The Boeing B-17: A Legend Turns 75

By Mike Lombardi

Boeing’s B-17 bomber has a storied history, but behind the Flying Fortress was a cast of thousands.

Seventy-five years ago this month, on July 28, a four-engine plane took off from Boeing Field in South Seattle on its first flight.

Rolling out of the Boeing hangar, it was simply known as the Model 299. Seattle Times reporter Richard Smith dubbed the new plane, with its many machine-gun mounts, the “Flying Fortress,” a name that Boeing quickly adopted and copyrighted.

The text of this article originally appeared in the July 2010 issue of Boeing Frontiers and is reprinted with permission.

The U.S. Army Air Corps designated the plane as the B-17. And during WWII, individual planes carried names that reflected the affection of crews: “Memphis Belle,” “Homesick Angel” and “Lucky Lady,” to name a few.

Along with its many names, the Flying Fortress was also a plane of many people. The list begins with Boeing Chairman Claire Egtvedt, the “father” of the B-17, who set Boeing on a new course to build “big” airplanes, rather than the smaller models popular at the time. Along with Boeing designers C.N. “Monty” Monteith, Robert Minshall, E.G. Emery and a young Ed Wells, they had the vision of interpreting the U.S. Army’s request for a multi-engine bomber to be one with four engines rather than the standard two-engine design - a decision that saved the Model 299 from being a footnote to aviation history.

Another on that long list was Boeing test pilot Les Tower, who took the 299 for its first flight that July day and later made a record-breaking flight from Seattle to Wright Field in Dayton, Ohio, where the airplane was to fly against its competition, the Douglas DB-1 (B-18). He died from injuries sustained when the Model 299 crashed.

There were also tens of thousands of employees at Boeing, Douglas and Lockheed-Vega who contributed to the war effort by building 12,731 Flying Fortresses for the “Arsenal of Democracy.” They included thousands of women who joined the war effort working at non-traditional jobs who collectively became known as “Rosie the Riveters.”

Assuredly the most important people in the B-17 story were the young men who flew them in combat. The success of the daylight bombing campaign over Germany hung on their courage - and the ruggedness of the
Flying Fortress. There are volumes of stories of shot-up B-17s that returned crews safely to their bases, some so badly damaged they never flew again.

The effort and sacrifice of all of the people behind the B-17 - and those who flew in them - was perhaps best summed up by General Carl Spaatz, the American air commander in Europe, who said: “Without the B-17 we may have lost the war.”

Extensively used during the war, the Flying Fortress became an icon of American air power and helped establish Boeing’s global reputation.

The B-17 story is also one about the partnership between Boeing and the Seattle community, whose support and generosity ensured that Boeing built Plant 2, the “Fortress Factory” at Boeing Field in South Seattle. It was a team effort that involved employees, unions and the local community that made it possible for Boeing to produce 6,981 B-17s at that Seattle plant.

Finally, a big part of the success of the B-17 was the working-together relationship between Boeing and the U.S. military that resulted in the bomber earning a reputation for performing missions with precision and success - a tradition of quality and excellence that has continued with each new generation of Boeing planes.

After 75 years, the few B-17s that remain are greeted at air shows and museums with a kind of reverence - an enduring tribute for those who designed, built and maintained the Flying Fortress, for those young airmen who flew it in combat, and especially for those who gave their lives defending freedom.
A B model lifts off from Boeing Field. (Boeing photo from the Edwin D. Stoltz collection, AAHS-P000120)

Left: The B-17C, named Fortress I (serial AM528) by the British, made the type’s combat debut July 24, 1941. (Boeing photo from the Edwin D. Stoltz collection, AAHS-P000121)

Above: A D model is shown taxiing. (Boeing photo from the Edwin D. Stoltz collection, AAHS-P000122)

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Donations

The following members have made generous donations to the AAHS. These donations go into the general fund to help pay the costs of producing the Journal and FlightLine. All monies are used to support this activity and no salaries are paid to any board member even though many hours are spent by these individuals in promoting and maintaining the Society. Our appreciation and thanks go out to these individuals and to any one else whom we may have inadvertently overlooked.

