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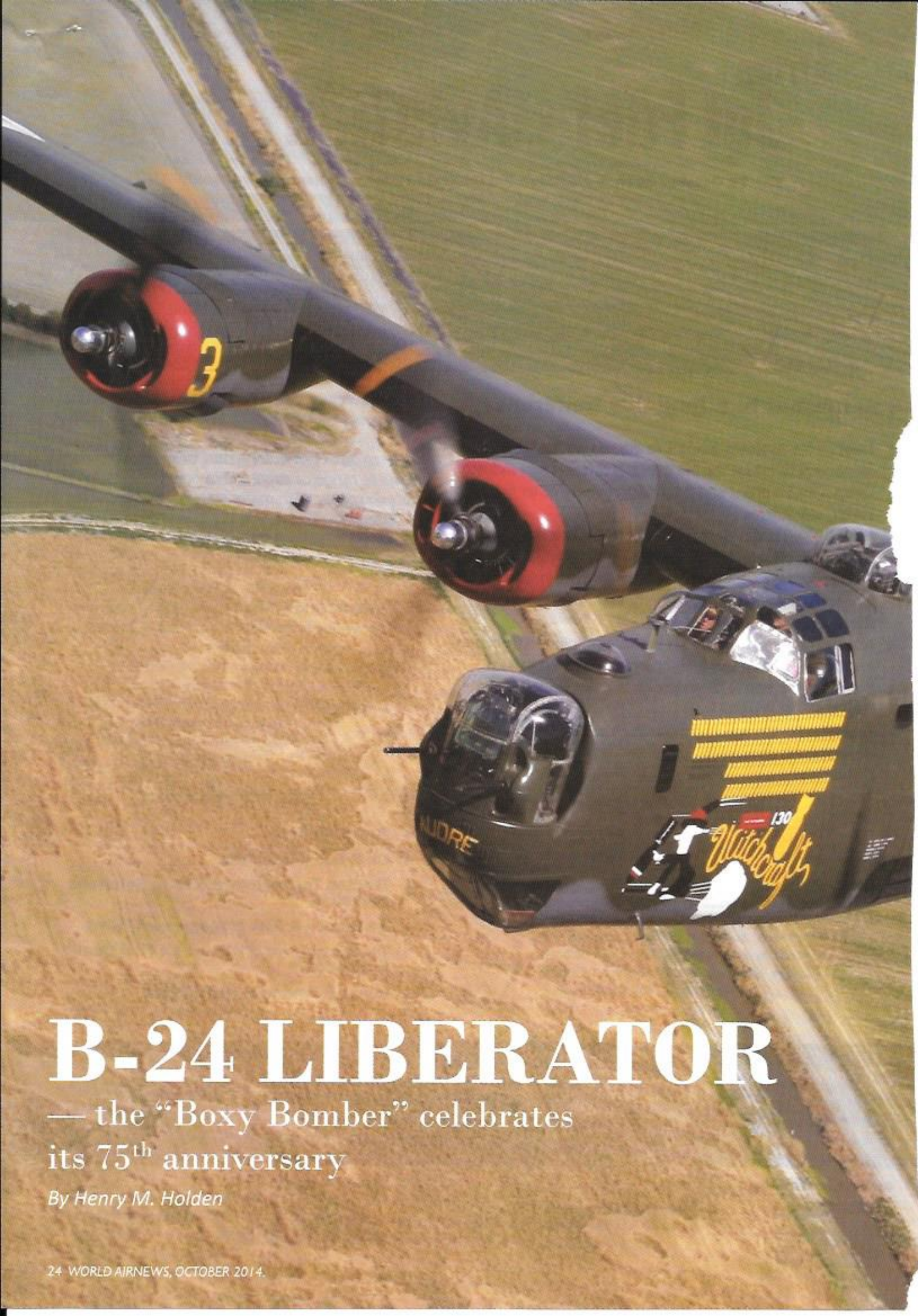
500th EDITION



**B-24 LIBERATOR'S 75TH ANNIVERSARY
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B-24 LIBERATOR

— the “Boxy Bomber” celebrates
its 75th anniversary

By Henry M. Holden

The original "Witchcraft" Liberator flew 130 missions during World War II, never had to turn back, and none of its many crews were either injured or killed. (see story)





Diamond Lil is now owned by the Commemorative Air Force, in Addison, Texas. It is one of the two surviving airworthy aircraft.

