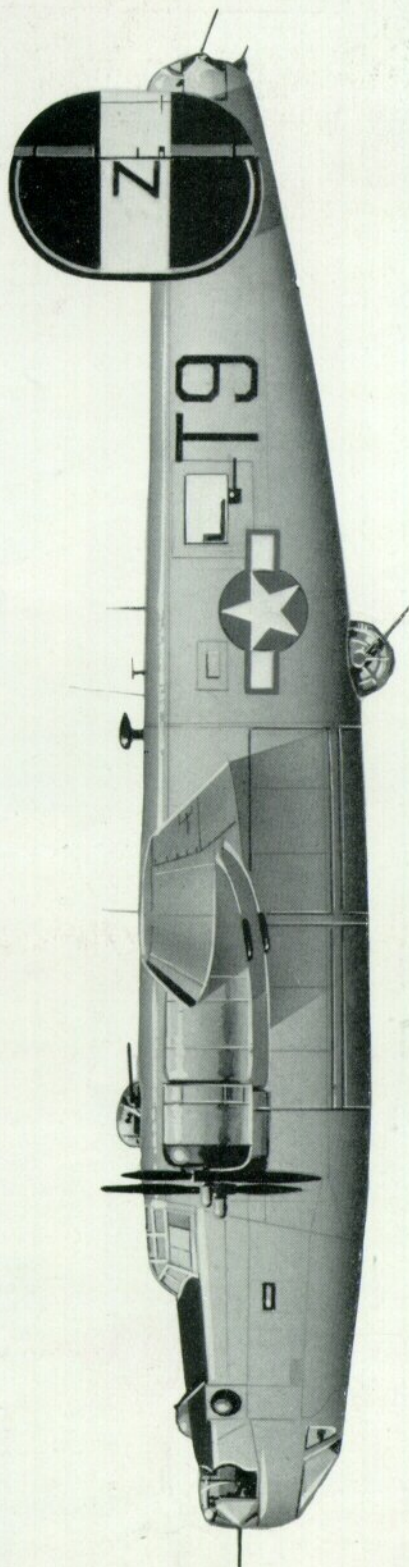


PROFILE PUBLICATIONS

The Consolidated B-24J Liberator

NUMBER

19





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Consolidated B-24J-40-CF Liberator
of 466th Bombardment Group,
U.S. 8th Air Force.

© P. ENDSLEIGH CASTLE ARMS

The Consolidated B-24J Liberator



B-24J of the 15th Air Force photographed during a raid on 15th July 1944, against Ploesti, Rumania.

The B-24J was the major model of a bomber produced in greater quantity than any other American military aircraft of the Second World War. First flown in 1939, the Consolidated 32 was a design in keeping with the general American concept of a heavy bomber at that time—fast, multi-engined, multi-place, moderate bomb capacity, high altitude capability and good range.

Consolidated had previously been principally concerned with the design and manufacture of large flying-boats and this, their first large landplane, brought some novel design features to the realm of the heavy bomber. Tricycle undercarriage was one, heralding a future trend; and all the more impressive on the Model 32 because of the massive nature of the sideways retracting main wheels necessitated by the shoulder wing configuration. The nose wheel retracted forward and up, involving a rather complicated action by hinged members which were at first too delicate to withstand very heavy landings. Apart from better visibility afforded pilots in manoeuvring the bomber on the ground, the tricycle undercarriage in this instance also allowed the faster landing and take-off speeds demanded by the high wing loadings. The wing also was unusual, having high aspect ratio and low-drag aerofoil section. The bomb-bay doors were another departure from convention. They were basically dural sheet with fitments to a sliding track running round the underside of the fuselage up towards the wing root. When operated the doors flexed to follow the contours of the fuselage section.

Four neatly-cowled Pratt & Whitney Twin Wasp engines proved to be a prudent choice of power-plant, their reliability and durability were to be universally accepted by airman. In the late nineteen-thirties, tailplanes were often the identifying marks of designers and Consolidated chose to furnish their bomber with large twin fins and rudders of similar shape to those fitted to their PB2Y Navy flying-boat.

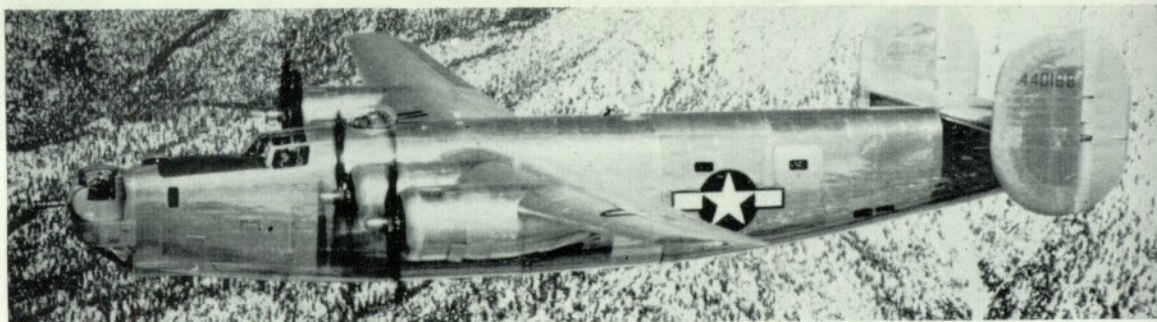
It was the general specification, regardless of the innovations, that attracted the attention of both

U.S.A.A.C. and British military agencies, with the result that production on an unprecedented scale was ultimately undertaken. A manufacturing pool was officially established in February 1941 and in just over a year five major assembly plants were working on the bomber—U.S.A.A.F. designation B-24, and the name Liberator in that service and the Royal Air Force.

