer the only opportunity for many visitors to see the actual aircraft and meet the people who have served our country.

Hangar 1301 was placed on the National Register of Historic Places in 1994. Although located on Dover AFB proper, entrance to the Museum may be made from Delaware Route 9, south of the base. Admission to and parking at the Museum is free and military identification is not required. The Air Mobility Command Museum is open from 9 a.m. to 4 p.m., Tuesday through Sunday. It is closed on Mondays, Thanksgiving, Christmas and New Year’s Day. For more information, call 302-677-5938 or 302-677-5991.

We like to say we are a window to your Air Force. Let us know how we can continue to improve our outreach and family-friendly experience.
Collections

Equpping the well-dressed WWII combat airman

Their clothing wasn’t exactly haute couture, but to a B-17 or B-24 crewman their flying gear was the difference between freezing to death at below zero temperatures or surviving to fly their next mission.

“When you were flying in an unpressurized aircraft and at high altitudes, you needed special clothing to keep you warm and alive,” Museum Collections Manager Debbie Sellars said.

The AMC Museum has an impressive collection of uniforms and personal effects used by airmen from World War II until the present day. They’re a very special part of the Museum’s roster of artifacts, Sellars added.

“Clothing and accessories are your most personal items because you wore them,” she explained.

One of the most vital pieces of World War II aviation gear in the Museum’s collection is an F-3A two-piece electric flying suit donated in 2000 by Phil Carpenter of Dover, Delaware. The jacket and trousers once belonged to a relative, Don Carpenter, who served in the U.S. Army during the war, an enlistment that included a stint on Attu Island, part of the Aleutian chain off the coast of Alaska.

Unfortunately, Carpenter didn’t have a lot of information on the suit’s background,

Sellars said. “We try to get as much information as possible about items that are donated to us,” she said.

“It can be hard for World War II items because sometimes family members might not know much about their relatives’ history because they wouldn’t speak about it.”

“Other times we’ll have a complete history. It all depends.”

While Sellars is open to adding any relevant item to the Museum’s collection, it’s usually best when items come with as much background as possible.

“It makes the artifact more important because you know who it belonged to, where they were stationed and what was their part in the war,” she said.

Workers needed

Biting cold, along with enemy fighters and anti-aircraft shells, was the constant enemy of American fliers.

During a 1943 inspection tour of USAF hospitals in England, Gen. Henry H. “Hap” Arnold was alarmed by the number of frostbite casualties he encountered, reportedly caused by failures of flying gear including the F-1 heated suit in use at the time. Arnold ordered improvements, which came about with the February 1944 debut of the F-3A suit. By May of that year, additional improvements eliminated nagging problems with the suit wiring, when tended to break under continued use.

Contracts to build the F-3A went to the giant General Electric company and also to the Bobrich Manufacturing Corporation of Beacon, N.Y., a small town just north of West Point.

The Museum’s suit was manufactured under a contract with the U.S. Army Air Forces; sources show Bobrich was founded early in the war and almost immediately secured the USAF contract.

According to research by the Beacon Historical Society, after 1945 the Bobrich company became world famous for its electric blankets, expertise no doubt gained during the war.

The military’s contract with Bobrich resulted in a boom in employment opportunities. By the end of 1944, the company was placing advertisements in regional newspapers seeking workers, including an urgent call for 100 sewing machine operators. The company even offered free transportation from surrounding cities to its Beacon factory.

The promise of high wages and steady work on war-essential items had the desired effect: according to Mark Lucas of the Beacon Historical Society, the company’s employee base eventually grew to more than 700 workers.

As was the case with most wartime factories, much of that workforce was female -- at the height of production there were so many women working at Bobrich the company opened a free nursery near the plant. It was Beacon’s first war-related daycare.

Other industries in Beacon also contributed to the war effort, from building rubber life rafts to sewing leather jackets and aviator’s uniforms.

Keeping fliers cozy

The olive-drab nylon suits made during the war operated on the same principle as an electric blanket: they were laced with electrical wiring that included a variation on a standard household electric cord.
History

B-17 pilot Ray Firmani transfixes AMCM crowd

Nobody can work a crowd like Ray Firmani.

Even at the age of 96, Firmani kept a standing-room-only AMCM crowd enthralled with stories of his perilous 25 missions as a B-17 pilot over Nazi-dominated Europe during World War II.

And it was clear Firmani was having a blast: even after speaking for more than 45 minutes, he tirelessly chatted up anyone who approached him with the enthusiasm of a man one-quarter his age. He spent the next hour happily signing autographs and posing for photos, all without taking a break or even sitting down for a few minutes.

