

**AFEHRI File 19-2**

**Research Materials/Source Documents**

**FILE TITLE: Aircraft Insignia, Aero Squadrons, and Aircraft**

**Reviewed by:**

**AFEHRI Representative** *J. R. R.* **date** *1 Aug 97*

**EPC Representative** *Jane. Clark* **date** *3 Oct 97*

**Scanner Operator** *Sandra Amador* **date** *3 Oct 97*

**APPROVED BY:** *Gary R. Akin*

**GARY R. AKIN, CMSgt, USAF**  
**Director**  
**Air Force Enlisted Heritage Research Institute**

*File*

The National Insignia for U.S. Military Aircraft

The first form of a national insignia appearing on U.S. Army aircraft was a red five-pointed star adopted by the Signal Corps' Aviation Section in 1916 during the Mexican Punitive Expedition. On 19 May 1917 the United States officially adopted the star in a circle for both Army and Navy aircraft. This national insignia consisted of a red circle inside of a white five-pointed star inside a blue circle, the colors to be the same shades as those of the U.S. flag. After entering World War I, on 11 January 1918 the United States changed the national insignia to match those of the Allied nations. The new insignia was a roundel, consisting of a white circle inside a blue circle inside a red circle. Then, on 30 April 1919 the U.S. national insignia reverted to the red-centered white star within the blue circle. In the 1920s a darker shade of blue gradually came into use, but no further changes occurred in the insignia until the outbreak of World War II.

In 1942 the red center of the star was removed because U.S. pilots often confused other U.S. aircraft with Japanese aircraft, which displayed a red ball symbolizing the rising sun. Some units in the Pacific area and on the West Coast began painting over the red circle of the U.S. insignia, and on 28 May 1942 the Combined Chiefs of Staff ordered its removal from combat aircraft. On 1 June 1942 this requirement was extended to all U.S. military aircraft. On 30 June 1943 the United States added the familiar rectangles on the left and right sides of the blue circle and a red border to outline the entire design, circle and rectangles. However, air units involved in the war against Japan immediately protested the use of red, and on 14 August 1943 the red border changed to blue. On 16 June 1948 the



H. 1922 R.

# Aerospace

## HISTORIAN

The Heritage of Flight



*A Journal of Aviation Lore*



Pilots of the 8th Pursuit Group race to their P-39s during maneuvers in 1941. The designator markings on the fins were replaced by radio call letters late in 1941.

## 'They've Got Your Number'

*A short history of U.S. aircraft markings beginning with the Wright Flyer.*

By Charles G. Worman

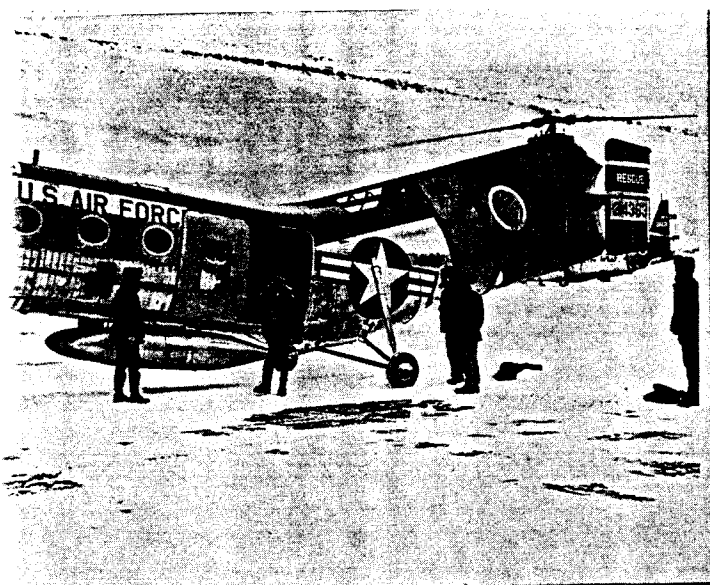
Numerous styles of national insignia, markings, and color schemes have been displayed on aircraft used by the U. S. Air Force and its predecessor organizations during the half century following the appearance of the JN3 *Jennies* along the Mexican border in 1916.

Beginning with the Army's first airplane, Wright Flyer, Signal Corps Airplane No. 1, in 1909, until our nation's entry into World War I, the Army

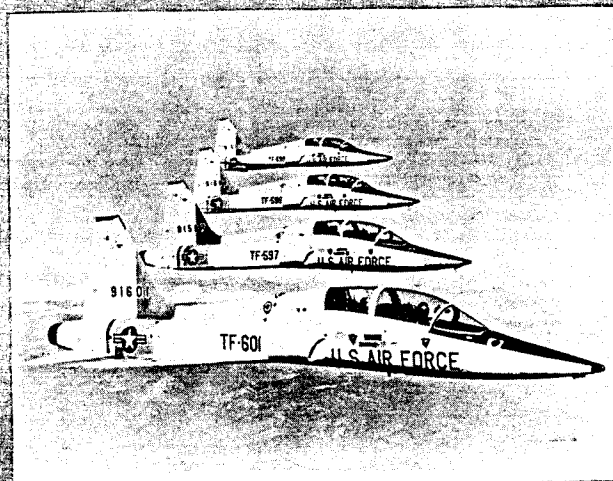
ordered and received only a few hundred planes. These aircraft appeared in clear finish and were usually marked with consecutive serial numbers allotted by the Signal Corps' Aviation Section. These serials were the only official markings and were displayed conspicuously in black in various positions. For example, on No. 28, a Burgess "H" model, the number was located well forward on the fuselage, but on airplane No. 30, a Curtiss



*Charles G. Worman received degrees in American history (BA, 1956—MA, 1957) from Ohio State University and then spent the following four years with private industry in the production control field. In 1961 he entered government service and has been employed by the Air Force since that time. Three years spent as a historian with the Aeronautical Systems Division at Wright-Patterson AFB prior to joining the Air Force Museum as a historian in the Research Division. He has written many semi-annual histories, a monograph recounting the development of the GAM-72 Quail decoy missile and a history of the GAM-87 Skybolt program.*



Markings on this H-21 helicopter and SA-16 in the background provide a vivid contrast with the snow-covered landscape.



Bands of fluorescent paint about the fuselage and wing tips displayed by these T-38 jet trainers lessened the chance of mid-air collisions.

JN1, it appeared on the rudder. Understandably, Signal Corps Airplane No. 1 did not carry a number, although the crossed flag insignie of the Signal Corps was painted on its rudders after it arrived at Fort Sam Houston in Texas in February 1910.

The next use of a distinguishing mark on Army aircraft apparently occurred during Pershing's Punitive Expedition into Mexico in 1916. Since the service's activities prior to the Mexican campaign had been limited to intra-country operations, little need for an identifying insignie for Army planes had previously existed. Various photographs of some of the *Jennies* used by the 1st Aero Squadron on the border prove that a five-pointed star was painted on their rudders.

A design, approved in War Department Stencil No. 2 on May 19, 1917, consisted of a white five-pointed star centered in a circumscribed blue circle, equal in diameter to the chord of the wing on which the insignie was placed. A red circle occupied the center of the star but missed touching the inner star points "by an amount equal to

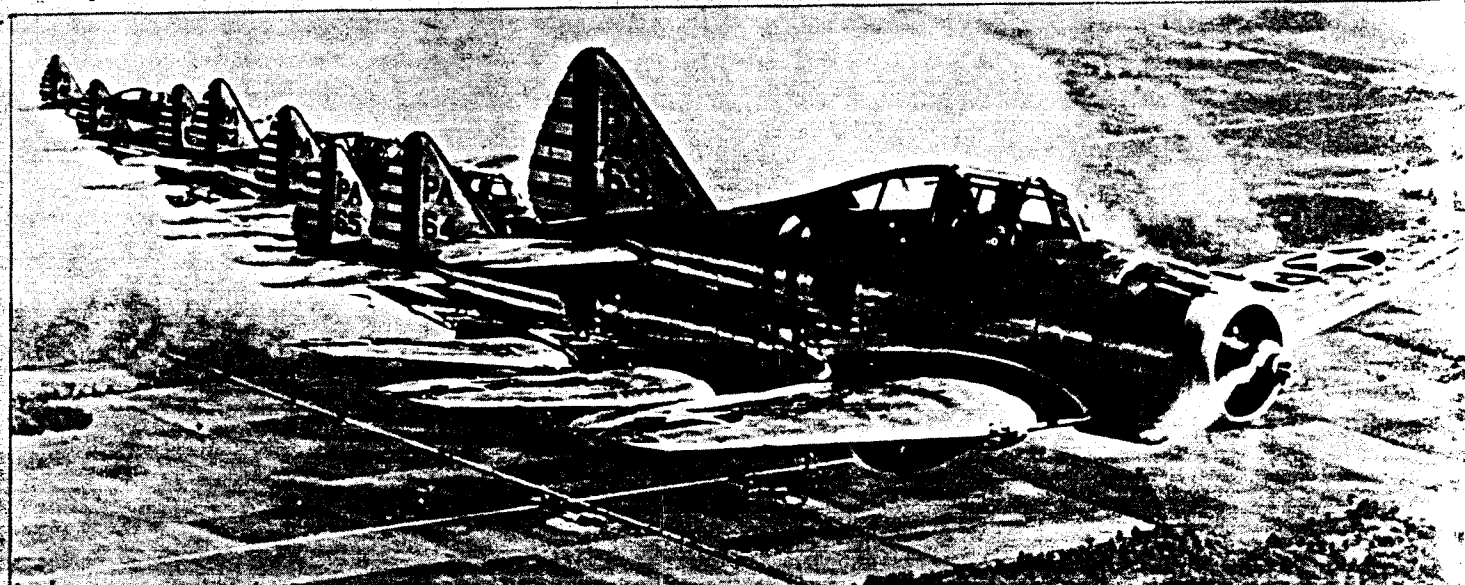
1/24th of the diameter of the circumscribed circle." Colors used were to be the same as those appearing in the American flag. The stencil also prescribed the location for the newly adopted insignie. It was to be placed on the upper surface of each upper wing, positioned so that the circumference of each circumscribed circle just missed contact with the wing aileron. Lower wings bore similar markings on their undersurface.

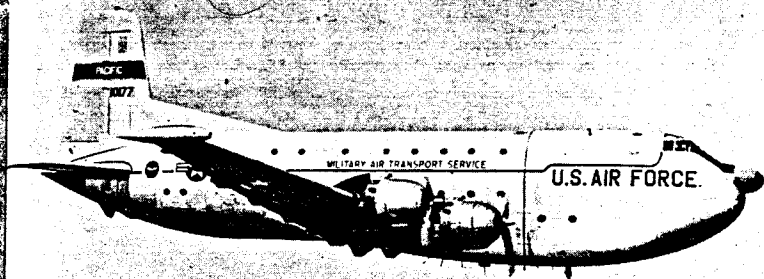
#### COL. MITCHELL OBJECTS

Objections to the new insignie design came from Col. William (Billy) Mitchell, named by General Pershing to command the A. E. F.'s Air Service, Zone of the Advance. Colonel Mitchell recommended the use of three concentric circles, similar to the national insignia on British and French aircraft, but with a different sequence of color.

The suggestion had merit since quick, certain identification of airplanes in combat was a life and death matter, particularly during periods of poor visibility. The adoption of Colonel Mitchell's

The lead P-35 is the 69th aircraft of the 1st Pursuit Group. Two parallel fuselage stripes designate the squadron commander's plane. The front edge of cowlings were painted either red, white, yellow or blue.





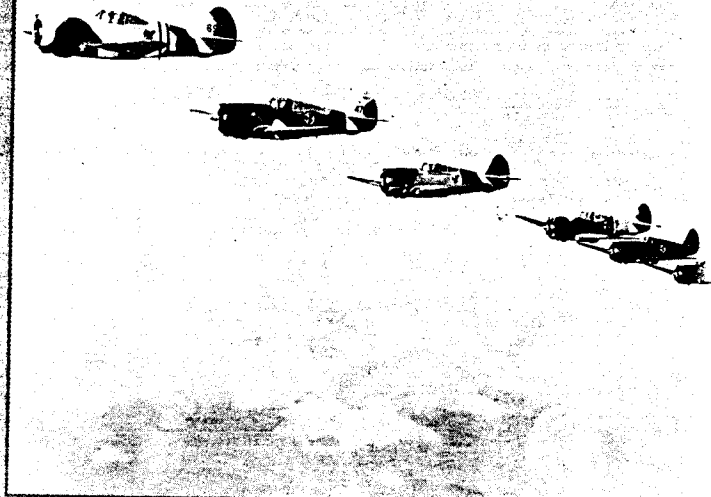
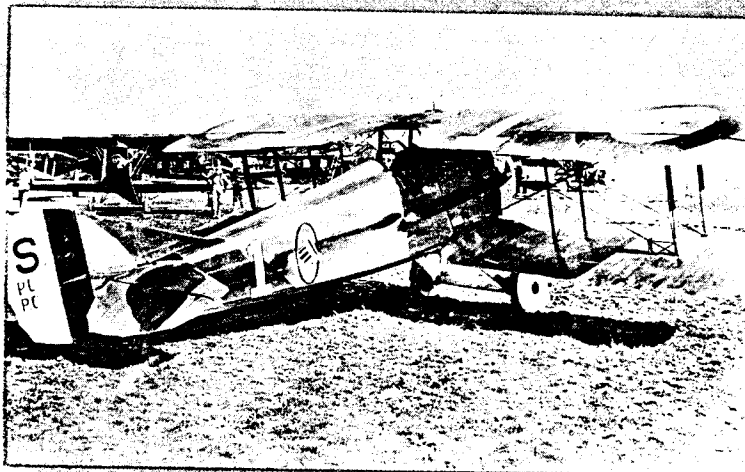
A white cap painted on this C-124 was authorized to reduce cabin temperature.

idea would standardize Allied markings as tri-color cocardes, while color variations would serve as distinguishing marks for the various Allied nations. German airplanes and those of her allies, Bulgaria and Austria, were identified by formee and Greek crosses.

On Jan. 11, 1918, the Joint Army and Navy Technical Aircraft Board did adopt a new insigne for aircraft manufactured in the United States for the Army and Navy. Wings were to bear a red circle with a diameter approximately equal to the chord length, an inner blue circle two-thirds the length of the chord, and a center white circle one-third the chord length in diameter. General Order No. 299 dated Feb. 8, 1918, specified that the wing marking should appear on the upper wing so that the outer circle "just misses contact with the wing flap." Insignia were to be placed in a corresponding position on the underside of the lower wing. In March, the size of these wing markings was limited to a maximum diameter of 60 inches.

A bulletin issued by the Air Service on May 7,

Rickenbacker's camouflaged Spad XIII bears the numeral "1" on wing and fuselage. This was to identify it as the number one aircraft in the squadron.

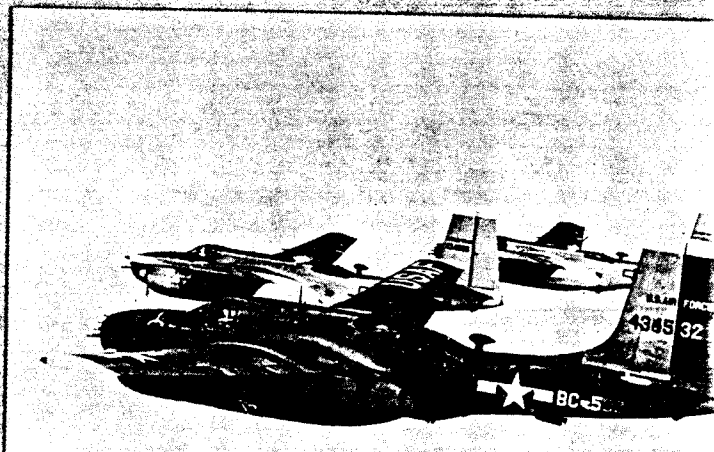


1st Pursuit Group P-36s display a variety of camouflage during maneuvers prior to World War II.

1918 outlined other standard markings that were to be applied to combat aircraft in Europe. All planes in a squadron were to be numbered serially, from one to 19 in black on both sides of the fuselage near the stabilizer, on the upper right wing's top surface, and on the underside of the lower right wing. A later memo dated June 28, 1918 stated: "All planes in a squadron shall be numbered . . . in yellow or red." Each squadron would have an official insigne painted on the middle of each side of the fuselage. Squadrons were to design their own insigne during the period of organizational training. In addition, the planes in some squadrons displayed on the upper side of the top left wing and underside of bottom left wing a stripe or series of stripes of any color as specified by the group commander to facilitate recognition by pilots of the same squadron from above and below.

Six months after the signing of the Armistice, the Secretaries of the Navy and War agreed to resume the use of the original national insigne on

B-26s return to Japan following a strike against Communist positions in Korea. The letter type designation on the fuselage identifies the aircraft as to type (BC for B-26).



United States military aircraft, the star in the circle. On each upper and lower wing, the circumference of the blue circle was to be tangent to the wing tips. One point of each star would point forward and unless otherwise specified, the insignie diameter would be 60 inches. Rudder markings would be the familiar three vertical bands, with blue nearest the rudder post.

The return to the start insignie was not immediate. All aircraft already constructed would continue to employ the "three circle" design, but all planes delivered after May 17, 1919, which were not already marked would carry the star insignie. The change would be effective on all planes not later than Jan. 1, 1920. Although the Armistice had been signed six months earlier, the order contained the restriction that under no circumstances would the star be used on aircraft stationed in Europe "until after the end of hostilities."

### NO CHANGE FOR 23 YEARS

During the years of uneasy peace between 1918 and 1941, no change in the basic star insignie appeared, although succeeding Air Corps specifications frequently noted minor changes in position and size. On Jan. 21, 1926, the diameter of the wing insignie was fixed at three-fourths of the available chord length at the location of attachment, with a maximum size of 60 inches. Available chord length was defined as the whole chord on wings without ailerons and the chord length from the aileron cut-out to the leading edge on wings with ailerons. The insignia were positioned tangent to the cut-out on wings with ailerons; on those without, the insignie center fell midway of the chord. Later specifications required that the marking on fabric and metal covered wings be placed on the metal covering, tangent to the point between the two materials. Subsequently, the location for the emblem's center was specified as a distance from the wing tip equal to one-sixteenth of the wing span on straight wings and one-eighth of the wing span on tapered wings. The outside edge of the blue circle was not to approach the wing tip closer than six inches.

By mid-1940, all Air Corps aircraft were ordered marked with designators in black or in yellow on camouflaged airplanes. The unit identifying number was followed by a letter or letters designating the type of aircraft, followed by a number assigned by group and station commanders or by higher authority to designate a particular airplane. For example, 9B1 and FAD1 identified the first aircraft of the 9th Bombardment Group and Fairfield Air Depot, respectively. For uncamouflaged aircraft, the black designator appeared on each side of the vertical stabilizer in two lines, such as 12-31P to represent the number 12 aircraft of the 31st Pursuit Group. On camouflaged aircraft, the designator utilized the necessary area of both the vertical stabilizer and rudder. The designator appeared in one line on the upper and lower sides of the left wing on monoplanes, or on the upper side of the

left upper wing and undersurface of the lower left wing on biplanes. An airplane identification number also appeared on the engine cowling or on the forward portion of the fuselage. On Oct. 28, 1941, radio call letters replaced the formed designator symbols.

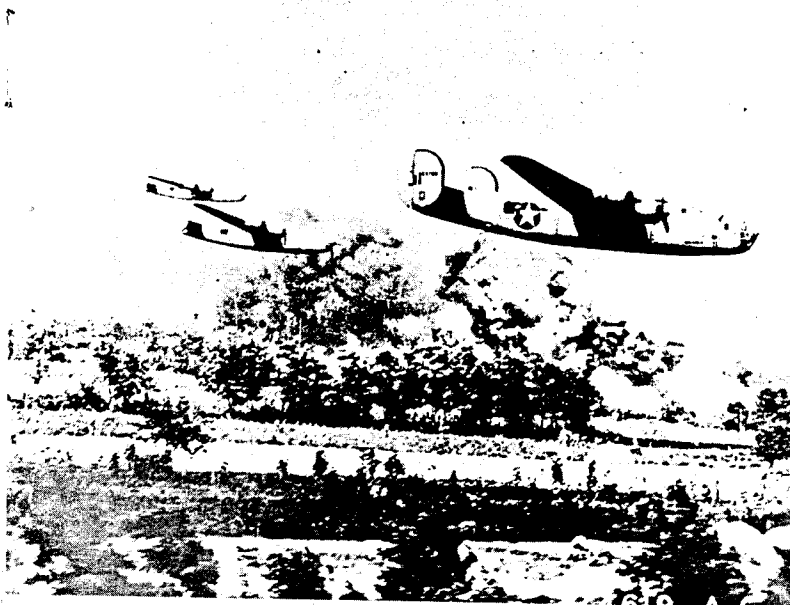
These call numbers consisted of at least four numerals, the first being the last digit of the year in which the airplane was ordered followed by the serial, using zeros when necessary to make up the minimum number of digits. The radio call number of an airplane produced in 1942, having serial number 42-7 thus would be 2007; while the call number of aircraft 42-5434 would be 25434. The figures were to be of sufficient size so they could be seen from a distance of 150 yards. Radio call numbers also were placed on the underside of the wings on aircraft operating solely within the continental limits of the United States during the early 1940's. Local using agencies were given latitude in determining the size and placement on the wings, but call numbers were not required on primary trainers which were not equipped with radios and which bore field identifying numbers.

Experience under combat conditions early in the war revealed the inadequacy of the existing national insignie. To reduce the possibility of confusion between the star insignie and the red "meatball" used on Japanese airplanes, the red center was eliminated from the national insignie on United States combat planes on May 28, 1942. At the same time, officials ordered that no insignia should be placed on the rudders of combat aircraft, although the original star design and rudder markings were retained temporarily on trainers. Some A-20 aircraft were observed late in 1942 still displaying rudder stripes although these had been abandoned officially.

### RED ELIMINATED

On Aug. 14, 1943, red was completely eliminated from the national insignie for the remainder of the war, when a blue border was substituted for the red outline. On the same date, dimensions for fuselage insignia on night fighters such as the P-61 *Black Widow* were limited to a 25-inch maximum diameter and all wing insignia on these specialized aircraft fixed at a 25-inch size. Specifications also noted that while fuselage insignia on all aircraft might extend over doors and emergency exits, an insignie was not to overlap windows or openings used during combat which might alter the marking's pattern. On Dec. 26, 1943, the AAF's Training Command received authorization to omit fuselage insignia if there was insufficient space for both the national emblem and necessary field identification numbers.

The short span of peaceful years between World War II and the Korean Conflict brought other alterations in aircraft markings. After June 10, 1946, the insignia blue circle and border surrounding the star insignie were omitted when these markings



B-24s flying over the Ploesti oilfields Aug. 1, 1943. They were finished in "sand" color for desert service with a yellow insignie border.

were placed on a sea blue, dark blue or a black background. The adoption of the present national emblem took place on Jan. 14, 1947, with the addition of a red horizontal stripe centered in each of the white rectangles at each side of the blue circle. The width of the stripe equalled one-sixth of the star's radius. Once again the marking bore the three colors of the nation's flag. As during the previous decades, dimensional limits changed occasionally after the selection of the tri-color "star and bar" marking.

Swept-wing fighters employed during the Korean Conflict appear in photos displaying wing insignia with one point of the star pointing directly forward. A specification change dated Sept. 15, 1954, assured uniformity as it outlined the procedures for proper alignment. Henceforth, a line through the top point and the star's center would be perpendicular to a line formed by the constant 50 per cent chord line of the wing which passed through the center of the star.

The difficult task of locating aircraft forced down in snow-covered areas was eased somewhat by the use of a special color scheme during the 1950s for most aircraft assigned to operate during any part of the year in or through any portion of the cold weather area outside the zone of the interior. Insignia red paint applied to the upper and

lower surfaces of the outer wing sections covered 25 per cent of the wing span while the entire aft portion of the fuselage from the tip of the tail forward for about one-fourth of its length was similarly painted. Red stabilizers completed the colorful yet functional appearance. After mid-1959, fluorescent paint was authorized to replace the insignia red enamel or lacquer.

#### UNIQUE MARKINGS

Air attache planes bore unique markings as did search and rescue aircraft. The standard marking for the former was an American flag painted on both sides of the vertical stabilizer. Since the World War II period, search craft were identified by orange-yellow areas outlined in black on wings, fuselage and tail and black "RESCUE" markings. Until Mar. 25, 1965, Air National Guard aircraft bore special markings, but after that date they were authorized to display standard Air Force markings and finishes.

Between June 1957 and May 1958, 1,600 aircraft assigned to the Air Training Command received conspicuity markings as part of a test program designed to lessen the frequency of mid-air collisions. These planes were marked with "blaze orange" fluorescent paint on tails, nose and wing tips. With certain exceptions, after May 11, 1959, all USAF aircraft were to receive conspicuity markings consisting of four or six-foot bands about the nose, aft fuselage and wing tips or center line tip tanks or pods. Those exempted included active combat force strike aircraft, helicopters, century-series fighters, and delta wing aircraft. Air attache, Military Assistance Advisory Group and Air Force liaison aircraft were later exempted, also. Experience revealed that the fluorescent red-orange color offered approximately a 25 per cent increase in service life over the fluorescent yellow. Although planes bore these dashing red-orange markings for several years, the paint was hurriedly removed from those aircraft alerted during the Cuban crisis in 1962.

Specific Air Force wing markings had not been authorized since the service's elevation to departmental status in July 1947. Service markings were restored on May 16, 1955 with "USAF" appearing on the lower surface of the left wing and again on the upper face of the right, thus balancing the placement of the "star and bar" insignia on the wings. The height and location of these letters were to correspond as far as possible with the national star insignie appearing on the opposite wing. On aluminized finishes, these letters were to be painted in blue or black, in red paint on black surfaces, and in white on red drone aircraft. Using a similar color arrangement, "U. S. AIR FORCE" was added to each side of the fuselage with the aircraft's configuration dictating the position as outlined in the specific technical order for each aircraft model. The size and location of the letters were to be the same on all aircraft of the same model, however. Serial numbers and the model




designation with the words "U. S. AIR FORCE" stenciled in one-inch letters continued to appear on all Air Force planes on the left side of the fuselage near the pilot's compartment.