THE EARLY LIBERATORS

The initial production came from Consolidated's own factory at San Diego, California, and these aircraft went mostly to the R.A.F. where they were used for various duties. U.S. warplanes of the 1940-1941 period were generally lacking in many items which the British considered imperative to successful combat operations. Armour, armament, self-sealing fuel tanks and other equipment was, therefore, forthcoming in the first war standard model, the B-24D, which began to roll off the San Diego production lines at an increasing rate early in 1942. Fords commenced production of an equivalent model at their giant Willow Run factory near Detroit (built especially for the task) during that year, while other versions came from Douglas at Tulsa, Oklahoma, and the new Consolidated-Vultee plant at Forth Worth, Texas. (The Consolidated and Vultee aircraft companies merged in March 1943 and later adopted the abbreviated trade name Convair. The B-24, however, continued to be generally referred to as a Consolidated product.) North American also manufactured B-24s commencing in March 1943.

In war operations the B-24 showed great promise, its considerable range, in particular, made it highly valued for ocean patrol and anti-submarine work. As with most warplanes there was need of improvement to meet changes in tactical employment, and where the Liberator had come up against fighter opposition nose armament had been found wholly inadequate. The two hand-held .50 guns firing through apertures in the bomb aimer's "conserva-



Above: B-24J-150-CO in natural metal finish. Below: An Eighth Air Force B-24J-55-CO of the 93rd Bomber Group. (Photo: U.S.A.A.F.).



tory" had limited fields of fire which an interceptor could evade in frontal attack. Some local modifications did much to remedy this shortcoming but the Liberator was still considered vulnerable to frontal interception.

NOSE TURRETS MODS

A power-operated turret appeared the obvious solution, and in Australia, Fifth Air Force engineers successfully improvised the marrying of a salvaged hydraulically-operated Consolidated-tail turret to the nose section of a B-24D. This, and similar experiments by the Seventh Air Force, led to a regular modification programme for a large proportion of B-24s in the two South West Pacific air forces, the Hawaiian Air Depot installing turrets in the noses of over 200 Liberators during the spring and summer of 1943. Steps were also taken to

introduce a nose turret on production machines, the Pacific theatre improvisations going some way to influence the layout of this feature. Alterations were frequently being made to the Liberator specification during the first part of 1943, culminating in new models best distinguished from their predecessors by production nose turrets, but also embodying improved engines, considerably increased ammunition stowage and many other internal changes.

The production turret was the electrically-powered Emerson design, introduced in June 1943 on the Ford production line with their 491st Liberator, and soon after on B-24s from Douglas and Fort Worth. Aircraft from all three plants were designated B-24H, whereas the introduction of the nose turret on North American's machines brought only a block number change and these Liberators continued to be designated B-24G, as were the first 25 from the factory.

15th Air Force 24Js attack Theole-sur-Mer, near Cannes, on 12th July 1944. Note markings on upper tailplane surfaces.





B-24J-95-COs, 448th Bomb. Group, Eighth Air Force.

(Photo: U.S.A.A.F.)

THE 'J' IS IDENTIFIED

With the quickening pace of production it became apparent that the supply of Emerson turrets would be insufficient to meet the demands of all five plants, so San Diego planned to use a Consolidated-designed Motor Products manufactured turret which, like the tail turret, was hydraulically operated but drew its pressure from the main wheel brake accumulators. Distinctively shaped, it served as the chief recognition feature by which the San Diego Liberators could be distinguished from those of the other factories. Designated B-24J and first appearing in August 1943, this model also differed from the G and H in the matter of nose wheel doors, for whereas those on the J opened inwards (like the B-24D-CO), those on the other models opened outwards. The B-24J also featured a new automatic pilot (C-1 model) and bombsight (M

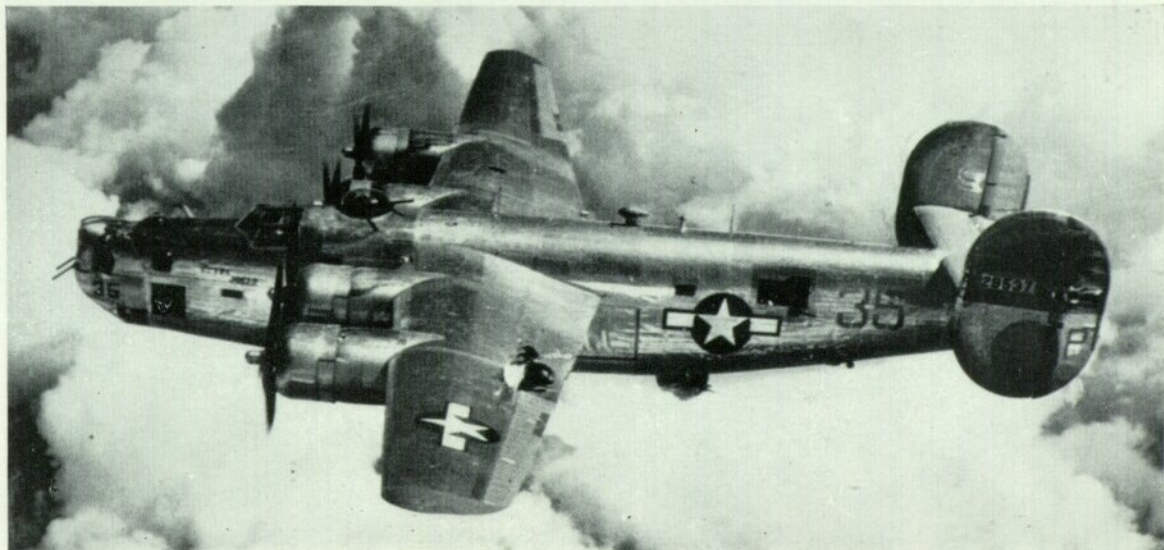
series), revised auxiliary fuel tank transfer system and electronic supercharger regulators.