And it’s clear that even though he’s been around since Warren Harding was president, Firmani doesn’t live in the past.

“Send me a copy of that,” he urged one youngster who had taken a selfie with him. “I can use it on my Facebook page.”

I’d have told him ‘no’

With the ranks of World War II veterans growing thinner by the day, Firmani’s June 16 presentation was a rare chance for a modern-day audience to get a firsthand account of the war.

It almost didn’t happen.

Firmani had been living in quiet retirement in Elsmere, Delaware, following more than three decades with the DuPont Company when author Mitch Topal first got in contact with him.

As related in the preface to his Firmani biography, “Against All Odds,” Topal had been considering a book about the war when in December 2014 a friend told him about the World War II veteran.

What followed was a marathon series of emails, meetings, hours of interviews and continuous reviews of Firmani’s flight logs and scrapbooks.

Reading the latter, Topal added, was like boarding an H.G. Wells time machine, a portal back to the past and the wartime experiences of a 22-year-old destined for experiences few in the 21st century would understand.

Putting the book together was a new experience for Firmani, as he told the AMCM audience.

“I never talked about my service that much until I met that guy,” he said of Topal. “If I had known how much work it was, I’d have told him ‘no.’”

“I think I spent 1,000 hours at his kitchen table listening to the story of his life,” Topal told the group.

AMC Museum Director John Taylor became friends with Firmani about five years ago after meeting him as a guest at a 436th Airlift Wing standup.

“He came up to me and whispered in my ear and asked if he could sit in our B-17,” Taylor recalled. “I said, ‘Sure, I think we can make that happen.’”

When Firmani arrived at the AMCM and saw the Museum’s restored B-17G, “Sleepy Time Gal,” he bounded aboard, Taylor said.

“He was like a jackrabbit,” the director said. “He flew through that aircraft and across the [bomb bay] catwalk through which I could hardly fit.”

Taylor found Firmani in the pilot’s seat, hand on the throttles, tears of remembrance in his eyes.

“It was like visiting an old friend,” Firmani said.

Taylor said Firmani’s story had helped him dismiss any old notions about aircrews during the war having an easier time because they weren’t coming up against an enemy face-to-face, on the ground, every day.

Instead, they faced freezing temperatures, unremitting attacks by German fighters, anti-aircraft shells exploding all around them and, for some, a horrifying 25,000-foot fall to certain death.

“When you look at what they did, it was as dangerous as the man sitting on the front line,” Taylor said.

Ready for action

A first-generation American, Raymond Alexander Firmani was born Sept. 19, 1921, to parents who had emigrated from Italy to Camden, New Jersey. Firmani’s

Firmani shows off a replica of the “soup hound” he bought his wife, Elaine, in 1944. He carried the real thing on every mission as a good luck charm. Unfortunately, he’s not sure where the original is now. “We moved a lot, so I’m skeptical if I still have it,” he said. “My kids may have played with it; at the time it didn’t seem important.”

Photo courtesy Ray Firmani

Ray Firmani as a newly minted second lieutenant, just after receiving his wings.

“Ready for action”
mother was widowed only five years later, prompting a move to Wilmington, Delaware. Firmani and his two brothers grew up during the Great Depression, supported by their mother and stepfather.

His introduction to aviation came in the form of balsawood model aircraft kits he'd buy with pennies at a local five-and-dime store. He figures he learned much about the basic principles of flight just from experimenting with these rubber band-powered planes.

Firmani picked up an interest in photography after winning -- by default -- a small camera in a contest he'd sponsored to raise money. Those skills would serve him well during the war, where he snapped photos of everyday life at a bomber base.

Graduating from high school in 1939, Firmani was employed at a New Jersey DuPont plant when the Japanese attack on Pearl Harbor shocked the nation.

Although deferred from military service because he was a head of household, Firmani decided he would enlist with the aim of becoming a pilot. He took night classes to bone up on math and physics and in September 1942 took his oath of enlistment.

Called up for active duty in June 1943, Firmani spent the next year training at different bases learning to fly successively bigger and more complicated aircraft.

It was during that training period Firmani met a blue-eyed, long-haired brunette while on a weekend pass in Nebraska.

As Firmani tells it, almost as soon as he set eyes on Elaine Ingersoll, he knew he would marry her.

On their second day together, just before Firmani had to return to his base, he bought Elaine a 25-cent souvenir: a five-inch wooden hound dog carved out of a piece of plywood. Instead of keeping it, however, she slipped into one of his pockets when he wasn’t looking.

