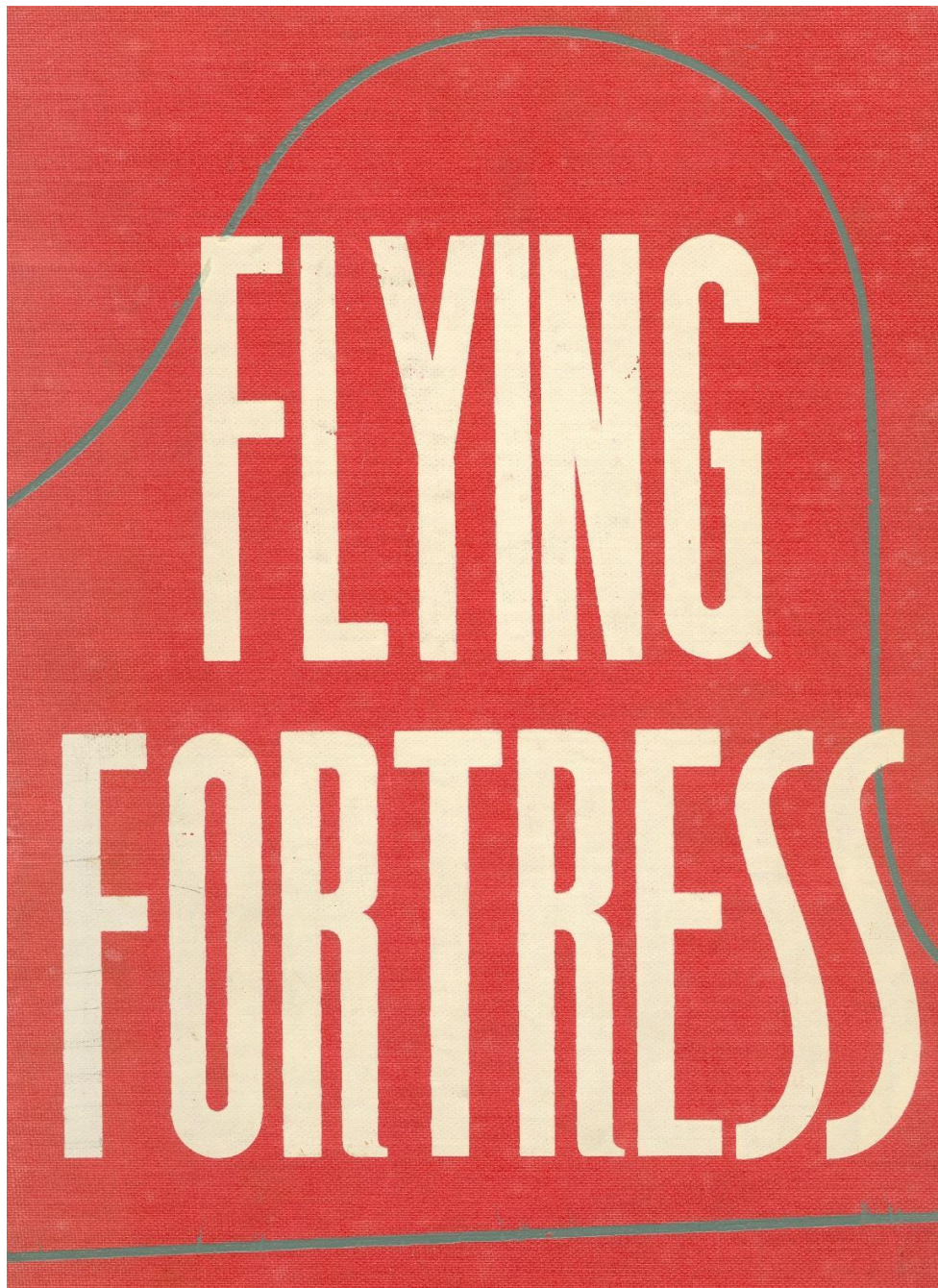
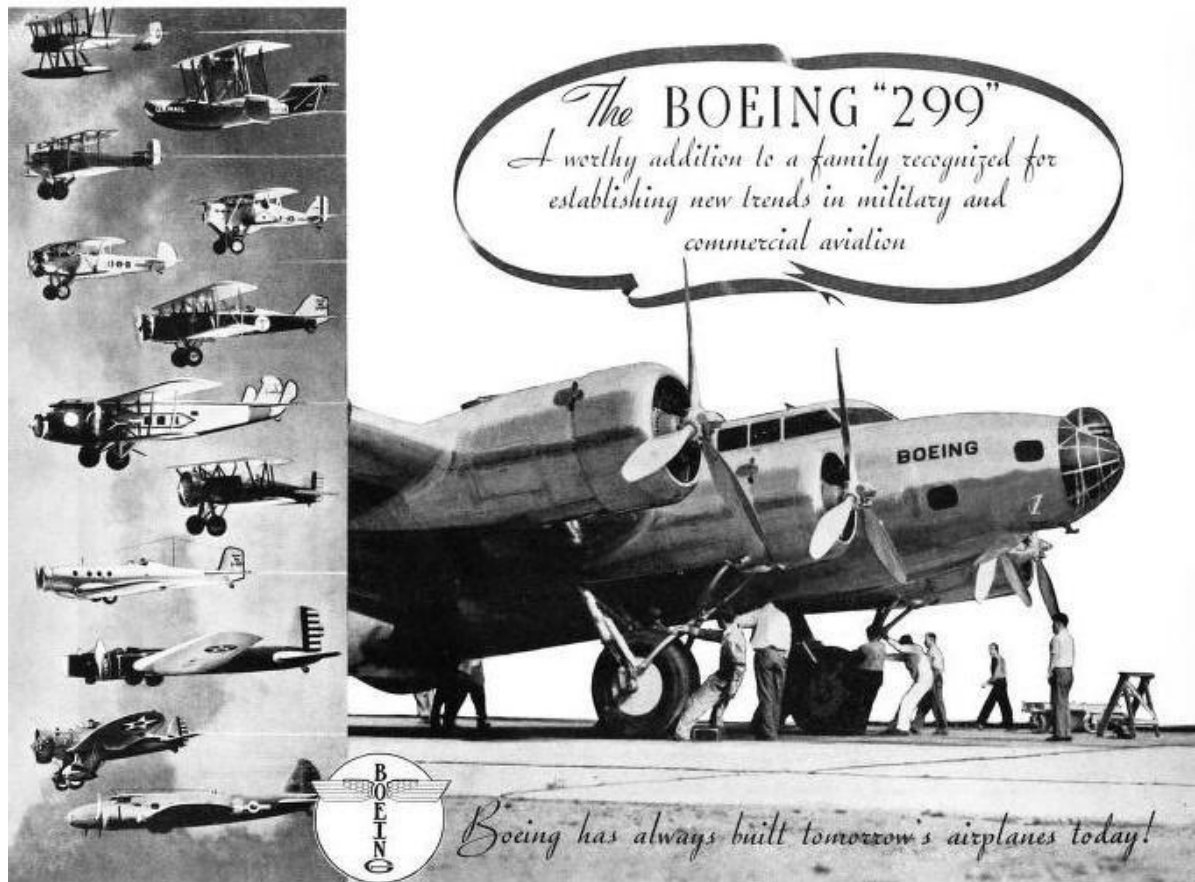


**Boeing “Test Nose Art” Polar Bears, Bugs, Billy  
Goats, Babes and “Bad” Gremlins**





Aviation Week – 1 August 1936, photo taken 20 August 1935, Seattle to Dayton, Ohio, flight.

In early May 1934, the United States Army Air Corps issued circular #35-26 for the development of a new American multi-engine bomber aircraft. All applicants were required to build and have their design test flown at Wright Field, Ohio, by November 1935. The term 'multi-engine' did not state the number [two or four] and Boeing opted for a new four engine design which they designated Model 299. This preliminary bomber design was based on the Model 247, closed cabin, ten-place monoplane, which first flew on 8 February 1933.

The Boeing state-of-the-art Aluminum structure featured a combination of a light solid metal framework with a thin skin forming a very strong rigid aircraft structure. The Boeing Model 247 is shown [bottom left] in this Aviation Week magazine ad for August 1936, with a total of seventy-five 247, 247A and 247D models constructed.

The 247 Boeing design had a significant influence on the new Boeing 299 aircraft and many other all-metal streamlined transport aircraft. In the 247 series, Boeing engineers brought the comforts and pleasantries of train travel into airplanes.



Aviation Week – 1 February 1936

The preliminary design of the Boeing 299 began on 18 June 1934, and construction commenced on 16 August 1934. The Boeing final design was dated April 1935 and the official roll-out was on 17 July when a series of photos were taken by the company, [as seen above] in this 1 February 1936 ad published in Aviation Week.

With the name BOEING painted prominently on her nose, the Model 299 had to be pushed out of the hangar sideways. Note landing gear rollers being removed from the right wheel. The engines were single-row, nine cylinder, P & W air-cooled radials delivering 750 h.p.

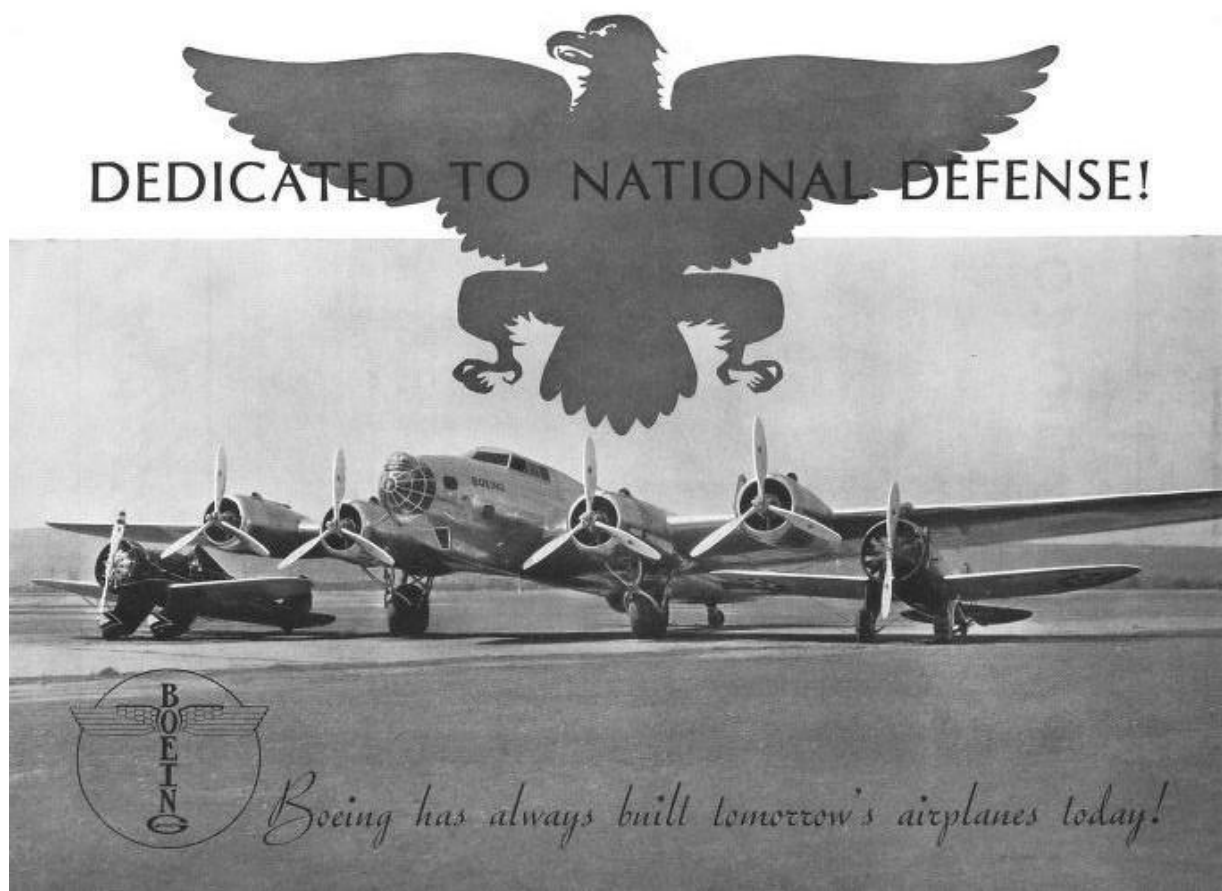
During the official press roll-out, a Seattle Times newspaper reporter, Dick Williams, penned the name “Flying Fortress” and it stuck forever.

The Boeing flight testing began on 28 July, taking three weeks and totalled just over 14 hours. A Boeing Model 281 [P-26A] fighter was used for airspeed calibrations. On 20 August 1935, the Model 299 aircraft was flown to Wright Field for the competition testing by the U.S. Army Air Corps.



On this date, it was the largest land plane in the United States. During these test flights the Model 299 was technically property of Boeing and for this reason carried both military wing markings and civilian registration tail number X13372.

Those formidable lines were seen in the sunlight of August 1935, shortly before the record breaking flight to Wright Field, Ohio. Model 299 flew at 236 mph, the average for the 2,100-mile trip, using only 63 per cent power. The Boeing company borrowed all the money it could, and, during these lean and hungry years, staked everything they had on their belief in the Boeing 299 project.



Boeing [Seattle] publicity photos were taken to emphasize the large size of the Model 299 aircraft.

The Boeing Model 281 [fighter export version of the P-26] is seen under the right wing and a standard U.S. Army Air Corps P-26A is seen under the left wing.

The Model 281 fighter aircraft was used to check the Model 299 airspeed during the Boeing July-August accelerated three-week flight program.



