



DAC - MDC - Boeing Retirees
of California

Roundup

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FROM THE PRESIDENTS DESK

Here we are ready to wrap up another year. We had two great luncheons with two fabulous speakers – Al Haggerty, former VP Engineering here in Long Beach and most recently Mike Lombardi, Boeing’s Corporate Historian. In addition, we produced four outstanding ROUNDUP’s and provided opportunities for two excellent field trips – Huntington Library and Gardens in San Marino in June and the Boeing Operations Center in Seal Beach in September. I want to say a big Thank You to our Board of Directors who have served this past term and for making this organization run.

Speaking of your Board of Directors, at the October Luncheon, a new Board was approved by a unanimous voice vote to serve the 2017 – 2019 term. The Board is:

President – Jim Phillips

VP Programs – Bill Rickard

VP Communications – Ron Beeler

VP Special Events – Jerry Callaghan

VP Finance – Rolf Sellge

VP Secretary – Elayne Bendel

VP Membership – Barbara Callaghan

VP Meetings – Barbara Callaghan

The October Luncheon presentation, celebrating 100 years of the Boeing Company and the major companies that came together to form today’s Boeing, was very interesting. Mike Lombardi, Boeing Historian, gave an interesting and easy to follow talk on how Boeing was formed and grew over the years. I have read and studied many of the

aerospace companies’ histories and thought I knew much of the Boeing history but learned several new things through Mike’s talk.



To keep our Retiree Association going it is time for all of you to pay your 2017 dues. Only \$10, what a deal! See Barbara Callaghan’s article to get the details of where to send your money.

I want to wish you and your families, on behalf of your Board of Directors, a very joyous holiday season and a happy and prosperous 2017. Mark your calendars for March 7th, first Tuesday in March, for our next Luncheon. It is always a treat to see all the attendees renewing old friendships and catching up.

Jim Phillips



Mike Lombardi Recalls 100 Years of Boeing History at October Luncheon.



Mike Lombardi with Jim Phillips

Calling The Boeing Company “stewards of something wonderful,” company historian Mike Lombardi delivered an entertaining presentation, *Making Dreams into Reality*, highlighting Boeing’s first 100 years in business. Lombardi stressed the Douglas role in many of the company’s achievements over the years. He called DAC “the best aerospace company in American history.” He said Donald Douglas was “an amazing genius” and noted his company was well balanced with both commercial and military ventures including missiles, rockets, research and development and the Rand Corporation until 1967. He recalled how William Boeing started his company in 1916. The original company site was a shipyard, where Boeing had commissioned a ship to be built. The builder got behind on the project and Boeing took over the facility, producing both boats and planes there. During World War I Boeing built 100 planes, but when the war ended most of the existing manufacturers went under. This was not the case with Boeing, but to stay afloat the company produced furniture, boats and other products. Lombardi said Boeing assisted Douglas with its World Cruisers in 1924, which were the first airplanes to fly around the world. The journey began in Seattle, where Boeing attached pontoons to the four original aircraft. Later, air mail contracts were awarded by the U.S. government and in 1927 Boeing successfully competed for the Oakland to San Francisco to Chicago route by incorporating a radial engine on its Model 40 aircraft suggested by Donald Douglas. Boeing founded an airline, Boeing Air Transport, where Jane Eades, reporter for the Chicago Sun Times was the first passenger from Chicago. Boeing assembled companies from all facets of the business including plane building, propellers, Sikorski,

Vought, Pratt & Whitney, engine builders; and others. One of its airlines, National Air Transport was added to complete the transcontinental route to New York, but in 1934 for anti-trust reasons the Boeing conglomerate was broken into three companies, The Boeing Company, United Airlines and what became United Technologies.

Meanwhile, aircraft development continued rapidly. Lombardi said in just six years the company progressed from its Model 40 to the Boeing 247 airliner. DAC’s answer to the 247 was the DC line, which included the DC-1, DC-2 and DC-3. Bill Boeing bought a DAC-built aircraft called the Grover and a DC-5 for his personal use. During the 1930s Boeing developed the Model 307 Stratoliner and the prototypes for what became the B-17 bomber. Three of the Boeing heritage companies, Boeing itself, Douglas and North American Aviation produced an astounding 90,500 planes during World War II. The companies were allowed to share resources and built aircraft under license to their developers. For example, Boeing built Douglas A20s in its Seattle Plant 2, while DAC built B-17s. Lombardi said the number 1 active program at Boeing during the war was development of the B-29 Superfortress, which arrived in service by 1944. Thirteen plants in the U.S. and Canada produced components and the production rate went from 2 aircraft per month in early 1944 up to 160 per month by July 1945. After the war companies started to move into the Jet Age. Lombardi said an aerodynamicist named George Shire discovered German documents detailing the benefits of swept wings for jets, which were shared among U.S. companies. Boeing engineer Ed Wells developed an underwing pylon for jet engines when other designs proved inadequate. Boeing began building large jets for the military as well as the new 707 airliner and developed a strong reputation as an aerospace integrator. Later, the company researched a U.S. supersonic transport and began development of the 747 with a team dubbed “the Incredibles.” When the SST was cancelled in 1971 Boeing laid off half its workforce, but later prospered with the 727, 737, 757 and 767 designs. Lombardi said the 777 opened trans-Pacific routes to twin-engine aircraft and the 787 “won the argument against the A380,” with the 500th 787 now in production. He concluded by saying Boeing is inspiring travelers of tomorrow with its contract to build rocket boosters that will take humans to Mars.