Firmani discovered the carving later, christening it the “soup hound.” The little dog became Firmani’s good luck charm, accompanying him on every mission during his wartime career.

No foxholes
Firmani finished his training and was disappointed to learn he’d be flying heavy bombers instead of fighters. But he accepted the military’s reasoning that heavy losses during the bombing campaign against the Third Reich meant he was needed more in the cockpit of a B-17 than in a P-51.

Despite a long-distance courtship lasting only a few months, Firmani and Elaine wed just before he shipped out to Europe. It was a long and happy union that only ended with Elaine’s passing in 2000.

She was 76 years old.

“'We were married for 56 years, so I knew what I was doing,” he told the AMCM audience.

Firmani arrived at the 486th Heavy Bombardment Group at Royal Air Force Station Sudbury, United Kingdom as co-pilot of a nine-man B-17 crew, commanded byLt. Richard Hinze. After more training, they flew their first mission on Dec. 23, 1944.

Flying in tight formation, Firmani saw the contrails of the other aircraft as they headed over Europe.

“They were beautiful, but they told the Germans we were coming,” he observed. It was sobering to think he and the other aircraft were completely out in the open.

“There are no foxholes in the sky,” Firmani told the group.
Please help us welcome our newest AMC Museum Foundation Board member, Col. Jim Schultz, USAF (Ret.)

An Air Force “brat,” Jim was born at Cochran Army Airfield, Macon, Georgia. He started his career in October 1967 with the Delayed Enlistment program and went to pilot training at Reese AFB, Lubbock, Texas Class 68G. A Vietnam veteran, Jim flew C-123Bs and and C-123Ks (Fairchild Provider) at Tan Son Nhut AB, Saigon, in 1968 and 1969. He then flew C-141s at Dover from 1970 to 1972 and then C-5s from 1973 until his retirement in April 2000. He finished his care as vice wing commander of the 512 Airlift Wing. He had 33 years of active and reserve service.

During and after his military career, Jim flew DC-8s, DC-10-30s and L-382s (a stretched civilian version of the C-130) for Trans America from 1976 to 1986. From 1987 to 1991, he flew Pan Am B-727s, AB-310s and AB-300s. He continued his civilian flying career with United Airlines B-727s and B-777s until his retirement in 2004.

After his aviation career, Jim became active in the local Knights of Columbus, a fraternal, religious charitable men’s organization. He has been an elected board member and treasurer of Dover Council No. 4182 and the affiliated The Columbian Home Association Inc. since 2004. He’s also a board member and treasurer of The Life Care Center of Dover Inc., another affiliate of Dover Council, since 2013.

In 2016 he was asked to become a member of an organizational meeting for what became the 512th Aircrew Reunion Association, a newly-formed Delaware nonprofit association. Serving as a board member and treasurer for the group, they hosted the April 2017 reunion for nearly 300 alumni at our AMC Museum and Dover Downs. An important note: in December 2017, after all the Association’s obligations had been met, they donated $2,437.95 to the AMC Museum Foundation! Well done!

Jim and his wife, Dorothy Jean, aka Dottie, of Fairview, N.J., have been married 51 years. They have three children, Khristie Greiner, Stephanie Grambau and Michael Schultz and eight grandchildren, ages 5 to 24. Jim and Dottie have lived in Dover since 1970. We’re looking forward to his participation as a board member and his contributions to the AMC Museum.

Many organizations have an “exit clause” in their constitution and by-laws, concerning what happens to their assets when they dissolve. For example, the AMC Museum Foundation’s constitution states that upon dissolution our assets will given to another 501(c)3 organization relating to aerospace history as selected by AMC Museum Foundation membership. The idea is to allow the dollars to keep following the mission of the organization as much as possible.

That background brings me to a donation that the Foundation recently received from the 11th Air Refueling Squadron Alumni Association. Their president, Terry Aiken, said that they’re “ending a long and successful fellowship and reunions which started in 1989.” Their membership determined the donation be made to support our own Air Mobility Command Museum. Interestingly, one of their reunions was at Dover, during the restoration of our own KC-97, although they were a little dismayed that ours was an L-model – they’d flown G’s (no jets!).

The following info was provided by Mr. Aiken. For more pics and info, check out their 11th Air Refueling Squadron Alumni Association Facebook page.
The 11th ARS was activated at Abilene AFB (later became Dyess AFB), Texas in 1955. Receiving its first of 22 brand new Boeing KC-97G Stratotankers in February 1956, the unit went about the task of becoming combat-ready in record time over the next few months. Shortly after becoming combat ready in September 1956 the squadron deployed to Alaska and Guam for 90 days TDY in December 1956.

