



VOLUME 10, ISSUE 1

JANUARY 2010

# Hangar Digest



*What a great improvement! In less than a year, DELDOT and its contractors completed the overpass that now puts the visitors directly on the road to the Museum without the worry of crossing a dangerous intersection. Shown above are the routes to follow, traveling from the north and south, that will take you east to the Museum's Route 9 entrance. Aerial Photo: Don Sloan/Mike Leister*

I'm not that well-versed on airborne tanker operations, but I'm learning. I've been fortunate to have articles submitted by Ivan McKinney allowing me to experience what it was like flying the refuelers for the Strategic Air Command. However, as an old airlifter, I am familiar with most of Ivan's assignment locations as I've been there as a MATS/MAC crew member. So, in this issue we ride along with Ivan as he is "Extending the Range" for the USAF bomber and fighter fleets.

In each issue I recognize a volunteer. I've been asked, "how do you determine those individuals selected?" Well, if I had my choice, all of our volunteers would find a place in the Hangar Digest. However, that is not possible considering our active volunteer force of 125 men and women. My selection is based, systematically, on balancing the volunteer's longevity, hours committed and specialties (restoration, docent, administrative and store sales). Each specialty is considered equally. During the past twelve months these 125 volunteers have logged more than 26,000 hours, with two individuals having more than 1,000 hours for the year. Your AMC Museum could not function without them!

In the next issue we fly with one of our own volunteers, his own story, "A Huey Pilot in Vietnam."

*Harry E. Heist, Editor*

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## LOOKING BACK

On June 27, 1923, at an altitude of about 500 feet above Rockwell Field on San Diego's North Island, two U.S. Army Air Service airplanes became linked by a hose as one airplane refueled the other. While only seventy-five gallons of gasoline were transferred, the event is memorable because it was a first.

The airplanes were de Havilland DH-4Bs, single-engine biplanes. First Lt. Virgil Hine piloted the tanker; 1st Lt. Frank W. Seifert occupied the rear cockpit and handled the fueling hose. Capt. Lowell H. Smith flew the receiver while 1st Lt. John Paul Richter handled the refueling from the rear cockpit. The refueling system consisted of a fifty-foot length of rubber hose, trailed from the tanker, with a manually operated quick-closing valve at each end. The process is best described in terms of "you dangle it; I'll grab it."

Source: *AF History & Museums Programs 1998*



## Air Mobility Command Museum Mission Statement

The mission of the Air Mobility Command Museum is twofold:

- The primary mission is to present the history and development of military airlift and tanker operations.
- The second closely aligned mission is to portray the rich history of Dover Air Force Base and Dover Army Airfield, its predecessor.

The 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. All photographs are the courtesy of the Air Mobility Command Museum unless otherwise designated.

**Viewpoints** expressed 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 non-profit standard mail to paid-up members of the AMC Museum Foundation, Inc.

**Contributions.** Reader's comments, articles and ideas are solicited for future issues. Mail to: Harry E. Heist c/o The Hangar Digest, P.O. Box 02050, Dover AFB DE 19902-2050; FAX (302) 677-5940 and email: [archivistamcm@comcast.net](mailto:archivistamcm@comcast.net)

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### From the Museum Store:

If you didn't visit the Museum's store over the holidays then come in and check out our new AMC Museum patch, C-5 Galaxy refrigerator magnets, the USAF Global Airlift sticker sheet with 15 Air Force cargo planes, new hooded sweat shirts and many new T-shirt designs. You'll have lots to see on a warm visit during the cold days of winter!

For these and other items, contact store manager Jim Stewart by phone at (302) 677-5992 or by FAX at (302) 677-5949 and email: [storemanageramcm@comcast.net](mailto:storemanageramcm@comcast.net). Members, be sure to ask for your 10% discount when ordering. Not yet a Friend of the Museum? Join now by filling out the Membership Application on page 15.

*The Hangar Digest is Printed by Dover Litho Printing Company  
Mailed by D&B Printing Services, Newark, Delaware*

## From the Director

I have just returned from a few days in Nashville, Tennessee attending the Airlift/Tanker Association Convention. We try to send a representative each year with an up-to-date exhibit. The A/TA folks are gracious enough to give us space for our exhibit to let the 4,500 attendees know about their AMC Museum. It's always fun to tell people about our exhibits, programs and restorations and I'm happy to report that now there are fewer people that say, "We never knew you existed."

It was a very successful trip for many reasons, but for me the highlight was running into Colonel (ret) Gail Halvorsen. If the name does not ring a bell I'll tell you that he is known throughout the world as "The Candy Bomber", who rose to prominence during the Berlin Airlift. In the middle of the largest humanitarian airlift ever undertaken he added a very personal dimension to the operation by dropping small candy parachutes to the destitute children of Berlin (even in the Soviet Sector until they made an issue of it). That small gesture of compassion actually changed world history. Germany, still a bitter defeated nation in 1948, saw in this unassuming military pilot the true spirit of the American people. Strong bonds were formed that remain to this day. Those bonds were cemented with chewing gum and chocolate and eventually proved stronger than the reinforced concrete that divided the city of Berlin. At age 89 he is still sharp as a tack and still cares about people.

