

# BLACKPOOL AVIATION SOCIETY

**WARTON MARCH 1944**

*There is a "one off" modified B-17E at Warton.....  
"The Dreamboat"  
but what was it and why was it here?.....*

*Andy Dickson has been finding out.*

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**THE BLACKPOOL BRANCH OF AIR BRITAN**

**BLACKPOOL AVIATION SOCIETY MONOGRAPH NO. 1**

**The "Dreamboat" modification to a B-17E  
B-17E 41-9112**

**(also referred to as "The Dreamboat" or "Reed's Dreamboat" or "Project Reed")**

## [The Dreamboat researched by Andy Dickson.](#)

Several years ago, I was looking for wartime photos of Warton on the internet. Amongst the many I found was a line-up of B-24s in Warton's central area. An interesting enough picture but it was another aircraft to the right of them that caught my eye. It was a B-17 but it appeared to have a nose turret. This was certainly something I hadn't seen before. As the serial number on the fin was visible, I did some investigation and discovered – as the following relates - that it was an interesting and successful experiment which unfortunately was never taken up:



Image 1 – The photo that started this investigation trail. I've kept the border in place to show the source.

“During World War II, one of the constant tensions for combat air force leaders was quantity versus quality, usually played out in answering the question of “what modifications produced enough added value that they were worth slowing the production line for?”

The usual answer was “very few,” so many air forces took a short cut and produced field modifications to improve the combat performance of front line aircraft. The most numerous and formal were the German Luftwaffe's “Rüstsatz,” or field modification kits, to increase or vary the armament of its fighters.

The U.S. had a less formal system of modifications at forward field depots, notably “Pappy” Gunn’s armament modifications on A-20s and B-25s in the South Pacific, but the Army Air Force considered the most important field modifications were those on the 8th Air Force Bomber Command’s B-17 “Flying Fortresses” flying out of England.

Though the B-17 was one of the war’s outstanding bombers, when it began flying combat missions over Europe in late 1942, its first encounters with Luftwaffe fighters made it seem anything but a “flying fortress.”

The most common complaint was the limited, hand-held forward firing armament, which the German fighters exploited with head-on attacks. Other complaints were with tail heaviness which made it tiring to fly in tight formation, poorly organized crew positions, and a flawed oxygen supply system.



Image 2 – Detail from image one showing the aircraft in question.

One of the 8th Air Force’s engineering officers, Maj. Robert J. Reed, was given the task of solving the problems, and in a few months, he came up with a long list of suggested improvements for the B-17. The changes were beyond the capability of the U.S. depots in England to make, so the 8th Bomber Command gave Major Reed a B-17E and sent him back to Wright Field, Ohio, to make the modifications.

Major Reed’s changes were radical, especially in armament. He took the nose and tail power-operated turrets from a B-24 Liberator and mounted them on the B-17, where they provided much more firepower and better armor protection. The tail turret had a field of fire about six times greater than the original B-17 turret.

Since the nose was now taken up by the turret, the bombardier was moved to an under-nose gondola, which provided such excellent visibility that he acted as the navigator too, reducing the number of crew members from 10 to nine.

The radio operator and his equipment were moved from the middle of the aircraft forward to a compartment next to the bombardier gondola, making it possible for them to communicate if the inter phone was shot out. More importantly, this moved the center of gravity forward and eliminated the tail heaviness. As an added benefit, this required a longer antenna wire, which provided a stronger signal.

The dorsal and ball turrets were replaced with lighter, roomier, and better armored models, and the two waist gun positions were removed and replaced by a power boosted twin .50 machine gun mounted on top of the fuselage just above the old waist gun positions. It required only a single gunner, so the number of crew members was further reduced to eight.

The “barn door” type bomb bay doors were replaced with folding doors that extended only 8 inches into the slip stream. This cut drag during the bomb run and provided a tactical advantage, since the folding bomb bay doors were invisible from a distance. This meant that open bomb bay doors would not alert German fighters when the bomb run was beginning, and the bombers could not maneuver. The oxygen system was redesigned so each crew member had double lines so if one was cut, he would still receive a half supply.





Image 3 shows the Dreamboat and lots of other B-17's the above is an enlargement of just the Dreamboat. The new nose, tail and upper turrets can be seen.



Image 4 shows the normal top turret and the new nose turret the bombardier/ navigators gondola can also be seen.

The final results for the "Dreamboat," as the project was nicknamed, were weight reduction of more than 1,000 pounds, the center of gravity moved forward to a nearly ideal point, all the manually operated machine guns were replaced with power operated weapons, and two crew members were eliminated. Speed and altitude performance remained the same because the drag of the bombardier's "gondola" offset the reduced weight and improved center of gravity.



Image 5 the new nose can clearly be seen



Image 6 In this picture the new second upper turret that replaces the two single waist gunners and the rear turret are seen.

