

STP 5-81T1-SM

**MOS 81T, Topographic
Analyst, Skill Level 1,
Soldier's Manual**

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FEBRUARY 2003

**HEADQUARTERS
DEPARTMENT OF THE ARMY**

SOLDIER TRAINING
PUBLICATION
No. 5-81T1-SM

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 20 February 2003

MOS 81T, Topographic Analyst, Skill Level 1, Soldier's Manual

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*This publication supersedes STP 5-81Q1-SM, 20 November 1985, and STP 5-81C1-SM, 26 July 1985.

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PREFACE

This publication is for skill level (SL) 1 soldiers who hold a military occupational specialty (MOS) of 81T and their trainers or leaders. It contains standardized training objectives (in the form of task summaries) that may be used to train and evaluate soldiers on critical tasks that support unit missions during wartime. Trainers and leaders should actively plan for soldiers holding MOS 81T to have access to this publication. All tasks in this manual are applicable to active component (AC) and reserve component (RC) soldiers, which include the Army National Guard (NG) and the Army Reserve.

Users of this publication are encouraged to recommend changes and submit comments for its improvement. Comments should be keyed to a specific page, paragraph, and line of text in which the change is recommended. Reasons should be provided for each comment to ensure understanding and complete evaluation. Comments should be prepared using a Department of the Army (DA) Form 2028 and forwarded directly to the Commander, United States (US) Army Maneuver Support Center, ATTN: ATZT-DT-WR-E, Building 3200, Directorate of Training Development, 320 MANSCEN Loop, Suite 210, Fort Leonard Wood, Missouri 65473-8929.

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

CHAPTER 1

Introduction

GENERAL

1-1. This manual identifies the individual MOS training requirements for soldiers in MOS 81T, SL 1. It is designed to be used by commanders, trainers, and soldiers to plan, conduct, and evaluate individual training in units. This manual is the primary reference for supporting self-development, evaluating MOS proficiency, and training of 81T soldiers. Commanders employ two primary methods to evaluate soldiers' proficiency:

- *Commander's evaluation.* Commander's evaluations are local tests or assessments of soldier's performance of MOS-specific and common tasks critical to the unit mission. They may be conducted year-round.
- *Common task test (CTT).* CTTs are hands-on tests used to evaluate proficiency on common tasks. Alternate written tests are provided if equipment is not available for hands-on testing.

1-2. This manual should be used along with Soldier's Training Publications (STPs) 21-1-SMCT and 21-24-SMCT; Army Training and Evaluation Programs (ARTEPs); and Field Manuals (FMs) 7-0, 25-4, 25-5, and 25-101 to establish effective training plans and programs that integrate individual and collective tasks.

TASK SUMMARIES

1-3. Task summaries contain information necessary to conduct training and evaluate soldier proficiency on tasks critical to the MOS. A separate task summary is provided for each critical task. These task summaries are, in effect, standardized training objectives, which ensure that soldiers do not have to relearn a task on reassignment to a new unit. The format for the task summaries included in this manual is as follows:

- *Task Title.* The task title identifies the action to be performed.
- *Task Number.* A 10-digit number identifies each task or skill. Include this task number, along with the task title, in any correspondence relating to the task.
- *Conditions.* The task conditions identify all the equipment, tools, references, job aids, and supporting personnel that the soldier needs to perform the task in wartime. This section identifies any environmental conditions that could alter task performance, such as visibility, temperature, and wind. This section also identifies any specific cues or events (a chemical attack or identification of a threat vehicle) that triggers task performance.
- *Standards.* The task standards describe how well and to what level you must perform a task under wartime conditions. Standards are typically described in terms of accuracy, completeness, and speed.
- *Training and Evaluation.* This section may contain all or part of the following: the training information outline, the evaluation preparation subsection, and the evaluation guide. The training information outline includes detailed training information. The evaluation preparation subsection indicates the necessary modifications to the task performance in order to train and evaluate a task that cannot be trained to the wartime standard under wartime conditions. It may also include special training and evaluation preparation instructions to accommodate these modifications and any instruction that should be given

to the soldier before evaluation. The evaluation guide identifies the specific actions, known as performance measures, that the soldier must do to successfully complete the task. These actions are listed in a pass/fail format for easy evaluation. Each evaluation guide contains a feedback statement that indicates the requirements for receiving a GO on the evaluation.

- **References.** This section identifies references that provide more detailed and thorough explanations of task performance requirements than that given in the task summary description.

1-4. Additionally, some task summaries include safety statements and notes. Safety statements (danger, warning, and caution) alert users to the possibility of immediate death, personal injury, or damage to equipment. Notes provide a small, extra supportive explanation or hint relative to the performance measures.

SOLDIER'S RESPONSIBILITIES

1-5. Each soldier is responsible for performing individual tasks that the first-line supervisor identifies based on the unit's mission-essential task list (METL). The soldier must perform the task to the standards listed in the soldier's manual (SM). If a soldier has a question about how to do a task or which tasks in this manual he must perform, it is the soldier's responsibility to ask the first-line supervisor for clarification. The first-line supervisor knows how to perform each task or can direct the soldier to the appropriate training materials.

NONCOMMISSIONED OFFICER SELF-DEVELOPMENT AND THE SOLDIER'S MANUAL

1-6. Self-development is one of the key components of the leader development program. It is a planned, progressive, and sequential program followed by leaders to enhance and sustain their military competency. It consists of individual study, research, professional reading, practice, and self-assessment. Under the self-development concept, the noncommissioned officer (NCO), as an Army professional, has the responsibility to remain current in all phases of the MOS. The SM is the primary source for the NCO to use in maintaining MOS proficiency.

1-7. Another important resource for NCO self-development is the Army Correspondence Course Program (ACCP). (See DA Pamphlet 350-59 for information on enrolling in this program and for a list of courses, or write to: Army Institute for Professional Development, US Army Training Support Center, ATTN: ATIC-IPS, Newport News, Virginia 23628-0001.)

1-8. Unit learning centers are valuable resources for planning self-development programs. They can help access enlisted career maps, training support products, and extension training materials.

TRAINING SUPPORT

1-9. This manual includes the following appendixes and information that provides additional training support information:

- **Appendix A, Department of the Army (DA) Form 5164-R (Hands-On Evaluation).** This appendix provides a copy of DA Form 5164-R. The NCO trainer can use this form to set up the leader book described in FM 25-101. The use of this form may help preclude writing the soldier tasks associated with the unit's METL and can become a part of the leader book.
- **Appendix B, Conversion Factors (United States [US] and Metric Units).** This appendix provides an English to metric measurement conversion chart.

- *Glossary.* The glossary is a single comprehensive list of acronyms, abbreviations, definitions, and letter symbols.
- *References.* This section contains two lists of references, required and related, that supports the training of all tasks in this SM. Required references are listed in the conditions statement and are required for the soldier to do the task. Related references are materials that provide more detailed information and a more thorough explanation of task performance.

ENLISTED PERSONNEL MANAGEMENT SYSTEM (EPMS)

1-10. The EPMS (AR 614-200) is the Army's overall system to improve the professionalism of the enlisted force. It integrates policies relating to training, evaluation, classification, and promotion into an overall system. It provides the soldier with a means to look to the future and see a realistic, clear, and viable career progression path from private to sergeant major (SGM). However, the EPMS is useless if the soldier does not understand and use it. Part of the trainer's job is to make sure the soldier understands and uses the EPMS. As an aid, Figure 1-1 provides the trainer with a career map for the 81T soldier. Along with information contained in AR 614-200, the soldier can use the career map to develop goals early in his career and plan accordingly.

NCOES	PLDC	BNCOC		ANCOC		USASMA
Civilian Schools	High school, GED diploma		College*			
			1 year	2 years	3 years	
			A goal: Troop assignments often preclude off-duty education.			
Other schools	Drill sergeant school Recruiting school Battle staff course 1SG course					
Encouraged assignments	Retention, recruiter Drill sergeant Instructor Ops/intel/recon sergeant *Construction sergeant Inspector/foreman RC advisor CMF 12 staff assignments					
Key leadership assignments	Technician	Team leader	Squad leader/section leader	Platoon/section sergeant	First sergeant	CSM
Rank	Private, private first class, specialist, corporal	Sergeant	Staff sergeant	Sergeant first class	First sergeant/master sergeant	Sergeant major/command sergeant major
Years of service	1-4	3-8	6-14	10-18	16-22	20+

Figure 1-1. Career Map, Career Management Field (CMF) 81

SKILL PROGRESSION CHART

1-11. Similar or related education, training, and experience are grouped into CMFs. The career progression path for MOS 81T, CMF 81, terrain analyst, is shown in Figure 1-2.

E-9	00Z50 Command sergeant major
SL 5 E-8 through E-9	81T50 Terrain analyst First sergeant
SL 4 (E-7)	81T40 Terrain analyst Platoon sergeant
SL 3 (E-6)	81T30 Terrain analyst Squad leader
SL 2 (E-5)	81T20 Terrain analyst Team leader
SL 1 (E-1 through E-4)	81T10 Terrain analyst
	Trainee

Figure 1-2. Career Progression Sequence for Terrain Analyst (CMF 81)

CHAPTER 2

Trainer's Guide

2-1. General. The MOS Training Plan (MTP) identifies the essential components of a unit training plan for individual training. Units have different training needs and requirements based on differences in environment, location, equipment, dispersion, and similar factors. Therefore, the MTP should be used as a guide for conducting unit training and not a rigid standard. The MTP consists of two parts. Each part is designed to assist the commander in preparing a unit training plan which satisfies integration, cross training, training up, and sustainment training requirements for soldiers in this MOS.

Part One of the MTP shows the relationship of an MOS skill level between duty position and critical tasks. These critical tasks are grouped by task commonality into subject areas.

Section I lists subject area numbers and titles used throughout the MTP. These subject areas are used to define the training requirements for each duty position within an MOS.

Section II identifies the total training requirement for each duty position within an MOS and provides a recommendation for cross training and train-up/merger training.

- **Duty Position Column.** This column lists the duty positions of the MOS, by skill level, which have different training requirements.
- **Subject Area Column.** This column lists, by numerical key (see Section I), the subject areas a soldier must be proficient in to perform in that duty position.
- **Cross Train Column.** This column lists the recommended duty position for which soldiers should be cross trained.
- **Train-up/Merger Column.** This column lists the corresponding duty position for the next higher skill level or MOSC the soldier will merge into on promotion.

Part Two lists, by general subject areas, the critical tasks to be trained in an MOS and the type of training required (resident, integration, or sustainment).

- **Subject Area Column.** This column lists the subject area number and title in the same order as Section I, Part One of the MTP.
- **Task Number Column.** This column lists the task numbers for all tasks included in the subject area.
- **Title Column.** This column lists the task title for each task in the subject area.
- **Training Location Column.** This column identifies the training location where the task is first trained to soldier training publications standards. If the task is first trained to standard in the unit, the word "Unit" will be in this column. If the task is first trained to standard in the training base, it will identify, by brevity code (ANCOC, BNCOC, and so forth), the resident course where the task was taught. Figure 2-1 contains a list of training locations and their corresponding brevity codes.

AIT	Advanced Individual Training
BT	Basic Training
UNIT	Trained in the Unit

Figure 2-1. Training Locations

- **Sustainment Training Frequency Column.** This column indicates the recommended frequency at which the tasks should be trained to ensure that soldiers maintain task proficiency. Figure 2-2 identifies the frequency codes used in this column.

BA	- Biannually
AN	- Annually
SA	- Semiannually
QT	- Quarterly
MO	- Monthly
BW	- Biweekly
WK	- Weekly

Figure 2-2. Sustainment Training Frequency Codes

- **Sustainment Training Skill Level Column.** This column lists the skill levels of the MOS for which soldiers must receive sustainment training to ensure that they maintain proficiency to soldier's manual standards.

2-2. Subject Area Codes.**Skill Level 1**

- 1 Data Collection
- 2 Geospatial Information (GI) Analysis and Production
- 3 Geographic Information System (GIS) Operations
- 4 Database Management

2-3. Critical Tasks List.

**MOS TRAINING PLAN
81T1**

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
Skill Level 1					
1. Data Collection	052-245-1002	Extract Essential Elements of Geospatial Information (GI) (Surface Materials)	AIT	QT	1
	052-245-1003	Extract Essential Elements of Geospatial Information (GI) (Bridges)	AIT	QT	1
	052-245-1004	Extract Essential Elements of Geospatial Information (GI) (Railroads)	AIT	QT	1
	052-245-1005	Extract Essential Elements of Geospatial Information (GI) (Roads)	AIT	QT	1
	052-245-1006	Extract Essential Elements of Geospatial Information (GI) (Tunnels)	AIT	QT	1
	052-245-1007	Extract Essential Elements of Geospatial Information (GI) (Surface Drainage)	AIT	QT	1
	052-245-1008	Extract Essential Elements of Geospatial Information (GI) (Airfields)	AIT	QT	1
	052-245-1009	Extract Essential Elements of Geospatial Information (GI) (Existing Linear Obstacles)	AIT	QT	1

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	052-245-1010	Extract Essential Elements of Geospatial Information (GI) (Vegetation)	AIT	QT	1
	052-245-1014	Extract Essential Elements of Geospatial Information (GI) (Navigable Inland Waterways)	AIT	QT	1
	052-245-1040	Extract Features from Hard Copy Remote Sensing Imagery (RSI)	AIT	QT	1
	052-245-1071	Extract Essential Elements of Geospatial Information (GI) (Surface Configuration)	AIT	QT	1
2. Geospatial Information (GI) Analysis and Production	052-245-1016	Produce a Combined-Obstacles Product Digitally	AIT	QT	1
	052-245-1017	Produce a Concealment Overlay Product Digitally	AIT	QT	1
	052-245-1018	Produce a River Crossing Product Digitally	AIT	QT	1
	052-245-1019	Produce a Lines-of-Communication (LOC) Product Digitally			
	052-245-1022	Produce Area Landing Zone (ALZ) Product	AIT	QT	1-3
	052-245-1023	Produce Helicopter Landing Zone (HLZ) Product	AIT	QT	1-3
	052-245-1024	Produce Drop Zone (DZ) Product	AIT	QT	1-3
	052-245-1025	Produce a Port Analysis Product	AIT	QT	1
	052-245-1029	Label Interior Features	AIT	QT	1
	052-245-1031	Produce a Product Template	AIT	QT	1
	052-245-1035	Scan a Hard Copy Product	AIT	QT	1
	052-245-1042	Produce a Cross-Country Movement (CCM) Product	AIT	QT	1
	052-245-1043	Rectify Digital Terrain Data on a Digital Topographic Support System-Base (DTSS-B)	AIT	QT	1
	052-245-1044	Mosaic Digital Terrain Data	AIT	QT	1
	052-245-1046	Produce Image Maps	AIT	QT	1
	052-245-1051	Digitize Geospatial Information (GI) Data	AIT	QT	1
	052-245-1052	Create a Three-Dimensional (3-D) Fly Through	AIT	MO	1-3
	052-245-1054	Perform Image Enhancements	AIT	QT	1

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	052-245-1055	Produce Single-Color Overprints (SCOs)	AIT	QT	1
	052-245-1058	Produce A Visibility Product	AIT	QT	1
	052-245-1061	Produce A Mobility Corridor Product	AIT	QT	1
	052-245-1062	Prepare a Military Operations on Urbanized Terrain (MOUT) Product	AIT	QT	1
	052-245-1064	Perform Digital Change Detection	AIT	QT	1
	052-245-1066	Perform Image Unsupervised Classification	AIT	QT	1
	052-245-1072	Produce A Combined-Obstacles Product Manually	AIT	SA	1-2
	052-245-1073	Produce A Concealment Overlay Product Manually	AIT	QT	1-2
	052-245-1074	Produce A River Crossing Product Manually	AIT	QT	1
	052-245-1075	Produce a Lines-of-Communication (LOC) Product Manually	AIT	QT	1-2
	052-245-1081	Produce an Off-Road Speed Product	AIT	QT	1
	052-245-1082	Produce an On-Road Speed Product	AIT	QT	1
	052-245-1084	Perform Basic Map Reading	BT	MO	1-2
	052-245-1088	Perform Terrain Visualization Briefing Techniques	AIT	QT	1
	052-245-1089	Produce a Cover Product Digitally	AIT	QT	1
	052-245-1090	Produce a Cover Product Manually	AIT	QT	1
	052-245-1091	Produce a Key Terrain Product Digitally	AIT	QT	1
	052-245-1092	Produce a Key Terrain Product Manually	AIT	QT	1
3. Geographic Information System (GIS) Operations	171-145-0001	Prepare/Send Combat Messages Using FBCB2	UNIT	QT	1-2
	171-145-0002	Prepare Force XXI Battle Command Brigade and Below (FBCB2) for Operation	UNIT	QT	1-2
	171-145-0006	Perform Message Management Using FBCB2	UNIT	QT	1-2
	171-145-0007	Prepare/Send Overlays Using FBCB2	UNIT	QT	1-2
	171-145-0008	Prepare/Send Reports Using FBCB2	UNIT	QT	1-2

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	171-145-0011	Perform Operator Maintenance on FBCB2	UNIT	QT	1-2
	171-145-0012	Perform Shut-Down Procedures for FBCB2	UNIT	QT	1-2
	052-245-1033	Prepare a Digital Topographic Support System-Heavy (DTSS-H) for Movement	AIT	MO	1-2
	052-245-1034	Prepare a Digital Topographic Support System-Heavy (DTSS-H) for Operation	UNIT	MO	1-2
	052-245-1036	Perform Preventive-Maintenance Checks and Services (PMCS) on Digital Topographic Support System (DTSS) Equipment	AIT	MO	1
	052-245-1047	Prepare a Digital Topographic Support System-Light (DTSS-L) for Operation	UNIT	MO	1
	052-245-1048	Prepare a Digital Topographic Support System-Deployable (DTSS-D) for Operation	UNIT	MO	1
	052-245-1049	Prepare a Digital Topographic Support System-Light (DTSS-L) for Movement	UNIT	MO	1
	052-245-1050	Prepare a Digital Topographic Support System-Deployable (DTSS-D) for Movement	UNIT	MO	1
	052-245-1078	Operate the Digital Topographic Support System-Heavy (DTSS-H) in a Degraded Mode	AIT	SA	1-2
	052-245-1079	Operate the Digital Topographic Support System-Light (DTSS-L) in a Degraded Mode	AIT	SA	1-2
	052-245-1080	Operate the Digital Topographic Support System-Deployable (DTSS-D) in a Degraded Mode	AIT	SA	1-2
	052-245-1083	Establish Digital Topographic Support System (DTSS) With an Army Battle Command System (ABCS)	AIT	QT	1-2
	052-245-1094	Establish File Directories and Paths	UNIT	QT	1
4. Database Management	052-245-1038	Import Geospatial Information Data	AIT	QT	1
	052-245-1039	Export Geospatial Information Data	AIT	BM	1
	052-245-1076	Install Data on a Map Server	AIT	QT	1
	052-245-1077	Integrate Geospatial Information (GI) Into the Common Operational Picture	AIT	QT	1-2
	052-245-1085	Create a Database Using the Digital Topographic Support System-Base (DTSS-B)	UNIT	QT	1-2
	052-245-1086	Update a Database Using the Digital	UNIT	QT	1-2

CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
		Topographic Support System-Base (DTSS-B)			
	052-245-1087	Disseminate a Database Using the Digital Topographic Support System-Base (DTSS-B)	UNIT	QT	1-2
	052-245-1093	Establish a Geospatial Information (GI) Database	UNIT	QT	1

CHAPTER 3

MOS/Skill Level Tasks

Skill Level 1

Subject Area 1: Data Collection

Extract Essential Elements of Geospatial Information (GI) (Surface Materials)

052-245-1002

Conditions: You are given a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-291-10, a database, table(s) of organization and equipment (TOE), and a mission directive.

