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US Army TC 3-09.81

TC 3-09.81 Field Artillery Manual Cannon Gunnery

Official Doctrine and Application Guide

1. INTRODUCTION TO TC 3-09.81

Training Circular (TC) 3-09.81 establishes the foundational doctrine for the employment of artillery fires within the United States Army. This comprehensive manual provides a detailed explanation of all aspects related to the manual cannon gunnery problem, offering a practical application of ballistic science. It is designed to equip Army personnel at the battalion or battery level with the knowledge required to effectively deliver field artillery fires.

The content includes step-by-step instructions for manually solving gunnery problems, which are directly applicable within the framework of decisive action or unified land operations. This manual serves as a critical resource for understanding and executing artillery operations.

TC 3-09.81

Field Artillery Manual Cannon Gunnery

APRIL 2016

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

This publication supersedes TC 3-09.81/MCWP 3-16.4, dated 1 March 2016.

Headquarters, Department of the Army

Figure 1: Front cover of the TC 3-09.81 manual.

2. SETUP AND PREPARATION FOR STUDY

To effectively utilize TC 3-09.81, it is recommended to approach its study systematically. This manual is intended for personnel who require a deep understanding of artillery fire employment and manual gunnery procedures. Prior familiarity with basic military terminology and artillery concepts will enhance comprehension.

- **Review Prerequisites:** Ensure a basic understanding of military operations and artillery fundamentals.
- **Dedicated Study Environment:** Find a quiet place conducive to focused reading and problem-solving.
- **Reference Materials:** Keep relevant military regulations or field manuals accessible for cross-referencing.
- **Note-Taking:** Utilize a notebook or digital tool to record key concepts, formulas, and procedural steps.

3. OPERATING PRINCIPLES AND APPLICATION

The core of TC 3-09.81 lies in its detailed instructions for applying manual cannon gunnery principles. This section outlines how to interpret and execute the procedures described within the manual.

1. **Understanding Ballistics:** Study the principles of ballistics as presented to grasp projectile trajectory and environmental factors.
2. **Gunnery Problem Solving:** Follow the step-by-step instructions for calculating firing solutions, including target location, weapon orientation, and ammunition selection.
3. **Fire Direction Procedures:** Learn the protocols for receiving, processing, and transmitting fire missions.
4. **Safety Considerations:** Adhere strictly to all safety guidelines and procedures outlined for artillery operations.
5. **Practical Exercises:** Apply the learned concepts through practical exercises and simulations to reinforce understanding.

The manual emphasizes precision and accuracy in all calculations and procedures to ensure effective and safe artillery fire delivery.

4. MAINTENANCE OF PROFICIENCY

Maintaining proficiency in manual cannon gunnery is crucial for all personnel involved in artillery operations. Continuous review and practice are essential to ensure readiness and competence.

- **Regular Review:** Periodically revisit key sections of TC 3-09.81 to refresh knowledge of doctrine and procedures.
- **Practical Drills:** Participate in regular drills and exercises that simulate real-world gunnery problems.
- **Stay Updated:** Be aware of any updates or amendments to the doctrine, as military manuals are subject to revisions.
- **Peer Training:** Engage in discussions and training with peers to share knowledge and best practices.

5. TROUBLESHOOTING AND COMMON CHALLENGES

Understanding and applying complex gunnery principles can present challenges. This section offers guidance on addressing common difficulties encountered during study and application.

- **Difficulty with Calculations:** Double-check all mathematical steps and formulas. Refer to the examples provided in the manual.
- **Interpreting Data:** Ensure correct interpretation of charts, tables, and environmental data.
- **Procedural Errors:** Review the step-by-step instructions carefully. Practice each step individually.

before combining them.

- **Seek Clarification:** If a concept remains unclear, consult with experienced personnel or instructors.

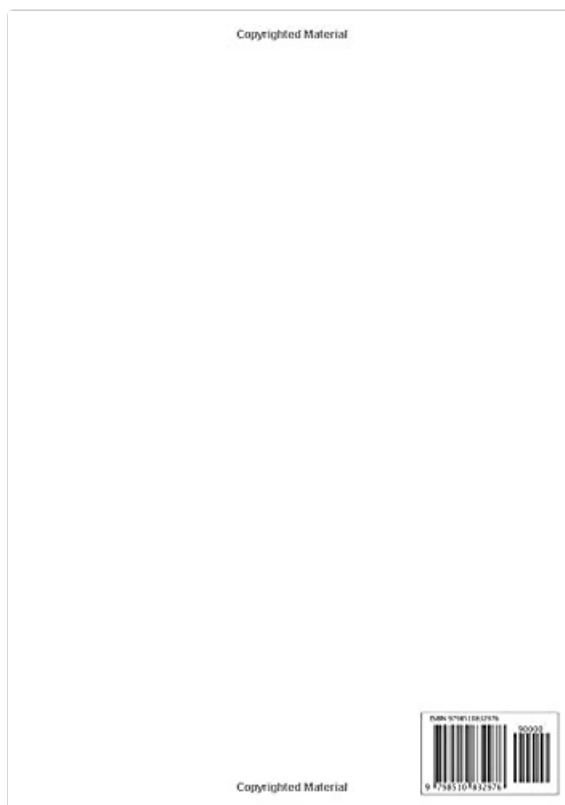


Figure 2: Back cover of the TC 3-09.81 manual, showing ISBN and barcode.

6. SPECIFICATIONS

Attribute	Detail
ASIN	B095L9MFF6
Publisher	Independently published
Publication Date	May 27, 2021
Language	English
Print Length	663 pages
ISBN-13	979-8510832976
Item Weight	3.72 pounds
Dimensions	8.27 x 1.5 x 11.69 inches

7. SUPPORT AND FURTHER INFORMATION

For official updates, errata, or further information regarding TC 3-09.81, it is recommended to consult official U.S. Army publications channels or the relevant military doctrine websites. As this is a doctrinal publication, direct support is typically provided through military training commands and educational institutions.

For inquiries related to the physical publication (e.g., printing errors), please contact the publisher,

Independently published, using standard book retail support channels.