

SECTION 13**CRATERS**

1301. The nature of the crater formed by an exploding bomb depends mainly on the depth at which explosion takes place. Bombs bursting well above the ground form no appreciable crater. Fig 13-1 illustrates the three main types of crater.

- a. **Type A.** Craters formed by bombs exploding just above or just below the surface are shallow and the sides clean swept. The crater is almost free from debris, the majority of which is well broken up and widely scattered. Considerable blast and splinter damage may be evident in the vicinity.

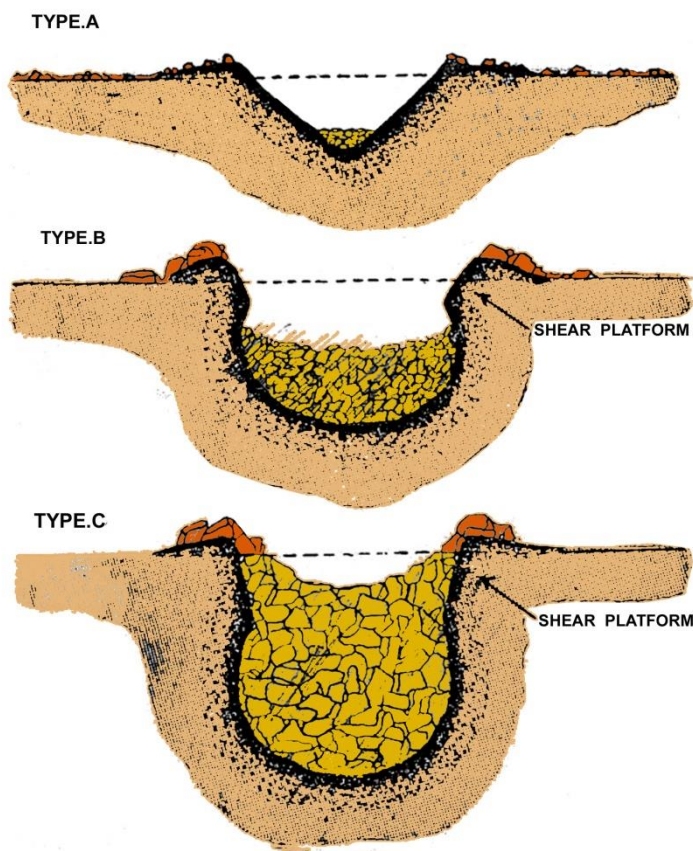


Fig 13-1: Types of Craters Made by Exploding Bombs.

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b. **Type B.** Craters formed by bombs bursting at an intermediate depth are distinguished by a well marked “shear platform” lying at an angle of about 45 degrees. The debris is in large pieces and partly back-fills the true crater. Some blast and splinter damage and possibly a little earth shock damage may be associated with the crater.

c. **Type C.** Craters formed by bombs exploding at a considerable depth have a shear platform which is nearly vertical. This platform is usually obscured, however, by big pieces of rubble which largely back-fill the cavity and leave a deceptively small crater. Little debris is scattered outside the crater and the majority of the damage associated with a Type C crater is due to earth shock. The Ground here is Soft and the Debris has Broken up on Falling.

Craters and Reconnaissance

1302. a. In addition to providing proof of explosion, the three types of crater described frequently afford evidence from which the size of unexploded bombs can be calculated. Bombs are normally dropped in batches of sticks bombs of one stick are usually of the same size and land in approximately a straight line. If, therefore, some bombs explodes while others identified as being of the same stick do not, it is possible to estimate the size of the unexploded bombs from the dimensions of the craters formed by the remainder (Table 2).

(b) It is also necessary to distinguish craters formed by explosion from those created by the impact of large bombs which have failed to explode (Sec 17, para 2).

TABLE 2 – DIMENSIONS OF CRATERS FORMED BY EXPLOSION

Type of crater	Total weight of bomb in pounds						
	100	500	1,000	2,000	4,000	12,000	22,000
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
A	Ft 9x3	Ft 15x5	Ft 18x6	Ft 26x8	Ft 33x0	Ft -	Ft -
B	20x6	33x10	45x12	56x16	74x21	103x31	124x37
C	15x3	24x7	31x8	43x10	55x12	-	-

Notes:

1. The first dimension given in each case is the diameter 'd' and is measured at original ground level (Fig 13-3).
2. The second dimension is the apparent depth 'h' i.e. to the surface of the rubble at the lowest point, and is measured from original ground level.
3. The dimensions given relate to clay soil and should be multiplied by 3/5 for chalk, sand or gravel.

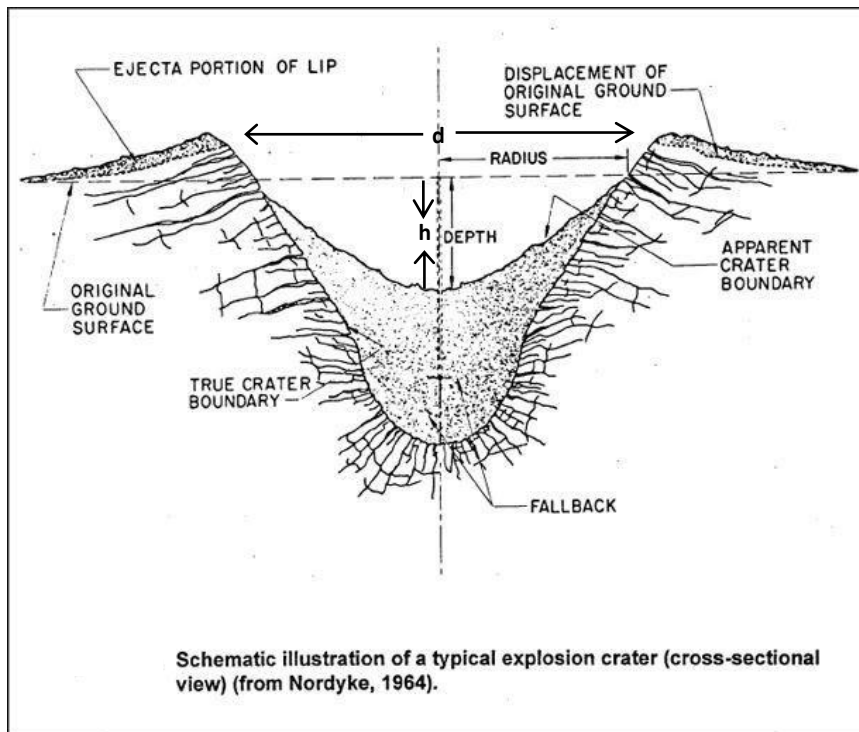


Fig 13-2: Measuring a Crater.

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