Standards: Perform the task indoors under good lighting conditions. Produce an on-screen finalized digital-overlay product with all the requirements annotated as per the mission directive.

Performance Steps

1. Determine the requirements.

2. Collect the data sources.

NOTE: The following steps assume that the soldier is at the Combat Terrain Information System (CTIS) window on their workstation.

3. Create a project file.

4. Create a new product.

- a. Enter a name in the SELECT PRODUCT field.
- b. Select the special-purpose product builder (SPPB) in the PRODUCT TYPE field.
- c. Select DATA QUERY in the ANALYSIS TYPE field.
- d. Select the OK button.

5. Create a data query.

- a. Select SETUP from the PRODUCT WORKFLOW window.
- b. Select NEW from the DATA SETUP window.
- c. Enter the query name in the SAVE QUERY AS field.
- d. Select OK.
- e. Select a directory path.
- f. Select a data type.
- g. Highlight the choice in the SELECT WORKPLACE field.
- h. Push the ADD button.
- i. Select the PERFORM PROXIMITY ANALYSIS box (optional).
- j. Select OK.

NOTE: This step applies only to standard linear format (SLF) data sets and not vector product format (VPF) data sets.

- k. Select the BUILD FROM DATA SET from the SLF interim terrain data (ITD) query build method window.
- l. Select OK.

6. Select the parameters.

- a. Select OK in the SUMMARY window.
- b. Select OK in the DATA SET window.
- c. Build a data query.
 - (1) Select a category.

Performance Steps

- (2) Select a database in the SELECTION (OR) field.
- (3) Select a feature query.
- (4) Select a layer for each category.
- (5) Select a feature.
- (6) Select an attribute.
- (7) Select the values for each attribute.
- (8) Select the SET FEATURE query button.
- (9) Select SLIVER PARAMETERS (optional).
- (10) Define the legend for all categories.
- (11) Select the SELECT EXTENT button.
- (12) Define the area of interest.
- (13) Execute the query.

7. Perform a proximity analysis (optional).
8. Create a map footprint.
9. Create a finalized map composition.

Evaluation Preparation: Setup: Provide a digital database for the soldier. Ensure that the database contains enough data to correctly extract all pertinent information as stated in the mission directive.

Brief soldier: Tell the soldier to extract data from the database that is provided and to annotate the extracted data on an overlay.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Determined the requirements.	_____	_____
2. Collected the data sources.	_____	_____
3. Created a project file.	_____	_____
4. Created a new product.	_____	_____
5. Created a data query.	_____	_____
6. Selected the parameters.	_____	_____
7. Performed a proximity analysis (optional).	_____	_____
8. Created a map footprint.	_____	_____
9. Created a final map composition.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-291-10

Related

FM 5-33

TM 5-545

Extract Essential Elements of Geospatial Information (GI) (Bridges)
052-245-1003

Conditions: You are given table(s) of organization and equipment (TOE), database materials, Department of the Army (DA) Form 1249, and a mission directive.

Standards: Extract all applicable items identified on DA Form 1249.

Performance Steps

1. Extract the 8-digit universal transverse Mercator (UTM) location of the bridge.
 2. Extract the bridge type.
 3. Extract the bridge number. If there is no number, assign one.
 4. Extract the military load classification (MLC).
- NOTE: If the MLC has not been determined, delete this performance step.
5. Extract the overall bridge length.
 6. Extract the roadway width.
 7. Extract the number of spans.
 8. Extract the type of construction material of the span(s).
 9. Extract the span length(s).
 10. Extract the overhead clearance.
 11. Extract the under bridge clearance.
 12. Extract the bridge bypass condition and location.
 13. Extract the stringer data.
 - a. Determine the steel stringer data.
 - (1) Include the flange width.
 - (2) Include the flange thickness.
 - (3) Include the web thickness.
 - (4) Include the height.
 - b. Determine the concrete T-beam stringer data.
 - (1) Include the width (total).
 - (2) Include the thickness (top of T).
 - (3) Include the width (bottom of T).
 - (4) Include the height.
 - c. Determine the concrete slab stringer data.
 - (1) Include the width.
 - (2) Include the depth.
 - d. Determine the timber stringer data.
 - (1) Include the width.
 - (2) Include the depth.
 - (3) Include the diameter (if circular).
 - e. Determine the number of stringers per span.
 - f. Determine the number of lateral braces.
- NOTE: If the MLC has been determined, delete this performance step.
14. Extract the deck data.
 - a. Include the type.

Performance Steps

- b. Include the percent of lamination.
- c. Include the depth.
- d. Include the number of layers.

NOTE: If the MLC has been determined, delete this performance step.

Evaluation Preparation: Setup: Provide a complete database for the soldier to extract from. Ensure that the database contains three or more bridges. Provide the soldier with a blank DA Form 1249.

Brief soldier: Tell the soldier to extract bridge data from the database that is provided and to complete a bridge data table.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Extracted the 8-digit UTM location of the bridge.	_____	_____
2. Extracted the bridge type.	_____	_____
3. Extracted the bridge number.	_____	_____
4. Extracted the MLC.	_____	_____
5. Extracted the overall bridge length.	_____	_____
6. Extracted the roadway width.	_____	_____
7. Extracted the number of spans.	_____	_____
8. Extracted the type of construction material of the span(s).	_____	_____
9. Extracted the span length(s).	_____	_____
10. Extracted the overhead clearance.	_____	_____
11. Extracted the under bridge clearance.	_____	_____
12. Extracted the bridge bypass condition and location.	_____	_____
13. Extracted the stringer data.	_____	_____
14. Extracted the deck data.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required
DA FORM 1249

Related
FM 5-33
GTA 05-07-013

Extract Essential Elements of Geospatial Information (GI) (Railroads)
052-245-1004

Conditions: You are given table(s) of organization and equipment (TOE), database materials, a collection checklist (railroads), Department of the Army (DA) Form 1249, and a mission directive.

Standards: Perform the task indoors under good lighting conditions. Extract all applicable items identified on the collection checklist (railroads).

Performance Steps

1. Register the overlay material to the map base and label correctly.
 - a. Register by means of corner ticks or grid intersections, whichever is applicable.
 - b. Label the overlay with the following:
 - (1) The country name and the scale of the base map.
 - (2) The area.
 - (3) The sheet, series, and edition numbers.
 - (4) The overlay title.
 - (5) The analyst's name and organization.
 - (6) The security classification.
2. Extract or delineate the location of the railroad.
3. Extract or delineate the gauge of the railroad.
4. Extract or delineate the type of rail line.
 - a. Identify or delineate all single-track, normal-gauge lines.
 - b. Identify or delineate all multiple-track, normal-gauge lines.
 - c. Identify or delineate all narrow-gauge lines.
 - d. Identify or delineate all broad-gauge lines.
 - e. Identify or delineate all dismantled lines.
5. Extract the number of tracks.
6. Extract or delineate any siding tracks that meet the parameters of $>$ or $=$ to 280 meters.
7. Extract or delineate any passing tracks that meet the parameters of $>$ or $=$ to 280 meters.
8. Extract or delineate the yard data.
 - a. Determine or delineate all classification yards.
 - b. Determine or delineate all service yards.
 - c. Determine or delineate all storage yards.
 - d. Determine or delineate all freight yards.
9. Extract or delineate all station data.
 - a. Extract or delineate all passenger stations.
 - b. Extract or delineate all freight stations.
10. Extract or delineate the railroad bridge data.
 - a. Determine the 8-digit universal transverse Mercator (UTM), and coordinate and annotate DA Form 1249.
 - b. Extract the bridge length, delineate the overlay, and annotate DA Form 1249.
 - c. Extract the overhead clearance, delineate the overlay, and annotate DA Form 1249.
 - d. Annotate DA Form 1249 with the bridge-type data.
11. Record the source data on the overlay.
 - a. Record the map sheet name, number, scale, and edition.
 - b. Record the remote sensed imagery type, the scale, the mission number, the frame(s) number, and the date, if remote-sensed imagery is available and not already done.

Performance Steps

- c. Record the collateral data source and the date according to the database identifier.

Evaluation Preparation: Setup: Provide a database for the soldier to extract from. Ensure that the database contains one or more of each type of feature listed on the collection checklist (railroads).

Brief soldier: Tell the soldier to extract railroad data from the database that is provided and to delineate the extracted data on a working overlay.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base and labeled correctly.	_____	_____
2. Extracted or delineated the location of the railroad.	_____	_____
3. Extracted or delineated the gauge of the railroad.	_____	_____
4. Extracted or delineated the type of the rail line.	_____	_____
5. Extracted the number of tracks.	_____	_____
6. Extracted or delineated any siding tracks that met the parameters of > or = to 280 meters.	_____	_____
7. Extracted or delineated any passing tracks that met the parameters of > or = to 280 meters.	_____	_____
8. Extracted or delineated the yard data.	_____	_____
9. Extracted or delineated all station data.	_____	_____
10. Extracted or delineated the railroad bridge data.	_____	_____
11. Recorded the source data on the overlay.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required
DA FORM 1249

Related
FM 5-33
FM 5-34
FM 55-15

Extract Essential Elements of Geospatial Information (GI) (Roads)
052-245-1005

Conditions: You are given table(s) of organization and equipment (TOE), database materials, a collection checklist (roads), and a mission directive.

Standards: Perform the task indoors under good lighting conditions. Extract all applicable items identified on the collection checklist (roads).

Performance Steps

1. Register the overlay material to the map base and label correctly.
 - a. Register by means of corner ticks or grid intersections, whichever is applicable.
 - b. Label the overlay with the following:
 - (1) The country name and the scale of the base map.
 - (2) The area.
 - (3) The sheet, series, and edition numbers.
 - (4) The overlay title.
 - (5) The analyst's name and organization.
 - (6) The security classification.
2. Extract or annotate the route classification.
 - a. Determine or annotate the route name and number, if known.
 - b. Determine or annotate the country.
3. Extract or annotate the road classification.
 - a. Extract or annotate all-weather, dual highways.
 - b. Extract or annotate all-weather, hard-surface roads.
 - c. Extract or annotate all-weather, loose-surface roads.
 - d. Extract or annotate fair-weather, loose-surface roads.
 - e. Extract or annotate cart tracks.
4. Extract or annotate the traveled-way width.
5. Extract or annotate the gradient data.
 - a. Extract or annotate all grades $\geq$ 5 percent but $<$ 7 percent.
 - b. Extract or annotate all grades $\geq$ 7 percent but $<$ 10 percent.
 - c. Extract or annotate all grades $\geq$ 10 percent but $<$ 14 percent.
 - d. Extract or annotate all grades $\geq$ 14 percent.
6. Extract or annotate sharp-curves data.
 - a. Measure or annotate all sharp curves with a radius $\leq$ 30 meters.

NOTE: The method for determining the radius of a curve is based on following formula:

$$R = \frac{c^2}{8m} + \frac{m}{2}$$

c = length of cord

m = perpendicular distance from the center of cord to the centerline (C/L) of road

r = radius of the circle

- b. Extract or annotate any series of sharp curves.

7. Extract or annotate the type of surface material.
8. Extract or annotate the features that are under construction.
 - a. Identify or annotate the type of features under construction.
 - b. Identify or annotate limiting data.
9. Extract or annotate constrictions.
 - a. Extract or annotate the width and beginning of the constriction.

Performance Steps

- b. Extract or annotate the length and end of the constriction.
10. Extract or annotate the ford data.
 - a. Extract or annotate the ford location.
 - b. Extract or annotate the ford access or egress difficulty.
11. Extract or annotate the ferry location and alignment.
12. Extract or annotate the grade crossing.
 - a. Extract or annotate the grade-crossing location.
 - b. Extract or annotate the overhead clearance.
13. Annotate the source data and the date on the working overlay.

Evaluation Preparation: Setup: Provide a database for the soldier to extract from. Ensure that the database contains one or more of each type of feature listed on the collection checklist (roads).

Brief soldier: Tell the soldier to extract road data from the database that is provided and to annotate the data on a working overlay.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base and labeled correctly.	_____	_____
2. Extracted or annotated the route classification.	_____	_____
3. Extracted or annotated the road classification.	_____	_____
4. Extracted or annotated the traveled-way width.	_____	_____
5. Extracted or annotated the gradient data.	_____	_____
6. Extracted or annotated sharp-curves data.	_____	_____
7. Extracted or annotated the type of surface material.	_____	_____
8. Extracted or annotated the features that were under construction.	_____	_____
9. Extracted or annotated constrictions.	_____	_____
10. Extracted or annotated the ford data.	_____	_____
11. Extracted or annotated the ferry location and alignment.	_____	_____
12. Extracted or annotated the grade crossing.	_____	_____
13. Annotated the source data and the date on the working overlay.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

Related

FM 5-170
FM 5-430-00-1

Extract Essential Elements of Geospatial Information (GI) (Tunnels)
052-245-1006

Conditions: You are given table(s) of organization and equipment (TOE), database materials, Department of the Army (DA) Form 1250, and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Extract all applicable items identified on DA Form 1250.

Performance Steps

1. Register the overlay material to the map base and label correctly.
 - a. Register by means of corner ticks or grid intersections, whichever is applicable.
 - b. Label the overlay with the following:
 - (1) The country name and the scale of the base map.
 - (2) The area.
 - (3) The sheet, series, and edition numbers.
 - (4) The overlay title.
 - (5) The analyst's name and organization.
 - (6) The security classification.
2. Extract or annotate the identification data.
 - a. Extract or annotate the route name or number.
 - b. Determine or annotate the initial and terminal points with an 8-digit universal transverse Mercator (UTM) coordinate.
 - c. Extract or annotate the date/time block.
 - d. Extract or annotate the map series number.
 - e. Extract or annotate the map sheet number.
 - f. Extract or annotate the grid reference block.
 - (1) Extract or annotate the map scale.
 - (2) Extract or annotate the grid type.
 - (3) Extract or annotate the center of mass of the tunnel.
 - g. Extract or annotate the tunnel number.
 - h. Extract or annotate the location from the nearest town block.
 - i. Extract or annotate the type of material that the tunnel is going through.
 - j. Extract or annotate the mountain or water feature name.
3. Extract or annotate the dimension data.
 - a. Extract or annotate the portal-to-portal length of the tunnel.
 - b. Extract or annotate the number of tracks, if applicable.
 - c. Extract or annotate the roadway width.
 - d. Extract or annotate the vertical and horizontal clearance.
 - e. Extract or annotate the percent of grade.
 - f. Extract or annotate the alignment.
4. Extract or annotate the specification data.
 - a. Extract or annotate the lining material.
 - b. Determine or annotate the portals material.
5. Extract or annotate the special considerations.
 - a. Extract or annotate the year completed.
 - b. Extract or annotate the condition.
 - c. Extract or annotate the bypass ability.
 - d. Extract or annotate the alternate crossing.
 - e. Extract or annotate the bypass ability and the gradient of approaches.
 - f. Extract or annotate the in-tunnel restrictions.

Performance Steps

6. Fill out the remarks block with any pertinent data.

Evaluation Preparation: Setup: Provide a database for the soldier. Ensure that the database contains one or more of each type of feature listed on DA Form 1250. Provide the soldier with a blank DA Form 1250.

Brief soldier: Tell the soldier to extract tunnel data from the database that is provided and to annotate the extracted data on a working overlay and DA Form 1250.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base and labeled correctly.	_____	_____
2. Extracted or annotated the identification data.	_____	_____
3. Extracted or annotated the dimension data.	_____	_____
4. Extracted or annotated the specification data.	_____	_____
5. Extracted or annotated the special considerations.	_____	_____
6. Filled out the remarks block with any pertinent data.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required
DA FORM 1250

Related
FM 5-170
FM 5-430-00-1

Extract Essential Elements of Geospatial Information (GI) (Surface Drainage)
052-245-1007

Conditions: You are given table(s) of organization and equipment (TOE), Field Manual (FM) 5-33, database materials, and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Extract all applicable items that are identified.