In September, the new Boeing bomber was a sensation at the Wright Field testing and it was rumored they could get a contract for 65 aircraft. On 30 October 1935, with the competition almost locked up for Boeing, an Army test pilot Major Ployer Hill, took off with the controls locked and the aircraft crashed and burnt.

This accident ruined Boeing's chance for a large contract, [65 aircraft] and the company was nearly on the verge of bankruptcy.

The B-17 designation was officially established on 17 January 1936, when the U.S. Army contract was awarded to construct thirteen YB-17s, for a total cost of \$3,198,800.00. The thirteen Air Corps serial numbers were assigned #36-149 to 36-0161, with Boeing construction numbers 1973 to 1985.

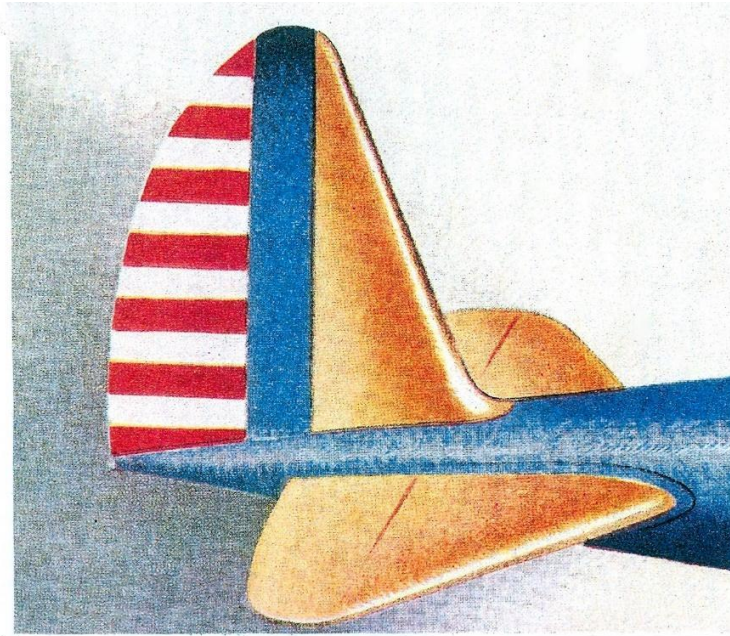
On 25 January 1937, a two-page color painting of the new Boeing YB-17 appeared in the pages of LIFE magazine.



LIFE magazine 25 January 1937, author collection.

While this 1936 artist created yellow and blue color scheme it would never appear on any future B-17, the tail fin markings were correct, all based on the suggestion of a Boeing employee back in 1926.

[Evolution of National USAF Aircraft Markings – Charles G. Worman, Historian USAF Museum.]



It had been advantageous during World War I for the rudder insigne on American planes to resemble those of the other Allied nations. Following the war, each of these countries modified its insigne to a more distinctive design to permit nationality identification. Credit for the American Army design adopted in January 1927 appears to belong to Mr. Charles N. Monteith, a former World War I aviator working for the Boeing Airplane Company in Seattle at the time of his suggestion in 1926. Monteith recommended a rudder marking which more closely resembled "Old Glory." One blue stripe was placed parallel to and just behind the rudder post. Its width equalled one-third the maximum width of the rudder to the rear of the post. The remaining area behind the post was divided evenly into 13 parallel horizontal stripes, seven red and six white, alternating colors.

## NEW WINGS FOR DEFENSE...

★ Pioneering is a Boeing tradition. This is the first of a series of giant four-engined bombers now being built for the United States Army Air Corps, a type of plane which is establishing a new trend in commercial as well as military designs.

*The Boeing  
YB-17*



Aviation Week – 1 December 1936.

The original YB-17 and the Y1B-17 were one of the same aircraft, with only the aircraft designation being changed to Y1B-17 on 20 November 1936. The letter “Y” stood for Service Test Order status and the number “1” stood for Air Force appropriated funds, the aircraft remained the same. The “17” stood for the seventeenth separate and distinct design of bomber for the American Army Air Corps. After the test period was over they were all declared “Limited Standard” and designated B-17.

The crash of the original Model 299 became a blessing in disguise for the Boeing Company as the engineers were able to change the B-17 concept from a coastal defense bomber to a new offensive weapon of war.

These numerous changes in the Y1B-17 test aircraft can be found on many websites and publications, with the last [13<sup>th</sup>] serial #36-161 delivered to the Air Corps at Langley Field, on 4 August 1937.

Boeing next completed [November 1936] a Y1B-17A which was built as a non-flying static test model, then converted into a flying aircraft, as a test model for the development of the new turbo-supercharged engine installations.



In the 15 March 1937, issue of TIME magazine, Boeing published a two full-page ad on the YB-17 [officially designated Y1B-17] bomber titled – “The 4-Engine Era is here!

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*Aviation again acclaims Boeing leadership—*

# *The 4-Engine*



*On Boeing's Production Line Today!*

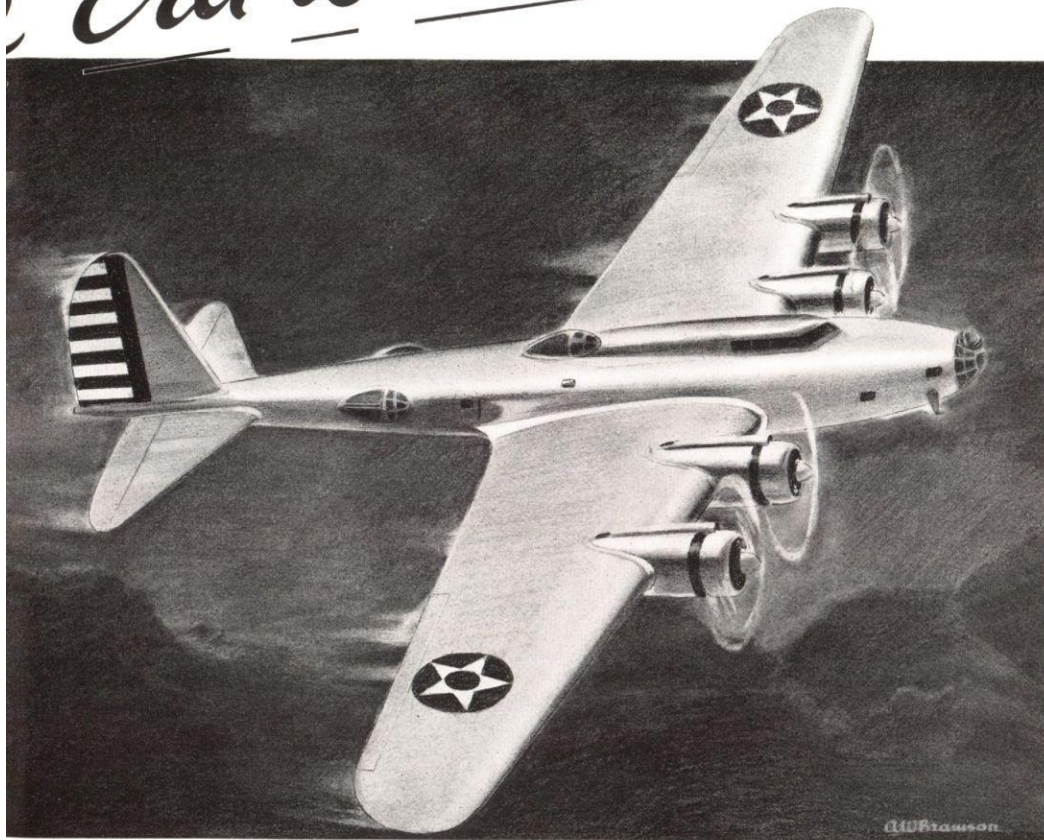
- FOUR-ENGINE BOMBERS
- FOUR-ENGINE TRANSPORTS
- FOUR-ENGINE "CLIPPERS"

» » » » Aviation progresses! Five years ago the Boeing twin-engine bomber and its logical outgrowth, the twin-engine Model 247 transport, revolutionized military and commercial aircraft design. » » Today another Boeing-built Army plane, the *four-engine* YB-17 bomber, has pointed the way to super transport planes of increased passenger and cargo capacity which will bring to air travel the superior performance and the added reliability of *four engines*.

*Boeing has always built to*

Time magazine 15 March 1937

*... Era is here!*



Fleets of these giant Boeing transports are now under construction for Pan American Airways and for TWA (The Lindbergh Line). » » Builder of America's largest landplanes and seaplanes, Boeing is the sole company producing *four-engined* aircraft exclusively — *four-engined* transports, *four-engined* Army Air Corps bombers, and *four-engined* Pan American Clippers. The *four-engine* era is here!  
» » Boeing Aircraft Company, Seattle.

*tomorrow's airplanes today!*



The first Y1B-17 flight took place on 2 December 1936, aircraft serial #36-149, with a five-man Air Corps crew, pilot Major John D. Corkille.




The second flight of the first Y1B-17 aircraft [#36-149] took place 4 December 1936, accompanied by a Boeing 247 camera plane full of reporters, who captured many Boeing images.

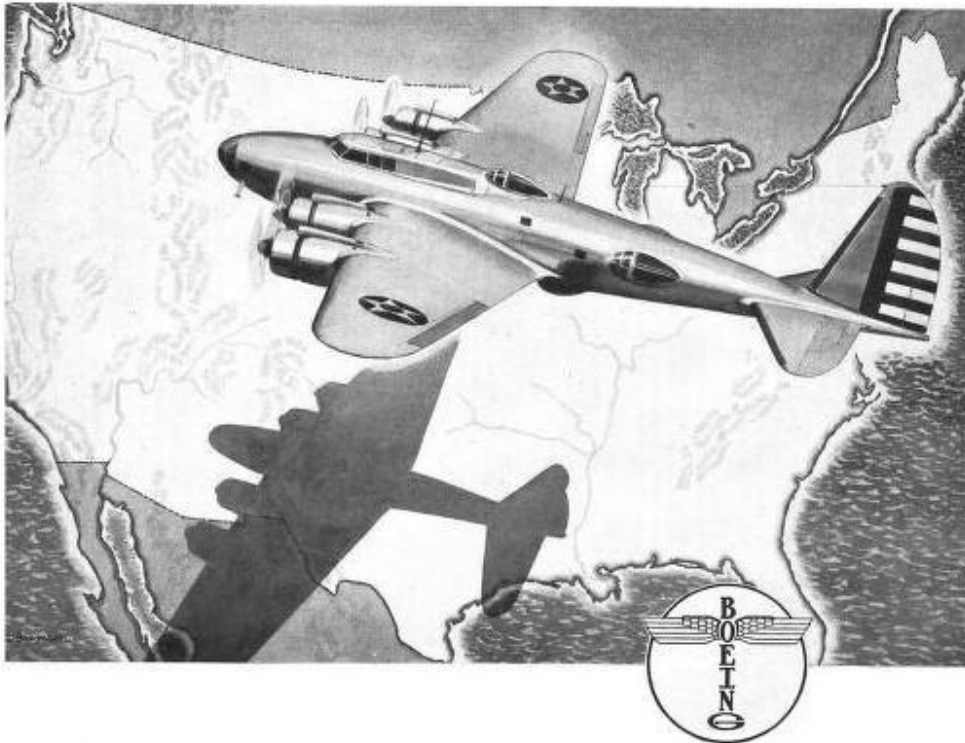


Color U.S. Army Air Corps Postcard of aircraft #36-149, [4-12-36] author collection.



Aviation Week magazine 1 February 1937, ad for the thirteen Y1B-17 bombers, which would be delivered to the U.S. Army Air Corps by 4 August 1937.

 **DEFENSE** . . . *in step with*  
*the progress of a Nation!*



**B**uilt by Boeing for the United States Army Air Corps, this giant four-engined bomber and her 12 sister ships are bringing to the world a new concept in aerial defense. Too, these stalwarts portend the brilliant future of commercial air transportation as have other Boeing Bombers of the past. ✧ Thus through its farsighted policy, the United States Army not only provides continued assurance of national security, but once again quietly performs one of its characteristic services to civil progress by introducing the trend of tomorrow's air transports.

*Boeing has always built tomorrow's airplanes today!*

The excellent performance with the turbo-supercharged [Y1B-17A] brought the purchase of 39 B-17B bombers by the U.S. Army Air Corps. Removed as a test aircraft, the single Y1B-17A became a B-17A and was wrecked on 12 June 1941, with 631 test hours flown.

On 15 November 1937, the U.S. Army Air Corps coordinated a new system for all aircraft markings and use of call letters, which had previously been left to the whims of the group

commanders. This new tail 'fin' marking was known as the "airplane designator" which contained two letters approximately 20 inches high, painted in black, and directly below were two 'plane-in-group' numbers, 20 inches high.



The 1939 Fortress B-17B markings for the 19<sup>th</sup> Bomb Group, 32<sup>nd</sup> Bomb squadron.

The fin "B" stood for Bombardment and the letter S was assigned the 19<sup>th</sup> bombardment Group, with 31 the aircraft 'plane-in-group' number. This 'plane-in-group' number could also appear on the nose or fuselage in 60-inch-high black numbers or 20-inch nose numbers.