DECEMBER 2014 marks the 75th anniversary of one of the most significant strategic bombers of World War II, the Consolidated B-24 Liberator.

Production records reveal that with 18 482 airframes built, it was arguably the most produced multi-engine aircraft in US history.

Today, there are about 19 survivors in museum displays, awaiting restoration, or in storage. Only two are airworthy. It cost just under US\$300 000 to build. In today's money that is about \$4.5-million.

It was often compared to its sister in arms, the B-17, in terms of size, range, bomb load, and ruggedness. The B-24 was not as glamorous as the B-17. Flying Fortress B-17 pilots jokingly said the slab-sided B-24 was the box in which the B-17 came.

Both were four-engine bombers used in every theatre of the war. Both had 1 200 hp supercharged engines and had maximum weights of around 65 000 lbs. (29 483 kg).

With similar statistics little things set them apart. The B-24 was a high-wing twin-tail aircraft, faster and more efficient with its thin high-aspect ratio laminar-flow wings. The B-17 could fly higher with its thicker albeit high drag airfoil. The B-24 was a hydraulic aircraft where the B-17 had electrically operated gear and flaps.

The bomb bay doors on the B-24 rolled up much like a garage door. It also had an unusual feature for a military plane at the time, a nose wheel. It was not a steerable nose wheel. The pilot used differential engine power and brakes to control lateral direction.

Nearly half of all B-24s were built by Henry Ford at Willow Run, near Detroit,

Michigan. At peak production, Ford was rolling out an average of one completed aircraft every 63 minutes.

FIRST FLIGHT

The B-24's first flight was two years before the US entered the war, and its service life was a mere six years. It was retired from active duty shortly after the end of hostilities.

Initially designed to complement and replace the B-17, it was judged obsolete, and unsatisfactory for combat soon after it left the ground. Relegated to the role of a ferry aircraft for the RAF, it quickly adapted into roles of a tanker, cargo, passenger aircraft, and bomber.

The B-24 originated in a 1938 request by the US Air Corps for Consolidated Aircraft to produce B-17's. But Consolidated's engineer, David Davis, had designed a wing suited for long-range bombers, a wing that offered 15 percent less drag than ordinary wings. Consolidated's engineers sketched out a rough version of a bomber using Davis' wing in late 1938. USAAC General Hap Arnold approved the plans and, in March, 1939, Consolidated was granted a contract for its Model 32 or XB-24.

Consolidated's prototype, delivered in December that year, was stubby and not attractive. The look of the two large oval tail fins seemed inelegant. Its looks did not win any beauty awards either. The Academy Award winning film "12 O'clock High" was written by a former B-24 Group Commander. In 1998, the film was selected for preservation in the United States National Film Registry by the Library of Congress as being, "culturally, historically, or aesthetically significant." Notice it didn't say accurate. *The aircraft*

used in the film was a B-17!

No fewer than 58 variants were manufactured. Twenty countries put their colours on it, from Canada, Great Britain, Australia, the Soviet Union and South Africa.

Even Germany operated a captured B-24. The German secret operations unit, Kampfgeschwader 200, tested, evaluated and sometimes clandestinely operated captured enemy aircraft during World War II.

MARITIME USE

B-24s were also used for anti-submarine warfare (ASW), anti-ship patrol, and photographic reconnaissance in the Pacific theatre, and by the US Coast Guard for patrol, and search and rescue (SAR).