Performance Steps

1. Register the overlay material to the map base and label correctly.
 - a. Register by means of corner ticks or grid intersections, whichever is applicable.
 - b. Label the overlay with the following:
 - (1) The country name and the scale of the base map.
 - (2) The area.
 - (3) The sheet, series, and edition numbers.
 - (4) The overlay title.
 - (5) The analyst's name and organization.
 - (6) The security classification.
2. Extract the offshore island data.
3. Extract the large-river data.
4. Extract the lake data.
5. Extract the data on small lakes, ponds, and reservoirs.
6. Extract the data on streams, canals, channelized streams, and ditches.
7. Extract the off-route ford data.
8. Extract the data on dams.
9. Extract the length and width of the locks.
10. Determine the surface drainage category code.
11. Annotate the source data and the source data date.

Evaluation Preparation: Setup: Provide a database for the soldier. Ensure that the database contains one or more of each type of feature listed by the mission directive.

Brief soldier: Tell the soldier to extract surface drainage data from the database that is provided and to annotate the extracted data on a working overlay.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base and labeled correctly.	_____	_____
2. Extracted the offshore island data.	_____	_____
3. Extracted the large-river data.	_____	_____
4. Extracted the lake data.	_____	_____
5. Extracted the data on small lakes, ponds, and reservoirs.	_____	_____
6. Extracted the data on streams, canals, channelized streams, and ditches.	_____	_____

Performance Measures	<u>GO</u>	<u>NO GO</u>
7. Extracted the off-route ford data.	_____	_____
8. Extracted the data on dams.	_____	_____
9. Extracted the length and width of the locks.	_____	_____
10. Determined the surface drainage category code.	_____	_____
11. Annotated the source data and the source data date.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

FM 5-33

Related

Extract Essential Elements of Geospatial Information (GI) (Airfields)
052-245-1008

Conditions: You are given table(s) of organization and equipment (TOE), database materials, a collection checklist (airfields), and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Extract all applicable items identified on the collection checklist (airfields).

Performance Steps

1. Register the overlay material to the map base and label correctly.
 - a. Register by means of corner ticks or grid intersections, whichever is applicable.
 - b. Label the overlay with the following:
 - (1) The country name and the scale of the base map.
 - (2) The area.
 - (3) The sheet, series, and edition numbers.
 - (4) The overlay title.
 - (5) The analyst's name and organization.
 - (6) The security classification.
 2. Extract or annotate the identification data.
 - a. Extract or annotate the commercial identification, if known.
 - b. Extract or annotate military, civilian, or combination of both uses.
 - c. Determine or annotate the location.
 - (1) Determine or annotate the 6-digit universal transverse Mercator (UTM) coordinate to the center of mass of runway(s).
 - (2) Extract or annotate the city.
 - (3) Extract or annotate the state.
 - (4) Extract or annotate the country.
 - (5) Extract or annotate the geographic location.
 3. Extract or annotate the runway data.
 - a. Extract or annotate the number of runways.
 - b. Extract or annotate the length of the runway(s) (in meters).
 - c. Extract or annotate the width of the runway(s).
 - d. Extract or annotate the runway orientation.
 - e. Extract or annotate whether the runway is paved or unpaved.
 - f. Extract or annotate the type of surface materials of the runway.
 - g. Extract or annotate the elevation of the runway (in meters).
- NOTE: Include the datum from which measured.
4. Extract or annotate the facility data.
 - a. Extract or annotate the descriptive information, to include any capacity, location, and current activity of the maintenance facilities.
 - b. Extract or annotate the descriptive information, to include any activity of the administrative facilities.
 - c. Extract or annotate the descriptive information, to include any activity of petroleum, oils, and lubricants (POL) storage facilities.
 - d. Extract or annotate the descriptive information, to include any activity on ammunition storage facilities.
 - e. Extract or annotate any military or defensive weapon systems.
 5. Draw a site layout.

Evaluation Preparation: Setup: Provide a database for the soldier. Ensure that the database contains one or more of each type of feature listed on the collection checklist (airfields).

Brief soldier: Tell the soldier to extract airfield data from the database that is provided and to annotate the extracted data on a working overlay.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base and labeled correctly.	_____	_____
2. Extracted or annotated the identification data.	_____	_____
3. Extracted or annotated the runway data.	_____	_____
4. Extracted or annotated the facility data.	_____	_____
5. Drew a site layout.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References
Required

Related
FM 5-430-00-1

Extract Essential Elements of Geospatial Information (GI) (Existing Linear Obstacles)
052-245-1009

Conditions: You are given table(s) of organization and equipment (TOE), database materials, Field Manual (FM) 5-33, and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Extract all obstacles whose actual ground measurements are $>$ or $=$ to 1.5 meters in height and $>$ or $=$ to 250 meters in length.

Performance Steps

1. Register the overlay material to the map base and label correctly.
 - a. Register by means of corner ticks or grid intersections, whichever is applicable.
 - b. Label the overlay with the following:
 - (1) The country name and the scale of the base map.
 - (2) The area.
 - (3) The sheet, series, and edition numbers.
 - (4) The overlay title.
 - (5) The analyst's name and organization.
 - (6) The security classification.
2. Scan the database for linear obstacles.
3. Determine the type of obstacle according to the typology.
4. Extract the obstacle length and determine if the obstacle length meets the parameters.
 NOTE: If the obstacle length does not meet the parameters, go back to step 2. If the obstacle length meets the parameters, go to step 5.
5. Extract the obstacle height and determine if the obstacle height meets the parameters.
 NOTE: If the obstacle height does not meet the parameters, go back to step 2. If the obstacle height meets the parameters, go to step 6.
6. Extract the obstacle location from the database.
7. Annotate the working overlay with the correct symbol.
8. Annotate the working overlay with the source data and the source data date.

Evaluation Preparation: Setup: Provide a database for the soldier. Ensure that the database contains one or more of each type of linear obstacle.

Brief soldier: Tell the soldier to extract existing linear obstacle data from the database that is provided. Tell him to only extract and identify obstacles that are $>$ or $=$ to 1.5 meters ground height and $>$ or $=$ to 250 meters ground length. Tell him to annotate the extracted data on a working overlay.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base and the labeled correctly.	_____	_____
2. Scanned the database for linear obstacles.	_____	_____
3. Determined the type of obstacle according to the typology.	_____	_____
4. Extracted the obstacle length and determined if the obstacle length met the parameters.	_____	_____
5. Extracted the obstacle height and determined if the obstacle height met the parameters.	_____	_____

Performance Measures

	<u>GO</u>	<u>NO GO</u>
6. Extracted the obstacle location from the database.	_____	_____
7. Annotated the working overlay with the correct symbol.	_____	_____
8. Annotated the working overlay with the source data and the source data date.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required
FM 5-33

Related

Extract Essential Elements of Geospatial Information (GI) (Vegetation)
052-245-1010

Conditions: You are given table(s) of organization and equipment (TOE), database materials, Field Manual (FM) 5-33, and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Extract all vegetation data as required.

Performance Steps

1. Register the overlay material to the map base and label correctly.
 - a. Register by means of corner ticks or grid intersections, whichever is applicable.
 - b. Label the overlay with the following:
 - (1) The country name and the scale of the base map.
 - (2) The area.
 - (3) The sheet, series, and edition numbers.
 - (4) The overlay title.
 - (5) The analyst's name and organization.
 - (6) The security classification.
2. Extract or annotate the canopy closure.
3. Extract or annotate the undergrowth category.
4. Extract or annotate the vegetation height category.
5. Extract or annotate the vegetation roughness factors.
6. Extract or annotate the stem diameter.
7. Extract or annotate the stem spacing.
8. Fill out the vegetation data table.
9. Extract or annotate other vegetation feature(s) that are of military significance.

Evaluation Preparation: Setup: Provide a database for the soldier. Ensure that the database contains one or more of each type of feature listed. Provide the soldier with a blank vegetation data table.

Brief soldier: Tell the soldier to extract vegetation data from the database that is provided and to annotate the extracted data on a vegetation data table.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base and the labeled correctly.	—	—
2. Extracted or annotated the canopy closure.	—	—
3. Extracted or annotated the undergrowth category.	—	—
4. Extracted or annotated the vegetation height category.	—	—
5. Extracted or annotated the vegetation roughness factors.	—	—
6. Extracted or annotated the stem diameter.	—	—
7. Extracted or annotated the stem spacing.	—	—
8. Filled out the vegetation data table.	—	—

Performance Measures

GO

NO GO

9. Extracted or annotated other vegetation feature(s) that were of military significance.

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

FM 5-33

Related

Extract Essential Elements of Geospatial Information (GI) (Navigable Inland Waterways)
052-245-1014

Conditions: You are given table(s) of organization and equipment (TOE), Field Manual (FM) 5-33, database materials, and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Extract all applicable items.

Performance Steps

1. Extract or annotate the type of waterways or facilities according to the surface drainage code.
2. Extract or annotate the type of crossing feature.
 - a. Include bridges.
 - b. Include cable or tramways.
 - c. Include tunnels.
 - d. Include pipelines.
 - e. Include fords.
 - f. Include ferries.
3. Extract or annotate the 6-digit universal transverse Mercator (UTM) coordinate of the feature extracted in step 2 above.
4. Extract or annotate the data on locks.
 - a. Include the location.
 - b. Include the length.
 - c. Include the width.
5. Extract or annotate the data on ship lifts.
 - a. Include the location.
 - b. Include the length.
 - c. Include the width.
 - d. Include the maximum vessel accommodation size.
6. Extract or annotate the data on incline planes.
 - a. Include the location.
 - b. Include the length.
 - c. Include the width.
 - d. Include the maximum vessel accommodation size.
7. Extract or annotate the channel obstruction data.
 - a. Include the type.
 - b. Include the UTM coordinates.
 - c. Include the size data (length, width, and height).
8. Extract or annotate the data on passing basins.
 - a. Include the length.
 - b. Include the width.
 - c. Include the depth.
 - d. Include the location.
9. Extract or annotate the data on anchorages.
 - a. Include the length.
 - b. Include the width.
 - c. Include the depth.
 - d. Include the location.
10. Extract or annotate the data on jetties and groins.

Performance Steps

- a. Include the length.
- b. Include the width.
- c. Include the location.

11. Extract or annotate the location of pumping stations.
12. Extract or annotate data on navigational aids.
 - a. Include the location.
 - b. Include the type.
13. Extract or annotate the data on repair or maintenance facilities.
 - a. Include the type.
 - b. Include the location.
 - c. Include the size limits.
14. Extract or annotate the data on loading or unloading facilities.
 - a. Include the type.
 - b. Include the location.

NOTE: Performance steps 4 through 14 data may not be available from the database. If not, omit the applicable performance step.

15. Record the source data and the date.

Evaluation Preparation: Setup: Provide a database for the soldier to extract navigable inland waterways and facilities data. Ensure that the database contains one or more of each type of feature listed. (See performance steps 4 through 14.)

Brief soldier: Tell the soldier to extract navigable inland waterways and facilities data from the database that is provided and to annotate the extracted data on the data cards for later use.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Extracted or annotated the type of waterways or facilities according to the surface drainage code.	—	—
2. Extracted or annotated the type of crossing feature.	—	—
3. Extracted or annotated the 6-digit UTM coordinate of the feature extracted in step 2 above.	—	—
4. Extracted or annotated the data on locks.	—	—
5. Extracted or annotated the data on ship lifts.	—	—
6. Extracted or annotated the data on incline planes.	—	—
7. Extracted or annotated the channel obstruction data.	—	—
8. Extracted or annotated the data on passing basins.	—	—
9. Extracted or annotated the data on anchorages.	—	—
10. Extracted or annotated the data on jetties and groins.	—	—
11. Extracted or annotated the location of pumping stations.	—	—
12. Extracted or annotated the data on navigational aids.	—	—
13. Extracted or annotated the data on repair or maintenance facilities.	—	—
14. Extracted or annotated the data on loading or unloading facilities.	—	—

Performance Measures**GO****NO GO**

15. Recorded the source data and the date.

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required**

FM 5-33

Related

Extract Features from Hard Copy Remote Sensing Imagery (RSI)

052-245-1040

Conditions: As a geospatial analyst, given a Geographic Information System (GIS), Field Manual (FM) 5-33, appropriate software, an RSI database, and table(s) of organization and equipment (TOE), and a mission directive.

Standards: Produce an on-screen finalized digital overlay product with all the requirements annotated as per the mission directive.

Performance Steps

1. Select FILTER from the operations menu.
2. Specify the map layer from the MAP drop-down list.
3. Select the DIAGONAL DIFFERENCE filter.
 - a. Select the surface map.
 - b. Determine the kernel.
 - c. Select FILTER.
 - (1) Determine the horizontal difference.
 - (2) Determine the vertical difference.
 - (3) Determine the diagonal difference.
4. Remove the linear feature(s).
 - a. Point to the OPERATION menu.
 - b. Select FILTER.
 - c. Point to the MAP drop-down list.
 - d. Select the HORIZONTAL DIFFERENCE filter, and then select OK.

NOTE: Return to the FILTER dialog box two more times to execute the FILTER VERTICAL and DIAGONAL operations.

5. Save the changes.

Evaluation Preparation: Setup: Provide a digital database and Earth Resources Data Analysis System (ERDAS) software for the soldier. Ensure that the database contains enough data to correctly extract all the pertinent information as stated in the mission directive.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Selected FILTER from the operations menu.	—	—
2. Specified the map layer from the MAP drop-down list.	—	—
3. Selected the DIAGONAL DIFFERENCE filter.	—	—
4. Removed the linear feature(s).	—	—
5. Saved the changes.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required
FM 5-33

Related

Extract Essential Elements of Geospatial Information (GI) (Surface Configuration)
052-245-1071

Conditions: As a topographic analyst, given a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-291-10, a database, table(s) of organization and equipment (TOE), and a mission directive.

Standards: Produce an on-screen finalized digital overlay product with all the requirements annotated as per the mission directive.

Performance Steps

1. Determine the requirements.
2. Collect the data sources.
3. Create a new project.
4. Create a new product.
5. Create a data query.
6. Select parameters.
 - a. Select OK in the SUMMARY window.
 - b. Select OK in the DATA SET window.
 - c. Build a data query.
7. Perform a proximity analysis (optional).
8. Create a map footprint.
9. Create a finalized map composition.

Evaluation Preparation: Setup: Provide a digital database for the soldier. Ensure that the database contains enough data to correctly extract all pertinent information as stated in the mission directive.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Determined the requirements.	_____	_____
2. Collected the data sources.	_____	_____
3. Created a new project.	_____	_____
4. Created a new product.	_____	_____
5. Created a data query.	_____	_____
6. Selected parameters.	_____	_____
7. Performed a proximity analysis (optional).	_____	_____
8. Created a map footprint.	_____	_____
9. Created a finalized map composition.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

STP 5-81T1-SM

References

Required

TB 11-6675-291-10

Related

FM 5-33

Subject Area 2: Geospatial Information (GI) Analysis and Production

Produce a Combined-Obstacles Product Digitally**052-245-1016**

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-294-10, and a mission directive.

Standards: Produce an on-screen finalized overlay product with all the requirements from the mission directive.

Performance Steps

1. Determine the requirements from the mission directive.
2. Collect all the data sources.
3. Extract the vegetation data.
4. Extract the surface configuration data.
5. Extract the surface material data.
6. Extract the obstacle data.
7. Extract the surface drainage data.
8. Evaluate areas with transportation data to determine if some areas can be upgraded because of a suitable road network.
9. Construct a final overlay by combining all the extracted data.

Evaluation Preparation: Setup: Provide a DTSS with a GIS, the appropriate software, TB 11-6675-294-10, a mission directive, and a digital database for the soldier that contains enough data to produce the product.

Brief soldier: Tell the soldier to produce a combined obstacles overlay from the sources provided and display it on the monitor.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Determined the requirements from the mission directive.	_____	_____
2. Collected all the data sources.	_____	_____
3. Extracted the vegetation data.	_____	_____
4. Extracted the surface configuration data.	_____	_____
5. Extracted the surface material data.	_____	_____
6. Extracted the obstacle data.	_____	_____
7. Extracted the surface drainage data.	_____	_____
8. Evaluated areas with transportation data to determine if some areas could be upgraded because of a suitable road network.	_____	_____
9. Constructed a final overlay by combining all the extracted data.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-294-10

Related

TB 11-6675-291-10

TM 11-6675-295-10

Produce a Concealment Overlay Product Digitally
052-245-1017

Conditions: You are given table(s) of organization and equipment (TOE), collected and/or extracted essential elements of terrain information (EETI) data (vegetation), a map, and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Depict aerial detection in four percentage categories: 0 to 25, 25 to 50, 50 to 75, and 75 to 100 or according to the mission directive. Draw the overlay in ink. Ensure that line weights are according to the mission directive.

Performance Steps

1. Select the TERRAIN button on the imagine toolbar.
2. Select or add a project, and then select OK.
3. Select the SPECIAL PRODUCT BUILDER (SPPB) button.
4. Select the DATA QUERY button.
5. Select the NEW QUERY button.
6. Type the name of the query (example: slfitd_concealment_summer), and then select OK.
7. Select the MIL SPEC button, and then select OK.
8. Select the ADD CATEGORY button.
9. Select SLF ITD, and then select OK.
10. Navigate by using the arrow (at the top) or type in the location of the data sets. Select OK.
11. Display the results on the viewer window.

Evaluation Preparation: Setup: Provide the soldier with collected vegetation data and/or a vegetation factor overlay (see note below), a base map, a remote sensed imagery (of appropriate scale) covering the area of interest, and blank overlay material.

Brief soldier: Tell the soldier to prepare a concealment overlay using the data provided. Tell him to delineate and label the percentage categories.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Selected the TERRAIN button on the imagine toolbar.	—	—
2. Selected or added a project, and then selected OK.	—	—
3. Selected the SPECIAL PRODUCT BUILDER (SPPB) button.	—	—
4. Selected the DATA QUERY button.	—	—
5. Selected the NEW QUERY button.	—	—
6. Typed the name of the query (example: slfitd_concealment_summer), and then selected OK.	—	—
7. Selected the MIL SPEC button, and then selected OK.	—	—
8. Selected the ADD CATEGORY button.	—	—
9. Selected SLF ITD, and then selected OK.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
10. Navigated by using the arrow (at the top) or typed in the location of the data sets. Selected OK.	_____	_____
11. Displayed the results on the viewer window.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References
Required

Related
FM 5-33

Produce a River Crossing Product Digitally
052-245-1018

Conditions: You are given table(s) of organization and equipment (TOE), collected and/or extracted essential elements of terrain information (EETI) data (drainage), a map, and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Use aerial detection according to the mission directive. Draw the overlay in ink. Ensure that the line weights are according to the mission directive.