Early in B-24D production three auxiliary fuel cells had been added in each wing aft of the outer engines to provide a further 450 U.S. gallons additional to the 2,343 gallons total fuel carried. The engines could not be fed directly from the auxiliary tanks, it being necessary to transfer the fuel to main tanks first. The original transfer system was such that a lapse on the part of the operator could jeopardise the safety of the aircraft. The revised transfer system in later models, further refined for the B-24J, lessened this danger.

The turbo-superchargers, essential power boosters, were operated via manual controls on the pilots' pedestal in earlier Liberators. With the B-24J electronic control was substituted, worked by a single dial to allow both simpler and smoother operation.

B-24J Liberator with badly-holed wing moments before it plunged to disaster.

(Photo: Imp. War Museum)





Royal Air Force Liberator VI of Eastern Air Command.

(Photo: Imp. War Museum)

PRODUCTION QUICKENS

During the early months of 1944 the other four plants went over to the production of B-24Js, the change of model designation being accompanied by the fitting of the C-1 auto pilot and M series bombsight and supercharger refinements in the case of Ford, Douglas and North American, while at Fort Worth the Motor Products turret also accompanied the change. In the spring of 1944 both Convair factories went over to the Emerson nose turrets (by the 45th block at Fort Worth and the 190th at San Diego) which was considered superior, and at the same time adapted outward opening nose wheel doors.

With these changes all five factories were producing Liberators that were practically identical in external appearance. Construction methods differed and some components varied; enough to make aircrew and mechanics well aware of the source of a particular machine. Later in the year B-24J-210-COs were fitted with a new form of anti-icing equipment, known as Thermal Ice Preventive System, and utilising hot air piped from the engines

to ducting inside the leading edges of wings and tail assembly. This proved superior to the electric/rubber de-icer boot that sometimes failed to prevent ice build-up. (All B-24J-NTs also had this system.)

Efforts to remedy operational shortcomings of the Liberator that resulted in the G, H and, subsequently, J models had brought further weight increases to add to those introduced on late D and E models. Since delivery of the first production models for the R.A.F. the empty weight of the Liberator had increased by 8,000 lb. from approximately 30,000 lb. to 38,000 lb. But loaded for combat the bomber could now gross between 50,000 and 70,000 lb., figures at which the gross weight and centre of gravity limits intended by the designers were approached and often exceeded. Performance suffered in these circumstances; there was little reserve power for take-off, and airspeed and rate of climb ranges were limited, and very high rates of fuel consumption were experienced. But, the most undesirable outcome of these weight increases was the alteration in flight characteristics rendering the aircraft less stable, particularly so at high altitude.

Coastal Command Liberator Mk. VI of No. 220 Squadron.

(Photo: Imp. War Museum)





R.A.F. Liberator Mk. VI of No. 356 Squadron, Cocos Island.

(Photo: Imp. War Museum)

The mode of bombing attack practised by the U.S.A.A.F. in its daylight operations involved high altitudes (above 20,000 feet) and tight defensive formations of around twenty aircraft, an environment to which the Liberator had become less and less suited. In consequence the combat altitude of a B-24 formation was often lower than desirable, and collisions due to momentary loss of control were a reality prompting the prescription of less tight formations in adverse conditions.

Weight increase also aggravated the Liberator's chances of making a safe return when battle damaged, particularly if parts of the wing were severed or badly holed. B-24s were often susceptible to superficial wing damage and when this occurred loss of control would rarely see successful recovery. On the other hand, they could, and did, sustain very severe fuselage and tail damage and survive. On some occasions a complete half of the tail assembly was torn from the fuselage yet the aircraft flew on.

Control and stability was particularly poor when the retractable ventral "ball turret" (first introduced on the late D and E models) was in the lowered position, and with the idea of shedding weight U.S.A.A.F. commanders in the South West Pacific ordered its removal and replacement by two manually operated .50s firing through a floor hatch. From September 1943 B-24Js sent to that theatre of operations usually had the ball turret removed at modification centres in the U.S. prior to despatch.

In Britain too, the ball turret was discarded during the spring of 1944 when sufficient long-range fighters became available for escort and the chances of interception from below were minimised. Subsequent models of the Liberator, the B-24L and M, were further attempts to improve handling qualities by reducing weight, this time by installing lighter rear turrets.

Men who had flown both the early D and J models usually considered the latter inferior from a pilotage viewpoint, the extra weight accentuating the heaviness of controls and sluggish response. There was a tendency for these characteristics to be exaggerated, for pilotage of the Liberator was inevitably judged by comparison to its Boeing counterpart, the B-17 Fortress, an aircraft with few vices and pleasant to fly. The G, H and J Liberators were also unpopular with crews due to the generally ill-fitting nature of the front turrets, and the resultant sub-zero draughts were anything but pleasant.

