



Boeing B-17F-75-B0 Flying Fortress, "Lady Luck", of the 91st Bomb Group 8th Air Force. (Photo - USAF)

FORTRESS Vs. LIBERATOR

By ALLAN G. BLUE

The much-debated question of whether the Boeing B-17 Flying Fortress or the Consolidated B-24 Liberator was the better airplane will probably never be settled - nor is this article directed toward that issue. Rather, the following data have been compiled to allow a side-by-side comparison of the tangible contributions of each airplane toward the victory over Japan and Germany.

The record of the Liberator when this displayed is, perhaps, of considerably greater magnitude than generally believed. There are several reasons for this. First, the B-17 was world famous before the war. Caught right in the middle of an internal Air Corps doctrinal dispute as well as the inter-service struggle for Congressional appropriations during the late 1930's, the plane literally rose to the occasion. Non-stop "mass" flights to South America, involving 6 to 10 aircraft, plus new speed, load and altitude records during the 1938-39 period made Flying Fortress a household word while winning important friends for strategic bombardment aviation.

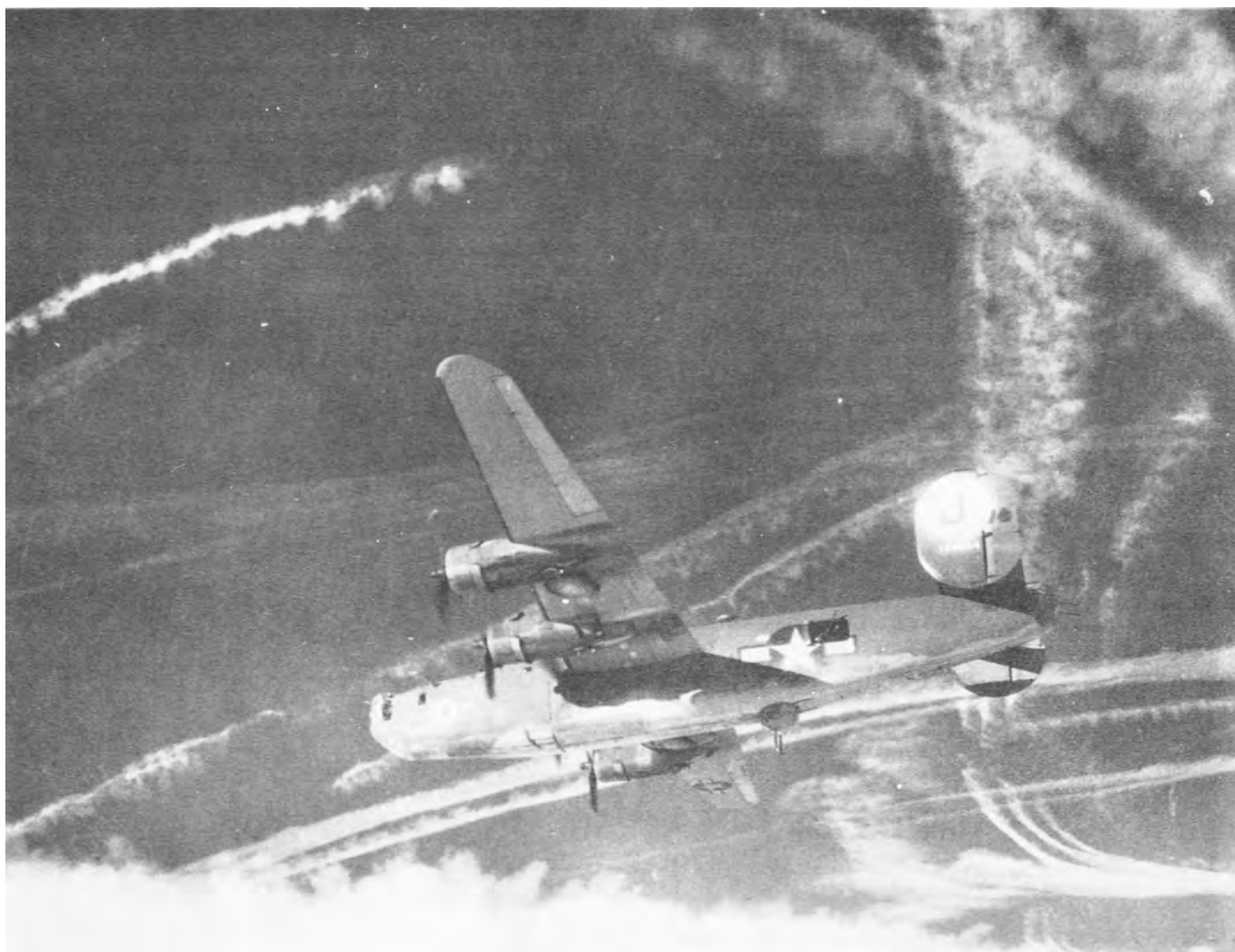
In fact, the continuing pre-war effort to "sell" the B-17 was to prove almost embarrassingly successful. By 1941, probably no other single weapon in the U.S. arsenal had achieved greater public identification as a symbol of American war power. Thus, when conflict did come, all eyes were on the Fortress, expecting miracles. The miracles came, of course -- a few at first (some fact, some fiction) and many more later on. Without question the B-17 ultimately repaid the public in full

measure for the loan of its confidence. But the Air Force (and Boeing) had gambled and won with the B-17, and it is understandable that those who had opposed the airplane so bitterly were not allowed to forget it for the duration.