Performance Steps

1. Select ANALYSIS/TACTICAL DECISION AIDS (TDA) in and Earth Resources Data Analysis System (ERDAS) imagine.
 2. Create a new product.
 3. Select MOBILITY in the product type field and GAP CROSSING in the analysis type field.
 4. Select the SETUP button on the product work flow window.
- NOTE: From this window you can select an existing data set for use, create a new data set, or delete a data set.
5. Select the existing data set.
 6. Select a parameter.
 7. Make entries on the parameter specification window.
 - a. Determine the historical rain information.
 - b. Determine the water level.
 - c. Select either dry or icy surface condition.
 - d. Select either slippery or normal condition.
 - e. Select yes or no to indicate the presence or absence of snow.
 - f. Select the vehicle to use.
 8. Create a footprint.
 9. Select FINALIZE on the PRODUCT WORK FLOW window.
 10. Select SCALE, select MAP TO WINDOW, and view the entire map image.
 11. Save the map composition from the file menu on the map composer window.

Evaluation Preparation: Setup: Provide the soldier with collected hydrology data and/or a drainage factor overlay, a base map, remote sensed imagery (of appropriate scale) covering the area of interest, and blank overlay material.

Brief soldier: Tell the soldier to prepare a river crossing overlay (aerial detection) using the data provided.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Selected ANALYSIS/TDA in an ERDAS imagine.	_____	_____
2. Created a new product.	_____	_____
3. Selected MOBILITY in the product type field and GAP CROSSING in the analysis type field.	_____	_____
4. Selected the SETUP button on the product work flow window.	_____	_____

Performance Measures	<u>GO</u>	<u>NO GO</u>
5. Selected the existing data set.	_____	_____
6. Selected a parameter.	_____	_____
7. Made entries on the parameter specification window.	_____	_____
8. Created a footprint.	_____	_____
9. Selected FINALIZE on the PRODUCT WORK FLOW window.	_____	_____
10. Selected SCALE, selected MAP TO WINDOW, and viewed the entire map image.	_____	_____
11. Saved the map composition from the file menu on the map composer window.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

Related

FM 5-33

FM 90-13

TB 11-6675-291-10

Produce a Lines-of-Communication (LOC) Product Digitally

052-245-1019

Conditions: You are given collected and/or preanalyzed essential elements of terrain information (EETI) data (drainage, roads, routes, bridges, airfields, railroads, and telecommunications), a map, a remote sensed imagery, table(s) of organization and equipment (TOE), and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Annotate all applicable collected and/or preanalyzed data correctly on the overlay. Draw the overlay in ink. Ensure that line weights are according to the mission directive.

Performance Steps

1. Register the overlay material to the map base and label correctly.
 - a. Register by means of corner ticks or grid intersections, whichever is applicable.
 - b. Label the overlay.
 - (1) Include the country name and the scale of the base map.
 - (2) Include the area.
 - (3) Include the sheet, series, and edition numbers.
 - (4) Include the overlay title.
 - (5) Include the analyst's name and organization.
 - (6) Include the security classification.
2. Trace all primary roads identified in the mission directive on the overlay. Use collected road data to verify.
3. Trace all secondary roads identified in the mission directive on the overlay. Use collected road data to verify.
4. Trace all major rail lines identified in the mission directive on the overlay. Use collected railroad data to verify.
5. Trace the navigable inland waterways identified in mission directive on the overlay. Use collected navigable inland waterways data to verify.
6. Trace the major wire transmission lines identified in the mission directive on the overlay. Use telecommunications data to verify.
7. Annotate the antenna fields identified in the mission directive on the overlay. Delineate and label.
8. Prepare the LOC overlay legend.
9. Perform a self-edit on the LOC overlay.

Evaluation Preparation: Setup: Provide the soldier with database materials (to include EETI on drainage, roads, railroads, routes, bridges, airfields, and telecommunications), a base map, a remote sensed imagery (of appropriate scale) covering the area of interest, and blank overlay material.

Brief soldier: Tell the soldier to prepare an LOC overlay using the data provided. Tell him to annotate the overlay with the symbols according to specifications.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base and labeled correctly.	—	—
2. Traced all primary roads identified in the mission directive on the overlay. Used collected road data to verify.	—	—

Performance Measures	<u>GO</u>	<u>NO GO</u>
3. Traced all secondary roads identified in the mission directive on the overlay. Used collected road data to verify.	——	——
4. Traced all major rail lines identified in the mission directive on the overlay. Used collected railroad data to verify.	——	——
5. Traced the navigable inland waterways identified in the mission directive on the overlay. Used collected navigable inland waterways data to verify.	——	——
6. Traced the major wire transmission lines identified in the mission directive on the overlay. Used telecommunications data to verify.	——	——
7. Annotated the antenna fields identified in the mission directive on the overlay. Delineated and labeled.	——	——
8. Prepared the LOC overlay legend.	——	——
9. Performed a self-edit on the LOC overlay.	——	——

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

Related

TB 11-6675-291-10

TB 11-6675-294-10

Produce Area Landing Zone (ALZ) Product
052-245-1022

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-294-10, a database, table(s) of organization and equipment (TOE), and a mission directive.

Standards: Correctly annotate ALZs that meet the mission objective. Produce a finalized on-screen map showing 100 percent of the covered area per the mission directive.

Performance Steps

1. Determine the objective(s).
2. Determine the general area of operations.
3. Determine the type and size of the ALZ.
4. Obtain the source material.
5. Determine and mark out NO-GO areas.
 - a. Check for undissected areas.
 - b. Ensure that there is less than 10 percent slope.
 - c. Ensure that there are no obstacles within the glide angle.
 - d. Be oriented with the prevailing winds.
 - e. Check for suitable surface materials and surface roughness.
6. Analyze the remaining unmarked open area for potential sites.
7. Produce a final digital map product.

Evaluation Preparation: Setup: Provide a digital and hard copy database for the soldier and a mission directive. Ensure that the mission directive contains (as a minimum) the bounding area, objective(s), the enemy situation, and any other special requirements.

Brief soldier: Tell the soldier to produce an ALZ product according to mission directive. Tell him to display the final digital product on the monitor.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Determined the objective(s).	—	—
2. Determined the general area of operations.	—	—
3. Determined the type and size of the ALZ.	—	—
4. Obtained the source material.	—	—
5. Determined and marked out the NO-GO areas.	—	—
6. Analyzed the remaining unmarked open area for potential sites.	—	—
7. Produced a final digital map product.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

STP 5-81T1-SM

References

Required

TB 11-6675-294-10

Related

FM 3-21.38

FM 3-25.26

FM 5-170

FM 90-4

TM 5-545

Produce Helicopter Landing Zone (HLZ) Product
052-245-1023

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-294-10, a database, table(s) of organization and equipment (TOE), and a mission directive.

Standards: Annotate the HLZs that meet the mission objective. Produce a finalized on-screen map showing 100 percent of the covered area per the mission directive.

Performance Steps

1. Determine the objective(s).
2. Determine the general area of operations.
3. Determine the type of HLZ.
 - a. Determine the landing point for one helicopter.
 - b. Determine the landing zone for more than one helicopter.
 - c. Determine the landing site for more than one helicopter landing zone.
4. Determine the type of helicopter for the mission.
5. Obtain source material.
6. Determine and mark out NO-GO areas for the type of helicopter.
 - a. Check for built-up areas.
 - b. Check for vegetation categories that contain trees, brush, crops, or underbrush.
 - c. Check for agricultural areas that contain bamboo, rice fields, and vineyards.
 - d. Check for slope greater than 15 percent.
 - e. Check for nonacceptable soil types.
 - f. Check for approach, departure, and ground obstacles.
7. Locate and mark all existing airfields in the area as potential sites.
8. Analyze the remaining unmarked open area for potential sites.
 - a. Check for undissected areas.
 - b. Check for less than 15 percent slope.
 - c. Check for no vertical or ground obstructions greater than or equal to 18 inches.
 - d. Check for a 10:1 obstacle clearance ratio.
 - e. Ensure that there is no dust, debris, or loose snow.
 - f. Ensure that the soils are stable.
9. Produce a final digital map product.

Evaluation Preparation: Setup: Provide a digital and hard copy database for the soldier and a mission directive. Ensure that the mission directive contains (as a minimum) the bounding area, the objective(s), the enemy situation, and any other special requirements.

Brief soldier: Tell the soldier to produce a HLZ product according to the mission directive. Tell him that he must display the final digital product on the monitor.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Determined the objective(s).	_____	_____
2. Determined the general area of operations.	_____	_____
3. Determined the type of HLZ.	_____	_____

Performance Measures	<u>GO</u>	<u>NO GO</u>
4. Determined the type of helicopter for the mission.	_____	_____
5. Obtained source material.	_____	_____
6. Determined and marked out the NO-GO areas for the type of helicopter.	_____	_____
7. Located and marked all existing airfields in the area as potential sites.	_____	_____
8. Analyzed the remaining open area for potential sites.	_____	_____
9. Produced a final digital map product.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-294-10

Related

FM 3-21.38

FM 3-25.26

FM 5-33

FM 90-4

Produce Drop Zone (DZ) Product
052-245-1024

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-294-10, a database, table(s) of organization and equipment (TOE), and a mission directive.

Standards: Annotate the DZs that meet the mission objective. Produce a finalized on-screen map showing 100 percent of the covered area per the mission directive.

Performance Steps

1. Determine the objective(s).
2. Determine the general area of operations.
3. Determine the type and size of DZ.
4. Obtain source material.
5. Determine and mark out NO-GO areas for the type of DZ.
 - a. Check for built-up areas.
 - b. Check for vegetation categories that contain trees, brush, crops, or underbrush.
 - c. Check agricultural areas that contain bamboo, rice fields, and vineyards.
 - d. Check for slope greater than 30 percent.
 - e. Check for nonacceptable soil types.
 - f. Check for approach, departure, and ground obstacles.
6. Analyze the remaining unmarked open area for potential sites.
 - a. Check for undissected area.
 - b. Check for slopes less than 10 percent, 30 percent for supply drops.
 - c. Check for near lines of communication (LOC).
 - d. Check for entry and exit routes.
 - e. Check for accessible cover and concealment.
 - f. Ensure that there are no obstructions within 1 kilometer.
7. Produce a final digital map product.

Evaluation Preparation: Setup: Provide a digital and hard copy database for the soldier and a mission directive. Ensure that the mission directive contains (as a minimum) the bounding area, the objective(s), the enemy situation, and any other special requirements.

Brief soldier: Tell the soldier to produce a DZ product according to mission directive. Tell him to display the final digital product on the monitor.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Determined the objective(s).	—	—
2. Determined the general area of operations.	—	—
3. Determined the type and size of the DZ.	—	—
4. Obtained source material.	—	—
5. Determined and marked out NO-GO areas for the type of DZ.	—	—
6. Analyzed the remaining unmarked open area for potential sites.	—	—

Performance Measures

GO **NO GO**

7. Produce a final digital map product.

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-294-10

Related

FM 3-21.38

FM 5-33

FM 90-4

Produce a Port Analysis Product

052-245-1025

Conditions: Given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-294-10, a database, and a mission directive.

Standards: Produce a port analysis product according to the mission directive. Produce a finalized on-screen map showing 100 percent of the covered area per the mission directive as either suitable or unsuitable.

Performance Steps

1. Determine the objective(s).
2. Determine the general area of operations.
3. Determine the port size required.
4. Obtain the source material.
5. Analyze the area and mark potential port sites.
 - a. Check for a water depth greater than 2 meters.
 - b. Ensure that there is a minimum length of 30 meters per hatch.
 - c. Ensure that there is an exit route to the main supply route.
 - d. Check for near lines of communication (LOC).
 - e. Ensure that the port is near facilities.
6. Produce a final digital map product.

Evaluation Preparation: Setup: Provide a digital and hard copy database for the soldier and a mission directive. Ensure that the mission directive contains (at a minimum) the bounding area, the objective(s), the enemy situation, and any other special requirements.

Brief soldier: Tell the soldier to produce a port analysis product from the data provided. Tell him to display the final product on the monitor.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Determined the objective(s).	_____	_____
2. Determined the general area of operations.	_____	_____
3. Determined the port size required.	_____	_____
4. Obtained the source material.	_____	_____
5. Analyzed the area and marked potential port sites.	_____	_____
6. Produced a final digital map product.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-294-10

Related

FM 5-33

FM 90-13

TM 11-6675-295-10

Label Interior Features

052-245-1029

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-294-10, a database, and a mission directive.

Standards: Label features on a map as the mission directs. Produce a finalized, on-screen map showing the labels, depending on the type of data being displayed.

Performance Steps

1. Select the LAYOUT VIEW mode in the ArcMap™ program.
2. Click on the desired data frame.
3. Select the properties.
4. Click on the label tab.

Note: While on this tab, check the boxes next to the layers to be labeled. Click the PROPERTIES button on the right side on the window to edit the symbology for any given layer.

5. Determine the identifying layers to label.
6. Click OK.

NOTE: Close the layer properties window, and return to the map in the layout view. Notice the labels that appear on the map.

Evaluation Preparation: Setup: Provide a digital and hard copy database for the soldier and a mission directive. Ensure that the mission directive contains (at a minimum) the bounding area, the objective(s), the enemy situation, and any other special requirements.

Brief soldier: Tell the soldier to label the feature in the database that is provided and display the final product on the monitor.

Performance Measures

1. Selected LAYOUT VIEW mode in the ArcMap program.
2. Clicked on the desired data frame.
3. Selected the properties.
4. Clicked on the label tab.
5. Determined the identifying layers to label.
6. Clicked OK.

GO **NO GO**

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-294-10

Related

Produce a Product Template
052-245-1031

Conditions: You are given a Digital Topographic Support System (DTSS), the appropriate software, and a mission directive.

Standards: Demonstrate proficiency on creating a template that meets the mission objective.

Performance Steps

1. Open the document that is to be made into a template.
2. Choose FILE and then SAVE AS.
3. Select DOCUMENT TEMPLATE (*.dot) from the SAVE AS TYPE drop-down list.
4. Type a descriptive name in the FILE NAME box (such as proposal), and then select SAVE.
5. Ensure that the on-screen document is now a template. Delete all text that will not be appropriate for another product, then on the standard tool bar select SAVE.
6. Choose FILE, and then CLOSE.

Evaluation Preparation: Setup: Provide a DTSS with the appropriate software and a mission directive.

Brief soldier: Tell the soldier to produce a template and display the final product on the monitor.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Opened the document that was to be made into a template.	_____	_____
2. Chose FILE and then SAVE AS.	_____	_____
3. Selected DOCUMENT TEMPLATE (*.dot) from the SAVE AS TYPE drop-down list.	_____	_____
4. Typed a descriptive name in the FILE NAME box (such as proposal), and then selected SAVE.	_____	_____
5. Ensure that the on-screen document is now a template. Deleted all text that would not be appropriate for another product, then on the standard tool bar selected SAVE.	_____	_____
6. Chose FILE, and then CLOSE.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References
Required

Related
 TB 11-6675-291-10
 TB 11-6675-294-10

Scan a Hard Copy Product 052-245-1035

Conditions: You are given the appropriate software, Technical Bulletin (TB) 11-6675-291-10, a database, table(s) of organization and equipment (TOE), and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Demonstrate proficiency by your ability to scan a product. Determine successful completion by viewing the scanned product in a viewer.

Performance Steps

NOTE: This task assumes that the soldier is at the Combat Terrain Information System (CTIS) window on their workstation and the scanner has completed the warm-up time. Use TB 11-6675-291-10 for the substeps required to complete this task.

1. Access the scanner from the DTSS menu bar.
2. Access the scanner software.
3. Set the scanning preferences.
4. Set the paper size.
5. Set the file formats.
6. Set the display properties.
7. Scan the image.

Evaluation Preparation: Setup: Provide hard copy data for the soldier and the appropriate software, TB, a database, and a mission directive.

Brief soldier: Tell the soldier to scan the data from the sources provided.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Accessed the scanner from the DTSS menu bar.	_____	_____
2. Accessed the scanner software.	_____	_____
3. Set the scanning preferences.	_____	_____
4. Set the paper size.	_____	_____
5. Set the file formats.	_____	_____
6. Set the display properties.	_____	_____
7. Scanned the image.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-291-10

Related

Produce a Cross-Country Movement (CCM) Product 052-245-1042

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-291-10, a database, and a mission directive.

Standards: Annotate correctly the CCM that meets the mission objective. Produce a finalized on-screen map showing 100 percent of the covered area per the mission directive.

Performance Steps

1. Open the project at the tactical decision aids (TDA) in IMAGINE.
2. Select PRODUCT.
3. Select NEW.
4. Select the Defense Mapping Agency (DMA) CCM field.
5. Select SLF ITD.
6. Select directories and work space.
7. Determine coverages.
8. Determine the parameter.
9. Determine the speed ranges.
10. Select the surface conditions.
11. Determine the vegetation roughness, the surface roughness, and the slope intercept frequency.
12. Select the footprint and map layout design.
13. Determine the annotation layout.
14. Select the DEFINE frame attributes graphically.
15. Select LAYERS.
16. Save to a directory path.
17. Open the map frame.
18. Select USE ENTIRE SOURCE.
19. Select OK in the custom annotation layout window.
20. Select FINALIZE.

Evaluation Preparation: Setup: Provide a digital and hard copy database for the soldier and a mission directive. Ensure that the mission directive contains (at a minimum) the bounding area, the objective(s), the enemy situation, and any other special requirements.

Brief soldier: Tell the soldier to produce a CCM product from the data provided and display the final product on the monitor.

