

## Appendix C Use of Demolition Charges

### C-1. Sources.

a. *Primary Charges.* When using land mines, aerial bombs, shells, and foreign explosives as demolition charges, take the appropriate precautions outlined in the paragraphs below. The use of such explosives is usually uneconomical but may occasionally become necessary or desirable. Obtain such materials from captured or friendly supply stocks or, in the case of land mines, those recovered from enemy or friendly minefield. Never use unexploded duds (shells or bombs) for demolition purposes.

b. *Supplementary Charges.* When necessary, use allied-nation or captured explosives to supplement or replace standard explosive charges.

### C-2. Land Mines.

a. *Safety Precautions.* Use only defused mines as demolition charges. Recovered mines may be sensitive because of near misses and may detonate during normal handling. The theater commander prescribes the policy for use of salvaged or captured threat mines.

b. *Charges.* When calculating charges using mines, consider only the explosive weight. Use normal explosive quantities for cratering or pressure charges. However, the mine case does not allow proper contact of the explosives against irregularly shaped objects. You may find it necessary to increase the size of cutting charges considerably when using mines for this purpose. Test shots are the best way to determine the proper charge under given conditions. Table C-1 (page C-2) lists the explosives content of various antitank mines by country of origin. The US mines are current; foreign mines may be current or obsolete.

c. *Priming.* Detonate a land mine by placing a 1-pound charge on the pressure plate. If firing large quantities of mines simultaneously, prime several mines to ensure complete detonation. Detonating a single mine normally detonates any other mine in direct contact with the primed mine.

### C-3. Aerial Bombs.

a. *Safety Precautions.* General-purpose, aerial bombs make satisfactory demolition charges but are more effective as cratering charges. Their shape makes them inefficient for demolitions requiring close contact between the explosive and the target. Take precautions against fragmentation, as the steel fragments from bomb cases may fly great distances. Before using any bomb, positively identify it as a general-purpose bomb.

**Table C-1. Antitank (AT) mine explosives content (by nation)**

<b>Country</b>	<b>Mine Type</b>	<b>Weight/Explosive</b>
United States	M15 AT (Metallic)	22 lb/TNT
	M19 AT (Nonmetallic)	21 lb/TNT
	M21 AT (Metallic)	10.5 lb/Comp H6
Belgium	PRB-4 AT	20 lb/Hexogen
Communist China	Dual-Purpose No. 4 (Metallic)	4.5 lb/TNT
Czechoslovakia	PT-Mi-K AT (Metallic)	11 lb/TNT
	PT-Mi-Ba AT (Plastic)	12 lb/TNT
	Na-Mi-Ba AT (Plastic)	5.3 lb/Tritol
	TQ-Mi AT (Cardboard)	11.5 lb/TNT
Finland	M36 AT (Metallic)	8 lb/TNT
	M39 AT (Metallic)	8.8 lb/TNT
France	M1948 AT (Metallic)	11.5 lb/TNT or Military Dynamite
	M1948 Plate Charge AT (Metallic)	15.2 lb/TNT or Picric Acid
	M1951 Shaped Charge AT (Metallic)	4 to 5 lb/Kexolite
	M1951 AT (Caseless)	14.3 lb/TNT (Cast)
	M1951 AT (Plastic "grille")	11 to 16 lb/PETN
Japan	Model 63 Heavy AT	24.2 lb/Comp B
Netherlands	Type II AT (Metallic)	9 lb
South Korea	Heavy AT (Metallic)	22 lb/TNT
	Type I Dual Purpose (Metallic)	5.7 lb/TNT
	Type II Dual Purpose (Metallic)	4.5 lb/TNT
Former Soviet Union	TMD-B AT (Wooden)	11 to 15 lb/Amatol, DTNT, or Picric Acid*
	TMN-46 AT (Metallic)	12.6 lb/TNT
	YaM-5 AT	8 to 11 lb/TNT or Amatol
United Kingdom	Mark 4 GS AT (Metallic)	8.25 lb/TNT
	Mark 5 GS AT (Metallic)	4.5 lb/TNT
	Mark 5 HC AT (Metallic)	8.3 lb/TNT
	Mark 7 AT (Metallic)	19.6 lb/TNT

\*Picric acid corrodes metals, forming extremely sensitive compounds that are easily detonated. Do *not* handle mines loaded with this explosive except to move them to a safe disposal area for destruction.

b. *Charges.* The explosive content of an aerial bomb is approximately half its total weight. Table C-2 lists the explosives content for various general-purpose bombs. Approximately 20 percent of the explosive potential of an aerial bomb is expended in shattering the casing.

c. *Priming.* Detonate bombs under 500 pounds by placing a 5-pound explosive charge on the middle of the casing; bombs exceeding 500 pounds require a 10-pound charge. Do not place fuses on the nose or tail of the bomb. To ensure detonation, prime large bombs separately.

**Table C-2. General-purpose, aerial bombs (explosive contents)**

Bomb	Explosive Weight	Total Weight
<b>Old Series</b>		
AN-30A1, 100-pound GP	57	120
AN-M57A1, 250-pound GP	125	261
AN-M64A1, 500-pound GP	266	549
AN-M65A1, 1,000-pound GP	555	1,064
AN-M66A2, 2,000-pound GP	1,098	2,113
<b>New Series</b>		
M117, 750-pound GP	386	823
M118, 3,000-pound GP	1,975	3,049
<b>Low-Drag</b>		
MK81, Mod 1, 250-pound GP	100	260
MK82, Mod 1, 500-pound GP	192	531
MK83, Mod 3, 1,000-pound GP	445	985
MK84, Mod 1, 2,000-pound GP	945	1,970
<b>Low-Drag, Snakeye I</b>		
MK81, Mod 1, 250-pound GP	100	300
MK82, Mod 2, 500-pound GP	192	560

#### C-4. Artillery Shells (Nonnuclear).

a. *Safety Precautions.* Use artillery shells for demolition when only fragmentation is desired. Because of their low explosive content, artillery shells are generally not adequate for other demolition purposes.

b. *Charges.* Any artillery shell fits this category; however, avoid shells smaller than 100 millimeters. The 105-millimeter howitzer, high-explosive shell, which weighs 33 pounds, contains only 5 pounds of explosive. The 155-millimeter howitzer shell contains only 15 pounds of explosive.

c. *Priming.* Detonate shells up to 240 millimeters by placing 2-pound charges on the case, just forward of the rotating band. To ensure complete detonation of multiple shells simultaneously, place a charge on each shell. Use the M10 universal destructor to detonate shells that have threaded

fuse wells of 1.7- or 2-inch diameters. Fill the booster cavities of bombs and large projectiles fully by adding booster cups to the M10 destructor, as required.

**C-5. Foreign Explosives.**

a. *Safety Precautions.* Use foreign explosives to supplement standard US charges or, in certain cases, instead of US charges. However, only experienced demolition personnel should work with such explosives and then only according to instructions and directives issued by the theater commander. TM 9-1300-214 lists the most common foreign explosives.

b. *Priming.* Most foreign explosive blocks have cap wells large enough to receive US military blasting caps. However, test fire these charges with US military blasting caps to ensure positive detonation. In certain instances, you may find it necessary to initiate the explosives by using a standard US demolition block primed with a blasting cap.