

20lb and 40lb General Purpose Bomb

In June 1936 requirements for a new General purpose bomb weighing between 30lb and 50lb were formulated, the bomb was required to attack the following targets...

- Billets of the normal dwelling-house type/huts
- Motor transport convoys
- Tanks
- Aircraft on the ground in the open
- Static transformer stations in the open
- Dumps of chemical warfare material

The requirements called for a both a direct action and a delay fuse of 10-18 feet. Initially it was decided to go with a delay of a single length and it was decided to go for the longer delay rather than the shorter, thus a delay of 1/40 of a second was chosen. It was also decided in order to take advantage of the carrying capacity of aircraft when carrying small bombs and thus arrangements were made for the bombs to be carried in containers instead of each bomb being attached separately to the container, this allowed a much larger number of bombs to be carried. The bombs were also to have the best compromise between maximum blast and maximum fragmentation efficiency.

Development followed closely to that of the 20lb "F" bomb which had proved satisfactory, by November 1936 the bomb became known as the 40lb G.P. By 1937 small production orders from the bombs were running and in May 1938 the bombs were tested, they were found to have satisfactory ballistics and all bombs had functioned correct, but the fragmentation of the bombs was not good. Extensive trials were carried out to find the cause and it was found that there was a considerable lag time between the striking of the cap and the detonation of the main charge. A new detonator was designed. In August 1938 the body of the bombs were modified so that stowage of bombs in containers was more satisfactory and the nose contour was modified to facilitate the forging methods being used. This was known as the Mk II, bombs with a suspension lug were known as the Mk III.

When the bombs were eventually used they were not considered favourably and were found to be practically useless at dealing with tanks, production ceased in 1941 but large stocks of the bombs were available so they were used throughout the war.

40lb General Purpose and 20lb Fragmentation bomb specifications

Bomb	20lb Mk I - IV
Date	1937
Construction	Cast Steel
Usable weight	20lb (9.07kg)
Charge/Weight ratio	15%

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Total Length	55.37in (140.61cm)
Body Length	40.20in (102.38cm)
Body Diameter	5.00in (12.72cm), Mk II/III 5.05in (12.92cm)
Wing Span	47.99in (121.9cm)
Tail Length	21.86in (55.49cm)
Tail Width	18.72in (47.69cm)
Filling Material	Mk I RDX/TNT 80/20, Mk II TNT or RDX/TNT 60/40

Number of 40lb General Purpose bombs dropped per year

Bomb

1940

1941

1942

1943

1944

1945

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Total

40lb G.P.

43,749

38,191

27,910

38,859

83,392

47,382

232,101

Sources - AVIA 46 285, AVIA 46 163

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