During that time, the Alaskan group was further deployed to Clark AB, Republic of the Philippines, where they participated in “Operation Power Flight.” Twelve tankers, flight crews, maintenance crews and support personnel were secretly positioned halfway around the world to support this highly secret mission in January 1957. This history-making operation was the first non-stop round-the-world flight for a flight of B-52 aircraft – only possible with the aid of in-flight refueling. The 11th ARS received the first of three AF Outstanding Unit Awards for that historic, outstanding contribution to the continued progression of the Strategic Air Command’s deterrent power.

In July 1958, the squadron deployed again to Alaska and Guam for another 90-day TDY. Beginning in November 1958, the 11th’s mission changed to a “reflex operation” which rotated a portion of the squadron’s resources to Alaska from Dyess AFB, Texas on a continual basis.

In June 1960 the 11th ARS transferred en masse from Dyess to Dover AFB. The unit continued a reflex operation to Alaska and transitioned to a “Home Alert” mission in the “mole hole and Christmas tree” area at the most southern end of the base. Home Alert ended in 1962 and reflex operation started at Goose AFB, Labrador. In 1963 the squadron again deployed on a 90-day TDY to Lajes Field, Azores, with elements being rotated to Africa, Spain, England and Germany.

While at Dover, the 11th ARS received two additional Outstanding Unit Awards, along with numerous other awards and achievements. The 11th’s flying safety record still is the envy of any USAF organization. From the unit activation until the de-activation 10 years later, there were no serious personal injuries or loss of aircraft due to a flying accident.

One of the most outstanding and highly decorated units in the USAF never to have been deployed in actual combat, the 11th stood ready, willing and able to support SAC’s mission of the era and the threats of combat like the Berlin and Cuban crises. The history, fame, achievements and legend of the 11th will live on for generations in the hearts and minds of its former members and in the annals of the United States Air Force as “SAC’S Best KC-97 Air Refueling Squadron.”

Looks like the restoration crews have finished with the corrosion eradication on the KB-50. We’re expecting it to be reassembled near the end of this year. We’re also planning for the rest of our C-119 Korean War veteran to be delivered around the same time.

Mark your calendar so you can plan to attend the annual Veterans Day event, which will be held on Veterans Day, Nov. 11 at the Museum. More to follow . . .

Fly safe!
Don Sloan
Featured aircraft

AMC Museum’s C-54M: a Berlin Airlift veteran

The C-54 Skymaster has a long and storied career with the United States Air Force, serving from World War II until the Korean War as the nation’s primary military airlift aircraft.

Although various versions of the Douglas-built aircraft flew more than one million miles each month over the North Atlantic during the Second World War, the plane primarily is remembered today as the backbone of the 1947-1948 Berlin Airlift.

Although all of the Skymasters in the Air Force inventory were needed for the massive 14-month effort, the Air Mobility Command Museum’s C-54 is the only surviving “M” model of the 38 aircraft converted to haul coal and other supplies into the blockaded German city.

It was added to the AMCM’s collection in 1989.

Hopping into Dover

But this rare aircraft almost didn’t survive long enough to become a museum piece.

Although the C-54M technically was the property of the United States Air Force Museum (now the National Museum of the United States Air Force), back in the 1980s it was being stored at the FBI Academy at Quantico, Va., former Museum Director Mike Leister recalled.

Unfortunately, the aircraft had been in use as a training tool for the bureau’s sky marshal program and was in a state of considerable disrepair. The USAFM wanted to get rid of it, Leister said.

“We got a notification they were going to scrap a C-54 out at Quantico and we were asked if we wanted it,” he said. If the AMCM were going to take advantage of the offer, restoration crews were told they had 30 days to move the plane.

The USAFM already had offered the Skymaster to other museums, but all had abandoned the reclamation effort, Leister said.

A crew drove from Dover to Quantico to assess the plane’s condition finding the aircraft, which had been left exposed to the elements for decades, was not in good shape.

“We found it in a little hollow out by the FBI’s hostage rescue center along a line of pine trees,” he said. “It was behind the firing range where they train the cadets.”

The crew learned the plane’s wing flaps had been removed during one of the other museums’ visits and left abandoned on the ground.

“When we found them, they were pretty badly corroded,” Leister said.

Working with renewed zeal, the team set to work, reducing the plane to several large component parts.

The next task was to move those parts across the Chesapeake Bay. Using the occasion as a training scenario, a Pennsylvania National Guard unit sent a helicopter to Quantico but only succeeded in shifting the Skymaster’s main section to the Academy’s firing range.