Naval B-24s were redesignated PB4Y-1, meaning the fourth patrol bomber built by Consolidated aircraft. Navy PB4Y-1s assigned to Atlantic ASW and all Coast Guard PB4Y-1s had the ventral turret replaced by a retractable radome. Also, most naval aircraft had an Erco ball turret installed in the nose position, replacing the glass nose and other styles of turret.

There are thousands of war stories that could be told about the Liberator. Many ended in tragedy.

LADY BE GOOD

At 2:50 pm on April 4, 1943, 25 B-24Ds of the 376th Bomb Group took off from their AAF base at Soluch, Libya, for a high-altitude bombing attack against harbour facilities at Naples, Italy. All aircraft except one returned safely to Libya. The one missing was "Lady Be Good."

Almost 16 years later, on November 9, 1958, British geologists were flying over the desolate, sun-baked Libyan Desert. At

approximately 400 miles south of Soluch, they spotted an aircraft on the sand. The ground party that reached the site in March 1959, discovered the plane to be a B-24D. "Lady Be Good" had been found.

Evidence at the site indicated that the crew had become lost in the dark on return from Naples, and had flown over their base and southward into the desert. With their fuel supply almost depleted, the nine men aboard bailed out, but had disappeared.

Intensive searches were made for clues as to the fate of the crew, and in 1960, the remains of eight crewmen were found; one near the plane and the other seven far to the north. Five had trekked 78 miles across the tortuous sand, and one had gone an amazing 109 miles.

In addition, they had lived eight days rather than only two expected of men in this area with little or no water. The body of the ninth man was never found.

JINXED AIRCRAFT

Numerous parts from the "Lady Be Good" were returned to the United States for technical study. Some parts were installed in other aircraft, which then experienced unexpected problems.

A C-54 in which several autosyn transmitters were installed had propeller trouble and made a safe landing only by throwing cargo overboard.

A C-47 in which a radio receiver was installed, ditched in the Mediterranean, and a US Army "Otter" airplane in which a "Lady Be Good" seat armrest was installed, crashed in the Gulf of Sidra with 10 men aboard.

No trace was found of any of them, but one of the few pieces of wreckage that



The wreckage Liberator "Lady Be Good" was spotted from the air in the Libyan desert 16 years after it had gone missing on a bombing mission to Naples, Italy. It was actually located on the ground by a search party four months later. The aircraft had apparently overflown its base at Soluch by 400 miles on its return from Naples. The remains of eight of the nine crew were found.

washed ashore was the armrest of the "Lady Be Good."

PLOESTI RAID

The B-24 has the dubious distinction of participating in the worst single mission loss of the war. "Operation Tidal Wave," also known as "Black Sunday," was a mission to nine Romanian oil fields around Ploesti.

One hundred seventy-eight B-24s, with 1 750 aircrew, took off from fields around Benghazi, Libya, on Sunday, August 1, 1943. Fifty eight were shot down.