Performance Measures

1. Opened the project at the TDA in IMAGINE.

GO **NO GO**

Performance Measures	<u>GO</u>	<u>NO GO</u>
2. Selected PRODUCT.	_____	_____
3. Selected NEW.	_____	_____
4. Selected the DMA CCM field.	_____	_____
5. Selected SLF ITD.	_____	_____
6. Selected directories and work space.	_____	_____
7. Determined coverages.	_____	_____
8. Determined the parameter.	_____	_____
9. Determined the speed ranges.	_____	_____
10. Selected the surface conditions.	_____	_____
11. Determined the vegetation roughness, the surface roughness, and the slope intercept frequency.	_____	_____
12. Selected the footprint and map layout design.	_____	_____
13. Determined the annotation layout.	_____	_____
14. Selected the DEFINE frame attributes graphically.	_____	_____
15. Selected LAYERS.	_____	_____
16. Saved to a directory path.	_____	_____
17. Opened the map frame.	_____	_____
18. Selected USE ENTIRE SOURCE.	_____	_____
19. Selected OK in the custom annotation layout window.	_____	_____
20. Selected FINALIZE.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-291-10

Related

Rectify Digital Terrain Data on a Digital Topographic Support System-Base (DTSS-B)
052-245-1043

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-291-10, a database, and a mission directive.

Standards: Rectify digital data correctly to meet the mission objective. Produce a finalized on-screen and hard copy rectify map.

Performance Steps

1. Enter the user parameters into the computer.

NOTE: Parameters include the ground control points and the conjugate photo coordinates, along with the calibrated and scanned reference point coordinates.

2. Perform a mathematical, single-photo space resection to orient the aerial photograph to the earth.

NOTE: Develop a rotation matrix from this fit of the photograph to ground. Apply this matrix to any other ground point, such as the digital elevation model (DEM) values, to find the conjugate camera coordinates.

3. Perform a second mathematical, two-dimensional transformation using the measured line and the sample reference point coordinates of the scanned photograph.

NOTE: A calibrated reference point coordinate is performed. An inverse of this transformation locates the line and a sample of any photo coordinate in the scanned image.

4. Ensure that a progression is made through the DEM from minimum to maximum easting and northing.

NOTE: Resect or apply the rotation matrix of transformation parameters to four adjacent DEM positions to find the photo coordinates. Inverse the photo coordinate values using the two-dimensional transformation constants. This finds the line and sample of the DEM easting, northing, and elevation.

5. Determine the four adjacent DEM easting, northing, and elevation positions from a cell.

6. Determine the current cell's four-corner line and sample positions.

NOTE: This usually has fractional components and can be subdivided by bilinear interpolation to find the line and sample positions. Convert the line and sample positions to whole numbers. Accomplish this by rounding the line and samples to the nearest whole values (nearest neighbor pixel selection).

Evaluation Preparation: Setup: Provide a digital and a hard copy image for the soldier and a mission directive. Ensure that the mission directive contains (at a minimum) the special requirements.

Brief soldier: Tell the soldier to rectify a map and display it on a monitor.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Entered the user parameters into the computer.	—	—
2. Performed a mathematical, single-photo space resection to orient the aerial photograph to the earth.	—	—
3. Performed a second mathematical, two-dimensional transformation using the measured line and the sample reference point coordinates of the scanned photograph.	—	—
4. Ensured that a progression was made through the DEM from minimum to maximum easting and northing.	—	—
5. Determined the four adjacent DEM easting, northing, and elevation positions from a cell.	—	—

Performance Measures

GO

NO GO

6. Determined the current cell's four-corner line and sample positions.

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-291-10

Related

FM 5-33

Mosaic Digital Terrain Data
052-245-1044

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, the Technical Bulletin (TB) 11-6675-294-10, and a mission directive.

Standards: Determine proficiency on a mosaic digital terrain image.

Performance Steps

1. Acquire an image or photo.

NOTE: Collect many images or photos showing the different (but overlapping) parts of the planar object.

2. Align the image or photo.

- a. Select a few easily identifiable features in an image or photo.
- b. Select the same feature in a second image that overlaps with the first one.
- c. Solve a system of linear equations to compute the two-dimensional (2-D) projective warp that aligns the two images or photos.

3. Cross dissolve the image or photo.

NOTE: Average the pixel values of the overlapping parts to create a single mosaic image or photo.

Evaluation Preparation: Setup: Provide all the items listed in the conditions. Give the soldier a safety briefing before starting the test. Ensure that all safety precautions are followed. Prepare the topographic area and equipment in advance to ensure that the task standards can be met.

Brief soldier: Tell the soldier to perform a mosaic digital terrain image.

Performance Measures

1. Acquired an image or photo.

GO **NO GO**

2. Aligned the image or photo.

3. Cross dissolved the image or photo.

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-294-10

Related

FM 5-33

Produce Image Maps**052-245-1046**

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, a database, and a mission directive.

Standards: Produce a simple-image map that meets the mission objective. Produce a finalized on-screen and hard copy image map.

Performance Steps

1. Open a graphics program.
 2. Select the screen with the rectangle tool, enter the height and the width in the rectangle properties dialog. Select OK.
 3. Select the TEXT TOOL on the screen.
 4. Select SYMBOLS AND TRIANGLE, and then select CONVERT TO OUTLINES from the type menu.
 5. Paste the symbols and triangle on top (EDIT/PASTE IN FRONT). Add text to identify the three functions.
 6. Select the eye symbol. In the attributes dialog, type in IMAGES.HTM in the uniform resource locator (URL) text entry window. Repeat this for the other two symbols.
 7. Select EXPORT from the file pull-down menu. Select GIF 89a for the file type.
- NOTE: The GIF 89a options dialog will open.
- a. Select WEB for the palette option.
 - b. Select TRANSPARENT, if the background is to be transparent
 - c. Select ANTI-ALIAS to smooth the image and the text.
 - d. Select the IMAGEMAP option.
- NOTE: Several more options become available including client-side (HTML) and server-side (MAP).
- e. Select OK and ILLUSTRATOR to create the hypertext markup language (HTML) document and the image map.
 - f. Save the file as pure text (.txt) with no formatting.

Evaluation Preparation: Setup: Provide a digital database for the soldier and a mission directive. Ensure that the mission directive contains (at a minimum) the special requirements.

Brief soldier: Tell the soldier to produce an image map and display it on the monitor.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Opened a graphics program.	_____	_____
2. Selected the screen with the rectangle tool, entered the height and the width in the rectangle properties dialog. Selected OK.	_____	_____
3. Selected the TEXT TOOL on the screen.	_____	_____
4. Selected SYMBOLS AND TRIANGLE, and then selected CONVERT TO OUTLINES from the type menu.	_____	_____
5. Pasted the symbols and triangle on top (EDIT/PASTE IN FRONT). Added text to identify the three functions.	_____	_____
6. Selected the eye symbol. In the attributes dialog, typed in IMAGES.HTM in the URL text entry window. Repeated this for the other two symbols.	_____	_____

Performance Measures**GO****NO GO**

7. Selected EXPORT from the file pull-down menu. Selected GIF 89a for the file type.

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required****Related**

FM 5-33

TB 11-6675-291-10

Digitize Geospatial Information (GI) Data
052-245-1051

Conditions: You are in a lab and will create a spatial database from scratch by digitizing the road network.

Standards: Use a scanned map as a base map; digitize the street network using ArcMap™ from the screen; and save the digitized data as an ARC/INFO coverage.

Performance Steps

1. Select the START button on the task bar, select PROGRAMS, select FULL PROGRAM SUPPORT, select ArcGIS, and select ArcMap.
2. Select the option to start using ArcMap with a new empty map. Select OK.
3. Select the ADD DATA button to open the ADD DATA dialog.
4. Select the EDITING TOOLBAR button.
5. Select the layer of ROAD ARC to make it active. Select the EDITOR menu, and select START EDITING.
6. Select the SKETCH tool to digitize the street network from the screen based on the scanned map.
7. Select the EDITOR menu, and then select STOP EDITING. Select YES to save edits.
8. Select the FILE menu, and select SAVE to untitled map. Close ArcMap.

Evaluation Preparation: Setup: Provide a digital and hard copy database for the soldier and a mission directive. Ensure that the mission directive contains (at a minimum) the bounding area, the objective(s), the road situation, and any other special requirements.

Brief soldier: Tell the soldier to produce a digitized GI product from the data provided and display the final product on the monitor.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Selected the START button on the task bar, selected PROGRAMS, selected FULL PROGRAM SUPPORT, selected ArcGIS, and selected ArcMap.	—	—
2. Selected the option to start using ArcMap with a new empty map. Selected OK.	—	—
3. Selected the ADD DATA button to open the ADD DATA dialog.	—	—
4. Selected the EDITING TOOLBAR button.	—	—
5. Selected the layer of ROAD ARC to make it active. Selected the EDITOR menu, and selected START EDITING.	—	—
6. Selected the SKETCH tool to digitize the street network from the screen based on the scanned map.	—	—
7. Selected the EDITOR menu, and then selected STOP EDITING. Selected YES to save edits.	—	—
8. Selected the FILE menu, and selected SAVE to untitled map. Closed ArcMap.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

**References
Required**

**Related
FM 5-33**

Create a Three-Dimensional (3-D) Fly Through 052-245-1052

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-294-10, and a mission directive.

Standards: Create a 3-D fly-through product that adheres to the mission directive. View the final product on the monitor.

Performance Steps

1. Open the VirtualGIS viewer.
2. Select the digital elevation model (DEM) image file.
3. Select the raster image file.
4. Change the image properties.
5. Define a random flight path.
6. Define a specific flight path.
7. View the product.
8. Save the product.

Evaluation Preparation: Setup: Provide a DTSS with the appropriate software and a mission directive.

Brief soldier: Tell the soldier to create a 3-D fly-through image following the mission directive.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Opened the VirtualGIS viewer.	_____	_____
2. Selected the DEM image file.	_____	_____
3. Selected the raster image file.	_____	_____
4. Changed the image properties.	_____	_____
5. Defined a random flight path.	_____	_____
6. Defined a specific flight path.	_____	_____
7. Viewed the product.	_____	_____
8. Saved the product.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-294-10

Related

Perform Image Enhancements

052-245-1054

Conditions: You are given a Digital Topographic Support System (DTSS), a digital image, the appropriate software, the Technical Bulletin (TB) 11-6675-294-10, a database, and a mission directive.

Standards: Perform an image enhancement proficiently to meet the mission objective. Produce a finalized on-screen map showing 100 percent clarity.

Performance Steps

1. Perform an original scan.
2. Retouch and crop the image.
3. Enhance contrasts.
4. Sharpen the image.
5. Resize the image.
6. Sharpen again.
7. Save as a JPG file.

NOTE: JPG is the file extension for joint photographic experts group files.

Evaluation Preparation: Setup: Provide a digital image for the soldier and a mission directive. Ensure that the mission directive contains a minimum objective to be met.

Brief soldier: Tell the soldier to produce a clear and enhanced image from the data provided and display the final product on the monitor.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Performed an original scan.	—	—
2. Retouched and cropped the image.	—	—
3. Enhanced contrasts.	—	—
4. Sharpened the image.	—	—
5. Resized the image.	—	—
6. Sharpened again.	—	—
7. Saved as a JPG file.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-294-10

Related

Produce Single-Color Overprints (SCOs)

052-245-1055

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), existing maps, the appropriate software, Technical Bulletin (TB) 11-6675-294-10, and a mission directive.

Standards: Perform a SCO that adheres to the mission directive. View the final product on the monitor and print it.

Performance Steps

1. Plan the project.
 - a. Analyze the project instructions.
 - b. Evaluate the source materials.
 - c. List steps and procedures.
2. Display the original image.
 - a. Center the image on the background.
 - b. Determine the attribute to the overlay image.
 - c. Determine the color to the overprint image.
 - d. Outline the objects to overprint.
3. Edit the completed image.
 - a. Ensure that the image is clear and sharp.
 - b. Ensure that there are no unnecessary lines.
 - c. Ensure that the annotation is lined up with the original image.
4. Ensure that the job meets the mission directive and the colors are uniform.
5. Display or print a copy image proof.

Evaluation Preparation: Setup: Provide a DTSS with existing maps, the appropriate software, and a mission directive.

Brief soldier: Tell the soldier to produce a single color overprint following the mission directive.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Planned the project.	_____	_____
2. Displayed the original image.	_____	_____
3. Edited the completed image.	_____	_____
4. Ensured that the job met the mission directive and the colors were uniform.	_____	_____
5. Displayed or printed a copy image proof.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-294-10

Related

Produce A Visibility Product
052-245-1058

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographical Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-294-10, and a mission directive.

Standards: Produce a visibility plot according to the mission directive. Ensure that the finalized on-screen map conforms to the mission directive.

Performance Steps

- 1. Open the visibility plot tactical decision aids (TDA) wizard.
- 2. Select the input data.
- 3. Select the output location.
- 4. Select visibility plot parameters.
- 5. Select observer parameters.
- 6. Produce a final digital map.

Evaluation Preparation: Setup: Provide a DTSS with a GIS and the appropriate software, a digital database, and a mission directive.

Brief soldier: Tell the soldier to produce an on-screen visibility plot according to the mission directive.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Opened the visibility plot TDA wizard.	_____	_____
2. Selected the input data.	_____	_____
3. Selected the output location.	_____	_____
4. Selected visibility plot parameters.	_____	_____
5. Selected observer parameters.	_____	_____
6. Produced a final digital map.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required
TB 11-6675-294-10

Related
TM 11-6675-295-10

Produce A Mobility Corridor Product
052-245-1061

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-291-10, and a mission directive.

Standards: Produce an on-screen finalized overlay product with all the requirements from the mission directive.

Performance Steps

1. Select ANALYSIS from the DTSS main menu.
 - a. Click on tactical decision aids (TDA).
 - b. Select PROJECT.
 - c. Open an existing project or create a new one.
2. Select PRODUCT.
3. Select MOBILITY in the PRODUCT TYPE field.
 - a. Select ANALYSIS TYPE field.
 - b. Enter the appropriate product name in the selected product field.
 - c. Select OK.
4. Select the SETUP button.
5. Import data into the ADD MOBILITY DATA SETS window.
6. Select the interim terrain data (ITD) set.
7. Highlight the data set and select OK.

Evaluation Preparation: Setup: Provide a DTSS, a GIS, the appropriate software, TB 11-6675-291-10, a mission directive, and a digital database for the soldier that contains enough data to produce the product.

Brief soldier: Tell the soldier to produce a mobility corridor overlay from the sources provided and to display it on the monitor.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected ANALYSIS from the DTSS main menu.	_____	_____
2. Selected PRODUCT.	_____	_____
3. Selected MOBILITY in the PRODUCT TYPE field.	_____	_____
4. Selected the SETUP button.	_____	_____
5. Imported data into the ADD MOBILITY DATA SETS window.	_____	_____
6. Selected the ITD set.	_____	_____
7. Highlighted the data set and selected OK.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-291-10

Related

FM 5-33

Prepare a Military Operations on Urbanized Terrain (MOUT) Product
052-245-1062

Conditions: You are given table(s) of organization and equipment (TOE), a database, a material and collection checklist, and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Extract all the applicable items identified on the collection checklist (URBAN).

Performance Steps

1. Register the overlay material to the map base and label correctly.
 - a. Register by means of corner ticks or grid intersections, whichever is applicable.
 - b. Label the overlay with the following:
 - (1) The country name and the scale of the base map.
 - (2) The area.
 - (3) The sheet, series, and edition numbers.
 - (4) The overlay title.
 - (5) The analyst's name and organization.
 - (6) The security classification.
2. Extract or delineate the location of the building.
3. Extract or delineate the type of the building.
 - a. Identify or delineate business parks.
 - b. Identify or delineate industrial complexes.
 - c. Identify or delineate residential areas.
 - d. Identify or delineate institutional buildings.
 - e. Identify or delineate hospitals.
4. Record the source data on the overlay.
 - a. Record the map sheet name, number, scale, and edition.
 - b. Record the remote sensed imagery type, scale, mission number, frame(s) number, and the date if the remote sensed imagery is available and is not already done.
 - c. Record the collateral data source and the date according to the database identifier.

Evaluation Preparation: Setup: Provide a database for the soldier to extract from. Ensure that the database contains one or more of each type of feature listed on the collection checklist.

Brief soldier: Tell the soldier to extract urban data from the database that is provided and to delineate the extracted data on a working overlay.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base and labeled correctly.	—	—
2. Extracted or delineated the location of the building.	—	—
3. Extracted or delineated the type of the building.	—	—
4. Recorded the source data on the overlay.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References
Required

Related
DA FORM 1249

**References
Required**

Related
DA FORM 1250
FM 5-33

Perform Digital Change Detection

052-245-1064

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-294-10, and a mission directive.

Standards: Perform digital change detection that follows the mission directive. View the final product on the monitor.

Performance Steps

1. State the change detection problem.
 - a. Define the study area.
 - b. Specify the frequency of change detection (such as seasonal or yearly).
 - c. Identify the classes from an appropriate land cover classification system.
2. Perform change detection and consider the significance.
 - a. Identify the remote-sensing system considerations.
 - (1) Determine the temporal resolution.
 - (2) Determine the spatial resolution.
 - (3) Determine the spectral resolution.
 - (4) Determine the radiometric resolution.
 - b. Identify any environmental considerations.
 - (1) Determine the atmospheric conditions.
 - (2) Determine the soil moisture conditions.
 - (3) Determine the phonological cycle characteristics.
 - (4) Consider the tidal stage.
3. Perform image processing of remote-sensor data to extract change information.
 - a. Acquire the appropriate change detection data.
 - b. Preprocess the multiple-date remotely sensed data.
 - (1) Ensure that there is a geometric registration.
 - (2) Ensure that there is a radiometric correction (or normalization).
 - c. Select the appropriate change detection algorithm.
 - d. Apply the appropriate image classification logic, if necessary.
 - e. Assess statistical accuracy.
 - (1) Highlight the selected classes using the change detection matrix.
 - (2) Generate the change map products.
 - (3) Compute the change statistics.
4. Perform a quality assurance and control program. Perform change detection using GIS algorithms.
 - a. Determine the individual date classifications.
 - b. Change the detection products.
5. Determine the results.
 - a. Determine the digital products.
 - b. Determine the analog (hard copy) products.