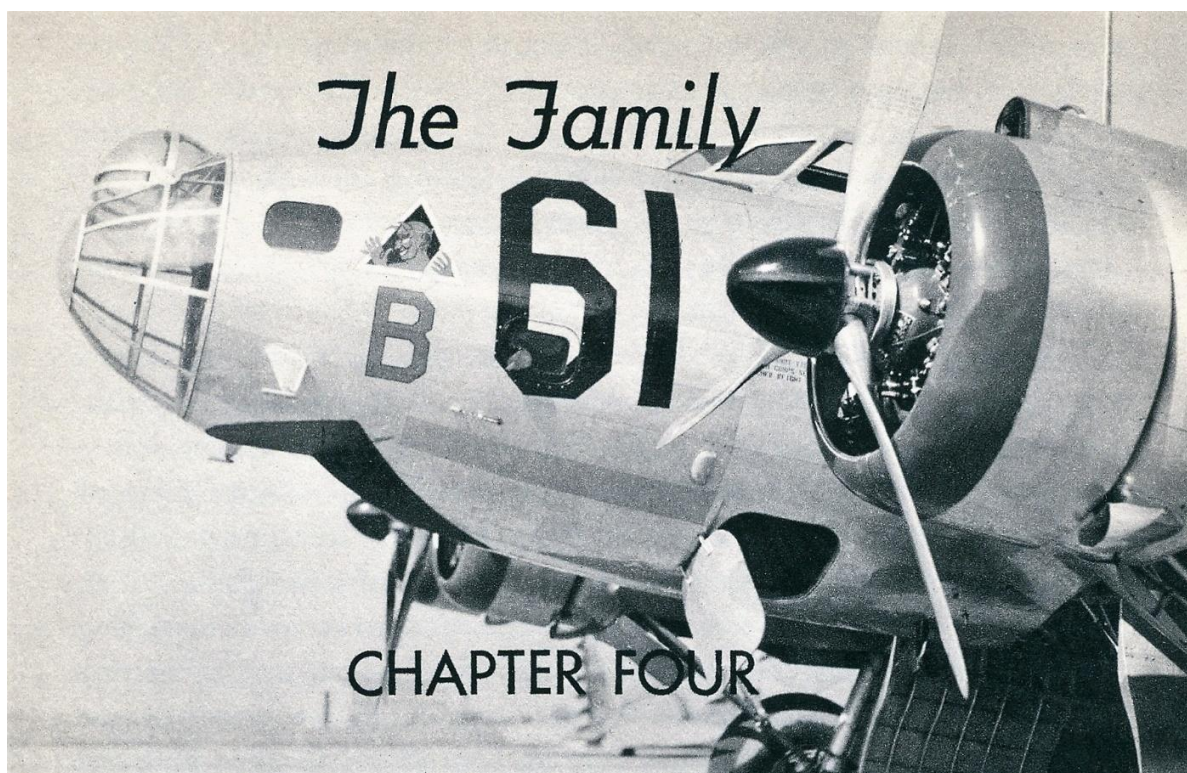
In May 1940, the fin markings were reversed and some B-17s flew with both old and new designator markings.

These early B-17 aircraft left a legacy of different color schemes, and even today many have not been properly identified and it can be very confusing for even aviation historians.

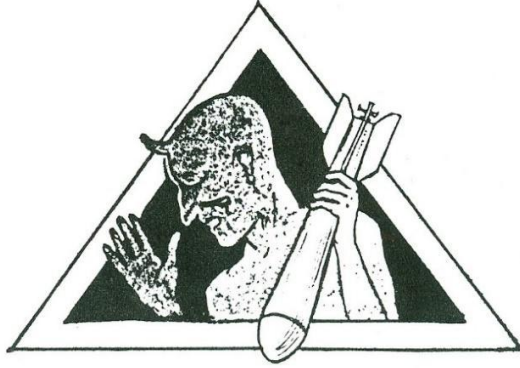
The most important feature for these pre-war B-17s was the fact they reintroduced American WWI squadron color insignia to the nose and fuselage of the new Boeing bombers. These insignia had been approved by the Secretary of the War Department for use by the American Expeditionary Forces in 1918. These original drawings, sketches or roughly scrawled insignia were on file in the library of the Bureau of Aeronautics of the War Department in Washington, D.C., and you can see them all online today. Google – "Daughters of the American Revolution Magazine" Vol. LIV, No. 3, March 1920, and enjoy.

The A.E.F. in France [1918] flew forty-four American squadrons and forty-three contained their original "French" inspired American insignia, mostly painted on French and British front line fighters. Twelve A.E.F. observer squadrons flew American built [de Havilland design] D.H. 4 aircraft.





Y1B-17 [with 60 inch 'plane-in-group' #61] was a much photographed 1938 image, also appearing in the first Flying Fortress book by Thomas Collison in 1943. This Red Devil insignia first flew combat as a day bomber [French Breguet, DH-4 and Caproni bomber] in France with the French Eighth and American First Army, 12 June until 4 November 1918. The Red Devil with a white bomb against a black triangle with white edges was officially approved 4 March 1924, from the original WWI emblem. The red leading edge of engine cowling, and black prop spinners, also identified the aircraft as being the 96<sup>th</sup> Bomb Squadron. The orange 20 inch "B" stood for squadron bombing proficiency. Below is the original 1918 emblem drawing used at Clermont-Ferrand, Amanty, Maulin, and St. Denis de Pile, France.



96TH AERO SQUADRON



*Route taken by the Second Bombardment Group on their 12,500 mile flight around the Americas*

## MACKAY TROPHY WINNERS IN GOOD NEIGHBOR FLIGHT

Winging over the towering volcanic guardian of Rio de Janeiro harbor, seven Wright Cyclone-powered Flying Fortresses of the U. S. Army Air Corps carried for the second time the good will of one of America's great Republics to another. On the 50th Anniversary of Brazilian independence, the Second Bombardment Group dipped their wings in salute over Rio de Janeiro in a flight which paralleled historically the one made to the Argentine in 1938 which had earned them the Mackay Trophy and the acclaim of two continents.

Under the command of Major General Delos C. Emmons, with Lt. Col. Robert Olds, Group Commander, the incom-



parable Boeing B-17 Bombers completed the 12,500 mile trip from Langley Field, Va. to Rio de Janeiro and return to Washington with the precision and dispatch of any routine maneuver, climaxing the Trophy award which had been made just previous to their departure.

Wright congratulates the Air Corps and the Second Bombardment Group on their splendid execution of this flight and is proud of the twenty-eight Cyclone engines which functioned flawlessly throughout the entire expedition.

WRIGHT AERONAUTICAL CORPORATION  
Paterson . . . New Jersey  
A Division of Curtiss-Wright Corporation



The 2<sup>nd</sup> Bombardment Group made two "Good Will Mission" flights to Brazil in February and March 1938. The first trip consisted of six Y1B-17 bombers [#10,51,52,61,80, and 82] while the second flight had seven bombers, which now carried the 'plane-in-group' number on their main wing tips. Number 80 was [36-151] 81 was [36-154] 82 was [36-158] of the 49<sup>th</sup> Squadron, 51 [36-156 and 52 [36-159] of the 20<sup>th</sup> Squadron, 60 [36-150] of the 96<sup>th</sup> Squadron and 10 [36-155] from the H.Q. Squadron, the "Flag-ship" for both trips.





## A NEW FLYING FORTRESS EVERY 4 DAYS

Every fourth working day, the huge front doors roll open at Boeing Plant No. 2, and another 22-ton 4-engine B-17B bomber emerges, ready for check flight and delivery to the United States Army Air Corps.

This schedule, which a few years ago would have seemed unreasonable for planes of this size, has now been in effect for several months. The formidable Flying Fortresses are being turned

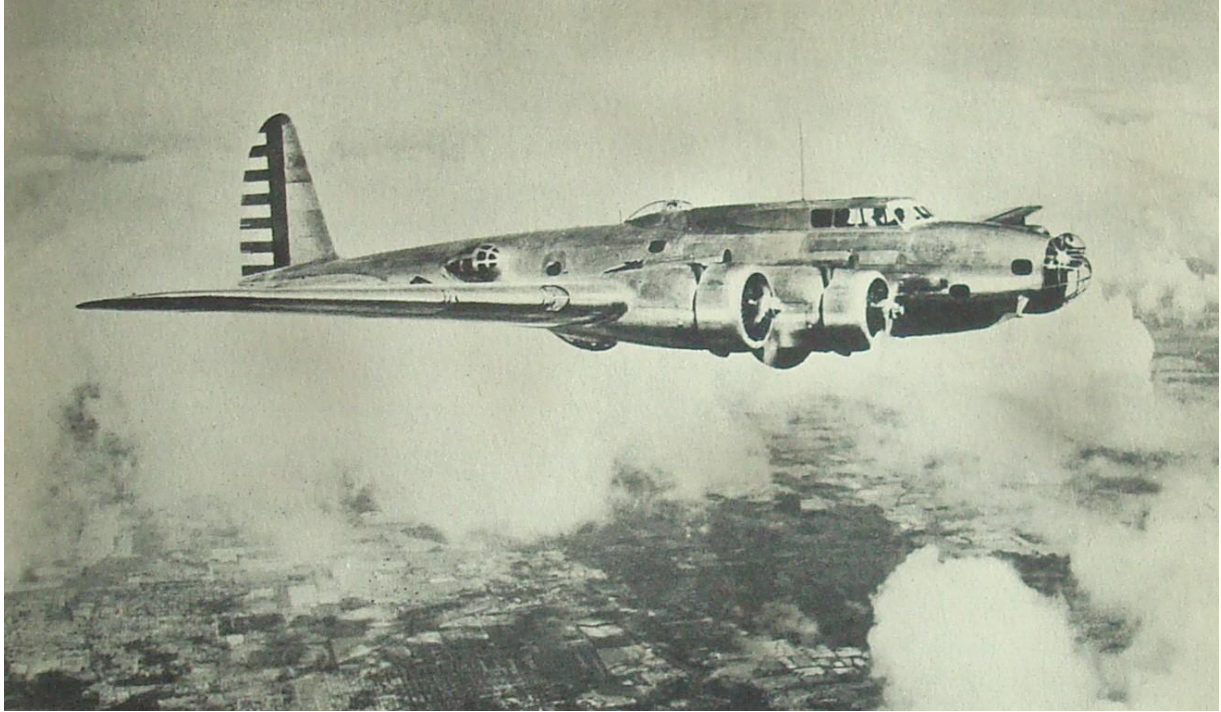
out on a production line basis, which permits stepping up schedules to a still faster pace as required.

With a background of full experience in the 4-engine airplane field, both military and commercial, and with new advanced designs in process, Boeing is completely geared for further production of modern 4-engine types. *Boeing has always built tomorrow's airplanes today!*

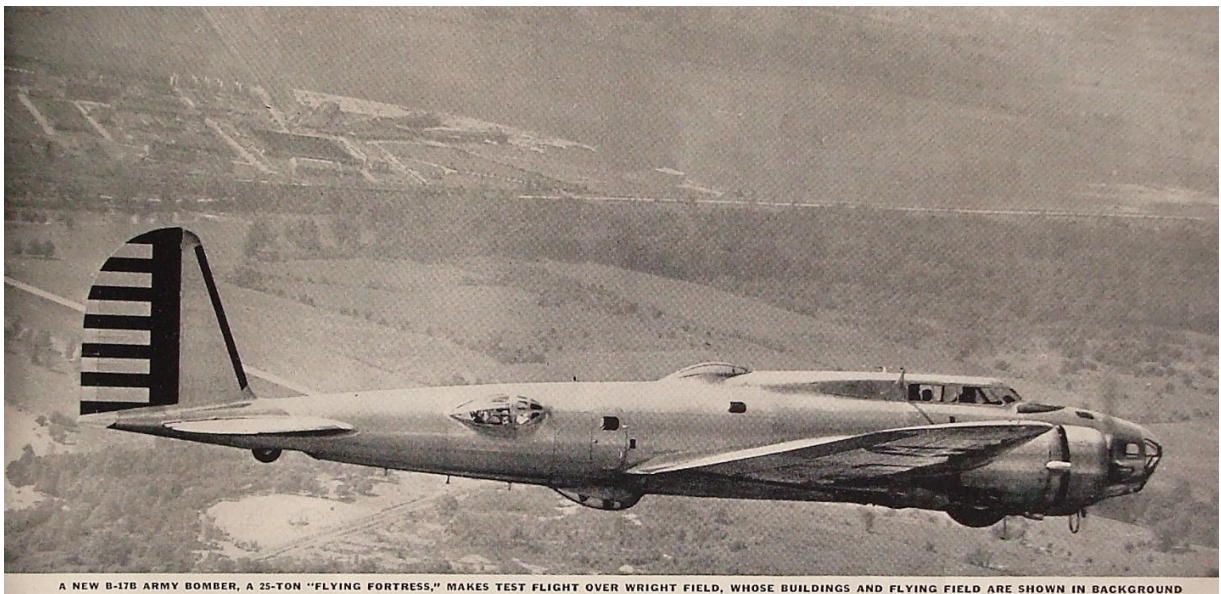


**BOEING AIRCRAFT COMPANY**  
SEATTLE

The U.S. Army Air Corps awarded Boeing a contract for the first ten B-17B bombers on 1 August 1937, total cost was \$2,757,852.00. The Air Corps serial numbers were 38-211 to 38-220, construction numbers 2004 to 2013. The first B-17B, serial 38-211, test flight was on 27 June 1939, with all 39 "B" models [eleven B-17B contract changes] delivered to the U.S. Army Air Corps by March 1940.