Making an emergency wheels-up landing in a B-24J could be accomplished quite successfully, although there was a tendency for the nose to dig in and break. Ditching was far from easy and often disastrous. The rather flimsy nature of the bomb bay doors was the chief obstacle to success, for they took the first contact with the water and bursting under the pressure immediately swamped the interior of the aircraft. In the Pacific area, where long over-water flights were a regular occurrence,

Late production B-24J in natural metal finish.

(Photo: R. Ward)



special strengthening formers, to be inserted into the bomb bay when ditching was imminent, were made and carried on many B-24s.

SPECIAL VARIANTS

While the B-24J may not have been the ideal vehicle for use in the U.S.A.A.F.'s high-altitude daylight precision bombing campaign, it was highly regarded elsewhere for its suitability to many forms of operational employment. The R.A.F. held the Liberator in some esteem and considered it by far the best American heavy bomber. The U.S. Navy found the aircraft well suited to the needs of long-range ocean patrol work and acquired 1,174 under the designation PB4Y-1. The majority had front turrets of Erco manufacture and embodied many of the refinements introduced on the B-24 models as production progressed. The U.S.A.A.F., too, had diverse uses for the B-24. A special version was produced for passenger and freight transport under the designation C-87. In both Europe and the East bomber Liberators were occasionally used as cargo transports, the large waist gun windows making handy loading apertures. Late in 1944 about fifty B-24J and L bombers were modified at depots as flying tankers to ferry motor spirit to advancing ground forces in Europe. These Liberators were stripped of armament and turrets, the nose and tail being neatly faired over, and fuel tanks fitted in the bomb bays. Many saw service during April and May 1945 with Troop Carrier Groups of IX T.C. Command.

In the U.K. the 492nd Bomb Group used B-24H and J models for agent and supply dropping missions at night over occupied Europe. Painted black overall these aircraft usually had the front turret removed and the nose faired over, interception directed at that quarter being highly unlikely during darkness. Similar B-24s were used by the



Above: "Well Developed", photo-recce variant of the B-24J. (Photo: E. Vagi)

Below: "War Goddess" B-24J (Convair). Early a/c lacked nose wheel doors.



U.S.A.A.F. Groups using the B-24J or equivalents.

Glossary		Group	Chief
CBI	China, Burma, India		Area of Ops.
CPA	Central Pacific Area	453 BG	ETO
ETO	European Theatre of Operations	454 BG	MTO
		455 BG	MTO
MTO	Mediterranean Theatre of Ops.	456 BG	MTO
		458 BG	ETO
NPA	North Pacific Area	459 BG	MTO
SWPA	South West Pacific Area	460 BG	MTO
		461 BG	MTO
		464 BG	MTO
		465 BG	MTO
		466 BG	ETO
		467 BG	ETO
		484 BG	MTO
		485 BG	MTO
		486 BG	ETO
		487 BG	ETO
		489 BG	ETO
		490 BG	ETO
		491 BG	ETO
		492 BG	ETO
		493 BG	ETO
		494 BG	CPA
			Photo
			Chief
			Area of Ops.
			SWPA
			CBI
			Special
			Chief
			Area of Ops.
			Squadrons
			36 BS (RCM)
			ETO
			406 BS (Leaflets)
			ETO
			652 BS (Weather)
			ETO
			814 BS (Radar)
			ETO
			885 BS (OSS, etc.)
			MTO
			868 BS (Radar)
			SWPA

Royal Air Force Squadrons using Liberator Mk VI and Mk. VIII.

Sqdn.	A/c Mk.	Chief	Area of Ops.
37	B.VIII.		MTO
40	B.VI, B.VIII.		MTO
53	GR.VI, GR.VIII, C.VI, C.VIII.		UK—Iceland
59	GR.VI, GR.VIII, C.VI, C.VIII.		UK—Iceland
70	B.VI, B.VIII.		MTO
86	GR.VI, C.VI.		UK
99	B.VI, B.VIII.		FE
102	C.VI, C.VIII.		UK
103	C.VI, C.VIII.		UK
104	B.VI, B.VIII.		MTO
120	GR.VI.		UK
148	B.VI.		MTO
159	C.VI.		FE
160	GR.VI, GR.VIII.		FE
178	B.VI, B.VIII.		MTO
203	GR.VI, GR.VIII.		UK, FE
206	GR.VI, GR.VIII.		Azores.
214	B.VIII.		UK
215	C.VI.		FE
220	GR.VI, GR.VIII.		Azores.
223	B.VI, B.VIII.		UK
224	GR.VI, GR.VIII.		UK
232	C.VI, C.VIII.		FE
233	GR.VI.		UK, FE
243	C.VIII.		FE
246	C.VI, C.VIII.		UK
292	B.VI.		UK
301	B.VI.		UK
311	GR.VI, C.VI.		UK
321	GR.VI.		FE
354	B.VI.		FE
355	B.VI, B.VIII.		FE
356	B.VI, B.VIII.		FE
357	B.VI.		FE
358	B.VI.		FE
422	C.VI, C.VIII.		UK
423	C.VI, C.VIII.		UK
426	C.VI, C.VIII.		UK
502	GR.VI.		UK
547	GR.VI, GR.VIII.		UK
614	B.VI, B.VIII.		MTO

Small numbers of Liberators were also used by the following units: Conversion Units: 5 (HB)CU, 1330 (T)CU, 1332 (T)CU, 1584 (HB)CU, 1673 (HB)CU, 1674 (HB)CU, 1675 (H)CU; 1586 Special Delivery Flight; 111 OTU; 1425 Flight; 1 AGS; 1346 ASR; 1409 Met. Flight; and Coastal Command Flying Instructors School.