Speaker Notes from Elayne Bendel

AVIATION PIONEERS (Continuing Biographies from Elayne Bendel)

William E. Boeing Left His Mark in Aviation and the Seattle Landscape (Excerpted from The Boeing Company Archives)

Our 2016 Boeing founders series of articles during the company's 100th anniversary year concludes with bios. of two legends---William Boeing and Howard Hughes.

Boeing is the earliest of our company founders, born in Detroit to Wilhelm and Marie Boeing in 1881. Of German heritage, on his widowed mother's death he inherited \$1 million earned through Minnesota lumber and mining enterprises begun by his father.



Young Boeing attended Yale University but left school prior to graduating at age 22 and headed west, settling in Grays Harbor, WA, where he used some of his inheritance for his new lumbering business. He later moved to Seattle where he was well entrenched in local

society when he developed a keen interest in aviation. He attended an aviation meet in 1910 in Los Angeles, where he tried, but was unable, to get a ride on one of the boxy biplanes. In 1915, Thomas Hamilton, later founder of Hamilton Metalplane Co. (acquired by Boeing in 1929), introduced Boeing to U.S. Navy Lieutenant G. Conrad Westervelt. Boeing and Westervelt became close friends and when flier Terah Maroney brought a Curtiss-type hydroplane to Seattle later that year, the pair took turns riding above Lake Washington.

Boeing applied to the Glenn L. Martin School in Los Angeles for piloting instruction. On completing the course, he ordered for personal use a plane known as Model TA from the Martin factory, which was delivered in October 1915, and, being convinced that there was a definite future in aviation, Boeing became interested in the construction as well as the

flying of aircraft.

Enlisting a group of technical assistants, less than a dozen men in all, work was begun on designing the first Boeing plane. It flew on June 15, 1916. The seaplane/ biplane was the Bluebill, B&W Model 1 — the initials stood for Boeing and Westervelt.

On July 15, 1916, Boeing incorporated Pacific Aero Products and consolidated most of the fledgling company's work at the Heath shipyard. Boeing paid for construction of a wind tunnel at the University of Washington in exchange for the university's establishment of a curriculum in the new science of aeronautics.



The Red Barn, Boeing's First Factory.

On April 8, 1917, U.S. President Woodrow Wilson declared war on Germany and on May 17, 1917, the company was renamed the Boeing Airplane Company. William Boeing enrolled in the U.S. Navy Reserve in July. His company began to build Navy trainers, the Boeing Model C.

Boeing determined his company should develop a commercial flying boat. Meanwhile his company struggled to make ends meet. It made furniture, phonograph cases and fixtures for a corset company. To promote the idea of commercial aviation, Boeing and pilot Eddie Hubbard used Boeing's personal C-700 (a civilian version of the Model C) to deliver 60 letters from Vancouver to Seattle as part of the Canadian Exposition. This was the first international airmail to reach the United States.

The company started to show a profit from repairing military aircraft and building biplane fighters designed by other companies. By 1921, the company

had reestablished itself and Boeing married. He continued to run his timber business concurrent with airplane enterprises. Boeing won the Chicago to San Francisco airmail route, requiring that Boeing have 26 airplanes in operation by July 1, 1927.

On February 1, 1929, Boeing Airplane and Transport Corporation became United Aircraft and Transport Corp. and included several airlines, aircraft manufacturers, engine and propeller manufacturers, and a school for pilots and maintenance personnel. In 1934, the Government enacted antitrust laws and United Aircraft and Transport Corp. was split into different enterprises. Boeing resigned as chairman and sold his stock. On June 20, 1934, he was awarded the Daniel Guggenheim Medal for aeronautical achievement.