Colonel Halvorsen has offered to donate a few more items to our artifact collection and that is great news. I don't think I will be spoiling the surprise if I tell you that we have one of his flight suits and the camera he used to take photographs during the Airlift. They will be featured on his life mannequin in our "Berlin Airlift" exhibit.

Progress on the aircraft restorations is good. Jim mentioned several, and the C-119 is really moving along as well. Charlie Tanner, the Crew Chief for the C-119, has found a C-82 *Packet* that we could purchase, maybe. Now if you've never heard of a C-82 you are not alone. It was the predecessor of the C-119 with a boxier fuselage. The USAF flew them for several years and their major 'claims-to-fame' are that a few were used in the Berlin Airlift and in the original version of the film "The Flight of the Phoenix". The C-82 was the "Star" of the show. The C-82 in question has been taken apart with the wings, gear and booms roughly shoved inside the fuselage. I thought we were getting out of the "basket case" business but this is a very rare airlifter, less than six are left in existence and it actually does deserve consideration for inclusion in our collection. More to follow on this rare find.

We are taking part in a new State of Delaware initiative called Geocaching. Basically it is an outdoor detective hunt using GPS devices. We have a hidden site at the Museum and those who find it log in their achievement and receive a small trinket as a reward. According to feedback our site is one of the traveler's favorites. Come and participate if you like a challenge.

2010 promises to be an eventful year. Jim and the volunteers are going to have their hands full moving the KC-135 onto its new parking spot and our CG-4A glider fuselage is finally scheduled to receive some attention. For a small aircraft this will be one of our more challenging restorations since it involves replacing thin veneer plywood, rusted steel tubing, friction tape and string (really)!! We also will be working to conserve and preserve the cab from the recently inactivated control tower on the base. When it was shut down it was the oldest operational tower in the Air Force, now it will be our job to preserve and interpret it for our visitors. We will build a small (one to three story) tower to mount the cab in position but many factors including cost and security will have to be resolved first. In addition, several of our larger aircraft restoration projects will be winding down, although they are never really finished as long as they are exposed to the weather.

The new Route 9 interchange is completed and it is now much easier to access the Museum. Take Exit 91 off of DE 1/US113 and follow the signs. Speaking of which, why don't you stop by and see all the progress our great team has accomplished in the past year. Thanks to our volunteers, we are world class and getting better all of the time!

*Mike*

## Cruisin' with the Curator

Lots to talk about so pour your cup of Joe, grab a seat and let's get to it.

First let's welcome our newest member to the team, MSgt Mark Nelson. Mark comes to us from the Base Civil Engineering Squadron replacing Rick Veller who retired at the end of September after six years with the Museum. Let it be known by all that Rick is already sorely missed and Mark has large boots to fill. But, it's not taking very long to figure out that Mark is a good fit for our operation. He's jumped in quickly and is already fully engaged in the daily doings. He he he, we'll bring him along slowly before we let him have it! Okay, let's talk planes.

I see the back doors of the C-133 are open, let's see what's up. A quick briefing from Hank Baker and we now know that in the last several weeks the crew has been replacing some of the wooden floor panels. Seems as though there was water damage over the years and some of the flooring became "spongy" in places.

Is it raining or what? Outside the C-133, Gary Burris is up in the highlift pressure washing the top of the plane. As he removes the environmental scum, which has collected on the white cap, what is left is a surface that looks like it was recently painted. Good job Gary, do ya do houses?

Next door on the C-124 work progresses in the wheel wells. Don Rynes and crew just finished painting the nose well, closing out that project. Slowly but surely the plane looks better and better.

We have contracted to paint the exterior of the C-131 and, barring any nasty weather, that job should be completed by the time you read this. The crew is still working the hydraulics for the crew entrance door. Mike Phillips pulled the short straw (no pun intended) and was "chosen" to crawl through the belly of the plane to access the hydraulic plumbing. Lucky Mike, he gets all the choice jobs.

Oh, yeah, HAPPY NEW YEAR!!!! Hope your holiday was safe. Who got the coal????

See you all in the next issue.

Jim

## Meet Museum Volunteer Ed Pratt

Ed was born and raised in Connecticut and in 1948 he enlisted in the Air Force. Following basic training he went on to Aircraft and Aircraft Engine Mechanic (A&E) school with his first duty assignment in support of the Berlin Airlift at Celle in the British Occupied Zone.

Upon the termination of the Airlift, he went on to Erding, Germany near Munich. There he did periodic maintenance inspections on the United States Embassy aircraft stationed in Europe and the Near East. He used his off-duty time to travel throughout Europe. From Erding he was reassigned back to the States to Brookley AFB in Alabama. At Brookley he was assigned as a flying crew chief on the C-47 and B-25 and an engineer on the C-54.

In 1959, Ed attended flight engineer school and was then assigned to the 31st Air Transport Squadron at Dover AFB flying the C-124. In 1965, he became the Wing Standardization Flight Engineer and would also qualify in the C-141.

Ed retired from the Air Force in 1968 and with his family toured the United States. Following his return home, he joined Sears as a service technician finally retiring in 1993.

Ed has been with the Museum since 2004 and is an active member of the Museum's C-124 restoration team. He also volunteers with Dover's Modern Maturity Center "Meals-On-Wheels" program. When not volunteering, he enjoys golf and gardening.

