

# 1000lb General Purpose Bomb

In November 1924 it was decided to start designing large scale bombs 1000lb to 4000lb in size, due to manufacturing considerations a parallel-sided body was to be used instead of the standard outline adopted for smaller bombs. By May 1925 it was decided that these bombs should be of the General Purpose type - 30% charge to weight ratio and not light case. Two preliminary outliners were therefore prepared and rough designs were worked out for the 1000lb size of bomb to ensure that manufacturing was possible, by October experimental wind tunnel results had shown unsatisfactory stability characteristics so modifications were made to the tail. By February 1926 the models were completed and the first dropping trials were completed in April. Good grouping was obtained with each type of model except for unaccountable lag in the fall of one of the first type of models and one of the second type of model had shown instability in the last 2,000 feet of its drop.

Preliminary sketch designs of the 1000lb General Purpose Bomb were then done using the first model and these were sent to Woolwich in December 1926 for the basis of experimental bombs for fragmentation, dropping and penetration trials. The filling was to be 80/20 Amatol which would give a charge to weight ratio of around 32%. By July 1927 the bombs were clear for experimental manufacture and

10 bombs were ordered. 6 of the bombs were to be used for dropping/fragmentation trials and 4 for firing trials. 4 of the bombs were cast steel and made by Woolwich, 4 by Hadfields (forged) and 2 by Vickers (casting). Trouble was experienced in the production of the two Vickers bombs and these were not delivered until July 1929.

The Fragmentation trials were carried out in August 1930 and the results were satisfactory for both cast and forged bombs, forged bombs were found to be superior. It was hoped not to have to go with the expensive of forged steel bodies but if more successful penetration were achieved with them as well as superior blast effect it was realised that the question might have to be reconsidered. By June 1932 5 complete bombs were ordered using the 5 bodies that already existed, it was hoped to use the bombs in dropping trials but in August 1932 it was decided to put the bombs into storage - it was decided that it would be considerable assistance to aircraft design if bombs over 500lb were not required to be carried.

In 1938 the 1000lb General Purpose bomb was required after all and in June 1939 experimental orders for the bombs were placed for trials, they were after all to be the forged type, by November the trials had been carried out and the bombs had passed. Due to difficulty in obtaining capacity for forging it was decided to place and order for cast bombs and so in December

11,000 bombs were ordered, 2,000 forged and 9,000 cast.

The 1000lb General Purpose bomb was used throughout the war and it can be said that the 1000lb bomb was a standard bomb for the Royal Air Force, as with other General Purpose bombs the 1000lb was replaced by a Medium Capacity version, this took place at the beginning of 1943. Large stocks of the bombs existed and they were still being used by the end of the war.

## 1000lb General Purpose bomb specifications

Bomb 1000-lb GP Mk I-IV

Construction Cast Steel

Usual Weight (487.27kg)

Charge weight ratio

Total length (219.71cm) or 71in (180.34cm)

Body length (133.35cm)

Body diameter (41.02cm)

Wall thickness (1.95cm)

Tail No. 13 35.5in (90.17cm) or No. 29 20in (50.8cm)

Tail width (40.64cm)

Filling Amatol 60/40 or RDX/TNT 60/40

# Number of 1000lb General Purpose and Medium Capacity bombs by year

 Bomb

 1940

 1941


 1942

 **1943**

 **1944**

 **1945**

 **1 000lb GP/MC**

 **159**

11,662

21,172

61,063

527,334

64,913

# Sources - AVIA 46 285, AVIA 46 163