Boeing continued in the timber business until about 1954 and made a variety of investments. Around 1937, he began to breed racehorses. In real estate, Boeing developed the Blue Ridge subdivision north of Seattle that in 1936 included a clubhouse, tennis courts, an archery range, and a playfield.

Every summer, Boeing and family cruised aboard his Boeing-built yacht Taconite, often as far north as Alaska. She was the first civilian vessel to have two-way radio — developed by Boeing's brother-in-law, Thorpe Hiscock, for use on Boeing mail planes. After World War II, she was the first civilian vessel to have radar. The Taconite was still taking notables on cruises in 1999.

Boeing bought a Douglas-built Dolphin amphibian aircraft and hired a pilot to use the Dolphin to fly him from Taconite landings on the Alaskan coast for fishing trips on remote lakes inland. Boeing took delivery of the Dolphin off the coast of Canada and timed its climb with a stopwatch to make sure it met performance specifications. During the late 1930s, Boeing became an expert on fishing and helped originate the polar-bear fly used for salmon fishing.

Boeing kept his promise to stay in touch with friends and colleagues at his old company. He returned to work as an advisor during World War II when the Boeing Airplane Company began to build warplanes, and the enterprises that had been split following the Depression joined forces to defend the country.

In 1942, Boeing donated his Highland Hills mansion

to Children's Orthopedic Hospital and moved to the 500-acre Aldarra Farm near Fall City. The mansion was subsequently sold to raise funds for the hospital, and in 1988 was placed on both the National and Washington State Registers of Historic Places.

Boeing then added animal husbandry to his activities. At first, Boeing raised purebred Herefords on Aldarra, but later switched to Black Angus cattle and sheep. He is credited with having done much to improve the standards of registered beef stock throughout the Northwest. Aldarra became completely mechanized. During the 1950s Boeing built the state's only noncommercial grass dehydrating plant so the cattle had prime pasture all year round.

Boeing personally inspected every acre of his land, striding briskly and swinging a cane he did not need, and followed by a Pekingese named General Motors. When his health began to fail in 1954, he began to tour by jeep. On May 15, 1954, he and Bertha returned to The Boeing Company again for the Dash-80 rollout and the birth of the jet era. This time Bertha was able to use real champagne. "I christen thee the airplane of tomorrow, the Boeing Jet Stratoliner and Stratotanker," she proclaimed. She was right; this was the jet that would change the face of aviation worldwide. It would emerge as the 707, the first of the famous Boeing family of jetliners.

William E. Boeing died September 28, 1956, aboard the Taconite. He remained until the end an active and interested participant in the world around him. He did not have a formal funeral, and his family scattered his ashes into the sea off the coast of British Columbia where he had spent so many months aboard the Taconite.

On December 15, 1966, Bill Boeing was memorialized in the Aviation Hall of Fame in Dayton, Ohio, "for outstanding contributions to aviation by his successful organization of a network of airline routes and the production of vitally important military and commercial aircraft."

Bertha Boeing died on June 27, 1977, at home at the Aldarra Farm. In May 2001, half the estate was designated as the Aldarra Golf Course. The remainder of the land had been sold previously for residential development.

Howard Robard Hughes Jr. was a Legendary Entrepreneur and Aerospace Pioneer

Howard Hughes, born in Humble, Tx. in 1905, founded several aerospace ventures that are now part of the Boeing family. But aerospace was only one of his many business interests. He was one of the most flamboyant and financially successful individuals in the world in the early 20th century. He first made a name as a film producer. Later in life, he was known for his eccentric behavior and reclusive lifestyle caused in part by a worsening obsessive-compulsive disorder and chronic pain from a plane crash.

As a maverick film tycoon, Hughes gained prominence in Hollywood from the late 1920s, making big-budget and often controversial films like The Racket (1928), Hell's Angels (1930), Scarface (1932), and The Outlaw (1943). After his 1929 divorce, Hughes dated many famous women, including Billie Dove, Faith Domergue, Bette Davis, Ava Gardner, Olivia de Havilland, Katharine Hepburn, Ginger Rogers, Rita Hayworth and Gene Tierney. He also proposed to Joan Fontaine several times. Hughes liked and respected Jane Russell, but never was romantically involved with her.

Hughes formed the Hughes Aircraft Company in 1932, hiring numerous engineers and designers. He spent the rest of the 1930s setting multiple world air speed records and building the Hughes H-1 Racer and H-4 Hercules (the "Spruce Goose"). He acquired and expanded Trans World Airlines and later acquired Air West, renaming it Hughes Airwest. Hughes was included in Flying Magazine's list of the 51 Heroes of Aviation, ranked at No. 25.