Evaluation Preparation: Setup: Provide a DTSS with the appropriate software and a mission directive.

Brief soldier: Tell the soldier to perform digital change detection following the mission directive.

Performance Measures

1. Stated the change detection problem.
2. Performed change detection and considered the significance.

GO **NO GO**

____ ____
 ____ ____

Performance Measures**GO** **NO GO**

- | | | |
|--|-------|-------|
| 3. Performed image processing of remote-sensor data to extract change information. | _____ | _____ |
| 4. Performed a quality assurance and control program. Performed change detection using GIS algorithms. | _____ | _____ |
| 5. Determined the results. | _____ | _____ |

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required**

TB 11-6675-294-10

Related

FM 5-33

Perform Image Unsupervised Classification

052-245-1066

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-294-10, and a mission directive.

Standards: Perform image classification that follows the mission directive. View the final product on the monitor.

Performance Steps

1. Start the ArcView.

2. Select the SEED TOOL.

NOTE: Access the seed tool properties dialog under the IMAGE ANALYSIS MENU, and change the seed radius default of 5 pixels. If island polygons are included, the default enables the inclusion of the island polygons.

3. Create a shape file.

NOTE: Create a feature theme in which to save a polygon created by the seed tool.

- Add the image.
- Create a new feature theme (polygon feature type).
- Change the seed tool properties (seed radius, include island polygons).
- Use the seed tool to populate the new shape file.
- Stop the editing theme.

4. Use the seed tool to identify the land cover type.

5. Use the shape file to find similar areas in the image.

NOTE: FIND LIKE AREAS is designed to find areas in the image with similar characteristics to an area originally selected with the seed tool. Under the IMAGE ANALYSIS menu select the FIND LIKE AREAS option.

6. Set the ANALYSIS MASK.

- Point to IMAGE ANALYSIS menu.
- Choose PROPERTIES.
- Set the ANALYSIS MASK under the analysis extent.

7. Apply postcategorization techniques.

8. Apply the smooth filter to the thematic image.

9. Convert the theme to a shape file.

Evaluation Preparation: Setup: Provide a DTSS with the appropriate software and a mission directive.

Brief soldier: Tell the soldier to perform image classification following the mission directive.

Performance Measures

1. Started the ArcView.

GO NO GO

2. Selected the SEED TOOL.

3. Created a shape file.

4. Used the seed tool to identify the land cover type.

5. Used the shape file to find similar areas in the image.

Performance Measures

6. Set the ANALYSIS MASK.

7. Applied postcategorization techniques.

8. Applied the smooth filter to the thematic image.

9. Converted the theme to a shape file.

GO **NO GO**

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required**

TB 11-6675-294-10

Related

FM 5-33

Produce A Combined-Obstacles Product Manually
052-245-1072

Conditions: You are given a base map; tracing paper; pencils; tactical terrain analysis databases (TTADBs) of the surface configuration, surface materials, surface drainage, obstacles, and vegetation; a photo interpreter kit; and a mission directive.

Standards: Prepare a final overlay from the complex overlay. Annotate all data according to the mission directive.

Performance Steps

1. Register the tracing paper to the base map.
2. Extract surface drainage information.
3. Extract obstacles information.
4. Extract surface-material information.
5. Extract surface configuration information.
6. Extract vegetation information.
7. Prepare the final overlay from the complex overlay.
8. Place all marginal and legend information on the final overlay.

Evaluation Preparation: Setup: Provide a base map; tracing paper; pencils; TTADBs of the surface configuration, surface materials, surface drainage, obstacles, and vegetation; a photo interpreter kit; and a mission directive.

Brief soldier: Tell the soldier to annotate all data according to the mission directive.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the tracing paper to the base map.	_____	_____
2. Extracted surface drainage information.	_____	_____
3. Extracted obstacles information.	_____	_____
4. Extracted surface-materials information.	_____	_____
5. Extracted surface configuration information.	_____	_____
6. Extracted vegetation information.	_____	_____
7. Prepared the final overlay from the complex overlay.	_____	_____
8. Placed all marginal and legend information on the final overlay.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

Related

FM 5-33
FM 90-7

Produce A Concealment Overlay Product Manually
052-245-1073

Conditions: You are given table(s) of organization and equipment (TOE), a map, a database, and a mission directive.

Standards: Depict the concealment overlay in four percentage categories (0-25, 25-50, 50-75, or 75-100) or according to the mission directive.

Performance Steps

1. Register the overlay to the base map.
 - a. Register by corner ticks or internal grid intersections.
 - b. Label the overlay material with marginalia.
2. Delineate all areas with 75 to 100 percent canopy closure.
3. Delineate all areas with 50 to 75 percent canopy closure.
4. Delineate all areas with 25 to 50 percent canopy closure.
5. Delineate all areas with 0 to 25 percent canopy closure.
6. Prepare a concealment overlay legend.
7. Perform a self-edit on the concealment overlay.

Evaluation Preparation: Setup: Provide a base map, tracing paper, pencils, tactical terrain analysis database (specifications) (TTADBs) of the surface drainage, and vegetation, and a mission directive.

Brief soldier: Tell the soldier to annotate all data according to the mission directive.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay to the base map.	_____	_____
2. Delineated all areas with 75 to 100 percent canopy closure.	_____	_____
3. Delineated all areas with 50 to 75 percent canopy closure.	_____	_____
4. Delineated all areas with 25 to 50 percent canopy closure.	_____	_____
5. Delineated all areas with 0 to 25 percent canopy closure.	_____	_____
6. Prepared a concealment overlay legend.	_____	_____
7. Performed a self-edit on the concealment overlay.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References
Required

Related
 FM 5-33

Produce A River Crossing Product Manually
052-245-1074

Conditions: You are given a database with table(s) of organization and equipment (TOE) and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Annotate all applicable data on the overlay according to the mission directive.

Performance Steps

1. Register the overlay material to the map base.
 - a. Register by corner ticks or internal grid intersection.
 - b. Label the overlay material with marginalia.
2. Trace all primary and secondary roads identified in the mission directive.
3. Determine a cross-country movement.
4. Determine the width, velocity, and depth of the river.
5. Determine the conditions of the bank.
6. Trace the vegetation along the shore.
7. Trace the obstacles in or along the river.
8. Determine possible attack positions and routes to the river.
9. Determine possible call-forward areas.
10. Prepare a river crossing overlay legend.
11. Perform a self-edit on the river crossing overlay.

Evaluation Preparation: Setup: Provide the soldier with database materials (to include essential elements of terrain information [EETI] on drainage, roads, railroads, routes, and bridges), a base map, a remote sensed imagery (of the appropriate scale) covering the area of interest, and blank overlay material.

Brief soldier: Tell the soldier to prepare a river crossing overlay using the data provided.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base.	_____	_____
2. Traced all primary and secondary roads identified in the mission directive.	_____	_____
3. Determined a cross-country movement.	_____	_____
4. Determined the width, velocity, and depth of the river.	_____	_____
5. Determined the conditions of the bank.	_____	_____
6. Traced the vegetation along the shore.	_____	_____
7. Traced the obstacles in or along the river.	_____	_____
8. Determined possible attack positions and routes to the river.	_____	_____
9. Determined possible call-forward areas.	_____	_____

Performance Measures**GO** **NO GO**

10. Prepared a river crossing overlay legend.

11. Performed a self-edit on the river crossing overlay.

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required****Related**

FM 5-33

FM 90-13

Produce a Lines-of-Communication (LOC) Product Manually
052-245-1075

Conditions: You are given a database with table(s) of organization and equipment (TOE) and a mission directive.

Standards: Perform this task indoors under good lighting conditions. Annotate all applicable data correctly on the overlay according to the mission directive.

Performance Steps

1. Register the overlay material to the map base.
 - a. Register by corner ticks or internal grid intersection.
 - b. Label the overlay material with marginalia.
2. Trace all the primary roads that are identified in the mission directive.
3. Trace all the secondary roads that are identified in the mission directive.
4. Trace all the major rail lines that are identified in the mission directive.
5. Trace the navigable inland waterways that are identified in the mission directive.
6. Trace the major wire transmission lines that are identified in the mission directive.
7. Annotate the antenna fields that are identified in the mission directive.
8. Prepare a LOC overlay legend.
9. Perform a self-edit on the LOC overlay.

Evaluation Preparation: Setup: Provide the soldier with database materials (to include essential elements of terrain information [EETI] on drainage, roads, railroads, routes, bridges, airfields, and telecommunications), a base map, a remote-sensed imagery (of the appropriate scale) covering the area of interest, and blank overlay material.

Brief soldier: Tell the soldier to prepare an LOC overlay using the data provided. Tell him to annotate the overlay with the symbols according to the specifications.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base.	_____	_____
2. Traced all the primary roads that were identified in the mission directive.	_____	_____
3. Traced all the secondary roads that were identified in the mission directive.	_____	_____
4. Traced all the major rail lines that were identified in the mission directive.	_____	_____
5. Traced the navigable inland waterways that were identified in the mission directive.	_____	_____
6. Traced the major wire transmission lines that were identified in the mission directive.	_____	_____
7. Annotated the antenna fields that were identified in the mission directive.	_____	_____
8. Prepared a LOC overlay legend.	_____	_____
9. Performed a self-edit on the LOC overlay.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required****Related**

FM 5-170

FM 5-33

Produce an Off-Road Speed Product

052-245-1081

Conditions: Given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-291-10, and a mission directive.

Standards: Produce an on-screen finalized overlay product with all the requirements from the mission directive.

Performance Steps

1. Select ANALYSIS from the DTSS main menu.
 - a. Click on TACTICAL DECISION AIDS (TDA).
 - b. Select PROJECT.
 - c. Open an existing project or create a new one.
2. Select PRODUCT.
3. Select MOBILITY in the PRODUCT TYPE field.
 - a. Select OFF-ROAD SPEED in the ANALYSIS TYPE field.
 - b. Enter the appropriate product name in the selected product field.
 - c. Click OK.
4. Select OFF-ROAD SETUP.
5. Select the PARAMETER button.

NOTE: Make the following entries on the parameter specification window:

- a. The historical rain information.
- b. The surface condition. Select DRY, WET, or ICE.
- c. The slippery condition. Select NORMAL or SLIPPERY.
- d. The snow condition. Select YES or NO.
- e. The vehicle selection.

6. Select the SET SPEED RANGE button.
7. Insert FOOTPRINT.
8. Select FINALIZE.

Evaluation Preparation: Setup: Provide a DTSS, a GIS, the appropriate software, TB 11-6675-291-10, a mission directive, and a digital database for the soldier that contains enough data to produce the product.

Brief soldier: Tell the soldier to produce an off-road overlay from the sources provided and display it on the monitor.

Performance Measures

1. Selected ANALYSIS from the DTSS main menu.
2. Selected PRODUCT.
3. Selected MOBILITY in the PRODUCT TYPE field.
4. Selected OFF-ROAD SETUP.
5. Selected the PARAMETER button.
6. Selected the SET SPEED RANGE button.

GO **NO GO**

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Performance Measures**GO** **NO GO**

7. Inserted FOOTPRINT.

8. Selected FINALIZE.

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required**

TB 11-6675-291-10

Related

FM 5-33

Produce an On-Road Speed Product

052-245-1082

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-291-10, and a mission directive.

Standards: Produce an on-screen finalized overlay product with all the requirements from the mission directive.

Performance Steps

1. Select ANALYSIS from the DTSS main menu.
 - a. Click on TACTIAL DECISION AIDS (TDA).
 - b. Select PROJECT.
 - c. Open an existing project or create a new one.
2. Select PRODUCT.
3. Select MOBILITY in the PRODUCT TYPE field.
 - a. Select ON-ROAD SPEED in the ANALYSIS TYPE field.
 - b. Enter the appropriate product name in the selected product field.
 - c. Click OK.
4. Select ON-ROAD SETUP.
5. Select the PARAMETER button.

NOTE: Make the following entries on the parameter specification window:

- a. The historical rain information.
- b. The surface condition. Select DRY, WET, or ICE.
- c. The slippery condition. Select NORMAL or SLIPPERY.
- d. The snow. Select YES or NO.
- e. The vehicle selection.

6. Select the SET SPEED RANGE button.
7. Insert FOOTPRINT.
8. Select FINALIZE.

Evaluation Preparation: Setup: Provide a DTSS, a GIS, the appropriate software, TB 11-6675-291-10, a mission directive, and a digital database for the soldier that contains enough data to produce the product.

Brief soldier: Tell the soldier to produce an on-road overlay from the sources provided and to display it on the monitor.

Performance Measures

1. Selected ANALYSIS from the DTSS main menu.
2. Selected PRODUCT.
3. Selected MOBILITY in the PRODUCT TYPE field.
4. Selected ON-ROAD SETUP.
5. Selected the PARAMETER button.
6. Selected the SET SPEED RANGE button.

GO **NO GO**

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Performance Measures**GO****NO GO**

7. Inserted a FOOTPRINT.

8. Selected FINALIZE.

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required**

TB 11-6675-291-10

Related

FM 5-33

Perform Basic Map Reading**052-245-1084**

Conditions: You are given a 1:50,000 topographic map, a plotting scale, a coordinate scale, a straightedge, a pencil, paper, and Field Manual (FM) 3-25.26.

Standards: Use a map to determine the geographic coordinates of a point to within 5 seconds. Determine the universal transverse Mercator (UTM) coordinates to within 50 meters. Determine the distance along a road to within 10 percent of the total distance. Determine the elevation of a designated point to within one-half the contour interval. Locate and plot points by intersection and resection methods to within 100 meters. Identify correctly the selected cultural and terrain features.

Performance Steps

1. Gather all materials.
2. Determine coordinates.
 - a. Determine the geographic coordinates.
 - b. Determine the Military Grid Reference System (MGRS) coordinates.
3. Determine the distance on a map.
 - a. Determine the curved-line distance.
 - b. Determine the straight-line distance.
4. Determine the elevation of a designated point on a map.
5. Identify cultural and terrain features.
6. Plot points using intersection methods.
7. Plot points using resection methods.

Evaluation Preparation: Setup: Provide a 1:50,000 topographic map, a plotting scale, a coordinate scale, a straightedge, a pencil, paper, FM 3-25.26, and a set of questions to answer that cover the map distance, location, map features, identification, and elevation.

Brief soldier: Tell the soldier to use the items provided and answer the questions to standard.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Gathered all materials.	_____	_____
2. Determined coordinates.	_____	_____
3. Determined the distance on a map.	_____	_____
4. Determined the elevation of a designated point on a map.	_____	_____
5. Identified cultural and terrain features.	_____	_____
6. Plotted points using intersection methods.	_____	_____
7. Plotted points using resection methods.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References
Required
FM 3-25.26

Related

Perform Terrain Visualization Briefing Techniques

052-245-1088

Conditions: You are given a mission directive with a manuscript, Field Manual (FM) 5-33, and a map overlay.

Standards: Demonstrate proficiency by conducting a terrain visualization brief.

Performance Steps

1. Determine the format of the briefing.
 - a. Prepare the introduction.
 - (1) Use attention steps.
 - (2) Consider the overview, highlights, and the main points to be covered.
 - b. Prepare the body.
 - (1) Include the facts and make the argument.
 - (2) Compose the briefing of—
 - (a) The main points.
 - (b) The facts to support the main points.
 - c. Prepare the conclusion.
 - (1) Finish the presentation.
 - (2) Compose the briefing of—
 - (a) A summary.
 - (b) A closure and a definitive end to the briefing.
2. Determine the organization.
 - a. State the cause and effect.
 - b. Ensure that the chronological order is correct.
 - c. Ensure that the problem and solution are clearly stated.
 - d. Include the geographic coordinates.
 - e. Brief from simple to more complicated.
3. Brief from a slide presentation.
 - a. Use bullet statements.
 - b. Do not read from the slides.
 - c. Practice the briefing before presenting it.
4. Determine the supporting materials.
 - a. Ensure that facts, quotes, data, and so forth are correct.
 - b. Ensure that there is at least one support item per main point.
 - c. Brief the audience on where the data came from.
5. Determine transitions during the briefing.
 - a. Guide the audience through the briefing.
 - b. Be smooth and polished.
6. Prepare the talking paper.
 - a. Use bullets to prepare an outline of the presentation.
 - b. Limit the paper to one page.
7. Know tips and pointers.
 - a. Practice using visual aids.
 - b. Time the presentations.
 - c. Use the correct pronunciation.
 - d. Do not talk to the screen.
 - e. Be enthusiastic and sincere.
 - f. Keep gestures and movements natural.

Performance Steps

- (1) Do not pace.
- (2) Move naturally and in a relaxed manner.
- (3) Time gestures to coincide with the points in the presentation.
- g. Keep eye contact with all members of the audience.

8. Know the subject.

Evaluation Preparation: Setup: Provide the needed material for the soldier.

Brief soldier: Tell the soldier to produce a terrain visualization brief from the sources provided.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Determined the format of the briefing.	_____	_____
2. Determined the organization.	_____	_____
3. Briefed from a slide presentation.	_____	_____
4. Determined the supporting materials.	_____	_____
5. Determined transitions during the briefing.	_____	_____
6. Prepared the talking paper.	_____	_____
7. Knew tips and pointers.	_____	_____
8. Knew the subject.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required
FM 5-33

Related

Produce a Cover Product Digitally
052-245-1089

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-294-10, and a mission directive.

Standards: Produce an on-screen finalized overlay product with all the requirements from the mission directive.