When Major Reed brought the “Dreamboat” back to England in September 1943, it was well received. The formation flying characteristics were vastly improved, and the folding bomb bay doors and new oxygen system, seemingly minor points, were praised by the crews flying daily

combat over Germany. The main complaint was the concentration of all the key crew members in the nose where they could be taken out with a single cannon shell.

Despite the improvements, incorporating the changes into the B-17 production line would have resulted in unacceptable delays for retooling and they were too extensive to be done in England, so Major Reed's "Dreamboat" remained an object of curiosity in various depots for the rest of the war. The project was not, however, for naught. Many of Major Reed's changes were incorporated in the new Boeing B-29 Superfortress and Convair B-32 Dominator, which were in their initial test stages and were to replace the B-17."

Ref: <https://www.kaiserslauternamerican.com/reeds-dreamboat/>

Given it was a one-off, it's interesting that it should have been caught in a photograph taken at Warton, and then only as a background curiosity. The photo was taken in March 1944 – about six months after it arrived in England – and appears to be undergoing some engine maintenance given the covers in evidence over one of the nacelles. To me, that makes it a bit more of a rarity, as B-17 work was usually (but not exclusively) carried out at Burtonwood (BAD 1). The additional photos show different views of the Dreamboat (all taken in the US other than the one at Warton).

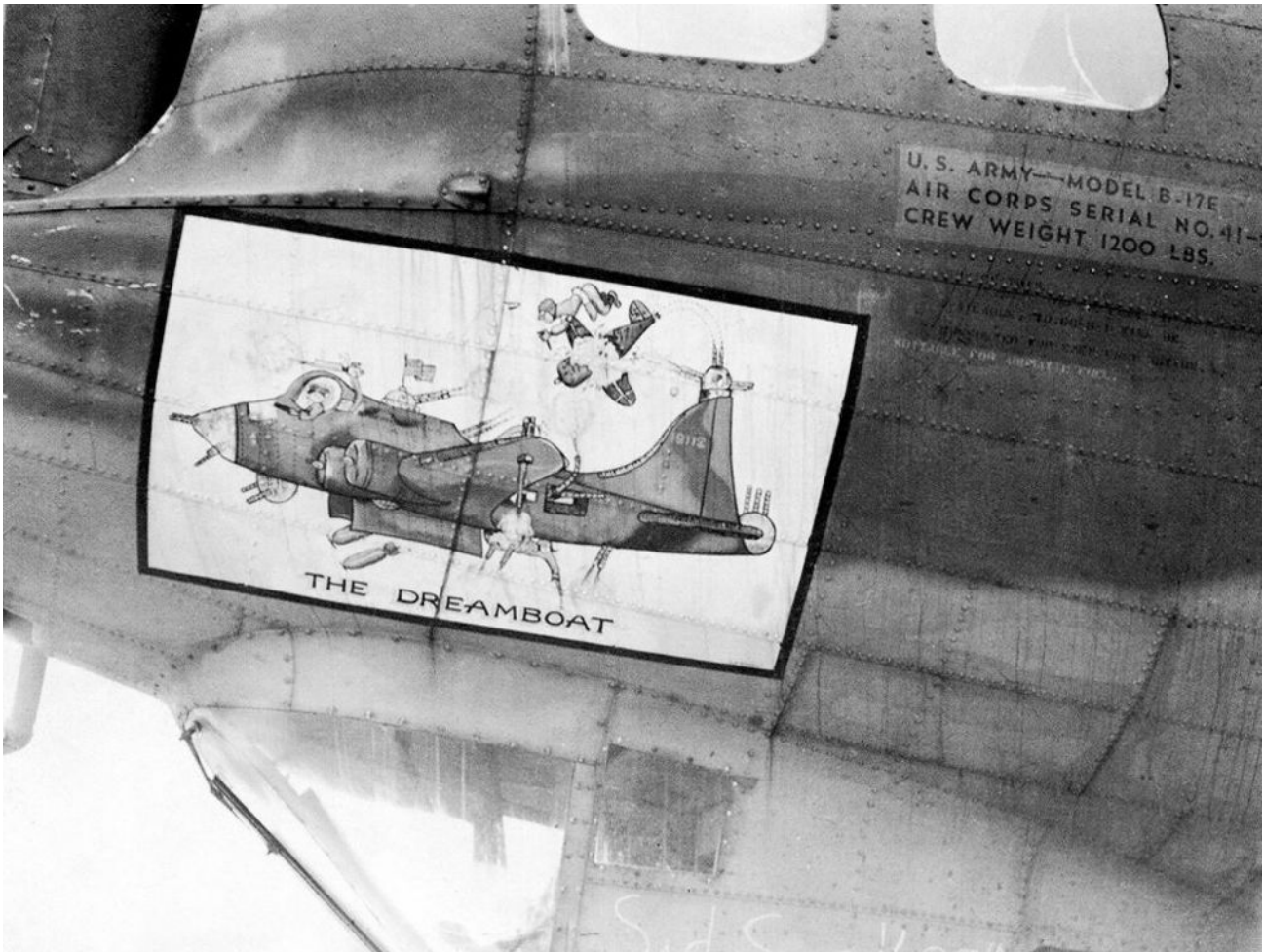


Image 7 nose art on the Dreamboat – the new gondola can be seen.

