COMBAT AIR MUSEUM + + + Plane Talk + + +

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Topeka Regional Airport Topeka, Kansas

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No Man Left Behind a report on MIAs

by Dennis Smirl

The December Membership Luncheon was a huge success with a great buffet lunch and a thoroughly interesting speaker who presented a very important program.

Gene Howerter called the meeting to order and, after leading the group through the Pledge of Allegiance, began with a list of accomplishments and things to-do.

One of the first items on the agenda was the Dillon's community award. A very helpful amount of money was generated through that program, and all it takes for members and friends to help is to register with Dillon's so that contributions can be sent to the Museum.

The next big item was presented by Dave Murray. He informed the group that a KU professor has begun a project in which he will create 360-degree cockpit images of many of the aircraft in the collection. Eventually, there will be video screens beside those aircraft, running the cockpit images so that visitors can "see" the cockpit interiors. He also talked about the new DeHavilland replica, and passed around 3-D printed cylinder halves that will be assembled into a plastic engine for this very interesting WWI aircraft.

Museum Curator Danny San Romani told us that a photographer from Detail and Scale had taken a large number of photos for Bert Kinsey's books. He also reported on improvements to the hangars, and talked about repairs to the roof of building 604.

Others items mentioned included a new shipment of long-sleeved CAM sweatshirts, some improvements for the office computers, and request to the members to update contact information if anything has changed.

After that, Sue Ann Seel began her presentation called No Man Left Behind, a most important look at real concerns regarding America's Missing In Action. She told us that there are 73,681 servicemen and women missing from America's wars since the beginning of WWII. One of the first truly surprising facts was that



Gene Howerter presents Sue Ann Seel with a Certificate of Appreciation. - Photo by Dave Murray

there are approximately 8,000 people MIA from the Korean Conflict and about 2,000 missing from Vietnam. <u>"MIA" con't. on page 3</u>

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Combat Air Museum

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Museum Hours

January 2 - February 28/29 Mon. - Sun. Noon - 4:30 P.M. Last Entry Every Day is 3:30 P.M. March 1 - December 31 Mon. - Sat. 9 A.M. - 4:30 P.M. Last Entry Every Day is 3:30 P.M. Closed New Year's Day, Easter, Thanksgiving, Christmas Day

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Plane Talk, the official newsletter of Combat Air Museum of Topeka, Kansas, is published bi-monthly. Your comments are welcomed.

From the Chairman's Desk

Gene Howerter, Chairman, BOD

It is that time of the year for my annual State of the Combat Air Museum report. January is a good time to update members concerning our past, present, and future status at the Museum. First, let me say the good news is - we completed another year successfully. Financially our museum is doing well. We were able to keep up with paying the bills and the doors are open. I can't thank those of you who sent a little extra when sending your dues enough for your support. Please keep on supporting us in this way, as the extra goes a long way at the Museum and we have not increased our dues in many years.

As you may have read there are other museums which have had to cut back considerably or close their doors this past year. This year we are nearing our fortieth (40) year of being open as a museum and it is my hope our next goal would be fifty years. We can do this, but we will always count on your support, as we are virtually a volunteer-driven organization.

Along with your support and the support of those who volunteer by working at the Museum, the Combat Air Museum has been a vibrant organization these past years. I wish all of you could be here and listen in as many visitors exclaim how much they have enjoyed visiting our museum. Keep in mind we are always here for you so stop in when you can and have a cup of coffee with us. I thank you for your support.

We ended the year with 10,337 paying visitors to the Museum. See the breakdown on page 12. It is my goal to welcome visitors from all states and many countries around the world in 2016. I would like to remind each of you it is now time to contact Dillon's and renew your Community Rewards support for year 2016. It only takes about one minute so call 1-800-576-4377 and ask them to renew your Combat Air Museum support. Our NPO number is 43200. This is a great way to supporting the Museum.

As you read *Plane Talk* you will find a lot of major projects and repairs have been completed at CAM this fall. We are just completing roof repairs to Hangar 604, and it is our hope that in the future some of our water leaks will be gone. We will be watching with some anxiety and keeping our fingers crossed. I always tell people, we are what we are and Hangar 602 opened in about 1943.