Performance Steps

1. Open the ArcTools™ box from the desktop icon.
2. Navigate to the OVERLAY wizard.
 - a. Click the plus sign (+) next to ANALYSIS TOOLS.
 - b. Select OVERLAY.
 - c. Select OVERLAY WIZARD.
3. Determine the type of overlay (COVER) wanted, and then select NEXT.
4. Choose the desired polygon coverage for the overlay, and then select NEXT.
5. Specify the overlay coverage, and then select NEXT.
6. Determine the JOIN ATTRIBUTES, and then select NEXT.
7. Specify OUT COVERAGE, and then select NEXT.
8. Review the SUMMARY OF YOUR INPUT.
9. Save to Arc Macro language (AML).
10. Select FINISH to complete the OVERLAY WIZARD.

NOTE: The PROCESSING window appears when the overlaid coverages have been generated.

Evaluation Preparation: Setup: Provide a DTSS, a GIS, the appropriate software, TB 11-6675-294-10, a mission directive, and a digital database for the soldier that contains enough data to produce the product.

Brief soldier: Tell the soldier to produce a cover overlay digitally from the sources provided and to display it on the monitor.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Opened the ArcTools™ box from the desktop icon.	_____	_____
2. Navigated to the OVERLAY wizard.	_____	_____
3. Determined the type of overlay wanted, and then selected NEXT.	_____	_____
4. Chose the desired polygon coverage to the overlay, and then selected NEXT.	_____	_____
5. Specified the overlay coverage, and then selected NEXT.	_____	_____
6. Determined the JOIN ATTRIBUTES, and then selected NEXT.	_____	_____
7. Specified OUT COVERAGE, and then selected NEXT.	_____	_____
8. Reviewed the SUMMARY OF YOUR INPUT.	_____	_____
9. Saved to AML.	_____	_____

Performance Measures**GO** **NO GO**

10. Selected FINISH to complete the OVERLAY WIZARD.

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required**

TB 11-6675-294-10

Related

FM 5-33

Produce a Cover Product Manually

052-245-1090

Conditions: You are given table(s) of organization and equipment (TOE), database materials, and a mission directive.

Standards: Perform this task indoors under good lighting conditions.

Performance Steps

1. Register the overlay material to the map base and label correctly.
 - a. Register by means of corner ticks or grid intersections, whichever is applicable.
 - b. Label the overlay with the following:
 - (1) The country name and the scale of the base map.
 - (2) The area.
 - (3) The sheet, series, and edition numbers.
 - (4) The overlay title.
 - (5) The analyst's name and organization.
 - (6) The security classification.
2. Extract or delineate the types of vegetation.
 - a. Identify or annotate the canopy closure.
 - b. Identify or annotate woods.
 - c. Identify or annotate open areas.
 - d. Identify or annotate cultivated vegetation.
 - e. Identify or annotate other vegetation features of military significance.
3. Annotate the suitable areas of cover.
 - a. Describe 0 to 25 percent cover.
 - b. Describe 25 to 50 percent cover.
 - c. Describe 50 to 75 percent cover.
 - d. Describe 75 to 100 percent cover.
4. Record the source data on the overlay.
 - a. Record the map sheet name, number, scale, and edition.
 - b. Record the remote-sensed imagery type, the scale, the mission number, frame(s) number, and date, if remote-sensed imagery is available and not already done.
 - c. Record the collateral data source and the date according to the database identifier.

Evaluation Preparation: Setup: Provide the appropriate TOE, database materials, and the mission directive.

Brief soldier: Tell the soldier to produce a cover product according to the mission directive. Tell him to produce the cover product manually.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base and labeled correctly.	—	—
2. Extracted or delineated the types of vegetation.	—	—
3. Annotated the suitable areas of cover.	—	—
4. Recorded the source data on the overlay.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

**References
Required**

**Related
FM 5-33**

Produce a Key Terrain Product Digitally
052-245-1091

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-291-10, and a mission directive.

Standards: Produce an on-screen finalized overlay product with all the requirements from the mission directive.

Performance Steps

1. Select the ArcTools™ box from the desktop icon.
2. Select the OVERLAY wizard.
 - a. Select the plus sign (+) next to ANALYSIS TOOLS.
 - b. Select OVERLAY.
 - c. Select OVERLAY WIZARD.
3. Determine the type of overlay wanted (KEY TERRAIN), and then select NEXT.
4. Choose the desired polygon coverage to overlay, and then select NEXT.
5. Specify the overlay coverage, and then select NEXT.
6. Determine the JOIN ATTRIBUTES, and then select NEXT.
7. Select OUT COVERAGE, and then select NEXT.
8. Review the SUMMARY OF YOUR INPUT.
9. Save to the Arc Macro language (AML).
10. Select FINISH to complete the OVERLAY WIZARD.

NOTE: The PROCESSING window appears and the overlaid coverages have been generated.

Evaluation Preparation: Setup: Provide a DTSS, a GIS, the appropriate software, TB 11-6675-294-10, a mission directive, and a digital database for the soldier that contains enough data to produce the product.

Brief soldier: Tell the soldier to produce a key terrain overlay digitally from the sources provided and to display it on the monitor.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Select the ArcTools™ box from the desktop icon.	_____	_____
2. Selected the OVERLAY wizard.	_____	_____
3. Determined the type of overlay wanted (KEY TERRAIN), and then selected NEXT.	_____	_____
4. Chose the desired polygon coverage to overlay, and then selected NEXT.	_____	_____
5. Specified the overlay coverage, and then selected NEXT.	_____	_____
6. Determined the JOIN ATTRIBUTES, and then selected NEXT.	_____	_____
7. Selected OUT COVERAGE, and then selected NEXT.	_____	_____
8. Reviewed the SUMMARY OF YOUR INPUT.	_____	_____

Performance Measures**GO** **NO GO**

9. Saved to the AML.

10. Selected FINISH to complete the OVERLAY WIZARD.

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required**

TB 11-6675-291-10

Related

FM 5-33

Produce a Key Terrain Product Manually

052-245-1092

Conditions: You are given a Digital Topographic Support System (DTSS), a Geographic Information System (GIS), the appropriate software, Training Manual (TM) 11-6675-294-10, a database, table(s) of organization and equipment (TOE), and a mission directive.

Standards: Annotate the key terrain correctly to meet the mission objective. Produce a hard copy overlay showing 100 percent of the key areas per the mission directive.

Performance Steps

1. Register the overlay material to the map base and label correctly.
 - a. Register by means of corner ticks or grid intersections, whichever is applicable.
 - b. Label the overlay with the following:
 - (1) The country name and the scale of the base map.
 - (2) The area.
 - (3) The sheet, series, and edition numbers.
 - (4) The overlay title.
 - (5) The analyst's name and organization.
2. Extract or delineate the type of key factor(s).
 - a. Extract or delineate the type of the building.
 - b. Extract or delineate the type of bridges.
 - c. Extract or delineate the type of roads.
 - d. Extract or delineate the type of chock points.
 - e. Extract or delineate the type of rivers.
 - f. Extract or delineate the type of hilltops.
3. Record the source data on the overlay.
 - a. Record the map sheet name, number, scale, and edition.
 - b. Record the remote-sensed imagery type, scale, mission number, frame(s) number, and date, if remote-sensed imagery is available and not already done.
 - c. Record the collateral data source and the date according to the database identifier.

Evaluation Preparation: Setup: Provide a digital and hard copy database for the soldier and a mission directive. Ensure that the mission directive contains (as a minimum) the bounding area, the objective(s), the enemy situation, and any other special requirements.

Brief soldier: Tell the soldier to produce a key terrain product according to the mission directive. Tell him to produce a key terrain product manually.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Registered the overlay material to the map base and labeled correctly.	_____	_____
2. Extracted or delineated the type of key factor(s).	_____	_____
3. Recorded the source data on the overlay.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required
TM 11-6675-294-10

Related
FM 5-33

Subject Area 3: Geographic Information System (GIS) Operations

Prepare/Send Combat Messages Using FBCB2**171-145-0001**

Conditions: In a field environment, given a digital vehicle, you have to prepare and send combat messages using a Force XXI Battle Command Brigade-and-Below (FBCB2) 3.0 system as part of a tactical operation.

Standards: As a minimum, you must -- (1) Prepare and send one of each of the combat messages using FBCB2 without errors. (2) Manage reports so that those critical to the tactical situation are stored and nonessential reports are deleted.

Performance Steps

1. Select the Combat Msgs... button or the F3 key on the keyboard. The system will display the Combat Messages dialog box.

NOTE: The Combat Msgs... button provides access to the combat message tab group. Combat messages are messages that have been modified and grouped together to provide single-button access to the message template.

NOTE: The following four options (steps 2 through 5) may be selected as needed and do not require any sequence in their selection.

2. Prepare and send a SALT message.

NOTE: The SALT message is used by subordinate units to provide combat intelligence information on enemy units to higher echelons. The user can initiate a call-for-fire message from within this template. When the report is transmitted, the system will automatically display an enemy icon at the reported location on the SA display.

- a. Select the SALT tab group. The system displays the combat messages SALT template.
- b. Select the equipment combo box down arrow button. The system will display the equipment options list.
 - (1) Select an option from the list. The system displays the selection in the equipment combo box.
 - (2) Select the + - quantity text box. The system will highlight the quantity text box.
 - (a) Enter a number in the box. The system will display the number in the text box.
 - (b) Or, select the + button to increase the quantity or select the - button to decrease the quantity. The system will increment or decrement the quantity displayed in the text box.
- c. Select the activity combo box down arrow button. The system will display the activity options list.
 - (1) Select an option from the list. The system displays the selection in the activity combo box.
 - (2) Select the Fill Loc button. The system will display the cursor as a cross hair.
 - (3) Select a location on the map. The system displays the location in the location text box.
 - (4) Select the Fill LRF button. The system will input the location provided by the laser ranger finder.
 - (5) Verify the DTG (date-time group). The DTG is auto filled.
 - (a) If the DTG is not correct, enter the correct DTG (alphanumeric DDHHMMZmmmYY).
 - (b) Terminate the data entry by selecting enter. The system will display the current DTG in the text box.
 - (c) Or, select the Now button. The system will display the current DTG in the DTG text box.

NOTE: You may create two additional equipment entries providing users the ability to report up to three different types of equipment at the same location and same time.

- d. Select the Speed combo box, down arrow button. Make a selection from the option list. The system will display the Speed options list.

Performance Steps

- e. Select the Course combo box, down arrow button. Make a selection from the option list. The system will display the Course option list.
- f. Select the CFF Msg Check box. The system will display a check mark in the check box.
 - (1) Select the Fire Request Type combo box down arrow button. The system will display the Fire Request Type options list.
 - (2) Select an option from the list. The system displays the selection in the Fire Request Type combo box.
- g. Select the Save button if you desire to save the message. The system will save the message and display Message saved to file Spot DTG.
- h. Select the Send button if you desire to send the message. The system will transmit the message and display the Last SALT message sent at DTG.
- i. Select the Close button when you desire to close the message box. The system will close the combat messages template.

3. Prepare and send a fire mission message.

- a. Select the Fire Mission tab group. The system displays the combat messages Fire Mission template.

NOTE: The Fire Mission tab is accessed from via the Combat Msgs... button. The Fire Mission message is used to request indirect fire support from supporting fire support units.

- b. Select the CFF tab to access the Call For Fire message.
 - (1) Select the equipment 1 combo box down arrow button. The system will display the equipment options list.
 - (2) Select an option from the list. The system displays the selection in the equipment combo box.
 - (3) Select the + - quantity text box. The system will highlight the quantity text box.
 - (a) Enter a number in the box. The system will display the number in the text box.
 - (b) Or, select the + button to increase the quantity or select - button to decrease the quantity. The system will increment or decrement the quantity displayed in the text box.
 - (4) Select the Fill Loc button. The system will display the cursor as a cross hair.
 - (5) Select a location on the map. The system displays the location in the Location text box.
 - (6) Select the Fill LRF button. The system will input the location provided by the laser range finder (LRF).
 - (7) Verify the DTG. The DTG is auto filled.
 - (a) If the DTG is not correct, enter the correct DTG (Alphanumeric DDHHMMZmmmYY) and terminate the data entry by selecting Enter. The system will display the current DTG in the text box.
 - (b) Or, select the Now button. The system will display the current DTG in the DTG text box.

NOTE: You may create two additional equipment entries providing users the ability to report up to three different types of equipment at the same location and same time.

- (8) Select the Fire Request Type combo box down arrow button. The system will display the Fire Request Type options list.
- (9) Select an option from the list. The system displays the selection in the Fire Request Type combo box.
- c. Select the Protection Level combo box down arrow button. The system will display the Protection Level options list. Select an option from the list. The system displays the selection in the Protection Level combo box.
- d. Select the Method of Control combo box down arrow button. The system will display the Method of Control options list. Select an option from the list. The system displays the selection in the Method of Control combo box.
- e. Select the Save button if you desire to save the message. The system will save the message.
- f. Select the Send button if you desire to send the message. The system will transmit the message.

Performance Steps

- g. Select the Close button when you desire to close the message box. The system will close the combat messages template.
- h. Select the Summary tab, to display the summary tab group.

NOTE: The Summary tab displays a list of all fire missions received along with their current status. You can access additional fire support messages from the Summary tab group after a Call For Fire message has been sent and a Message to Observer (read only) message has been received.

4. Prepare and send a medical evacuation (MEDEVAC) request.

NOTE: Use the MEDEVAC request message to request ground or aircraft support to evacuate friendly and/or enemy casualties. The MEDAVAC tab group is accessed from Combat Msgs...

- a. Select the MEDAVAC tab group. The system will display the combat messages MEDAVAC template.
- b. Select the Fill Loc button. The system will display the cursor as a cross hair.
- c. Select a location on the map. The system displays the location in the Location text box.
- d. Select the Fill LRF button. The system will input the location provided by the laser range finder.
- e. Select the Amb Patients + - text box. The system will display the cursor in the Amb Patients text box.
 - (1) Enter a number (0 to 99). The system displays the number in the numeric keypad display window.
 - (2) Select the + button to increase the quantity or select the - button to decrease the quantity. The system will increment or decrement the quantity displayed in the text box.
- f. Select the Ltr Patients + - text box. The system will display the cursor in the Ltr Patients text box.
 - (1) Enter a number (0 to 99). The system displays the number in the numeric keypad display window.
 - (2) Select the + button to increase the quantity or select the - button to decrease the quantity. The system will increment or decrement the quantity displayed in the text box.
- g. Select the Marking combo box down arrow button. The system will display the Marking options list. Select an option from the list. The system displays the selection in the Marking combo box.
- h. Select the Color combo box, down arrow button. The system will display the Color options list. Select an option from the list. The system displays the selection in the Color combo box.
- i. Select the Pickup Zone Hot check box. (This is an optional field and does not need to be filled.) The system will display a check mark in the Pickup Zone Hot text box.
 - (1) Select the MEDAVAC Priority combo box down arrow button. Make a selection from the option list. The system will display the MEDAVAC Priority options list.
 - (2) Select the NBC Cont combo box, down arrow button. Make a selection from the option list. The system will display the NBC Cont options list.
 - (3) Select the Security combo box down arrow button. Make a selection from the option list. The system will display the Security options list.
- j. Select the Save button if you desire to save the message. The system will save the message and display the Message saved to file spot DTG.
- k. Select the Send button if you desire to send the message. The system will display the Last MEDEVAC message sent DTG.
- l. Select the Close button when you desire to close the message box. The system will close the combat messages template.

5. Prepare and send a nuclear, biological, chemical (NBC) 1 message.

NOTE: NBC 1 is accessed from Combat Msgs... The Nuclear Biological Chemical One (NBC 1) message allows you to transmit observer's basic data on a single NBC attack.

- a. Select the NBC 1 tab group. The system will display the combat messages NBC 1 template.
- b. Select the NBC Event Type combo box, down arrow button. (This is a mandatory field and must be filled). The system will display the NBC Event Type options list. Select an option from the list. The system displays the selection in NBC Event Type combo box.
- c. Verify the DTG.

Performance Steps

- (1) If the DTG is incorrect, enter the correct DTG. The system will display the current DTG in the text box.
- (2) Or, enter the DTG (Alphanumeric DDHHMMZmmmYY). The system will display the DTG entered.
- d. Select the Now button. The system will display the current DTG in the DTG text box.
- e. Select the Delivery Means combo box, down arrow button. Make a selection from the option list. The system will display the Delivery Means options list.
- f. Select the Fill Loc button. The system will display the cursor as a cross hair. Select a location on the map. The system displays the location in the Location of Attack text box.
- g. Select the Fill LRF button. The system will input the location provided by the laser range finder.
- h. Select the Save button if you desire to save the message. The system will save the message.
- i. Select the Send button if you desire to send the message. The system will transmit the message.
- j. Select the Close button when you desire to close the message box. The system will close the combat messages template.

6. Prepare and send a check fire message.

- a. Select the Check Fire All tab group. The system will display the Check Fire All tab group.

NOTE: The Check Fire All tab group allows you to send an immediate Check Fire command for all active fire missions in the Summary tab group.

- b. Select the Check Fire All radio button. The system will black fill the Check Fire All radio button.
- c. Select the Send button if you desire to send the message. The system will transmit the message.
- d. Select the Close button when you desire to close the message box. The system will close the combat messages template.

7. Prepare and send a SITREP.

- a. Select the SITREP tab group.

NOTE: The combat messages SITREP tab group displays a color coded graphical representation of your own situation and the situation of those units/platforms subordinate to you.

NOTE: The color key is as follows: black (not mission capable), red (marginally mission capable with major deficiencies), amber (mission capable with only minor deficiencies), and green (full strength).

NOTE: The SELF tab displays a color coded graphical representation of your own situation.

- b. Select your vehicle to EDIT your status.
- c. Select the Send button if you desire to send the message. The system will transmit the message.
- d. Select the Close button when you desire to close the message box. The system will close the combat messages template.

