

# FM 3-34.2

(formerly FM 90-13-1)

This reprint includes  
Changes 1 through 3.

# Combined-Arms Breaching Operations

Headquarters,  
Department of the Army

DISTRIBUTION RESTRICTION: Approved for public release; distribution is unlimited.

# Combined-Arms Breaching Operations

## Contents

	Page
<b>PREFACE</b> .....	iv
<b>Chapter 1 OBSTACLE BREACHING THEORY</b> .....	1-1
Definitions .....	1-1
Breaching Tenets .....	1-4
Intelligence.....	1-4
Breaching Fundamentals.....	1-6
Breaching Organization .....	1-7
Mass .....	1-11
Synchronization .....	1-13
Breaching Operations in Support of Deliberate and Hasty Attacks.....	1-18
Planning Sequence .....	1-18
<b>Chapter 2 BREACHING OPERATIONS</b> .....	2-1
Planning .....	2-1
Receipt of Mission .....	2-1
Mission Analysis .....	2-3
Course-of-Action Development.....	2-4
Course-of-Action Analysis (War Game).....	2-9
Preparation.....	2-10
Execution .....	2-12

**Distribution Restriction:** Approved for public release; distribution is unlimited.

---

\*This publication supersedes Field Manuals (FMs) 5-101, 23 January 1985, and 90-13-1, 28 February 1991.

	Page
<b>Chapter 3</b>	
<b>LANE AND BYPASS MARKING</b> .....	3-1
Lane-Marking System.....	3-1
Lane-Marking Terms .....	3-2
Entrance Markers.....	3-2
Handrail Markers.....	3-2
Exit Markers .....	3-2
Entrance-Funnel Markers.....	3-3
Final-Approach Markers.....	3-3
Far-Recognition Markers.....	3-3
Traffic-Control Posts and Guides .....	3-3
Levels of Lane Marking and Patterns .....	3-4
Initial Lane Marking.....	3-4
Intermediate Lane Marking .....	3-6
Full (Two-Way) Lane Marking.....	3-9
Commander's Guidance for Lane Marking.....	3-11
Movement Through the Lane .....	3-11
Lane Maintenance and Responsibilities of Traffic	
Through Lanes .....	3-13
Lane-Marking Devices .....	3-17
Bypass Marking .....	3-19
Marking Requirements Under the North Atlantic	
Treaty Organization.....	3-19
Commanders' Responsibilities.....	3-19
Marking Patterns and Devices .....	3-19
Complex Obstacles .....	3-21
<b>Chapter 4</b>	
<b>BREACHING REHEARSALS</b> .....	4-1
Planning.....	4-1
Types.....	4-1
Combined-Arms Rehearsal.....	4-1
Battle Drill.....	4-2
Techniques .....	4-2
<b>Appendix A</b>	
<b>METRIC CONVERSION CHART</b> .....	A-1
<b>Appendix B</b>	
<b>THREAT MINE OPERATIONS</b> .....	B-1
Mine Operations .....	B-1
Foreign-Mine Data.....	B-6
<b>Appendix C</b>	
<b>OBSTACLE-REDUCTION TECHNIQUES</b> .....	C-1
Detecting .....	C-1
Visual .....	C-1
Physical.....	C-2
Electronic .....	C-3
Mechanical.....	C-4
Reporting .....	C-4
Reducing .....	C-4
Explosive.....	C-12