Keep these dates in mind in 2016: April 30 will be our Annual Celebrity Pancake Feed, (more on this later, but plans are now being made.) We plan to continue the Fly-In-Market Sale where individuals can purchase donated items. All proceeds support the daily operation of the Museum. Please look for new or like-new items to donate for this fund raiser, held during the Pancake Feed. This has been a good fund raiser in the past. September 24 is the date for our annual fun run/walk and there will be a major announcement concerning this year's event in the near future. We will keep you posted. As always, it is our hope that each of you and more will continue to be a sponsor of this event, another fund raiser which helps keep the Museum's doors open.

So as you can see there are a whole host of events as well as donations both material and financial which keep our doors open, and we are very thankful to each and every one of you for your support. Please hang in there with us in 2016 by being a member. It is my hope that each of you will respond to our annual dues statement when it is sent. You are important to our success and when we lose one spoke in the wheel, things are not the same. Let's have a great year in 2016 and don't forget to visit the Museum. \rightarrow Learn more about the Combat Aír Museum at www.combataírmuseum.org

Celebrity Pancake Feed Fly-In Market

from Marlene Urban

We are currently collecting smaller, new (unused) items, and estate sale type items for the 2016 Fly-In Market which will be held in conjunction with the Celebrity Pancake Feed on April 30.

Items may be brought to the Museum and placed on a table in the Gift Shop office room from now until the Pancake Feed. No clothing will be accepted. Many of these items can possibly be marketed through the Gift Shop before the event, so please bring them in at any time, now. Take advantage of retail store sales, estate sales, etc., and purchase bargains for this event.

Homemade baked goods are welcome and have been sold in the past. Cash donations are also welcome. All proceeds will be used to support the Museum's day-by-day operation. Questions? Call Marlene Urban, 379-5306, or email her at urban.marlene@att.net.

In Memoriam Marion E. Raper 1921-2015 November 23, 2015

Topeka, Kansas #3514 17 year member

"MIA," con't. from page 1

Ms. Seel then gave us a look at a specific case that was a real eye-opener. In 1943, a B-17 piloted by Major Carl Fyler was shot down over Bremen, Germany. Of the 11 men aboard that day, 3 were KIA, 7 wound up POWs, including Carl Fyler, and one airman, Sgt. Raymond O'Connell was originally listed as MIA because no remains could be found. She went on to tell us about continued efforts to clear up the mystery surrounding Sgt. O'Connell, how DNA testing was attempted when it was thought some remains had been found, and how confusing such investigations become with the passing years. Following that, she told us of a project at Tarawa in which hundreds of Marines remain buried, with little or no information as to their identities.

A very informative question-and-answer session followed, with Ms. Seel providing even more details about the problems of identifying MIAs and returning remains to their loved ones and descendants.

The final item of the meeting was a drawing for Poinsettia plants that had been furnished by very generous members. After some head-scratching because a few winning tickets didn't produce winners, the plants were all distributed to happy recipients.

Gene concluded the meeting and wished everyone a Merry Christmas. \Rightarrow

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Calendar of Events 2016 Events February 6 - Boy Scout Aviation Merit Badge Class 8 – Membership Luncheon March 1 - Start spring, summer, and fall visiting hours 13 - Daylight Savings Time begins 14-17 - Young Aviators Class 27 - Easter; Museum closed April 11 - Membership Luncheon 30 - Celebrity Pancake Feed June 6-9 – Young Aviators Class 13 - Membership Luncheon July 11-14 - Young Aviators Class August 1-4 – Young Aviators Class 8 - Membership Luncheon September 24 - Winged Foot Run/Walk October 10 – Membership Luncheon November 24 - Thanksgiving; Museum is closed December 12 – Membership Luncheon 25 – Christmas day; Museum is closed. $\mathbf{+}$ $\mathbf{+}$

Civilians get a first-hand view of a refueling mission at 30,000 feet

by Dave Murray

Here we were, flying a giant elliptical path in the sky, waiting impatiently for one of the most lethal bombers in history to zone in and catch up to our Boeing KC-135 Stratotanker. When the word came up from the Boom Operator, "It is in sight," we all strained to see through the limited viewing areas at the back of the plane. Two fortunate civilians were down in the boom area, seeing the Boeing B-52 Stratofortress slowly close in on the drogue at about 250 knots.