The US Army Air Force later put the loss at over 600 men killed wounded and

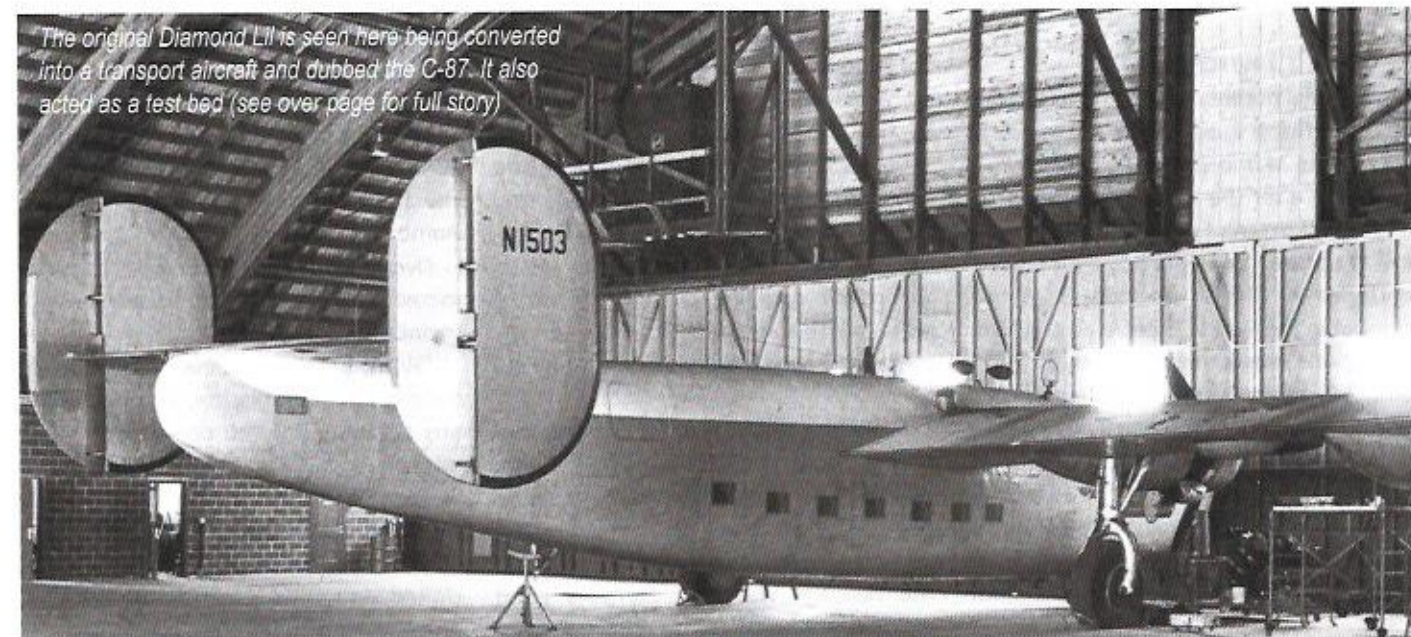
missing. Only 88 B-24s returned to Libya, of which 55 had battle damage.

Others ditched in the Mediterranean or landed in neutral Turkey and were interned.

Later surveillance flights revealed that approximately 42% of Ploesti's refining capacity had been destroyed.

However, it took only a few weeks for the Germans to bring the complex back to a fuel output that was greater than before the raid.

Due to the extensive American losses and relatively light battle damage, Operation Tidal Wave is considered a strategic failure.



The original Diamond Lil is seen here being converted into a transport aircraft and dubbed the C-87. It also acted as a test bed (see over page for full story)

SURVIVORS

B-24A serial number 40-2366 *Diamond Lil* – is now owned by the Commemorative Air Force, in Addison, Texas. This B-24 was number 18 off the assembly line, and is one of the two surviving airworthy aircraft. It is the only surviving "A" model of the B-24, as the "A" was critically under-armed and under-armoured.

On a training flight from Eagles Nest Airport, New Mexico, and prior to its delivery to England, the future *Diamond Lil* experienced a landing accident. The damage was serious enough that the aircraft had to be returned to San Diego for repairs.

The 'plane was dropped from the order to be shipped to England and converted to a transport aircraft. This became the prototype for the C-87 transport, and served as a flying test bed.

After the war, the aircraft became an executive aircraft for the Continental Can Company. After ten years of operation it was sold to Petroleos Mexicanos where it operated until 1967, when the Commemorative Air Force acquired it.

In 1971, the Commemorative Air Force painted it in the colours of the 98th BG and was given the name *Diamond Lil*. During 2006-2007 the aircraft was reconfigured back to her B-24A and given the OI 927 nose art. In April 2012, she was renamed back to *Diamond Lil*.

The aircraft was involved in a nose-gear collapse upon landing on May, 26, 2012. Damage was minimal and none of the 16 aboard was injured. She was featured in the film *Beautiful Dreamer* (2006 film). Today she continues to fly at air shows around the United States.