Ed and his wife Esta have been married for 56 years. They have two children and four grandchildren.



## Extending the Range by: Ivan L. McKinney

The ability to refuel in the air is one of the greatest aviation developments of all time. Aerial refueling extends the range and the duration of airlift, bomber and fighter aircraft and it provides a time extending safety valve for in-flight emergencies. Many aircraft have been saved by a tap of fuel by an airborne tanker. Hitting a tanker shortly after takeoff allows many fighter, fighter-bomber or bomber aircraft to safely take off with less fuel and more ordnance than would otherwise be the case. This was especially true during the Vietnam War.

The Nation's defense posture rather rapidly became one of Mutually Assured Destruction (MAD) with the adversary being the USSR, with nuclear weapons as the weapons of choice. SAC was at first entrusted with the safekeeping, management and use of America's nuclear arsenal. Super-safe and secure procedures for handling these weapons were developed and used by all SAC ground and aircrews, while at the same time deploying on contingency missions in several places around the globe with an increased posture of readiness. In those days, the surest way to lose an Air Force career was to compromise SAC's "two-man policy" in the handling of nuclear weapons or to compromise the "two-officer policy" in the handling of top secret and extra sensitive launch and execution documents. Crew members called these "tickets."

Now, back to refueling. Gradually, SAC first went to a 33% alert posture with its bomber force, meaning that 1/3 of its B-52s, B-47s and B-58s were on ground alert all of the time--ready night or day, 365 days a year--ending in a heavyweight takeoff in 15 minutes or less. Since almost all of the bombers, with the exception of a very few B-52s, had to have at least one airborne refueling enroute to the target meant that the "mated" tankers also had to be on similar ground alert. The difference was that the tanker crews had to pull their alerts as far north as possible, so the bombers could refuel just before streaking towards their targets. SAC's KC-97s pulled their alerts at what we used to call "the garden spots of the north" -- Namao Air Base, Cold Lake, Churchill, Frobisher Bay, Earnest Harmon AFB, Goose Air Base in Canada, Sondrestrom and Thule Air Bases in Greenland, Eielson AFB in Alaska and Lajes Field in the Azores.

Later on, as tense conditions increased between the United States and the Soviet Union, SAC went to a 50% alert posture, meaning of course that 1/2 of its bomber and tanker fleet was on ground alert. Somehow, proficiency flying had to be wedged into the equation for both the bomber and tanker crews. We had other commitments, as well. The tankers had to fly enough refueling missions not only to satisfy the training and proficiency requirements for the bomber force, we also trained and kept current on the in-flight refueling requirements of the Tactical Air Command's (TAC) fighters and fighter-bombers. Then there were the periodic flare-ups like the Cuban and Lebanon Crises, when SAC was ordered to "generate the force." On these occasions, SAC would bring up to ground alert status every bomber and tanker in its inventory. Each bomber had pre-assigned targets which the crews had studied in detail and at great length. Each tanker and bomber "pair" had a pre-assigned rendezvous point where the air refueling was to take place. Bomber fuel on-loads were pre-computed and during a "real" launch the tanker was obligated to offload all of its fuel except just enough to clear the refueling track if the bomber crew requested it.

Ground alert aircraft were thought by some to be vulnerable to enemy missile attack; so, SAC implemented an airborne alert concept (B-52s in combat configuration, guns loaded and nuclear weapons in the bay). We of the tanker force had to jump up and refuel these bombers on a constant basis not only to keep them in the air but also with enough fuel if they received a "go code" to their targets. It was thought that airborne alert would provide the absolute guarantee that this nation could destroy its adversary anytime without fail. The USSR leaders knew and believed that.

Since the bombers on airborne alert had to fly anyway, SAC gave them missions to watch important assets by radar and by visual means -- assets which our country depended on for early warning of an adversarial attack. For instance, for over 20 years and without missing a beat, we "watched" the Ballistic Missile Early Warning System (BMEWS) located at Thule, Greenland. If something happened to the bomber on station,

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## Extending the Range (Cont.)

such as an abort, the tanker took its place.

How we tanker guys would cheer when the bomber got its fuel and headed north from the refueling area! We hated the thought of flying almost to the pole, then doing figure-eights for hours while waiting for the SAC test message called “Frosty Window”. The message had to be decoded in seconds and the correct response given. Woe to a crew that didn’t meet the time limit, or worse, respond in error! As soon as that crew landed it was called in for a personal “career enhancement discussion” by the three-star general at SAC headquarters.