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Background photo composite by Robert Burns
Are you eager to hear the sounds of a group of Merlin engines idling or at full power in a fly-by? The Planes of Fame annual air show at Chino, Calif., airport is the place to be each May. This air show is probably the largest gathering of WWII aircraft on the West Coast on a regular basis. With the typical Southern California weather, bring your camera to capture the myriad of photo opportunities that you’ll experience.

This year’s event had over 50 aircraft in the sky from start to finish of the two day event. They even managed to scramble 14 P-51 Mustangs into the air at one time.

The air show attendance passed 40,000 people – yet another record for the event.

We hope you enjoy this photo essay put together by member Chuck Stewart to help you appreciate the quality and variety of aircraft that were on display. And, mark your calendars now for next year’s show on May 14-15, 2011. If you do make the show, plan to squeeze in a visit to your AAHS office in Santa Ana. We would love to see and talk with you.

A rare airworthy A-36, 42-83731, NL251A, attended the air show. Note the dive brakes deployed in front of the flaps above and below the wing. (All photos by Chuck Stewart)

A Pratt & Whitney R-2800-powered Focke Wulf FW 190A-9, N190RF, was seen on the ramp. It has made a couple of short flights but is chasing cooling problems.

Planes of Fame P-47G-15-CU, 42-25254, NX3395G, shows off the beautiful lines of the “Jug.”

Seven WWII P-38 fighter pilots were featured guests at the Air Show. Here we see a Lockheed P-38J-20-LO, 44-23314, N29Q, performing a fly-by during the show.
Above: A Learjet Model 24, N3137, decked out in a military Special Ops Area 37 paint scheme.

Top Right: A little something for everyone. Planes of Fame’s Northrop N9M-B puts in a rare flight appearance. This is the only place you can see an active flying wing that doesn’t have “B-2” as part of its designation.

Left: Two P-51Ds fly formation with a P-51C, NX487FS.

A gaggle of P-51s cranking up and taxiing out for their fly-by performance.
The last quarter has been a busy one for your Webmaster involving a number of enhancements, updates and restorations to the AAHS Web site. Read on to find out what exciting things are happening to the Web site.

The most notable change is that you should have received your AAHS membership card by now. Using the information on it allows you to establish your log in and password. Once you have logged into the “Members Only” area, you can go to “My Profile” and set up a personalized login name and login password – something that is easy for you to remember.

One of the most significant changes to the site is that full Journal articles are now available for download. For about the past five years, you have been able to access an abstract of the articles. Now, after reading the abstract, if you want to read the full article there is a button to facilitate this. Please note that you MUST be logged in as a member to access these for free – otherwise you’ll be given the option to purchase the article. As of this date, all the articles from Vol. 50, No. 2, to current are available. We will expand this to include all past articles, but please give us some time as there are 50 years of material that needs to be converted to electronic form.

Restoration of the bulletin boards, Wants & Disposals and General Discussions - As many may be aware, late last winter our site got hacked in a way that forced us to take down the bulletin boards. They are back now and available to all members, but with added security to try and prevent them being hacked again.

Updates to the Photo Archive Database – During this quarter, the photo archives team has done a lot of work in cataloging and scanning new images (and some old). The database now contains 44,600 entries and the online thumbnail images number 8,600 with 1,400 having been added this quarter. Of note, we have made an effort to eliminate most of the “image not found” errors that had been caused by a coordination issue – we had them, thought we had posted them to the Web site but found out later we hadn’t.

U.S. Navy Standard Aircraft Characteristics (SAC) – Thanks to the contribution of E.S. “Mule” Holmberg, we are able to provide access to copies of the USN SAC data sheets for about 540 aircraft dating from early WWII (1942) to current aircraft. These files are organized aircraft model designation using the pre-1962 naval and post-1962 Department of Defense designations. You will find some aircraft listed under both designations. This collection is in the Members area under the Research tab.

