

Engineer Operational Manuals Update

By Lieutenant Colonel Barry Supplee (Retired) and Lieutenant Colonel Edward R. Lefler

This article provides an update on the status of the Engineer Regiment's keystone manual—Field Manual (FM) 3-34, *Engineer Operations*—and the ongoing development of its two subordinate and companion manuals, FM 3-34.22, *Engineer Operations – Brigade Combat Team and Below*, and FM 3-34.23, *Engineer Operations – Echelons Above the Brigade Combat Team*. These are significant revisions of the doctrine for engineer operations supporting all echelons from company teams and task forces to theater armies.

Status of FM 3-34 and the Way Ahead

The final draft (FD) of FM 3-34 was staffed “world-wide,” and 340 comments were received. The writing team is adjudicating all comments and preparing the “approved” FD for editing. Once editing is completed, the manual will begin its final staffing through the United States Army Engineer School commandant, the United States Army Maneuver Support Center commander, and then to the Combined Arms Doctrine Directorate of the Combined Arms Center at Fort Leavenworth, Kansas, before it is published and posted on Army Knowledge Online (AKO). The publication of this latest version of FM 3-34 is projected for early fall of 2008. The completed version of FM 3-34 will be the 21st edition of our engineer keystone operational manual, with the first one being printed before 1897. (See *Engineer*, January-March 2007, page 4.)

Development of FM 3-34.22 and FM 3-34.23

FM 3-34.22 is a new manual that will encompass engineer operations doctrine for all three types of brigade combat teams (BCTs)—heavy, infantry, and Stryker—and their primary subordinate units. It will supersede the following manuals, and the information contained in them will be revised and consolidated in the new manual:

- FM 3-34.221, *Engineer Operations – Stryker Brigade Combat Team*, dated 7 January 2005
- FM 5-7-30, *Brigade Engineer and Engineer Company Combat Operations*, dated 28 December 1994
- FM 5-71-2, *Armored Task-Force Engineer Combat Operations*, dated 28 June 1996
- FM 5-71-3, *Brigade Engineer Combat Operations (Armored)*, dated 3 October 1995

FM 3-34.22 reflects the considerable changes that have occurred over the 14-plus years since all of these manuals were released. While many of the tactical tasks associated with combat and general engineering support have remained essentially constant, the operational environment has dramatically shifted. New focused threats such as improvised explosive devices (IEDs) are but one example of those changes. Another major change involves the Army's reorganization and restructuring to the modular force and the effects that this has had on doctrine and the conduct of operations.

FM 3-34.23 is a new manual that will supersede the following manuals and will combine doctrine previously published in them:

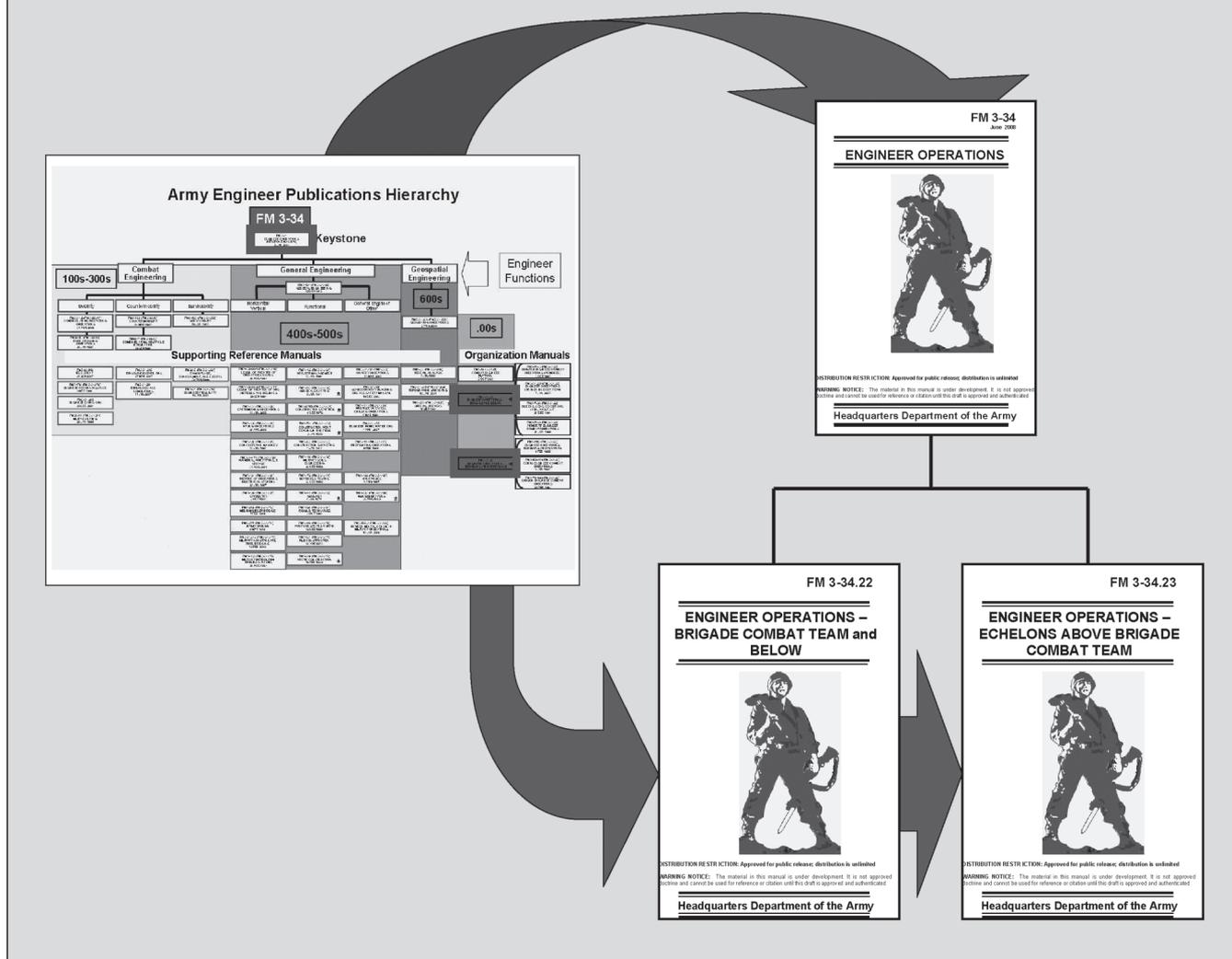
- FM 5-71-100, *Division Engineer Combat Operations*, dated 22 April 1993
- FM 5-100-15, *Corps Engineer Operations*, dated 6 June 1995
- FM 5-116, *Engineer Operations: Echelons Above Corps*, dated 9 February 1999

Just as Army transformation has flattened higher-echelon structure into modular, scalable capabilities, this manual flattens the associated engineer doctrine for these echelons for greater effectiveness and efficiency.

The intent of these two new FMs, with consolidated and revised material from the superseded manuals, is to establish doctrinal guidance for the employment of engineers and the conduct of engineer operations supporting full-spectrum operations. These manuals will support the doctrine articulated in the newest version of FM 3-0, *Operations*, dated 28 February 2008. Each of these manuals will link directly to the revised FM 3-34, as well as each other, and also complement joint engineer doctrine found in Joint Publication (JP) 3-34, *Joint Engineer Operations*, dated 12 February 2007. These engineer manuals will serve as references for commanders and staff, leaders, training developers, and doctrine developers throughout the Army and the joint, interagency, intergovernmental, and multinational (JIIM) community.

The development of these manuals is being led by the engineer doctrine team, which includes writers who are former engineer officers, available subject matter experts from the Army Engineer School and around the Regiment, as well as the community of combined arms doctrine developers to review and comment as drafts are staffed.

Engineer Operational Manuals Hierarchy



Senior engineer leader input from across the Regiment is critical to the development of each of these manuals. Also critical is the use of a targeted working group of senior engineer leaders for focused guidance and reviews as the manuals are developed. Most of the development of each manual is being done virtually, primarily through e-mail correspondence and AKO. Targeted discussion of the latest drafts of both manuals occurred prior to ENFORCE 2008 (5-9 May) through a virtual Council of Colonels conducted via video teleconference (VTC).