Radio call letters had first appeared in 1941 on Army Air Corps planes; their use continued into the 1960's. By 1955, the minimum number of numerals had been increased from four to five. "O-" placed before the first number identified an aircraft that was older than 10 years and precluded duplication of call numbers. After July 15, 1959, the number of digits was set at five, being the last five figures of the serial number. This marking reflected the last figure of the contract year only if the serial number consisted of fewer than five numbers. The technical order no longer exempted primary trainers from the requirement to display call numbers; use of the "O-" on older aircraft continued. Throughout this period, rotary-wing aircraft bore their call numbers on the fuselage.

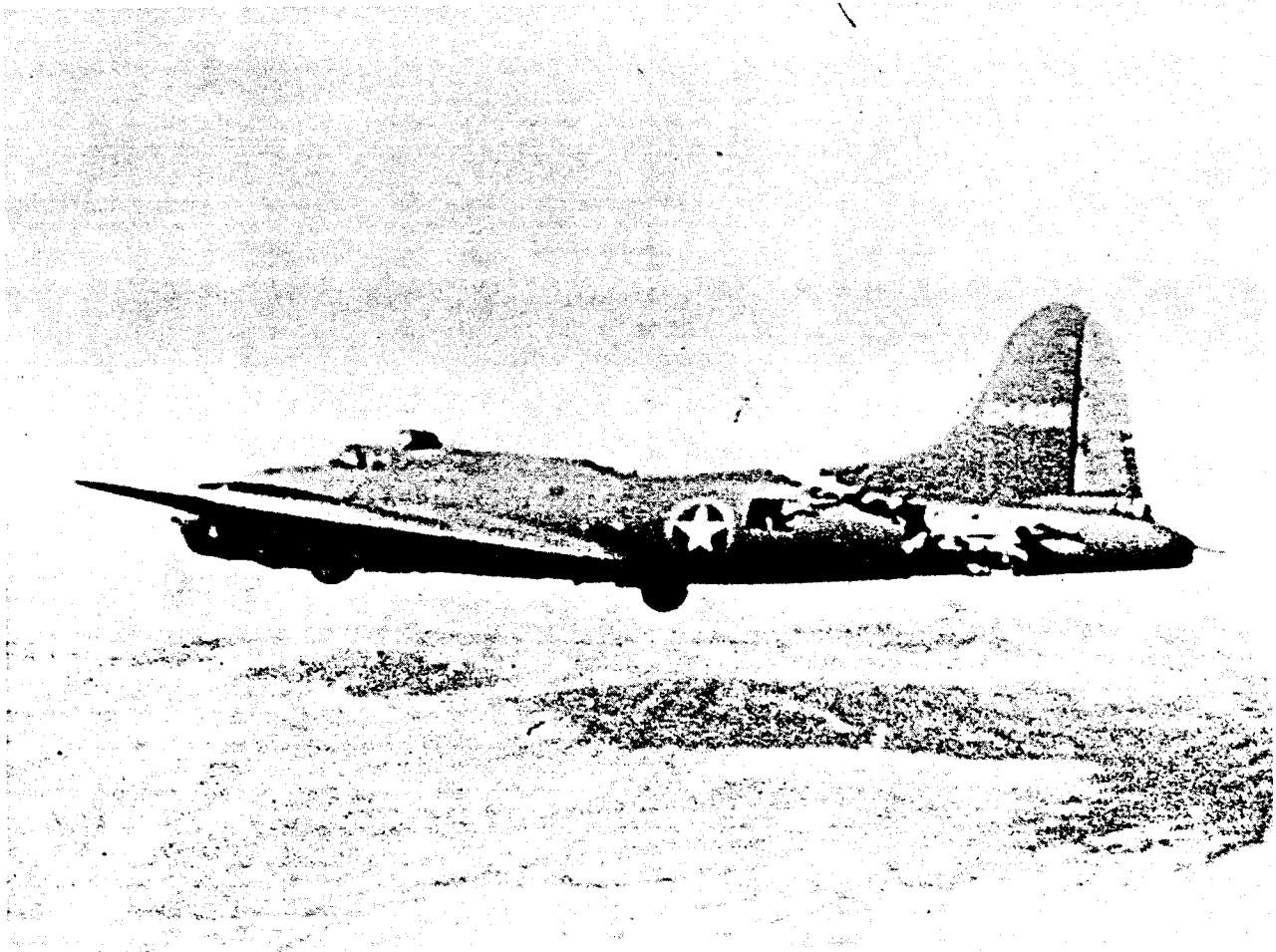
Air Force missiles normally carried the same national markings as did their manned counterparts, although their configuration obviously demanded variations in placement and size. Missiles with wings or guide vanes, such as the *Bomarc*, displayed the national insignia on the top left and lower right wing surfaces. When a missile's configuration permitted, the national insignia was placed midway between nose and tail and "U. S. AIR FORCE" one-eighth of the overall missile length from the nose. The Air Force authorized

the elimination of the national insignia from the fuselage after Oct. 30, 1959, if there was not enough space for the emblem and the "U. S. AIR FORCE" markings.

Fuselage insignia on horizontally viewed missiles were to be positioned so that a line through the top star point and the insignia's center was perpendicular to the missile's longitudinal line. Vertically viewed missiles, those seen in an attitude of 60 degrees or greater to the horizon, were marked with "U S AIR FORCE" (without periods) as near to the nose as practical. The national insignia was to be located so that a line through the top star point and the center of the design would be parallel to the missile's longitudinal center line.

All markings except for the serial number were eliminated from operational ballistic missiles in 25 and 100 pounds per square inch hardened configurations following a Jan. 8, 1961, change to the technical order covering aircraft and missile markings. These same missiles were to carry all identification markings when on public display and in parades, or when appearing in publicity photos and in training films, however, this order was extended on Jan. 6 1965 to eliminate all missile markings except for serial numbers and engine warning stripes. Those used for display, training or publicity purposes would continue to bear all Air Force identification markings including the national star insigne. 

This B-17 miraculously brought its crew home without injury after colliding with a German fighter in 1943. The fuselage insigne is outlined in yellow to facilitate recognition.



Feb 1925

long ago as the country's leading ace in the army."

Eighteen enemy planes were brought down within seventeen days by this youngest of aces, a record unparalleled in aviation history. When he died fighting single-handed a column of infantry, he was the leading American ace.

Seldom before has there ever been collected so varied a group of insignia as those representing the aero squadrons. They even outdo in imaginative creation the insignia of the combat divisions. Small wonder that the Boche aviators were filled with an unholy terror when they saw Mr. "Jiggs" of the Eleventh Squadron flying towards them with a bomb under his arm.

The originals of the insignia designs are on file in the library of the Bureau of Aeronautics of the War Department, just as they were sent from the front. All of them are the work of artists of the various aviation groups, some of them roughly scrawled, others cleverly drawn in pen and ink or painted with brush. Not a few are

drawn on the camouflaged canvas covering of the plane.

Under War Department orders, these insignia are for use only on planes and on baggage for the purpose of distinguishing different squadrons and not worn as shoulder insignia by individuals.

Whatever may be the future of the American air service under the army reorganization plans of Congress, the insignia of the combat squadrons of the American Expeditionary Forces will tell the story of how American aviators set a pace for the best of Europe.

They had "just begun to fight" when the signing of the Armistice ended their short but eventful record.

The War Department has compiled a statement giving a brief history and the military record of each squadron whose insignia is reproduced in these pages: The insignia selected for the First Aero Squadron is the American flag. The records of the various squadrons with description of the insignia are as follows:

First: The First Aero Squadron was organized and operated as a Corps Observation squadron. It arrived on the Front at Ourches, April 4, 1918, and was assigned to the First Corps April 8, 1918. The First was engaged in the operations in the Toul Sector, Chateau-Thierry, St. Mihiel and the Argonne-Meuse first and second offensives, and after the Armistice it was assigned to the Army of Occupation on November 20, 1918. This squadron suffered 26 casualties, consisting of 15 killed, 8 wounded, 2 prisoners and 1 missing.

Having engaged in 94 combats it was officially accredited with having shot down thirteen enemy



1ST AERO SQUADRON

aircraft. The First Air Squadron was a continuation of the First Squadron in the United States Air Service beginning its service on the Mexican border.

Eighth: The insignia for the Eighth Aero Squadron is a great American eagle, with the wings spread, holding the American Liberty Bell.

The Eighth Aero Squadron was of the Corps Observation type. It arrived on the Front at Ourches on July 31, 1918, and was assigned to the Fourth Corps, Observation Group, First Army, on August 14th. The Eighth was engaged in the

operations in the Toul Sector, Chateau-Thierry, St. Mihiel, and the Argonne-Meuse first and

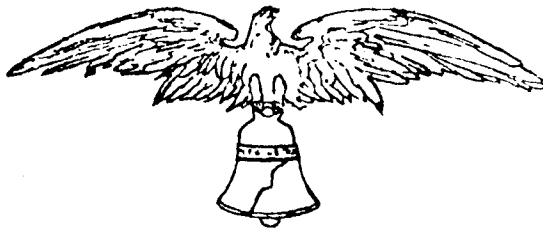
## INSIGNIA OF A. E. F. AERO SQUADRONS

second offensives, terminating its work on February 5, 1919. It suffered twelve casualties, consisting of 4 killed and 8 prisoners.

*Ninth:* The insignia for the Ninth Aéro Squadron is a silhouette showing the beams

three search-lights pointing upward and forming the numeral IX.

The Ninth Aéro Squadron was organized as a night observation squadron. It was assigned to

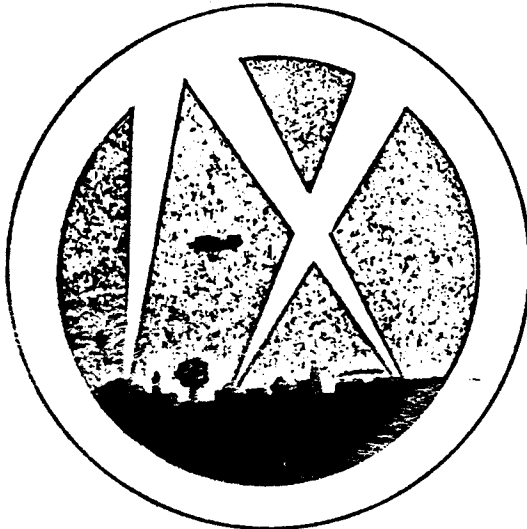


8TH AERO SQUADRON

*Eleventh:* The Eleventh Aéro Squadron is represented by a cartoon of Mr. "Jiggs" carrying a bomb under his arm.

The Eleventh Aéro Squadron was a day bombardment squadron assigned to duty in

the First Day Bombardment Group, First Army, on September 5, 1918. It had already reached the Front at Delouze on August 26th. The Eleventh was engaged in the operations at St. Mihiel and



9TH AERO SQUADRON



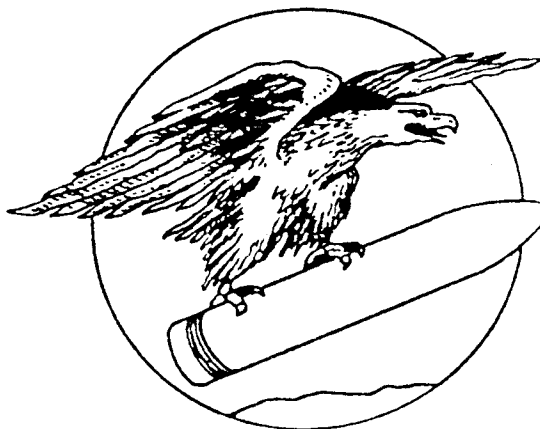
11TH AERO SQUADRON

the First Army Observation Group, August 26, 1918, and reached the Front at Amanty on August 28th. The Ninth was engaged in the operations at St. Mihiel, and the Argonne-Meuse first and second offensives. During this time it made 70 reconnaissances into the German lines, engaged in numerous combats but never received official confirmation for any victories. It received its demobilization orders on May 1, 1919. The squadron suffered six casualties, consisting of 1 killed, 4 wounded and 1 prisoner.

the Argonne-Meuse first and second offensives. It made 32 bombing raids, engaged in 17 combats and received official confirmation for 13

victories. It ceased operations December 11, 1918. The squadron suffered 20 casualties consisting of 10 killed, 1 wounded, 8 prisoners and 1 missing.

*Twelfth:* The Twelfth's insignia is given. The Twelfth Aéro Squadron was a Corps Observation squadron. It was assigned to the First Corps on April 30, 1918, and three days



12TH AERO SQUADRON

later, May 3rd, reached the front at Ourches. This squadron was engaged in the operations in the Toul Sector, at Chateau-Thierry, St. Mihiel and the Argonne-Meuse first and second offensives. During its long period of activity it engaged in numerous reconnaissances, fought many combats and received con-

firmation for three victories. The Twelfth suffered heavy casualties, consisting of 8 killed, 9 wounded, and 4 prisoners. It received its demobilization orders April 1, 1919.



17TH AERO SQUADRON

*Thirteenth:* The insignia for the Thirteenth Aéro Squadron shows the figure of death depicted by a skeleton running at full speed with a bloody scythe in his hand.

The Thirteenth Aéro Squadron was a pursuit squadron. It was assigned to the Second Pursuit Group, First Army, on June 28, 1918, reaching the Front the same day. It engaged in the operations in the Toul Sector, at Chateau-Thierry, St. Mihiel, and the Argonne-Meuse first and second offensives. During this period it made 179 patrols and war missions, fought 89 combats and received official confirmation for 29 victories. It ceased operations on December



13TH AERO SQUADRON

5, 1918. The Thirteenth suffered 13 casualties, consisting of 5 killed, 1 wounded and 7 prisoners.

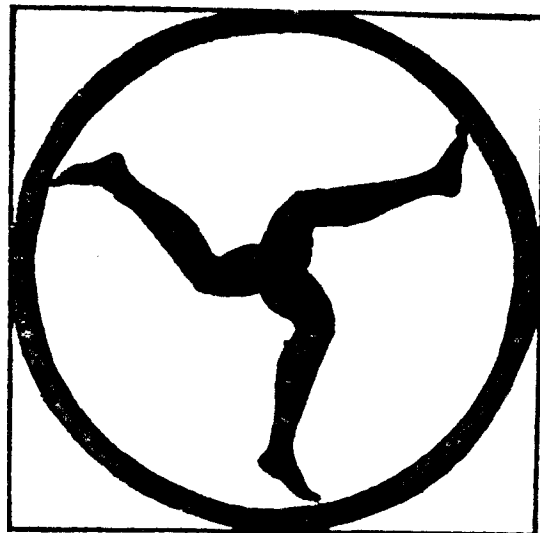
*Seventeenth:* The insignia for the Seventeenth Aéro Squadron is the great snow owl flying through the air ready to pounce upon the enemy.

The Seventeenth Aéro Squadron was a pursuit squadron, as-

signed to the Second Army on November 4, 1918, and reached the American Front at Toul on the same day. This squadron had been assigned first to the Royal Air Force on July 15, 1918, and had operated with them until November. During its period of activity it had engaged in 110 combats, and received official confirmation for 54 victories. The Seventeenth ceased operations December 11, 1918. Since July it had suffered 24 casualties, consisting of 10 killed, 5 wounded, 7 prisoners and 2 missing.

*Twentieth:* Three legs in a circle arranged in pinwheel fashion comprise the insignia adopted by the Twentieth Squadron; it is unofficial.

The Twentieth Aéro Squadron was a day bombardment squadron. It was assigned to the



20TH AERO SQUADRON

## INSIGNIA OF A. E. F. AÉRO SQUADRONS

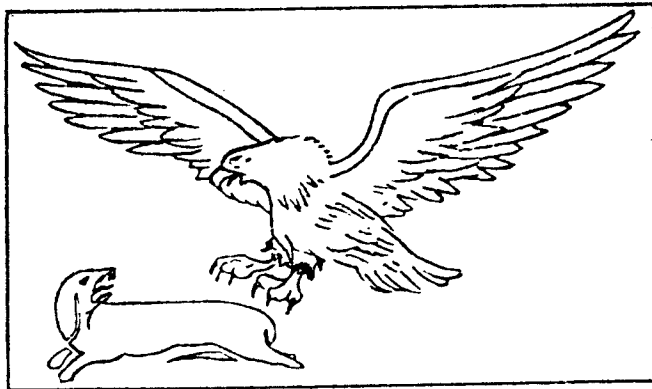
First Day Bombardment Group, First Army, on September 5, 1918, and reached the Front at Amanty two days later. It was engaged in the operations at St. Mihiel and the Argonne-Meuse first

and second offensives. It carried on numerous bombing raids into German territory, engaged in eleven combats and received confirmation for eleven victories. The Twentieth received demobilization orders on December 11, 1918. This squadron suffered 25 casualties, consisting of 13 killed, 3 wounded, 8 prisoners and 1 missing.

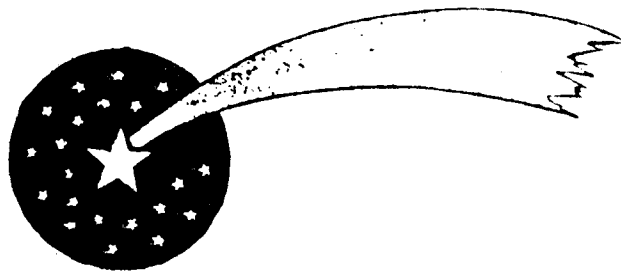
*Twenty-second:* A number of stars in a ring with a large star with a tail, evidently a comet, superimposed, represents the 22nd Aéro Squadron.

The Twenty-second Aéro Squadron was a pursuit squadron. It reached the Front at Toul on August 16, 1918, and on August 22d was assigned to the Second Pursuit Group, First Army. It was engaged in the operations in the Toul Sector, at St. Mihiel, and in the Argonne-Meuse first and second offensives. During its period of activity it performed 117 patrols and war missions, fought 90 engagements, and received official confirmation for 46 victories. It ceased operations April 4, 1919. It suffered 9 casualties, consisting of 6 killed, 2 prisoners and 1 wounded.

*Twenty-fourth:* The Twenty-fourth Aéro Squadron is represented by an American eagle pouncing upon the German dachshund which is running away with its tail between its legs.



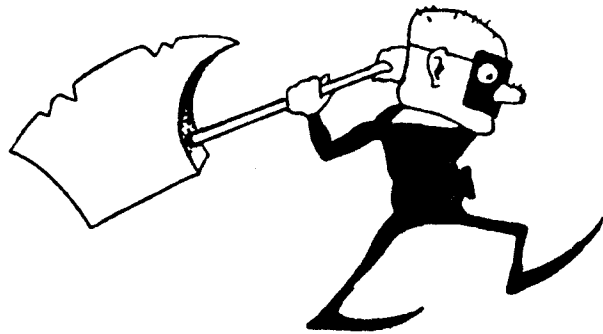
24TH AÉRO SQUADRON



22D AÉRO SQUADRON (UNOFFICIAL)

The Twenty-fourth Aéro Squadron was an Army observation squadron. It was assigned to the first Army Observation Groupon August 14, 1918, and reached the Front at Condeville on August

22d to take part in the operations at St. Mihiel and the Argonne-Meuse first and second offensives. Before the Armistice it had carried out more than 80 reconnaissances, fought 54 combats and received official confirmation for 12 victories. The squadron suffered 7 casualties, consisting of 1 killed, 1 wounded, 3 prisoners and 2 missing.



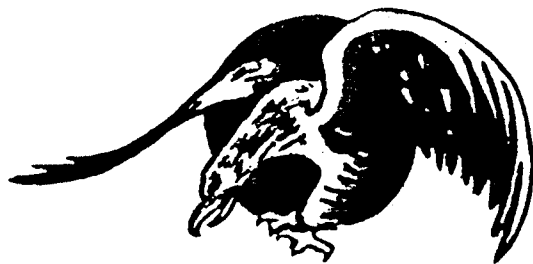
25TH AÉRO SQUADRON

On April 10, 1919, it was assigned for further duty to the Army of Occupation.

*Twenty-fifth:* A cartoon of a masked headman with an ax is the insignia used by the Twenty-fifth Aéro Squadron.

The Twenty-fifth Aéro Squadron was a pursuit squadron. It was assigned to the Fourth Pursuit Group, Second Army, on October 22, 1918, and reached the Front at Toul two days later. It was engaged in the operations of the Argonne-Meuse second offensive. It had been operating but a few days when the Armistice was declared, and had not received confirmation for any victories. Neither had it suffered any casualties.

*Twenty-seventh:* The Twenty-seventh Aéro Squadron insignia comprises another form of the American eagle, superimposed upon a large round spot.



27TH AERO SQUADRON

The Twenty-seventh Aéro Squadron was a pursuit squadron. It was assigned to the First Pursuit Group, First Army, on April 30, 1918, and reached the Front on June 1 at Toul. This squadron was engaged in the operations in the Toul Sector, at Chateau-Thierry, St. Mihiel, and the Argonne-Meuse first and second offensives. The Twenty-seventh carried out 314 patrols and war missions, engaged in 230 combats, and received official confirmation for 54 victories. In all it suffered 22 casualties, consisting of 8 killed, 4 wounded, 7 prisoners, and 3 missing. It ceased operations December 5, 1918.

*Twenty-eighth:* The Twenty-eighth Aéro Squadron insignia is that of a painted American Indian looking to the left. Its headdress includes a single feather.

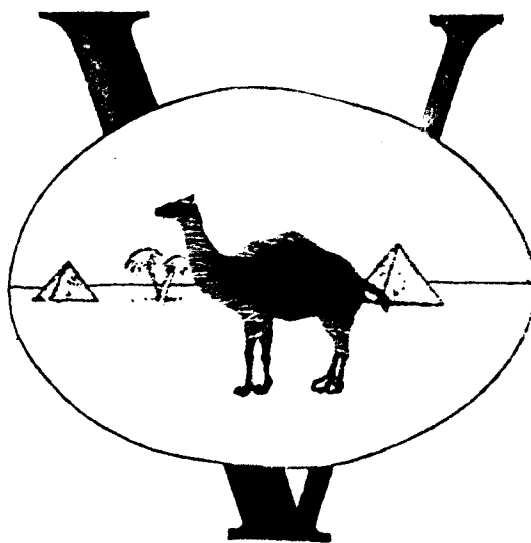
The Twenty-eighth Aéro Squadron was a pursuit squadron. It was assigned to the Third Pursuit Group, First Army, on August 22, 1918,



28TH AERO SQUADRON

having reached the Front at Vaucouleurs July 15th. This squadron was engaged in the operations in the Toul Sector, St. Mihiel and the Argonne-Meuse first and second offensives. It ceased operations April 10, 1919. It has made 128 patrols and bombing raids into Germany, fought 29 combats and received official confirmation for 15 victories. It suffered six casualties, consisting of 1 killed, 1 wounded, 2 prisoners and 2 missing.

*Forty-first:* The Forty-first Aéro Squadron is represented by an oval inclosing a scene in an African desert, a camel appearing in the foreground. This is superimposed upon the numeral V, showing that the squadron was one of the Fifth Pursuit Group.



41ST AERO SQUADRON

The Forty-first Aéro Squadron was a pursuit squadron. It was assigned to the 5th Pursuit Group, Second Army, on October 29, 1918. It did not function on the Western Front before the Armistice. It was ordered demobilized on May 11, 1919.

*Forty-ninth:* The Forty-ninth Aéro Squadron is depicted by a snarling wolf's head within a circle.

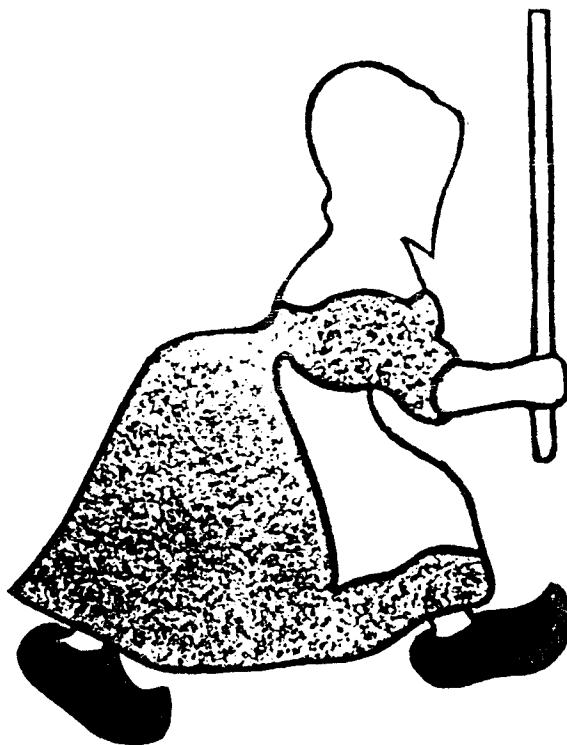
The Forty-ninth Aéro Squadron was a pursuit squadron. It was assigned to the First Army on August 14, 1918, having reached the Front at Toul Airdrome on August 2d. It was engaged in the operations in the Toul Sector, St. Mihiel, and the Argonne-Meuse first and second offensives. It accomplished 161 patrols and war missions, fought 53 combats and received official confirmation for 24 victories. It ceased opera-

## INSIGNIA OF A. E. F. AERO SQUADRONS

tions on December 5, 1918. It suffered 6 casualties, consisting of 3 killed, 1 prisoner and 2 missing.

*Fiftieth:* The Fiftieth Aéro Squadron insignia is a silhouette cartoon of a Dutch woman similar to the one in "Dutch Cleanser" advertisement.

The Fiftieth Aéro Squadron was a Corps Observation squadron. It was assigned to the Fifth Corps Observation Group, First Army, on August 14, 1918, and reached the Front at Biqueley near Toul on September 8th. It engaged in the operations at St. Mihiel and the Argonne-Meuse first and second offensives. It ceased operations April 1, 1919. This squadron made many reconnaissances over the lines, taking many pictures and gathering much useful information, during the accomplishment of which it



50TH AERO SQUADRON



49TH AERO SQUADRON

ron insignia is a bucking broncho, ridden by a cowboy, all within a circle.

The Eighty-eighth Aéro Squadron was a Corps Observation squadron. It was assigned to the First Corps on May 29, 1918, and June 1 reached the Front at Toul. It was engaged in the operations in the Toul Sector, at Chateau

fought off many German attacks and was credited with one victory. It suffered nine casualties, consisting of 5 killed, 2 wounded, and 2 prisoners.

*Eighty-fifth:* Winged Cupid with a campaign hat, sitting on the top of the world, is the insignia selected to represent the Eighty-fifth Squadron.

The Eighty-fifth Aéro Squadron was an Army observation squadron. It reached the Front at the Toul Airdrome on October 24, 1918, and the next day was assigned to the Fourth Corps Observation Group, First Army. This squadron took part in the Second Argonne-Meuse offensive. It accomplished several missions over the lines in the few remaining days before the Armistice, but was not accredited with any victories nor did it suffer any casualties. It was finally ordered to be demobilized May 11, 1919.

