INDEX

Α

activator, antitank, M1 and M2, A-23 ADAM. See area denial artillery munition (ADAM) and deception measures, ADAM. AHDs. See antihandling devices (AHDs). AN/PSS-11 mine detector, 9-12 AN/PSS-12 mine detector, 9-12 antihandling devices (AHDs), 1-11. See also firing devices. antipersonnel mines conventional, A-2. See also M14 AP mine, M16A1 AP mine, and M18A1 Claymore AP scatterable mines. See scatterable mines. threat, Appendix D Antipersonnel Obstacle Breaching System (APOBS), 9-8 antitank mines conventional, A-8. See also M15 AT mine (w/M603 fuze); M19, AT, HE mine; and M21. heavy, AT, HE mine. scatterable mines. See scatterable mines. threat, Appendix D APOBS. See Antipersonnel Obstacle Breaching System (APOBS). area denial artillery munition (ADAM), 6-8 area density, 2-5 armored vehicle launched bridge (AVLM), 9-5 AVLM. See armored vehicle launched bridge (AVLM).

\mathbf{B}

bangalore torpedo (M1A1-M1A2), 9-8 barbwire, antipersonnel, fragmentation mine, Barmine mine. See foreign mines. block. See obstacle intents. BLU-91/B AT mine, 6-3. See also Gator. BLU-92/B AP mine, 6-1. See also Gator. B-MV mine. See foreign mines. booby traps actuation methods, 13-5 clearance methods, 13-20 buildings, 13-18 installations and facilities, 13-19 open areas, 13-18 secured areas, 13-19 combat clearance, 13-15 components and principles, 13-3

connection methods, 13-6 detection, 13-15 improvised traps, 13-21 nonexplosive traps, 13-21 planning, 13-17 recording, 13-2 siting, 13-2 tactics, 13-1 booster. See M120 booster. breaching, 8-1 fundamentals, 8-2 intelligence, 8-2 organization, 8-2 breaching and clearing lanes explosive, 9-4 manual, 9-15 mechanical, 9-9 breaching and clearing lanes (scatterable mines) techniques, 11-3 breaching operations types, 8-4

CEV. See combat engineer vehicle (CEV).

C

chemical mine

description, 12-11

emplacement, 12-9 employment, 12-9 fuze, 1-4 M23. See M23, chemical agent mine, VX. one-gallon, 12-11 Class IV and V supplies, 2-34 Claymore mine. See M18A1 Claymore AP clearing operations, 8-5 combat engineer vehicle (CEV) description, 9-13 employment, 9-13 conventional mines AP mines, characteristics, 1-7 AT mines, characteristics, 1-9 countermine operations breaching, 8-1 definitions, 8-1 minefield clearance, 8-1 neutralization, 8-1 obstacle, 8-1 reduction, 8-1

