

Hangar Digest

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From The Editor

The “new look” Hangar Digest celebrates its third anniversary. I hope you have enjoyed each issue and look forward to receiving the next.

I still need additional articles. The prime criterion is that they be related to strategic or tactical airlift, air refueling, air sea rescue, weather or aeromedical missions. (Limited to 1,000 words or less). They must be original manuscripts and preferably of personal experiences. If applicable, please identify all of your resources and references and include a brief bio. Send your IBM-PC compatible articles via email, 3½ floppy diskettes or CDs to me at any of the addresses listed on the last page and please include your address and phone number. If you cannot forward through electronic means, copy should be typed. I reserve the right to edit submitted articles for reasons of taste, clarity, legal liability or length. Your original written copy will be retained by the AMC Museum; however, if photos are included they will be returned to you if you so desire.

As the museum continues to gain momentum, we're looking forward to expanding our education and volunteer programs. Adding to his teaching aids, educator Dick Caldwell has acquired a wind tunnel and a wing balance tester. He will now provide research and technical assistance to the area's public schools. As a result of our unrestricted access off of Route 9, our volunteer staff has grown considerably. Jan Caldwell, our volunteer coordinator, has recently initiated a new recognition awards program with eligibility starting at 100 volunteer hours. If you would like to join us, contact Jan at (302)677-5938.

Till the April issue, when we look at tactical airlift, enjoy your AMC Museum.

Harry E. Heist, Editor



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LOOKING BACK

C-5 Galaxys are flying longer and getting colder these days. The longer flight — 9 hours and 46 minutes — came at Edwards, where Galaxy No. 2 is undergoing aerial tests. Ironically, it was Florida — “The Sunshine State” — that provided bone-chilling temperatures. The zero weather was man-made. In weeks to come, test technicians will drop the bottom out of the thermometer as the cold-soak program progresses downward to minus 65 degrees. Then the big thaw and gradual climb to a high of 125 degrees.

Source: MAC Aircrew Newsletter, October 1969.

From the Director

Wow! I am amazed at how many changes have occurred since the last issue of the Hangar Digest. There is no way to cram all of them into one short column, but here goes.

Rick Veller, our new Chief of Restoration, has taken on the refurbishment of a KC-135 boom and has turned a lemon into lemonade. He has repaired smashed panels, grafted a set of ruddervators from a KC-97 onto the boom and he is now installing the inner boom extension so it will soon be ready to display in the refueling exhibit.

Bill Hardie was ready for a new challenge and has turned over the management of the museum's store to Jay Schumkler. Bill is now the program manager of the C-124 restoration and he and his team are already hard at work repairing the damage the aircraft suffered while in storage before we acquired it. Next spring, Ben Natrass and his team from Worldwide Aircraft Recovery will come and assemble the major components so Bill can continue returning this grand old lady of airlift to her proper place in the museum.

Since taking over the store, Jay has added his own touch and has put in some new lines of merchandise. Our thanks to Jay for taking on this big task. The profits from the store are used to maintain and restore our aircraft, exhibit construction and other museum projects that may otherwise not get accomplished.

I took our traveling exhibit to the Airlift Tanker Association's convention in Dallas this year. We received several thousand visitors and there were more this year than in years past that have heard of the AMC Museum. I consider that a good thing!

In the olden days, field museums could get major help from on-base shops for aircraft corrosion control, aircraft painting and other restoration projects. Since the early 1990s this has not been the case. As a result, our C-7 has just been painted by a local contractor. It was his first airplane and our first experience using anyone other than our own personnel or a commercial aircraft painter.

Speaking of local contractors, Kimble Aviation Services from the Georgetown Airport of Georgetown, Delaware, has taken on the job of repairing and corrosion treating the fuselage frame of the CG-4A glider. As you know the cockpit has been on exhibit for several years. Once the fuselage is displayed, we have the promise of a Clark airborne bulldozer as a donation. Kimble has done some excellent work on restoring vintage aircraft for others. Once the frame is returned, our volunteers will start replacing the fabric. A time consuming and intensive project!

The 436th Troop Carrier reunion was a huge success. I could write an entire column on the personal stories we heard from the veterans. One wonderful result was the donation of two footlockers full of 436th memorabilia.

Next time, I will have information on a major conference we will host at the museum along with a review of our aircraft wish list.

Mike

Cruisin' with the Curator

Here we go folks, hang on to your hats.

With an enthusiastic "welcome to the museum", Rich Breckenridge's replacement, TSgt Rick Veller has hit the ramp running. A replacement always has an advance feeling of anticipation. Am I going to "fit in?" Will my work ethic be accepted? Can I take the plane by the wing and get the job done? Well folks, the answer in Rick's case is a definite YES!

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Cruisin' with the Curator (Cont.)

After a brief introduction to our operation, Rick has been busy on many projects. He is knee deep in the C-124 restoration as well as the Connie restoration. His current project is preparing a KC-135 refueling boom for the aerial refueling exhibit. He is a self starter and has the initiative to see what needs to be done and does just that. He's a good guy to have on the team.

The Ground Observation Corps exhibit is coming along quite well. The tower is complete and some of the artifacts are in place. A narrative panel is awaiting the script and after a bit of fine tuning, the exhibit will "officially" be opened. It's been a while in the making as an extra amount of research and planning were needed.