New searchable database Golden Age Civil Aircraft registrations – Got a photo of that unusual looking aircraft that you can identify and have had no luck finding it in reference books. If you can read the “N” number (or more correctly NC, NX, NR, or NL number) you can look it up in this database – even if all you have is a partial number. The database covers U.S. civil aircraft registrations from 1921 to 1941, and can be searched by N-number, Manufacturer and/or model. Want to generate a list of all the Bach Air Yachts? Go for it.

e-Library – We have started to collect electronic books on American Aviation and make them available for download. These works cover histories of organizations as well as individual aircraft types including period sales brochures. Check it out – it’s free.

Continue to check the Web site periodically as we have a number of additional enhancements planned for the near future.
Greetings to all members,

I hope you are enjoying the summer. We at the Historical Society are diligently striving to produce the quality product you have come to expect. This remains a great challenge in light of the economy and changing times. Your continued membership tells us that you appreciate our efforts and that gives us reason to pursue new areas that we hope will keep your interest.

For those who are Internet connected, you will begin to see an increasing expansion of content on the AAHS Web site. This content ranges from expanded access to the photo archives and on-line availability to past Journal articles, to research tools, databases and e-books. The next twelve months will see a voluminous increase in what is available to members.

On a rather somber note we must report the resignation of three of our Board members: Bruce Cunningham, Walt Bohl, and Earl See. Bruce, our past president, was involved in a very serious motorcycle accident a few months ago, and he decided to resign at the advice of his family and physician. Bruce was a very active board member. His book reviews, library consolidation, and articles were always in the best interest of the Society. Perhaps his best known quote was, “We are the best kept secret of American aviation history in the U.S.” Hopefully we can change that and attract new members utilizing new technologies and the Internet.

Walt Bohl has been our treasurer for the past 11 years. Walt has spent countless hours not only as Treasurer but also maintained all Society financial transactions, ensuring that all monies were properly accounted for. Walt also contributed book reviews as well as articles on Commercial aviation. We are looking for someone in the Southern California area who would be interested in assisting us in our bookkeeping chores.

Earl See, one of our senior board members has greatly assisted us in providing articles to the Journal as well as copy editor. His talent at proof reading is noteworthy and we are pleased that he will continue in that capacity. We wish him success in all future endeavors.

Many of you have a library of photos, slides or articles of a favorite airplane. Please submit a long or short article and we will do our best to publish it in the Journal or the FLIGHTLINE.

If you have any questions, suggestions, ideas, or whatever, please contact us. Our normal hours are Wednesday 10 a.m. to 4:30 p.m., or leave us a message on line, or on the answering machine.

Cordially, Bob Brockmeier
President AAHS
A large number of first timers and re-trainees attended the Pylon Racing Seminar (PRS) this year at the Reno-Stead Airport, home of the Reno National Air Races. The Pylon Racing Seminar is sometimes referred to as the “Rookie School.” There were four rookies in the Unlimited Class, six in the Sport/Super Sport Class, one in the T-6 Class, six in each of the Biplane Class and Formula 1 Class and a whopping 11 in the Jet Class. That’s a total number of 44 new and previous race pilots wanting to race at Reno in September 2010. Who says there’s a recession going on?

What’s more interesting is the fact that the Races are becoming more international. For the past several years there have been a few Canadian pilots and at least one Japanese pilot racing in various classes. This year at the PRS we know of two French pilots who are building Sport Class NXT types. A Swiss pilot is also coming to race in September. We’re not sure of his class. The Sanders family has a Canadian pilot who will fly Dreadnaught in the Unlimited Class in September.

So, what else is in store for the Reno National Air Races this year? The featured aerobatic performers will be the Canadian Snow Birds in their traditional Canadair CL 215 Jet trainers flying in a close formation of nine aircraft in many of their formations. Kent Peitch, David Martin and Greg Poe will also fly their individual aerobatic routines plus more to be added before September. In this writer’s opinion, the most exciting action will be six Lockheed P-38 twin-boomed, twin-engine fighters of WWII fame scheduled to appear! Now if only Lefty Gardner were still around with his P-38 White Lightning #25 to warp the pylons!