D	fix. See obstacle intents.
	Flipper, M138. See also deception measures
DA Form 1355 (minefield record)	Flipper, and marking minefields, Flipper,
instructions, 5-8	description, 6-18
sample, 5-4	emplacement, 6-19
DA Form 1355 (nuisance minefield), 5-21	employment, 6-19
DA Form 1355-1-R (hasty protective minefield	minefield data, 6-22
record)	foreign mines, Appendix D
completed, 5-7	antipersonnel mines, D-1
instructions, 5-16	MON-50 AP mine (Soviet), D-6
deception measures	MON-100 AP mine (Soviet), D-7
ADAM, 12-24	MON-200 AP mine (Soviet), D-8
Flipper, 12-25	OZM-3 AP mine (Soviet), D-9
GEMSS, 12-25	OZM-4 AP mine (Soviet), D-10
MOPMS, 12-25	OZM-72 AP mine (Soviet), D-11
RAAM, 12-24	P-40 AP mine (Italian), D-12
Volcano	PFM-1 scatterable AP mine (Soviet), D-17
air, 12-25	PMD-6/6M AP mine (Soviet), D-4
ground, 12-25	PMN AP mine (Soviet), D-2
detection methods	PMN-2 AP mine (Soviet), D-3
electronic, 9-2	POMZ-2/2M AP mine (Soviet), D-5
mechanical, 9-2	SB-33, 33/AR, EM20 scatterable AP mine
physical (probing), 9-2	(Italian/Greek), D-14
visual, 9-1	VALMARA 69 AP mine (Italian), D-13
disrupt. See obstacle intents.	VP-12/13 AP minefield control device
	(Soviet), D-18
E	VS-50, TS-50, T/79 scatterable AP mine
	(Italian), D-15
emplacement of mines/minefields, 2-28	VS-MK2, VS-MK2-E scatterable AP mine
expedient mines	(Italian), D-16
authorization, 12-1	antitank mines, D-19
barbwire, AP, fragmentation mine, 12-6	Barmine AT mine (UK), D-19
employment and construction techniques,	B-MV AT mine (Italian), D-27
12-1	MIACAH F1, L14A1 AT mine (French, UK),
fragmentation grenade, 12-7	D-29
grapeshot AP mine, 12-5	MK-7 AT mine (UK), D-20
high explosive artillery shell AT mine, 12-2	PGMDM scatterable AT mine (Soviet), D-32
improvised Claymore mine, 12-4	SB-81, SB-81/AR scatterable AT mine
improvised flame mine, 12-8	(Italian), D-31
platter charge, 12-3	SH-55 AT mine (Italian), D-21
	TC/2.4, M/80 scatterable AT mine (Italian,
F	Egyptian), D-30
	TC-6, TCE-6, T.C. 6 AT mine (Italian,
family of scatterable mines (FASCAM). See	Egyptian), D-22
scatterable mines.	TM-46, $TMN-46$, $M/71$ AT mine (Soviet,
FASCAM. See family of scatterable mines	Egyptian), D-23
(FASCAM).	TM-57, AT mine (Soviet), D-24
firing devices	TM-62M AT mine (Soviet), D-25
M1 pull, 1-12, A-24	VS-1.6, VS-1.6/AR, VS-1.6/AN scatterable
M1A1 pressure, 1-12, A-30	AT mine (Italian), D-33
M3 pull/tension-release, 1-12, A-25	VS-2.2 AT mine (Italian), D-26
M5 pressure-release, 1-12, A-27	VS-HCT AT mine (Italian), D-28
M142 multipurpose firing device, 1-12, A-32	fragmentation grenade, 12-7

fratricide, 2-16	live mine training, E-3
fuze types	M
chemical, 1-4	TAT
electrical, 1-4	M1 and M2 activator. See activator, antitank
friction, 1-4	M1 and M2.
mechanical, 1-4	M1 pull firing device. See firing devices.
fuzes	M1A1 pressure firing device. See firing
M603, A-14	devices.
M605, A-6	M3 pull/tension-release firing device. See
M606, A-16	firing devices.
M607, A-20	M5 pressure-release firing device. See firing
M624, A-10	devices.
G	M14 AP mine
u	arming, A-4
Gator	characteristics, A-2
description, 6-11	disarming, A-4
emplacement, 6-13	installation, A-2
employment, 6-12	M15 AT mine (w/M603 fuze)
GEMSS. See Ground-Emplaced Mine Scatter-	arming, A-15
ing System (GEMSS); deception measures,	characteristics, 1-7, A-9
GEMSS; and marking minefields, GEMSS.	disarming, A-15
grapeshot AP mine, 12-5	installation, A-13
Ground-Emplaced Mine Scattering System	M15, heavy, AT mine (w/M624 fuze)
(GEMSS)	arming, A-12
description, 6-13	characteristics, 1-7, A-9
emplacement, 6-16	disarming, A-13
employment, 6-15	installation, A-10
1	M16Al AP mine
Н	arming, A-7
	characteristics, 1-10, A-5
hand-emplaced minefield marking set	disarming, A-8
(HEMMS), 9-17	installation, A-5
hasty protective minefield, 2-2	M18A1 Claymore AP mine, 1-10
HE artillery shell AT mine, 12-2	M19, AT, HE, nonmetallic mine
helicopter-delivered mine dispensing system.	arming, A-17
See M56 helicopter-delivered mine.	characteristics, 1-7, A-16
HEMMS. See hand-emplaced minefield mark-	disarming, A-18
ing set (HEMMS).	installation, A-16
I	M21, heavy, AT, HE mine
	arming, A-21
improvised Claymore mine, 12-4	characteristics, 1-7, A-18
improvised flame mine, 12-8	disarming, A-22
installation and removal of US mines and firing	installation. A-20
devices, Appendix A	M23, chemical agent mine, VX, 12-10
IOE. See irregular outer edge (IOE).	M56 helicopter-delivered mine, 6-4
irregular outer edge (IOE), 2-6	M67 AP mine, 6-1. See also area denial artil
3 9 7	lery munition (ADAM).
L	M70 AT mine, 6-3. See also remote antiarmor
1	mine (RAAM).
lane widths, 8-3	M71 remote control unit (RCU), 6-31. See also
line charge. See mine-clearing line charge	Modular Pack Mine System (MOPMS).
(MICLIC).	M72 AP mine, 6-1. See also area denial artil
linear density, 6-7	lery munition (ADAM).
live mine demonstration, E-4	TOLY III CHILLECOTE (TIDENTIA).