Bill Hardie is busy on the C-124 restoration. In recent weeks he's signed up several new volunteers to give him a hand in preparing the pieces for reassembly which is planned for the spring. There's plenty of work to keep his team busy throughout the winter.

As Mike indicated, the contractor has completed the paint job on the C-7 Caribou. The plane looks really good and hopefully it will pave the way for some of our other planes to get the once over once again.

New aircraft tie-down points have been installed on the museum ramp allowing us to moor the planes in place to prevent their movement in high winds. It was quite a sight watching the contractor try to drill through eighteen inches of 60 year old concrete but with some struggle he managed to get the job done.

I'm looking forward (as in ahead) to what this new year will bring. The reassembly of the C-124 will certainly be the highlight of the restoration projects and if all goes well, we may be able to paint the Connie before the year ends. We'll keep you posted.

Gear shifter in PARK, ignition off. Time to get back to work. Will the last person leaving the museum please lock the Route 9 gate.

Jim

Meet Museum Volunteer Bob Wikso

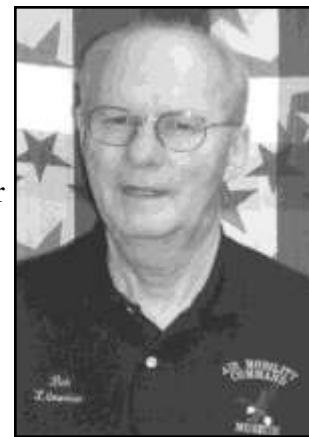
Bob is the museum's librarian and has been a volunteer since 1999.

He entered the Air Force in 1953 and his first operational assignment was as an F-86D jet engine mechanic with the Air Defense Command stationed at Larson AFB, Washington. From Larson he went on to serve at Lockbourne AFB, Ohio; Torrejon AB, Spain; Eglin AFB, Florida and finally on to Dover AFB as a flight engineer on the C-141 and the C-5.

Bob is the editor of the Twentieth Times, a newsletter published quarterly, that is dedicated to all 20th FS/ATS/TCS/MAS/AS crew members who served with that unit from 1942 until its deactivation in 1993.

Bob retired from active duty in 1973 with the rank of Master Sergeant and went on to serve with the Reserves until 1983. His hobbies include golf and fishing.

Bob hails from Long Island, New York and he now resides in Dover, Delaware.



The Birth of the Military Air Transport Service

Following Pearl Harbor, the Navy had organized its own Naval Air Transport Service (NATS) and throughout the war years both the Army's Air Transport Command (ATC) and the Navy's NATS operated extensive independent airlift systems. However with peace, Congress and other government officials began questioning the need to maintain two airlift services that overlapped. In May 1946, the Joint Chiefs of Staff (JCS) asked the Joint Army-Navy Air Transport Committee (JANATC) to work with the Joint Logistics Committee to produce a draft agreement delineating the respective responsibilities of the two transport services. The committee ultimately recommended a temporary joint task force, with the goal of withdrawing the Navy from all land-based air transport activities and having ATC pick up all overseas routes of "common interest." Lieutenant General Harold George, Commander of ATC, soon found that the Navy and Army Air Forces leaders could not agree on which routes were common interest, something that was essential to defining the interim joint task force's areas for cooperation. Headquarters NATS representatives insisted that the Navy need not turn over responsibility for operating a route of common interest to ATC if the Army Air Forces used contract carriers on the route. In 1946, General George wrote to the Assistant Secretary of War for Air stating that he expected the Navy to make high demands for air transport services just so it could claim nonsupport from ATC and maintain its NATS airlift structure permanently. George suggested that the only way to deal with this was to have the War Department, rather than any of the service components, determine the strategic air transport requirements for both the Army and the Navy and then assign the total mission to the Army Air Forces.

The Army Air Forces got nowhere with the consolidation until the civilian leaders directed the military services organize the air transport mission under a single command. The issue became part of the give and take surrounding the legislation that created a separate and independent United States Air Force. The National Security Act of 1947 originally went to Congress in February 1947 in draft form. By the time it became law in July, it incorporated a number of changes which later provided the core areas of disagreement among the military services. While the Act itself did not specifically address airlift, an executive order, signed at the same time, did spell out the functions of the armed forces. The Air Force received four major missions: strategic bombardment, air support of land forces, air defense and air transport. Setting the stage for subsequent developments, the Air Force would provide air transport services to the armed forces except those the Navy deemed "necessary for internal administration and for air transport over routes of sole interest to naval forces where the requirements cannot be met by normal air transport facilities."

On 18 July 1947, President Harry Truman established a temporary Air Policy Commission "to make an objective inquiry into national aviation policies and problems," and to assist him in formulating an integrated national aviation policy. The tasking went beyond the military, encompassing all aspects of aviation in the country. The President's commission held formal hearings between September and December 1947. Besides the heads of aircraft corporations and government aviation agencies, the commission heard from the former Assistant Secretary of War for Air, the former Chairman of the Air Safety Board, President of the Air Transport Association of America, the Air Force Chief of Staff and the Air Force Secretary. Major General Lawrence S. Kuter, who had coauthored the basic plan for the organization, a member of the War Department's General Staff in World War II, also spoke to the commission. In addition to his wartime experience, General Kuter was the United States Representative to the International Civil Aviation Organization since 1946.