“They used an 80-foot cable and tried to lift it,” Leister recalled. “They got it into the air but it started swinging back and forth. They said they couldn’t handle it because it was over the gross weight.”

Leister’s crew was told the National Guard airmen would be back in 30 days. Unfortunately, that wait was tripled to 90 days before the Guard could return to Quantico, this time with a different helicopter.

To lift the multi-ton fuselage, the CH-454 could only carry enough fuel for 15 minutes in the air. Plans were made to hopscotch the aircraft back to Dover with prepositioned fuel trucks waiting along the way.

“They’d pick it up, fly for 15 minutes and set it down in a field,” Leister said. A refueling on the edge of the Chesapeake ensured the helicopter and its cargo would make it across that body of water, he added.

Once the fuselage and later the aircraft’s tail were at Dover, the wings and engine were loaded aboard a flatbed and trucked to the Museum.

The prime restoration crew, retired Col. Bill Hardie and retired Maj. Bill Voigt knew they had a massive job ahead of them. FBI trainees had shot out all the windows and raccoons had left plenty of evidence they’d made a home there for years.

Hardie and Voigt also found a sampling of coal dust had remained in the plane, Leister said.

Although the C-54M had all of its passenger amenities stripped out for the Airlift, the passenger seats had been re-installed for the sky marshal training. Hardie and Voigt knew those would have to be removed again.

It was while doing some research on the plane Voigt got a big surprise.

“We had gone to the Air Force Museum to get technical data and Bill went on that trip,” Leister recalled.

“After a while, Bill came over to me with a strange look on his face,” he added. “He handed me a photo from the AFM’s archives and it was of our airplane sitting at Rhein Main Air Base in Germany.”

Voigt got an even bigger surprise after that: he went through his personal flight logs, retained after his Air Force retirement, and found he’d actually flown this ship during the Airlift.
"I knew it was my plane," he said during an interview.

Even though he already was in his 70s, Voigt quickly devoted himself to the Skymaxter’s restoration.

The AFM photo Voigt found allowed Dover’s restoration crews, following five years of work, to eventually repaint the aircraft almost exactly as it appeared during the Berlin Airlift, Leister said.

The only difference is the original Skymaxter had a rounded nose, which had been replaced in later years by a bullet-shaped nose because of a change in radar equipment.

**A Sacred Cow**

The C-54 came into being during World War II from the DC-4, which still was under development as a civilian airliner that did not enter service until 1946. In all, 1,241 DC-4s and its military counterparts were constructed, including the Navy’s variant, dubbed the R5D.

A VC-54C became the first presidential aircraft. Nicknamed the Sacred Cow, it included a special elevator for the wheelchair-bound Franklin Roosevelt. Although Roosevelt used the plane only once, it often carried his successor, Harry S. Truman.

Truman signed the legislation establishing the U.S. Air Force as a separate military branch aboard the Sacred Cow in September 1947.

The first C-54 came to Dover Air Force Base in November 1954 with the activation of the 21st Air Transport Squadron. The initial cadre included the commanding officer and about 25 airmen, and plans called for almost 200 officers and men when the unit was operational.

A second unit, the 1st Air Transport Squadron, flying the C-124, was activated the same day.

Delaware Gov. J. Caleb Boggs welcomed both. "Today’s activation of the Military Air Transport squadrons marks the initiation of what I believe will be Delaware’s greatest operations in which the military are concerned," Boggs said. The new airmen, the governor added, "are welcome in the First State."

Although they flew many successful missions out of Dover, the C-54s were reassigned and left the base in 1956.

The Museum’s C-54 was delivered to the US Army Air Forces in January 1945 and assigned to the Pacific Division of the Air Transport Command. It served in California, Japan, and Michigan before being transferred to Rhein Main Air Base. Afterward, it flew out of bases in South Carolina, Libya, Texas, Saudi Arabia, Maine and New Mexico before being transferred to the FBI Academy in September 1973.

**That kind of an airplane**

Although examples of the Skymaxter are on display in a number of places, only one remains in flyable condition today: a C-54E, restored and maintained by the Berlin Airlift Historical Foundation of Farmingdale, N.J.

Founder Tim Chopp flies the aircraft, known as the “Spirit of Freedom,” to airshows and similar events across the country. The mission, Chopp said, is to keep alive the memory and the accomplishments of the airplane and the men who flew it.

An accomplished pilot, Chopp loves to fly the Skymaxter and thinks fliers in World War II, the Berlin Airlift, and the Korean War would share that enthusiasm.