R.A.A.F. had four squadrons using Liberators of this type in the Far East, numbers 21, 23, 24 and 25.

Royal Air Force serial numbers allotted B-24J types.		
BZ960—BZ999	Mk VI	Believed all B-24J-CF— Boulton-Paul rear turrets.
EV812—EW249	Mk VI	Believed all B-24J-CO.
EW250—EW322	Mk VI	Believed all B-24J-CF.
KG821—KG999	Mk VI & Mk VIII	Believed all B-24J-CF: Mk VIII by and after KG943.
KH100—KH124	Mk VI	Believed all B-24J-CO.
KH125—KH420	Mk VIII	Believed all B-24J-CF.
KK221—KK378	Mk VIII	Believed all B-24J-CF.
TT336—TT343	Mk B.VI	Ex-U.S.A.A.F.
TW758—TW769	Mk B.VI	B-24G, H & J ex-U.S.A.A.F. Italy.

Although the above serial batches were allocated to Liberator production no precise information is available on actual numbers and types delivered within these batches. While these details are believed to be correct they are unconfirmed.

With the exception of the TT and TW batch all Mk VI Liberators appear to have had the Consolidated Motor Products nose turret, whereas the Mk VIII appears to have been the Emerson-equipped model.

It is known that odd Mk VIIIs were seen with serials outside the above ranges, and it is assumed that these were due to errors in application.

885th B.Sqdn. for the same type of operations in the Mediterranean theatre. The Eighth Air Force in England also had B-24J models in use for night leaflet delivery, radio counter-measures, and long range weather flights, all with special refinements dictated by the mission.

In the South West Pacific a special blind-bombing Liberator squadron was established in August 1943, with the object of seeking out and attacking enemy shipping at night. Fitted with SCR-717B and SCR-729 radars, plus other devices, these Liberators operated very successfully at low altitudes. The work was originally carried out by a provisional squadron (later the 868th B.Sqdn.) attached to the 5th B.G. in the Thirteenth Air Force, and also, later, by the 63rd B.Sqdn., 43rd B.G. of the Fifth Air Force further south-west.

Radar was also installed in PPF B-24Js of the Eighth and Fifteenth Air Forces in Europe and used for bombing through cloud. This was H2X (the U.S. version of the R.A.F.'s H2S) installed in a retractable fixture in the position formerly occupied by the ball turret. An advanced form of radar that was tested experimentally on B-24J 42-73111, amongst other types, was AN/APQ 7 "Eagle" with antenna in a 16 ft. wing-shaped housing just aft of the nose wheel.

A photographic reconnaissance version of the B-24 was developed during 1943 specifically to meet the long-range requirements of air forces combating the Japanese. Both H and J models were modified for this purpose. Of the Js, 86 with three nose and three bomb bay camera installations were designated F-7As, and 92 with all six cameras



B-24J of the 577th Squadron, 392nd Bomb. Group. Late production a/c with Emerson turret. (Photo: J. E. Bode)

in the bomb bay were F-7Bs. These aircraft were employed operationally by the 6th Photo Recon Group in New Guinea and the Philippines and also by the 8th Photo Recon Group in India.

To meet operational needs in a particular theatre of war a good deal of improvisation was carried out locally on the B-24J, apart from the armament details already mentioned. U.S.A.A.F. bombing operations in the Pacific area, in contrast to those over Europe, frequently required smaller bombs. Seventh Air Force technicians, therefore, modified the bomb racks in their B-24s, doubling the number of stations from twenty to forty. Another modification peculiar to the S.W.P.A. was the removal of de-icing and engine winterisation equipment.

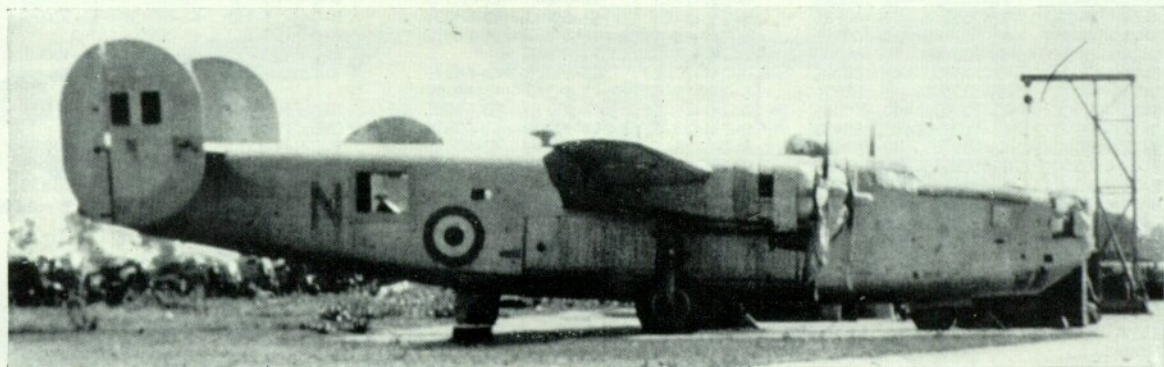
Some Fifteenth Air Force lead planes, carrying the lead bombardier and navigator, had alterations to the nose that allowed both occupants greatly enhanced visibility. The turret was removed and a perspex clad structure substituted that was not unlike the upper half of the nosepiece on the old B-24D. A single hand-operated gun was incorporated for use by the navigator.