The commission addressed military and commercial transport services in a single section of its report. It noted that ATC had 22,000 personnel and 366 aircraft which flew an average of 10 million ton-miles* each month. On the other hand, NATS had 6,300 people and 84 aircraft, averaging 8 million ton-miles each month. In addition, ATC provided 66,000 miles of regularly-scheduled routes while NATS operated over 42,000 miles. For fiscal year 1948, these two military airlift organizations transported about the same amount of freight as all "certified" United States commercial carriers combined and about one-eighth as

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The Birth of the Military Transport Service (Cont.)

many passengers. The commission reported, “many of these services are being duplicated.” The commission revealed that estimates by the military establishment indicated both ATC and NATS, to include the commercial aircraft, would be unable to meet the nation’s wartime needs. “For this,” the commission report stated, “we must increase our commercial fleet.”

At this point, the military was not the only group with scattered transportation resources. The report also disclosed that the United States did not yet have a single agency to consider transportation policy for the nation and that several agencies dealing with transportation were located in the Department of Commerce. Those functions in Commerce included the Civil Aeronautics Administration, the Inland Waterways Corporation, the transportation activities of the Bureau of Foreign and Domestic Commerce, the Weather Bureau and the Coast and Geodetic Survey. The commission recommended the creation of a Department of Civil Aviation within the Department of Commerce, which later would be upgraded to a Department of Transportation. When the commission submitted its final report in December, among its most significant recommendations, was the creation of a single military air transport service.

Based upon the commission’s findings, the new Secretary of Defense, James V. Forrestal, told the services to decide how - not whether - to consolidate air transport. From January through March 1948, the Air Force and Navy working groups discussed consolidating air transport responsibilities. With agreements in general principal, the debate moved to higher levels between March and early May 1948, as the specifics were decided. The Navy was particularly reluctant to give up its transport assets but Air Force Secretary Stuart Symington consistently carried topics of disagreement to Defense Secretary Forrestal for resolution. Accordingly, on 3 May 1948, Forrestal signed a memorandum that created the Military Air Transport Service (MATS) as the single organization to manage strategic airlift operations. This new command, which began operations on 1 June 1948, took over all ATC assets. The Naval Air Transport Service gave up fewer resources; 446 officers and 2,372 enlisted personnel from three Navy squadrons, which flew C-47s and C-54s, went to MATS effective 1 July 1948. Other transport squadrons dedicated solely for fleet support remained a part of the Navy. No naval air facilities transferred to MATS and the Navy only considered the aircraft “on loan”, liable to recall at any time. A rear admiral became deputy commander of MATS, while another rear admiral commanded MATS’ Pacific Division. To the extent that Air Force and Navy forces were incorporated into a single command, MATS represented the first attempt at “jointness” within the Department of Defense. The Military Air Transport Service also included three technical organizations that had been part of ATC since March 1946: the Air Weather Service, the Air Rescue Service and the Airways and Communications Service.

The consolidation of strategic airlift came none too soon. Less than a month after the Military Air Transport Service was created, the Soviet Union blockaded land and water routes to West Berlin and the United States and her Allies inaugurated what would become a historic airlift to resupply the city. The Military Air Transport Service and its airlift structure would face its first difficult test.

*Ton-mile: a unit of measurement in freight transportation equal to one ton of goods moved one mile.

Source: MAC History Office, *Anything, Anywhere, Anytime: An Illustrated History of the Military Airlift Command 1941-1991*.

The Military Air Transport Service Insignia...

was a disc of ultramarine blue married with white parallels of latitude and meridians of longitude, rotated counterclockwise through twenty seven degrees, charged at the center with the three arrows of the National Defense Seal superimposed on a pair of horizontal wings displayed, all of golden orange.

Source: *USAF Deputy Chief of Staff, Material via CPD/HO Maxwell AFB*



Airlift Legends: General Laurence S. Kuter

Laurence S. Kuter was born in Rockford, Illinois, on 28 May 1905. He graduated from the United States Military Academy on 14 June 1927 as a second lieutenant in the Field Artillery, serving first with the 76th Field Artillery until he was detailed to the Air Corps Primary Flying School in July 1929. After completing the Air Corps Advanced Flying School in 1930, he was assigned as an operations officer in the 49th Bombardment Squadron at Langley Field, Virginia holding several assignments in operations and training, including the Army Air Corps airmail operations. From 1939 to 1942, he was a member of the War Department General Staff. Assigned to the Operations and Training Division in 1942, he was a driving force behind the expansion of the Army Air Corps and co-authored the basic plan for the organization and employment of air power in World War II. Later he participated in the reorganization of the War Department. After a short tour in 1942 as Deputy Chief of the Air Staff, he was posted to active field duty in England and Africa, including time as the American Deputy Commander, Northwestern African Tactical Air Force, during the Tunisian Campaign. Called back to the States in 1943, he served as General Arnold's Assistant Staff Officer for Air War Plans and Combat Operations until 1945. After a short tour in the Mariana Islands, organizing the United States Army Strategic Air Forces in the Pacific, he returned to the United States following the end of the war.