And then Vietnam heated up. The propeller-driven KC-97 was gone from the inventory by then, replaced by the sleek KC-135. Just in time, too, because unlike World War II or Korea, the Air Force flew its total fighter and bomber force across the ocean to the action areas. Although the value of air refueling was academically proven with SAC’s bombers, we had never gone to war and had not proven its value in day-to-day realistic terms. We had not “flown it!” But as we began building up our fighter forces in Vietnam and its environs, new procedures had to be developed to safely escort and refuel large numbers of fighters across the world’s widest ocean. SAC owned all the KC-135 tankers, and so SAC became the “tanker manager” responsible for ensuring that TAC’s fighters would arrive in the forward area safely and ready for combat. “Tanker Task Forces” of various sizes would be formed up for the task. Fighters from the single-engine F-100 all the way up to the big twin-engine F-4, and fighter bombers from the big F-105 (Thud) to the B-66 were escorted across the wide Pacific to Vietnam. I will describe a typical Tanker Task Force mission:

TAC would tell SAC when they would need tanker support to take a squadron or a few spares across the Pacific. SAC would lie on the requirement to one of its subsidiary Numbered Air Forces – either the 2<sup>nd</sup>, headquartered at Barksdale AFB, the 8<sup>th</sup> at Westover AFB, or the 15<sup>th</sup> at March AFB. The Numbered Air Force receiving the tasking order would swiftly put together a task force of required size by tasking subsidiary bomb wings for “so many” KC-135s. The smallest task forces usually consisted of three tankers, and the largest ones had 13 tankers – 12 “refuelers” and one logistics (log) tanker, which had spares of all kinds aboard, as well as many maintenance technicians. Our example is the 13-tanker task force and I will describe it as one on which I was the chief navigation planner, or the “Tanker Task Force Navigator.”

TAC wanted a whole squadron of newly combat-ready F-4s and crews from Eglin AFB, Florida, escorted to the forward area, or Vietnam. They departed Eglin AFB, landed at George AFB, California and remained over night (RON). We (KC-135s) departed our various bases and RON’ed at March AFB, California. The Task Force Commander was a colonel and current in the KC-135, if at all possible. The Task Force navigator was a senior and seasoned navigator/performance officer/planner. The Cell Leaders or Element Leaders were all seasoned, and if possible, senior officers also. There were four cells, four Cell Leaders occupying the #1 cell position, three cells of three KC-135s and one cell of four KC-135s, counting the LOG tanker. Twelve would refuel the big F-4s on a 2/1 ratio (two F-4s behind each KC-135), and the LOG tanker didn’t refuel except in an emergency or extreme need, since he was “heavy” with spare engines, air carts, starting carts, parts and maintenance troops. He had only a small fuel offload to transfer if absolutely necessary.

The fighters briefed at George, we briefed at March, with telephonic contact between the briefing rooms for questions or discussion. As Task Force navigator, I prepared flight plans and handed one out to each crew. These flight plans included maps with the route finalized, but they also had fuel usage figures including offload and predicted fuel-in-tanks at points along the way. My KC-135 was the Command Tanker, and it was usually the #2 tanker in the first or second cell. It was configured with a large worktable in the cargo bay, and the Task Force Commander and I had radio headsets on for communication with the whole task force.

We took off, joined up with our fighters at a pre-designated spot over the Pacific and began “topping them off” almost immediately. If something happened that one of them couldn’t get the refueling, the tanker escorted the aborting fighter back to George AFB and the other two fighters (“chicks”) who were with the

**(Continued on the following page)**

## Extending the Range (Cont.)

tanker hopped up to another cell. We refueled twice enroute to Hickam AFB, Hawaii, where both tankers and “chicks” RON’ed.

With big fuel-hungry receivers like the F-4 to refuel, I felt some apprehension early the next morning computing the critical wind factor for the flight (that amount of headwind which results in an unsafe “no-go” decision). Hawaii to Guam was a very long way, eight hours and 50 minutes at 490 knots true airspeed (KTAS). Normal winds across the Pacific at that time of the year were 10-14 knots headwind and my critical wind factor computed at 18! Four to eight knots to spare! My brow broke out in a sweat. I filed the information with all the command and staff agencies that had reason to need it and proceeded to the briefing room with all the crew packages.

The KC-135s took off first followed by the F-4s and we joined up for their “topoff.” Everything was fine until we neared the second air refueling point, and I queried all tankers for their remaining fuel on board. I noticed that it was quite a bit less on average from that which was predicted, so I immediately consulted with the Task Force Commander, who was usually on his first assignment as a Task Force Commander. He asked me if I have a recommended solution to our impending problem and I replied that we should change the scheduled air refueling tactic before we begin refueling. I recommended that we have one tanker in each 3-ship cell offload “heavy,” and the other two tankers would offload “light.” Then we’d send the tankers that had accomplished the heaviest offloads to Wake Island, which was closer than Guam and was the only landing spot we could use at that point in the middle of the Pacific. Then the tankers could refuel on the ground at Wake and join us later that evening in Guam. The Task Force Commander “bought it,” and of course I never had one turn me down or even suggest a change, as I remember. At any rate, I very rapidly computed everyone’s offload and quickly relayed it to each tanker as we were almost to the refueling point. Of course, I never sent “myself” to Wake! In fact, as many times as I’ve crossed the Pacific, I never saw Wake! You might ask, “Why did the fighters burn more fuel than predicted?” I really don’t know, but over time it was noticed that if there was a “temperature deviation” of a few degrees on the plus side at cruising altitude, they’d burn more fuel than predicted. One had to stay flexible at all times in this business – nothing, absolutely nothing, that is written in concrete remains that way in practice!