M73 AT mine, 6-3. See also remote antiarmor	mine color-coding system, E-2
mine (RAAM).	mine dump, 2-35
M74 AP mine, 6-1. See also Ground-Emplaced	mine removal techniques, 10-4
Mine Scattering System (GEMSS).	minefield
M75 AT mine, 6-3. See also Ground-Emplaced	calculations, 3-8
Mine Scattering System (GEMSS).	clusters, 3-1
M76 AT mine, 6-3. See also Modular Pack	hand over, 3-28
Mine System (MOPMS).	inspection, 2-45
M77 AP mine, 6-1. See also Modular Pack Mine System (MOPMS).	IOE, 2-8, 3-6. See also irregular outer edge (IOE).
M86, PDM, 1-10	overlay symbols, 5-20
M87 Volcano. See Volcano.	resupply, 2-33
M120 booster, A-20	rules, 3-5
M128 GEMSS. See Ground-Emplaced Mine	short strips, 3-20
Scattering System (GEMSS).	strips, 3-Î
M131 MOPMS. See Modular Pack Mine Sys-	symbols, 5-24
tem (MOPMS).	trip wires, 3-7
M138 Flipper. See Flipper.	turning point, 3-7
M139 Volcano. See Volcano.	turnover, 2-44
M142 multipurpose firing device. See firing	minefield intents/design
devices.	block, 2-11
M603 fuze. See fuzes.	composition, 2-6
M605 fuze. See fuzes.	density, 2-5
M606 fuze. See fuzes.	depth, 2-5
M607 fuze. See fuzes.	disrupt, 2-8
M624 fuze. See fuzes.	fix, 2-9
manual breaching	front, 2-5
buried mines, 9-15	IOE, 2-8, 3-6. See also irregular outer edge
surface-laid mines, 9-15	(IOE).
marking breached lanes, 9-16	probability, 2-6,
marking minefields, 2-41	turn, 2-10
conventional, 2-41	minefield marking, 2-41
equipment, 9-20	minefield recording
Flipper, 7-3	hasty, 5-3
GEMSS, 7-3	nuisance, 5-20
lanes, 9-16	protective, 5-16
scatterable minefields, 7-3	scatterable, 7-14
systems, 9-21	standard pattern, 5-4
Volcano	minefield report
air, 7-4	conventional. See DA Form 1355 (minefield
ground, 7-5	record).
MIACAH F1-L14A1 mine. See foreign mines.	scatterable. See scatterable mine warning
MICLIC. See mine-clearing line charge	(SCATMINWARN) report.
(MICLIC).	minefield siting, 2-23
mine-clearing blade	minefield type
description, 9-10	nuisance, 3-26
employment, 9-11	phony, 2-3
mine-clearing line charge (MICLIC)	protective, 2-2
description, 9-4	tactical, 2-3
employment, 9-6	mines (conventional US)
mine-clearing roller	actuation, 1-3
description, 9-11	components, 1-2
employment, 9-13	kill types, 1-5
-	* *