1 August 1939, first B-17B [serial 38-211] in a well publicized non-stop, coast to coast, flight from Burbank, California, to New York City, average speed of 265 mph. [Nine hours and 14 ½ minutes, Flying Fortress by Collison, 1943]

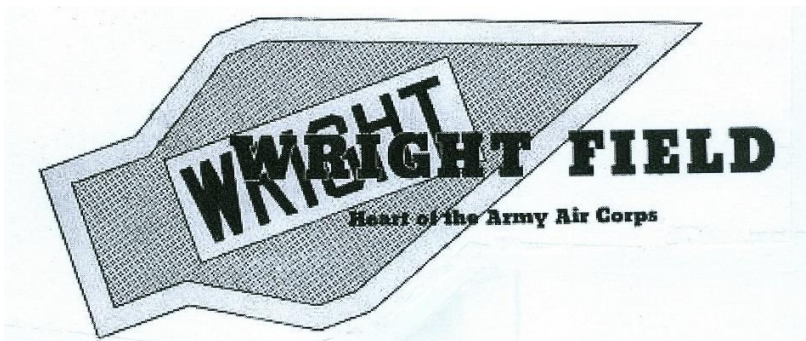


The same B-17B, serial 38-211 appeared in the 4 December 1939, issue of LIFE magazine, eight-page article on "Wright Field" The Army Tests its Warplanes. [Photo - 2 August 1939]





B-17B [serial 38-211] was modified and became a test standard B-17C at Wright Field, fitted with a new "Tin-bathtub" and for a short time carried the tail fin serial #211, which was not standard.



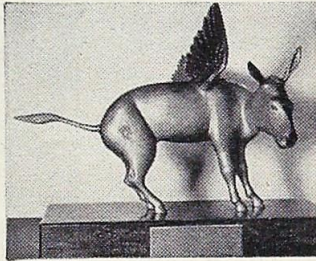


All Wright Field aircraft carried the Material Division official badge, which was also worn by test flight crew. [left] Serial 38-211 [B-17C test aircraft] became #105 MD for Material Division. Destroyed in a crash at Hendricks Field, Florida, on 22 October 1942, five killed.



This monstrous face is Test Pilot O'Connor, Wright Field, Material Division of the U.S. Army Air Corps, the man who test flew B-17B-C serial #38-211.

## IT PIONEERS IN PLANES



THE FLYING ASS

First pioneering aviation accomplishment of the U. S. Army was giving Orville and Wilbur Wright \$25,000 in 1909 for a heavier-than-air craft which was to fly 40 m.p.h. The Wright plane averaged 42 m.p.h. and the Army gave the Wright Brothers a \$5,000 bonus. Years later, it named its Materiel Division's base after them. Since then, the pioneering tradition has persisted at Wright. At the field is a museum, which houses relics of work that Wright has done and some curious mementos like "the Fly-

ing Ass" (*inset*) which used to be given to test pilots who made notable boners.

More seriously, Wright is proud that with its help the modern air-cooled engine was developed, first lighted night airways system in the U. S. flown, parachutes perfected, modern retractable tricycle landing gears made feasible. Busy with everything aeronautical, Wright even worked out method of dusting crops by airplane.

The LIFE magazine article also detailed the famous memento called "The Flying Ass" which had been presented to past test pilots who made a bad error in judgement.

This frosted fellow is Dr. Harry Armstrong, Wright's director of aero-medical research, covered with hoar from conducting tests at 30°F. below zero to discover effect of cold on fliers.





Dr. Harry Armstrong was the Wright Field Director of cold weather testing up to -30 F.

\*\*\*

Until July 1940, the United States military defence policy in Alaska was totally neglected. On that date, Lt. General Simon Bolivar Buckner Jr. was appointed commander of the newly formed Alaska Defense Force. He faced a formidable task to build a non-existent force into fighting troops and the construction of the largest military establishment in all of Alaska. It required a large defense budget balancing act and that is possibly the reason he turned to Walt Disney Burbank, California, artists for the original unofficial "A.D.F." badge.





Created by Walt Disney artists, Brenda, a balancing Seal, was introduced to the American public in LIFE magazine on page ten - 26 May 1941. [Note – the A.D.F. had already been re-designated “Alaska Defence Command” on 15 February 1941]

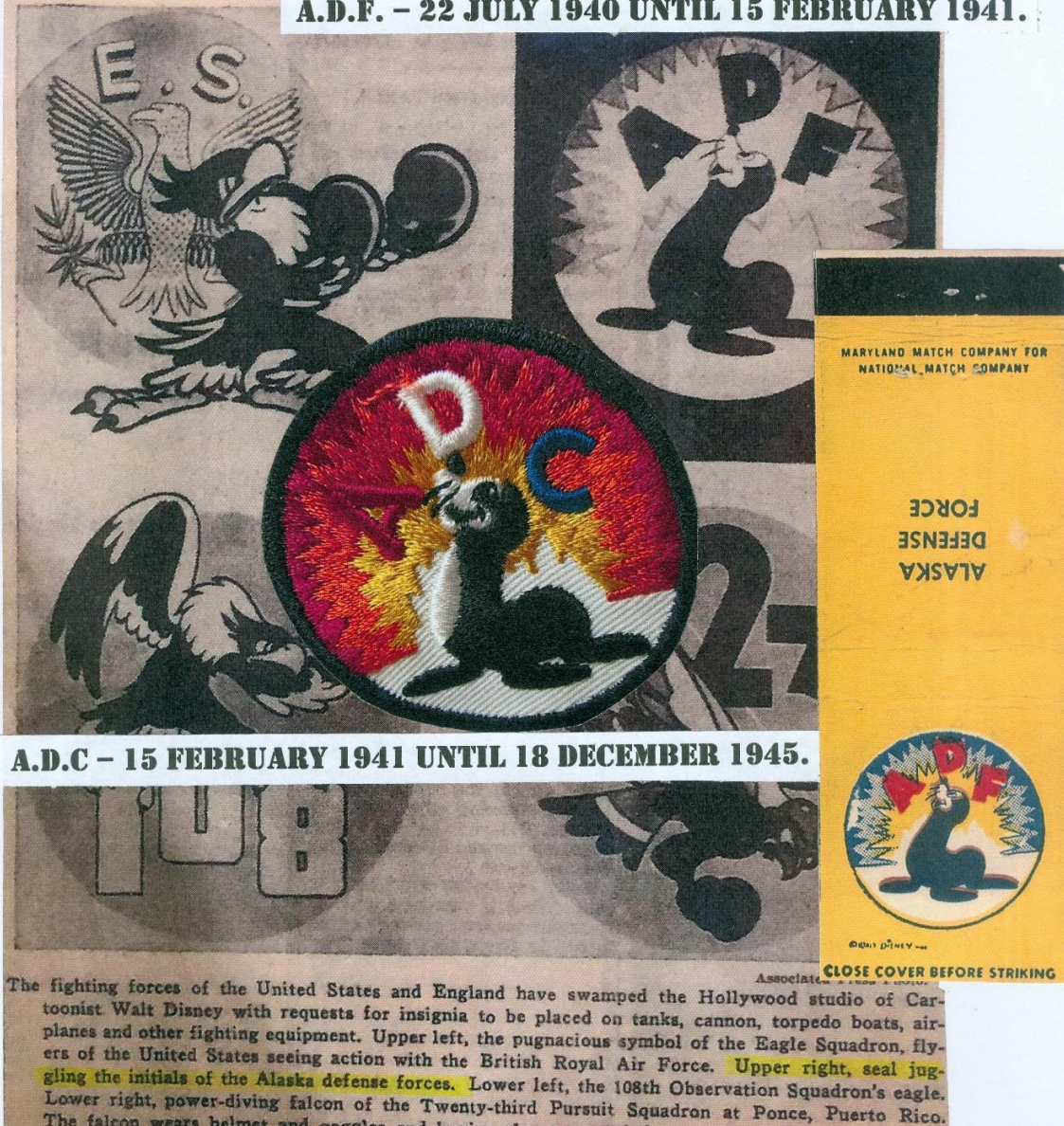
The first reinforcements to reach Alaska consisted of 780 soldiers who arrived at Fort Richardson in late June, 1940. In August, Major Everett S. Davis, senior representative/advisor from the Army Air Corps, arrived in Anchorage in a B-10B bomber, the first military combat aircraft to reach Alaska. This aircraft roster was augmented by the 18th Pursuit Squadron with 20 crated P-36s in February, 1941, and the 73rd and 36th Bomber Squadrons, with a complement of 14 B-18As in March. All the aircraft were obsolete types unsuited to combat, especially in Alaska. By November, 1941, only six of the B-18s would be flying. The Navy air forces were even less of a presence, with only two observation planes, an OS2U at Kodiak and a J2F at Sitka (Cloe with Monaghan 1984:38,39).

[1987 – WWII in Alaska, report by U.S. Army Corps of Engineers]

THE NEW YORK SUN, TUESDAY, MARCH 4, 1941

## DISNEY DEVICES FIGHTING SYMBOLS

**A.D.F. - 22 JULY 1940 UNTIL 15 FEBRUARY 1941.**



Brenda, the juggling seal appeared in American newspapers 4 April 1941, and even the National Match Co. covers, while the A.D.F. had been re-designated.

On 15 February 1941, the new Alaska Defense Command was created and Brenda remained with new letters A.D.C. Today, the original [seven-month] A.D.F. badge is very rare and hard to find, worth \$700.



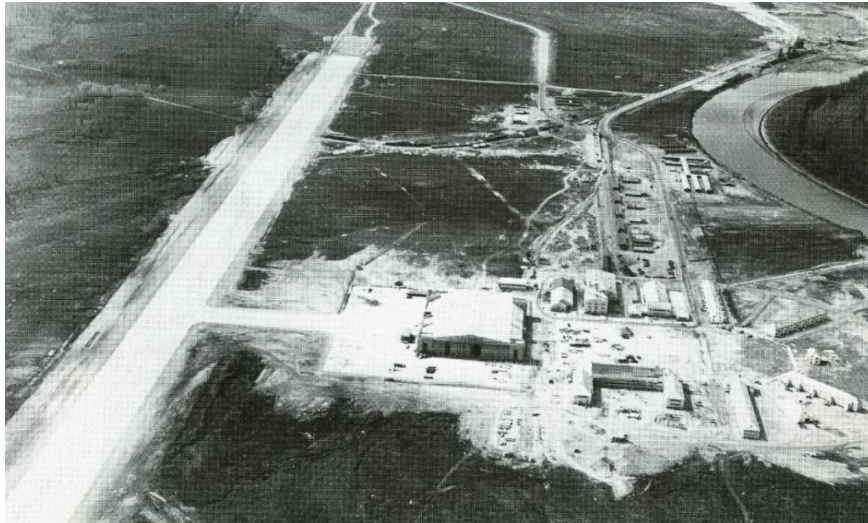


On 12 December 1940, the original Fort Richardson was officially designated "Elmendorf Field" in honour of Capt. Hugh W. Elmendorf who was killed testing an aircraft at Wright Field on 13 January 1933.

Before the Alaska garrison could be augmented according to plan, facilities would have to be constructed, largely from scratch. Following the uphill battle waged by Alaskans and defense advocates, the first modern military construction in the Territory began in 1939. The FY 1940 budget contained \$4 million for a military cold weather testing facility to be built at Fairbanks plus about \$15 million for the recommended naval construction at Sitka, Kodiak and Dutch Harbor. With the beginning of these projects, defense spending became the mainstay of Alaska's economy, a situation which would continue for the next 20 years (Cloe with Monaghan 1984:27).

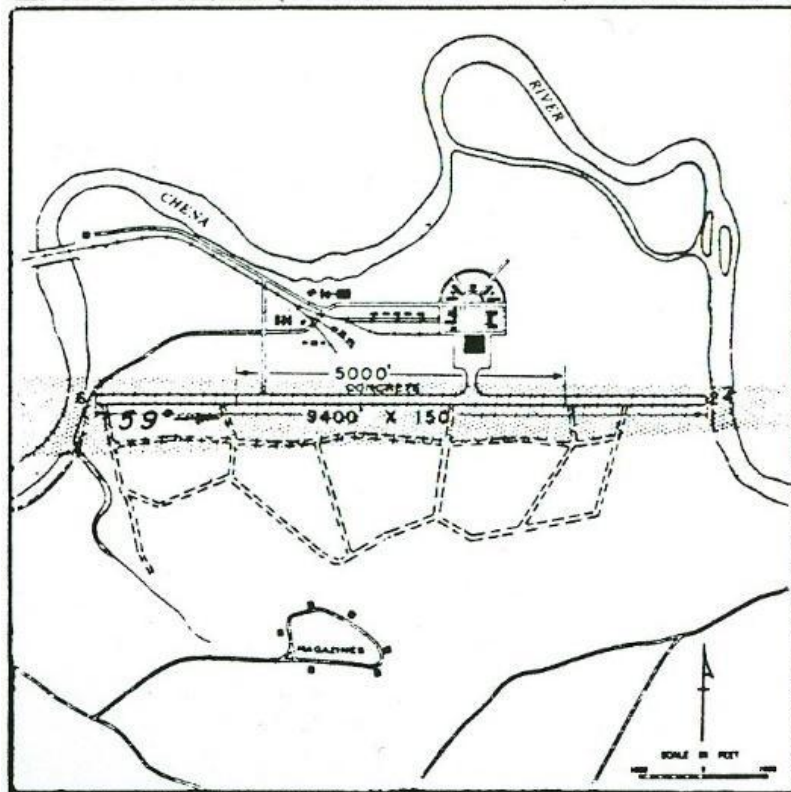
[WWII in Alaska, U.S. Army Corps of Engineers 1987]





This Air Force image shows the construction of Ladd Field experimental cold weather station, Fairbanks, Alaska, in September 1940. [U.S. Army Corps of Engineers image and map 1987]

## LADD FIELD, FAIRBANKS, ALASKA



The facility at Fairbanks, to be known as Ladd Field after Army aviator Major Arthur K. Ladd, had been in the works since 1936, when the site was selected; it was set aside by executive order in 1937 (Cloe with Monaghan 1984:21). The official Draft History (1944:2) and Thompson (1984a:4) state that surveying and clearing began in 1938, which would make it the first actual buildup-related construction in Alaska, though serious construction is generally considered to have begun in 1939, after the appropriation of funds. The facility was not finally authorized until February, 1940. Ladd Field was dedicated in September, 1940, after around-the-clock shift work over the winter using Quartermaster Corps personnel and some civilian contract labor (Cory and Joslyn Co. of San Francisco built the heating plant) (Bush 1944). The runway reportedly used more concrete than was present at the time in all of Alaska's roads and sidewalks (Garfield 1969:61), and the facility possessed some of the few permanent structures (including some of reinforced concrete) to be built in Alaska during the war (Thompson 1984f). In addition to the construction involved with the actual field and support facilities, it was found that flood control was necessary to protect the site, and a three mile dike was constructed along Chena Slough in 1941 (Bush 1944).