So we recovered at Guam, RON’ed, and did the same thing the next morning, only this time we planned to say “sayonara” to the fighters near the Vietnam shore. We then flew south to Clark AB, Philippines and broke up the task force. Many of the tankers just flew back across the Pacific to home, but others got “stuck” with escorting and refueling a repatriating “wardog” fighter back for depot overhaul in the contiguous 48. How we hated that duty, because if the fighter broke down, we’d have to stay with it for several days, somewhere in the Pacific, while it was being repaired.

Of course, it was our job to escort the fighters around weather – including typhoons. The thunderstorms in the typhoons were very high, and we couldn’t fly over them, so we flew around them if possible or through them if necessary, by using airborne radar – picking the “voids.” When we were doing this, the “chicks,” believe me, would tuck up under our wings and say nothing – they surely didn’t want to suddenly look up and see “mother” gone!

Once, when it was good VFR weather and the last refueling had gone off without a hitch, one of the feisty  
(Continued on the following page)



*The Museum’s KC-135E approaching its final destination on 7 August 2009. Photo: Ev Sahrbeck*

## Extending the Range (Cont.)

F-100 pilots that we were escorting said, braggingly, “Look here, tanker – I can do something you can’t do.” He did a quick 360-degree roll and said, “Don’t you wish you could do that?” Our tanker pilot said, “Watch me – I’ll do something you can’t do!” The F-100 guy looked, kept looking but saw nothing. After about fifteen minutes he said, “Hey, tank, I didn’t see you do anything.” Our tanker pilot replied, “I got up out of my seat, stretched, walked back to the galley and made lunch. Don’t you wish you could do that?”

SAC’s KC-135s did an absolutely remarkable job in refueling everybody flying back and forth across the Pacific during the Vietnam conflict. I believe I am correct when I say that in all those thousands of crossings, escorting and refueling fighters and fighter-bombers, only one aircraft was lost. It was a B-66 that had hooked up to a KC-135, but its system malfunctioned and it couldn’t take on any fuel from the tanker. It splashed down in the Pacific, but the tanker flew “CAP” for it until a search and rescue airplane arrived overhead from Hickam AFB. As I recall, neither of the crewmen perished – we only lost the aircraft. What a remarkable safety record – during wartime, under pressure on every flight, around weather, over the widest ocean in the world! This remarkable safety record has never been talked about, never been written about, except by those of us who know from experience.

The Air Force now regards air refueling as an absolute first-priority necessity. All of their planning takes into account the use of aerial tankers. They now fly bomber strike missions from Barksdale or Whiteman AFBs halfway around the world and return without landing – because they receive five air refuelings on the 35-hour missions. Since retiring, I have been fortunate to have been able to keep up with the art of air refueling by being lucky enough to fly as a passenger on KC-10 refueling missions with my #2 son, Blaine, before he retired as a major a few years ago from the Air Force Reserve. So air refueling has “grown up,” and I’m privileged to say that I saw it all happen – from the early KB-29s to the newest KC-10s.

### About the author:

Lt. Col. Ivan L. McKinney, USAF (Ret) enlisted in the Air Force in 1949 and was trained as a GCA operator. He went on to earn his navigator wings at Ellington AFB, Texas in 1958 with his initial duty assignment flying the KC-97 *Stratofreighter*. Following his Air Force retirement in 1976, he was employed as a stock broker. He was the treasurer and president of the 8th Air Force Historical Society; a former National Board Member of the Air Force Association (AFA) and its educational subsidiary, the Aerospace Education Foundation. He was honored as AFA’s “Member of the Year” for 1998. He resides in Bossier City, Louisiana. This is the second article submitted by Col. McKinney for publication in the Hangar Digest.

### Membership Recognition

*The AMC Museum Foundation expresses its gratitude for the generosity of the following who have contributed \$100.00 or more in support of the AMC Museum through new and/or renewed memberships:* Richard A. Bissonnette, Jack & Taube Carpenter, Roger H. Cole, Col. Robert W. Ginn, Col. Hampton Green, Douglas M. Halcrow, MSgt. Franklin K. Kreisher, Lt. Col. Ed Levine, Maj. Charles S. Lyon, William & Hana Jane Maroon, Col. William O. McCabe, Brett Nicholson, Andrew Ramult, Jon B. Sellin, Bob Simmons, Lt. Col. Steve Welde, James R. White Sr. and Dave & Dottie Wilson

### An Artifact Fact by Deborah Sellars



Shown is the Boeing KC-97G load adjuster.

Military aircraft used load adjusters to perform weight and balance computations that would determine cargo, passenger and fuel distribution necessary for safe flight. Similar to a slide rule, it has a base, a slide and a clear movable indicator. The load adjuster shown here was made by the Cox and Stevens Aircraft Corporation.

Diagrams of the fuselage are illustrated on the back.