"Don't worry, you will all get the opportunity to see the refueling operation," Major Blubaugh of the 190th Kansas Air National Guard Air Refueling Wing (the Kansas Coyotes) had assured us, but in those precious minutes as the two planes closed the gap, we didn't believe him; well not completely. At a fuel transfer rate of up to 6,000 lbs. of fuel per minute, how would all 14 of us get our fair 5 minute share of the dramatic operation that was taking place, a mere 37 feet below us.

No matter how many times the airmen of both planes had practiced the maneuver, could something go horribly wrong with the hookup, and could we be the ones to be read about in tomorrow's paper "Disaster at 30,000 feet?"

Seventeen carefully vetted civilians from Shawnee County had been invited to be part of a refueling mission in September 2015. I was one of the fortunate ones, thanks to Jaxon Blubaugh, Joe's son, who had attended one of CAM's Young Aviators classes, for the second time, in August. Joe must have figured that Jaxon's teacher could be trusted.

We all met early on the assigned mission day, received a briefing from Major Blubaugh, and then we boarded the KC-135 and waited, in the heat, on the tarmac, for takeoff. We soon discovered, at 30,000 feet, that Joe's advice to bring a jacket was well worth it. He should have also advised us to bring a cushion, as the bench canvas seats and metal framework were not your usual first class accommodation, not even economy class. Hats off to the crew who do this on an almost daily basis.

Somewhere over the Texas panhandle the B-52H and KC-135R hooked up and finally we, at the back of the lines, were able to lie down next to the boom operator and observe the refueling mission close hand. Cameras and iPhones clicked away and all of us got images that day of the impressive B-52 from Louisiana hooked into the boom of a plane from Kansas.







Group photo of the Civic Leaders who took the flight. Dave Murray is fourth from the right. - photo by 190th Public Affairs

We all got our 5 minutes of close-up time and each went back several more times to experience the thrill. The boom operator did reveal that most of the hookups were for the purposes of training for both crews and not much fuel was being transferred on this flight during the 45 minute hook and unhook maneuvers.

After about 30 minutes most of the civilians had grown blasé with the mission and that allowed me to spend some more time next to the operator, capturing a video on my camera of a hookup practice. Then, when each team was satisfied that the necessary training was complete, both planes broke away and we, in our 1958 KC-135, bid farewell to the monolithic bomber, built three years before our 57 year-old marvel of Boeing craftsmanship.

We landed back at Forbes Field and were soon dismissed to our vehicles, sad that we had come to the end of an exhilarating experience but so grateful to the brave men and women of the Kansas Coyotes, the 190th Air Refueling Wing of the Kansas Air National Guard, for ensuring that we were safely back on the ground. I know that I have a newly found respect for all the service folk of this great

Opposite page, top: A closeup view of the cockpit of a B-52H Stratofortress from the "Boomer" position. The wing pylons carry multiple ejector racks. Left: Boomers on KC-135 Stratotankers refuel aircraft lying face down. The Kansas Coyotes are the 117th Air Refueling Squadron of the 190th Air Refueling Wing, Kansas Air National Guard.

- photos by Dave Murray



Airmail stamp from 1941 is a mixture and a mystery

by Danny San Romani

Between June and October 1941 the US Post Office issued a series of six airmail stamps of different denominations and colors, all with the same design. A seventh stamp in this series was issued in 1944. Today, the design is referred to as Twin-Motored Transport Plane or in some cases World War II Transport, and it may have been called something else upon its original issue. When the United States entered World War II after December 7, 1941, no other airmail stamps, until the 1944 8 cent stamp, were issued until a new design came out in September 1946.

During World War II these airmail stamps sold by the millions, some references say the 6 cent stamp sold a few billion, as folks on the homefront sent mail, parcels, and packages by airmail to their loved ones in service within the United States and overseas.

This author has not found who designed the stamp of this airmail series, other than "postal employee." Another unknown concerns what airplane was used in this airmail design. This author feels it is an airplane that never flew.

In the 1930s and early 1940s the most well know twin-motor transport was the famous Douglas DC-3 airliner. At first glance, the stamp design bears a strong resemblance to this Douglas design. Use of a magnifier and enlarging an image of one of the stamps about 7 times allowed a closer inspection of the design and revealed at least a few inconsistencies.