*Eighty-eighth:* The Eighty-eighth Aéro Squad-



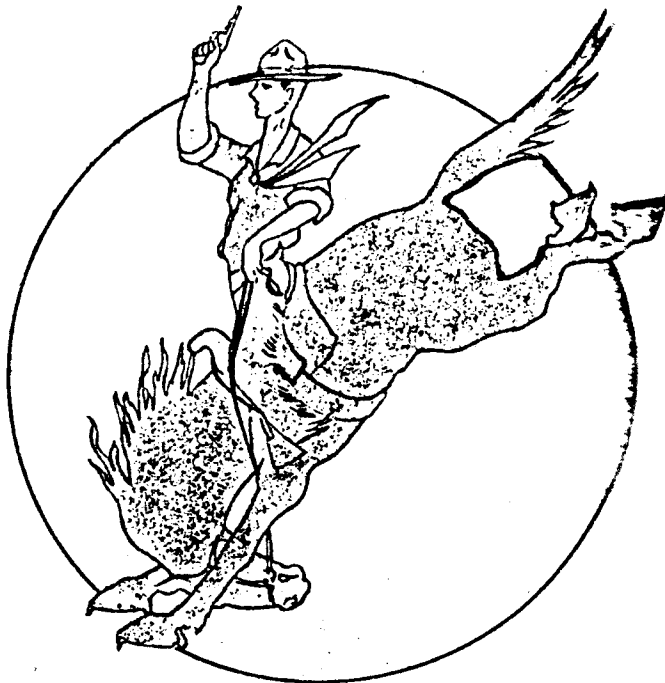
85TH AERO SQUADRON

Thierry, St. Mihiel, and the Argonne-Meuse first and second offensives. This squadron accomplished many reconnaissances over the lines, taking many pictures, locating machine-gun nests and batteries and gathered military information of greatest value. It received official credit for four enemy planes brought down. The squadron suffered 14 casualties, consisting of 6 killed and 8 wounded.

Eighty-ninth: Insignia: The front view of an American eagle in full flight.

Ninetieth: Insignia: Pair of bones: the lucky number, seven, is uppermost.

The Ninetieth Aéro Squadron was a Corps Observation squadron. It was assigned to the Third Corps Observation Group on June 11, 1918, and two days later reached the front at Ourches. It took part in the operations in the Toul Sector, St. Mihiel and the Argonne-Meuse first and second offensives. This squadron carried out many reconnaissances, fought 23 combats and received official confirmation for 7 victories. It suffered 3 casualties, consisting of 2 killed and 1 wounded. It was ordered demobilized on December 19, 1918.



88TH AERO SQUADRON

Ninety-first: The Ninety-first Aéro Squadron shows a mounted knight in pursuit of the winged devil whose blood he has already drawn by the lance.

The Ninety-first Aéro Squadron was an Army observation squadron. It was assigned to the First Army Corps on May 7, 1918, and on May 24th reached the front at Condreville. It was engaged in the operations in the Toul Sector, at St. Mihiel and the Argonne-

Meuse first and second offensives. The Ninety-first accomplished many war missions, fought 104 combats, and received credit for bringing down 21 German machines. It suffered 28 casualties, consisting of 10 killed, 8 wounded, 9 prisoners and 1 missing. The Ninety-first was ordered demobilized April 7, 1919.

Ninety-third: The Ninety-third Aéro Squadron is represented by an Indian head similar to that of the 28th, but in the reverse direction and bearing two feathers instead of one.

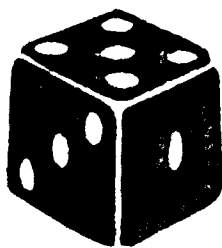
The Ninety-third was a pursuit squadron. It was assigned to the Third Pursuit Group, First Pursuit Wing, First Army, and reached the front at Vaucouleurs about July 28, 1918. It was engaged in the operations in the Toul Sector,



89TH AERO SQUADRON



## INSIGNIA OF A. E. F. AERO SQUADRONS



90TH AERO SQUADRON

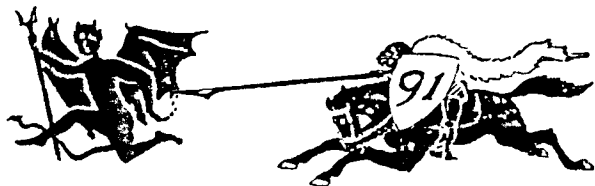
at St. Mihiel, and the Argonne-Meuse first and second offensives. It took part in 157 war missions, fought 64 combats and received official confirmation for 32 enemy planes brought down. The Ninety-third suffered 8 casualties, consisting of 2 killed, 1 wounded, and 5 prisoners. This squadron ceased to function December 11, 1918.

*Ninety-fourth:* The Ninety-fourth Aero Squadron insignia is the well-known "hat in the ring."

The Ninety-fourth Aero Squadron was a pursuit squadron. It was assigned to the First Army Corps on April 9, 1918, having reached the Front at Epiez on April 1st. This squadron was engaged in the operations in the Toul Sector, at Château-Thierry, St. Mihiel, and the Argonne-Meuse first and second offensives. The squadron accomplished 304 patrols and war missions, fought 114 combats and brought down 64 enemy planes which were officially confirmed. It ceased operations on April 7, 1919. It had suffered 18 casualties, consisting of 10 killed, 4 wounded, and 4 taken prisoners.

*Ninety-fifth:* The Ninety-fifth shows the familiar kicking mule, poised on its front feet, ready to deliver a blow, the history of this squadron indicates that the insignia was well chosen.

The Ninety-fifth Aero Squadron was a pursuit squadron. It was assigned to the First Army Corps on May 29, 1918, having reached the Front



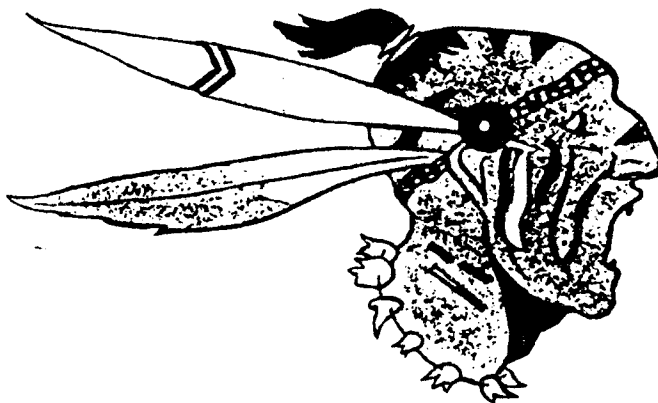
91ST AERO SQUADRON



at Amanty on May 18th. This squadron was engaged in the operations in the Toul Sector, at Château-Thierry, St. Mihiel, and the Argonne-Meuse, fought 230 combats, and was officially accredited with having brought down 47 enemy airplanes. It suffered 21 casualties, consisting of 6 killed, 4 wounded, 10 taken prisoners and 1 missing. It was ordered demobilized December 5, 1918.

*Ninety-sixth:* The Ninety-sixth, a bombardment squadron, is represented by the head and shoulders of a red devil, who prepares to launch an aerial bomb. This figure is placed on a white triangular-shaped background.

The Ninety-sixth Aero Squadron was a day bombardment squadron. It was assigned to the First Day Bombardment Group, First Army, on May 29, 1918, having reached the Front at Amanty on May 18th. It was engaged in the

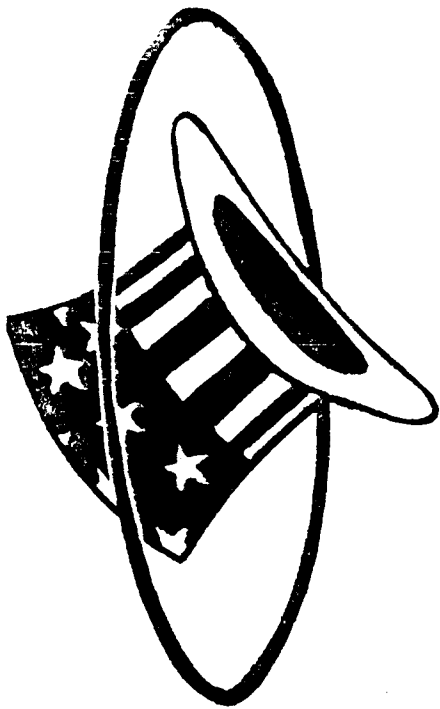


93D AERO SQUADRON

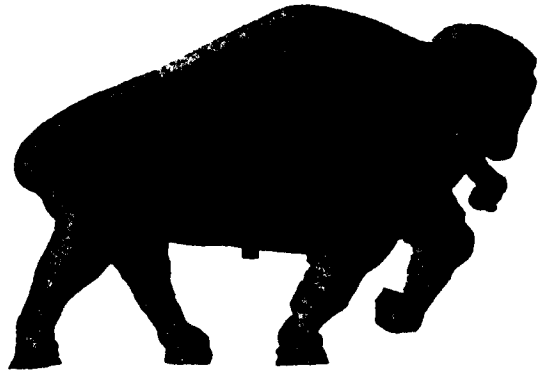
operations in the Toul Sector, at St. Mihiel, and the Argonne-Meuse first and second offensives. This squadron made many bombing raids into Germany, destroying a great amount of enemy property and gathering much valuable information. It fought 19 combats, and was officially accredited with 14 enemy airplanes. The squadron suffered 41 casualties, consisting of 12 killed, 12 wounded, 15 taken prisoners and 2 missing. It ceased operations December 11, 1918.

*Ninety-ninth:* A conventional American bison in silhouette is the insignia of the Ninety-ninth Aero Squadron.

The Ninety-ninth Aero Squadron was a Corps Observation squadron. It was assigned to the Fifth Corps Observation Group June 12, 1918, having reached the Front on May 31, at Amanty. This squadron was engaged in the



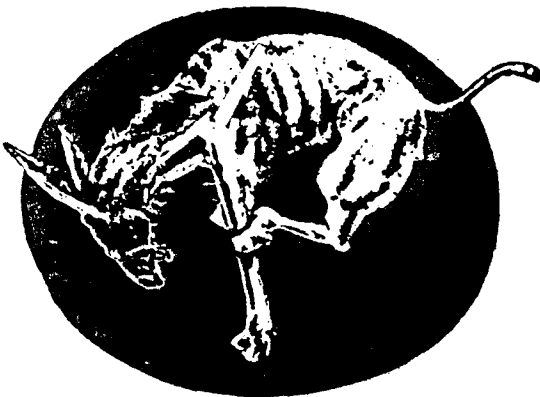
94TH AERO SQUADRON



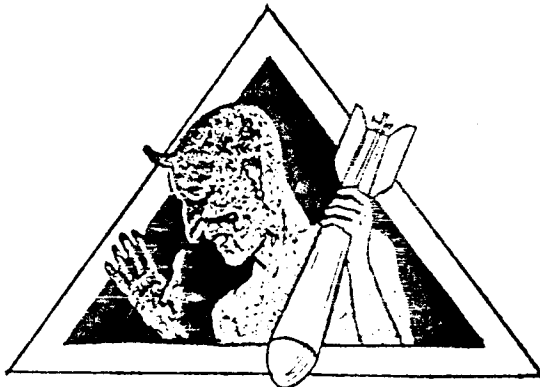
99TH AERO SQUADRON



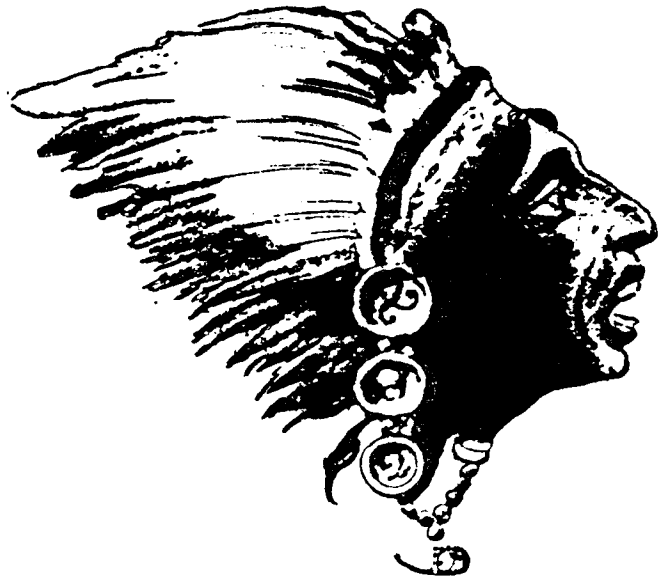
139TH AERO SQUADRON



95TH AERO SQUADRON



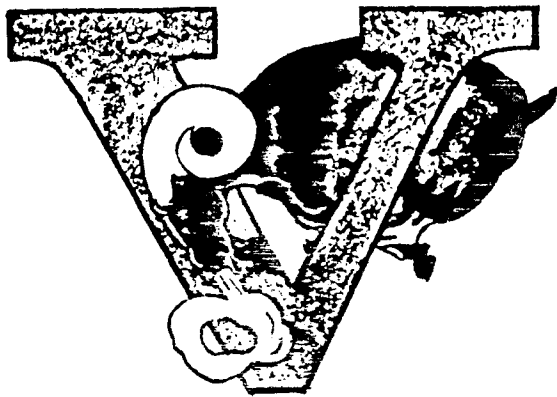
96TH AERO SQUADRON



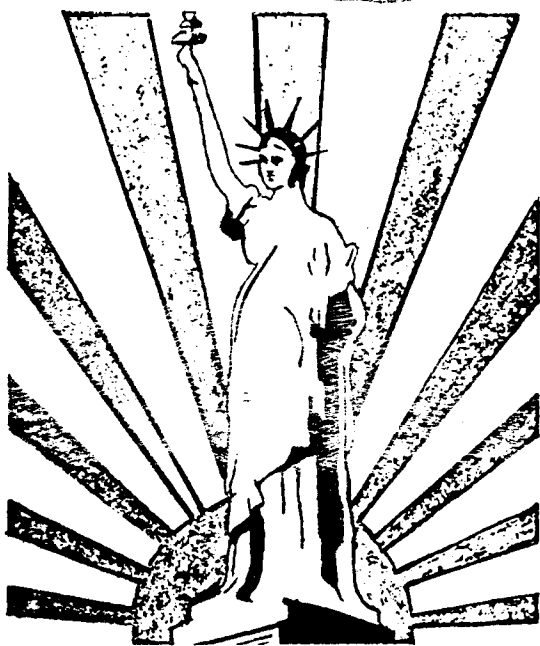
103D AERO SQUADRON



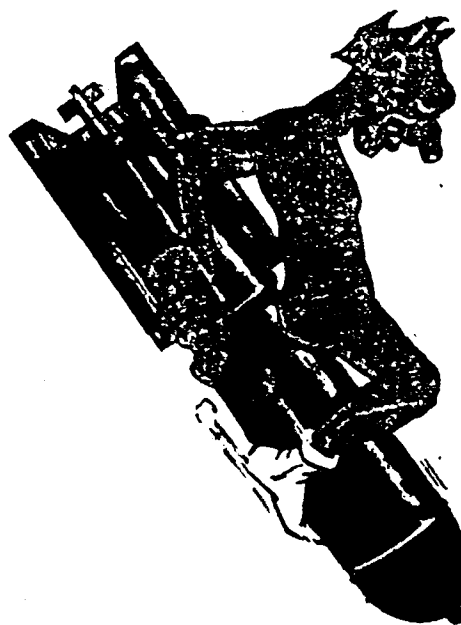
104TH AERO SQUADRON



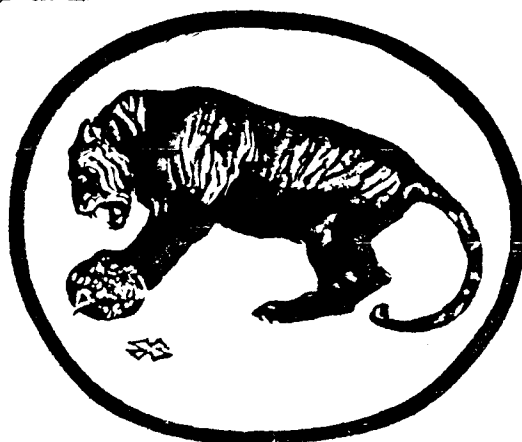
138TH AERO SQUADRON



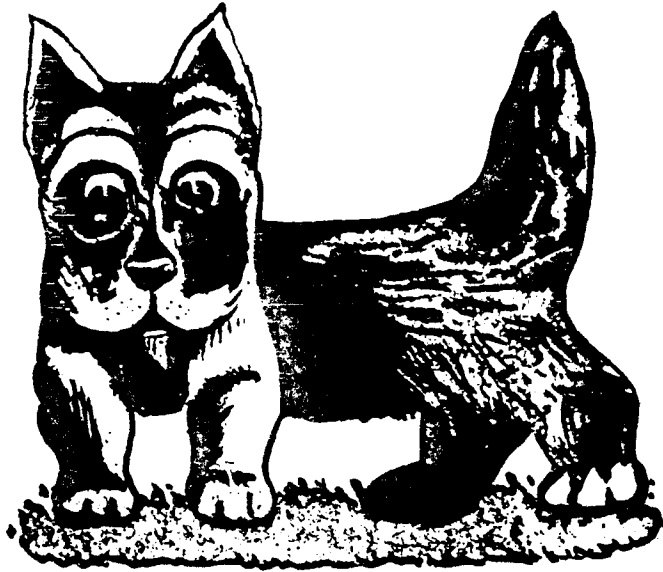
135TH AERO SQUADRON



100TH AERO SQUADRON



141ST AERO SQUADRON



147TH AERO SQUADRON

operations in the Toul Sector, at St. Mihiel and the Argonne-Meuse first and second offensives. The squadron performed many reconnaissances and war missions into German territory, fought 18 combats and received official confirmation for 3 victories. It suffered 13 casualties, consisting of 6 killed and 7 wounded. It ceased operations February 13, 1919.

*One Hundredth:* The One Hundredth Squadron shows the devil riding on an aerial bomb in flight.

The One Hundredth Aero Squadron was a day bombardment squadron. It was assigned to



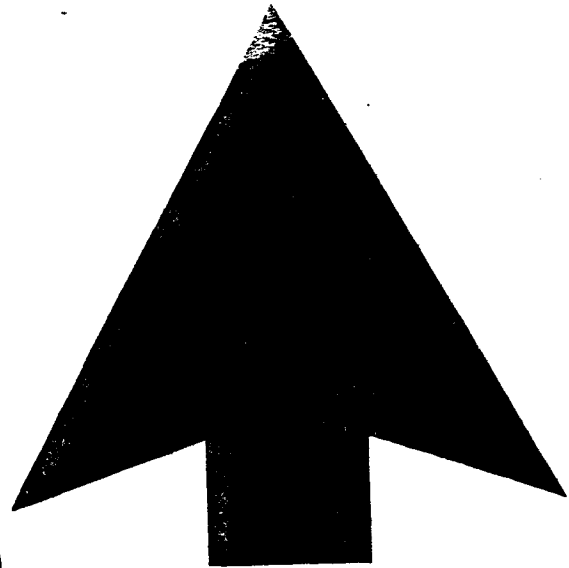
148TH AERO SQUADRON

the Second Day Bombardment Group, Second Army, on October 26, 1918, having been on the Front since July 20, 1918, with the Royal Air Force. It was engaged in British operations. This squadron accomplished many raids into Germany without suffering any losses. It is not given official credit for any enemy planes brought down. It ceased operations on April 8, 1919.

*One Hundred Third:* The One Hundred Third Squadron was represented by another Indian head with a large war bonnet decorated with a swastika.

The One Hundred Third Squadron was a pursuit squadron. It was assigned to the Second Pursuit Group, First Army, June 30, 1918.

From February 18, 1918, until July 4, 1918, this squadron had served with the French Army as the Lafayette Escadrille. After joining the American Army it was engaged in the operations at St. Mihiel and the Argonne-Meuse first and



155TH AERO SQUADRON

second offensives. This squadron carried out many war missions, fought 327 combats and was officially accredited with 51 victories. It suffered 15 casualties, consisting of 6 killed, 3 wounded, 4 taken prisoners and 2 missing in action. It ceased operations December 11, 1918.

*One Hundred Fourth:* Insignia: Figure of winged sphinx, placed in a large circle.

## INSIGNIA OF A. E. F. AERO SQUADRONS

The One Hundred Fourth Aéro Squadron was a Corps Observation squadron. It was assigned to the Fifth Corps Observation Group, First Army, August 7, 1918, and reached the Front at Souilly on September 8, 1918. It was engaged in the operations at St. Mihiel and the Argonne-Meuse first and second offensives. This squadron made many reconnaissances over the lines, fought 25 combats, was officially accredited with one victory and suffered four casualties, consisting of 2 killed, 1 wounded and 1 taken prisoner. The squadron ceased operations December 19, 1918.



162D AERO SQUADRON

fought many combats and was officially accredited with having brought down 8 enemy aircraft. It ceased operations February 5, 1919. The squadron suffered 7 casualties, consisting of 5 killed and 2 wounded.

*One Hundred Thirty-eighth:* A charging goat under full speed about to pass through the numeral V is the insignia of the One Hundred Thirty-eighth Squadron.

The One Hundred Thirty-eighth Aéro Squadron was a pursuit squadron. It was assigned to the Fifth Pursuit Group, Second Army, on October 28, 1918, but due to the signing of the Armistice, a few days later, it did not function on the Front.

*One Hundred Thirty-ninth:* The One Hundred Thirty-ninth was represented by an outline figure of flying Mercury.

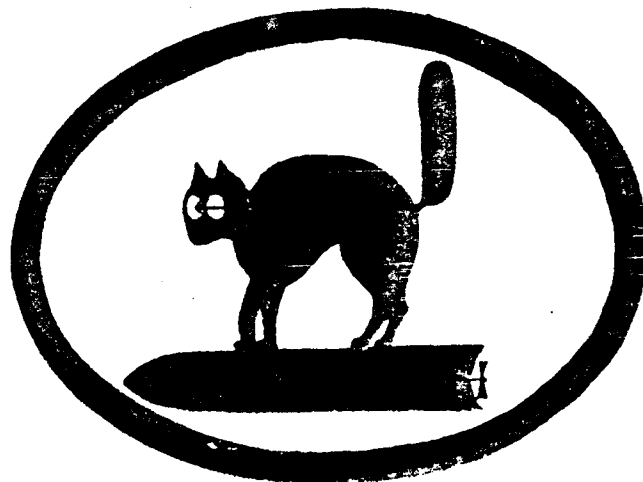
The One Hundred Thirty-ninth Aéro Squadron



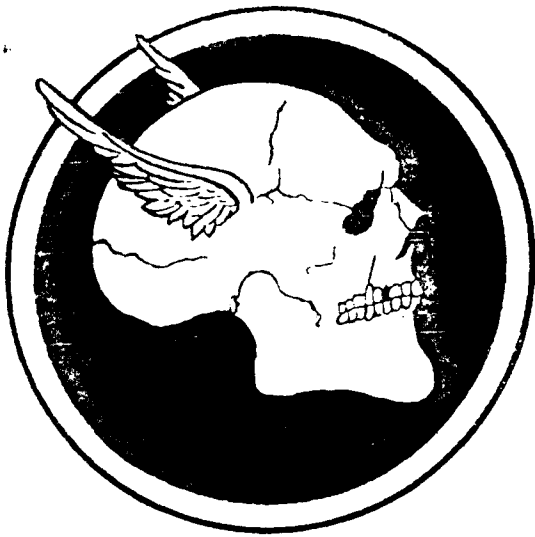
161ST AERO SQUADRON

*One Hundred Thirty-fifth:* The One Hundred Thirty-fifth represents the Statue of Liberty with the rising sun as a background.