The mission of Ladd Field was not combat related. Its initial aircraft complement consisted of one O-38F observation biplane, though this was increased by two B-17Bs and two YP-37s (one of each was to crash in tests). "By the end of World War II, virtually every type of aircraft, including some of foreign design, had been tested. Additionally, many items of equipment, clothing and other material used by the Army Air Forces had been scrutinized under the cold weather conditions of central Alaska" (Cloe with Monaghan 1984:147). It was not until June, 1940, that an Army Air Corps base with a combat role - Elmendorf Field at Fort Richardson - was begun, fulfilling the second point of the plan by establishing an operating base in the Anchorage area.



This is the original Douglas O-38F [serial #33-0324] to arrive at Ladd Field, in October 1940, for cold weather testing. Crashed 16 June 1941, salvaged and restored by National Museum of the U.S. Air Force at Dayton, Ohio. [internet image]





Prototype YP-37 painting for Curtiss-Wright. [Internet]

Two Curtiss-Wright YP-37 fighter test aircraft arrived in October 1940, serial 38-477 and 38-481. The second [481] ground-looped on 8 April 1941 and became a ground school trainer. Only fourteen aircraft were constructed. The onlast YP-37 fighter [38-474] survived until January 1946.





Two Boeing B-17B [serial #38-215 and #38-216] of “Polar Bear Test Squadron” arrived on the 4<sup>th</sup> and 10<sup>th</sup> of October 1940 for Cold Weather Testing at Ladd Field, Alaska. They served under Alaska Defence Force as a non-combat research station and reported directly to U.S. Army Air Corps Headquarters. [20 June 1941 the War Dept. created U.S. Army Air Forces]



B-17B, serial 38-215 [plane-in-group #1] was assigned to 19<sup>th</sup> Bomb Group, 28<sup>th</sup> Bomb Squadron at March Field on 11 September 1939. Sent to Flight Test Center at Wright Field, Dayton, Ohio, where yellow markings and "Polar Bear" fuselage insignia originated. Arrived at Ladd Field, Alaska, 12 October 1940, for cold weather testing. Shown in early yellow day-glow [fuselage, wing tips, and engine cowling] test markings.

On 14 August 1941, the B-17B was upgraded to some B-17C standards at San Antonio, Texas, and returned to Alaska, for Cold Weather testing until 7 December 1941.

War declared, [8 December 1941] the only B-17B which participated in early bomb strikes against the Japanese fleet at Dutch Harbor, and was involved in air battles over Umnak Pass on 4 June 1942. [The waist gunner S/Sgt. Nelson shot down a Japanese "Val" fighter, which is the only known B-17B combat during WWII] Images internet public domain.





This public domain USAAF undated photo shows the Cold Weather test flight crew of B-17B serial 38-215 [plane-in-group #1] at Ladd Field, Alaska.

The crew members of pilot Captain Jack S. Marks were – 1<sup>st</sup> Lt. Harold E. Mitts, [navigator] M/Sgt. Carol V. Hunter, [bombardier] T/Sgt. Walter A. Gilbert, [Crew Chief] T/Sgt. Wilson E. Ogan, [engineer-gunner] T/ Sgt. Bruno Grossi, [Radioman] S/Sgt. Orlan F. Floris [mechanic-gunner] S/Sgt. Kenneth E. Nelson, [gunner] and S/Sgt. William T. Sexton, [mechanic-gunner].

The early war missions flown by B-17B serial 38-215 are contained in the Official Action Report [MACR 15929] filed by Captain Jack S. Marks on 9 June 1942. His complete statements can be found online, containing the full report of six missions flown 2-6 June 1942.

The B-17B and Cold Weather test crew departed Ladd Field for Kodiak Naval Station 29 May 1942. They were assigned to Umnak Field [Fort Glenn Army Airfield] and flew offensive patrols under command of U.S. Navy Patrol Wing No. 4. All Cold Weather test equipment was unloaded and bomb shackles were installed, along with machine guns, photo-reconnaissance cameras and long range fuel tanks.



They began combat flights from Umnak Field on 2 June 1942, and continued daily combat missions on 3, 4, 5, and 6 June 42, wearing original cold weather test markings.



During these first six missions [2-6 June 1942] the B-17B serial 38-215 flew in full day-glow yellow markings with their "unofficial" Polar Bear Squadron insignia fuselage art.



The one-and-only B-17B fuselage squadron “Polar Bear” insignia to fight against the Japanese in Alaska, 2 to 15 June 1942. Very rare, and very much overlooked by American Aviation History, as this single Polar Bear [Test Cold Weather Art] took the war to the Japanese.



Author replica painting on WWII American B-25 aircraft skin in honor of the original Capt. Marks' crew who flew B-17B serial 38-215, under 11<sup>th</sup> Air Force, Alaska Defence Force/Command.

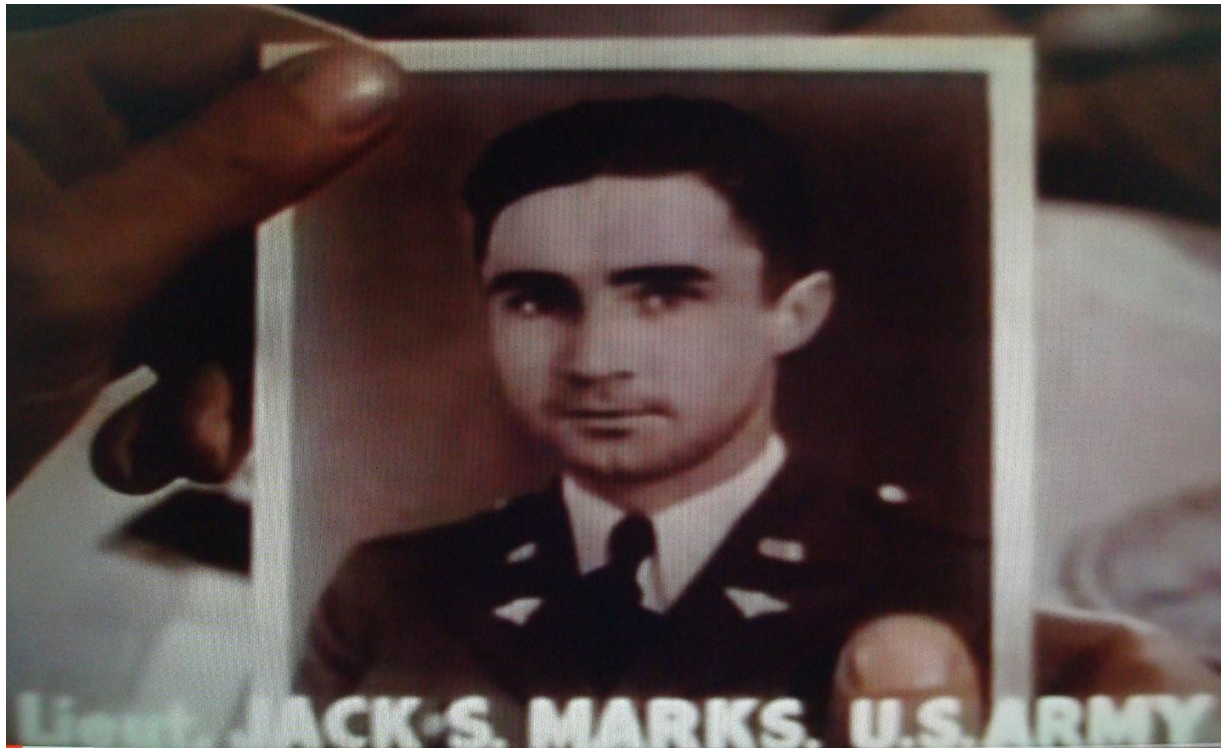
On 15 or 16 June 1942, the yellow day glow markings on B-17B serial 38-215 were over painted with olive drab paint [Fort Glenn] and the serial 38215 was added in orange on the tail fin. It's impossible to know if the Polar Bear insignia remained, I believe it did.

On 17 July 1942, Captain Marks was assigned to fly B-17E serial 41-9146 and they were shot down by [Rufes] Zero fighters on floats. The B-17 crashed into the ocean near Kiska and no bodies were recovered, the crew have no known grave.



Crew names – Pilot Captain Jack S. Marks, Co-pilot 2<sup>nd</sup> Lt. John R. Giddens, #0-430985, Navigator 1<sup>st</sup> Lt. Harold R. Mitts, 0-421902, bombardier S/Sgt. John F. Cane, #6549415, Engineer Cpl. Edward P. Dwelis, #16034160, Radio operator Cpl. Hubert D. Smith, #16026820, Gunner Pvt. Concetto Castagna Jr. #12026493, Gunner Pvt. Robert G. Brown, #31629228, Gunner Pvt. Theodore A. Alleckson, #37161263, and Photo tech, Sgt. William V. Diehl, #6936161.

[Capt. J.S. Marks photo appears in WWII Alaska 16 mm color film]

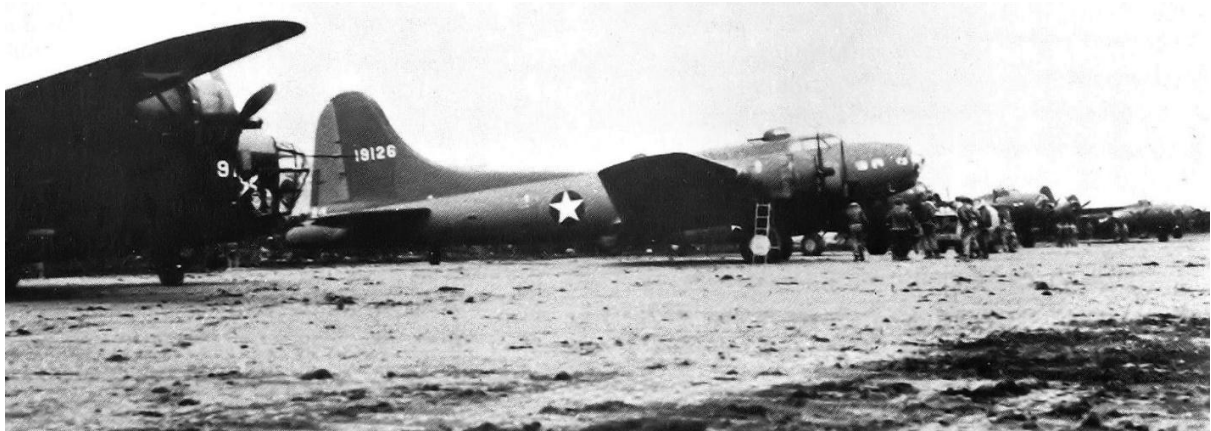


On 18 July 1942, Captain Marvin E. Walseth and navigator S.Sgt. Kenneth Nelson were assigned to fly in B-17B serial 38-215 on a photo reconnaissance mission to Kiska, Alaska.

Navigator S/Sgt. Ken Nelson was the gunner who shot down a Japanese "Val" fighter on 4 June 1942, and this seems to have been forgotten by passage of time. On the return flight to Umnak Island [Fort Glenn] the aircraft was seen to explode at around 2,000 feet and all crew were killed. [Possibly flew into a mountain in fog] The bodies were recovered and buried near the village of Nikolski, Alaska.

This history requires further American historical research as some reports are conflicting, forgotten, and these brave air crew's actions must be archived.





Free domain image taken at Fort Glenn Army Airfield in June 1942, showing four B-17 bombers.



B-17B, serial 38-216, became the first to arrive at Ladd Field on 4 October 1940. Plane-in-group number "2" was painted 20 inches on nose and tail fin and 60 inches on mid-fuselage, with Polar Bear insignia.

On 6 February 1941, while returning to Wright Field, [via Sacramento, Calif.] #38-216 crashed into a mountain nineteen miles West of Lovelock, Nevada, and crew of seven were killed. They were transporting the original Ladd Field cold weather research data for Wright Field, and all was lost in the crash.

Ladd Field streets were named after crew – Freeman, Ketcham, Whidden, Trainer, Gilreath, Davies, and Applegate.

Boeing B-17B serial 38-216, also flew with the very same "Polar Bear Squadron" [40" high] fuselage art on both sides when it crashed.



Numerous model airplane magazines and online sites record the cold weather test color system but none give any importance to the original Ladd Field “Polar Bear” fuselage art that was painted on each side of these two original B-17B test aircraft. [B-17B #38-215 and #38-216]

This became the first ‘unofficial’ Ladd Field Cold Weather Test Division aircraft insignia, which led to the first test unit leather patch badge, flying under both “unofficial” Walt Disney designed Alaska Defence Force and A.D. Command badges with “Brenda the balancing seal.”

The official U.S. Army “Alaska Defence Command” badge was approved on 24 March 1943, featuring the Great White Bear from the constellation “Ursa Major” called the “Big Dipper” in North America.