The aircraft on the stamp is in flight, showing a left, underside view. It carries airline-type markings on its nose, fuselage, and engine cowls. These very closely mimic the livery used by American Airlines in the mid-1930s. Looking at the aircraft's nose reveals two circular objects below and to each side of the end of the nose. These are landing lights as used on the Douglas DC-1 and DC-2 aircraft. Only one DC-1 was built and first flew in July 1933. The derivative DC-2 soon followed with its maiden flight in May 1934 and entered production as a 12 or 14 passenger airliner. Military transport versions included the Navy RD2 and Army Air Corps C-33, C-38, C-39, C-41, and C-42. Once the US entered World War II, civil airline DC-2s were impressed into military service as C-32As.

"Stamp," con't. on_page 10

Project updates

Solar Pulse Jet Engine

Don Dawson recently finished another project that is now on exhibit. He cleaned up, primed and painted a pulse jet drone engine in CAM's collection, then rebuilt a stand on which to mount the engine.

This item is one that has been in the Museum so long, no one remembers when we got it, nor from whom or where. Built in 1951 by Solar Aircraft Company of Des Moines, Iowa, for Globe Corporation, Aircraft Division, of Joliet, Illinois, the 110 pound thrust engine was used to power the US Navy KD2G-2 Firefly target drones in the 1950s. The designation PJ32 was given to this engine. It drove the Firefly drones to a maximum speed of 242 miles per hour (389 kmh). It is 78-1/2 inches long with an 8 inch diameter at the combustion chamber.

When Danny San Romani first looked into the engine's intake and then exhaust, he could only see the front and rear of what appeared to be a large, metal filter, and thought the guts of the engine were gone. After reading more about pulse jet engines and how they work, he learned the engine was actually complete.

A pulse jet engine is probably the simplest jet engine made. The metal filter is actually a valve array made of spring steel reed valves and reed-valve shields separated by and sealed against aluminum spacer blocks. Using information from the American Institute of Aeronautics and Astronautics the following describes the operation of a Solar pulse jet engine.

Compressed air entered the air scoop and was forced into and through the valve array. Fuel (usually 100 octane aviation gasoline) was added to the air under pressure through a fuel ring. The ring on our Solar engine has four discharge ports, spaced 90 degrees apart. The fuel/air mixture was ignited by a spark plug in the combustion chamber. The combustion (explosion) produced thrust.

The valve array prevented the combustion gases from escaping forward, but permitted them to rush out the tailpipe at high velocity. This velocity was so high that the gases over-expanded and caused a partial vacuum in the combustion chamber. This partial vacuum, plus the inrush of air caused by the forward motion of the engine through the atmosphere, opened the reed valves and permitted air to enter the combustion chamber, mixing again with fuel. There are no moving, mechanical parts in the combustion chamber.

The partial vacuum mentioned above caused part of the exhaust gases to flow back up the discharge pipe and meet the air coming through the valves, compressing the new air slightly. This compression, plus residual burning fuel, plus the heat of the walls of the combustion chamber, ignited a new charge of fuel which entered at this time, and the cycle was repeated. It was this intermittent cycle, about 40-50 times per second, that gave the name of "Buzz



Bomb" to the German V-1 flying bomb of World War II.

In terms of thrust and area inlet, the Solar pulse jet is about 1/5 scale of the V-1 pulse jet engine. Its overall engine length is about one-half that of the V-1. The Solar's nose cone, a short inlet diffuser, the valve array and fuel ring take up about 6-1/2 inches length. Other than a spark plug in the combustion chamber, there is nothing inside the remaining 72 inches of the engine.

The KD2G Firefly was one of several post World War II types of target drones developed by Globe Aircraft for the US Navy. It was the first pulsejet-powered target drone. The XKD2G-1 prototype of 1946 and the production KD2G-1s entering service in 1947 used the McDonnell PJ42 pulsejet engine. The KD2G-2 version appeared in 1950 with the Solar PJ32 engine.

The Firefly was radio controlled. It could be launched using a catapult or air launched from Douglas JD-1 (A-26B) Invader or Grumman F7F-2D Tigercat drone controller aircraft. The drones were recoverable, using a 32-foot (9.8m) diameter parachute and were designed to be able to float for up to 15 minutes in the event of a water landing.