The One Hundred Thirty-fifth Aéro Squadron was a Corps Observation squadron. It was assigned to the Fourth Corps Observation Group July 28, 1918, and reached the Front at Ourches two days later. The squadron was engaged in the operations at the Toul Sector, at St. Mihiel and the Argonne-Meuse first and second offensives. This organization made many reconnaissances into German territory, gaining valuable information,



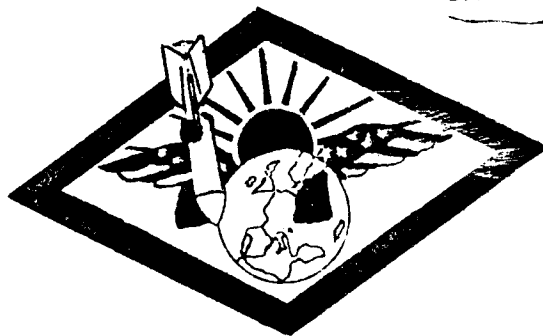
163D AERO SQUADRON



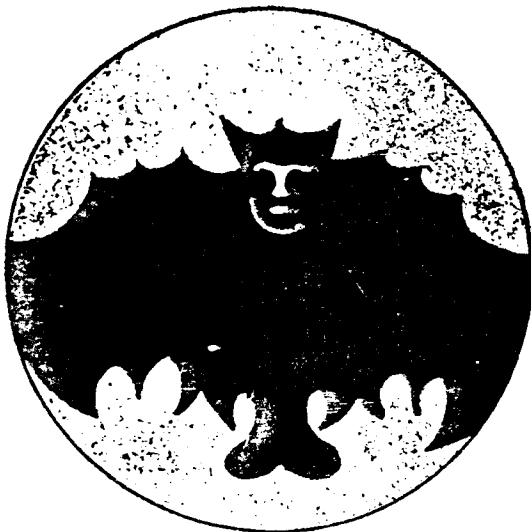
168TH AERO SQUADRON



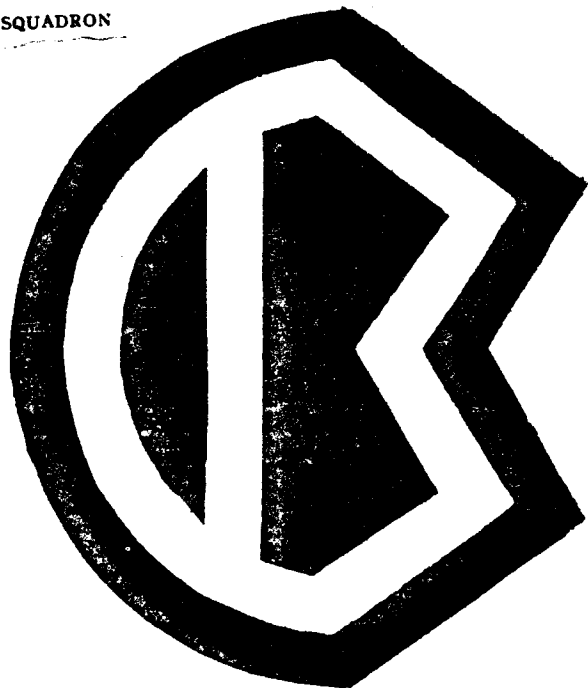
174TH AERO SQUADRON



166TH AERO SQUADRON



185TH AERO SQUADRON



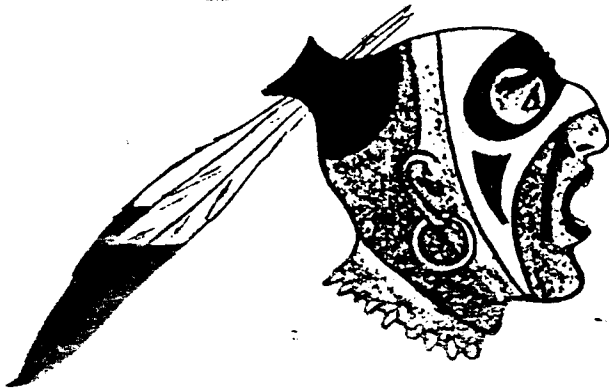
169TH AERO SQUADRON



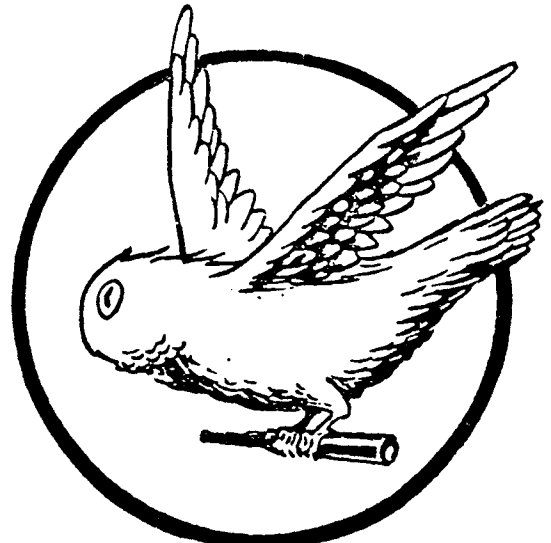
136TH AERO SQUADRON



258TH AERO SQUADRON



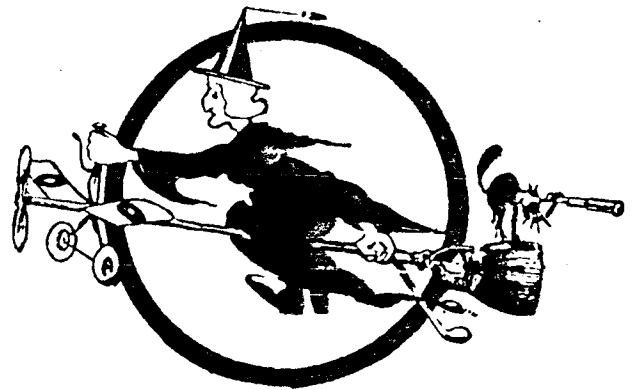
213TH AERO SQUADRON



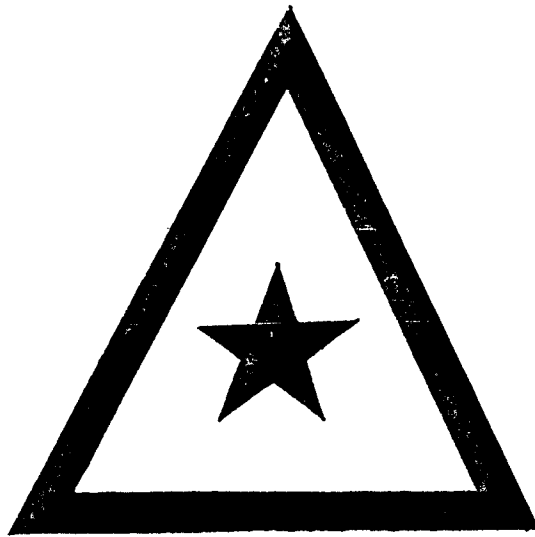
278TH AERO SQUADRON



248TH AERO SQUADRON



354TH AERO SQUADRON



370TH AERO SQUADRON

was a pursuit squadron. It was assigned to the First Army on June 12, 1918, and reached the Front at Toul on June 30 following. This squadron was engaged in operations in the Toul Sector, at St. Mihiel and the Argonne-Meuse first and second offensives. It accomplished 160 patrols and various other war missions, fought 80 combats and received confirmation for 34 victories. It suffered 8 casualties, consisting of 3 killed, 2 wounded, 1 taken prisoner and 2 missing. It ceased operations December 11, 1918.

*One Hundred Forty-first:* Insignia: Great Bengal tiger playing with a German helmet and iron cross.

The One Hundred Forty-first Aéro Squadron was a pursuit squadron. It was assigned to the Fourth Pursuit Group, Second Army, on October 18, 1918, and the next day reached the Front at Toul. This squadron was engaged in the Argonne-Meuse first and second offensives. It accomplished many patrols and war missions into German territory, gaining a great deal of valuable military information. It received official confirmation for bringing down two enemy aircraft. The squadron suffered no casualties before the Armistice and ceased operations May 11, 1919.

*One Hundred Forty-seventh:* A cartoon of a rat terrier is used to represent the One Hundred Forty-seventh Aéro Squadron.

The One Hundred Forty-seventh Aéro Squadron was a pursuit squadron. It was assigned to the First Army on May 29, 1918, and reached the Front at Toul on June 1st. The squadron was engaged in operations in the Toul Sector, at Chateau-Thierry, St. Mihiel and the Argonne-

Meuse first and second offensives. This squadron accomplished many patrols and raids over German territory, fought 102 combats and received official confirmation for 31 victories. It suffered 8 casualties, consisting of 7 killed and 1 missing. It ceased operations on December 5, 1918.

*One Hundred Forty-eighth:* The head of Liberty in a circle was the insignia of the One Hundred Forty-eighth Aéro Squadron.

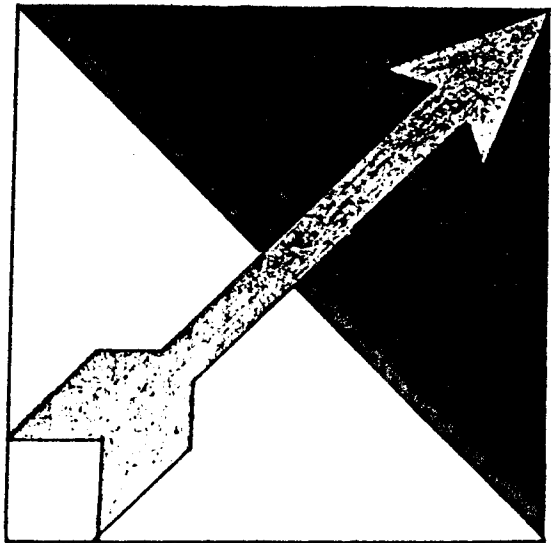
The One Hundred Forty-eighth Squadron was a pursuit squadron. It was assigned to the Fourth Pursuit Group, Second Army, November 4, 1918. This squadron had previously been assigned with the Royal Air Force July 20, 1918, and had taken part in British operations up until it had been assigned to the Second Army. This squadron had accomplished many patrols over the enemy lines, fought 107 combats and received official confirmation for 71 victories. The squadron suffered 11 casualties, consisting of 3 killed, 3 wounded, 4 taken prisoner and 1 missing. It ceased operations on December 11, 1918.

*One Hundred Fifty-fifth:* The One Hundred Fifty-fifth Squadron had for its insignia the head of a large arrow, pointed upward.

The One Hundred Fifty-fifth Aéro Squadron was a night bombardment squadron. It was assigned to the First Army on November 9, 1918, but, owing to the Armistice being signed two days later, it never functioned on the Front. It ceased operations December 4, 1918.

*One Hundred Sixty-first:* Insignia: A grinning clown with a cap and ruff.

*One Hundred Sixty-second:* The insignia of the One Hundred Sixty-second is a silhouette map of the United States.



373D AERO SQUADRON



## INSIGNIA OF A. E. F. AERO SQUADRONS

*One Hundred Sixty-third:* The One Hundred Sixty-third shows the silhouette of a cat with one eye closed, standing on a bomb.

The One Hundred Sixty-third Aéro Squadron was a day bombardment squadron, and was assigned to the Second Day Bombardment Group, Second Army, October 27, 1918, reaching the Front three days later at Ourches. It engaged in the operations of the Argonne-Meuse first and second offensives. It accomplished several war missions during this period of activity, but never received official confirmation for any victories, neither did it suffer any casualties. It finally ceased operations April 8, 1919.

*One Hundred Sixty-sixth:* Insignia: Includes the sun with a pair of wings made of the American flag. In the foreground is a map of Europe, with Germany distinctly marked, while a hand, armed with an aerial bomb, hovers over it, ready to drop the bomb.

The One Hundred Sixty-sixth Aéro Squadron was a day bombardment squadron. It was assigned to the First Day Bombardment Group, First Army, September 20, 1918, and reached the Front at Maulan about September 25th. This squadron engaged in operations in the Argonne-Meuse, first and second offensives. It accomplished 11 war missions and bombing raids into German territory, fought off many German attacks and received official confirmation for 6 victories. It suffered 4 casualties, consisting of 1 killed and 3 wounded. It ceased operations April 7, 1919.

*One Hundred Sixty-eighth:* Insignia: A winged skull in a circle.



486TH AERO SQUADRON



638TH AERO SQUADRON

The One Hundred Sixty-eighth Aéro Squadron was a Corps Observation squadron. It was assigned to the Fourth Corps Observation Group, First Army, on September 30, 1918, and reached the Front at Toul October 5th, following. It was engaged in operations of the Argonne-Meuse, first and second offensives. It accomplished many war missions and reconnaissances over the German lines, gaining much valuable military information, fought several combats and received official confirmation for two victories. It suffered no casualties and ceased operations May 11, 1919.

*One Hundred Sixty-ninth:* Insignia: An unusual hieroglyphic, somewhat similar to the monogram CB.

*One Hundred Seventy-fourth:* Insignia: A black alley cat on a fence silhouetted against the moon.

*One Hundred Eighty-fifth:* Insignia: A silhouette of a bat within a circle.

The One Hundred Eighty-fifth Aéro Squadron was a night pursuit squadron. It was assigned to the First Pursuit Group, First Army, October 5, 1918, and reached the Front at Rembercourt, three days later. It participated in the Argonne-Meuse first and second offensives. The squadron accomplished several night patrols into Germany, suffered only one casualty, one pilot being taken prisoner, and never received confirmation for any victories. It ceased operations on April 10, 1919.

*One Hundred Eighty-sixth:* Insignia on page 135. This squadron was an Army observation squadron. It was assigned to the First Army Observation Group, First Army, October 27, 1918.

and reached the Front at Souilly two days later. It participated in the operation of the Argonne-Meuse two offensives. Up to the signing of the Armistice it had suffered no casualties and had never received confirmation for any victories. On April 10, 1919, it was assigned to the Army of Occupation.

*Two Hundred Thirteenth:* Insignia: The head of an American Indian facing the right, with two feathers in his scalp lock.

The Two Hundred Thirteenth Squadron was a pursuit squadron. It was assigned to the First Army on August 4, 1918, having reached the Front at Vaucouleurs July 26, preceding. It was engaged in operations in the Toul Sector, at St. Mihiel and in the Argonne first and second offensives. This squadron made 148 raids into German territory, fought 38 combats and received official confirmation for 16 victories. It suffered 10 casualties, consisting of 2 killed, 3 wounded, 4 taken prisoners and 1 missing. It ceased operations on April 10, 1919.

*Two Hundred Forty-eighth:* Insignia: A black cat wearing a broad grin and decorated with a large bow neck-tie made of an American flag.

The Two Hundred Forty-eighth Aéro Squadron was a Corps Observation squadron. It was assigned to the Seventh Corps Observation Group, First Army, on September 10, 1918, and reached the Front at Luxeuil on September 19th. It was engaged in operations in the Vosges Sector.

*Two Hundred Fifty-eighth:* Insignia: Reproduction of a lion, apparently carved out of stone.

The Two Hundred Fifty-eighth Squadron was a Corps Observation squadron. It was assigned to the Seventh Corps Observation Group, September 10, 1918, and reached the Front at Luxeuil September 19th. This squadron was engaged in the operations in the Vosges Sector. It was finally assigned to the Army of Occupation on April 10, 1919. During its activity on the Western

Front it did not suffer any casualties, nor gain any victories which received official confirmation.

*Two Hundred Seventy-eighth:* Insignia: Flying Owl.

The Two Hundred Seventy-eighth Aéro Squadron was an Army observation squadron. It was assigned to the Seventh Corps Observation Group, Second Army, October 29, 1918. It reached the Front at Toul November 10; this squadron did not function on the Western Front and was finally ordered demobilized May 11, 1919.

*Three Hundred Fifty-fourth:* Insignia: A witch mounted on a broomstick supplied with model airplane equipment.

The Three Hundred Fifty-fourth Aéro Squadron was a Corps Observation squadron. It was assigned to the Sixth Corps Observation Group, Second Army, October 21, 1918, and reached the Front at Saizerais four days later. It was engaged in the Argonne-Meuse first and second offensives. This squadron made several reconnaissances over the German lines and gained a great deal of valuable military information. It neither gained any official victories nor suffered any

casualties, and was finally ordered demobilized May 11, 1919.

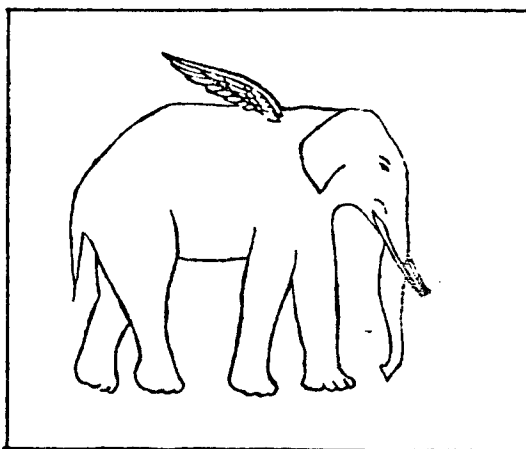
*Three Hundred Seventieth:* Insignia: A triangle with a star in the centre.

*Four Hundred Eighty-sixth:* Insignia: A large star or comet, with six smaller stars in its wake.

*Six Hundred Thirty-eighth:* Insignia: A half-starved cat superimposed on the numeral V, signifying the Fifth Pursuit Group.

The Six Hundred Thirty-eighth Aéro Squadron was a pursuit squadron, and was assigned to the Fifth Pursuit Group, Second Army, on October 28, 1918. It did not function on the Front before the Armistice and was finally ordered demobilized on May 11, 1919.

*Eleven Hundred and Fifth:* Insignia: A winged elephant.



1105TH AERO SQUADRON

casualties, and was finally ordered demobilized May 11, 1919.

*Three Hundred Seventieth:* Insignia: A triangle with a star in the centre.

*Four Hundred Eighty-sixth:* Insignia: A large star or comet, with six smaller stars in its wake.

*Six Hundred Thirty-eighth:* Insignia: A half-starved cat superimposed on the numeral V, signifying the Fifth Pursuit Group.

The Six Hundred Thirty-eighth Aéro Squadron was a pursuit squadron, and was assigned to the Fifth Pursuit Group, Second Army, on October 28, 1918. It did not function on the Front before the Armistice and was finally ordered demobilized on May 11, 1919.

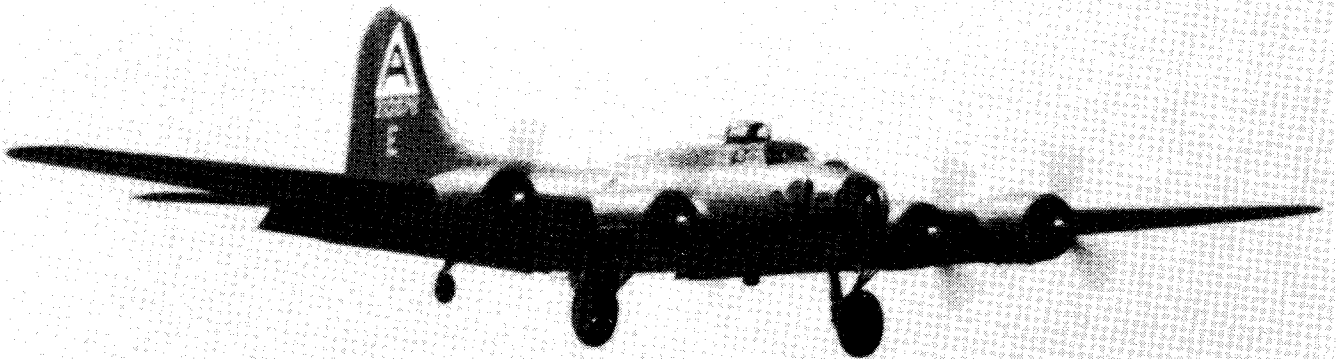
*Eleven Hundred and Fifth:* Insignia: A winged elephant.



This article is reprinted with courteous permission received from the Daughters of the American Revolution Magazine, Washington, D.C.

W  
19-2  
12

# Shoo Shoo Baby

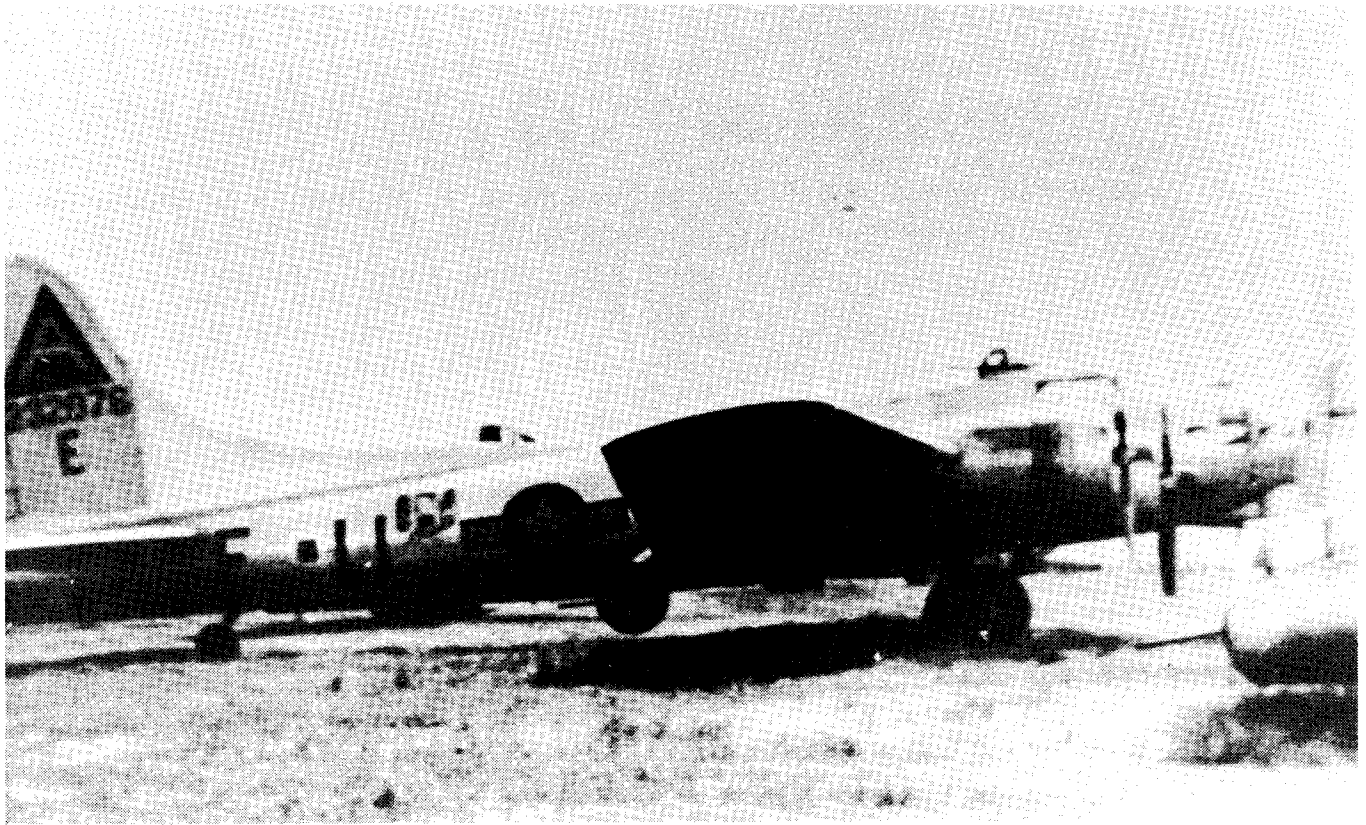


## WELCOME HOME!

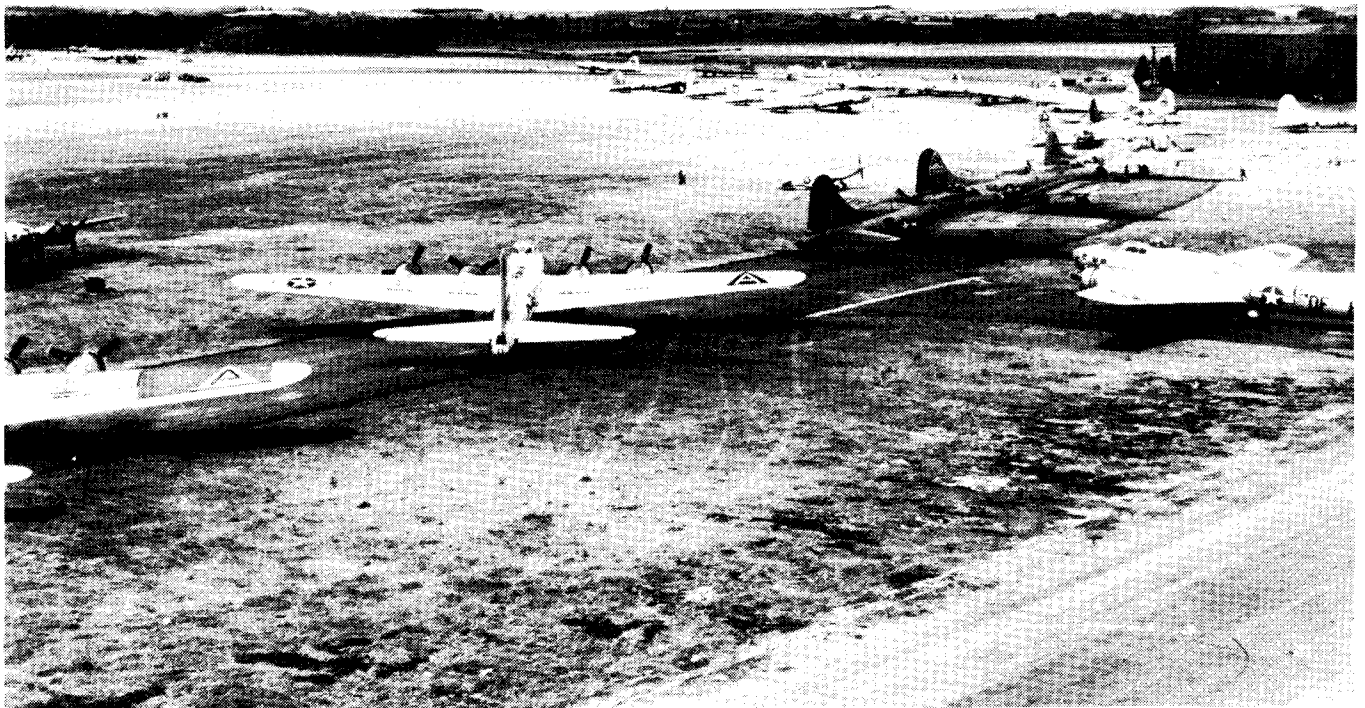
15 October 1988

USAF MUSEUM

WRIGHT-PATTERSON AIR FORCE BASE, OHIO



*Shoo Shoo Baby in profile in a rare photo of her wartime service while assigned to the 91st Bomb Group, 401st Squadron, Bassingbourn, England, a typical Allied Air Forces bomber base (bottom).*



# Schedule of Events

---

- 10:00 a.m.** Concert by U. S. Air Force “Airmen of Note” featuring WWII era music
- 10:50 a.m.** Fly-by, Shoo Shoo Baby with P-51 escorts\*
- 11:00 a.m.** Shoo Shoo Baby lands at Wright Field
- 11:15 a.m.** Shoo Shoo Baby taxis to USAF Museum
- 11:20 a.m.** Welcome Remarks and History of Aircraft and Restoration  
Colonel Richard L. Uppstrom, USAF (Ret),  
*Director, U. S. Air Force Museum*
- Comments by General Alfred G. Hansen,  
*Commander, Air Force Logistics Command*
- Presentation of Shoo Shoo Baby  
Major General Roger P. Scheer,  
*Chief, Air Force Reserve*
- Recognition of and Presentation to Original Crew Members and Primary Restorers
- Closing Remarks
- 12:00 Noon** Shoo Shoo Baby available for exterior photographs
- 1:30 p.m.** Tour of the Month — “World War II Bombers” — USAF Museum
- 3:00 p.m.** Lecture by Don Sachs — “The B-17 . . . A Legend in Its Time” — Museum Auditorium

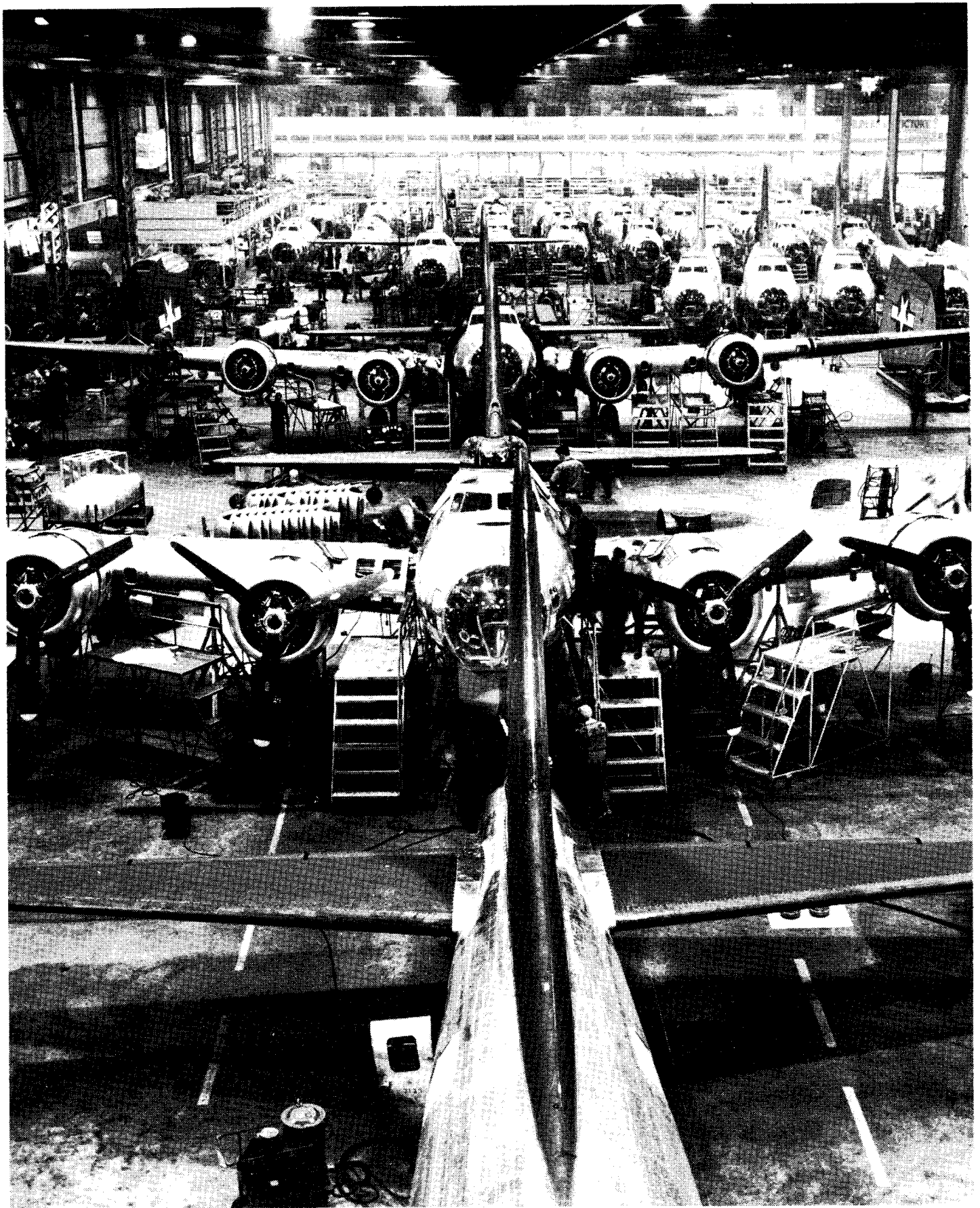
---

**\*Shoo Shoo Baby Crew**

Dr. William Hospers, Colonel, USAR (Ret), Pilot  
Major Quinton Smith, Co-Pilot, 326 MAS  
Robert Hospers, Flight Engineer  
Fred Street, Mechanic

Escorts courtesy of “Moon” Spillers (P-51A) and Ron Runyan (P-51D)

WWII base operations living history courtesy of Association of Living History, Inc., Ohio Chapter



*B-17Gs on the line at Boeing's Seattle plant.*

# The Story of The B-17

**T**HE Boeing B-17 Flying Fortress was probably the most famous of WWII combat aircraft. Described by Gen H. H. "Hap" Arnold as the "backbone of our world-wide aerial offensive," the development of this airplane was unique in aviation history.