First given the task of consolidating several of the Air Transport Command's wartime units for peacetime operations, he later assumed command of the newly organized Atlantic Division. (The Atlantic Division is now the Air Mobility Command's 21st Expeditionary Mobility Task Force, headquartered at McGuire AFB, New Jersey). From there, General Kuter entered diplomatic service in 1946 with his appointment as United States Minister to the Council of the International Civil Aviation Organization. On 1 March 1948, he became the first Commander-designate of the proposed Military Air Transport Service and then its Commander on 1 June — in time to lead MATS through the Berlin Airlift and the beginning of the Korean War. During General Kuter's tenure, MATS acquired the C-124 *Globemaster II* and aeromedical evacuation responsibilities. He served as Commander MATS until 14 November 1951 when he was designated deputy chief of staff for personnel, Headquarters Air Force. He held this position until 1953 when he assumed command of the Air University at Maxwell AFB, Alabama.

General Kuter would go on to serve as Commander Far East Air Forces and see its consolidation as the newly created Pacific Air Forces (PACAF) on 1 July 1957. He retired from active duty on 1 July 1962 and died on 30 November 1979.

General Kuter was the Airlift/Tanker Association's "Hall of Fame" inductee for 1990.

Sources: MAC History Office, *Anything, Anywhere, Anytime: An Illustrated History of the Military Airlift Command 1941-1991*; Airlift/Tanker Association; www.af.mil/bios.

The Airlift/Tanker Association....

is an organization dedicated to providing a forum for ensuring that the American military forces continue to have the air mobility capability required to implement U.S. national security strategy. International in scope, with members and chapters throughout the world, the association is strong and growing.

Membership includes active duty, guard, reserve and retired military personnel, both officers and enlisted, as well as civilian and industry supporters of the air mobility mission. Membership is open to all.

For more information and membership application, log on to <http://www.atalink.org/membership.html>.

Airlifts Remembered: The Berlin Airlift

When Germany surrendered in 1945, the Allies divided the country into four occupation zones according to the terms of the Potsdam Agreement. The Soviet Union occupied the eastern portion of Germany and the eastern sector of Berlin, while Britain, France and the United States took control of the western zones of Germany and the rest of Berlin. The non-Soviet sectors of Berlin lay 110 miles within the Soviet zone, connected to the Anglo-American-French zones of occupied Germany by highway, railroad and three air corridors.

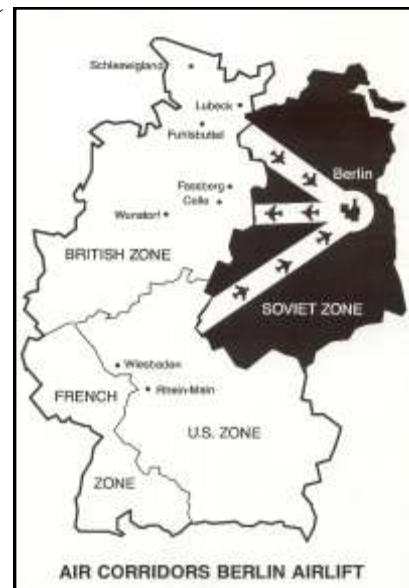
On 18 June 1948, the United States, Britain and France announced plans to create a unified West German currency. Objecting to the unified West German state, implied by the currency as well as the circulation of the currency in western Berlin, Soviet premier Joseph Stalin cut land routes between western Germany and Berlin on June 24th. The blockade separated two million West Berliners from their normal sources of supply.

The Western powers had four options: they could abandon Berlin, cancel the currency reform, force an armored column through the Soviet zone and risk war, or airlift supplies to Berlin until the crisis could be solved diplomatically. They chose the last option. Both the U.S. Air Force and the Royal Air Force (RAF) participated, with the Americans calling the operation "Vittles" and the British calling it "Plane Fare."

Rarely in history had airlift alone saved a large encircled population. Western economic experts estimated that western Berlin would need at least 4,500 tons of coal and food per day to survive the blockade. General Lucius D. Clay, the military governor of the U.S. zone of Germany, asked the commander of the United States Air Forces in Europe (USAFE), Lieutenant General Curtis E. LeMay, to prepare the airlift. LeMay appointed Brigadier General Joseph Smith, at Wiesbaden, to command a temporary airlift task force.

The airlift began on 26 June 1948. At first, General Smith used USAFE C-47s from the 60th and 61st Troop Carrier Groups at Rhein-Main and Wiesbaden to transport food and fuel to Tempelhof Airport in western Berlin. He developed flight patterns to avoid collisions and facilitate loading and unloading at regular intervals and initiated one-way operations through the three air corridors. Since the small C-47s could not deliver enough tonnage to sustain the city for a long period of time, Air Force Chief of Staff General Hoyt Vandenberg transferred C-54s from other commands to USAFE for the operation. He also directed deployment of 90 B-29 bombers to the United Kingdom to signal Allied resolve to sustain the airlift as tensions with the Soviet Union grew.

