SECTION 7

TYPES OF HIGH EXPLOSIVE BOMBS AND THEIR PROBABLE FUZING

0701. Armour Piercing Bombs

a. **Description**. Bombs designed to penetrate armour or thick concrete are slender, have sharply pointed noses and may be fitted with rocket devices instead of tail units. The proportion of explosive to the total weight is small (perhaps 7 to 20 per cent) and the destructive effect is consequently limited.

b. **Fuzing**. Armour piercing bombs are always designed to explode immediately after passing through the skin of the target and are, therefore, fuzed short delay.

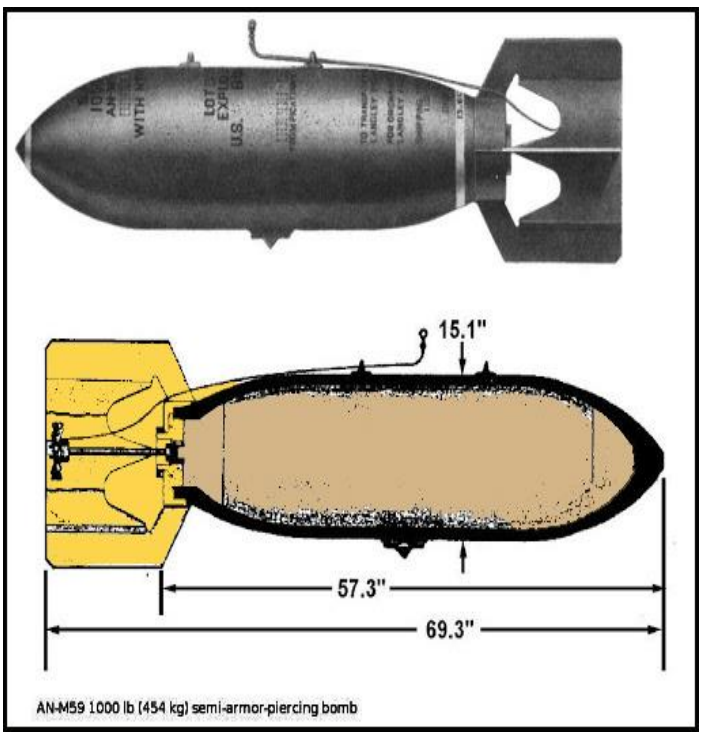

Fig 7-1: British Armour Piercing Bomb

0702. **Penetration Bombs**

a. **Description**. Docks, heavy industrial plant, shipping and similar targets are best attacked with small and medium sized bombs capable of penetrating into the targets before exploding. Underground services and the foundations of buildings in a large cities are disrupted most by large bombs which penetrate far into the ground before exploding (Fig 7-2). Bombs designed for both tasks are streamlined for accurate aiming and to give high speeds through the air. They are thick walled to withstand the shock of impact. But they are less slender and are thinner walled than the armour piercing type. The explosive comprises between 30 and 50 per cent of the total weight.