In ancient mythology the seven stars of Ursa Major were the protector of the single star Ursa Minor, or the North Star, which was represented by a gold star on the new A.D. Command badge.



Pre-war images from Air Transport Command magazine "Alaska North Star" showing the Cold Weather Testing aircrew called "Cold Nose Boys" as they admired their Polar Bear fuselage insignia.

Due to the war, all cold weather testing at Ladd Field would be suspended from the end of December 1941 until October 1942. The original Cold Weather Test Detachment was considered an "exempted base" totally devoted to research, and not combat missions.

From January 1942 until September, they flew numerous WWII combat missions under command of 11<sup>th</sup> Air Force, [Alaska Defence Command].





This free domain B-17E image has been credited to both Great Falls, Montana, and also Ladd Field, Alaska, where winter conditions could be much the same.



Ladd Field Air Force Base sign in the spring of 1943, with new approved USAAF Alaska badges.

The U.S.A.A.F. National Marking [Star with red center circle] Type 1, originated 1 January 1921, with the red [meat ball] ordered removed from all aircraft on 18 August 1942, becoming a white Star or Type 2.

The official Alaska Defence Command "Great White Bear" appears on the left, approved for use 24 March 1943. The official Alaskan 11<sup>th</sup> Air Force Badge [with seven Ursa Major Stars] appears on the right, designed 15 January 1942, officially approved 13 August 1943.



The original July 1940, Walt Disney "Brenda" the balancing seal "Alaska Defence Force" insignia was still appearing on Air Force jacket art, [with nude lady] at Amchitka, Alaska, in 1943.



The original "Polar Bear Squadron" cloth badge, "Cold Weather Test Detachment" possibly appeared in fall of 1940, and was clearly based on the original [1940] Boeing B-17B fuselage aircraft artwork. The author is positive this badge also became a memorial to Captain Jack Marks who was killed flying B-17E #41-9146 on 17 July 1942. [not based on any known facts] A leather badge [left] also appears on the internet, but this was probably a later 1943-45 patch.



The Canadian Noorduyn [USAAF - UC-64A] Norseman aircraft were also used for Cold Weather Testing at Ladd Field, Alaska, wearing snow camouflage, with red nose cowling band and wing tips and stabilizer in bright red. [USAAF]



Ferrying Command of the U.S. Army Air Forces was activated on 29 May 1941, for the main purpose of delivering new aircraft from the factory to terminals or active bases as directed by the USAAF.

On 20 June 1942, USAAF General orders #8, re-designated "Ferrying Command" to Air Transport Command [ATC] with selected Ferrying Divisions.

On 26 February 1942, Alaska had been re-designated a "Foreign Wing" and they received an official Totem Pole badge which would be painted on aircraft under their command.



The C-64A Noorduyn Norseman [inset] on display in the National Museum of the United States Air Force, Dayton, Ohio, correctly displays the WWII use of these two official badges in Alaska Defence Command 1942-45.

In 1937, Robert B. Noorduyn attempted to sell his new design to the RCAF and the RAF as an advanced trainer, both said "No."

In October 1941, the first three American YC-64 Norseman aircraft were purchased for evaluation, and total production reached 762, of which 749 were designated UC-64A aircraft. The USAAF Norseman flew in Asia, Europe, South America, South Pacific, however the largest number served in defence of Alaska and the building of the Alaska Highway.



This USAAF image was taken at the Laid River Crossing [British Columbia, Canada] in August 1942. This early C-64A Norseman is wearing RCAF yellow paint which served well in both summer and winter flying conditions. In 1944, a large suspension bridge was constructed by U.S. Army engineers at this same location.





This Smithsonian National Air and Space Museum image captures the insignia markings on “Alaska Wing” C-64A Norseman serial 43-5121.

Delivered to USAAF on 20 March 1943, flown to Great Falls, Montana, then to Ladd Field, Alaska, by 7<sup>th</sup> Ferry Squadron. The 11<sup>th</sup> Operational Weather Squadron was formed at Ladd Field, 11 January 1941, and worked closely with the Cold Weather Testing Detachment. Norseman #43-5121 crash landed at Fort Nelson, B.C., 11 November 1944, sold to British Guiana in 1950, crashed and destroyed 1951.



This official Air Transport Command, "Foreign Alaska Wing" badge was created on 26 February 1942 and re-designated "Alaskan Division" on 1 July 1944. They supported the 11<sup>th</sup> Air Force in Alaska and the Aleutian Islands. Controlled the Alaska-Siberia Route [ALSIB] from Great Falls, Montana, to Edmonton, Alberta, and N-W to Ladd Field, Alaska. The badge remained in use until May 1945, and today is almost lost in Alaska aviation insignia history.

In October 1942, the original Cold Weather Testing Detachment [Ladd Field] was reactivated under command of U.S.A.A.F. headquarters. The Engineering Division of Air Technical Service Command [ATSC] were also conducting an extensive test program at Ladd Field in conjunction with the Cold Weather Testing Detachment.

On 29 April 1943, the Alaska Cold Weather Testing Detachment was placed under control of the Engineering Division of [ATSC] and they would be designated Proving Ground Command. The Cold Weather Test Detachment was now responsible for all service testing on standard production USAAF aircraft and equipment at Ladd Field, Alaska, until 1946. [total of twenty-one aircraft were tested]

The following twenty-one [from official A.T.S.C. records] aircraft were assigned to Ladd Field, Cold Weather Test Detachment for service testing 1943-45. The Cold Weather Test Detachment was now 'unofficially' called COLD NOSE BOYS.

Boeing B-17F, serial 42-30988 [Patti Anne]

Boeing B-17G, serial 43-38221 [Chilly Billy]

B-24J, serial 44-41378, No art.

B-25J, serial 44-29258, No art.

B-29F, serial 42-24759 [Amiable Amazon] 1<sup>st</sup> in Alaska.

Boeing B-29BW, serial 42-34612 [Klondike Kutey]

A-26B, serial 41-39182, No art.

C-54B, serial 43-17157, No art.

C-47A-30-DK, serial 43-48088

P-38G, serial 42-13565 – tested snow skies, No art.

P-38J, serial 'unknown' #183 [Ice Cold Katie]

P-38L, serial 44-24050, No art.

P-51D-10, serial 44-14476, No art.

P-51C, serial 43-6005 Packard V-1650-7 engine, No art.

P-59A, serial 44-22610 [Smokey Stover]

P-61A, serial 44-39402, No art.

P-61B-2NO, serial 42-39432, No art.

P-61C, serial 43-8330 [survives today]



P-63A-10-BE, serial 42-70255, No art.

P-47C, serial 42-24964 'Razor-back' used in ski testing at Ladd Field in winter 1943-44. [never confirmed serial number]

P-40N, serial 42-106129 'Warhawk' – had shark-teeth nose art, shown on skies beside P-47C at Ladd Field, winter 1943-44. Crashed on Adak Island, Alaska, 16 August 1944.



The story and name "Cold Nose Boys" appears in the second year anniversary issue of 'The North Star Magazine' published November 1944.





# Cold Nose



Needed was a testing organization that would apply, under actual arctic conditions, the results of experimentation in the States. Out of this need to prove theory by practice was born C.W.T. Its base of operations was to be Ladd Field, Alaska, scarcely a hundred miles below the arctic circle.

One of the earliest and strongest champions of C.W.T. was Colonel Dale V. Gaffney, now brigadier general and commanding general of A.T.C.'s Alaskan Division. Back of his cause he put the power of a forceful personality and knowledge of the territory, with the result that the Detachment was established directly under the commanding general of the Army Air Forces.

Four winters ago when C.W.T. first

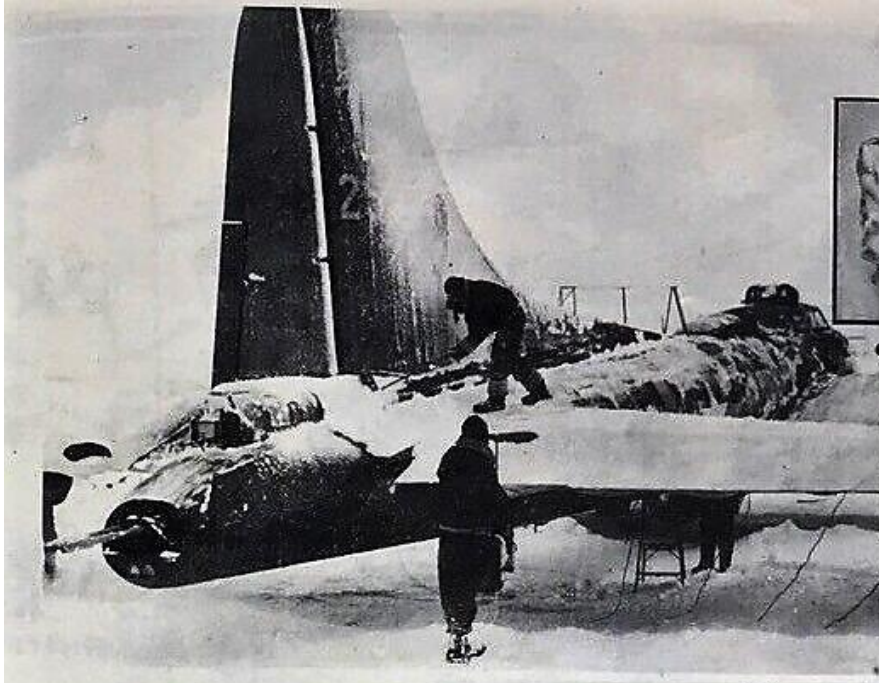
**H**IGHER and higher into the thin, cold arctic atmosphere climbed a twin-engine bomber. Inside, crew members jotted down observations. Why had the lines broken and frozen at this altitude? What had fritzed up the internal heating system? It's the mission of the Cold Weather Testing Detachment at Ladd Field to find the answers to these questions—these and the thousands of others which relate to the problems encountered in arctic flying.

Combat aircraft are as sensitive to weather conditions as the human beings who create, service and fly them. Long before Pearl Harbor the Army Air Forces had begun tackling the many problems involved in cold weather operations. That many of these difficulties have been overcome is a tribute to the military and civilian personnel assigned to C.W.T.

With the approach of American participation in the war, the A.A.F. accelerated its scientific research in all the intricacies of cold weather operations. At Wright Field, Ohio, and elsewhere, laboratories worked long hours on the winterization of aircraft. Yet this was not enough.





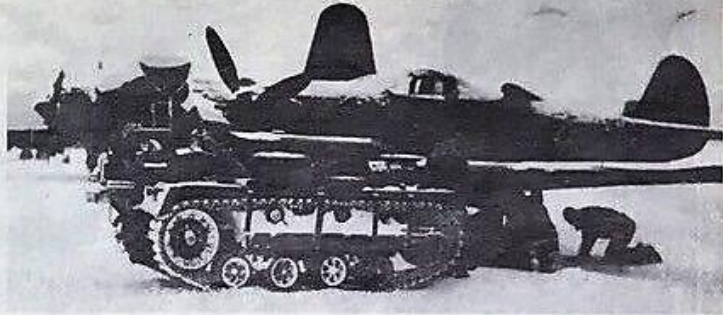


came to Ladd Field it was a bitter struggle both for ground and flight crews to keep the planes flying. According to Col. R. R. Stewart, now commanding officer, everybody took a beating from the severe living and working conditions.

For one thing the men on the line wore improper clothing, stiff, heavy shirting which at 40 degrees below zero alternately made them perspire and freeze. One of the outstanding achievements of the C.W.T. program was the redesigning of clothing to meet the exigencies of arctic life.

During the winter of 1942-43, when at last the broad testing program began in earnest, much was discovered about the performance of both men and aircraft at 50 below, resulting in many technical improvements in maintenance and flying procedures.

Two thirds of the personnel, coming from stations in the United States, had never before had previous experience in the arctic. But two notable exceptions were Lt. Colonel Ashley C. McKinley and Sir Hubert Wilkins. Colonel McKinley won fame as a member of the Byrd Antarctic Expedition in 1928. As aerial photographer he was third in command of the daring group which made Little America a possession of the United States. Sir Hubert, the famous British explorer, was a consultant with the C.W.T. on proper



clothing to be worn at low temperatures; for in Alaska and other cold spots, a GI would freeze as solid as a totem pole were he not correctly clothed.

Hazards of flying over the arctic territory are not limited to flight crews of the C.W.T. Detachment; nevertheless, the fact that local, high altitudes and cross country hops are made for testing purposes adds a considerable element of adventure not encountered otherwise. All men fly with the grim knowledge that, like others before them, something might occur to cause a forced landing hundreds of miles from nowhere.