Need for FM 3-34.22 and FM 3-34.23

There are many reasons driving the requirements for these manuals. Some of the reasons to consolidate and update them are that the Army, and we as engineers in particular, have had significant recent operational experiences through our participation in ongoing operations in Afghanistan

and Iraq, as well as other worldwide operations (such as in the Philippines and Hurricane Katrina relief). In addition to FM 3-34, the following key joint and Army manuals have been recently revised or are under revision:

- JP 3-0, *Joint Operations*, dated 17 September 2006
- JP 3-15, *Barriers, Obstacles, and Mine Warfare for Joint Operations*, dated 27 April 2007
- JP 3-34, *Joint Engineer Operations*, dated 12 February 2007
- JP 5-0, *Joint Operation Planning*, dated 26 December 2006
- FM 3-0, *Operations*, dated 28 February 2008
- FM 3-90, *Tactics*, dated 4 July 2001
- FM 5-0, *Army Planning and Orders Production*, dated 20 January 2005

- FM 6-0, *Mission Command: Command and Control of Army Forces*, dated 11 August 2003
- FM 7-15, *The Army Universal Task List*, dated 31 August 2003
- Field Manual Interim (FMI) 5-0.1, *The Operations Process*, dated 31 March 2006

The collective body of evolving policy and doctrine, coupled with joint and Army transformation impacts on the Engineer Regiment, led to development of and conversion to the modular engineer force structure. To remain relevant and current, it is imperative that engineer doctrine remains synchronized with the prevailing body of thought for the Army. Doctrine is increasing focus and emphasis on stability operations, coupled with the recognition that the Army conducts simultaneous full-spectrum operations. Revised doctrine recognizes the impacts of conducting multiple operations simultaneously and with distinctly different objectives for forces in the field, the revised force structure and how it is employed, and the modified way that the Army conducts its operations.

Another significant doctrinal change is the deletion of the Battlefield Operating System (BOS) construct and the development and adoption of Army warfighting functions. Adoption of the warfighting functions and revisions to the elements of combat power make it necessary to revise our thoughts on engineer operations and integrate them through warfighting functions. In addition to functional brigades, transformation to the modular force has led to the creation of three types of maneuver BCTs and five multifunctional support brigades designed to provide support to the division level. (They are the Maneuver Enhancement Brigade [MEB], Battlefield Surveillance, Combat Aviation, Sustainment, and Fires Brigades.) The MEB conducts maneuver support operations which enhance protection and mobility through variable mixes of forces—such as engineer; military police; chemical, biological, radiological, and nuclear (CBRN); and explosive ordnance disposal (EOD)—conducting combined arms operations. When engineer units are assigned or attached to an MEB, many of their traditional combat and general engineer missions will be executed in the context of maneuver support operations for the supported force.

All of these changes are driving significant content adjustment in these manuals, to include a crosswalk of linkages from the three engineer functions of combat, general, and geospatial engineering to the six warfighting functions. The Army warfighting functions, which were first introduced in FMI 5-0.1, replace the BOS construct in the new FM 3-0, link to the joint functions, and will be reflected in the revised version of FM 3-34. The new FM 3-34 will highlight and describe the criticality of engineer staff integration at all echelons and the importance of functional, as well as multifunctional, command and control for engineer elements. The manual recognizes the transformation to a modular BCT-focused Army and describes engineer capabilities within

that context. In conjunction with these changes, the manual also updates integration into the Army and joint planning processes, to include considerations in the rapid decision-making and synchronization process.

FM 3-34.22 and FM 3-34.23, which are intended to be companion manuals to FM 3-34, will complement and integrate other recent and ongoing doctrinal updates within the engineer doctrine proponentcy as well. These manuals include the following:

- FM 3-34.210, *Explosive Hazards Operations*, dated 27 March 2004
- FM 3-100.4, *Environmental Considerations in Military Operations* (will be republished as FM 3-34.500/MCRP 4-11B)
- FM 5-103, *Survivability Operations* (will be republished as FM 3-34.300/MCWP 3-17.6)
- FM 5-104, *General Engineering Operations* (will be republished as FM 3-34.400/MCWP 3-17.8)
- FM 5-170, *Engineer Reconnaissance* (will be republished as FM 3-34.170/MCWP 3-17.4) and the related infrastructure reconnaissance
- FM 90-13, *River Crossing Operations* (will be republished as FM 3-90.12/MCRP 3-17.1, *Combined Arms Gap Crossing Operations*)

These updates to doctrine should be available on AKO within the year.

Framing of the Manuals

The development of FM 3-34.22 leverages foundational changes made during the development of FM 3-34.221. This new FM further aligns doctrine for engineer operations at the BCT and below echelons with evolved doctrine for all three types of BCTs and specifically FM 3-90.6, *The Brigade Combat Team*, 4 August 2006; FM 3-90.61, *The Brigade Special Troops Battalion*, 22 December 2006; and the recently released FM 3-90.5, *Combined Arms Battalion Operations*.