Finally, B-17 predominance in the public eye has been perpetuated by a great deal of postwar literature aimed at a rather strange human characteristic - i.e., we seem to prefer reading about our country fighting against heavy odds, possibly losing, rather than vice versa. And without question the Fortress had the major role during the somber days of 1942 and, at least against Germany, much of 1943.

The Liberator, on the other hand, went through no such prewar love affair with the public. By the time of its operational debut there was no longer a need to glamorize the four engined long range bomber, no restriction on the availability of dollars to buy them. In perfect complement with the B-17, the B-24 was built, flown and fought with a minimum of fanfare. And with the exception of Ploesti, its wartime record -- which includes some of the classic missions of all time -- has remained remarkably unreported in popular print.

By an interesting coincidence the ratio of B-24 to B-17 production was very nearly the same as their model designations: 24 to 17. However, Liberator deliveries to the USN and United Kingdom reduced considerably the availability of this plane to the USAAF, so that the average monthly wartime inventory of first-line aircraft craft was a relatively close 9:8 in favor of the B-24,



Consolidated B-24H-5-DT Liberator, 41-28654, of the 453rd Bomb Group 8th Air Force. (Photo - USAF)

3016 to 2672. [1] On the average, however, 43.6% of all available first-line B-24s were assigned to combat theaters while the equivalent B-17 figure was a somewhat lower 41.5% so that in 86 months of enemy-opposed operations (41 vs. Germany and 45 vs. Japan excluding B-29 operations) Liberators represented 53.7% of all AAF heavy bombers committed to combat, Fortress 46.3%

The operational records of the two aircraft in the European war are readily available, including the number of sorties airborne and tons of bombs dropped by each. [2] Evidently similar data were not kept for the campaign against Japan; at least none have been located to date by the writer. However, comparable figures have been approximated from available data as follows: For each month, in each of the 4 Pacific combat theaters (FEAF, CBI, Pacific Ocean Area and Alaska), the ratio of first-line B-17s to B-24s (known figure) was applied to the number of sorties airborne (known) and tonnage of bombs dropped by heavy bombers (also known). Although this represents a theoretical total of several hundred calculations, the required figure is much less inasmuch as B-17s operated in only 3 Pacific theaters in 1942, 2 in 1943, and none thereafter. Actually, although it is believed the obvious errors introduced by this method (e.g., it assumes equal bomb loads for both planes and equal utilization of aircraft on hand) are largely offsetting, they are in fact reduced to insignificance by the size of the 1944 and 1945 totals -- all allocable to the B-24 without opposition. The results are shown next.

FIGURE I

Heavy Bomber	Total	Percent of			
		Sorties		Totals	
		B-17	B-24	B-17	B-24
<u>Sorties</u>					
<u>Airborne</u>	608,606	295,641	312,965	48.6	51.4
Germany	518,283	291,508	226,775	56.2	43.8
Japan	90,323	4,133	86,190	4.6	95.4
<u>Bomb Tonnage</u>					
<u>Dropped</u>	1,279,413	648,589	630,824	50.7	49.3
Germany	1,092,544	640,036	452,508	58.6	41.4
Japan	186,869	8,553	178,316	4.6	95.4

The honors could hardly be more evenly divided-- the B-24 with a slight percentage edge in sorties and the B-17 with an even smaller lead in bomb tonnage. (The latter difference of 17,765 tons, in fact, is equal to only 4 days of heavy bomber operations at the March, 1945 rate for these types.)

Another way of measuring USAAF utilization of the 2 types is in terms of trained fighting units, capable of engaging the enemy. During WWII, this basic unit was the combat group. Using this index, we find that heavy bomb groups equipped with B-17s were operational a total of 746.5 months, Liberator equipped heavy bomb groups 807.5 months. Again the honors are practically even at 48% B-17, 52% B-24.

The discussion thus far has dealt only with USAAF usage of the Fortress and Liberator as heavy bombers. Any over-all comparison must also consider the following:

Antisubmarine Operations. Early in 1942 it was recognized that "...the long-range B-24 was especially well suited to the demands of antisubmarine warfare, and in September the (Antisubmarine) command received the first of the planes that would thereafter become the principal reliance in the AAF's antisubmarine effort."

[3] The Navy evidently agreed, assigning a large percentage of the B-24s (PB-4Y-1s) it received to similar duties after the USN assumed responsibility for antisubmarine operations in 1943.