One F4U-4 Corsair appeared at PRS this year. It raced last year but has a new owner and pilot so it was back to PRS this year. Two new Mustangs also appeared at PRS, Lou IV, owned by LOU FOUR, LLC and La Pistolera, owned by Rod Lewis, both of which are expected back in September. Since there were 11 Jets at PRS this year you can expect quite a large field of contestants in that class. Two new Jet Class types were present at PRS: two Polish PZL TS-11 Iskra and a British Jet Provost. In the Sport/Super Sport Class look for increased speeds as the Thunder Mustangs are back at PRS again! George Giboney’s Rapid Travel, race #75, has installed a new supercharger along with some cosmetic surgery in the cockpit and turtle deck areas looking somewhat like Strega. John Parker’s Blue Thunder set an airspeed record recently.

There were three female pilots at PRS this year, one of whom comes rather well prepared. She even has a nickname usually associated with military pilots. She is Heather Lucky Penney, daughter of long-time Rare Bear pilot John Penney. Well, her nick name is for real. Heather is a USAF F-16 pilot with two tours of duty in Iraq! She will fly an Aero L-29 Delfin named Screamin Eagle in the Jet Class in September.
This year’s races will take place at the Reno-Stead Airport north of Reno off Hwy 395 on September 15 thru 19. Be there!

For more information on the Races in September log onto the RARA web site at: http://airrace.org

One of two new Jet Class types for this year is this BAC T3A Jet Provost, NX57553, gets in some practice laps.

One of the other new Jet Class types for this year is this WSK-PZL-MIELEC TS-11 Iskra, represented here by N707LC.

Super Sport Class Thunder Mustangs such as race number 352 “Blue Thunder II” are almost indistinguishable in looks and performance to the P-51.

Formula 1 Class had six planes at the PRS. Here a Cassutt IIIM, N6436T, race number 26, gets in some practice laps.

Book Reviews


This book is a photo anthology of the USAF fighter interceptors from the creation of the U.S. Air Defense Command (ADC) starting with left over WWII fighters like the P-47, P-51, P-61 and F-82. The story follows the chronological introduction of first subsonic and then supersonic jet fighters continuing up to the point that ADC was absorbed into the Tactical Air Command in 1979 and shortly thereafter disbanded. While focusing primarily on the planes, ample coverage is provided to the units and personnel that flew and maintained them. The photo captions are well thought out and detailed to present the development and evolution of the fighter interceptor. The authors also cover “what might have been” in aircraft proposed and evaluated for the interceptor role. Attention is paid to the support aircraft operated by ADC including tankers, supply and liaison types.

The book is well worth the price, providing an excellent visual reference on this era of USAF history.

Hayden Hamilton

Looking for an easy way to help your Society?
How about reviewing a book? The following titles are available for review. Just let Kase Dekker (kasedekker@aol.com) know and he’ll send you the book. The only catch is that you have to write a short book review (format like the one above) and send it back to us. Available titles are:

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Hero of the Air, Glenn Curtis and the Birth of Naval Aviation by William F. Trimble
Aviator of Fortune, Lowell Yerex and the Anglo-American Commercial Rivalry 1931-1946 by Erik Benson
After a 22-year stay at the San Diego Air and Space Museum, NX40FT, the “Flying Tiger” Curtiss P-40, is on its way to Hawaii, where it will be on display at the Pacific Aviation Museum on Ford Island in Pearl Harbor.

The airplane, a P-40E, was acquired by the Flying Tiger Line in the early 1980s as a memorial to the cargo airline’s founder, Flying Tiger ace Robert W. Prescott and the American Volunteer Group (AVG) in China. Under the command of Claire Chennault, the AVG – more commonly known as the Flying Tigers – racked up a never-since-equaled air combat record in less than a year, before being disbanded in 1942.