WITCHCRAFT

B-24J, serial number 44-44052, is the only restored flying B-24J model in the world (see pages 24 and 25 and front cover).

Shortly after the aircraft was delivered to the US Army Air Force in October 1944, it was transferred to the Royal Air Force.

Under the British flag, the B-24 saw combat in the Pacific Theatre as KH191 in operations ranging from anti-shipping to bombing and re-supply operations.

At war's end, the aircraft was abandoned by the RAF in a bomber graveyard in Khanpur, India. However, in 1948, the Indian Air Force succeeded in restoring 36 B-24s, including 44-44052, to operational status. These aircraft were used until 1968.



For the next 13 years, the aircraft again sat abandoned in India until British aircraft collector, Doug Arnold, obtained it in 1981. The aircraft was disassembled and transported back to England.

The aircraft was advertised for sale in "as is" condition, and in 1984, Dr. Robert F. Collings (Foundation) purchased it. The B-24 arrived in Boston, and was brought to Stow, MA., in four truckloads.

Originally, plans were to restore the 'plane for static display, but local B-24 crewmen persuaded the Foundation to restore it to airworthy condition. "This made it about five times greater a project," said Collings. "We were convinced by the argument that only about three thousand people a year would see a static display, but three million might see it on a nationwide tour."

Preliminary restoration work started in 1985, led by volunteers, most of whom were former crewmen, or sons of crewmen, on B-24s. Volunteers restored the turrets, armament, radios, oxygen system, and cosmetic details.

The original contractors sponsored work on the nose turret, and United Technologies donated a Norden bombsight.

General Dynamics, a successor to Consolidated Aircraft, the original manufacturer of the B-24 in Fort Worth, TX, was a major sponsor of its restoration.

Collings said: "The restoration involved complete disassembly of the plane and work on about 80% of the B-24's 1.2-million parts. There was some corrosion and minor damage, plus the desire to make all the systems (engines, props, hydraulics, and electrical) one hundred percent right."

The entire hydraulic plant was replaced or overhauled, and every pulley was replaced. All cables and hardware, the bearings, an electronic strobe system, the batteries, and the radios were donated. The fuselage was in reasonably good condition, but 20% of its skin had to be

replaced. More than 420 000 rivets were replaced, as well as fuel cells, brake tubes, tyres, and windows. Most of these parts were donated.

On September 10, 1989, after more than five years of hard work and 97 000+ hours of labour, the B-24 flew for the first time after restoration.

She started her new life flying as "All American," to honour a 15th Air Force aircraft that flew in Italy, with the 461st Bomb Group. She flew for many years with this livery.

In 1998, she was repainted to represent the "Dragon and His Tail" a 5th Air Force B-24 flying in the Pacific Theatre with the 43rd Bomb Group.

In 2005, she was repainted as "Witchcraft" in honour of the veterans of the 8th Air Force, who flew in the European Theatre during WWII.

The history of "Witchcraft" is a story that of which legends are made. The original "Witchcraft" was produced as a B-24H, built by Ford at the Willow Run, MI, plant, in 1944.

It was delivered to the 467th in Wendover, Utah, and initially assigned to Second Lieutenant George W. Reed and his crew who flew the aircraft to England.

"Witchcraft" arrived safely with her crew at Station 145 in Rackheath, England, on March 19, 1944.

The aircraft and crew began their combat service on April 10, 1944, flying the first combat mission of the 467th Bomb Group.

Over the next year "Witchcraft" flew an incredible 130 combat missions with various crews.

"Witchcraft" was never once turned back while on a mission, and never had any crewmen injured or killed. Her last mission was flown on April 25, 1945, which also was the last mission flown by the 467th Bomb Group.

After the war, she was returned to the United States and like many other B-24's, was scrapped on October 3, 1945. →