Transport and Cargo Operations. Caught woefully short of long range, high capacity transport aircraft at the war's beginning, the AAF again turned to the Liberator and found it "...unusually well suited for transport work..." [4] The plane served in this role throughout the war in a variety of configurations, hauling men and supplies in all theaters. There was only incidental use of the Fortress for similar purposes and, of course, no B-17 production counterpart of the C-87.

Photo Reconnaissance. As the F-7, the Liberator ranged throughout the Pacific. Until the arrival of the F-13 (B-29) late in the war, it was the mainstay of a campaign that had become a "seek out and destroy operation. The Fortress equivalent, the F-9, saw relatively limited use in Europe.

Emergency Rescue. The AAF experimented with a variety of aircraft for this role, including Navy Catalinas, British Warwicks, Liberators, Fortresses, and Superfortresses. Each type had its advantages, but on balance

the range and rugged dependability of the B-24 made it the best plane available. Most emergency rescue crews eventually converted to Liberators. [5]

The YB-40/XB-41 "Bomber Escort" experiment is best excluded; certainly this ill-starred affair added nothing to the reputation of either aircraft.

To sum up, the USAAF had two basically similar aircraft with which to accomplish its WW II strategic bombing mission. It used the two in virtually equal proportion in doing so. In addition it found that one of them - the B-24 - was uniquely suited to a variety of other vital roles. In retrospect, it appears that the Liberator was second to the Fortress only in the public relations department.

BIBLIOGRAPHY

(T) All inventory data has been taken from the ARMY AIR FORCES STATISTICAL DIGEST (World War II Edition), published in December, 1945, by the Hqts, AAF Office of Statistical Control.

[1] FLYING, Vol. 37, No. 3 (September, 1945).

[3] Craven & Cate, THE ARMY AIR FORCES IN WORLD WAR II Vol. I, p. 537.

[4] Ibid, Vol. VII, p. 28.

[5] Ibid, Vol. VII, p. 493.

LIGHTNINGS AT WAR

The following three pages begin a new feature in the JOURNAL--the coverage of particular aircraft types through the means of never-before-published photographs. In coming issues, types from all eras will be treated, and it is hoped that members having several original photos of a particular type will contact the Editor so that they might be made available to all through this section.

The subject in this first feature is the Lockheed P-38 Lightning in the European Theater of Operations. Most of the P-38s shown are from the 8th Air Force, but several of the aircraft are not identifiable from their markings and may have been part of units of the 9th Air Force which also operated the type out of England during World War II.

Although the P-38 first saw action with the 8th Air Force on 29 August 1942 (when two Lightnings of the 94th Fighter Squadron of the 1st Fighter Group were scrambled to intercept enemy raiders without effect), the type did not come into prolonged service until 15 October 1943. The original P-38s of the 1st, 14th and 78th Fighter Groups all went to North Africa for the invasion of that continent, Operation TORCH, after brief service out of England. The 1st and 14th Groups went to North Africa in whole; only the P-38s of the 78th Group went with some of the units pilots, the Group remaining in England to reform on P-47s.

Additional P-38 units did not become available to the 8th Air Force until the Summer of 1943 when the 55th and 20th Fighter Groups arrived from the United States. They arrived without aircraft, and it was one month before the 55th Group began flying P-38s on operations, 15 October 1943. That day, 36 of the Group's Lightnings carried out a sweep over the Channel to the Dutch Islands.

Beginning on 5 November, aircraft of the 20th Group (the 79th Fighter Squadron) began operating with the 55th Group to gain experience. This continued in phases

until 28 December when the 20th was able to operate as a full group for the first time. The two groups then continued giving long range escort to the 8th's heavy bombers with varying degrees of success well into 1944. Engine failures were a greater plague to the units than the Luftwaffe. The P-38's Allison engines were quite adequate in the cold, rarefied atmosphere at high altitude with an experienced pilot at the controls, but the young, eager pilots of the 8th Air Force were another matter.

On 3 March 1944 the third group of P-38s joined the 8th in the form of the 364th Fighter Group. They arrived just in time to take part in the great and first daylight attacks on the German capitol. The fourth and last Lightning unit to join the 8th was the 479th Fighter Group which became operational on 26 May 1944, just in time for D-Day.

By mid-1944, and with the success of the long range P-51 Mustang, it was decided to reequip the 8th's P-38 units with the smaller, sleeker airplane. Accordingly, the 55th Group on 14 July, the 20th Group on 17 July, and the 364th on 28 July officially were reallocated as Mustang groups. Only the 479th soldiered on Lightnings until 27 September 1944 when it too converted to Mustangs.

In the 9th Air Force the 367th and 370th Fighter Groups operated Lightnings for a while, the 474th flew them until the end of the war, and the 10th and 67th Recce Groups also used Lightnings. With its twin engines and high speed the Lightning made a good tactical fighter and reconnaissance plane although its liquid cooled engines were susceptible to ground fire.

Still the P-38 Lightning will be long remembered and loved by many, and we are most fortunate to have it covered in such detail as in the following photos from member Ray E. Bowers who served with the 8th and 9th Air Forces during World War II.

Kenn C. Rust