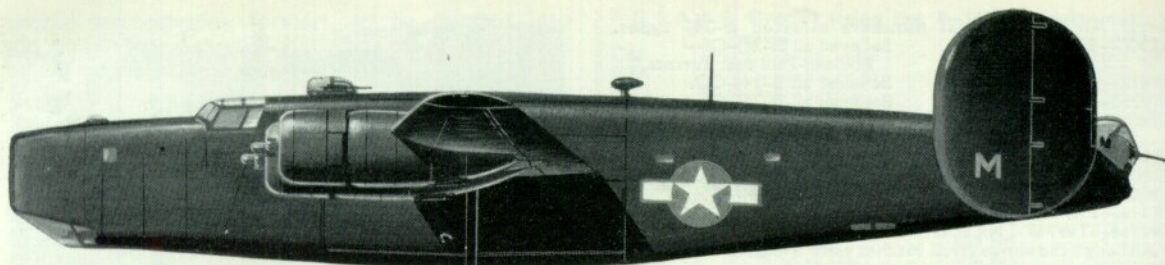
In Britain brightly painted "forming" or "assembly ships" were used as leaders in assembling bomber formations. A few of these were B-24J models with no armament and numerous identification lights set in the top of the fuselage.

SERVICE USE

First U.S.A.A.F. units to equip with production nose-turreted Liberators did so in August 1943, and

Rare photograph of Indian Air Force Liberator.





B-24J of the 858th Bomb. Squadron, 8th Air Force. Special Operations a/c based at Harrington, U.K.

the following month the first B-24H unit, the 392nd B.G., arrived in the U.K. B-24Js followed soon afterwards, chiefly as replacements to all theatres, including the remote C.B.I., where some joined the India based 7th B.G. in October. Later B-24Js were largely original equipment for seven bomb groups joining the Eighth Air Force, the last of these, the 493rd B.G., becoming operational on D-Day, 6th June 1944. The 494th B.G. assigned to the Seventh Air Force in the Pacific also had B-24Js as initial combat equipment, but did not commence missions against the Japanese until early November 1944.

Peak U.S.A.A.F. inventory of the B-24 was reached in September 1944 with a total of 6,043, about half of this number being in 177 bomber squadrons in combat areas. Highest B-24 unit strength, however, was in June 1944 when 46 bomber groups (184 sqdns.) and six special squadrons were overseas and twelve operational training bases were in being in the U.S.A. In July of that year the B-24 was withdrawn from some U.S.A.A.F. units in favour of other types; in England two groups commenced conversion to B-17s to be followed by three more in September; in November a

group was sent home to convert to B-29 Superfortresses, and in April 1945 another from the U.K. and one from Italy were withdrawn for the same purpose. The end of hostilities saw a revision of plans and all ETO B-24 groups were returned to the States, and although a few did survive to convert to B-29s the majority were quickly disbanded. By December 1945 the Liberator was no longer an active bomber in U.S.A.A.F. squadron service.

R.A.F. LIBERATORS

The R.A.F. received over two thousand Liberators of various models, and many others on order were cancelled towards the end of the war. By far the greater number were J and L models, although British mark numbers allocated did not necessarily have any connection with the U.S.A.A.F. model designations. Approximately 1,600 Liberators of the nose turret types were obtained between the spring of 1944 and August 1945, of which about 1,150 are believed to have been B-24Js. Most (believed 739) were from the Fort Worth factory and 411 from San Diego, all the latter and the first 500 B-24J-CF

(continued on back page)

Colour side views, top to bottom: B-24J, forming a/c of the 491st Bomb. Gp., 8th AF, North Pickenham, U.K. Ex-852nd Bomb. Squadron, 44-41065 WW "Rage in Heaven"; B-24J, forming a/c, 491st Bomb. Gp., 8th AF, North Pickenham, U.K. Ex-854th Bomb. Sqdn., 44-40101 "Tubarao", Jan. 1945-VE Day; B-24J, 98th Bomb. Gp., 15th AF, Lecce, Italy; B-24J, 451st Bomb. Gp., 15th AF, Castelleucio, Italy; G-24J, unit unknown, "The Dragon and His Tail", 5th AF, South-West Pacific; B-24M, All Weather Flying Centre; GR Mk.VI, No.120 Sqdn., No. 15 Gp., Coastal Command, Nutts Corner, U.K.; B.Mk.VI, No. 356 Sqdn., No. 184 Wing, No. 231 Gp., South East Asia Command.

U.S.A.A.F. serial numbers of B-24J Liberators.

San Diego production.