In the development of air power, one has to look ahead and not backward and figure out what is going to happen not too much as what has happened. ——— Brigadier William ‘Billy’ Mitchell, USAS



## FOUNDATION NOTES by Don Sloan

About fifty Friends of the Museum attended the September AMC Museum Foundation Mixer. The Mixer is planned to be a low-key event to give our members a bit of a “thank you” for their continued support of the Museum. Although open to everyone, if you look at the membership application, you’ll see that it’s one of the **free** “perks” for our Squadron Commander–level members and above. It’s free food, good company and great conversation in the middle of a wonderful museum. *Jim Douglass and Bob Berglund (right) were among the many Foundation Board members and volunteers who helped out, including spouses Ann Douglass, Claudia Leister, Carol Gillis and Anne White.* We purposely have very little formal program – that’s why we call it a “mixer”. We do, however, try to give you a brief update on what’s going on at the Museum and Dover Air Force Base. Wing commanders Colonels Manson Morris and Mike Fitzhenry gave short, but informative, accounts of key events in their respective 436<sup>th</sup> and 512<sup>th</sup> Airlift Wings (the active duty and reserve wings). It’s a unique opportunity for us to get a first-hand account of local and global affairs and their significant impact on the TEAM Dover community. As always, we appreciate the time they took from their Friday afternoon to come to the Museum to speak with us.



A rather unique treat for this year’s Mixer was having Lt Col Scott Erickson in the crowd. Scott was a key player in the recent C-5M flight that set 41 new records that you may have read about. While emphasizing the “people” side of the experience, he explained how carefully the planning and execution of the flight had to be in order to make the records “official”. He noted how impressed the US National Aeronautics Agency representative was with the professionalism of the maintainers and aerial port troops, obviously important players. Scott, a veteran of years of inspections, visits and evaluations, summed it up with “In any inspection, it always helps if the inspector is favorably impressed with the efforts of the troops”. You can see the list of records on this site <http://www.amc.af.mil/news/story.asp?id=123177474>. It’s also linked from our website, [www.amcmuseum.org](http://www.amcmuseum.org). Great efforts by a great team to showcase a great Air Mobility asset, the C-5M *Super Galaxy*.

Finally, after dozens of door prizes were given away, Foundation Board member, and newly elected treasurer, Sidney Erickson, picked the winning ticket of the AMC Museum Foundation’s Stearman Flight Raffle. It belongs to Mr. Ali Shahbaz, of Vienna, VA. When I called Ali with the good news that evening, the startled winner proclaimed “You’re kidding – I never win anything”. Looks like he can’t say that anymore. When the wings, weather and winner all come together, we’ll post some pictures on our website. Our thanks to all who helped sell the raffle tickets and of course, to all of you who purchased them.

In the “Knowledge is Power” section . . . Over the past year I’ve often touted our website in these notes. Debbie Sellars and Hal Sellars have done a terrific job in setting up a world-class website to well-represent your world-class AMC Museum. When you visit the site, you’re able to see past and upcoming events, information on the store, educational opportunities, historical archives, exhibit information and more, as well as links to other similar sites. In this information-oriented age, email is also a great way to get the word out to you. We’ve been collecting email address from our sign-in list at the Museum for several months now, and combining those names with folks who are signing up on-line, we are closing in on a thousand addresses. By using a program called Constant Contact, we are able to get up-to-date information to all of those interested parties – emails with Museum News and reminders of Museum events. Our goal is NOT to inundate you with spam – in fact, we’re working hard to not “over do” it -- but rather, we want to be able to get the word out to you, our members. My point is this: most of you who receive the Hangar Digest have been members much longer than we’ve been collecting email addresses, SO, if you’d like to get on our list, either go to [www.amcmuseum.org](http://www.amcmuseum.org) and click on “e-Newsletter” (bottom left of the page) and fill in your email address OR drop an email to [dunrovindata@comcast.net](mailto:dunrovindata@comcast.net) and let us know you’d like to be added. Once you’re on the list, please feel free to give us your feedback.

On Saturday, November 7<sup>th</sup>, The AMC Museum Foundation hosted a \$5 Pancake Breakfast at the Milford Applebee’s. *Here (right) you see our first customers, Gwyn and Pete Stevens (retired flight engineer), being served by Foundation Board member, Sidney Erickson.* Board members and volunteers served pancakes, sausage, orange juice, and coffee. *Board member, Ron Rutland (left) took a quick break while manning the dishwasher.* The breakfast fundraising idea, brought to the Board by Jack Carpenter, and executed by Paul Gillis, brought over a dozen volunteers together to serve over fifty breakfasts. The volunteers also included “Doc” Adams, Dave Clapp, Ed O’Dell, Paul George, Claudia and Christine Leister, Rick Roll, Dave West, and Phil and Anne White. Look for another Pancake Breakfast at an Applebee’s near you in the future. Our thanks to Applebee’s *Flapjack Fundraising* program and the staff at the Milford Applebee’s. (*Foundation Notes continued on page 13*)



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## Scenes From: Around & About the Museum



**LEFT:** Rick's last day on the job. Our Chief of Restoration MSgt. Rick Veller retired from active duty in September. Rick's talents are reflected throughout the Museum from aircraft restoration to carpentry. Pictured is Rick with his wife Robin. Also shown (l to r) are John Taylor, Operations Manager; Jim Leech, Curator, and Mike Leister, Museum Director. We all wish Rick the best! Photo: Ev Sahrbeck

**RIGHT:** Museum volunteer Sam Marinucci with his wife Jan accepting the Air Mobility Command's Matchup game \$7,000 grand prize from Maj. Teresa Darrow, 436th Support Squadron Commander. This is the first time Dover AFB has had a grand prize winner. AMC Matchup is a seasonal game offered by AMC to increase morale and support of Force Support Squadron Services. Photo: Jason Minto, 436th AW/PA