In late July, a month after the Berlin Airlift began, Major General William H. Tunner of MATS, a veteran of the World War II "Hump" airlift from India to China, replaced Smith as task force commander. Working with USAFE's Lieutenant General John K. Cannon, who replaced LeMay, Tunner increased the daily tonnage to Berlin until it exceeded the 4,500-ton minimum daily requirement. A master of efficiency, Tunner managed the airlift as if the three corridors were conveyor belts constantly moving to and from Berlin. The northern and southern corridors carried planes from Rhein-Main, Wiesbaden, Fassberg and Celle in the western zones of Germany to Tempelhof, Gatow and Tegel Airports in western Berlin, while the middle air corridors carried planes from Berlin back to western Germany. Tunner's organization evolved into a combined airlift task force, which coordinated aircraft from several



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Airlifts Remembered: The Berlin Airlift (Cont.)

commands, the U.S. Navy and the Royal Air Force.

The Berlin airlifters faced several obstacles, natural and artificial, during the massive operation. Storms and Fog frequently threatened the flights. Abundant clouds and strict course, altitude and scheduling prescriptions required pilots to use their instruments constantly. Planes failing to land in Berlin as planned had to return to their base of origin to avoid pileups. The Soviets harassed the flights with fighter aircraft, antiaircraft artillery and searchlights. Between August 1948 and August 1949, there were more than 700 such incidents but none serious enough to disrupt the airlift. The Soviets did not jam the radio communications, which might have seriously threatened the flights.

Operation Vittles exceeded expectations. On April 16, 1949, U.S. and British aircraft delivered a record 12,941 tons of food and coal to Berlin. First Lieutenant Gail S. Halvorsen supplemented the regular airlift by dropping candy attached to handkerchief parachutes to the children of Berlin, a practice which was dubbed "Operation Little Vittles." Such success stories reinforced Western support for the airlift and eventually reached beyond the Iron Curtain.

Finally convinced that the Berlin blockade was not achieving its goals, the Soviets reopened land routes between western Germany and Berlin on May 12, 1949. The Allies continued the airlift through September to stockpile fuel, food and medicine in case Stalin changed his mind. Operation Vittles transported more than 2.3 million tons of supplies and 227,655 passengers. U.S. aircraft carried more than 1.7 million tons and 62,749 passengers. The U.S. Air force, contributing 108 C-47s, 225 C-54s, 5 C-82s, 1 C-74 and 1 YC-97, provided most of the aircraft. Air Force flights during the 15-month operation totaled 189,963, with only 126 accidents, 70 of them major. United States losses totaled thirty-one men: twenty-two Air Force pilots, six Air Force enlisted men, one Navy petty officer, one Army private and one civilian.

The Berlin Airlift was militarily and diplomatically significant. It proved that airlift could sustain a large population surrounded by a hostile force. The non-Soviet sectors of Berlin escaped absorption by the communist zone, while the western zones of Germany continued moving toward unified democratic statehood. Demonstrating the commitment of the United States to contain Soviet expansion, the Berlin Airlift saved the city without war. It exemplified the ability of the western Allies to work together against a common enemy and the North Atlantic Treaty Organization (NATO) was born during the airlift.

For the Air Force, Operation Vittles provided abundant lessons about airlift. In addition to yielding a wealth of information about scheduling, loading, air traffic control and flight patterns, it exposed the need for larger transport aircraft, stimulating development of a new generation of cargo aircraft, including the Douglas C-124 Globemaster II.

Source: Haulman, Daniel, *Humanitarian Airlift Operations*; MAC History Office, *Anything, Anywhere, Anytime: An Illustrated History of the Military Airlift Command, 1941-1991*.



Pictured: the museum's Douglas C-54M during the Berlin Airlift.



Statistics on the nose of a MATS C-54 tells part of the story of the Berlin Airlift.

Heroes: George S. Welch

On 7 December 1941 at Wheeler Field, the principal pursuit base on the Island of Oahu, the first bombs fell shortly after 8 am. Approximately twenty-five dive bombers approached the field at an altitude of 5,000 feet, went into a dive and released their bombs over the line of hangars. Within a few minutes the air was full of planes circling in a counterclockwise direction but otherwise maneuvering in no apparent planned fashion. Though the attack lasted for no more than fifteen minutes other planes, in a second wave, strafed the field shortly after 9 am.

In comparison with the havoc wrought by the planes that the Japanese First Air Fleet threw against Hawaiian air and naval installations, the reaction of the United States' defending air units was pitiful. The enemy had achieved the crushing advantage of surprise. Moreover, the U.S. Army Air Force planes were concentrated for protection against sabotage, with an allowance of four hours' notice to make them ready for flight, instead of being dispersed in readiness for a prompt take-off. It was virtually impossible to put up anything approaching an effective air defense. In spite of the handicaps, four P-40s and two P-36s took off from Wheeler Field thirty-five minutes after the initial attack. Perhaps the most successful interception was performed by six pilots of the 47th Pursuit Squadron including Lieutenant George S. Welch.

During the attack, Lt. Welch shot down four Japanese aircraft and his squadron mate Lt. Ken Taylor, attested to the fact that Welch had at least two additional victories but they crashed too far out to sea to be confirmed. Senior staff officers on Oahu recommended that both Welch and Taylor be awarded the Medal of Honor for their achievements but because the United States was not yet officially at war with Japan during the attack and because their superiors at wing level complained that they had taken off without official orders they instead received the military's second highest honor — the Distinguished Service Cross.