"It’s like putting on your favorite bedroom slippers," he said. "It’s a comfortable airplane and it will let you know when something isn’t right."

For example, sometimes they fly with the emergency exit door removed so they can duplicate “Candy Bomber” Maj. Gail Halvorsen’s effort to drop candy to waiting Berlin children.

"You can tell instantly in the cockpit that there’s something different going on," he said. "It’s that kind of airplane."

Even a slight change in vibrations through the airframe can alert a pilot of something amiss, Chopp said.

The characteristics of the C-54 are such that Chopp says he doesn’t need to look at the instruments to know how fast he’s going.

"There’s a big difference in the feel of the controls when you’re going slow versus when you’re cruising," he said. "You can tell what speed you’re flying even if you cover up the airspeed indicator."

The plane also flies well on one engine, something Chopp has experienced from time to time.

"If you have an oil leak or a cylinder failure, you simply shut down the engine," he said. "If you have an oil leak, you shut down the engine."

"You also have a big difference in the feel of the controls when you’re going slow versus when you’re cruising," he said.

"You can tell what speed you’re flying even if you cover up the airspeed indicator."

"It’s that kind of airplane."

Even though he already was in his 70s, Voigt quickly devoted himself to the Skymaxter’s restoration. In 1990, retired USAF Maj. Bill Voigt, 70, was photographed working on the restoration of a C-54M Skymaxter, the same aircraft he piloted during the Berlin Airlift of 1947-1948.
Once an airman aboard a Flying Fortress or Liberator donned the suit, including heated gloves and boots, he’d plug the six-foot-long cord into his aircraft’s 24- to 30-volt electrical system. A rheostat near the plug allowed airmen to individually control the temperature of his suit.

The result would keep each flyer “cozy all up and down the altimeter.”

The suit parts worked autonomously of the other, a vital feature when flying thousands of feet above Nazi-occupied Europe.

“Each shoe, glove, the jacket and the trousers are designed to operate independently,” the manual advised. “If one of these units should fail due to damage, excess wear or abuse, the rest of the suit will still operate.”

The suit was designed to keep an airman warm at 40-degrees below zero at sea level and 60 degrees below zero up in the stratosphere where the bombers normally operated, according to the manual.

The F-3A suit was worn over a pair of long johns and an airman’s regulation uniform -- which often included a tie for officers -- and under a set of A-9 alpaca-lined trousers and a B-10 jacket, also lined with alpaca fleece.

Although the suits provided “warmth by wire” to protect airmen against “Old Man Frostbite,” they also could be somewhat delicate.

“Your suit is not built for rough use,” warned the GE information manual. “The suit is made for flying, not strolling around in no matter how cute your girl thinks you look.”

The eight-page booklet also cautioned about contaminating it with food: “When you answer mess call, sit right up to the table, mind your manners and don’t slobber.”

Aircraft navigators were warned the suit’s DC current could affect direct-reading aircraft compasses and were advised to calibrate the compass with the entire crew’s suits -- except his -- switched on before a mission.

The end of the boom for Bobrich

However, the end of the war brought a massive reduction in military contracts nationwide, with Bobrich being one of those affected. The local newspaper reported only a small number of people at work a few days after the Japanese surrender in August 1945.

The Beacon News said company management “is attempting to secure orders for peacetime clothing.”

A 1951 story reported Bobrich had slashed its payroll to only about 200 people, but was continuing to manufacture the heated flying suits as well as ponchos for soldiers in Korea.

The plant eventually closed in 1961 and today the building is being converted into condominiums.

All in all the F-3A suits provided much-needed protection for B-17 and B-24 crewmen. Combined with additional equipment including heated shoe inserts, rayon or silk gloves, mittens, a helmet and even a scarf, they helped fliers complete the task of bringing the Nazi war machine to a halt.

KB-50 taking shape at AMCM’s restoration shop

An advertisement in the Newburgh News of Friday, Aug. 18, 1944, showed the Bobrich company was in need of experienced sewers for its heated flying suits.
Firmani

(Continued from page 5)

During the war, Firmani kept meticulous notes on each of his 25 missions, records Topal later matched up -- and sometimes used to correct -- the official records.

Firmani also got a taste of the latest in German military technology when a formation would encounter the occasional ME-262, the world’s first operational jet fighter.

The jet-powered aircraft could easily overtake a formation and shoot down the much slower Flying Fortresses.

“It was beautiful,” Firmani said of the German Schwablbe (Swallow).

“I looked out the window and saw this 262 -- I could see the pilot’s face,” Firmani said.