There seems to be no lack of Internet sites that showvideo footage of various types of pulse jet engines, from a 900 pound thrust engine used to power an aircraft drop-tank race car on a dry lake bed to much smaller engines used for radio control model airplanes. Robert Maddox, builder of the drop-tank Lakester race car, has installed pulse jet engines on a variety of wheeled vehicles, including a skateboard. Pulse jet engines have also powered pleasure boats and specially modified snowmobiles.

Some Internet sites show how a pulse jet engine can glow red to white hot from the combustion chamber to the end of the exhaust pipe when operating. We painted our engine for preservation purposes, knowing that such paint would burn off during actual operation.

New Stand Design for Aircraft Signage

Jim Braun has designed and built a new stand we will use for indoor aircraft signage. His prototype is currently holding signage for the replica Curtiss JN-4D2 Jenny in Hangar 602. Jim built the stand with 2 inch diameter PVC pipe and fittings. It is 29 inches wide, 39-1/2 inches tall, with a 28 inch deep base. The face of the stand angles rearward 25 degrees from vertical. He installed a 24 inch wide X 36 inch high X ½ inch thick signboard made from chip wood to the frame. The laminated aircraft sign is attached to the signboard. The overall frame and signboard are painted white. As Jim completes more stands, they will replace the existing wood stands in both hangars. The new stands are much lighter and more aesthetically appealing. Because of their lightweight, they will not be used outdoors. Once the aircraft signage is done, the same or similar design may be used for other hangar exhibits.

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Opposite page, top to bottom:

The start of Don Dawson's work on the Solar Pulse Jet Engine.

A schematic of a Solar-type Pulse Jet Engine. - image from AIAA 2005-0228.

The air inlet and front face of the Valve Array. Left to right: Air inlet, Valve Array, Fuel Ring, Combustion Chamber.

This page, top row, left and right:

The completed exhibit.

The Solar in the workshop with a coat of primer and a color coat

Bottom row: The new aircraft signage stand designed and built by Jim Braun.

- photos by Curator Danny San Romani unless otherwise noted

Successful completion of work on Hanger 602 allows repairs on the leaks in Hangar 604

Because the cladding work on the east end of Hangar 602 was finished under budget, in early December we let a time and material contract with JB Turner & Sons Roofing and Sheet Metal to repair multiple leaks in the roof of Hangar 604. Some were small; others seemed to be rather large given the areas of the floor that get wet.

Part of the problem is that rain leakage soaks into overhead insulation and travels before falling to the floor or onto aircraft or other exhibits. The same is true for water falling onto ceiling purlins and beams and traveling before falling to the floor. Unless we can see daylight through a hole in the roof, it is difficult to pin point where in the roof the holes or cracks are. The surface area of 604's roof is over 29,000 square feet.

Last May, CAM volunteer Gary Naylor climbed onto the roof, walked it, and took some photographs of problem areas. Some of the skylights installed in 2006 had edge cracks or had broken out around their hold-down bolts. Since their installation nine years ago, we learned they react to high winds across their top surface much like an airfoil. The winds across the upper surface are, of course, much higher than those on the bottom surface inside the hangar (none). This creates lift on the panels, and they try to pull from the roof. The regular roofing material is much thicker, heavier, and bolted down with a larger number of fasteners.

Gary also photographed a couple of cracks in the roofing material that showed signs of being caulked or sealed sometime in the past, but the material was now gone. Then there were two long runs of angle iron and a single, vertical triangle section bolted through the roof. This steelwork once held a large sign that read COMABAT AIR MUSEUM. The sign was blown down some time in the past during a wind/rainstorm.

The roofing material is all corrugated. The bolts holding the metal sections to the roof were all in furrows. We felt the sealing material around at least some of the bolts was no longer working. The angle iron was near the east edge of the roof and caught runoff water from the roof's peak plus the drainage from adjoining ridges into the furrows. The worst area of leaks inside the hangar was in the center front of the hangar just about where the angle iron was bolted down.