Boeing assumed the expense of the design and production of the 299, the bomber prototype that led to the B-17, and staked its entire future on this new airplane. The 299 first appeared on Boeing drawing boards in 1933. The first prototype flew on July 28, 1935.

The imminence of war brought numerous Fortress modifications with the B-17C as the result. Major change was the armament equipment. Of 38 built, 20 were sent to Great Britain in the Spring of 1941.

As a result of operational service of the B-17C, further alterations were made and forty-two B-17Ds were built and the "C's" modified.

The B-17E, of which 512 were built, was the first offensive model of the Fortress family. It first flew on September 5, 1941. In the Spring of 1942, Douglas and Lockheed production lines began turning out the B-17F model.

Last of the Fortress series was the B-17G, of which Boeing built 4,035. The last Boeing-built B-17G was delivered April 13, 1945.

A total of 12,731 Fortresses were built in all series. This included 6,981 by Boeing, 3,000 by Douglas, and 2,750 by Lockheed.

One of the most famous B-17s was "Alexander the Swoose," a D model which averaged 150 combat hours a month for a wartime record. It was one of 21 Fortresses which broke speed records from the United States to the

Philippines two months before Pearl Harbor. Eight months later it was the only known survivor of its squadron.

A total of 4,750 B-17s were lost on combat missions, more than any other type of aircraft. This was because the Forts did so much of the fighting. The Forts shot down an average of 23 enemy fighters on a thousand-plane raid, compared with 11 shot down by U.S. fighters.

During the war, B-17s dropped a total of 640,036 tons of bombs on European targets.

This compares with 452,508 tons dropped by B-24 Liberators and 436,544 tons dropped by all other U.S. aircraft.

At its peak, Boeing was producing 16 B-17s per day. A complete set of B-17 master drawings would total over 600 for major assembly and installation points alone. (USAFM/RD)

## B-17G Specifications

**DIMENSIONS:** Wing 103'10"; Length 74'4"; Height 19'1"

**POWER:** Four Wright Cyclone, R-1820's of 1,200 horsepower each

**PROPELLERS:** Hamilton Standard, three blades

**SPEED:** Maximum 305 MPH (563km/h)

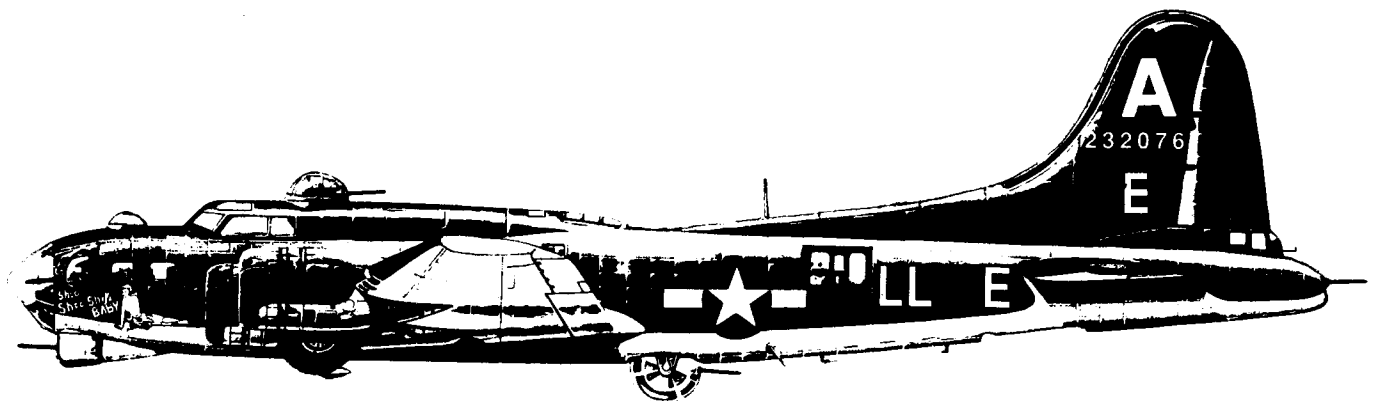
**CEILING:** 35,000 feet (11,582 m)

**LANDING GEAR:** Retractable, single strut

**CREW:** Ten

**RANGE:** 1,850 miles (3620 km)

**ARMAMENT:** 13 .50 caliber M-2 Browning machine guns. Two waist guns, one in the radio compartment, two in the upper turret, two in the lower turret, two in the tail turret, two in the chin turret, plus one in each side of the nose.



# "Shoo Shoo Shoo Baby" – The Song

THE song "Shoo Shoo Shoo Baby" was written in 1943 by Phil Moore and first recorded by the Phil Moore Four. The most popular version was apparently recorded by The Andrews Sisters on the Decca label. Another popular version was made by Ella Mae Morse on the Capitol label. A third female vocalist to records the song was Georgia Gibbs for Corar records.

Band Leader Jan Garber had a record with two hits of 1943, "Shoo Shoo Shoo Baby" on one side and "They're Either Too Young or Too Old" on the other side. Lize Tilton was his lead vocalist and the company was Hit Records.

After the war a collector's edition of 45's was issued featuring Glen Miller and the Army Air Force Band. Several Andrews Sisters album collections have featured the song. A Reader's Digest Stereo album collection of songs of the 40's also included the song.

SHOO-SHOO BABY - Phil Moore -

SHOO-SHOO... SHOO BA-BY, SHOO-SHOO... SHOO BA-BY, Bye, bye... bye ba-by, Your pa - pa's off to the sev-en seas. Do-n't cry ba-by. Do-n't start ba-by. Bye, bye... bye ba-by. When I come back we'll live a life of ease. Seems kind of tough now. To say good-bye this way. But pa-pa's got to be rough now. So that he can be sweet to you another day. Bye, bye... bye ba-by. Do-n't cry ba-by. SHOO-SHOO SHOO BA-BY Your pa - pa's off to the sev-en seas. SHOO-SHOO, sev-en seas.

## Sheet Music

THE most popular sheet music version of the song was the 1943 edition by Leeds Music with the Andrews Sisters on the cover. There were at least two versions of this edition promoting the song as it was featured in the Universal Pictures release, "Three Cheers for the Boys." Another version featured the three female leads of the Columbia Pictures' release, "Beautiful but Broke," which also had the song as part of the movie. Other versions include a copy printed in England with the Joe Loos Orchestra.



# History of *Shoo Shoo Baby*

**SHOO SHOO BABY** is the last known B-17G that exists today which flew combat missions during World War II and has been completely restored by volunteers of the 512th Military Airlift Wing (Associate), United States Air Force Reserve, and members of the 512th Antique Aircraft Restoration Group, Dover Air Force Base, Delaware.

Shoo Shoo Baby has been under the care of MSgt Ray McCloskey and his team of volunteers since 1978 when the Air Force Museum accepted the offer of the 512th to restore the aircraft.

Boeing B-17G-35-BO was assigned the serial number 42-32076 and delivered from the Seattle plant to Wright Field, Ohio, January 24, 1944. It was then delivered to the US Army Air Corps depot in Burtonwood, United Kingdom, March 2, 1944. Following her assignment to the 401st Bomb Squadron, 91st Bomb Group, 8th Air Force, she was flown in combat for the first time March 24 by Lieutenant Paul McDuffee, Allied Air Force Station, Bassingbourn, England.

That first bombing mission was a raid on Frankfurt, Germany. During the next two months, Lt. McDuffee and his aircrew completed 19 more raids into Germany and France. Her combat duty ended May 29, 1944 during a raid against Posen, Poland, when engine troubles forced her new pilot, Lt. Robert Guenther, to land the plane in neutral Sweden.

"Shoo Shoo Baby" was one of nearly seventy B-17s to force-land in neutral Sweden, and one of three from the 91st Bomb Group.

The Swedish government was officially given seven B-17s as a gift and in exchange, our American flight crews were repatriated. "Shoo Shoo Baby's" nose was lengthened three feet with provisions made for accommodating fourteen passengers and 4,400 pounds of cargo in the bomb bay.

She was first registered as SE-BAP in November 1945 then went to the Danish Airlines as OY-DFA, affectionately known as "Stig Viking". During her tenure as a passenger

airline, she flew to such locations as Khartoum and Johannesburg as well as many other European points.

The Royal Danish Air Force obtained "Shoo Shoo Baby" and gave her the serial number 672 as well as another nickname, "Store Bjorn," meaning "Great Bear". After being fitted with special equipment, she was used for aerial survey work in Greenland. The Navy Air Arm of the Royal Danish Air Force also used her for the same purposes. During this period, "Shoo Shoo Baby" made flights to Iceland, Canada and one to her native land, the United States.

The Danish officially retired her from service in January 1953.

In 1955, "Shoo Shoo Baby" was purchased by the Babb Company of New York and they in turn sold her to the Institute Geographique National in Paris, France. She was then registered as F-BGSH and flew as a survey aircraft. She had windows installed in her floor for the geographic missions. She was retired for the last time in July 1961.

Several years later, she was discovered by an Australian air historian and author, Steve Birdsall, on a ramp at Criel, France with her engines missing. He contacted the 91st Bomb Group Memorial Association and the efforts were begun to save her from the scrap heap.

As a gesture of friendship to the United States, the French government presented the B-17G "Shoo Shoo Baby" to American officials in 1971 for preservation by the Air Force Museum. The combat veteran was disassembled for shipment by truck to Frankfurt and then airlifted by C-5A to Wright-Patterson AFB, Ohio.

From the time of her arrival in June 1972, until July 1978, "Shoo Shoo Baby" sat in crates on the ramp at the Air Force Museum when the 512th Military Airlift Wing volunteered to restore the plane to her wartime condition.

A crew led by MSgt Ray McCloskey has literally put the "Flying Fortress" back together and she is now ready to join the ranks of other famous Air Force aircraft at the USAF Museum.

OWNER/OPERATOR	USAGE	DATE
United States Army Air Force (Ferry Command)	Delivery	Jan. 24, 1944
8th Air Force, 91st Bomb Group, 401st Squadron	Heavy Bomber	Mar. 1944
Last Mission —	Internment in Sweden	May 29, 1944
Swedish Government	Conversion to Airliner	Dec. 4, 1944
Swedish Civilian Registration	Airliner	Nov. 2, 1945
Danish Airliner	Airliner	Nov. 5, 1945
Danish Army Flying Corps	Mapping	Mar. 31, 1948
Danish Navy Flying Corps	Survey	Dec. 1, 1949
The Babb Co. Inc. N. Y.	Resale	Feb. 2, 1955
French National Geographic	Mapping	May 6, 1955
Retired from Service	Storage at Criel, France	Jul. 15, 1961
United States Air Force, Rhein Main AB, Germany	Disassembled for Shipment	Jan. 23, 1972
United States Air Force	Airlifted to Wright-Patterson AFB	Jun. 14, 1972
United States Air Force	Storage	June 1972
512th Military Airlift Wing	Restoration	July 1978
United States Air Force Museum	Display	Oct. 15, 1988

# Shoo Shoo Baby Crew Members

## PILOTS

Lt John L. Black  
Lt Philip R. Goynes  
Lt Roy J. Griesbach  
Lt Robert J. Guenther\*\*  
Lt Thomas H. Gunn  
Lt Paul G. McDuffee\*  
Lt Sam Newton

## CO-PILOTS

Lt Ralph J. Bell  
Lt Harold R. DeBolt  
Lt Richard T. Fressey  
Lt George Havrisik\*\*  
Lt John E. LaFontin\*  
Lt Joseph J. Kozina  
Lt Walter R. Langford  
Lt Charles R. Peck  
Lt Bert Stiles  
Lt Robert J. Guenther

## NAVIGATORS

Lt Grant H. Benson  
Lt Howard L. Hutchinson  
Lt Frank T. Keneley\*  
Lt John M. Lowdermilk\*\*  
Lt John P. McLaren  
F/O Apu E. Pinkerton  
Lt John W. Ryan  
Lt John R. Simonson  
Lt Lawrence F. Sylvester, Jr.  
Lt Benjamin H. Yarborough

## BOMBADIERS

Lt Lester Biot  
Lt Donald R. Bird  
Lt Maurice A. Bonomo  
Lt Leo D. Godfrey  
SSgt William A. Grant  
Lt Patrick N. Kennedy\*  
Lt Leonard V. Peterson\*\*  
Lt John R. Piland  
Lt Jerome D. Pope  
SSgt Elmer Weaver, Jr.



*Shoo Shoo Baby in her only known picture without nose art, with her crew, including: (back row) Harry Soderberg, George Bogert, Charles Borchert, Hank Cordes, Charles Brahman, Edward Gallagher, Eldon Hughes; and (front row), Maurice Bonomo, Paul McDuffee, Larry Sylvester and W. Robert Langford*

## RADIOS

TSgt Daniel S. Abeles\*  
SSgt John P. Armstrong  
TSgt John H. Bigham\*\*  
TSgt Charles R. Braman  
TSgt Robert G. Hartford  
SSgt Jack L. Sayre  
TSgt Russell D. Shields  
TSgt Edwin C. Ross

## RIGHT WAIST

SSgt Harry V. Banes  
SSgt Jack S. Bond\*  
SSgt Charles M. Borchert  
Sgt Harvey W. Brundage  
SSgt Junior H. Clifton  
SSgt Basil J. Crone  
SSgt Leland H. Fleming  
Sgt Eldon H. Hughes  
SSgt Robert J. Jackson  
SSgt Barry V. Lane  
SSgt Harold F. Nicely\*\*

## LEFT WAIST

SSgt Charles E. Clark  
SSgt Robert O. Duncan  
SSgt Daniel E. Harrington, Jr.\*  
SSgt John Hinda  
Sgt Walter Peacock  
Sgt Harry R. Small  
Sgt Bernice L. Stanton  
Sgt Eldon H. Hughes

## TOP TURRET

SSgt Stewart B. Butler  
TSgt Joe Z. Cardwell  
SSgt Eugene J. Letalien  
TSgt William F. Lewis  
TSgt George W. Parks  
Sgt Sebastiano F. Ripa  
TSgt Richard R. Saffell  
TSgt James Shoosmith\*\*  
SSgt Harry A. Soderberg  
TSgt Samuel L. Sommers, Jr.\*  
TSgt Emil J. Viskocil

## BALL TURRET

SSgt Andrew Adelbo  
SSgt Gordon E. Beach  
SSgt George H. Bogert  
SSgt Price D. Dougherty  
SSgt Freeman A. Ford  
SSgt Nick P. Premenki\*\*  
Sgt Ralph E. Rigaud  
SSgt Donald E. Schwab\*

## TAIL GUNNER

Sgt Marion F. Allen  
SSgt Paul C. Bara  
SSgt Edward J. Gallagher  
SSgt John D. Hamner  
SSgt Maurice P. LaCasse\*  
SSgt Edward L. Sharpe  
SSgt SSgt Harry R. Small  
SSgt Robert D. Smith  
SSgt Harry J. Teems\*\*  
SSgt Woodrow W. Tressler

\*Crew members of first combat mission 24 March 1944

\*\*Crew members of last combat mission 29 May 1944

# Shoo Shoo Baby's Combat Record



<i>Date:</i> 1944	<i>Target</i>	<i>Pilot</i>
24 Mar	Frankfurt	Lt Paul McDuffee
26 Mar	Marquis-Mimbyecques	Lt Paul McDuffee
27 Mar	St Jean D/Angeley	Lt Paul McDuffee
28 Mar	Reims-Champagne	Lt Paul McDuffee
8 Apr	Oldenburg	Lt Paul McDuffee
9 Apr**	Marienburg	Lt Paul McDuffee
11 Apr	Stettin	Lt Paul McDuffee
18 Apr	Oranienburg	(Believed McDuffee)
20 Apr	Croisette-Beauvoir	Lt Paul McDuffee
22 Apr	Hamm	Lt John L. Black
26 Apr	Brunswick	Lt Roy Griesbach
28 Apr	Avord	Lt Philip Goynes
29 Apr	Berlin	Lt Roy Griesbach
1 May	Troyes	Lt Thomas Gunn
7 May	Berlin	Lt Paul McDuffee
11 May	Konzkarthus	Lt Paul McDuffee
13 May	Stralsund	Lt Robert Guenther
19 May	Berlin	Lt Paul McDuffee
22 May	Kiel	Lt Paul McDuffee
24 May	Berlin	Lt W. Langford
25 May*	Nancy/Essey	Lt Sam Newton
27 May	Ludwigshafen	Lt R. Cable
28 May*	Dessau	Lt W. Langford
29 May	Poznan	Lt Robert Guenther

\*Mission Aborted

\*\*On this day the 91st wing was recalled, however, two airplanes, Shoo Shoo Baby from the 401st and Lt Fred Gardner's 42-97563 from the 323rd Squadron, attached themselves to the 41st Combat Wing and completed the mission.



# Her Makeup through the Years

SHE'S forty-four this year, but she certainly doesn't show her age. Since her "birth" in a factory four decades ago, she has definitely lived a full life.

"Shoo Shoo Baby" was built by the Boeing Aircraft Co. in Seattle, Washington. She is B-17G-35-BO, Serial #4232076. This means she was in the thirty-fifth block of "G" models built by Boeing. The first digit of the serial number shows it was built in 1944. "Shoo Shoo Baby" was delivered to Bassingbourn, England, home of the 91st Bomb Group, in March of 1944.

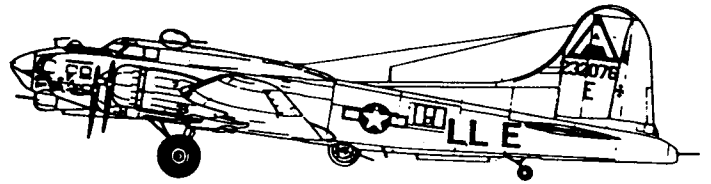
In the next three months, she flew 21 successful missions, but on her 24th mission to Posen, Poland the #3 engine failed shortly after crossing the German border. "Baby's" crew continued to the target and dropped their bomb load but lost a second engine over the target. When it became obvious that they would not reach England, the crew headed for the neutral border of Sweden, ditching all loose equipment on the way. On final approach to Malmo, Sweden, a third engine failed, but the crew successfully landed the aircraft.

In December 1944, the Swedish government was officially given "Shoo Shoo Baby" and six other aircraft, which were converted for airline use. The Danish airlines received her in November 1945, and used her in passenger service until 1948, when the Danish Army Flying Corps bought her for use in radio communications and transport work. In 1953, she was retired from service, and in 1955, the Babb Company (an airplane broker) bought her and resold her to the French Institute Geographique National for high altitude survey mapping work.

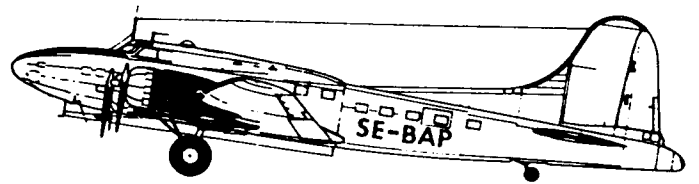
In 1961, she was again retired and sat on the airfield at Creil, France, until 1971, when negotiations were completed in which the French, as a gesture of friendship, donated the plane to the United States. In January 1972, a USAFE maintenance team arrived to disassemble her for the trip to Frankfurt, Germany, for shipment to the United States Air Force Museum at Wright-Patterson AFB in Ohio. Ironically, "Shoo Shoo Baby" bombed Frankfurt on her first wartime mission.

The B-17 sat in her packaging crates at the Air Force Museum until March 1978, when the 512th Military Airlift Wing offered to restore "Shoo Shoo Baby" to her original flying condition as a combined public service and maintenance training project. After arrangements were completed in July 1978, the aircraft was shipped to Dover AFB. The bomber originally had a bare metal finish, but 16 years of neglect outdoors, the deterioration of the alclad coating on the skin, and the replacement of large sections of damaged or modified skin have made painting "Shoo Shoo" a necessity. It is now painted in the proper colors for aircraft used in the same squadron before the bare metal finish came into use. Tony Starcer, the original artist, repainted the Vargas pin-up girl on the plane.

The restoration project was financed in part from funds of the Air Force Museum. The largest portion of the B-17 restoration's financing came from sales of shirts, caps, and other memorabilia by the 512th Antique Aircraft Restoration Group, and by monetary donations from civic groups, World War II memorial associations, scout groups, and individual contributions of the public. All of the restoration work was done by volunteers. (Compiled from 512th MAW/PA)

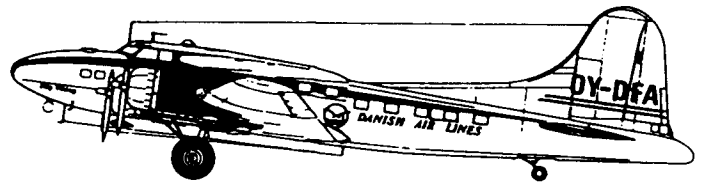


91st Bomb Gp. 8th A.F. **Shoo Shoo BABY** March to May 1944



Sweden (SAAB) flight test

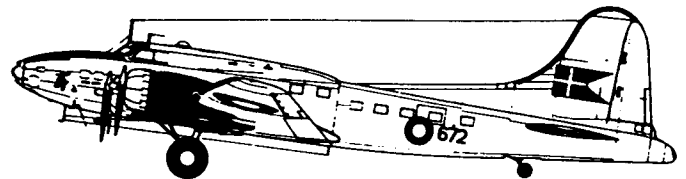
Oct. 45



Danish Air Lines

**Stig Viking**

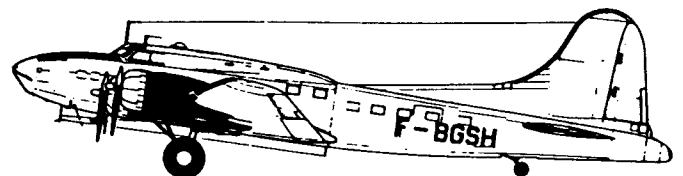
Nov. 45 to Oct. 47



Danish Army  
Danish Navy  
Royal Danish Air Force

**Store Bjorn**

Mar. 48 to Dec. 49  
Dec. 49 to Oct. 52  
Oct. 52 to Oct. 52



French National Geographic Institute

May 55 to Jul. 61

# Recovery from France

**I**N early February 1972, the last of a 12-man U.S. Air Force crew returned to Wiesbaden AB from a World War II bomber mission in France.

No, the airmen had not been missing for the past 28 years—they had been on this bomber mission for less than two weeks.

The men, all stationed on Wiesbaden AB, were sent into France to recover a famous B-17 “Flying Fortress” bomber for the Air Force Museum in Ohio.

It seems the B-17 on display at the museum has no combat time and the one in France had a colorful European war record.

Named “Shoo Shoo Baby,” this war-experienced B-17’s last war action was a bombing raid on Posen, Poland, May 29, 1944. It was last reported with its number four engine smoking after dropping bombs on the target.

Later it was learned “Shoo Shoo Baby” had made it to Sweden where the crew and aircraft were interned. The aircraft after the war was given to that country. Still later “Shoo Shoo” was modified into a transport in Denmark and eventually sold to France where she was used until 1961.