The interloper was chased off by the formation’s P-51 fighter escort.

“They had orders not to shoot them down, but to follow them and find out where they landed,” Firmani said. It turns out the group’s next mission was to bomb the ME-262’s airfield, he added.

Although Luftwaffe resistance faded as Germany got closer to defeat, the threat of anti-aircraft fire remained a constant threat. Firmani saw more than one aircraft blasted apart by flak, and crewmen would look, sometimes in vain, for fellow airmen bailing out of fallen B-17s.

Firmani told the AMCM audience he and his crewmates rode on luck, often crediting their good fortune to the little wooden soup bowl. Although many missions saw their aircraft peppered with holes from fighters and flak, they never aborted a flight and never lost an aircraft.

But there were close calls: on one mission, shrapnel punched a basketball-sized hole in the fuselage of Firmani’s aircraft, just missing the top turret gunner.

On their 23rd mission, a piece of flak hit one of the waist gunners, but his vest saved him from an injury no more serious than a bad bruise. That was the closest any of Firmani’s crewmates came to being hurt during the war, he said.

“The thing I remembered most about the flak was the rain of metal down on the ship,” he said. “You just sit there in your flak suit and helmet and take it. I used to sit on a flak suit, too.”

The reason, Firmani added with a grin, was obvious.

Nothing is going to hurt me

Near the end of his tour, Firmani got the good news he’d been upgraded to pilot status and was offered his own crew. He turned down the opportunity, wanting to finish his 25 missions with the same men he’d started with.

Firmani’s last mission took place April 20, 1945, coincidentally Adolf Hitler’s 56th birthday. The target was Wustermark, the site of the 1936 Olympics, where Der Fuehrer’s ideals of a master race were smashed by black athletes including America’s Jesse Owens.

Bombs dropped that day included chalked birthday greetings to Germany’s leader.

Several days later came the news Hitler had committed suicide and a few days after that, the complete surrender of German forces.

“You don’t know what a joy that was,” Firmani told the AMCM audience. With their bombing missions over, the 486th soon started mercy missions, dropping food and supplies to starving civilians and taking members of their ground crews on flights to show the results of two years of endless bombing.

With his Fortress carrying mechanics, cooks and truck drivers, Firmani flew over the destruction at a much lower altitude than before.

“They could not believe the devastation,” he said.

Shortly after their last mission, Firmani, newly promoted to first lieutenant, and the other officers on the crew were awarded the Distinguished Flying Cross.

Firmani was discharged Oct. 20, 1945, and resumed his career at DuPont where he became an award-winning industrial photographer and co-creator of a new photographic process in which he shared a patent.

He and Elaine raised two sons, Charles -- who was born the same day as his first mission -- and Richard. Firmani was inducted into the Delaware Aviation Hall of Fame in October 2017.

Afterward, it was easy to tell members of Firmani’s AMCM audience had been gripped by his story.

“I think everyone in Delaware should hear this,” said Barry Bertrando, of Avondale, Pa. “He gave us a real idea of what he went through. Nobody teaches about World War II anymore.”

Al Wyllie, of Wyoming, Del., was equally impressed.

“It was fascinating,” he said. “I’m amazed at how much he remembers, all the detail and all the heroism involved.”

As for Firmani, he admits he didn’t think about his World War II experiences “for the first 50, 60, 70 years.”

“I was too busy earning a living,” he said.

Also, talking about such things can sound like bragging, about coming home alive when others didn’t, he said.

Firmani has never toured Germany nor revisited his old base at Sudbury, although a British friend has sent photos of what little remains.

“Everything’s gone,” he said.

Firmani admits there were times he thought he might not survive a mission.

“You don’t think about it much until you get into the flak,” he said. “That was the scary part. But it seemed sometimes like a movie you’d be watching.

“You’d be thinking, ‘I’m 22 years old, I’m an intrepid flier, nothing is going to hurt me,’” he said. “You have to take that attitude. If you worried about everything you’d have a nervous breakdown.”

Although his military service is long past, Firmani maintains an admiration for the airmen of today, saying he is awed with their professionalism and dedication.

“I’ve seen them here at this base, and I’ve never seen such a clean-cut bunch -- and so smart,” he said. “I’ve been very impressed.”
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WHAT’S IN YOUR COLLECTION?

Saturday, April 14, saw people from near and far converge on the AMC Museum for our annual Collector’s Day. It is one of the Museum’s most popular events.

Scott Kapes shows off part of his collection of model armor. Kapes meticulously researches each vehicle before building it as part of a realistic diorama.