mechanics, 1-1 Miznay-Schardin plate. See self-forging fragmentation (SFF) warhead. MK-7 mine. See foreign mines. Modular Pack Mine System (MOPMS), 6-31 description, 6-31 dispenser, 6-31 emplacement, 6-33 employment, 6-31 M71 RCU. See M71 remote control unit (RCU). MON-50 mine. See foreign mines. MON-100 mine. See foreign mines. MON-200 mine. See foreign mines. MOPMS. See Modular Pack Mine System (MOPMS) and deception measures, MOPMS.	technical information, B-1 technique, B-2 remote antiarmor mine (RAAM), 6-8 reporting and recording conventional mines. See also DA Form 1355 (minefield record). additional reports, 5-1 report of completion, 5-1 report of initiation, 5-1 report of intention, 5-1 reporting and recording scatterable mines, 7-14 risk assessment live mine demonstrations, E-9 live mine training, E-11 river-mining operations, 12-11 route clearance
o	conduct, 10-2 equipment, 10-1
obstacle intents block, 4-17 disrupt, 4-15 fix, 4-15 turn, 4-17 obstacle type abbreviations, 5-10 outrigger techniques, 12-12 OZM-3 mine. See foreign mines. OZM-4 mine. See foreign mines. OZM-72 mine. See foreign mines. P P-40 mine. See foreign mines. PDM. See pursuit-deterrent munition (PDM). PFM-1 mine. See foreign mines. PGMDM mine. See foreign mines. phony minefield, 2-3 platter charge, 12-3 PMD-6/6M mine. See foreign mines. PMN mine. See foreign mines. POMZ-2/2M mine. See foreign mines. probability graph, 2-7 proofing, 9-16	hand neutralization, 10-5 organization, 10-1 reports, 10-5 team in column, 10-3 in echelon, 10-3 row minefield organization laying party, F-2 marking party, F-2 planning guide, Appendix F recording party, F-2 siting party, F-2 row mining, Chapter 4 block, 4-17 calculations, 4-2 disrupt, 4-15 drills, 4-7 fix, 4-15 organization, 4-5, Appendix F rules, 4-1 turn, 4-17
protective minefields, 2-2 pursuit-deterrent munition (PDM), 1-10	safety and training, Appendix E SB-33 mine. See foreign mines.
R	SB-81 mine. See foreign mines. SCATMINWARN report. See scatterable mine
RAAM. See remote antiarmor mine (RAAM) and deception measures, RAAM. rake, full-width, 9-13. See also combat engineer vehicle (CEV). reactions to scatterable mines, Chapter 11 reconnaissance, threat minefields report (sample), B-3	warning (SCATMINWARN) report. scatterable minefields coordination, 7-2 employment, 7-1 marking, 7-3 recording, 7-14 reporting, 7-14 scatterable mines

breaching, 11-3	emplacement procedures, 3-9
capabilities, 6-5	streambed operations. See river-mining
clearing lanes, 11-3	operations.
countermeasures, 11-5	sweep teams
density, 6-7	column, 10-3
detection, 11-3	echelon, 10-3
drills, 11-8.	
lethality, 6-7	T
life cycle, 6-6	
limitations, 6-6	T/79 mine. See foreign mines.
location, 11-2	tactical minefield design, 2-3
neutralization (and removal), 11-7	TC-2.4, M/80 mine. See foreign mines.
recording, 7-14. See also scatterable mine	TC-6 mine. See foreign mines.
warning (SCATMINWARN) report.	TS-50 mine. See foreign mines.
recovery, 12-13	O Company
scatterable mine systems	U
ADAM. See area denial artillery munition	
(ADAM).	urban terrain mining
characteristics, 6-1	AP mines, use of, 12-16
Gator. See Gator.	AT mines, use of, 12-19
M56 mine. See M56 helicopter-delivered	characteristics, 12-13
mine.	deception measures, 12-22
M128 GEMSS. See Ground-Emplaced Mine	•
Scattering System (GEMSS).	v
M138 Flipper. See Flipper.	
MOPMS. See Modular Pack Mine System	VALMARA 69 mine. See foreign mines.
(MOPMS).	Volcano. See also deception measures, Vol-
RAAM. See remote antiarmor mine (RAAM).	cano, and marking minefields, Volcano.
Volcano. See Volcano.	description, 6-23
scatterable mine warning (SCATMINWARN)	emplacement, 6-25
report, 7-14	employment, 6-25
scatterable mines (threat). See foreign mines.	special considerations, 6-28
self-forging fragmentation (SFF) warhead, 1-6	VP-12/13 minefield control device. See foreign
SFF warhead. See self-forging fragmentation	mines.
(SFF) warhead.	VS-1.6 mine. See foreign mines.
Soviet mine/countermine operations, Appen-	VS-2.2 mine. See foreign mines.
dix C	VS-50 mine. See foreign mines.
countermine operations, C-5	VS-HCT mine. See foreign mines.
equipment, C-8	VS-MK2 mine. See foreign mines.
mine operations, C-1	
•	W
special environments	_
cold regions, 12-26	WAM (wide area mine). See wide area fuze.
desert, 12-27	warheads, types of, 1-6 and 1-8
jungles, 12-27	water mines, placement of, 12-11
special mining operations, Chapter 12	wide area fuze, 1-5
standard pattern minefields, Chapter 3	