From inside the hangar, where insulation has fallen from the roof, daylight was visible through numerous holes. Some were in the ridges, others were in the furrows. Gary and members of his family came out one weekend and made a diagram of the roof from the inside and plotted where they could see daylight coming through holes in the north half of the hangar. Danny San Romani continued with this diagram for the south half of the hangar. When Mr. Randy Wilson, Maintenance Director of JB Turner,



A few of the problem areas on Hangar 604's roof Gary Naylor found last May. - photos by Gary Naylor

came to look at the roof, Danny showed him Gary's photographs and the diagram.

Two JB Turner workers got in a couple of days of work on the roof before the end of the year, then came back for a couple of more in January. Mr. Ed Ramey was the job foreman. They cut the heads off the bolts holding down the angle iron and vertical support and removed these metal pieces from the roof. They then resealed the bolt studs and repaired a couple of other holes that were under the angle iron. **"Hangar," con't. on page 9**

An excerpt from Flying Combat Aircraft of the USAAF-USAF

During World War II Kansas had 15 Army Air Fields (AAF), two Naval Air Stations and a number of Auxiliary Air Fields. Four of the Army Airfields were used for initial flight training on the Boeing B-29 Superfortress. Two others served as processing B-29 crews prior to overseas deployment. The four training bases were Walker AAF near Victoria, Great Bend AAF near Great Bend, Pratt AAF near Pratt, and Smoky Hill AAF near Salina.

Airfields in the midwestern United States offered added protection from possible enemy bombers or invasion, and for the most part offered wide open, relatively flat spaces. There was another reason the fields were good for training B-29 crews. It was related to the distance from two Mariana Islands (Saipan and Tinian) to Japan.

The following was taken from the book *Flying Combat Aircraft of the USAAF-USAF*, edited by Robin Higham and Abigail Sidall, Air Force Historical Foundation, the Iowa University Press, Ames, Iowa, 1976. ISBN 0-8138-0325-X. The book includes comments from Major General Haywood Hansell, Commanding General XXIst Bomber Command, Twentieth Air Force in 1944-1945.

"When I took command of the Twenty-first Bomber Command, with headquarters at Peterson Field, Colorado Springs, we began simulated training attacks for the Mariana operations. We first had to adopt a standard formation and then laid out missions that were analogous to a run from Saipan to Tokyo. Most of the B-29 groups were training on bases in Nebraska, Kansas, and Colorado; and we chose Havana, Cuba, as a representation of Tokyo. The first few missions were a ghastly disappointment to us. We hadn't learned the secrets of cruise control, and we wound up with airplanes down all over the southeastern part of the United States. This was in late August 1944. We had contracted to launch attacks from Saipan against Tokyo in November, yet we couldn't fly squadron formations the equivalent distance even without bomb loads [emphasis placed in the book] - although we enjoyed all the benefits of

<u>"Hangar," con't. from page 8</u>

We had a good rainfall during the work period, and it was obvious inside the hangar where repairs had successfully taken place. With the hangar still wet from this rainfall, Ed Ramey came in, and he and Danny walked a couple of circuits around the hangar to see where there were still leaks. The walkaround allowed Ed to see where leaks hit the floor, aircraft and other exhibits. He had also viewed Gary's pictures and the leaks diagram. This rain took place before any work had been done on the framework for the former sign, allowing Ed to see how badly things leaked in the center front of the hangar. On January 12, he and his workers finished their repairs, until such time as we get a good rainfall to see if all the leaks were repaired. weather information and communications and no enemy opposition. It was truly a shoestring operation that took off from Kansas for a still incomplete airstrip in Saipan. The 73rd Wing began movements in October."

The flights from the midwest to Havana were to be non-stop, round trips. At least some B-29s found reasons to land at Havana. If the plane remained on the ground long enough, some crewmen found their way to an establishment named Sloppy Joe's Bar. We have a handful of photos in the Daniel Forbes collection taken inside this famous Havana landmark.

Sloppy Joe's Bar took hold during the US prohibition era, when American tourists visiting Havana for its nightlife and gambling could also find its alcohol. The rich and famous, including many celebrities, were drawn to the Bar in the 1940s and post war 1950s. Their presence also drew those who wanted to see and mingle with the rich and famous. Daniel Forbes flew the photo reconnaissance version of the B-29, designated F-13. The photos in his collection show several uniformed officers, including Forbes, seated at a counter in the Bar.