**LEFT:** Museum Volunteer of the Quarter, Jimmy Nolan (2nd from left) is shown with (l to r) Volunteer Coordinator, Jan Caldwell; Operations Manager, John Taylor and Foundation Board Vice President, Paul Gillis. Jimmy has been an aircraft restoration volunteer since August 2000 working on the C-133, C-121, A-26, C-124 and the C-131. He is a former member of the Foundation's Board of Directors. Photo: Don Sloan

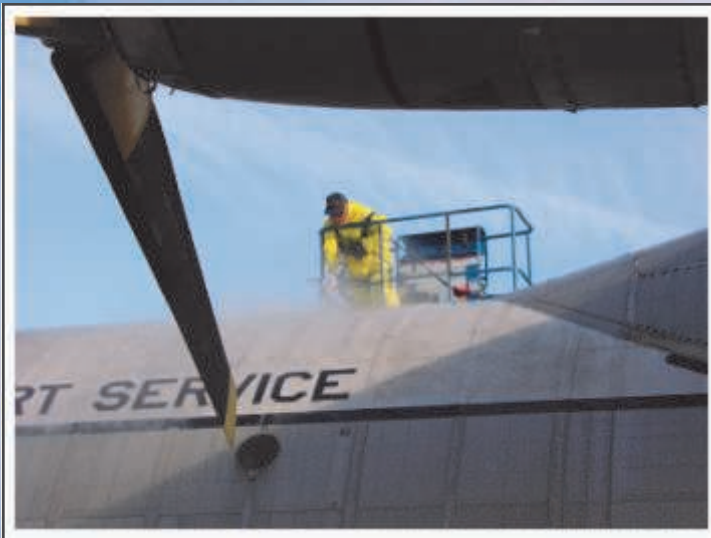
**RIGHT:** In November the Museum’s “Hangar Flying” series welcomed Bill Ayrey, ILC Dover Quality Systems Laboratories Manager and Company Historian, with his presentation of ILC’s history from its inception in 1947 through the design of NASA’s space suits from Apollo to the current Space Station missions. Pictured with Bill are ILC employees (l to r) Renate Brown, seamstress and Kim Landis, suit testing technician. Read more about ILC at: [www.ilcdover.com](http://www.ilcdover.com). Photo: Editor



**LEFT:** The Museum is the perfect venue for military retirements, change-of-commands, reenlistments and other official base functions. Pictured is TSgt. Jennifer Grega, 436th Operational Support Squadron, being administered the oath on her 3rd reenlistment by Capt. Jared Lilje, 3rd Airlift Squadron. Congratulations Sgt. Grega! Photo: Editor

**RIGHT:** A day at the Museum was enjoyed by the Mayes family of Hoschton, Georgia. Shown at the simulator with Curator Jim Leech are Zane, Anna-Marie, Zared, Brecken and their dad, Brannon. Photo: Hal Sellars





**LEFT:** The C-133 reunion is fast approaching and the Museum's C-133 was in need of a good bath. Pictured is Museum restoration volunteer Gary Burris power washing the fuselage. Photo: Editor

**RIGHT:** Somewhere in this photo is a hidden waterproof ammo box containing a logbook and a few trade items referred to as a Geocache. Geocaching is an outdoor activity in which the participants use a GPS receiver to seek containers "Geocaches" anywhere in the world. Geocaching is most often described as a "game of high-tech hide and seek". So crank up that "handheld" GPS receiver and start looking. More information on Geocaching can be found at: [www.geocaching.com](http://www.geocaching.com). Photo: Mike Leister



**LEFT:** Across the field a Dover C-5M Super Galaxy "*The Spirit of Normandy*" recently set 41 U.S. airlift records. With a payload of 178,000 pounds, the aircraft climbed to 12,000 meters (39,370 ft.) in less than 28 minutes setting the altitude, payload and time-to-climb records. The remaining records "trickled down" to the lighter payloads and lower altitudes. Shown is MSgt. Richard Biasi, 512th AMS, marshalling the C-5M moments before its predawn takeoff. These U.S. records have been submitted to the Fédération Aéronautique Internationale for certification as world records. Photo: Jason Minto, 436 AW/PA



## Foundation Notes (Cont.)

November 13<sup>th</sup> found us at the Museum again for another installment of our Hangar Flying program. Bill Ayery of ILC Dover gave an outstanding presentation on the history of his company, which, by necessity, turned out to be a history of the modern-day spacesuit. ILC spacesuits have been on the moon, ARE currently in the shuttles and space station, and are planned to be used in the Lunar/Mars program (dubbed the Constellation Program – learn more at [http://www.nasa.gov/mission\\_pages/constellation/main/index.html](http://www.nasa.gov/mission_pages/constellation/main/index.html)). Besides the suit that ILC has let us display, since before Astronaut Tom Henricks' Hangar Flying affair in August, he brought other “touchable” items. *They included modern space suit parts, like Hal Sellars is modeling on the left.* Bill had excellent material, outstanding knowledge and great visual aids (remember, I'm a pilot – LOVE those pictures), but by far, the best part of the evening was his infectiously enthusiastic presentation. Watching the crowd watch him was extremely rewarding to me by giving feedback that we had “picked a winner.”