British native son Graham Living displays a series of Delaware hunting licenses from the 1920s and 1930s. Living began gathering the licenses in 1980.

Derek Biggs’ collection of U.S. military memorabilia spans the nation’s history – from the Revolutionary War to the current Middle East conflicts.

Ellen and Fred Ainge show off Fred’s hand-carved wood plaques and figures. The couple brought just some of Fred’s collection, which numbers more than 800.

Retired teacher Patti Papineau began collecting Star Trek memorabilia years ago; her treasures includes autographs from almost every member of all five Trek television series.

Oreo cookies anyone? Grieg Osmundson of Dover has been bringing his Oreo memorabilia collection to the AMC Museum for years. He got his start in 1998: “I just love Oreos and wanted to collect something unique to me.”
Ben Story of Wyoming, Delaware, shows off his new airplane fan. The three-year-old loves coming to the AMCM, explained mom Emily. “He calls it the ‘airplane house,’” she explained.

Sharla Dashnaw of Summerville, S.C., tries out the AMCM’s C-141 simulator. Unfortunately she did not do as well as her son, Brandon, who she said successfully landed a virtual C-5 -- twice -- during a 2016 visit.

Gary Sheppard of Lewes, Delaware, reflects on the Museum’s 9/11 Memorial. He was at the AMCM with his grandchildren: “We have them for one week, and then we’ll recuperate for two weeks!”

Twenty-one Girl Scouts from the Chesapeake Bay area delivered more than 61,100 boxes of donated Girl Scout cookies May 8 at the AMCM. The collected sweets are sent to the men and women of the Armed Forces overseas.

Julian Boyles of Camden-Wyoming, Delaware, looks over a selection of toy planes for sale at the AMCM’s gift shop with grandfather John Boyles. Julian ultimately picked a model B-2 Stealth bomber.

Ken Potter of Cuyahoga Falls, Ohio, and Kathy Tyrell of Wilmington, Delaware, visited the AMCM to hear Ray Firmani talk about his experiences in World War II. The couple also lauded Firmani’s skill as a photographer: “He did some fabulous work,” Potter said.
Attendance at the June Open Cockpit Day was so high people had to stand in line to tour the AMCM's C-5A Galaxy.

Retired US Army Lt. Col. Carol Bossone and her dad, Larry, check to see what's next after finishing up their tour of the AMCM's KC-135.

Young Kosh Kotta of New Jersey was fascinated by the display showing what parts go into an aircraft. His family had been planning their AMCM visit for several weeks.

Henrick Hammons, right, of Easton, Md., describes the intricacies of a B-17 ball turret to his sister, Julia, and mom Sandra. Henrick, who eventually wants to attend the Air Force Academy, is well-read when it comes to military aircraft: “The B-17 is my favorite,” he said.

AC-119 Gunship crews plan Arizona reunion


Retired U.S. Air Force Lt. Col. James L. Dunn said air and ground crews who served with the gunships are welcome, as well as “friends and families as well as anyone whose bacon we saved.”

Dunn was one of seven navigators with the 1st Military Airlift Squadron and the 39th Military Airlift Squadrons flying the C-133 under the 436th Military Airlift Wing at Dover Air Force Base, Delaware. When the Air Force retired the Cargo-masters, he switched to the AC-119K and was sent to Southeast Asia.

Dunn returned to Dover AFB following his overseas tour.

The reunion features several key activities:
- A special tour of the “Boneyard” at Davis-Monthan AFB. Participation is limited, so an early sign-up is encouraged.
  - A mini-Time Machine Museum tour.
  - Sunday morning golf
  - Sunday Sabino Canyon Tour
  - Sunday night farewell BBQ

The AC-119 Shadow and Stinger gunships served with the 17th Special Operations Squadron from June 1969 to September 1971 primarily at Phan Rang AB, the 18th Special Operations Squadron from January 1969 to December 1972 at Nakhon Phanom Royal Thai AFB, and the 71st Special Operations Squadron from December 1968 to June 1969 at Nha Trang Air Base.

To learn more and to register, visit www.ac119gunships.com.
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KC-135 STRATOTANKER
C-133 CARGOMASTER
C-47 SKYTRAIN
B-17 FLYING FORTRESS

Visit store.amcmuseum.org/bench to learn more and order online! A print and mail version is available as well.
Artist Paul Rendel painted the Museum’s C-54 as it approached Tempelhof Airport during the Berlin Airlift. The original painting was donated to the AMCM in May 2005; copies are available through the AMC Museum store and online at tinyurl.com/AMCM-store.