The Flying Tiger Line P-40 was restored by TigerAir, a fixed-base operation subsidiary of parent company Tiger International, at Burbank, California. A new Allison V-1710-115 engine (it had only about three hours of test stand time before being stored after it was built in 1943) was overhauled by Mike Nixon of Vintage V-12s before installation. A new Curtiss Electric Propeller was obtained from the Smithsonian Institution and overhauled before installation on the airplane. In the refurbishment process, all wiring, control cables, and plumbing were replaced. In order to retain the original wheels and Bendix self-energizing brakes, drawings were obtained from Smithsonian archives and McCreary Tire and Rubber was commissioned to make a mold for the original 30-inch “Smooth Contour” tires. Ten tires were produced; the second set is on the airplane now.

Assembly, rigging, detail work and painting of the airplane were the first official project of well-known warbird pilot and air racer Steve Hinton’s Fighter Rebuilders at Chino, Calif., who test flew the airplane after completing it. Exhaustive research was done on the airplane’s paint job by Tiger International. It represents Ship No. 67, 3rd Pursuit Squadron (the Hell’s Angels), American Volunteer Group, Chinese Air Force. It’s not well known that the AVG pilots were mercenaries; by mutual agreement between the U.S. and Chiang Kai Shek’s government, the pilots resigned their commissions in the American armed forces to serve in the Flying Tigers. Although Bob Prescott never had an airplane specifically assigned to him, No. 67 was wrecked in training and never saw combat – so that airplane number was picked for the memorial. When the airplane was completed, Hinton flew it to Oxnard, Calif., to be viewed by the annual reunion of the American Volunteer Group and Burma Hump Pilots Association. If the former AVG folks didn’t like it, the Flying Tiger Line’s intent was to strip off the paint and start over. If they did think it was authentic, the surviving Flying Tigers would sign their names on the airplane. A close look at the P-40’s horizontal stabilizer reveals the pilots’ signatures on the left, and those of support personnel on the right, under a protective layer of clear paint.

Based at Burbank and later Planes of Fame Museum at Chino, Calif., the Flying Tiger Line P-40 was a fixture in local air shows during the 1980s, before being placed on static display in San Diego. The airplane became Federal Express’ property when FedEx acquired the Flying Tiger Line in 1989. FedEx continued the long-term loan to the museum.

Fighter Rebuilders’ John Hinton (top) and Cory O’Bryan (lower left), and Don Russell of the San Diego Air and Space Museum staff prepare the support cradle to receive P-40’s fuselage and engine. (Photo by author)
San Diego museum until the decision was made earlier this year for a change of venue to Hawaii. The airplane is maintained in airworthy - but long-term storage - condition.

It was *déjà vu* as the Fighter Rebuilders crew went to work on June 23 and 24, 2010. Under the direction of Steve’s brother John Hinton, and assisted by San Diego Air and Space Museum personnel, they disassembled the wings from the airplane’s fuselage - it wouldn’t fit through the Museum’s door with the wings attached. The fuselage was bolted to a steel-tube reinforcing carriage to support the weight of the engine and prevent damage in transit. The wings and fuselage were then lifted off of the museum’s ground floor balcony by a crane, deposited on a low-boy flatbed trailer, and secured with padding and straps for transportation to Fighter Rebuilders facilities at the Planes of Fame Museum in Chino.

At Chino, the airplane will be placed in an ocean shipping container and shipped to Honolulu, where the Fighter Rebuilders crew will reassemble it for display there.

Zoom ahead a couple of weeks. The shipping container containing the disassembled P-40 has been delivered to the Pacific Aviation Museum on Ford Island in Pearl Harbor. The Fighter Rebuilders crew arrived on Wednesday, July 27, and set to work.

The P-40’s subassemblies – the wing, fuselage and engine, and empennage parts survived the trip to Hawaii unscathed on their special shipping racks, and were lifted out of the shipping container at the Pacific Aviation Museum by the same Fighter Rebuilders crew (minus Ricky McCoy) that disassembled the airplane in San Diego, with assistance from the Ford Island museum staff. Work went quickly, due in no small part to the Fighter Rebuilders folks’ familiarity with these airplanes – particularly Tom Camp, who used to own this one!

