

1900lb General Purpose Bombs

In June 1938 consideration was given to the introduction of large General Purpose bombs between 1000lb and 2000lb, a 1000lb bomb was met easy as they had already been designed and tested in the early 30's. After detailed discussion requirements were finally laid down for a 2000lb bomb in January 1939. The requirements were as follows...

1. Outline of the bomb to be based on the standard General Purpose bombs except that a parallel seating had to be provided at a stop-plate position to accommodate the strap of the carrier.
2. Maximum diameter not to exceed 19".
3. Minimum wall thickness to be 1.25".
4. To be fitted with steel tail unit.
5. Weight to be 1800-1850lb when filled with Amatol 80/20 as it was found with this outline a weight of 2000lb could not be attained owing to bomb carrier considerations.

The preliminary sketch was completed in February 1939 to meet these requirements, charge to weight ratio was 26%, outline drawings were completed in April 1939 and in August 1939 it was cleared to go ahead with preparations for complete drawings. In September 1939 the body of the bomb had to be lengthened to allow for the tail crutch, this increased the design

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maximum weight to 1880lb. In December 1939 an experimental order was placed for 12 1900lb bombs for fragmentation and general functioning trails, the bombs were to be made of cast steel. In February 1940 the experimental order was placed on the highest possible priority and arrangements were made for two of the bomb bodies to be filled with 80/20 amatol for fragmentation trials, in March 1940 the remaining ten bombs were to be filled with 80/20 Amatol for experimental dropping trails.

In August 1940 before the dropping at fragmentation trials had begun the design of the 1900lb General Purpose bomb was approved and arrangements for production were made, later that month the dropping and fragmentation trials were completed and results were considered to be satisfactory. By September 1940 an order for 500 1900lb bombs was placed.

Detailed examination of the fragmentation trails was concluded by the end of September 1940 and it was found that the 1900lb bomb had less explosive efficiency than the 1000lb bomb, it was also found that the increase efficiency given by TNT compared with 80/20 Amatol would not be sufficient to warrant its adoption in view of the supply position. In October 1940 it was recommended that the filling of the bomb should be poured 50/50 Amatol instead of hot mixed 80/20 in view of the following advantages..

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1. Increase in density of filling from 1.3 to 1.55 would lead to an increased in velocity of detonation and thus to better fragmentation and would also increase the weight of filling by 85lbs.

2. Easier filling

3. A more compact filling with higher resistance to movement on server impact.

The first bombs were dropped in 1941 and were used throughout the war, these bombs cannot be called a standard bomb as only a relatively few were used.

1900lb General Purpose Bomb specifications

Bomb 1900-lb GP Mk I-II

Construction Cast Steel

Usual weight (811kg)

Charge weight ratio 26%

Total length (148.92cm)

Body length (160.52cm)

Body diameter (47.49cm)

Wall thickness (2.92cm)

Tail fin length (89.66cm)

Tail width (47.49cm)

Filling Amatol 60/40

Number of 1900lb General Purpose bombs dropped per year.

Bomb

1940

1941

1942

1943

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1944

1945

1900lb G.P.

+

504

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1,392

30

386

24

Sources - AVIA 46 285, AVIA 46 163