CHAPTER III

RECONNAISSANCE FOR UNEXPLODED HE BOMBS

SECTION 9

PREAMBLE

0901. Although this chapter deals mainly with the reconnaissance of HE bombs, much of the information applies equally to the other HE missiles considered in Chapter V. In that chapter, points peculiar to the reconnaissance for each missile are given in the section in which the particular type is discussed. The action to be taken if it is decided that a UXB is present, is given in Chapter IV.

Purpose

0902. The purpose of bomb reconnaissance is to decide if a UXB is present and if it is, its type and size.

0903. An estimate of the type and size is required to determine:

a. Whether long delay or anti-disturbance fuzes are likely to be fitted.
b. The probable depth of penetration.
c. The extent of evacuation and the protective works and safety precautions to be applied.

0904. An air attack, even by a single plane usually produces not a single bomb but a number, the majority of which will explode. For the efficient and rapid reconnaissance for the bombs which have not only a thorough knowledge of indications of the presence of a UXB but also of the effects of bomb explosion. The following are the reasons:

a. The damage caused by a small bomb which has exploded may be confused with that caused by the passage of a large bomb which has failed to explode or with that caused by flying debris (Fig 9-1).

b. An examination of the effects produced by a bomb which has exploded often makes it possible to estimate the type and size and hence the danger associated with another bomb, dropped at the same time, which has failed to explode.

c. It is impossible to apply the rules for enforcing evacuation and safety precautions and for constructing protective works intelligently without such knowledge.

The next six sections of this chapter are therefore devoted to an examination of what happens when an HE bomb explodes and to the resulting effect on neighboring ground and buildings in various circumstances.

BOMB EXPLOSION

FLYING DEBRIS

UXO

UXB

Fig 9-1: Damage After an Air Raid

Explosion of a Bomb

0905. When a bomb detonates the explosive filling is changed almost instantaneously into a rapidly expanding mass of hot gas. The effects produced depend on whether the bomb detonates on or near the surface, or at some distance underground. If the bomb detonates above, on or just below the surface, the majority of the damage is caused by blast and some by splinters from the bomb case. If detonation occurs when the bomb has penetrated some distance below the surface, the majority of the damage is caused by earth shock.

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