On the first anniversary of the attack on Pearl Harbor, Welch shot down three of the eight planes destroyed during action over New Guinea. Now an "ace", he added three more victories on 21 June 1943. Two more were claimed on August 21st and in a spectacular engagement on September 2nd he added three more zeros and a bomber to his list of victories. When a debilitating case of malaria ended his tour in the Pacific, he had flown 348 combat missions and had shot down 16 enemy aircraft.

Welch joined North American Aviation as a test pilot in July 1944 where he had established himself as a crack pilot and was chosen to test the new XP-86 Sabre jet. At this time there was no official order to attempt super-sonic flight, however, during the XP-86's maiden flight from Muroc AFB (now Edwards AFB) on 1 October 1947, Welch pushed the airplane to 35,000 feet and nosed it into a hard dive. He noticed a slight wing roll and an odd jump in the airspeed indicator and those on the ground were startled by a noise like thunder from a clear blue sky. Two weeks later Chuck Yeager in the X-1 officially broke the sound barrier.

George Welch's death came on 12 October 1954 while on a test flight in the F-100 from the North American test facility at Palmdale, California. A B-47 crew flying at 25,000 feet reported that Welch's jet winged over and began a rapid descent passing within four miles of their position and diving at a tremendous speed. The aircraft appeared to be under control but then disintegrated. At the time of his death he was chief engineering test pilot for North American Aviation.

George S. Welch was born in Wilmington, Delaware on 18 May 1918. In May 1962, one of Dover AFB's schools was dedicated to the memory of Major George S. Welch and in June, 1963 the first senior class of 32 students graduated. Today, Welch is now an elementary school.

Source: *Welch School dedication May, 1962; Delaware Today Magazine June 1999; Office of Air Force History, The Army Air Force in World War II, Vol. 1.*



Recommended Reading: Lockheed Martin C-5 Galaxy

The Lockheed Martin C-5 Galaxy was designed in the mid-1960s to transport vast quantities of material to any part of the globe. The result was the largest aircraft in the world. However, it became a symbol for government excess and production was limited to just 81 aircraft. Initial operations struggled with frequent break-downs and, in an extraordinary move, the severely undersigned wing was replaced. Even more remarkable was the decision to reopen production after a decade for another 50 aircraft. Because of its incredible capacity and range, it remains indispensable. The decision has been made to refit the aircraft for decades more of operation. Author Bill Norton presents the remarkable story of the Galaxy's controversial birth, climb to eminence and more than a quarter century of service.

This book is available from the museum's gift shop and can be purchased for \$20.00 including shipping and handling, payable by check, VISA or MasterCard.

Please call (302) 677-5992 or email: jay.schmukler@dover.af.mil to place your order.



Museum Aircraft of the Quarter: McDonnell F-101B "Voodoo"

Developed from the XF-88 penetration fighter, the F-101 originally was designed as a long-range bomber escort for the Strategic Air Command. However, when high-speed, high-altitude jet bombers such as the B-52 entered active service, escort fighters were no longer needed. Before production began, the F-101 design was changed to fill both tactical and air defense roles.

The F-101 made its first flight on September 29, 1954. The first production F-101A became operational in May 1957, followed by the F-101C in September 1957 and the F-101B in January 1959. By the time F-101 production ended in March 1961, McDonnell had built 785 Voodoos including 480 F-101Bs, the two-seat, all-weather interceptor used by the Air Defense Command. In reconnaissance versions, the Voodoo was the world's first supersonic photo-recon aircraft. RF-101s were used widely for low-altitude photo coverage of missile sites during the 1962 Cuban Missile Crisis and during the late 1960s in Southeast Asia. Attack fighter, interceptor and reconnaissance versions served with the U.S. Strategic Air Defense and Tactical Air Commands and in Canada. The multi-mission F-101 Voodoo was used by all three U.S. Air Force Commands — Strategic, Tactical and Air Defense.



In Operation Firewall on December 12, 1957, an F-101A set a world speed record of 1,207 mph. In Operation Sun Run in 1957, an RF-101 raced from Los Angeles to New York and back to Los Angeles in a record time of 6 hours and 46 minutes.

The last Voodoo retired from active service in 1986.

The museum's F-101B was manufactured by McDonnell in St. Louis, Missouri and entered the USAF inventory on August 7, 1960. Its first operational assignment was with the 49th Interceptor Squadron (Air Defense Command) at Griffiss AFB, New York. It went on to serve at Otis AFB, Massachusetts, Niagara Falls, New York and Sheppard AFB, Texas. It was transferred to Dover in 1988. It is displayed with the markings of the 98th Fighter Interceptor Squadron a unit stationed at Dover AFB in 1959.

Name the Plane

The airplane that I asked you to identify in October's issue of the Hangar Digest is the North American T-39A "Sabreliner".

The T-39 was developed as a private venture to meet a USAF requirement for a twin jet engine utility trainer. The prototype T-39 made its first flight on September 16, 1958. In January 1959, the USAF placed a production order and on June 30, 1960, the first T-39A made its initial flight. In all, 143 T-39As and 6 T-39Bs were built for the USAF. Another 62 T-39 variants were produced for the Navy. After the bulk of military contracts had been met, the Sabreliner entered the commercial market where it became a highly successful executive jet transport.