After many months of negotiations between the U.S. air attache in Paris and the French government, “Shoo Shoo Baby” was given to the U.S. Air Force in late 1971.

Air Force contacted HQ USAFE for assistance in getting the Fort out of France. USAFE tasked the 7101st Air Base Wing and the wing selected a six-man aircraft maintenance team and another six-man transportation team.

CMSgt William D. Quinn of the 7101st Materiel Sq., was the project officer and maintenance team chief. He was assisted by SMSgt Elton P. Strom, MSGts Martin R. Maez, Sr., and Clarence G. Varnell, Jr., TSgt Ronald T. Cwetna and SSgt Billy G. Robinson, all from the 7101st Materiel Sq.

Transportation team chief, TSgt Claude W. Edmonds was assisted by SSgts Donald C. Kirtley and Clarence F. Switzer, Sergeants Robert L. Johnson, Jr. and Larry Jones and A1C Dennis H. Yamauchi all from the wing’s Transportation Division.

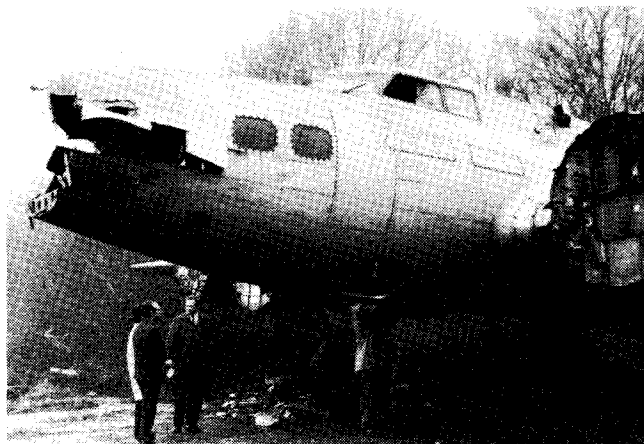
The airmen were not to fly the veteran aircraft out—they were to disassemble it and “drive” it out loaded on tractor trailers.

If their job seems easy consider the following:

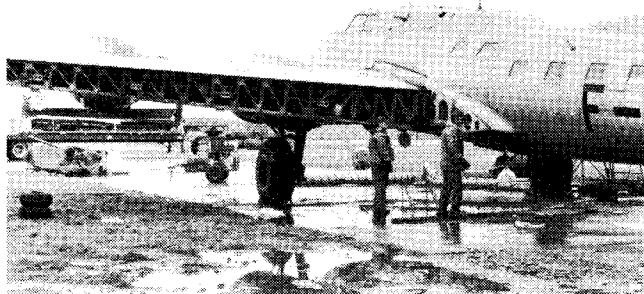
- The weather in France during their TDY period was either raining, snowing or freezing;
- Many aircraft parts were time-welded (frozen) together as the last maintenance had been performed in the 1960s;
- Many parts had to be cut to permit the vehicles to stay within the French and German load limits, and finally,
- Each round trip from the French air base to Wiesbaden required 18 hours of driving time. Seven vehicle loads were required.

The last truckload of parts of “Shoo Shoo Baby” arrived at Wiesbaden AB Feb. 5. On Wiesbaden she underwent a piece-by-piece classification, packing and crating.

“Shoo Shoo Baby” flew her last mission in style—she was flown out of Rhein-Main AB inside a giant C-5 Galaxy June 14. Her destination: an honored spot in the Air Force Museum, Wright-Patterson AFB, Ohio. (George Sterling, Wiesbaden Post, June 30, 1972)



*U. S. Air Attache Office, Paris, France, and French officials examine Shoo Shoo Baby at Criel Air Base, France in 1971.*



*Maintenance personnel from the 7101st Materiel Squadron, USAFE, begin the job of preparing Shoo Shoo Baby for shipment to Wiesbaden AB, Gy.*



*Ready to roll, Shoo Shoo Baby was transported in seven loads from Criel to Wiesbaden.*



*CMSgt Bill Quinn (left) and members of the maintenance team who recovered Shoo Shoo Baby from Criel Air Base, France in January 1972.*

# Restoration

**T**HE clatter of a rivet gun lets you know she's not your typical pretty lady preparing for a special date. Instead of makeup, she's wearing green paint; and instead of earrings, machine gun turrets. No, she's not really a lady — she's a renovated WW II bomber named "Shoo Shoo Baby."

She arrived at Dover AFB in 27 crates in July 1978 after the 512th Military Airlift Wing (Associate) agreed to restore her as a public service and training project.

The project was no small task, depending solely on volunteers to slowly piece "Baby" back together.

"It's been a total community effort to put the airplane back together," said Col Keith Reiling, 512th MAW commander, explaining that hundreds of volunteers from both wings, as well as other interested parties did everything from scraping off old paint to hanging propellers to giving tours.

Four of the volunteers, Ray McCloskey, Vic Rossica, Dan Vasey, and Tom Corbeil, have been with "Baby" since she arrived.

McCloskey said most of the group are 'jacks of all trades.'

"Tom Corbeil is basically the only specialist of the group," he said. "He's done all of the painting and some of the corrosion work. The rest of us have done everything from sheet metal to assembling the props. I've done the electrical wiring and intercom system."

McCloskey, project manager, said the first part of the renovation was to splice about four feet of nose section that was removed onto the airplane.

"Next the radio compartment, extra seats and windows were installed. Once the flooring and structure for the ball turret in the center of the fuselage was complete, the forward and aft fuselage were put together."

Then it was time to start installing the parts of her that would make her fly. They started with the vertical stabilizer, two horizontal stabilizers, rudder and two elevators.

"Then we worked on the right wing for a year and a half," he said. The left wing was next, then came the main landing gear. "Shoo Shoo Baby" was then taken off the supporting jacks and set on the floor, he said.

The fuel tanks, engines, wiring and systems were then installed.

"Putting on the wings was the brute work; putting the systems together was the intricate part," McCloskey said.

And how does it feel knowing that their 10-year project is finished?

"I thought about it years ago," said Vasey, "but that day was so far away I didn't worry about it coming. Now it's here."

McCloskey said it would be nice to keep the combat veteran flying instead of settling down where she will only be looked at, "but that's too risky."

"You always take the chance of something happening to the airplane. If it were to crash, you would lose it forever. It's best to have it in a static setting where a lot of people can come in and appreciate the airplane."

Vasey said they accepted from the beginning that the airplane never really was theirs. "You always knew that it belonged to the Air Force Museum. You just kind of accept that and strive to get it flying for the final flight."

Vasey said it has been a rewarding project to see the systems all starting to work again. The first time we put power on and saw the lights operate, saw the gears go up and down, and saw the flaps move, it was like the airplane took a heartbeat and came alive again. It was an exciting moment."

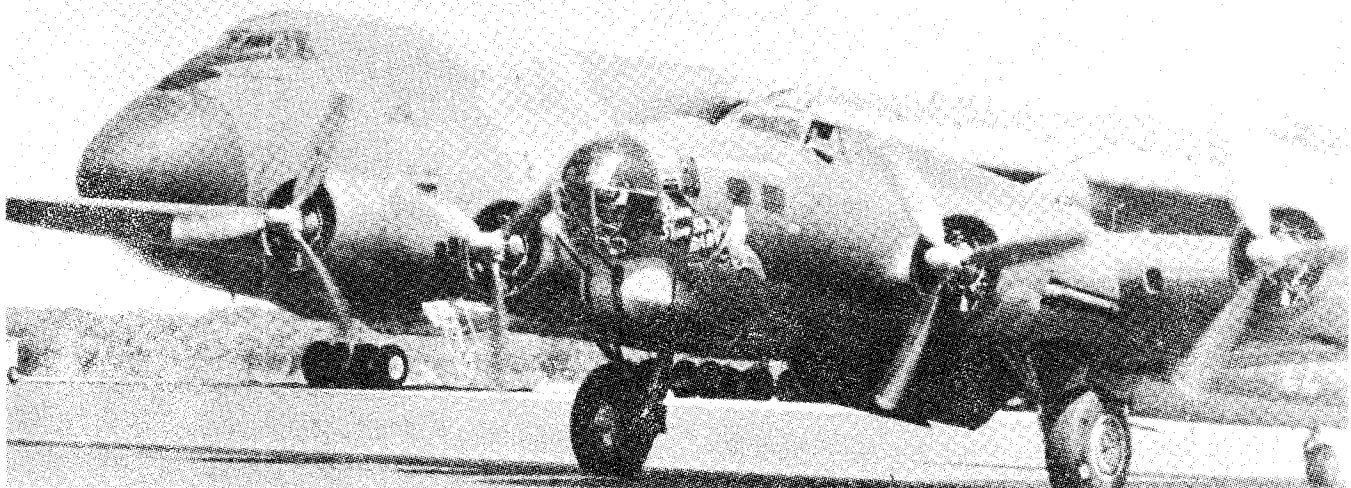
On the weekend of Aug. 13 and 14 it was time to test further.

Dr. William Hospers, retired Army colonel who privately owns a B-17, was selected to fly "Shoo Shoo Baby" to the Air Force Museum. Together with the co-pilot for the mission, Maj. Quinton Smith from the 326th Military Airlift Squadron of the 512th MAW, he took the airplane out Aug. 13 for a high speed taxi test.

"They took her down runway 19," said Colonel Reiling, and accelerated to about 100 knots and found out she was very airworthy." He said there was only a minor shimmying in the tail that was fixed that evening.

The following day the taxi test was repeated, with one addition — lift off.

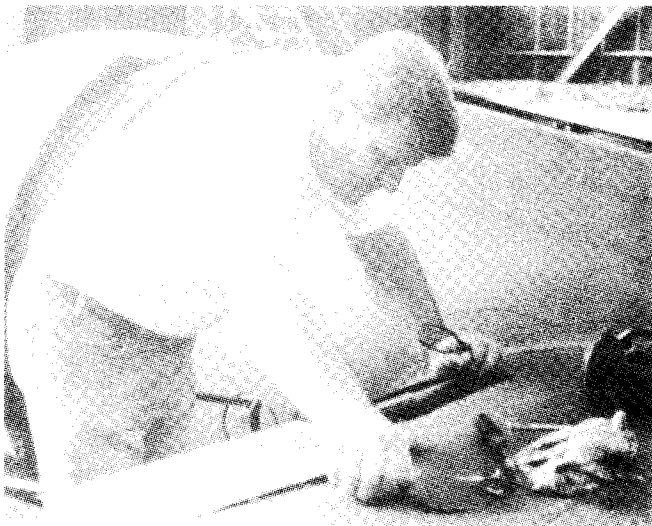
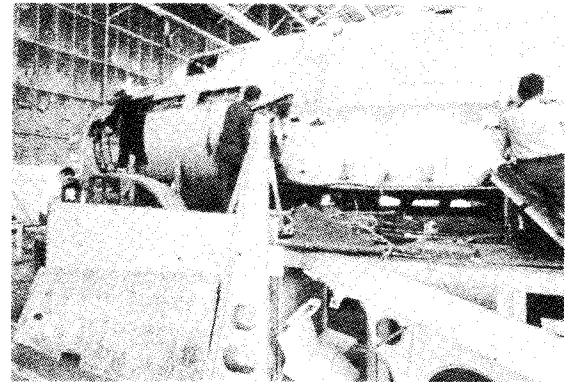
The four renovators were also on board. "I felt very elated and proud that we had done the job we had set out to do," said McCloskey. (TSgt Darrell Lewis, 436th MAW/PA)



*Operational again, Shoo Shoo Baby taxis past a C-5 Galaxy during flight tests at Dover AFB, Del.*



*Shoo Shoo Baby arrives at Wright-Patterson AFB in June 1972. Her first combat pilot, Paul McDuffee, gives a greeting from the cockpit to Maj. General Stanley Wray as Colonel Bernie Bass looks on (above left). In July 1978, personnel of the 512th MAW, Dover AFB, Del., off-load Shoo Shoo Baby from a C-5 Galaxy to begin a ten year restoration project (above right). Volunteers of the project prepare Shoo Shoo Baby before pinning on her wings (right) as project officer MSgt Ray McCloskey works on an oil cooler (below). The late Tony Starcer, her original artist, recreates the Vargas pin-up on her nose (lower right). Shoo Shoo Baby in the B-17 hangar at Dover AFB waiting for new props and a "nose job" (bottom).*







**A**s a footnote to this ceremony at the USAF Museum to welcome *Shoo Shoo Baby* home, it is impossible to mention by name all the thousands of people and numerous organizations who contributed time, talent and money to this historical event which further preserves the tradition and history of the United States Air Force. Yet, a few must be singled out without offending others who have kept the dream and legacy of *Shoo Shoo Baby* alive for the past twenty years. They are:

Steve Birdsall who found her  
 Robert C. Seamans, Jr., former Secretary of the Air Force  
 General Bryce Poe, II, USAF (Ret),  
 former Deputy Chief of Staff/Logistics,  
 Hq, USAFE and Commander, Air Force Logistics Command  
 Major General Stanley T. Wray, USAF (Ret),  
 former 91st Bomb Group Commander  
 Colonel Joseph D. Hornsby, USAF (Ret), former Director, USAFM  
 Colonel Bernie S. Bass, USAF (Ret), former Director, USAFM  
 Mark C. Sloan, former Director and Curator, USAFM  
 Royal D. Frey, former Chief, Research Division and Curator, USAFM  
 Richard E. Baughman, former Chief, Public Affairs, USAFM  
 Captain Thomas C. Harrington, USAFE Recovery Project Officer  
 CMSgt William D. Quinn, USAF (Ret),  
 Recovery Team Chief, 7101st Material Squadron, USAFE  
 MSgt Michael Leister, original Restoration Project Coordinator,  
 512th MAW (AFRES)  
 MSgt Raymond J. McCloskey, Restoration Project Officer,  
 512th MAW (AFRES)

Members of the Office of the Air Attache,  
 United States Embassy, Paris, France, 1969–1972  
 French Institut Geographique National  
 Government of France  
 91st Bomb Group Memorial Association  
 Members of the Art and Museum Branch, Community Relations Division,  
 Secretary of the Air Force Office of Public Affairs  
 Eighth Air Force Historical Society  
 Members of the 512th Military Airlift Wing (Associate) (AFRES)  
 Members of the 436th Military Airlift Wing (MAC)  
 Air Force Logistics Command  
 Military Airlift Command  
 United States Air Force Reserve  
 United States Air Forces, Europe

<p>Colonel Keith T. Reiling          Commander, 512th MAW</p>								
<p><b>512th Antique Aircraft Restoration Group, Inc.</b>          Colonel Emmett Venett, Jr. – Chairman</p>								
<p><b>Members</b></p>								
<table> <tr> <td>MSgt Raymond McCloskey</td> <td>SMSgt Vic Rosica</td> </tr> <tr> <td>TSgt Dan Vasey</td> <td>2Lt Roberta L. Buchmoyer</td> </tr> <tr> <td>MSgt Tom Corbeil</td> <td>James Reed, (Ret), USAF</td> </tr> <tr> <td colspan="2">Ms Jan Sibbald, Civilian</td> </tr> </table>	MSgt Raymond McCloskey	SMSgt Vic Rosica	TSgt Dan Vasey	2Lt Roberta L. Buchmoyer	MSgt Tom Corbeil	James Reed, (Ret), USAF	Ms Jan Sibbald, Civilian	
MSgt Raymond McCloskey	SMSgt Vic Rosica							
TSgt Dan Vasey	2Lt Roberta L. Buchmoyer							
MSgt Tom Corbeil	James Reed, (Ret), USAF							
Ms Jan Sibbald, Civilian								

## Air Force Museum Foundation, Inc.

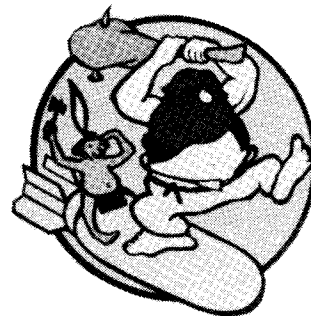
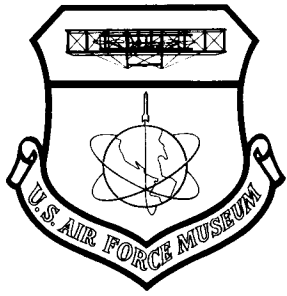
### *Board of Managers*

John F. Torley, *Chairman*  
 John W. Berry, Sr., *President*  
 William S. Anderson, *Vice President*  
 Ervin J. Nutter, *National Campaign Chairman*  
 C. Frank Scarborough, *Treasurer*  
 Frederick C. Wolf, *Executive Secretary*  
 E. Bartlett Brooks  
 Clarence J. Brown  
 Honorable Michael DeWine  
 Brother Raymond Fritz  
 Honorable Tony Hall  
 General Alfred G. Hansen  
 Paul L. Hyde

Richard J. Jacob  
 Jarvis S. Janney  
 Virginia W. Kettering  
 Dr. Richard H. Kohn  
 Robert S. Margolis  
 Steve C. Mason  
 Brigadier General Michael P. McRaney  
 General Jack G. Merrell, USAF (Ret)  
 Gerald S. Office, Jr.  
 Linda S. Smith  
 Colonel Richard L. Uppstrom, USAF (Ret)  
 Dr. Peter D. Williamson  
 John D. Woods

## USAF Museum Staff

Colonel Richard L. Uppstrom, USAF (Ret)  
*Director*  
 Jack B. Hilliard, *Curator*  
 Colonel Joseph C. Winsett, USAF  
*Asst. to the Director*  
 Linda S. Smith, *Chief, Public Affairs*  
 Geoffrey L. Hays, *Chief, Operations*  
 Joanna L. Jump, *Chief, Administration*  
 Charles G. Worman, *Chief, Research*  
 Harold E. Longberry, *Chief, Restoration*  
 Dr. Donald D. Dickerson, *Chief, Exhibits*  
 Joe F. Skinner,  
*Chief, Collection Management.*  
 Robert T. Malishenko,  
*Coordinator, USAFM Program*



Copies from Gen. Arnold's Base "8th Bomber  
Command 1943." 1/18/44.

CONFIDENTIAL

26950

TAB A

Unsatisfactory

26950 A.C. - Solingen, Germany - Adverse weather continues over continent, but U.S. Army Air Forces Boeing B-17s attack Germany's Largest Light Metal Alloy Works. (Cloud Carpet at 23,000) Dec. 1, 1943.

A-26950 A.C. - Solingen, Germany - Adverse weather continues over continent, but U.S. Army Air Forces Boeing B-17s attack Germany's Largest Light Metal Alloy Works (Group Leader Releases)

B-26950 A.C. - Solingen, Germany - Attacking Focke-Wulf FW-190s as seen from Boeing B-17.

**NEGATIVE CONDITION**

SHARP  FAIR  UNSAT.

FLAT  CONTRASTY  SOFT

COPY  FINE PRINTS

PINPOINTS  SCRATCHES

DIRT  FOG  OTHER

6

25-1-78

DATE

Return to Mr. D. J.

CLOUD CARPET AT 23,000'.



26950 AC

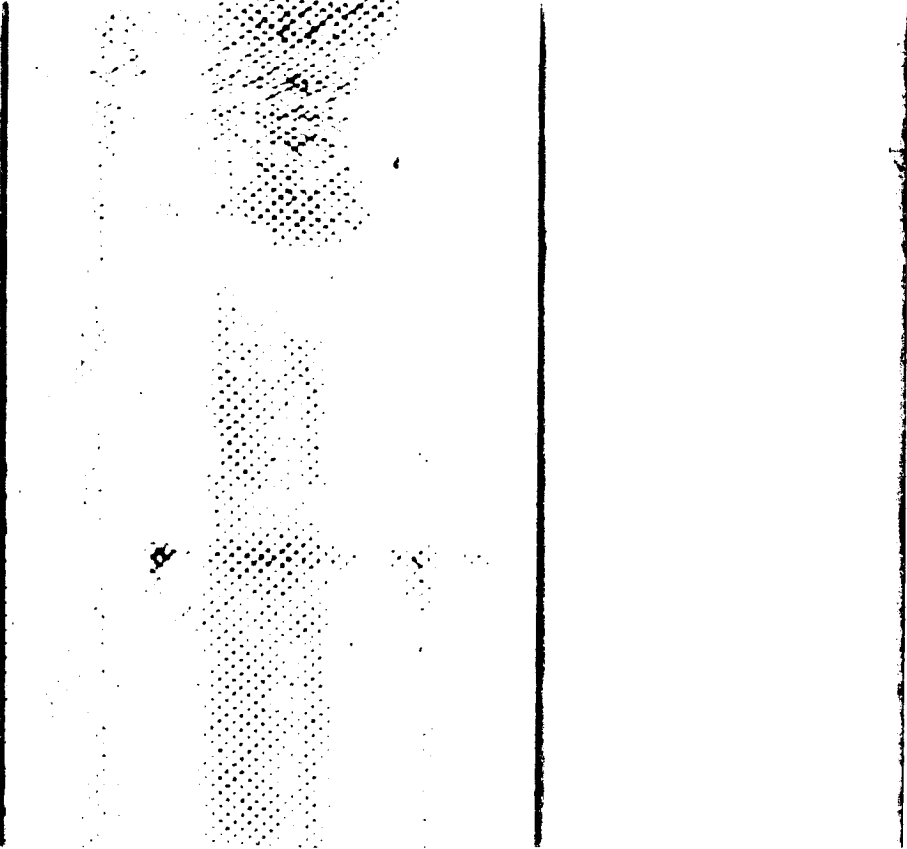
GROUP LEADER RELEASES.



A-26950 A.C.

51639 AC - TEAMWORK -- Bombs can be seen dropping from  
the bomb bay doors of these Boeing B-17  
Flying Fortresses of the U.S. Eighth AAF  
during one of their recent missions deep  
into Germany....

U. S. AIR FORCE PHOTO





75272 A.C. - Consolidated B-24 "Liberators" fly in  
formation while enroute to bomb enemy  
installations at Bettrop, Germany. 11 Nov. 1944.

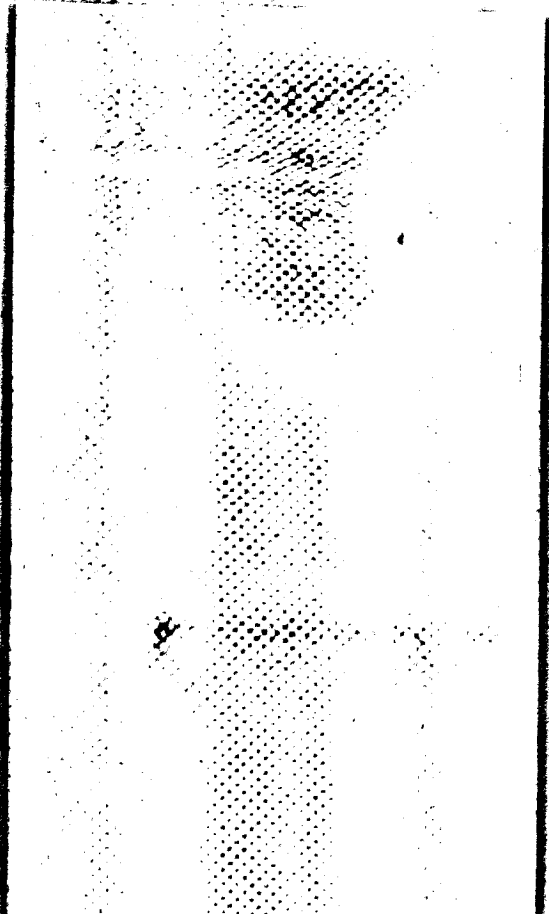
U.S. AIR FORCE PHOTO





52746 AC - A formation of U.S. 8th AAF B-17 Flying Fortresses launch their bombs down onto Nazi Communications centers during one of their recent daylight attacks deep into Germany.

U.S. AIR FORCE PHOTO



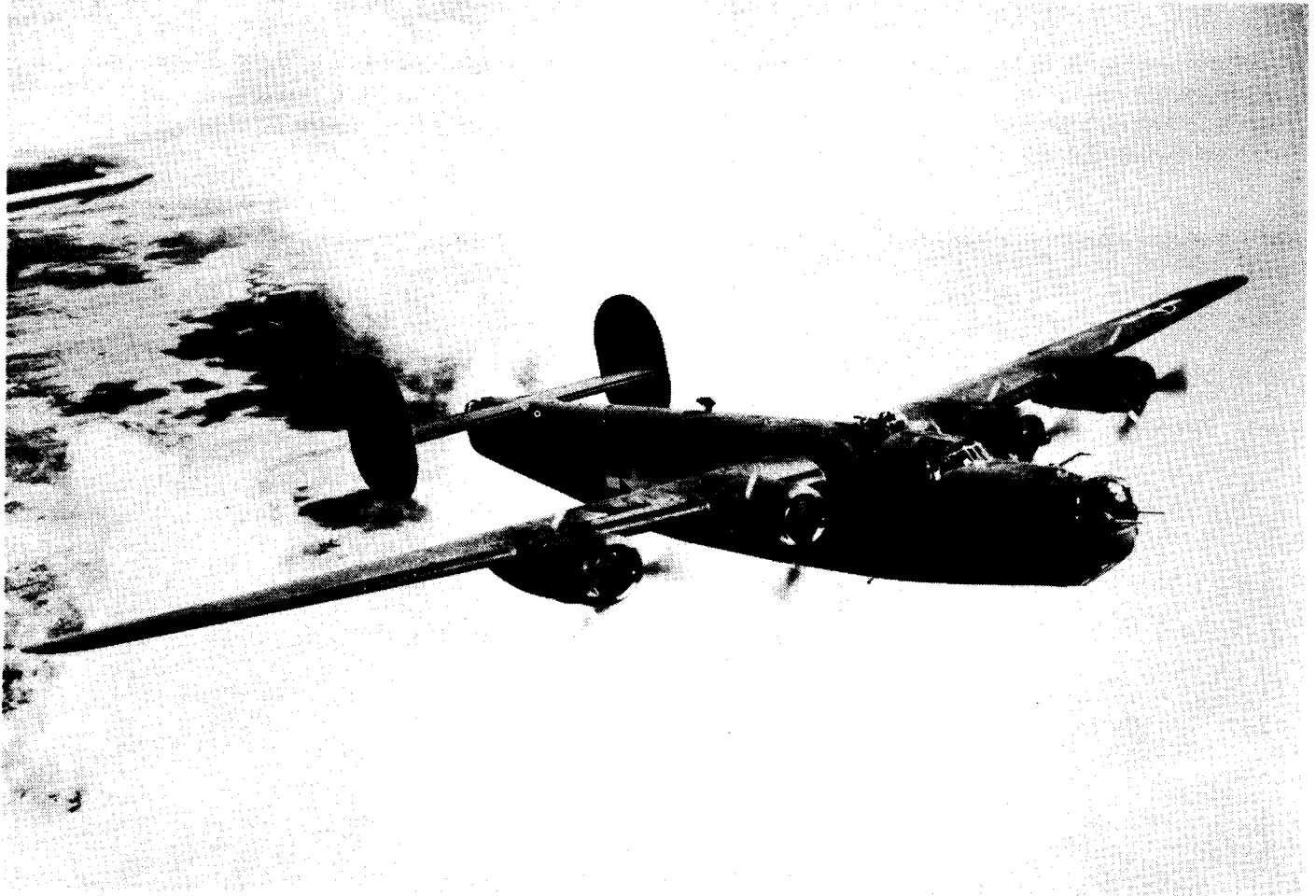


52746 AC.

7-2-1  
19-2

*Consolidated Vultee/General Dynamics*

# **B-24 LIBERATOR**



More B-24 Liberator bombers were deployed during World War II than any other type of four-engine bomber. Approximately 18,000 of the Consolidated Vultee-designed bombers were constructed, in addition to nearly 1,800 equivalent spares. Consolidated Vultee later became known as Convair and merged with General Dynamics. More than 3,000 B-24s and C87 cargo versions of the aircraft were assembled at General Dynamics' Fort Worth Division during World War II.