**Editors note**

History of B-17E 41-9112





The idea behind the gunship was to give extra protection for the bombing force as this was before the advent of the long range fighter. 12 YB-40s were sent to the UK for operational evaluation and participated in at most 14 bombing missions but with limited success. Unlike the Dreamboat, the modifications added considerable weight and its performance suffered significantly as a result. In particular they could not keep up with the bombers once they had dropped their bombs. Longer range fighter escorts became a better option. A couple of pictures showing the conversion are shown.



### **Another experiment putting a B-17 nose on a B-24**

So we've had a B-17 with a B-24 nose. How about the reverse? There was indeed a B-24 with a B-17G nose. It was an exercise in improving the B-24's aerodynamics while at the same time increasing space in the crew compartment. It was designated XB-24J.



Image 10 and image 11 (below) XB24J

The sole example stayed in the States. These images turned up unexpectedly during a picture search for the Dreamboat. Aircraft length was increased by 2ft, creating more room in the nose. Mods added 400lbs and speed improved by 8.5mph. On the other hand, the aircraft couldn't

climb above about 19000 feet without causing engine overheating and buffeting issues. So it achieved none of the objectives and, as with the YB-40, wasn't pursued any further. By that time, the B-24N was being planned to resolve some of the B-24's issues.



### **Back to the original Warton photo**

Finally, on the subject of B-24s, there is one in the Warton photo with unusual markings. It's partially obscured by the Dreamboat. [Image 12](#)



It turns out to be an anti-submarine conversion, and the camouflage pattern seems to have been solely used by the 479<sup>th</sup> Anti-Submarine Group of the USAAF based at St. Eval in Cornwall and Dunkeswell in Devon. This unit came under control of RAF Coastal Command on anti-submarine operations. They were only active during 1943, after which the US Navy with PB4Y Liberators took on the role. As the photo is dated 1944, this aircraft may no longer have been operational. The detail from the long line of B-24s looking in the opposite direction shows this aircraft in front of the Dreamboat and missing its nose turret.



Image 13 – Nose detail of anti-submarine B-24. Don't think this is at Warton, but is an aircraft from the 479<sup>th</sup> Group.

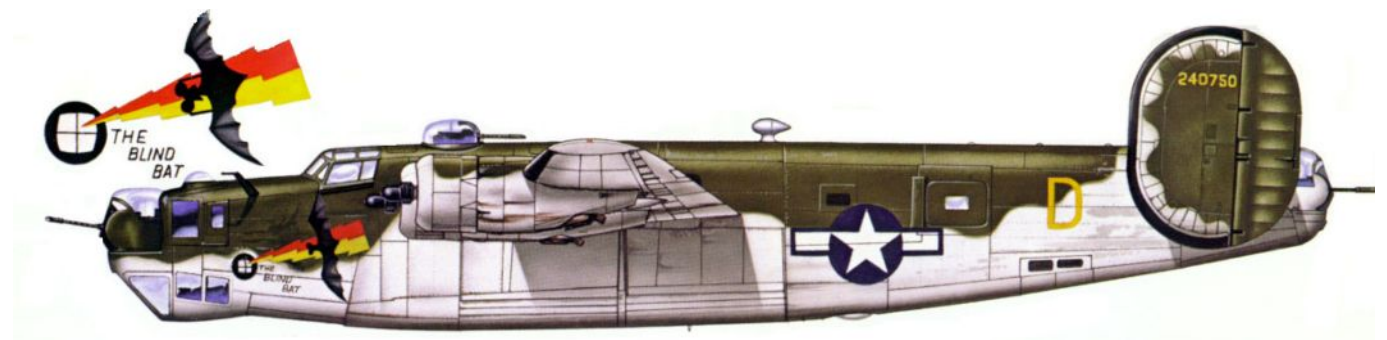


Image 14 – Camouflage scheme of 479<sup>th</sup> B-24s. Aircraft as shown in image 13.

All the information and photos have been taken from various sources on the internet. Some details are not always clear cut, and there is a small amount of speculation on my part, but I think there is enough factual information on the aircraft mentioned to provide a good understanding of their roles and history.

Some other sources used.

American Air museum in Britain

<https://www.americanairmuseum.com/archive/aircraft/41-9112>

Scale modeling

<https://inchhighguy.wordpress.com/2020/02/26/b-17e-41-9112-dreamboat/>

B.17 website

<https://b17flyingfortress.de/en/b17/41-9112-dreamboat/>

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Produced and edited by John Wiseman

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