North American Aviation, Inc. was an important aircraft manufacturer from the 1930s to 1967 when it merged with Rockwell Standard Corporation to become North American Rockwell Corporation. North American was responsible for a number of historic aircraft, including the T-6 Texan trainer, the P-51 Mustang (both included in the AMC Museum's collection), the B-25 Mitchell bomber, the F-86 Sabre fighter and the Apollo Command and Service module.

Of the readers submitting an entry, all identified the aircraft as the T-39. Our randomly selected winner of the "Name the Plane" contest is Major Sean Bordenave of Scott AFB, Illinois and he will receive the book "Lockheed Martin C-5 Galaxy" and an Air Force theme computer mouse pad. Congratulations!

This time I ask that you identify the airplane depicted below including the manufacturer, mission, design and series (if applicable); i.e., Boeing B-17G. Please send your entry either by letter, e-mail, FAX or post card to any of the addresses listed on the last page. **Please do not leave your entry by phone.** I will designate each correct answer with a number ID from which I will randomly select one winner. Please send your entry as soon as possible and please include a return address. The winner will receive a book selection from the museum's gift shop. Good luck and thank you for your participation!

(Museum staff and volunteers are not eligible)



Around the Bases: MacDill AFB, Florida

Located on the Interbay Peninsula in Southern Tampa, MacDill Air Force Base is the home of the **6th Air Mobility Wing (Air Mobility Command)**.

There are several dates surrounding the history of MacDill AFB. Official records report an establishment date of 24 May 1939, a construction date of 6 September 1939, the date of occupancy as 11 March 1940 and the formal dedication date of 16 April 1941. The last date is normally associated with the age of the base.

Originally known as Southeast Air Base, Tampa and later named MacDill Field in honor of Colonel Leslie MacDill, the field became MacDill Air Force Base shortly after the establishment of the United States Air Force in 1947.

Flying operations at MacDill began in 1941 with the base's first mission including transitional training in the B-17 Flying Fortress. Following the Japanese attack on Pearl Harbor, MacDill became a major staging area for the Army Air Corps Ferrying Command. In just 60 days, 15 B-24 and 63 B-17 aircraft departed MacDill via the South Atlantic and Africa bound for Australia and the Philippines.

In 1942 the base's mission converted to B-26 training and it was the B-26 that earned the slogan "One a day in Tampa Bay." The aircraft proved hard to fly and land by many pilots due to its short wings, high landing speeds and fighter plane maneuverability. Nine of the combat groups that flew the B-26 in Europe were activated and trained at MacDill.

In 1943 the base discontinued B-26 training and returned to B-17 training which continued through the end of World War II. During the war as many as 15,000 troops were stationed at MacDill at any one time. Estimates of the number of crew members trained at the base vary from 50,000 to 120,000. Several bases in Florida, including MacDill, served as detention centers for German prisoners-of-war in the latter part of 1944 and 1945. At its apex, 488 POWs were interned at MacDill.

Following the end of hostilities in Europe, MacDill transitioned to a B-29 training base in January 1945 and following the war continued B-29 training through 1953.

After World War II, MacDill became an operational base for the Strategic Air Command with training activities focused around P-51, B-29 and in 1950, B-50 training. In 1951 the base's operational mission transitioned to the new B-47 medium jet bomber and the KC-97 tanker aircraft, with its primary mission as a strategic bombardment and air refueling base.

Plans to close MacDill surfaced in 1960, however the Cuban Missile Crisis, in October 1962, highlighted the strategic location of the base and led to a reprieve of the planned cutbacks. In 1961 the United States Strike Command was established at MacDill as a unified command with integrated personnel from all branches of the military capable of responding to global crises.

The base began training crews in the F-84 in 1962 and MacDill became a Tactical Air Command base in 1963. In 1965, MacDill's two combat-ready F-4 tactical fighter wings (the 12th and 15th) deployed to Vietnam. The 12th's deployment became permanent while the 15th returned to MacDill to become a replacement training unit with F-4 and B-57 aircraft.

In 1970 the 1st Tactical Fighter Wing moved to MacDill replacing the 15th TFW and continued F-4 training, losing the B-57 mission in 1972. MacDill's U.S. Strike Command was redesignated the U.S. Readiness Command in 1972 and in 1975, the 56th TFW replaced the 1st TFW and continued F-4 training until 1979 when F-16 aircraft were brought to the base. The Rapid Deployment Joint Task Force, forerunner of the U.S. Central Command, activated at MacDill in 1983. In 1987, the U.S. Special Operations Command replaced the U.S. Readiness Command.

(Continued on the following page)



Around the Bases: MacDill AFB, Florida (Cont.)

Between 1979 and 1993 approximately half of all F-16 pilots were trained at MacDill. During Operations DESERT SHIELD and DESERT STORM, accelerated training programs expanded in order to allow many of the pilots to go straight from initial training to combat units in the gulf.

In 1991, due to military downsizing, the Defense Base Closure and Realignment Commission (DBCRC) directed that MacDill cease all flying operations by 1993. This action effectively transferred MacDill's F-16 mission to Luke AFB, Arizona. However, 1993 legislation reversed the flightline closure ruling and allowed the National Oceanic and Atmospheric Administration to transfer to MacDill to utilize the runway.