By Thursday, the engine/fuselage assembly was removed from its shipping rack and suspended from the hangar’s overhead traveling chain falls, the wing was reattached to the fuselage, and the vertical and horizontal stabilizers installed. The airplane was then raised sufficiently to extend the landing gear, and set down on its own wheels again.

On Friday, final adjustments and rigging were completed, the airplane was jacked up, electric power connected, the landing gear “swung,” systems tested, and minor adjustments made. Meanwhile, “Mac” McKellar (son of former San Diego Air and Space Museum director Ed McKellar) went to work with his welding gear to adapt the museum’s AT-6 towbar to the greater length required by the P-40’s long nose. By mid-afternoon, the airplane was back on the hangar floor and being towed out for a photo session in front of the old Airport Ops building and control tower. It was then moved to the lawn in front of Hangar 37, which houses the museum’s entrance area, gift shop, restaurant and many of the exhibits – where it quickly drew a large crowd.

For the time being, the P-40 will reside in Hangar 79, the museum’s restoration shop. Plans are afoot for a more elaborate display emphasizing the American Volunteer Group in Hangar 37.
Wants & Disposals

Wanted:  I would like to borrow a good copy of this photograph (non web) of the Northrop MX-324, or get a good 600 dpi digital scan for some work that I am doing with Northrop’s history.

Help in Identifying: Can anyone provide any information about this photograph of the Northrop MX-324 in this post-war setting? I am particularly interested in nailing down the date, location and name of the airport. If there was a particular ‘occasion’ associated with the aircraft being at this location it would be of interest as well.

Gerald Balzer  
3615 E. Churchill St.  
Springfield, MO 65809  
417 869-9488

Wanted: I’m interested in locating some photos that appeared in Mauno Salo’s article Tora³, Summer 1969 issue of AAHS Journal. The story is about the aircraft used in TORA! TORA! TORA! and includes photos from Mr. Salo and Harry S. Gann. I would like copies of a couple of these photos along with permission to use them for an article I have written on one of the surviving Val replicas.

Stephen Chapis  
flyboychappie@msn.com
## New Members

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<td>Randolph, ME 04346-5418</td>
<td>Ints: USAF / WWII / Jet Age</td>
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TWA Lockheed 1649A Starliner, N7301C, in an early, pre-delivery flight along the Southern California coastline. (Lockheed photo from the AAHS photo archives, AAHS-1633)

Northrop XFT-1, BuNo 9400, was designed by a team led by Ed Heinemann. Only a single prototype was produced and it was rejected by the U.S. Navy. (Northrop photo from the AAHS photo archives, AAHS-9151)
MEMBERSHIP APPLICATION

Please enroll me as a member of the AAHS. Enclosed is my check (money order or bank draft) for dues as checked below. I understand that I will receive all issues of the Journal published to date during this calendar year (regardless of the date of joining), plus all issues of the AAHS FLIGHTLINE. I also understand that renewal is due at the end of the calendar year in which membership will expire. (Valid through 2010)

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The AAHS is entering its sixth decade of operation and continues to face the challenge of sustaining its membership. As current members, you can contribute to the success of helping grow the organization.

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MAKE A DIFFERENCE: RECRUIT A FRIEND

New AAHS member this year!

Contact the Society's headquarters and let us know you are ready, willing and able. Write or email to: membership@aahs-online.org

Willing to review a book? Want to help the Photo Archives by identifying aircraft? Make it a commitment to recruit one new AAHS member this year!

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4. Prints are available in two sizes only. Price includes both black-and-white and color images.
5. Digital images will be scanned at a resolution to provide photographic quality 8" x 10" images (roughly 3300x2800 pixels) in JPEG format with highest quality setting.
6. Orders will be processed the 1st and 15th of each month and mailed via first class postage.
7. Credit to the AAHS and the photographer or donor of the photo must be expressed if the image is used in publication.

Each order must be accompanied by a check, money order, VISA or MasterCard information (your name as it appears on the card, credit card number, expiration date, and billing address). Send orders to:

**AAHS Print Service**  
2333 Otis Street  
Santa Ana, CA 92704-3846