Reasons of military security obviously prevent descriptions of actual tests made on specific planes. Yet it can be truthfully said that without

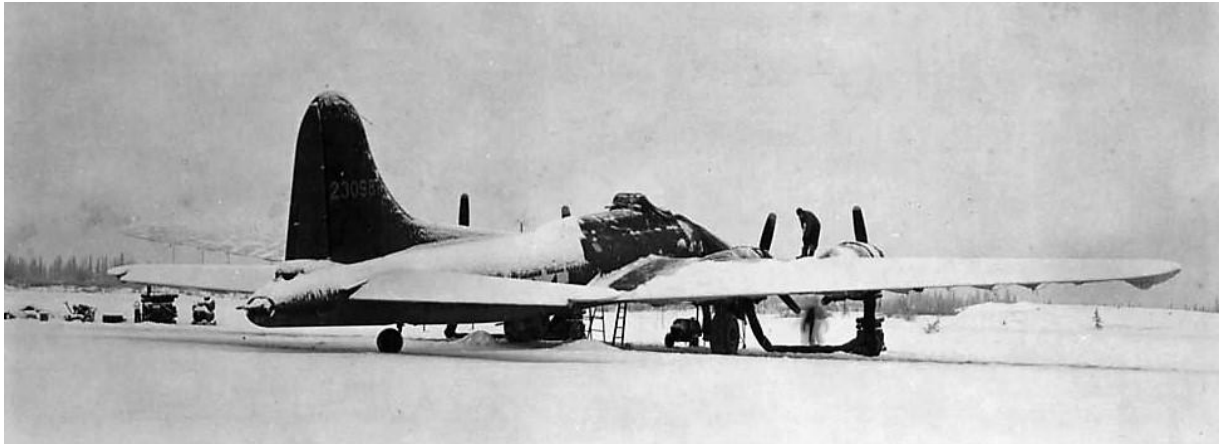
the experiments and subsequent recommendations of C.W.T., the Alaskan Division of the Air Transport Command would never have been able to maintain, on schedule, its delivery of more than 5,000 Lend-Lease planes to Russia over a very hazardous arctic skyway.

The story of the "Cold Nose Boys," as they are known at Ladd Field, is a story of almost four years of hard plugging under severe arctic conditions; a story of general success, with occasional touches of tragedy. It's the story of the struggle to destroy the cold weather Gremlins that were ever present to harass both men and planes.

In that struggle, the Cold Weather Testing Detachment has played a leading and honorable role.

Boeing B-17F, serial 42-30988 in photo, North Star magazine November 1944.





This image of B-17F serial 42-30988 [airmen cleaning snow] appears in the November 1944 issue of North Star magazine taken at Ladd Field, Alaska.





B-17F, serial 42-30988 was Lockheed built, delivered to modification center Love Field, Dallas, Texas, 30 August 1943. Flew 1174<sup>th</sup> Pilot Transition Training School, Lockbourne, Columbus, OH. Had a mid-air with B-17E, serial 41-2547 on 4 November 1943. Possibly arrived at Ladd Field after repairs, and nose art appears to have originated at Pilot Training School. Scrapped Atlas Field, OK, 9 October 1945.

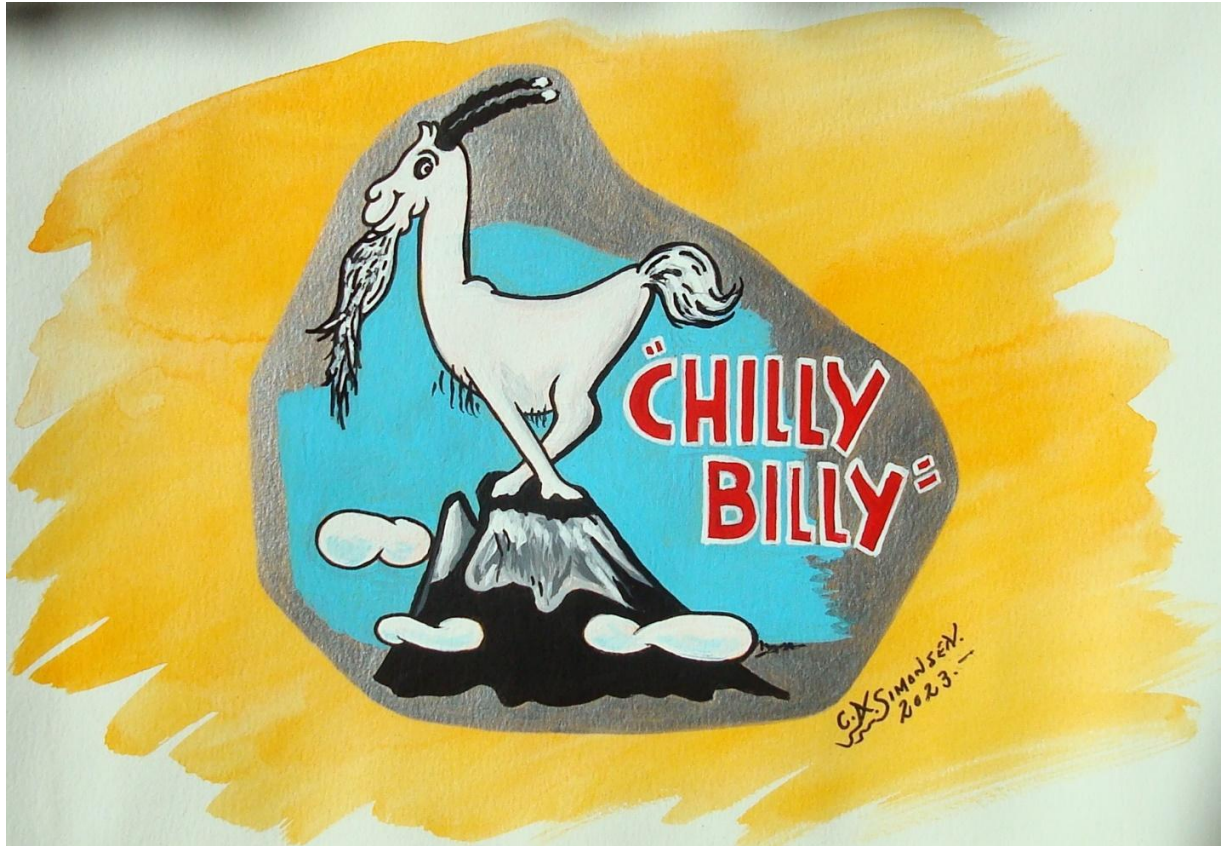


"Patti Anne" flew at Ladd Field, Alaska, wearing yellow [day-glow] engine cowling markings, which was used on the first Boeing "Polar Bear Squadron" B-17B test bombers.



"Chilly Billy" serial 43-38221, Cold Weather Testing, Alaska, 7 February 1945, wearing yellow day-glow cowling markings. [USAAF images from Ladd Field, Alaska]





Boeing B-17G-80-BO, serial 43-38221, "Chilly Billy" delivered Wright Field [testing] 21 July 1944, to Ladd Field, Alaska, 6 December 1944. This "Billy" nose art possibly originated at Boeing Field, Seattle, before it was delivered to Material Command at Wright Field, Ohio.

After Cold Weather Testing, Alaska, assigned former Glider Testing School, Clinton County, Wilmington, Ohio, 1 April 1945. The ex-glider School became a sub-test [Material Command] field for all-weather flying.

Scrapped Jefferson City, Missouri, July 1946, one of 5,437 aircraft purchased by Jefferson City contractor Martin Wunderlich for \$2,780,000 and all were chopped-up. [He paid \$13,000 for a surplus B-17, then drained the U.S. government gasoline, which he sold and recovered part of his original cost]

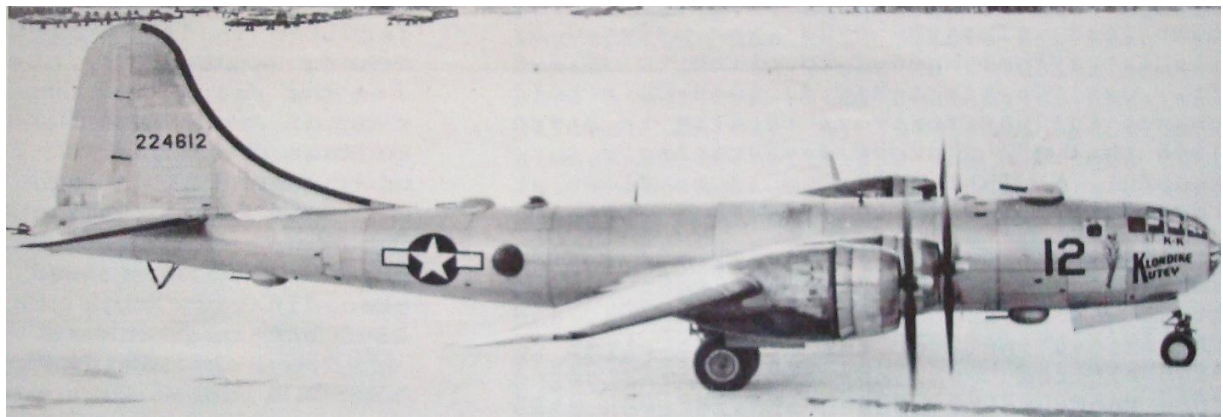


The first B-29 to arrive at Ladd Field for cold weather testing was serial 42-24759 with impressive George Petty nose art from Esquire magazine. Delivered to USAAF 7 October 1944, after testing was assigned to 6 Bomb Group, 24<sup>th</sup> B. Squadron, shot down over Japan 23 May 1945. [Air Technical Service Command data test records image]



[Internet image with serial number showing]





B-29-BW serial 42-24612 was delivered to USAAF 31 July 1944, assigned to the 498th B. Group, 873<sup>rd</sup> B. Squadron. Above is the original Cold Weather Test flight crew at Ladd Field, November 1944, with special Alaska nose art "Klondike Kutey."

The aircraft became a B-29F after testing was completed in April 1945. [Photo part of Air Technical Service Command test data records] The B-25s in background are on delivery ferry flight to Russia.



In May 1944, the USAAF approved construction of a large refrigerated aircraft hangar at Eglin Air Force Base in Florida. The framework had been completed by July 1945, with the first aircraft cold weather testing taking place on 1 May 1947. Cold weather testing at Ladd Field, Alaska, continued until this date, and finally came to an end by 1949.

During WWII, Wright Field, Dayton, Ohio, and Ladd Field, Alaska, served as the two major high altitude test research locations of the USAAF, while a third was also conducting Strato-Chamber research by Boeing engineers at Seattle, Washington. [This Boeing test data was also shared with the USAAF]

In 1940, Boeing constructed a three-ton tank, 12 feet long by 5.5 feet in diameter, which was fitted with pressure-tight doors at each end and divided into two interconnected chambers. One chamber represents the cabin of a Boeing aircraft and the other the outside air pressure which increases with simulated altitude.

In 1941, this Strato-Chamber was enlarged and a new Cold Room test chamber was added where pressure, temperature, humidity, and sub-zero cold weather conditions could be tested on the Boeing aircraft sections.



Actual conditions of operating equipment at 35,000 feet altitude are studied and worked on here.

This image of the "Strato-Chamber" was used by Boeing in many full page ads appearing in major American magazines for 1942.





The Cold Room, sometimes referred to as the Boeing LABRRRRatory, where temperatures as low as  $-80$  F. can easily be reached and held indefinitely.



The Boeing Experimental [Flight Test] organization was involved with developing, proving, and test flying the next production B-17 model, which included high altitude flights.

At least four different test Boeing models were assigned to high altitude testing in 1941, beginning with B-17C, serial 40-2042. [No known nose art] Accepted Boeing Field 21 July 1940, Wright Field, Dayton, Ohio, December 1940 to August 1941. Crashed New Albany, OH, 25 January 1943, killing seven.

The seventh production B-17E, serial 41-2399, was assigned as a test model, November 1941, fitted with a new B-17F nose and a modified smaller rudder for higher altitude test flights.



[B-17E, serial 41-2399 Boeing public domain image]

The pin-up lady was “Nemesis of Aeroembolism” which means the bends, an acute condition caused by a rapid decrease in high-altitude flying by test flight aircrews.

Characterized by the formation of nitrogen bubbles in the blood, causing severe pain in the lungs and aircrew body joints, restricting their flying abilities.

This aircraft conducted extended high altitude flights at Boeing Field, Seattle, and Wright Field, Dayton, Ohio. After each test flight [Over 40,000 ft.] a small “Strato-Gremlin” was painted on the nose, just like a bomb painted for WWII combat missions.

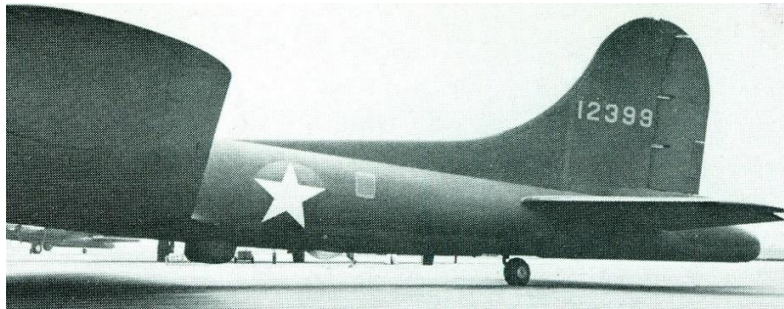
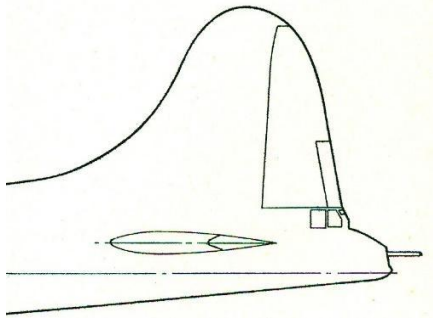


It is possible this original aircraft art was created at Boeing Field in Seattle, however, this has never been confirmed and might remain in Boeing WWII files today.

The lady nose art has been published in at least three sets of model aircraft kits, [with incorrect serial number] while the “Gremlin” rear fuselage [40” inch] art has been omitted.



Boeing 41-2399 “Strato-Gremlin” nose art for every high altitude test over 40,000 feet.



*Note – important for model builders.*

[Left] The final evaluation of the Boeing B-17 tail appeared on the B-17E model, [left] the one-of-a-kind smaller tail modified on B-17E, serial 41-2399, for high altitude testing at Boeing Field.





Talking things over with the Strato-gremlin, members of the Boeing Flight Test Crew prepare to take-off for a flight into the stratosphere.