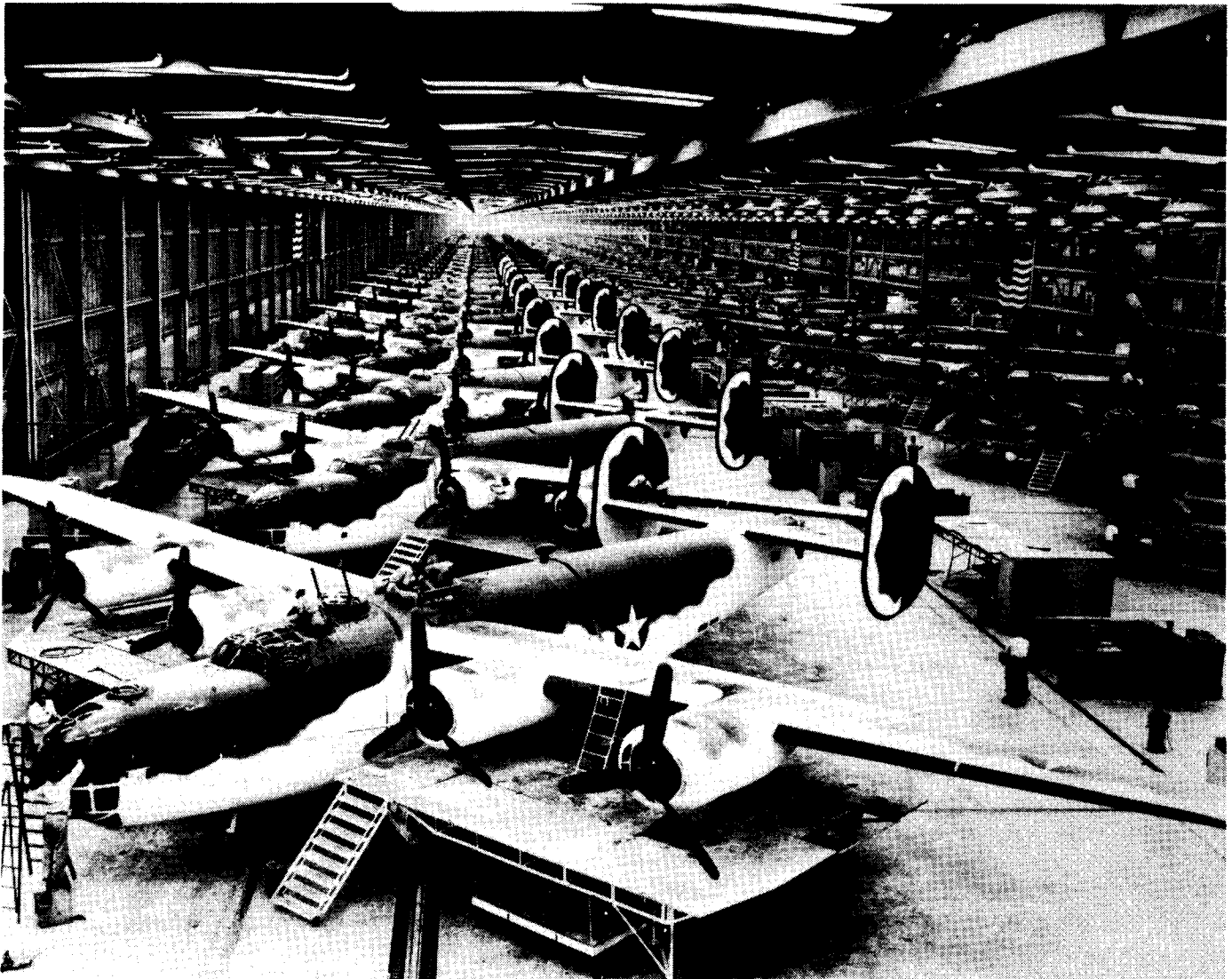
Formations of B-24s were used on the extremely long-range bombing missions in all theaters of the war, dropping an impressive total of 634,831 tons of bombs. They pounded enemy installations in Europe and Africa; dropped tons of bombs throughout the Pacific zone of war; and played the major role in the successful battle of the American and British navies against enemy submarines. They flew a total of 312,734 sorties. Their .50 caliber machine guns knocked down 4,189 enemy aircraft. The U.S. Navy designation for the Liberator is PB4Y-1.

Transport versions, designated Liberator Express C-87, were extensively used to carry military equipment and personnel on transoceanic and other long-range flights.

Toward the end of the war a single tail version, known as the B-24K and B-24N, was designed, but only a few were built.

Maximum speed of the B-24 was over 300 mph, and maximum cruising speed was 230 mph. The Liberator operated at gross weights ranging from 56,000 to 66,000 pounds. Under emergency conditions, B-24s have taken off with a gross weight of 72,000 pounds.

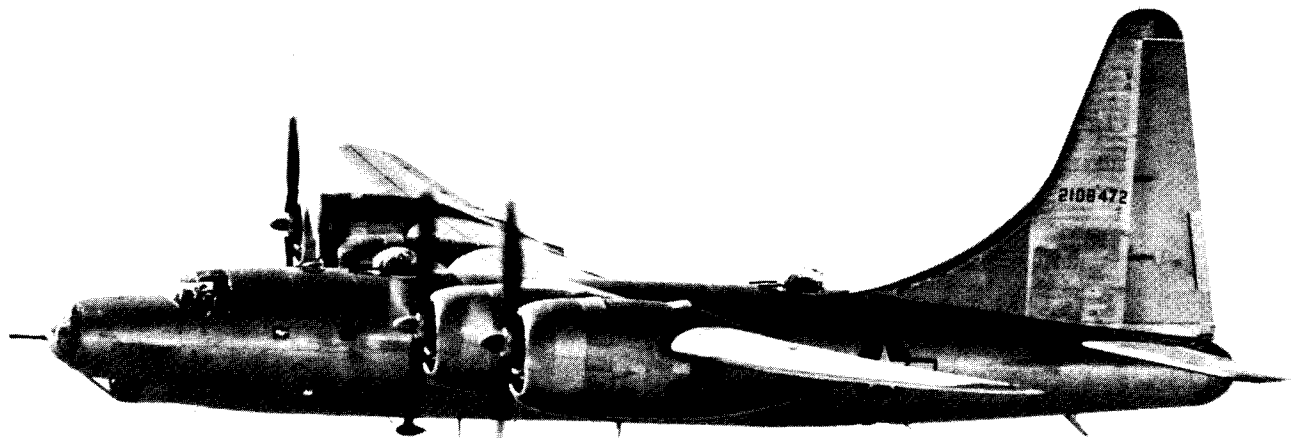
Heavily armed, the B-24J Liberator was equipped with four power operated turrets, each mounting twin .50 caliber machine guns. Two waist .50 caliber guns also were provided. It was powered by four Pratt & Whitney R1830 1,200 hp engines. Wingspan was 110 feet; length 67 feet two inches; height 18 feet.



More than 3,000 B-24s and C-87 cargo versions of the aircraft were assembled at General Dynamics' Fort Worth Division during World War II. B-24D in foreground was delivered June 28, 1943.

*side  
19.2  
42*

# Consolidated Vultee / General Dynamics **B-32 DOMINATOR**



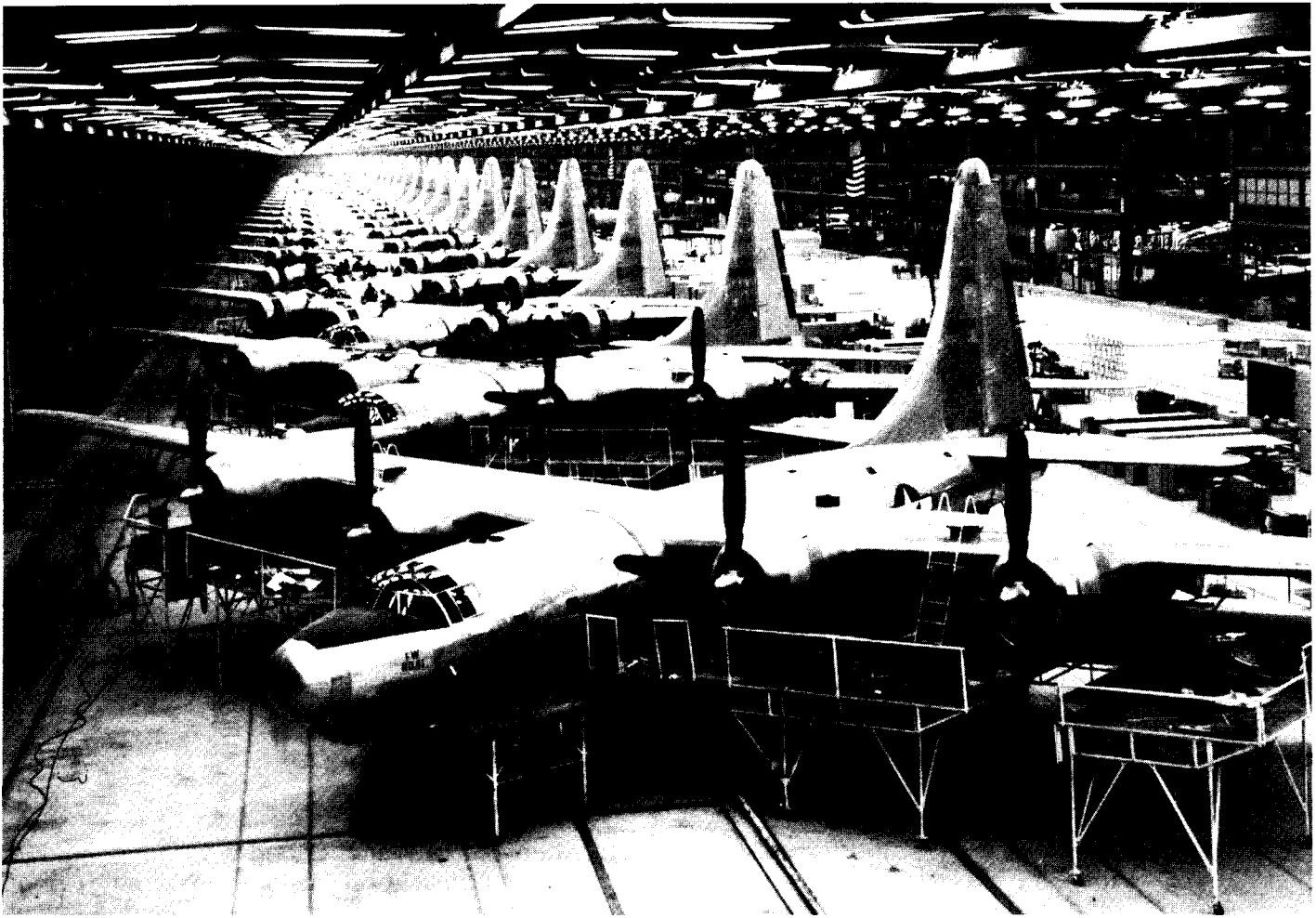
The nation's most modern heavy bomber when World War II ended was Consolidated Vultee's B-32 Dominator. Production of the new aerial weapon was getting into high gear when the war ended and the Army Air Force said the B-32 was no longer needed. A few of the 115 four-engine bombers arrived in the Pacific war zone and saw limited service in the closing days of the war. A crew from one of those B-32s is credited with shooting down the last Japanese fighter of the war.

Powered by four, 2,200 horsepower Wright engines, the B-32 had a maximum speed of 358 miles per hour and an average cruising speed of 250 miles per hour. Loaded with forty 500-pound bombs and 5,640 gallons of fuel, the B-32 had a range of 3,700 miles.

Each propeller had four blades that were nearly 12 feet long. Made by Curtiss, they were the largest used on a production aircraft in 1945. A synchronizer provided constant speed control for each engine by altering the propeller blade angles automatically. The B-32 was the first American aircraft to have the synchronizers as a production item.

Wingspan of the B-32 was 135 feet; it was 83 feet long and 32 feet high. The tail fin, which was 19 feet tall, was the B-32's most distinctive feature. The first two B-32's manufactured had a fin similar to that on the B-24, which was also made by Consolidated.

The B-32 carried ten .50 caliber machine guns, mounted in five powered turrets. A crew of eight normally was used to fly the aircraft.



During the closing months of World War II, 115 B-32 bombers were assembled at General Dynamics' Fort Worth Division.

76  
19-2  
43

*General Dynamics*

# **B-36 PEACEMAKER**



The B-36s produced by Convair-Fort Worth (now the Fort Worth Division of General Dynamics) were the world's largest bombers. At speeds of more than 435 miles per hour, the B-36 could carry a heavier load of bombs for greater distances than any other aircraft in the world. While the B-36s were never used in combat, they played a major role in the United States' policy of "peace through airpower" during the troubled decade between 1948 and 1958. The last B-36 was retired from the Air Force on February 12, 1959.

While in service, the B-36 set many records. One B-36, which could carry more than 30,000 gallons of gasoline, flew more than 10,000 miles non-stop and non-refueled, dropping a 10,000-pound bomb load midway in the flight. Another dropped a total of 84,000 pounds of dummy bombs, the heaviest load of bombs ever carried by one airplane. The B-36 also carried more defensive firepower than any other bomber: eight remote turrets containing a total of sixteen 20-millimeter cannons.



An experimental transport version of the B-36, designated XC-99, was developed for the Air Force. Flying heavy loads of high priority cargo, the XC-99 established new cargo records with almost every flight. The XC-99 could haul 400 troops or 100,000 pounds of cargo.

Another experimental version of the B-36, the NB-36H, carried an operating atomic reactor in flight to test shielding and the effects of radiation on equipment.

The RB-36, which closely resembled the B-36 bomber, was also designed to carry large cameras and other special equipment needed for long-range, high altitude reconnaissance.

Maximum gross weight of the B-36 was about 400,000 pounds, its wingspan was 230 feet, length was 162 feet, and it was nearly 47 feet high. The latest models of the B-36 were equipped with four J-47 jet engines in addition to six 3,800-horsepower, pusher-type engines.

The 10 engines of the B-36 developed as much horsepower as nine locomotives, its wing tanks held enough fuel to drive a car around the world 16 times, and each B-36 electrical system required more than 30 miles of wiring.



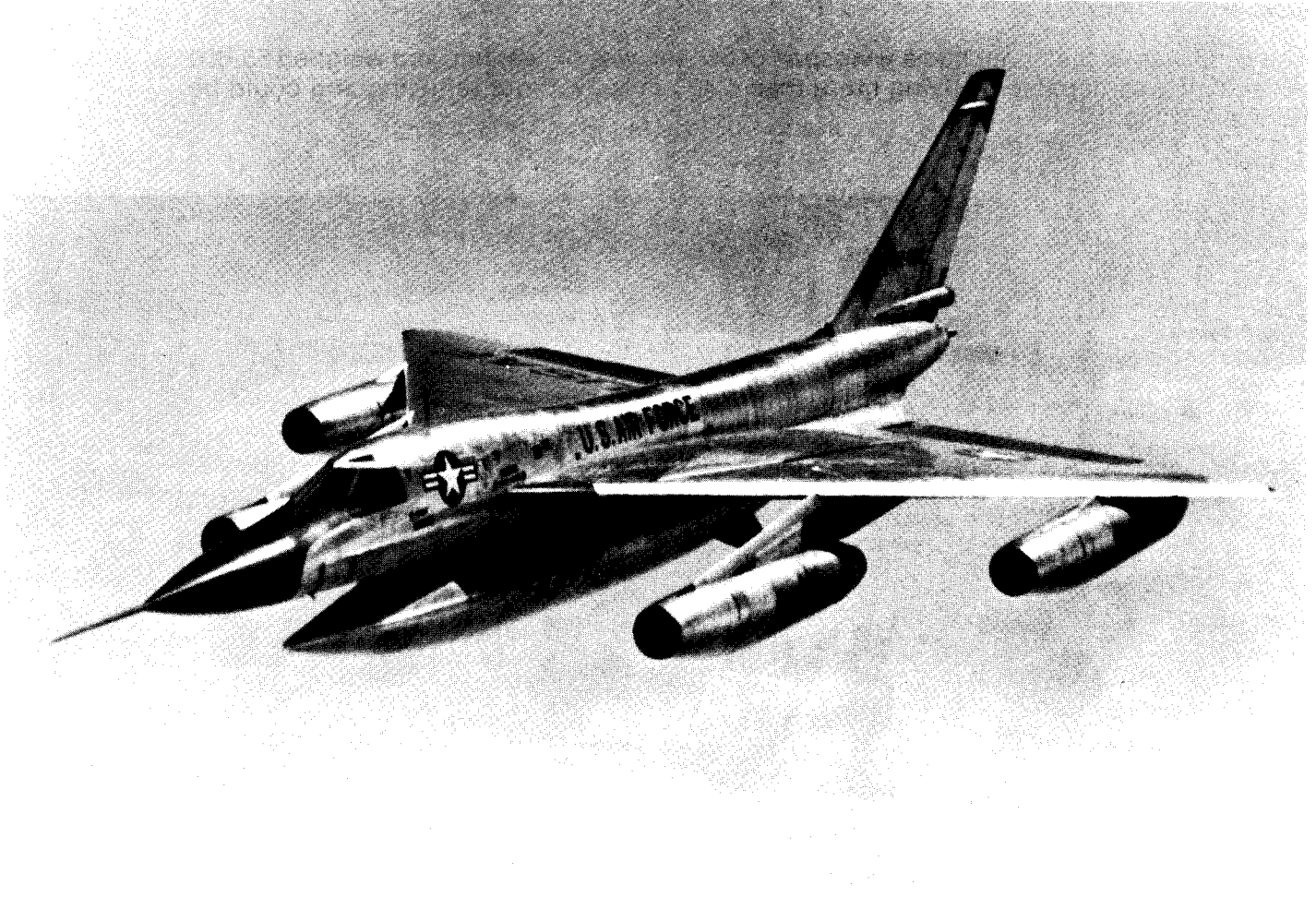
General Dynamics Fort Worth Division produced 385 B-36s for the Strategic Air Command between 1947 and 1954.

**GENERAL DYNAMICS**

7-11-2  
B

General Dynamics

# B-58 HUSTLER



The delta wing B-58 Hustler was the world's first mach 2 Strategic Bomber when it entered operational service in 1959. During the ten years it was flown by the U.S. Air Force, the B-58 established 19 speed and altitude records. It was also highly accurate as a bomber because of its advanced navigation and weapons systems.

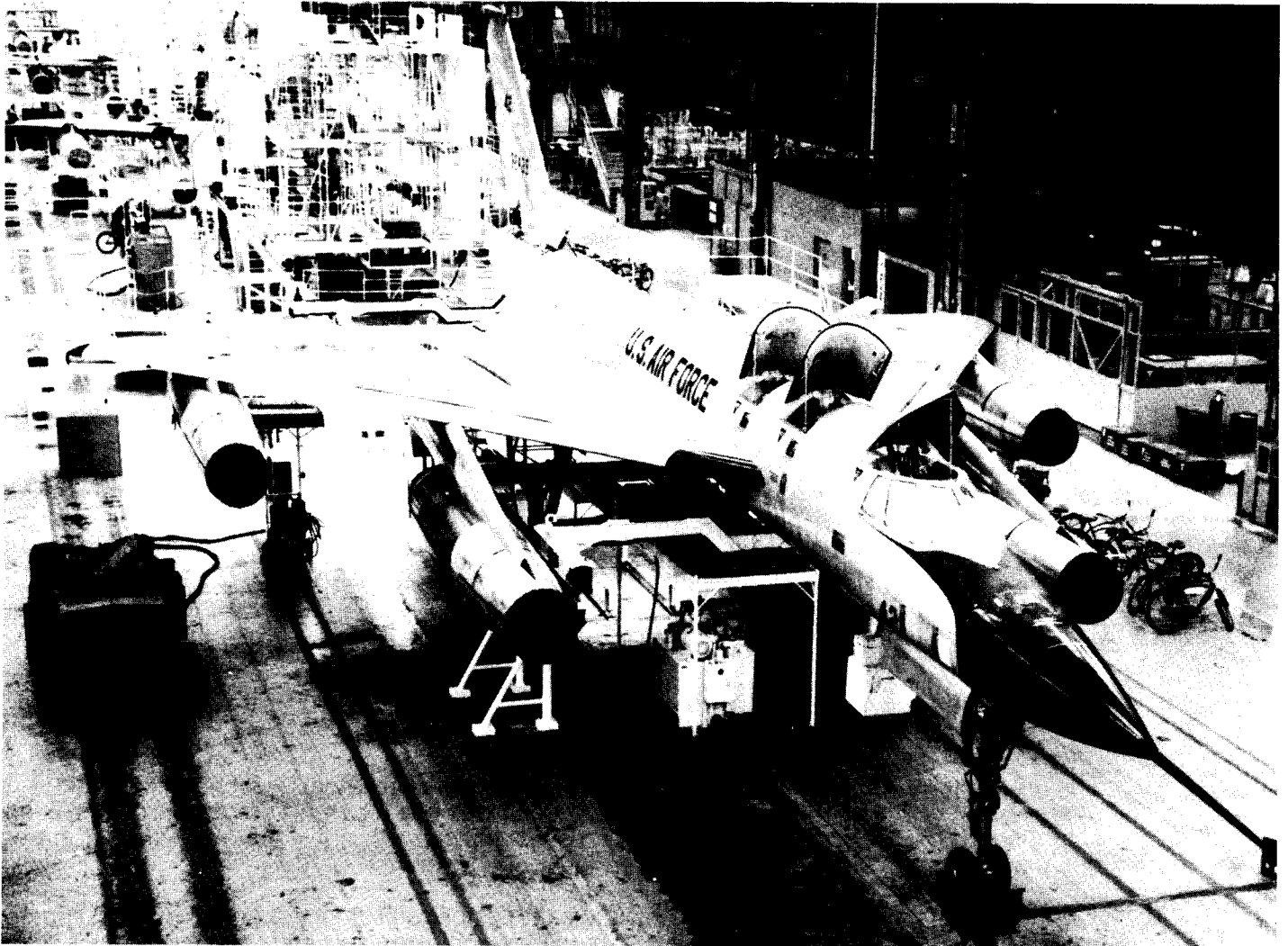
The Hustler, capable of high speed attack at altitudes up to 85,000 feet or flying at near sonic speeds at 500 feet, was flown from New York to Paris in three hours and nineteen minutes at an average speed of 1,089 miles per hour. A B-58 flew from New York to Los Angeles in 2 hours at an average of 1,214 MPH and from Tokyo to London in 8 hours and 35 minutes at an average speed of 938 MPH. These records, which were recognized with international trophies, were set by Air Force crews in standard combat-configured B-58s.

The B-58 Hustler carried a 20 mm. cannon in a tail turret with conventional and nuclear bombs and weapons beneath its large triangular wings.

It was powered by four J79-GE-5B General Electric engines delivering a total of 62,000 pounds of thrust in afterburner.

A three-man crew flew the B-58: a pilot, a navigator-bombardier, and a defensive systems operator. Only the pilot could see out the front windscreen. The two men behind him had very small windows on each side of their seats which also served as escape capsules in case of emergencies.

The B-58 was 96 feet long, had a wingspan of 56 feet, was 31 feet tall, and weighed 55,600 pounds. It was capable of flying more than 4,450 miles without refueling and could be refueled in flight.



Between March 1953 and October 1962, 116 B-58 Hustlers were assembled at General Dynamics' Fort Worth plant.