Hughes Aircraft was originally housed in a rented corner of a Lockheed Aircraft Corporation hangar in Burbank, California, to build the H-1 racer. During and after World War II, Hughes turned his company into a major defense contractor. It manufactured numerous technology related products that include spacecraft vehicles, military aircraft, radar systems, electro-optical systems, the first working laser, aircraft computer systems, missile systems, ion-propulsion engines (for space travel), commercial satellites, and other electronics systems. The Hughes Helicopters division started in 1947 when helicopter manufacturer Kellett sold their latest design to Hughes for production. It was sold to McDonnell Douglas in 1984 and renamed

McDonnell Douglas Helicopter Systems. Its primary product was the AH-64 military helicopter.

Hughes created a new division, the Hughes Aerospace Group. Hughes Space and Communications Group and Hughes Space Systems Division were spun off in 1948 to form their own divisions and ultimately became the Hughes Space and Communications Company in 1961. In 1953, Howard Hughes gave all his stock in the Hughes Aircraft Company to the newly formed Howard Hughes Medical Institute, thereby turning the aerospace and defense contractor into a tax-exempt charitable organization. The Howard Hughes Medical Institute sold Hughes Aircraft in 1985 to General Motors for \$5.2 billion.



In 1997, General Motors sold Hughes Aircraft to Raytheon and in 2000, sold Hughes Space & Communications to Boeing. The Hughes acquisition was a key part of Boeing's growth strategy. Traditionally recognized as the technological world leader in space-based communications, reconnaissance, surveillance and imaging systems, Hughes Space and Communications was also the world's leading manufacturer of commercial communications satellites. Hughes also founded DirecTV, now part of AT&T, which serves more than 20 million satellite TV subscribers.

In addition to Hughes Space and Communications, included in the acquisition are: Hughes Electron Dynamics, a leading supplier of electronic components for satellites; Spectrolab, a premier provider of solar cells and panels for satellites; and a 50-percent share of HRL Laboratories, a world-renowned research center owned jointly with Raytheon, where it focused on advanced developments in microelectronics, information & systems sciences, materials, sensors, and photonics; their workspace spans from basic research to product delivery. It has particularly emphasized capabilities in high performance integrated circuits, high power lasers, antennas, networking, and smart materials.

Elayne Bendel

Seal Beach Tour

On Thursday, September 1, forty-two (42) retirees enjoyed a tour of the Ops Center and Boneyard located at the Boeing Seal Beach facility. We were divided into two groups so that one group toured the Boneyard while the other toured the Ops Center.

The Boneyard is a facility which contains a partially dismantled, long out of service 737 and is used as a training fixture to help visualize how maintenance and repairs can be accommodated in airline service. While this dismantled airplane truly is a set of quiet “bones”, it was nevertheless really exciting to get up close and personal and touch airplane parts.



The Ops Center is a focal point for real time response to customer service needs for the fleet of Boeing and Boeing Heritage of some 14,000 airplanes flying all over the world today. Observing this facility in operation was a very exciting experience to feel a part of the world class support Boeing is providing to their customers. This center is functioning 24 hours, 7 days/week with a team of engineering and technical support personnel. As you might well imagine, this involves the management of a very large amount of information flowing real time. And, in fact, we were able to observe this system in operation as issues were occurring and being resolved.

A highlight to this tour was the enthusiasm with which many questions were answered by our hosts, Sr. Managers, Darrin T. Toth and Karlton K. Okamoto. For all of us to some extent or the other were engaged in airline customer support, the

experience stimulated memories of how issues were handled in the past compared to how they are handled now and it was exciting to see this facility in operation.



Barbara Callaghan Membership Annual Membership Dues

The Board has elected to change the current schedule for the collection of members' annual dues. The new policy will be to mail the dues letters on January 1. Those people who do not pay by the end of February will be sent a final dues letter on March 1 and if they do not respond by March 31, their name will be removed from the membership roster.

Welcome New Members

Fred Behringer, C1, Flight Test
Vern Brinkman, C1, Product Support, Cust. Serv.
Tom Croslin, C1, Engineering
Mary Jo Murthy, A3/Seal Beach, Info. Technology
Timothy R. Stafford, C1, Mechanical Systems
Geoffrey Thomas, Publisher & Editor in Chief,
AirlineRatings.com
Jinjoo Whang, C1, Hydro Mech. Sys. Engr.
Sid J. Wheeler, C1, C17 Engineering
Leonard G. Whitehead, C1, Finance, Prod'n
Schedules.

Fall Luncheon \$50.00 Cash Winners

Herb Mailander
Ken Peterson
Gerald Rehrig