The B-17E, serial 41-2399 rear fuselage door art with Boeing Test Flight crew 1942. [image from 1943 publication *Flying Fortress* by Thomas Collison, New York] Used by Boeing Flight Test Laboratory and Aero Medical Laboratory at Wright Field, Ohio, 1941 to 1943.

It's impossible to find where the fuselage art originated, but likely Boeing Field, Seattle, where first testing was conducted over 35,000 feet. This test Fortress was stripped of markings and sold by War Assets to Paul Mantz on 19 February 1946.

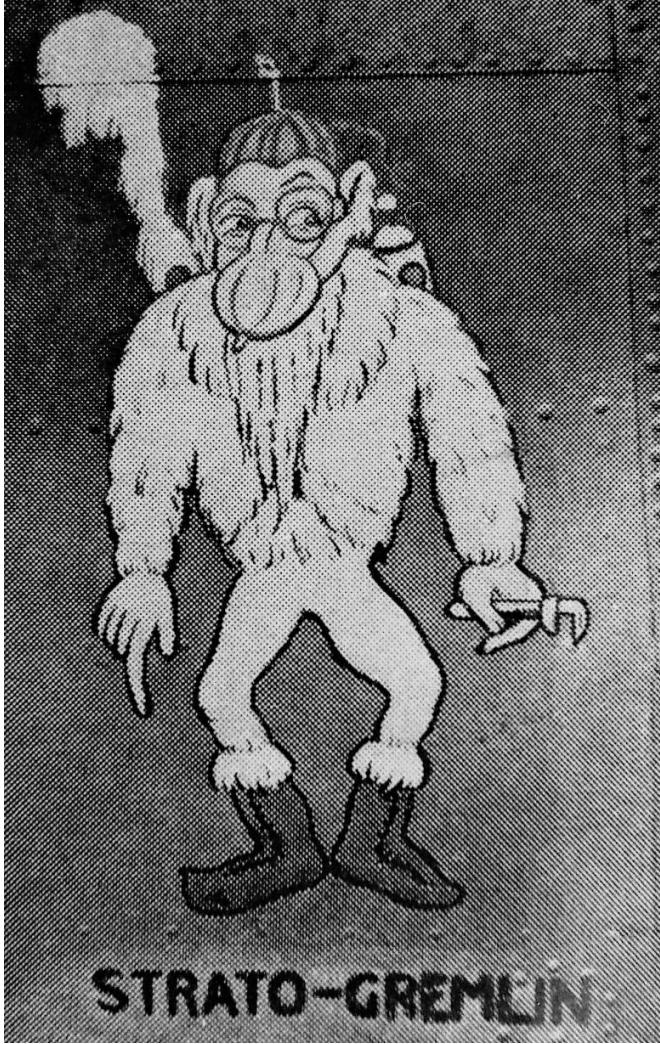






Image from LIFE magazine "Gremlins" 1943 author replica painting

The author believes this same fuselage "Strato-Gremlin" art also flew on a second B-17E [serial 41-2407] which was used by Wright Field, [Material Command] Ohio, and Boeing Test Laboratory, Boeing Field, Seattle, Washington. This artwork was approx. 40 inches in height.



[USAAF public domain online image]

The Air Force test flight crew at Wright Field, Dayton, Ohio, [Material Command] where they conducted extended flights at very high altitude in B-17E, serial 41-2407.

The "Strato-Gremlin" was painted on the nose after each high altitude [40,000 ft. or more] flight. It is believed the same fuselage art of the Strato-Gremlin was painted on 41-2407, however, no photo proof can be found.

First assigned to Material Command, Wright Field, Ohio, where high altitude testing began 1 November 1942. This Boeing aircraft conducted high altitude parachute drops and almost killed Dr. Randolph Lovelace in June 1942, when he jumped from 40,200 feet.

They used rubber dummies for most test drops, then in April 1944, purchased a 145 lb. St. Bernard dog from the Dayton, Ohio, dog pound for \$3.

Poor old "Major" was pushed out at 26,000 feet [wearing his custom oxygen mask] and survived his first test drop, measuring the parachute straps opening shock effects. That's Major in the group photo, and I have always wondered if they painted a dog symbol on the B-17E nose?

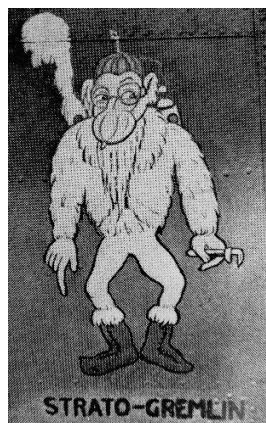




The B-17E “Nemesis of Aeroembolism” was stripped of all paint and stored at Davis-Monthan Field, Tucson, Arizona, 14 August 1946, slated for a museum, then later scrapped.

The Caduceus is the symbol of Mercury in Greek mythology. When Mercury attempted to stop a fight between two snakes, he threw his rod at them, and they both twined themselves around the rod. The rod of Asclepius is the Greek God of Healing and the Medical Association adopted this symbol in 1910.

The Boeing Test engineers possibly painted this special medical nose art for Aero Medical Laboratory staff at Wright Field, Dayton, Ohio, in 1943. The dark haired lady “Aeroembolism” [wearing a gold bathing suit] has been twined by two gold snakes as she stands on her tip-toes over the badge of the Air Forces Material Command at Wright Field, Ohio. It is believed the nose art was painted at the Boeing Test Laboratory just before the aircraft was flown to Material Command, Wright Field, Dayton, Ohio, on her second tour of High Altitude flights in September 1943.



It's possible 41-2407 also carried the rear “Strato-Gremlin” fuselage art.



Author replica nose art image which flew on B-17E, serial 41-2407. The Golden Goddess stands on the badge for Wright Field, Material Command, Test Flight, Dayton, Ohio.





This public domain image records the flight test of the first Boeing B-17F, serial 41-24340, at Boeing Field, 30 May 1942.

On paper the B-17F was delivered to the USAAF, on 20 June 1942, but in reality, it never left Boeing Field at Seattle. This aircraft became Boeing engineer's high altitude, cold weather photo stratosphere testing Flying Fortress named "Shutter Bug."

[Boeing test image showing [top and side] larger modified nose [camera] windows and under nose section for camera]







Staff Photographer Edwin L. Wisherd

#### Air Force Photographers Learned New Tricks in This Flying Laboratory

In the nose a photographer demonstrates how pictures are taken with a huge hand-held camera. "Shutter Bug" is a Flying Fortress specially equipped for experiments in aerial photography and has been flown thousands of miles over the United States and Alaska while her crew tried out photographic equipment.

[National Geographic staff photographer Edwin L. Wisherd]

This image also appeared in the September 1944 issue of National Geographic Magazine, which states the B-17F [41-24340] was also used in Alaska for cold weather high altitude camera testing. The B-17F was assigned to Flight Section, Material Command, Wright Field, Dayton, Ohio, 26 June 1942, however, on this same date it was reassigned back to Boeing Field in Seattle, for Boeing Flight Test aircrews. [Or, maybe to Ladd Field, Alaska?]

The article reports over 35,000 aerial photographs of Alaska had been taken by U.S. Army Air Force and it is possible the "Shutter Bug" was involved. No record of this B-17F can be found in Ladd Field, Cold Weather Testing Detachment, so it was possibly attached to a photo section under Alaska Command. The fate of this B-17F is still unknown as no data records can be located, they are possibly still in Boeing archives at Seattle.





In October 1944, U.S. Camera Publishing Corp., 4600 Diverey Ave., Chicago, Illinois, began a True Camera Comics series, [issue #1] which ran until 1947. Not one issue mentions the story of the Boeing "Shutter Bug" during WWII. [Maybe for security reasons]

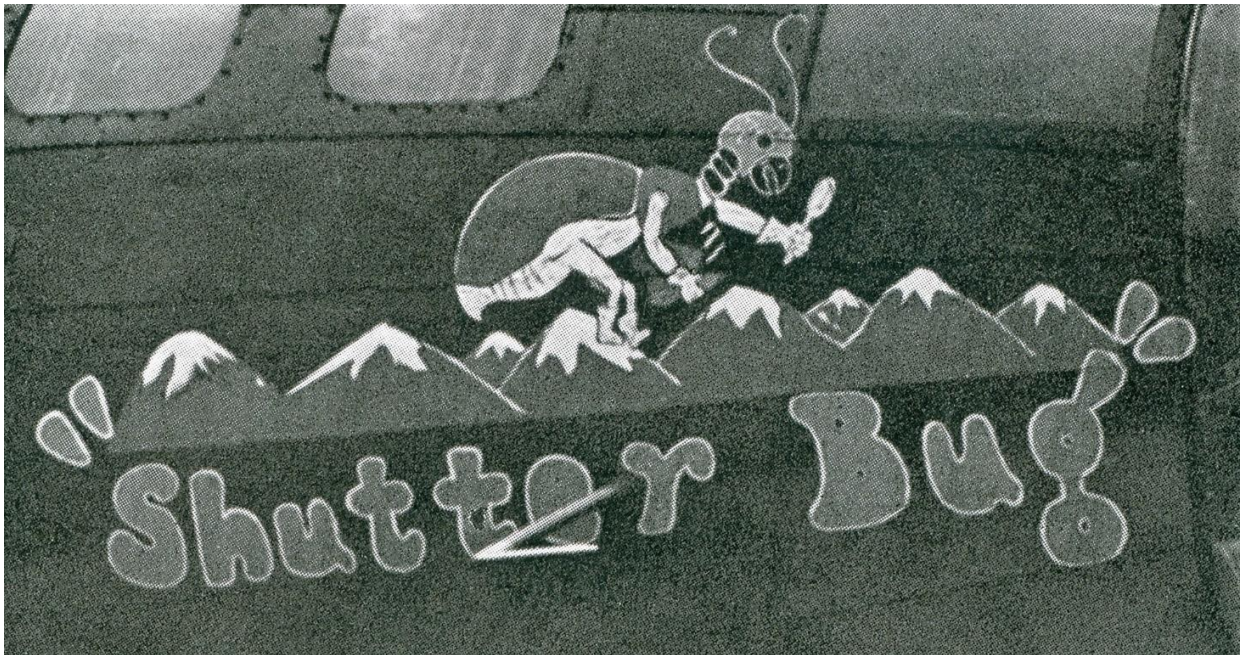






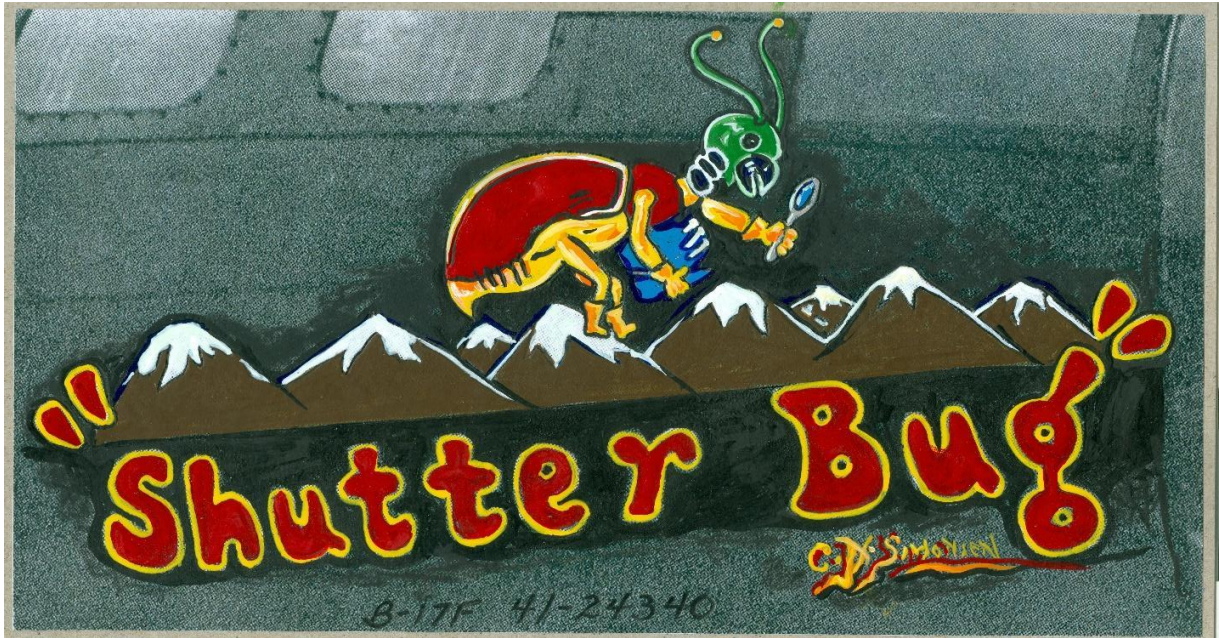


**HOW LOW IS UP?** — Near the stratosphere's altitude of 35,000 feet, where many of our bombers and camera-clicking observation planes operated, it's 85° below zero. Metals shrink, rubber crumbles, men must wear oxygen masks. But even up there Kodak aerial cameras snapped Jap-land, for they had been tested in this Kodak laboratory . . . Engineers made sure that springs, electric motors, plastic parts would keep their life and shape. Kodak science and Kodak tests insure finest photographic products, whether used as weapons of war or tools of peace.



Painted by an unknown artist at Boeing Field, Seattle, Washington, possibly early 1942. This forgotten WWII nose art should join the other Boeing Test aircraft and be preserved for all time.





Replica B-17F, 41-24340 Boeing High Altitude Test Camera nose art by author, original colors are unknown.



This research is dedicated to all Boeing test pilots and test flight aircrews.