72  
19

*General Dynamics*

# **F-16 FIGHTING FALCON**



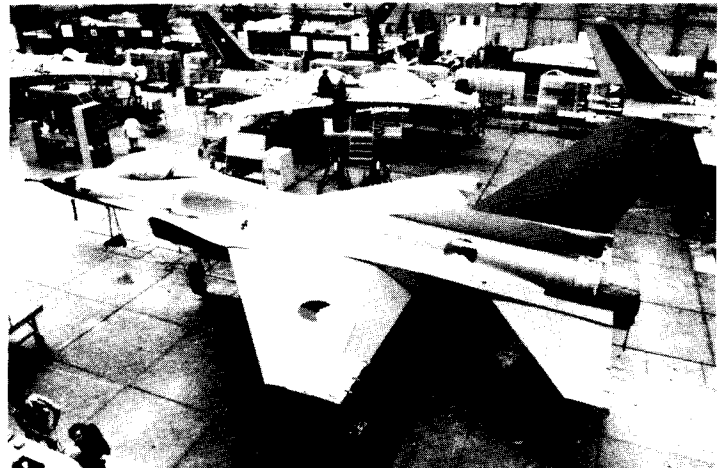
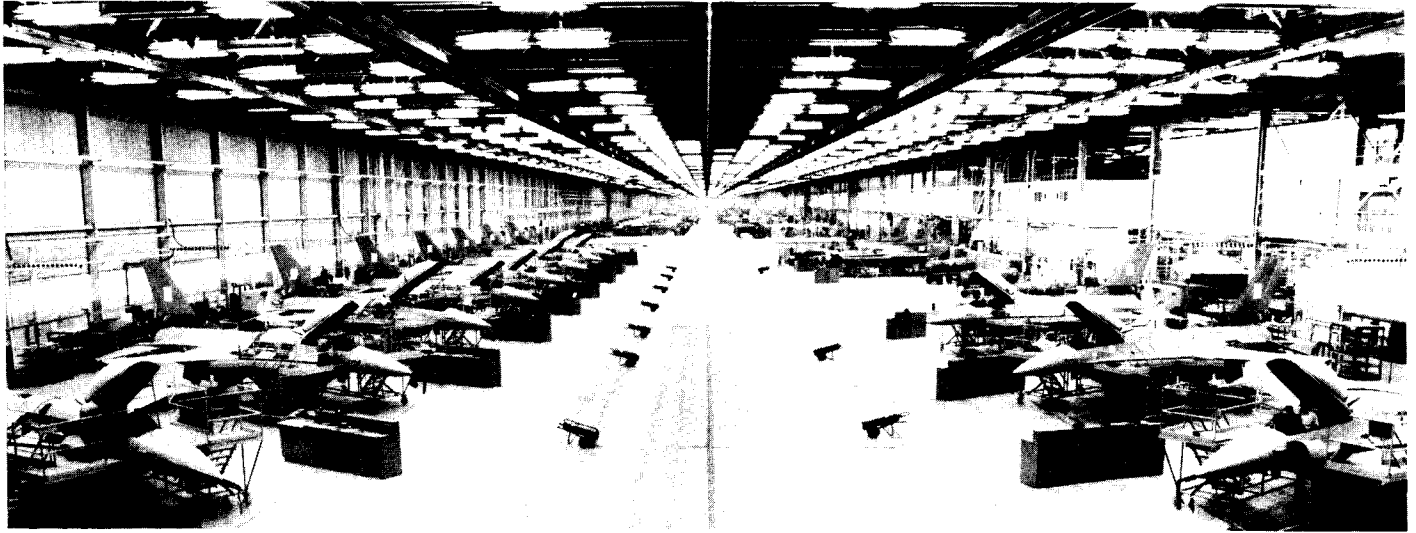
The F-16 Multimission Fighter is potent in both air-to-air and air-to-surface roles and combines advanced technology with a relatively low cost. Its maneuverability and combat radius exceed that of all threat fighters now in operation. Because the F-16, which went into production in 1977, is small, it is difficult to detect by sight or by radar and is hard to hit.

Multiple and varied weapons delivery modes provide delivery accuracies that are superior to other fighters under visual conditions and are second only to the General Dynamics F-111 under radar bombing conditions.

The F-16 is normally armed with one M-61, 20 millimeter rapid fire cannon and two AIM-9 Sidewinder heat-seeking missiles. The F-16 can also deploy a wide range of other external ordnance from missile launchers and bomb racks that are carried on nine stations, one on the fuselage centerline, six under the wings, and two on the wing tips.

The Fighting Falcon is powered by either a single Pratt & Whitney F100-PW-200 afterburning turbofan engine, which is in the 25,000-pound-thrust class, or a General Electric F110-GE-100 augmented turbofan engine, in the 27,000-pound-thrust class.

The F-16 is 47.64 feet long, has a wingspan of 32.83 feet with missiles, and has an overall height of 16.43 feet at the vertical tail. Empty, the F-16 weighs 16,529 pounds; the maximum takeoff weight is 37,500 pounds.

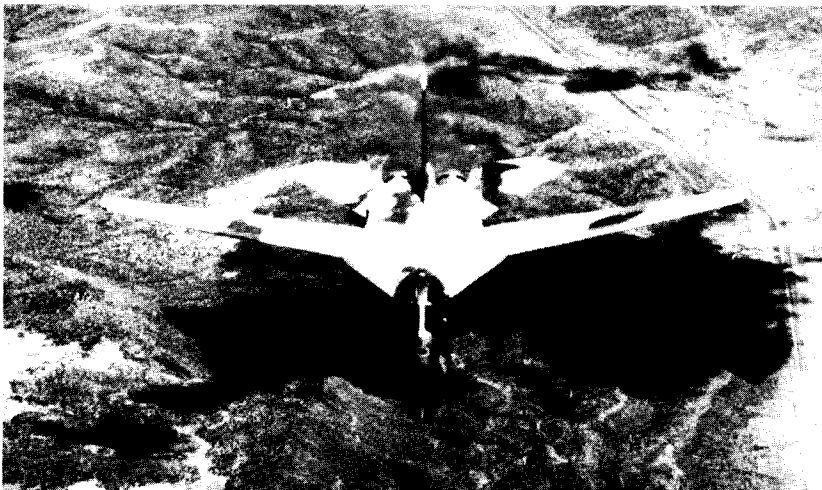
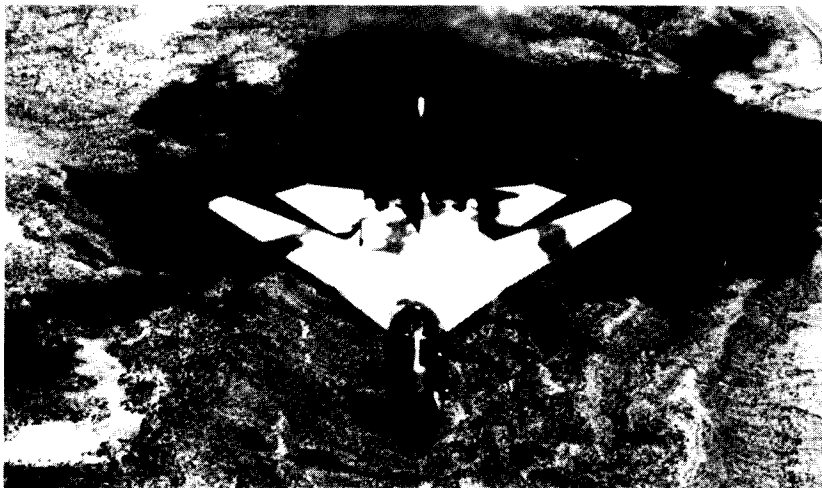
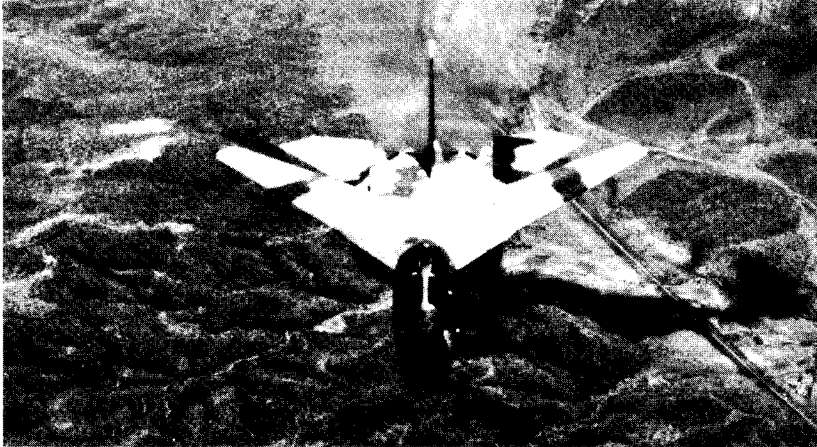


Air forces of many nations are flying the F-16, manufactured at General Dynamics' Fort Worth Division. Aircraft are also assembled in Europe. More than 4,000 F-16s have been ordered.

7-11-80  
2

*General Dynamics*

# **F-111 FIGHTER-BOMBER**

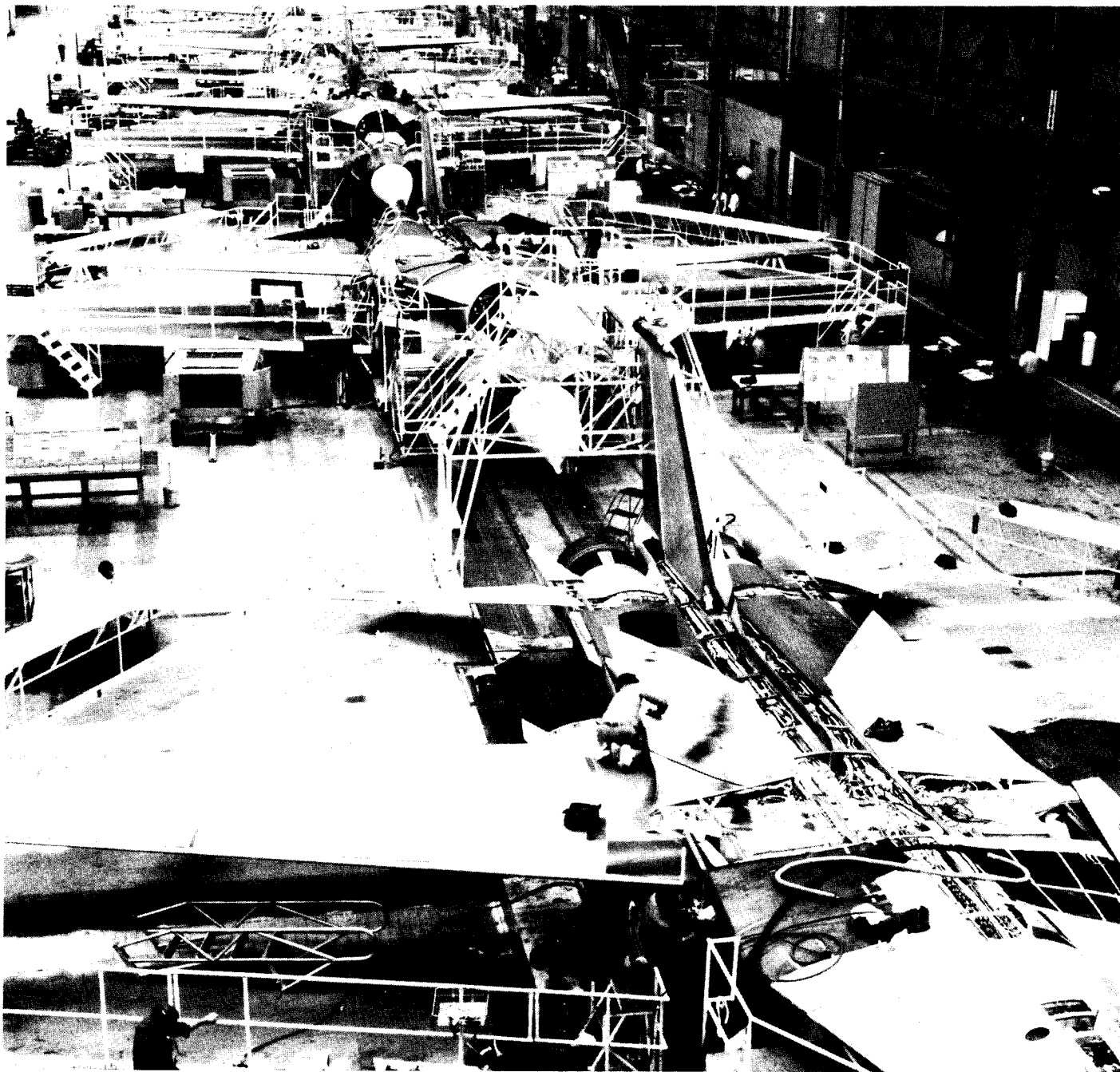


The F-111 and FB-111 are the only aircraft in the U.S. Air Force's arsenal that have wings which can change position in flight. The swing-wing tactical F-111 and the strategic bomber version, the FB-111, can take off and land at slow speeds with the wings fully extended and can fly at more than twice the speed of sound with wings that sweep back to form a triangle.

Another unusual feature of the F-111 is its terrain following capabilities, permitting it to be flown at very low altitudes beneath enemy radar. The F-111 is a highly accurate weapons system and some Air Force leaders have called it "the best bomber in the world". It has a two-man crew and can operate day or night in all kinds of weather.

The F-111 and the FB-111 are powered by two Pratt & Whitney TF30 engines, each of which generates 25,000 pounds of thrust. Conventional and nuclear weapons arm the F-111.

The F-111 has extended wingspan of 63 feet, a length of 73 feet, and a height of 17 feet. The wingspan of the FB-111 is 70 feet. The major differences between the F-111 and the FB-111 are the longer wings, a heavier landing gear, and special wing pylons for fuel tanks and weapons.



The last of the 562 F-111s, manufactured at General Dynamics' Fort Worth Division, rolled off the assembly line in September 1976.

# SPECTRE IN THE NIGHT SKY

by Lt. Col. JAMES F. HUMPHRIES

*Take a four engine cargo plane off the shelf, bolt a half dozen cannons to the deck pointing ominously out the left side, put in some sensors to see in the dark, add a gunsight for the pilot and a computer to help him with the ballistics and you have the ingredients of an airborne gunship.*

*As a fellow pilot, I had worked the hostile skies of Southeast Asia with the AC-130 Spectres many nights. I had seen the still-smouldering evidence of their effectiveness in harassing the flood of Communist truck traffic that ran the gauntlet of Laos each night. I had seen the triple A light up the sky where they were working with streams of red tracers and quick, staccato bursts of yellow white as the 37mm. antiaircraft shells detonated high above the trails*



19-2



## STREAKING MEANIES

*You develop a healthy respect for guys who go out when they know the possibilities are good that one of those streaking meanies might hit their aircraft. Droning round and round—high above the stealthy trucks of Laos, the Spectres launched repeated broadsides until the jungle yielded up its contraband in plumes of fire and exploding ammunition.*

*Unorthodox as it seemed, the concept works and the "Fabulous*



The cargo version of the *Herky* was the workhorse of tactical airlift in Vietnam, and carried millions of pounds of cargo to remote, dirt airstrips.

*Four Engine Fighters," as the guys proudly call themselves, enjoyed the sterling reputation as the best truck killers in Southeast Asia.*

This promised to be a long day. An intelligence briefing at 1400 hours, crew briefing at 1520, take-off at 1715, a half-hour before sunset, and a long mission over the road network of the Ho Chi Minh Trail.

Knowing that the enemy paved the sky with steel, I ducked into the personal equipment shop and got fitted with a flak helmet. The weight of that bucket made one conscious of having a head on his shoulders. My own webbed survival vest was suitable for this visit on a strange airplane.

I went through the bulky pockets, checking my two survival radios, a tourniquet (God forbid), signal mirror, whistle, and .38 caliber ball ammunition. Jungle boots, flying suit, dog tags, ID card, Geneva Convention card, a little money, and my rabbit's foot. That's about all I could need in any eventuality.

The briefing was a preliminary to every combat mission. Held in a stuffy room in Wing Headquarters, the briefing featured an estimate of the weather in the target and recovery areas, and a rundown of what

was considered better to wait for a helicopter pickup, try to walk out through the jungle, or try to get help from them. The old guys frequently cautioned the gunslingers to be unhealthy to try a John Wayne shootout under such odds.

The crew briefing was no exception. Call all triple A by code word. Call whether it's accurate. Call "Break" if the pilot to change course. Some of the enemy fire was reported. "If you hear three short rings, prepare for the alarm bell, prepare for the door or the ramp," the air commander continued.

A quick review of search and seizure procedures served to remind us all that the stakes were high.

Cutting off my plastic netting, "sterilized" my fire resistant drab flying suit, picked up my gear and went off to get my things together before boarding the flight line.

The crew chief was working the wheel well when the Force bus drew up beside the black gunship brooding in the concrete revetment. I had been working feverishly to get the bird ready in time for the take off, and assured the commander that he was up the last panels.

"Starting three," called from the cockpit, and the engines came alive. As the hydraulics began their work, my ramp tilted to a thirty degree angle. A comfortable, but I could see the opening at the back of the compartment.

Taxiing past rows of yellow the lumbering giant whined to the end of the runway, changed a hand wave with the field guard, and wondered would like to be aboard.

I was jolted from my reverie by the mounting roar of the engines on the runway pad. The late afternoon sun flooded into the cargo compartment along with howling eddies of huge propellers. Dust swirled behind the airplane, erupting from the distant ditches and across the grass. The

"Charlie"—the working man's term for the enemy—was up to. Then the scoreboard. So many trucks moved last night, so many sighted by this wing, so many destroyed and damaged. Spectre got so many, the fighters so many, and the bombers so many. Everybody silently assessed the score.

A WA-119 lieutenant passed out some code words and special frequencies and advised us where to bail out if our luck ran out. "Have a good one," wished the lieutenant, and we stumbled out of the briefing room.

## MILLING CREWS

The squadron was full of crews milling around with bandoliers of small arms ammo sewed on their vests; .38 caliber revolvers hung conspicuously from web belts. Here and there a big knife; whatever a guy felt he might need if he found himself on the ground in Laos. It

Engines were started as another black gunship with red lettering numbered along side. A camouflaged jet fighter rolled up to the quick check inspection area. I wondered if he were our escort.

The skyline of trees and brown wooden bungalows and business establishments diminished behind as the plane accelerated down the runway, leaving the sun to sink into the night. The glorious feel of wings grabbing air and lifting the machine gently off the ground.

### SHIMMERING CORES

"Gear up!"

Wind swirled into the open cargo compartment from behind, blowing in my face. I was still sitting on the ramp, watching lakes and dirt roads and tin-roofed houses fall away beneath us. The hot exhaust gases from the engines formed a pair of shimmering cores behind each wing. A storage area slid into view, and a winding river flowed by a red-roofed temple. Six minutes after take-off the air was noticeably colder, making me wish I'd brought along my flight jacket.

Circling over the airfield from which we had just taken off, the aircraft commander began to hone his crew and his multimillion-dollar warplane to a razor's edge of perfection. Men and equipment had to work as one to be effective in the dark and hostile skies of Laos.

There are a number of ways of seeing in the dark, and the Spectres

take advantage of the best of these Officers, trained in the interpretation of these sensors searched their electronic scopes for activity below. They occupied a lighted booth in the darkened cargo compartment of this noisy airplane. Another officer monitored their searching and selected the sensor to be used to attack the target.

### ORBITING

In these few minutes orbiting over home plate, the booth was a busy place, as the fire control officer checked the alignment of each of his sensors. Satisfied that his operators were seeing eye to eye, the aircraft commander leveled his wings and headed the gunship toward the target area.

From a dark, open scanner's port on the starboard side of the cargo compartment came an unexpected question. "Pilot, from right scanner, are we airborne yet?" "Where's he been," I wondered and, then as the crew laughed, realized that there was real camaraderie aboard the aircraft as the crew could still make light of going to war.

The pilot assured him that we were in fact airborne, and then to answer the question he had intended, advised him that we were now in the target area.

"Do you have an escort yet?" someone asked.

"Yes sir. He's on top."

That was comforting. A Mach two fighter bomber would stay with us in

the target area to attack the anti-aircraft guns that probed for us in the dark sky above their emplacements.

The hunt was on. Charlie would be well advised to lay low and wait until this Spectre returned to its nest. But Charlie had other ideas.

"Charlie, Charlie, Charlie!" drawled a sensor operator in a deep Southern brogue. The first truck was sighted in the sophisticated cat eyes of the gunship.

"He's going down the road into some trees."

The other sensors slewed around to peer at the truck racing for cover.

"Hell! He's stopped in the trees," the voice groaned. Then: "I see him again."

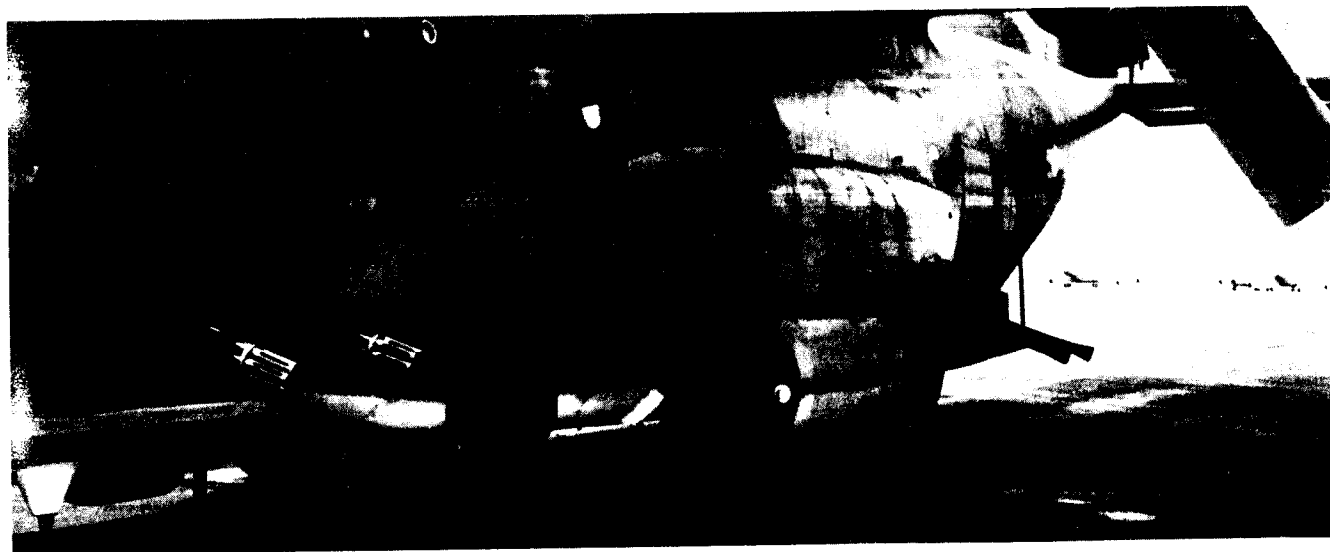
The forties began their deadly work. Circling overhead, the gunship sought satisfaction. Crash after thunderous crash as the big shells were launched into the jungle.

Those hit forward and high. More correction seemed appropriate.

"Triple A at 12 o'clock," announced the right scanner who was leaning out of the airplane into the slipstream looking at the first red balls of 37mm. anti-aircraft shells coming up.

"Four o'clock underneath. No threat," called another scanner lying on his stomach leaning out over the edge of the cargo ramp looking straight down. Charlie was going to

The AC-130 gunship carried (left to right) 20mm. cannon, 7.62 miniguns, and 40mm. cannon.



tight back. Those trails blasted with guns waiting for a chance to "hose down" the gunship.

## NINE LEVELS

In this sector, the enemy gunners had the earned reputation of being "nine levels," the best in the game. The first rounds sped by harmlessly, lighting up the sky high above with quick, bright flashes as they were detonated by their fuses.

"How many rounds there?" came a query from somewhere in the airplane. One of the crewmembers had the job of counting the rounds of triple A. The WAF lieutenant debriefer would ask for that report when we got home. You always had to think of the paperwork. The location of active triple A sites are important to all who fly the trails of Laos.

Minutes raced by as the gunship orbited the abandoned truck whose driver was by now probably on top of the nearest hill.

"Seven rounds underneath. Roll out, pilot!" the unseen voice warned excitedly. "Whew, that was a bit close!" Charlie was firing in anger.

Back into the orbit and more broadsides from the big guns. A burst of flame signalled a hit on the trapped supply truck.

"You got him! He's burning!" cheered a crewmember. "Big fire!"

I left the false security of the warm, lighted fire control room and groped out into the dark cargo compartment. The acrid smoke of the big cannons was in my nose and could be seen in the glow of the red combat lighting on the gun deck.

Two gunners seized this lull in the firing to gather up the hot, smoking shell cases that had missed the 55 gallon drums under their breech ejectors. One opened a metal container, pulled out a fresh clip of four shells and pressed it in the magazine atop the cannon.

The gunners were busy, and besides there was no practicable way to talk to them, so I moved toward the tail of the airplane and stretched out alongside the scanner.

Looking straight down I could see fires scattered around the area. On the horizon were large orange fires where someone else had brought

the trail into the jungle. A final chaser of goof balls arced up beneath us to remind us that we were not welcome here.

"Six rounds at five o'clock. No threat," announced the scanner. Stars winked from below, and I realized that my eyes had so well adapted to the darkness that they were seeing reflections of tiny stars in water in the jungle below.

There was no moon tonight, to everyone's relief. Crews watched the moon rise every night. Coming out of the base movie theater once, I heard a Spectre gunner think out loud, as he looked up at the full moon, "I never thought I'd come to hate the moon, but I do!"

## GUNNER'S MOON

The term "gunner's moon" expressed a gunship crewman's assessment. My crew had silently breathed a sigh when the weatherman had informed them that the moon would not be up to betray them tonight.

Already this evening, I had seen more triple A thrown at us than I had seen in months of combat missions. I could only wonder what it would be like illuminated under a gunner's moon.

Another string of tracers sprang up from the ground, catching the attention of the fighter pilot high overhead. Rolling inverted he swooped down to loose some bombs on the harassing gunner. A ripple of lights indicated trouble on the ground as the bombs chewed up the jungle.

The gunship pilot caught the action and commented, "Escort two just made a pass. Looked pretty good." It was nice to have some tough little friends around to encourage Charlie to keep his head down.

Other targets found themselves on the all seeing scopes of the gunship as the night wore on. River boats, trucks waiting at loading docks, small convoys snaking their way along the dangerous winding dirt trails—each in turn discovering the meaning of airpower.

## GOLDEN HOSE

Charlie made his feelings known

hose." The scanners were kept busy calling out the lethal stuff as it streaked by. But Charlie was shooting blind tonight, and his aim was wide of the mark.

"Let's safe the guns and go home," called the pilot. Hours in the target area had passed quickly. But suddenly everyone felt the weight of the heavy flak helmets and the dull pain of ears long pressed under sweaty earphones, and the eye strain of trying to see electronic blobs as trucks, and the weariness of feeding heavy ammunition into the hungry guns.

The pilot stretched himself after the long spell of intense concentration to fly the bank angle and altitude and airspeed required to match the ballistics of his guns.

Heading to friendly territory again, the crew began the physical and emotional letdown that follow the heavy demands of air combat. Off came the flak helmets. The pilot and I joined the gunners in shoveling the brass 20mm. shell cases from a wooden bin on the forward cargo deck into canvas bags.

This ritual was a way in which we could say to all the gunners that made this ship a dreadnaught, "Thanks for playing on our team." And in turn, the gunners would nominate me, the "visiting fireman," as honorary gunner.

The exchange of smiles as the shovels full of brass filled the sacks was testimony to the bond of comradeship that unites men who have walked together in the nightmare of war.

As we left the still airplane in the peaceful night, the fire control officer handed me a slip of paper showing his tally of the triple A thrown at us tonight—672 rounds! I picked up a spent clip of 40s as a souvenir and thanked my crew for an impressive look at a unique and courageous application of modern airpower.

Back in my own squadron, I found that there is no way to adequately describe such an experience.

"How did your Spectre flight go, Jim?" someone asked. "Very interesting," I answered, but they knew what I meant.



AIRMAN