To avoid doctrinal redundancy in the manual, it references FM 3-90.6 for the general discussion on BCT operations, while focusing on engineer aspects at that level. It also references FM 3-34 for discussion of an engineer view of the operational environment and modular engineer capabilities and references FM 3-34.170 for detailed discussion on engineer reconnaissance capabilities. FM 3-34.22 will be framed in eight chapters:

- Chapter 1: Engineers in Support of the Brigade Combat Team – describes the role of engineers and engineer support to the BCT, as well as specific engineer organization within the BCT.
- Chapter 2: Integrating Engineer Operations – describes processes to integrate engineer operations within the BCT.

- Chapter 3: Engineer Support to Intelligence, Surveillance, and Reconnaissance – describes engineer reconnaissance in support of BCT ISR operations.
- Chapter 4: Engineer Support to Security Operations – describes engineer support of BCT security operations.
- Chapter 5: Engineer Support to Lethal and Nonlethal Fires – describes the integration of engineer support to targeting and civil affairs operations.
- Chapter 6: Engineer Support to Combat Operations – describes integration of engineer support in BCT offensive and defensive operations.
- Chapter 7: Stability and Civil Support Operations – describes integration of engineer support in BCT stability or civil support operations.
- Chapter 8: Sustainment Support for Engineer Operations – discusses the considerations for sustainment of engineer units and operations supporting the BCT.

In addition to the chapters, a number of appendixes will be included in the manual to provide additional detailed discussion for a variety of selected topics.

The development of FM 3-34.23 currently precedes the development of other new higher-echelon manuals that are likely to be designated as FM 3-91, FM 3-92, and FM 3-93 for division, corps, and theater army echelons. The new FM 3-34.23 flattens the body of doctrine for engineer operations at echelons above the BCT from three separate manuals into a single manual. To avoid doctrinal redundancy in the manual, it references FM 3-34 for discussion of an engineer view of the operational environment (OE) and details on modular engineer capabilities. The manual will be framed in seven chapters:

- Chapter 1: Engineer View of the Operational Environment – describes the role of engineers and engineer support at higher echelons.
- Chapter 2: Modular Force Organization – describes the engineer organizations and the higher echelon headquarters they will support.
- Chapter 3: Foundations of Engineer Operations – discusses integration of engineer operations at higher echelons.
- Chapter 4: Theater Army Echelon Engineer Operations – describes engineer support for theater army echelon operations.
- Chapter 5: Corps Echelon Engineer Operations – describes engineer support for corps echelon operations.
- Chapter 6: Division Echelon Engineer Operations – describes engineer support for division echelon operations.
- Chapter 7: Sustainment Support for the Engineer Unit – discusses considerations for sustainment of engineer units and operations at echelons above the BCT.

In addition to these chapters, a number of appendixes will be included in the manual to provide additional detailed discussion for a variety of selected topics.

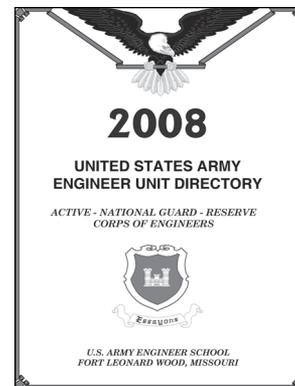
Current Development Status

The writing team is currently preparing a final draft of FM 3-34.22 and the initial draft of FM 3-34.23. Both drafts were completed in time for a presentation and discussion prior to ENFORCE 2008. Based on the guidance from the review of these documents and this virtual meeting/Council of Colonels, revised and updated drafts will be completed later in the year and staffed for Armywide review and comment. After the comments from these staffings are received and adjudicated, final electronic file drafts will be prepared, edited, and staffed to enable these manuals to be published (in print and on AKO). Other focused working group actions and staffing dates will be developed as necessary to support the production of the manuals for the Regiment. The publication of these manuals and placement on AKO is projected for late 2008 for FM 3-34.22 and late 2009 for FM 3-34.23. Your participation in the reviews and development of these manuals is necessary to make them relevant and useful to all leaders in the Engineer Regiment and the Army.



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2008 Engineer Unit Directory

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