(Aug. 1943 to Aug. 1944)

B-24J-1-CO	42-72964	—42-73014
B-24J-5-CO	42-73015	—42-73064
B-24J-10-CO	42-73065	—42-73134
B-24J-15-CO	42-73115	—42-73164
B-24J-20-CO	42-73165	—42-73214
B-24J-25-CO	42-73215	—42-73264
B-24J-30-CO	42-73265	—42-73314
B-24J-35-CO	42-73315	—42-73364
B-24J-40-CO	42-73365	—42-73414
B-24J-45-CO	42-73415	—42-73464
B-24J-50-CO	42-73465	—42-73514
B-24J-55-CO	42-99936	—42-99985
B-24J-60-CO	42-99986	—42-100035
B-24J-65-CO	42-100036	—42-100085
B-24J-70-CO	42-100086	—42-100135
B-24J-75-CO	42-100136	—42-100185
B-24J-80-CO	42-100186	—42-100235
B-24J-85-CO	42-100236	—42-100285
B-24J-90-CO	42-100286	—42-100335
B-24J-95-CO	42-100336	—42-100385
B-24J-100-CO	42-100386	—42-100435
B-24J-105-CO	42-109789	—42-109838
B-24J-110-CO	42-109839	—42-109888
B-24J-115-CO	42-109889	—42-109938
B-24J-120-CO	42-109939	—42-109988
B-24J-125-CO	42-109989	—42-110038
B-24J-130-CO	42-110039	—42-110088
B-24J-135-CO	42-110089	—42-110138
B-24J-140-CO	42-110139	—42-110188
B-24J-145-CO	44-40049	—44-40148
B-24J-150-CO	44-40149	—44-40248
B-24J-155-CO	44-40249	—44-40348

B-24J-160-CO	44-40349	—44-40448
B-24J-165-CO	44-40449	—44-40548
B-24J-170-CO	44-40549	—44-40648
B-24J-175-CO	44-40649	—44-40748
B-24J-180-CO	44-40749	—44-40848
B-24J-185-CO	44-40849	—44-40948
B-24J-190-CO	44-40949	—44-41048
B-24J-195-CO	44-41049	—44-41148
B-24J-200-CO	44-41149	—44-41248
B-24J-205-CO	44-41249	—44-41348
B-24J-210-CO	44-41349	—44-41389

Total 2,792

Fort Worth production.

(Jan. 1944 to Nov. 1944)

B-24J-1-CF	42-64047	—42-64141
B-24J-5-CF	42-64142	—42-64236
B-24J-10-CF	42-64237	—42-64328
B-24J-12-CF	42-64329	
B-24J-10-CF	42-64330	—42-64346
B-24J-15-CF	42-64347	—42-64394
B-24J-15-CF	42-99736	—42-99805
B-24J-20-CF	42-99806	—42-99871
B-24J-25-CF	42-99872	—42-99935
B-24J-30-CF	44-10253	—44-10302
B-24J-35-CF	44-10303	—44-10352
B-24J-40-CF	42-50452	—42-50508
B-24J-40-CF	44-10353	—44-10374
B-24J-45-CF	44-10375	—44-10402
B-24J-50-CF	44-10403	—44-10452
B-24J-55-CF	44-10453	—44-10502
B-24J-60-CF	44-10503	—44-10552
B-24J-65-CF	44-10553	—44-10602
B-24J-70-CF	44-10603	—44-10652

B-24J-75-CF	44-10653	—44-10702
B-24J-80-CF	44-10703	—44-10752
B-24J-85-CF	44-44049	—44-44148
B-24J-90-CF	44-44149	—44-44248
B-24J-95-CF	44-44249	—44-44348
B-24J-100-CF	44-44349	—44-44448
B-24J-105-CF	44-44449	—44-44501

Total 1,558

Ford production.

(April 1944 to Aug. 1944)

B-24J-1-FO	42-50509	—42-50759
B-24J-1-FO	42-95504	—42-95628
B-24J-5-FO	42-50760	—42-51076
B-24J-5-FO	42-51431	—42-51610
B-24J-10-FO	42-51611	—42-51825
B-24J-15-FO	42-51826	—42-52075
B-24J-20-FO	42-52076	
B-24J-20-FO	44-48754	—44-49001

Total 1,587

Douglas production.

(May 1944 to July 1944)

B-24J-1-DT	42-51226	—42-51292
B-24J-5-DT	42-51293	—42-51395
B-24J-10-DT	42-51396	—42-51430

Total 205

North American production.

(May 1944 to Nov. 1944)

B-24J-1-NT	42-78476	—42-78794
B-24J-2-NT	42-78475	
B-24J-5-NT	44-28061	—44-28276

Total 536

Block numbers other than the above were the result of modifications by air depots, etc.

B-24J Liberator, forming a/c 491st B.G., 8th A.F.



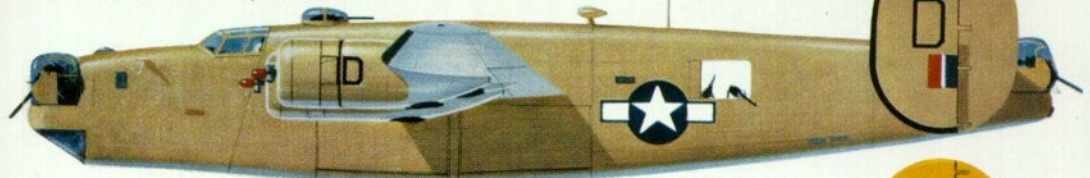
489th B.G.,
8th A.F.

B-24J Liberator, forming a/c 491st B.G., 8th A.F.



492nd B.G.,
8th A.F.

B-24J Liberator, 98th B.G., 15th A.F.