	Page
Mechanical.....	C-18
Electronic.....	C-26
Manual.....	C-27
<b>Appendix D BREACHING SCENARIO AND SPECIAL PLANNING CONSIDERATIONS.....</b>	<b>D-1</b>
Sample Breaching Operation.....	D-1
Considerations for Restricted Terrain .....	D-9
Considerations for Military Operations in Urbanized Terrain .....	D-11
Planning.....	D-11
Method of Entry .....	D-12
Obstacle Intelligence .....	D-14
Breaching Fundamentals.....	D-14
<b>Appendix E ROUTE CLEARANCE.....</b>	<b>E-1</b>
Methods and Levels .....	E-1
Clearance Methods.....	E-1
Sweep Levels .....	E-3
Equipment .....	E-4
Interim Vehicle-Mounted Mine Detector .....	E-4
MiniFlail.....	E-6
Planning .....	E-6
Intelligence.....	E-6
Fundamentals .....	E-7
Organization .....	E-7
Mass .....	E-7
Synchronization .....	E-7
Planning Considerations .....	E-8
Task Organization .....	E-12
Support Force.....	E-12
Security Force.....	E-12
Sweep Force.....	E-13
<b>GLOSSARY .....</b>	<b>Glossary-1</b>
<b>BIBLIOGRAPHY.....</b>	<b>Bibliography-1</b>
<b>INDEX .....</b>	<b>Index-1</b>

## Preface

FM 3-34.2 provides combined-arms commanders, from company to brigade, and their staffs with the doctrine, tactics, and techniques needed to successfully overcome obstacles. It provides the commander with breaching fundamentals and information for planning, preparing, and executing breaching operations. This manual gives the coordinating and special staff officer a basis for synchronizing all combat multipliers during a breaching operation.

This is not a stand-alone manual. The user must have a fundamental understanding of the concepts outlined in FMs 5-71-2, 5-71-3, 5-71-100, 17-98, 20-32, 34-130, 71-1, 71-2, 71-3, 100-5, 100-7, 101-5, and 101-5-1. This manual also implements Standardization Agreement (STANAG) 2036.

*Appendix A* contains a metric conversion chart.

The proponent for this publication is HQ, TRADOC. Send comments and recommendations on Department of the Army (DA) Form 2028 directly to Commandant, United States (US) Army Engineer School, ATTN: ATSE-DOT-DD, Directorate of Training, 320 Engineer Loop, Suite 336, Fort Leonard Wood, Missouri 65473-8929.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

## Chapter 1

# Obstacle Breaching Theory

Breaching operations are conducted to allow maneuver despite the presence of obstacles. Obstacle breaching is the employment of a combination of tactics and techniques to advance an attacking force to the far side of an obstacle that is covered by fire. It is perhaps the single, most difficult combat task a force can encounter. Understanding breaching theory is the first step to understanding breaching tactics. Breaching is a synchronized combined-arms operation under the control of a maneuver commander. Breaching operations begin when friendly forces detect an obstacle and begin to apply the breaching fundamentals, and they end when battle handover has occurred between follow-on forces and a unit conducting the breaching operation. *Bulling through* or *forcing through* is not a breaching operation. *Bulling through* is a decision made when a commander must react immediately to extricate his force from an untenable position within an obstacle and no other breaching operations are possible. When a force is in a minefield receiving fires and taking heavy losses, the commander may decide to immediately bull through the minefield rather than withdraw or reduce the obstacle.

## DEFINITIONS

1-1. The following definitions are inherent to obstacle breaching and are used throughout this manual:

- **Obstacle.** An obstacle is any obstruction that is designed or employed to disrupt, fix, turn, or block the movement of an opposing force (OPFOR) and to impose additional losses in personnel, time, and equipment on the OPFOR. Obstacles can exist naturally (existing), be man-made (reinforcing), or be a combination of both. A complex obstacle is a combination of different types of individual obstacles that requires more than one reduction technique (explosive, mechanical, manual) to create a lane through the obstacle. A reinforcing obstacle is an obstacle that is specifically constructed, emplaced, or detonated through military effort. (For more information on obstacle classification, see *FM 90-7*.) The types of reinforcing obstacles are—
  - **Tactical.** A tactical obstacle is employed to disrupt enemy formations, turn them into a desired area, fix them in position under direct and indirect fires, or block their penetration while multiplying the effects and capabilities of firepower.
  - **Protective.** A protective obstacle is employed to assist a unit in its local, close-in protection.