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Young Aviators Classes offered in 2016

Join the fun at our Young Aviators Classes, for youth age eight to twelve years. The four-day courses are held from 9 am - 12:30 pm. The class fee is \$50 per student. The instruction sessions cover a brief history of early aviation, fundamentals of flight theory, aircraft structures, including control systems and engines, weather, and how to read aviation charts and maps.

There is hands-on time in the computer Flight Simulator, the phonetic alphabet, used for aviation contact and control, and a guided tour of the Museum.

Visits outside the classroom include the 108th Aviation Regiment of the Kansas Army National Guard (H-60 Blackhawk helicopters), the 190th Air refueling Wing of the Kansas Air National Guard (KC-135 tankers), The Metropolitan Topeka Airport Authority Fire, Rescue, and Security Station (Firetrucks) and The Topeka Regional Airport Control Tower.

Enrollment in each four-day session is limited to 20 students per class, and the Museum will accept youth on a first-come-first-serve basis.

For details, please call the Museum's Office Manager (785-862-3303) between 9:30 am and 12:30 pm weekdays.

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"Stamp," con't. from page 5

Proceeding rearward along the stamp aircraft's fuselage shows a square window with a smaller, horizontal, rectangle window directly above it. This particular window arrangement first appeared with the Douglas DST airliner. DST stood for Douglas Sleeper Transport as it carried sleeping berths for passengers. The first DST made its maiden flight in December 1935. It became the immediate forerunner of the famous DC-3 series of Douglas aircraft. Landing lights on the DST/DC-3 moved from the nose to the wings.

It is difficult to clearly tell if the airliner on the stamp has a vertical side to its left fuselage or one that is more rounded. This was another distinction between the DC-2 and DC-3. The former had vertical sides, the latter had rounded, which allowed an increase in passenger capacity. The DST carried 14 passengers. The standard load for the DC-3 was 21 to 28 and maximum seating of 32.

The US military soon ordered its versions of the DC-3 with the basic Army Air Corps and later Army Air Force versions being the C-47 and C-53. The C-117 entered production late in the war. The Navy/Marine/Coast Guard flew R4Ds. As happened with the civil DC-2s, DC-3 airliners were also impressed into service during World War II as C-48,-49,-50,-52,-53, -68, and -84. World War II saw the military versions serve around the globe and with numerous Allied air forces.

The tail of the stamp's transport perhaps raises the biggest question of what airplane is represented. It has triple fins. The DC-1, DC-2, and DC-3 never flew with a triple tail, nor does there appear to be Douglas concept or design drawings showing this feature for these three aircraft types.

The triple tail design does appear with the first Douglas DC-4, four-engine airliner of 1938. This one-of-a-kind aircraft was independent of the more well-known C-54 and DC-4 Skymaster design that first flew in military configuration in 1942.

Discussions about the development of a four-engine airliner began in the latter half of 1935. By 1936 Douglas had initial design studies and five airlines contributed money towards the design and construction of one aircraft. The design showed the DC-4 as a revolutionary aircraft and later, to be a very complex one. So much so that two airlines dropped their support for the DC-4 in mid-1936. The plane's maiden flight was in June 1938. It showed few vices but the intricacies and complexity of the plane's systems caused excessive maintenance problems. Douglas suspended the project and completed a new design that become the C-54 and post war DC-4 Skymaster. To help clear the confusion between the two DC-4 designs, the original was designated DC-4E for Experimental. The DC-4E was the only Douglas transport design to carry a triple tail.

The military service of the DC-2 and DC-3 designs has been mentioned, but from a US and Allied viewpoint. These two designs, and the DC-4, all have connections to one of the Axis nations of World War II, namely Japan. The DC-2 and DC-3 designs were licensed to Japan in the 1930s. At least one DC-2 served in Japan's military and acquired the Allied Code Name Tess. Nakajima and Showa aircraft companies built the DC-3 design as the L2D transport for the Imperial Japanese Navy. These received the Allied Code Name Tabby. The DC-4E was not license-built by Japan. After its test service with United Air Lines, it was returned to Douglas, who then sold the plane to Mitsui Trading Company in late 1939 with the understanding it would go into service with Japan Air Lines. It was disassembled for shipment and re-assembled in Japan by Douglas personnel. It was flown for a brief period, then reported lost in a crash in Tokyo Bay. In reality, personnel of Nakajima Aircraft Company had dismantled the aircraft for use as the basis for the design of a four-engine, long range heavy bomber. This design became the Nakajima G5N Shinzan, Allied Code Name Liz. Only six were built and one of the reasons production was halted was the complexity of the design. They served as transports instead of bombers.