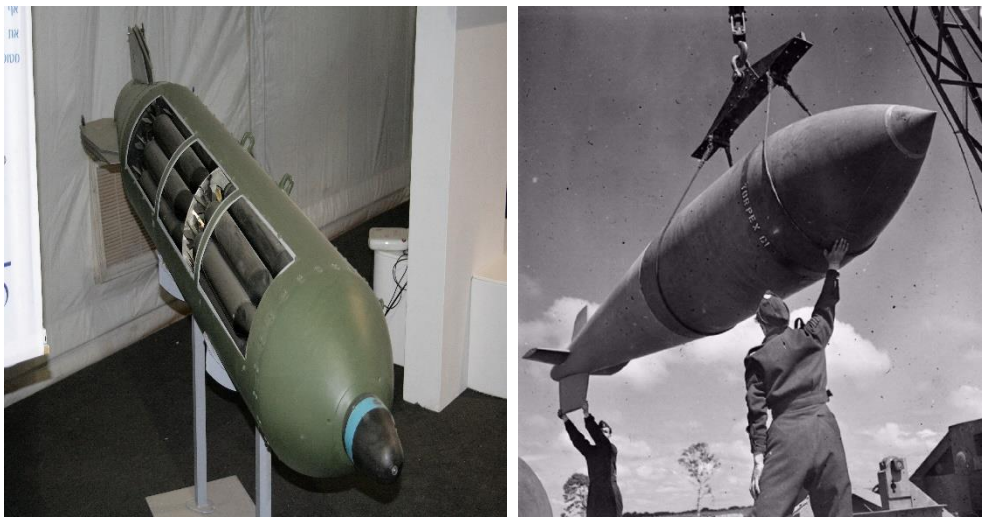

Fig 7-2: British Penetration Bomb

0703. **Blast Bombs**

a. ***Description***. Blast bombs are not required to penetrate and are constructed of cheap thin, metal sheeting. They are usually dropped on area targets and as they need to be carefully aimed are rarely streamlined. Most blast bombs are large, weighing 2,000-Ib or more. An example of the type is the British 12,000-Ib Block burster (Fig 7-3). It is made up of their four foot long metal drums bolted together and a tail unit. The explosive content of a blast bomb may be over 90 per cent of the total weight. Parachutes may be fitted instead of tail units.

b. ***Fuzing***. Proximity, airburst impact or short delay.

Fig 7-3: British Blast Bomb

0704. **General Purpose Bombs**

a. **Description**. The term ‘general purpose’ is used here to describe bombs with characteristics midway between those of the blast and penetration types. General purpose bombs are most successfully used against fairly dispersed residential and light industrial targets. The side walls are about ¼ to ¼ inch thick and the body is often welded together.

b. **Fuzing**. Impact and short delay fuzes are normally used but if long delay, anti-disturbance and booby trap fuzes are most likely to be fitted in bombs of this type.

Fig 7-4: German General Purpose Bomb

0705. Fragmentation Bombs

a. ***Fragmentation***. Bombs are designed for use against men in the open, soft skinned vehicles and aircraft. The bomb wall is invariably thick and may be grooved to increase Fragmentation. A particularly effective type has a steel band wound spirally round a thin inner casing (Fig 7-5).

Fig 7-5: Anti-Personnel Bombs.

b. Large fragmentation bombs are designed for use against concentrated targets. As they must be armed, they are of conventional bomb shape and are fitted with normal tail units or small parachutes. The type of fuzing used will depend on the target to be attacked but will be confined to **airburst proximity** or **impact**.

c. Small fragmentation bombs are used to cover a wide area and are usually scattered in large numbers from containers (Sec 33). To prevent penetration, the rate of descent of each bomb is generally controlled some form of parachute or drogue. **Airburst, proximity, impact, long delay,** and **anti-disturbance** fuzes have been used. When fitted with long delay fuzes the bombs are usually of an unconventional shape (Fig 12A) and may be camouflaged to prevent easy detection. Bombs fitted with anti-disturbance fuzes may again be of unconventional shape or be designed to be mistaken for harmless common objects or objective souvenirs.

d. Chapter VI deals with the searchings for and disposal of large numbers of small anti-personnel fragmentation bombs.

Nomenclature

0706. The names given to the bombs in service are not necessarily the same as those given to the five typical types described above. For example, the group called penetration bombs in this chapter includes bombs which in the 1939-45 war were called '' thick walled'', ''semi-armour piercing'' and ''deep penetration''.

Weight

0707. Long delay and anti-disturbance fuzes are often fitted to bombs of certain weights. To determine the approximate weight of bomb from its dimensions (See Table 1), and from the size of the hole it makes when entering the ground (see Sec 17).

TABLE 1 - **APPROXIMATE WEIGHT/SIZE RELATIONSHIP OF HIGH EXPLOSIVE BOMBS**

Total weight in lb	Type of bomb					
	Penetration Fragmentation		Blast, General Purpose		Armour piercing	
	L	D	L	D	L	D
(a)	(b)	(c)	(d)	(e)	(f)	(g)
	ft	in	ft	in	ft	in
20	1	4	-	-	-	-
50	-	-	1 ½	6	-	-
100	2	8	2 ½	8	-	-
250	2 ½	9	2 ¾	10	-	-
500	3 ½	12	3 ¾	14	-	-
1,000	4 ½	16	4 ½	17	5	12
2,000	5	20	6	24	6 ½	13
4,000	6	22	8	30	-	-
8,000	-	-	8 ½	38	-	-
12,000	10	38	12	38	-	-
22,000	12 ½	46	-	-	-	-

Notes:-

1. L – Length of bomb body without tail unit.
2. D – Maximum diameter of bomb body.
3. To identify type of bomb see paragraphs 1 to 5.

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