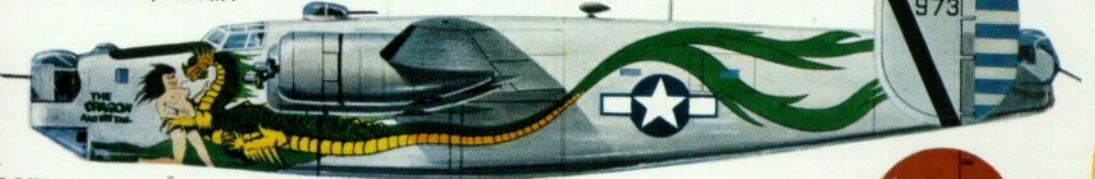
449th B.G.,
15th A.F.

B-24J Liberator, 451st B.G., 15th A.F.



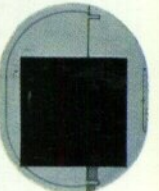
459th B.G.,
15th A.F.

B-24J Liberator, 5th A.F.



460th B.G.,
15th A.F.

B-24M Liberator, All Weather Flying Centre



11th B.G.,
7th A.F.

Liberator GR Mk.VI, 120 Sqdn. Coastal Command, R.A.F.



90th B.G.,
7th A.F.

Liberator B Mk.VI, 356 Sqdn. S.E.A.C.





9th Air Force B-24J attacks Iwo Jima.

were given the British designation Liberator Mk VI, while the remainder of the Fort Worth products became Mk VIIIs, a designation that also applied to the following Ford built B-24Ls when B-24 production ceased at Fort Worth. The Mk VI designation also embraced B-24G and H models that found their way to the R.A.F. Twelve Liberators taken over from the U.S.A.A.F. in Italy early in 1945 for special duties (i.e., agent dropping) over the Balkans, were half B-24Gs and half B-24H and J models yet all were identified as Mk VIs in the R.A.F.

Both Mks VI and VIII appeared in different forms to meet the needs of various commands and combat theatres. The bomber versions, the B VI and B VIII, were used in the Mediterranean and South East Asia, principally for night attacks. In Coastal Command GR VIs and GR VIIIs existed for long-range ocean patrol, many fitted with various sea-search radars and sprouting antenna from wings and fuselage, with the underwing Leigh light for anti-submarine operations at night. While a number of transport Liberators were procured in the U.S. as Mk C. VII, some Mk VI and VIII deliveries were given a transport configuration in the U.K. with faired noses, added tail cones and seating for 24 passengers.

Over forty R.A.F. squadrons flew Liberators at one time or another, and the Liberator endured longer in R.A.F. than U.S.A.A.F. service although all Marks except transport and GR VIII were withdrawn by June 1946, and the last Coastal Command squadrons with the GR VIII converted to Lancasters a year later. Some transports were taken over by B.O.A.C. and continued in use for a few years, taking part in the Berlin Airlift of 1948. Examples of the transport version also found their way to other nations during the immediate post-

war years, and a few true bomber models were used by the Indian Air Force until quite recently. Although far more Js were built than any other B-24 model, none—as far as can be ascertained—are still in existence. The U.S.A.A.F. has preserved two Liberators, a B-24D and a B-24M.

While the B-24J Liberator was not the easiest of bombers to fly, it gave valiant service and was held dear by those who took it into battle. In addition to an outstanding record through use against the Japanese, the best piece of U.S.A.A.F. precision bombing against a single target over Europe was achieved with Liberators—mostly B-24Js.

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The author wishes to acknowledge the help of Messrs. P. Moyes, B. Robertson, J. Rabbets, and particularly that of Allan G. Blue.

SPECIFICATION

Wing span: 110 ft. Total wing area: 1,048 sq. ft. Wing root chord: 14 ft. Fuselage length: 67 ft. 2 in. Overall height: 18 ft. Tail span (fin centre lines) 26 ft. Wheel tread: 25 ft. 7½ in. Wheel base (fore and aft): 16 ft. Ground clearance fuselage: 1 ft. 8 in. Engines: Four turbo-supercharged Pratt & Whitney R-1830-65*. Propellers: Hamilton Standard, 11 ft. 7 in. dia., three-blade fully feathering Hydromatic. Engine rating: 1,200 b.h.p. at take-off and at operating altitudes. Max. Speed: 300 m.p.h. at 30,000 ft., at 56,000 lb. take-off weight. Usual combat operating speed range: 180–215 m.p.h. between 10,000 and 25,000 ft. Landing speed: 95 m.p.h. light—125 m.p.h. loaded. Rate of climb: 25 minutes to 20,000 ft. at 56,000 lb. take-off weight and Military power. Service ceiling: 28,000 ft. at 56,000 lb. take-off weight. Take-off run: 34,000 ft. to gain 50 ft. altitude. Landing run: 26,000 ft. from 50 ft. altitude. Fuel capacity: 2,364 US gals. main tanks. 450 gals. auxiliary wing tanks. 800 gals. in auxiliary bomb bay tanks if required. Bomb capacity: 5,000 lb. maximum internally was normal load. 12,800 lb. could be carried for short distances utilising wing racks. Range: 2,100 miles at 215 m.p.h., 25,000 ft., and 64,500 lb. loading including 2,814 US gals. fuel and 5,000 lb. bombs. Empty weight: 36,500 lb. Loaded weight: 56,000 lb. Combat loads were often around 65,000 lb. Max overload weight: 71,200 lb. * Some R.A.F. a/c re-engined with R-1830-90.