It seems safe to say the World War II airmail design was decidedly Douglas, but what prompted the designer of the stamp to combine at least three Douglas aircraft into one plane is not known. Perhaps to avoid a copyright infringement? Perhaps to avoid other aircraft companies from calling "foul" because their aircraft were not used? Was it an attempt at disinformation to potential enemies to make them think a new airplane existed? So far, this writer has not found the answers to any of these questions. Perhaps it all was caught up by the events of World War II and not considered important.

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Your membership is important to us. Join the Combat Air Museum



On December 2, 2015, we recorded our 10,000th visitor to Combat Air Museum for 2015. Mr. William "Rich" Eubank of Topeka came in that afternoon. He received free admission. Paul Frantz and Gene Howerter visited with Mr. Eubank, and Gene took his picture. He also flew on the flight simulator with Jack Vaughn.

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Visitors

Mr. William R. "Rich" Eubank, Topeka, became our 10,000th visitor of 2105. We last broke the 10,000 mark in 2012.

During November the Museum had 587 visitors from 29 states, Washington, D.C., and Australia Canada **Czech Republic** Germany Great Britain Slovakia During **December** we had 343 visitors from 28 states, and Brazil

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Supporters

New Supporters Tom Coughlin Matt, Denise, Kyle, & Caitlin Sabatini **Renewing Supporters** Rick & Laura Anderson Gary Bender Ted & Cindy Berard Rodney & Martha Duerksen Len Faulconer Nelson Jr., Kathy & Mark Hinman **Doug Jacobs** Larry & Nancy Mann Roger & Lois Miller **Richard Painter** Ray & Cynthia Robins Dennis & Galene San Romani **Dick & Jeanne Trupp** Dr Howard Ward

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Upcoming Events

February Saturday, February 6 Boy Scout Aviation Merit Badge Class Bob Dole Education Center 9 am - 12 pm

Monday, February 8 Membership Luncheon Bob Dole Education Center 11:30 am Mr. Jim Murphy, Restoration Project Manager for the Boeing B-29 Superfortress "Doc" in Wichita will talk about the restoration and plans for a flying museum.

March Tuesday, March 1 Museum Returns to Full Day Schedule

Monday - Thursday, March 14 - 17 Spring Break Young Aviators Class Bob Dole Education Center 9 am – 12:30 pm

Sunday, March 27 Easter Sunday – Museum Closed

There is no Membership Luncheon in March. The next luncheon will be Monday, April 11, 2016.

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Guest speaker for next Membership Luncheon

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Mr. Jim Murphy, Restoration Project Manager for Wichita Aviation Museum's B-29 Superfortress "Doc," is our guest speaker for the February 8, 2016, Membership Luncheon.

Doc is one of 1,644 B-29s manufactured by Boeing Wichita during World War II. Since 1987 when Tony Mazzolini found Doc sitting derelict in the Mojave Desert, plans have been in the works to restore the historic warbird to flying status to serve as a flying museum.

Doc's friends successfully started and tested all four of the B-29's engines during a test run on September 18, 2015, in Wichita.

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2015 Attendance Summary for the Combat Air Museum

The following is a summary of recorded visitor attendance at Combat Air Museum for calendar year 2015.

We finished the year with 10,337 visitors.

(1) 4,044 (39.12%) of the total were from Kansas, outside of Shawnee County.

(2) 2,662 (25.75%) of the total were from Shawnee County.

(3) 3,418 (33.07%) of the total were from 48 states, Washington D.C., and Puerto Rico. None from Vermont.

(4) 183 (1.77%) of the total were from 29 other countries.

(5) 30 (0.29%) of the total from residences not known.





Museum tour-guides conducted 57 scheduled tours for a total of 1,675 visitors. Eight of these were motorcoach tours.

The top five states outside of Kansas were Missouri (614), Texas (288), Tennessee (193), Illinois (186), and Minnesota (173).

The top five countries were Germany (26) Great Britain (25), Canada (20), Australia (13), and Italy (9).

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