On 4 January 1994 the base became the home of the 6th Air Base Wing with its primary mission to support the U.S. Central Command, U.S. Operations Command and a large number of tenant and transient units.

In September 1994, MacDill became a major staging area for Operation RESTORE DEMOCRACY with the wing hosting C-130 units from Texas, Arkansas and North Carolina. During the two-week contingency, wing personnel housed almost 1,500 troops, supported more than 500 mission, processed over 2.3 million pounds of cargo and 3,360 passengers, dispensed 855,000 gallons of fuel and provided security for 62 aircraft.

This successful operation highlighted MacDill's strategic location and flightline capabilities, which in turn led to DBCRC's 1995 recommendation to bring a KC-135 refueling mission to MacDill. In October 1996, the 43rd Air Refueling Group was transferred from Malmstrom AFB, Montana to MacDill and was redesignated the **6th Air Mobility Wing (AMC)** and marked the beginning of a new era for MacDill.

The redesignation marked the addition of a KC-135R squadron and mission which expanded in 1997 with the add-on of EC-135 and CT-43 aircraft and their missions. Revitalized flying operations at MacDill now enhance the posture of military air refueling and airlift operations in the southeastern part of the United States. Since the redesignation, MacDill and the 6th Air Mobility Wing have contributed to military operations around the world including Europe and Southwest Asia.

Source: <http://public.macdill.amc.af.mil>

Artifact Facts by: Deborah Sellars

Operation Vittles, a cookbook in the museum's collection, was compiled by American women in blockaded Berlin during the Berlin Airlift. Published in 1949, it's a collection of recipes that mostly reflects the kinds of food they were used to eating in the States. Some ingredients (like chocolate) were sometimes hard to come by, and unfamiliar German ovens and utensils also presented a challenge to the determined cook. Here's one of the recipes:

SWIFT BREAKFAST EGGS

2 tablespoons butter
16 slices of cheese
8 eggs
Salt

Butter four individual baking dishes thoroughly. Put cheese in dishes and bake until cheese melts, covering bottom of dishes. Remove from oven. Break two eggs into each dish. Sprinkle with salt. Return to oven and bake for 15 minutes. Serve in baking dishes.

Oven: 375 degrees.



THE NAVIGATOR B.C.

Some called us Headwind, some Tailwind, some referred to us as Magellan and some told us they loved us even though we were Navigators. Such is our story.....

Lackland Air Force Base --- Preflight. Harlingen and Ellington Air Force Bases --- Basic. Following fourteen months of Aviation Cadet Training it all came together with the commissioning as a second lieutenant, the rating as a navigator and \$438.58 a month including flight pay. Some of us would go to SAC, some to TAC, some to ADC and five of us, graduates of Ellington Class 55-08, would be lucky enough to go to Dover Air Force Base and be assigned to MATS.

The MATS navigators: most of us wore two watches. One set on ZULU time and the other on the local time wherever we happened to be. With those watches, an E-6B, dividers and our checkbooks in hand, we were ready for almost anything.

The airplane was the C-124 "Old Shaky", the MATS airplane of choice back in the mid fifties; which cruised along at 200 knots to the strains of "Off We Go into the Wild Blue Yonder". However, it was not long before that wild blue yonder turned our posteriors black and blue while we were flying along at 8,000 feet and punching thru every menacing cloud in the sky.

As navigators, we were interested in "Where am I and how did I get here"? Oops, that is "How do I get there"? Well, one way in determining where we were was the method of Dead Reckoning. By the DR method, we used data from any source available. We could wake up the pilots and have them look out the window. Or call back to the loadmaster to see if his cargo was shifting to the right or to the left in order to determine our drift. We couldn't get much navigational information from the flight engineer as his eyes were usually glazed over from staring at all those gauges. However, the navigator understood this as we both enjoyed that technical stuff.

The navigator was usually chosen as social director for the crew. We had those twelve-hour legs to plan the activities for the next crew rest while the rest of the crew had those same twelve hours to rest up for the crew rest. Some activities usually planned were a visit to the local library, a night at the opera, dining at the Cafe Royale in Frankfurt and lodging at Jimmy's in Chateauroux, France.

Some navigators of note include Magellan, the first to sail around the world; Captain James Cook, an 18th century navigator from England, who took an extended crew rest in Hawaii, and Chris Columbus, probably the greatest navigator of them all. There also was 2nd Lt. Guy Rowe, on his solo navigational flight from Dover to Lajes-- six hours in severe weather, extreme turbulence, no navigational aids, no radar, struck by lightning twice, number four engine shut down, Lajes below minimums, yet hit his alternate of Santa Maria right on the money. Following a three-engine take off and recovering back at Lajes, Guy and crew were to learn that "Old Shaky" had cracked one of her main wing spars. Whew!

Today the navigator seems like an artifact. I cannot envision a crew without him. Who does the crew blame for everything? Who eats the co-pilot's flight lunch? Most importantly, who fills out the per diem forms? Alas, the Navigator BC "Before the Computer."

To the navigator 🍷

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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.

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