**NEWS FLASH: Save the Date** --Bill has graciously agreed to a repeat performance of his presentation on **Sunday, January 17<sup>th</sup> at 2:00 p.m.** *You'll be able to see and touch an LCVG (Liquid Cooling-Ventilation Garment) like the one Bill's holding on the right* This is the first time we've held the program on a Sunday afternoon, so we'll be looking for your comments. Since the museum will already open, expect the presentation to begin promptly at 2:00. Bring the kids/grand kids. I promise you won't be disappointed.



You may not have heard yet that Director, Mike Leister, and his staff have decided that the **AMC Museum will now be open every day except Mondays, Thanksgiving, Christmas and New Years.** In the past, Federal Holidays meant that many folks, AND SCHOOLS were off, but we were closed. We're glad to be able to announce that is no longer the case – so grab your young'uns and head to the AMC Museum on those extra holidays. *You can see from this past Veterans Day photo, as Sam Goff sits at the controls of one of the Museum's open cockpits and his brother Spencer (rear) and buddy Jody Kirk (center), look on, there's lots to do on your “day off” – and it's still FREE.* Incidentally, Paul Gillis and Doc Adams installed thirty-six bricks in the AMC Museum Commemorative Park in time for Veterans Day. You might even see some extras on certain holidays – at 1100 hours on Veterans Day we showed a brief, but poignant video honoring our Veterans.

On May 17<sup>th</sup>, 2010 you can experience the **First AMC Museum Foundation Silent Auction.** Our main theme will be aviation -- expect to find lots of aviation articles, including plane parts, flying gear, models, aviation books and art work, and several airplane flights. But we'll still have donated hotel packages, restaurant deals and more from our surrounding communities. Look for many of the items to be showcased on our website after the first of the year. **IMPORTANT NOTE: Be assured that absolutely none of the articles in the silent auction will be from the AMC Museum. All of the articles will be/have been donated to the Foundation specifically for fundraising and are not associated with the AMC Museum.**

Your Air Mobility Command Museum is now home to 28 aircraft, helicopters, and gliders, most which have also had their interiors restored, almost unheard of in the world of aviation museums! Our A-26 Invader has been on display since June, just in time for the air show, and August saw our KC-135 arrive, just as we were approved for a new ramp expansion (by the time you're reading this, it should be completed). In addition to new planes, we've also added some new exhibits. The C-47 Engine-Change diorama was designed and built by museum staff. Popular with visitors, it was awarded the USAF History Office's Air Force Heritage Award. Currently, our staff is doing *in-house* work on our largest indoor exhibit yet, “The History of Airlift”, another ambitious project.

Finally, as most of you already know, one of the AMC Museum's most important missions is **education.** Our volunteer force introduces the youth (and adults!) to America's proud Air Force heritage and helps them gain a better understanding of the Air Force, its people, its past AND current missions, and its accomplishments. We conduct an Aviation Scout Merit Badge program; we teach the principles of flight; and we help folks experience the joy of flying in our two flight simulators. Our Hangar Flying events have been outstanding, featuring authors like Bob Dorr and Ralph Pettersen, Astronaut Tom Henricks, and most recently, ILC Dover's Bill Ayery. Whether visiting with schoolmates, or just stopping by with family or friends, an important AMC Museum goal is to help our visitors understand the lessons of yesterday in order to better prepare young minds for the challenges of tomorrow.

As you can imagine, these are expensive responsibilities that increase in cost every year. Our Museum Store is the mainstay of the funding for the Foundation. Our store manager, Jim Stewart, and his volunteers have done outstanding work for us -- watch for upcoming information on our store renovation. Your board members also work hard to raise money by holding events like our annual golf tournaments (2010 will be our sixth year), Texas Hold'em tournaments, our open-cockpit biplane ride raffle, Breakfast at Applebee's and our upcoming Silent Auction. It's also important for you to understand that **your continued membership is a significant part of our funding.** As president of the AMC Museum Foundation, my pledge to you is that we will continue to work hard to make sure that every dollar is well spent. On behalf of the AMC Museum staff, volunteers and Foundation, we thank you for your continued support. ★ (Photo credits: C-5M, Jason Minto; all others, Don Sloan).

For an updated Pave a Path to History  
brick form, please visit:

<http://amcmuseum.org/support>

For an updated membership form,  
please visit:

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This illustration shows the AMC Museum's KC-97L Stratofreighter, 53-0230, as a KC-97G in service with the 384<sup>th</sup> Air Refueling Squadron, Strategic Air Command, at Westover AFB, Massachusetts in 1963. The KC-97G had under-wing tanks that would later be replaced in the mid-1960s with two J-47 jet engines to boost performance. The color was overall natural metal with the standard SAC 'Milky Way' band running diagonally down the fuselage aft of the wing with a Day-Glo Orange nose, rear fuselage band and wingtips.

FOR UPCOMING EVENTS, CHECK OUT OUR WEBSITE AT [WWW.AMCMUSEUM.ORG](http://WWW.AMCMUSEUM.ORG)