NOTE: The system will return to the main function bar upon closing a message.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Select the Combat Msgs... button.	—	—
2. Prepare and send a SALT combat message.	—	—
3. Prepare and send a Call for Fire combat message.	—	—
4. Prepare and send a MEDEVAC combat message.	—	—
5. Prepare and send an NBC 1 combat message.	—	—

Prepare Force XXI Battle Command Brigade and Below (FBCB2) for Operation 171-145-0002

Conditions: In a field or garrison environment, given a digital vehicle and appropriate TM. Your vehicle has an operational Applique+ computer with Force XXI Battle Command Brigade-and-Below (FBCB2) 3.0 system software loaded, precision lightweight global positioning system receiver (PLGR), enhanced position location radio system (EPLRS), and single-channel ground air radio system (SINCGARS) with internet controller (INC).

Standards: Prepare the FBCB2 and its components for operation in accordance with the TM. At a minimum, you must -- (1) Conduct -- (a) Pre-operations check and services. (b) PLGR start up. (c) EPLRS start up. (d) SINGARS start up. (e) Applique+ computer start up. (2) Set up FBCB2 for operations such as system administration duty, log-on, setup the map, check system status, configure the filters screen, and configure platform settings.

Performance Steps

1. Conduct pre-operations checks and services.

WARNING: Conduct the following checks and services with the vehicle MASTER POWER off.

WARNING: On M998, M1026, and M1038 vehicles, the display on the computer may obstruct the view of the front windshield and/or side window.

WARNING: Make sure all computer cables are properly stowed to reduce tripping hazards and to reduce damage to the cables and connected equipment.

CAUTION: Do not connect loose cables. Improper cable hookups and electrostatic discharge (ESD) can permanently damage equipment. Notify unit maintenance.

CAUTION: Do not shut down computer power without first following software shutdown procedures.

- a. Adjust and align the display with a pillar to optimize field-of-view since the display unit on the computer might obstruct the view of the front windshield and/or side window..
- b. Check for loose hardware, dents, cracks, damage to the exterior of the computer unit, display unit, and keyboard.
- c. Check for cracks and scratches on the display unit glass.
- d. Secure the display unit in the desired (for comfort and for better view) position.
- e. Check the keypad for sticking keys or a broken keypad membrane seal.
- f. Clean the display screen and keyboard with a soft water-damp rag.
- g. Make sure the cooling fins on the CPU rear of the display are not dirty or blocked.
- h. Physically check the PLGR antenna for damage.

NOTE: Notify unit maintenance of any damage or missing parts.

2. Perform PLGR start up.

NOTE: The vehicle MASTER POWER and/or TURRET power switch must be ON to conduct the following log-on procedures.

- a. Press the ON BRT button for 2 seconds to turn the PLGR on.

Performance Steps

NOTE: The PLGR will conduct a self-test. To display any faults found press the MENU button and select STATUS for details.

NOTE: If faults are found conduct troubleshooting procedures for the PLGR.

NOTE: It may take as long as 15 minutes for the PLGR to acquire satellites. Make sure the PLGR has a good line-of-sight (LOS) to the sky. The platform should not be under a roof or any large overhead obstruction.

- b. Adjust the display's back lighting according to unit standing operating procedures (SOP).

3. Perform EPLRS start up.

NOTE: If the vehicle is not equipped with EPLRS go to step 4.

- a. HMMWV-Type Vehicles Only. Place CB1, CB2, and CB3 switches on the power junction box in the ON (up) position.
- b. Turn the EPLRS power switch to ON+AUDIBLE.

NOTE: The EPLRS unit will perform a self-test.

NOTE: The power indicator LED is green. The alarm indicator will come on if COMSEC is not loaded.

- c. Press repeatedly the URO RCVD key, until URO (EAST/BRG and NORTH/RNG fields) displays:
 - (1) @C -- this is a good fill.
 - (2) @1 -- this is an improper fill.

NOTE: It may take several minutes for EPLRS to enter the net.

- d. At EPLRS, observe the OUT-OF-NET indicator. If you see no red light, EPLRS is ready.
- e. If a steady or blinking red light is displayed, see the TM.

4. Perform SINCGARS start up.

- a. At the amplifier-adaptor, turn the CB1 power switch to ON. A green light is displayed.
- b. At the radio receive/transmit (RT), verify the following switches are set per unit SOP.
 - (1) VOLUME.
 - (2) CHANNEL.
 - (3) MODE.
 - (4) COMSEC.
- c. At radio RT, turn the FCTN switch to SQ-ON.
- d. Press and release the DATA button.

5. Perform Applique+ computer start up.

- a. Push the CB1 circuit breaker to the ON position on the CPU.
- b. Start the computer by pressing the PWR button for 2 seconds and releasing it. Initially, all LEDs cycle in sequence.

NOTE: The system will display the "SESSION MANAGER SCREEN."

NOTE: The session manager provides access to the operations (Ops) application, system administration (Sys Admin) application, playback application, and the re-boot, shutdown, and log-on functions.

NOTE: The session manager screen is divided into three areas: (1) The classification bar occupies the upper portion of the session manager functions bar. The security classification label displays the current operational security classification while the background color depicts the appropriate security color code: red (secret), yellow (sensitive but unclassified), and green (unclassified). (2) The Background Picture Area displays a static picture while the computer is in the Session Manager function. (3) The log-in dialog box and count down timer will be displayed when the CPU has completed the initial start-up sequence.

- c. Click on CANCEL TIMEOUT button on the log-in dialog box to close the dialog box and remain at the session manager screen.

NOTE: If the countdown timer is allowed to go to zero, the EBC process will start automatically.

- d. Select the unclassified/classified security mode as needed by entering a password.
- e. Select the Sys Admin button. The system will display the System Admin dialog box.

Performance Steps

NOTE: Only authorized personnel may enter the system admin area.

NOTE: The system administration application contains functions that allow the user to clear logs and queues; set the system time and mouse movements, display host, and network or message information; and clear, re-boot, or reload the router.

- (1) Select the Select User Name button. The system will display the user name options.
 - (a) Select Applique. The system will display the user name option.
 - (b) Enter your password. The system will display asterisks in the Password text box.
 - (c) Select the Continue button. The system will display the System Administration dialog box.

NOTE: This allows you into the system. There are five tabs: Miscellaneous, Configure System, Tools, Database Tools, and Load Data.

NOTE : System managers use only Miscellaneous, Tools, and Database Tools at this time.

- (2) Select the Miscellaneous tab group.

NOTE: The Miscellaneous tab group allows you to clear queues and logs.

NOTE: The clear logs and queues function allows the user to delete queues, logs, user folder entries and situational awareness data from the system memory.

- (a) Select the Clear Logs and Queues button. The system will display the CLEAR Q dialog box.
- (b) Select 1 under Clear Queues and Logs to delete situational awareness (SA) data.
- (c) Select the Enter key. The system will display the query "ARE YOU SURE?"
- (d) Select Y and the Enter key and the system will delete all SA data from memory.
- (e) Select 2 under Clear Queues and Logs to delete communication logs. The system will display the number "2" at the cursor location.
- (f) Select the Enter key. The system will display the query "ARE YOU SURE?"
- (g) Select Y and the Enter key and the system will delete all communication data in memory.
- (h) Select 3 under Clear Queues and Logs to delete user defined settings (display set, map set, address groups, and map location). The system will display the number "3" at the cursor location.
- (i) Select the Enter key and the system will display the query "ARE YOU SURE?"
- (j) Select Y and the Enter key and the system will delete all user defined settings.
- (k) Select 4 under Clear Queues and Logs to delete all messages. The system will display the number "4" at the cursor location.
- (l) Select the Enter key and the system will display the query "ARE YOU SURE?"
- (m) Select Y and the Enter key and the system will delete all messages.
- (n) Select 5 under Clear Queues and Logs to reset the system. The system will display the number "5" at the cursor location.
- (o) Select the Enter key and the system will display the query "ARE YOU SURE?"
- (p) Select Y and the Enter key. The system will be reset.
- (q) Enter the letter Q in the cursor location to quit the clear queues and logs functions.
- (r) Select the Enter key and the system will quit the clear queues and logs functions and the display the Sys Admin dialog box.

- (3) Select the Tools tab group.

NOTE: The Tools tab group is accessed from Session Manage -- Sys Admin.

NOTE: The Tools tab group allows you to set the system time and mouse movement and clear, re-boot, or reload the router.

- (a) Select the Set Time button. The system will display the time window with the Current System Time prompt.

NOTE: The Set Time button allows you to set the system time.

- (b) Enter the current system time [(YYMMDD)hhmm(ss)]. The system will display the time at the cursor location on the screen.
- (c) Select the Enter key. The system will display the query "IS THIS CORRECT?"

Performance Steps

- (d) Select Y and the Enter key. The system will apply the correct time to the system.
- (e) Select the Set Mouse button. The system will display the Set Mouse Movement Settings dialog box.

NOTE: The Set Mouse button allows you to set mouse movement and acceleration.

- (f) Select the acceleration slider and drag it left or right to the desired acceleration level.
- (g) Select the distance before the mouse acceleration slider and drag it left or right to the desired distance.
- (h) Select the Apply button. The system will apply the settings.
- (i) Select the Default button if you wish to set the default setting and not set the mouse yourself.
- (j) Select the Done button. The system will close the Mouse Movement Settings window and the display the Admin Tools main screen.
- (k) Select the Communications (Comm.) Tools button.

NOTE: The Communications Tools button is accessed from Session Manage -- Systems Admin. Tools.

NOTE: The Communications Tools function allows you to clear, re-boot, or reload the router.

- (l) Select the Clear Router button. The system will display the router selection list.

NOTE: The Clear Router button is accessed from Session Manage -- Systems Admin. Tools.

NOTE: The Clear Router function allows you to clear the system router.

- (m) Select the Router 1 radio button. The system will black fill the radio button.
- (n) Or, select the Router 2 radio button. The system will black fill the radio button.
- (o) Or, select the Both Router 1 and 2 radio button. The system will black fill the radio button.
- (p) Select the Continue button. The system will clear the selected router(s).
- (q) Or, select the Cancel button. The system will display the Communication Configuration dialog box.
- (r) Select the Re-boot Router button.

NOTE: The Re-boot Router button is accessed from Session Manage -- Systems Admin. Tools.

NOTE: The re-boot router function allows you to re-boot the system router.

- (s) Select the Router 1 radio button. The system will black fill the radio button.
- (t) Or, select the Router 2 radio button. The system will black fill the radio button.
- (u) Or, select the Both Router 1 and 2 radio button. The system will black fill the radio button.
- (v) Select the Continue button. The system will clear the selected router(s).
- (w) Or, select the Cancel button. The system will display the Communication Configuration dialog box.
- (x) Select the Reload Router button.

NOTE: The reload router function allows you to reload the system router.

- (y) Select the Router 1 radio button. The system will black fill the radio button.
- (z) Or, select the Router 2 radio button. The system will black fill the radio button.
- (aa) Or, select the Both Router 1 and 2 radio button. The system will black fill the radio button.
- (ab) Select the Continue button. The system will clear the selected router(s).
- (ac) Or, select the Cancel button. The system will display the Communication Configuration dialog box.
- (ad) Select the Calibrate Touchscreen button. The system will display the calibration screen with a bull's eye target at the lower left of the screen.
- (ae) Select the center dot of the target bull's eye. The system will display the calibration screen with a bulls eye target at the upper right of the screen.
- (af) Select the center dot of the target bull's eye, to close the calibration screen and display the osc_touch_calibrate.ksh dialog box.
- (ag) Enter the letter Y and select the Enter key to close the osc_touch_calibrate.ksh dialog box.

- (4) Select the Database Tools tab group.

- (a) Select the Host Information button. The system will display the Node Information dialog box.

Performance Steps

NOTE: The Host Information is accessed from Session Manager -- Sys. Admin -- Tools -- Database Tools.
 NOTE: The Host Information function tells who you are and your communication status. It will also let you view someone else's information and status.

- (b) Enter the number 1 at the cursor location on the screen.
- (c) Select the Enter key. The system will display the query "RUN THE REPORT ON THIS NODE?"
- (d) Select the letter Y.
- (e) Select the Enter key. The system will display the Node Information report for your computer.
- (f) Select the number 2 at the cursor location on the screen if you want a Node report on a unit.
- (g) Select the Enter key. The system will display the query "PLEASE ENTER A URN ."
- (h) Enter a URN.
- (i) Select the Enter key. The system will display the Node information report for the URN entered.
- (j) Enter the letter Q at the cursor location.
- (k) Select the Enter key. The system will quit the Clear Queues and Log function and display the Sys. Admin dialog box.
- (l) Select the Network Information button. The system will display the Network Information dialog box and the display the query "PLEASE ENTER A BROADCAST URN."

NOTE: The Network Information is accessed from Session Manager -- Sys. Admin -- Tools -- Database Tools.

NOTE: The Network Information tells you what broadcast network they are on and who else is on that network.

- (m) Enter a URN.
- (n) Select the Enter key. The system will display the Broadcast Information Report for the URN entered.
- (o) Select the Enter key and the system will exit the report and return to the Database Tools tab group.
- (p) Select the Message Information button. The system will display the applique dialog box and the display a query "ENTER A MESSAGE NUMBER."

NOTE: The Message Information is accessed from Session Manager -- Sys. Admin -- Tools -- Database Tools.

NOTE: The Message Information function will allow you to return information such as addresses and transmission settings to the original status.

- (q) Enter a Message Number.
- (r) Select the Enter key. The system will display the Message Information report for the Message Number entered.
- (s) Select the Enter key. The system will exit the report and return to the Database Tools tab group.
- (t) Select the SW Version Information button. The system will display the applique dialog box and the query "ENTER A MESSAGE NUMBER."

NOTE: The SW Version Information is accessed from Session Manager -- Sys. Admin -- Tools -- Database Tools.

NOTE: The Software Version Information function gives you the software version, dates, and patches of the FBCB2 system loaded on your platform.

- (u) Enter the Message Number.
- (v) Select the Enter key. The system will display the Message Information report for the Message Number entered.
- (w) Select the Enter key. The system will exit the report and return to the Database Tools tab group.

f. Select the Playback button from the function bar. The system will display a list of Playback files.

Performance Steps

NOTE: The Playback function button is accessed from Session Manager.

NOTE: The Playback function allows you to access the Playback functionality. The system will playback the contents of the selected file combined with all data logged after the time stamp on the selected file. The software continues to playback files in sequential order until the user selects Exit or the end of the playback files is reached.

(1) Select a file name. The system will highlight the filename and the display the filename in the File text box.

(2) Select the Continue button. The system will start the playback.

(3) Or, select the Cancel button. The system will clear the File text box and pause.

(4) Select the Exit button. The software will display a prompt for conformation.

(5) Select the Yes button. The system will end the Playback mode and return to the Session Manager screen.

g. Select the On line function button from the function bar.

NOTE: The On line function button is accessed from Session Manager.

NOTE: The On line function allows you to work on-line while the FBCB2 system is still receiving and processing data from the network. When system is brought up it defaults to the on-line mode.

h. Select the Off line function button from the function bar.

NOTE: The Off line function button is accessed from Session Manager.

NOTE: The Off line function allows you to work off line while the system is not receiving and processing data from the network.

i. Select the Re-boot function button from the function bar.

NOTE: The Re-boot function button is accessed from Session Manager.

NOTE: The Re-boot button allows you to re-boot the FBCB2 software. The system will clear the screen and perform a UNIX re-boot. Upon completion the system will display the FBCB2 Session Manager screen.

j. Select the Shutdown function button from the function bar.

NOTE: The Shutdown function button is accessed from Session Manager.

NOTE: The shutdown function allows you to shutdown the entire FBCB2 system software. This procedure must be followed whenever the system is to be powered off.

k. Select Unit/Role label from the function bar.

NOTE: The Unit/Role function button is accessed from Session Manager.

NOTE: When accessing FBCB2, you are uniquely identified by your operational name, which defines your operational security role, echelon and unit. The Unit/Role text box will display the role assigned to your platform on the Situational Awareness Function Bar also.

l. Select the Password text box.

NOTE: The Password function button is accessed from Session Manager.

NOTE: This function is not implemented at this time.

m. Select the Log-in button.

NOTE: The Log-in function button is accessed from Session Manager.

NOTE: The Log-in function is used to activate the selected application (i.e., Ops, Apps, or Sys. Admin) after your password is entered in the Password text box.

n. Select the Change Role button.

NOTE: The Change Role function button is accessed from Session Manager.

o. Return to Session Manager main menu screen.

6. Select the Ops button on the Session Manager Function Bar to setup the FBCB2 for operation.

NOTE: This will bring up the main operating screen consisting of three areas: (1) The Classification/Status Bar upper portion of the screen. (2) The Situational Awareness (SA) display area. (3) The Function Bar located on the right side of the screen.

NOTE: The Operations (Ops) Function Bar consists of several function buttons, a local time display and battlefield context display. All Ops functions are accessed through the Function Bar. The Function Bar remains visible throughout the Ops application.

a. Select the Role/Platform/Unit Location button from the Ops Function Bar. The system will display your platform coordinates in the format selected with the Cursor Location button.

Performance Steps

NOTE: The Role/Platform/Unit Location button toggles between displaying your assigned Role/Unit designation and your platform location coordinates.

- b. Select the Role/Platform Location button. The system will display your role identification on the button.
- c. Select the Cursor Location button from the Ops Function Bar. The system will display all coordinate labels in the Universal Transverse Mercator (UTM) format.

NOTE: The Cursor Location button displays the coordinates of the cursor position while it is over the map. It is also a toggle switch; when the button is selected, it changes the coordinates format. The selected format controls the format of all coordinates displayed or referenced in FBCB2.

- (1) Select the Cursor Location button. The system will display all coordinate labels in the Latitude/Longitude (Lat/Long) format.
- (2) Select the Cursor Location button. The system will display all coordinate labels in the Degrees Minutes Second (DMS) format.
- (3) Select the Cursor Location button. The system will display all coordinate labels in the Military Grid Reference System (MGRS) format.

NOTE: The most commonly used is the MGRS format.

- d. Select the Map button from the Ops Function Bar or F1 on your the keyboard.

NOTE: The Map Function allows you to choose the type, size, position and appearance of the Situational Awareness (SA) map the display.

- (1) Select the Background tab.

NOTE: The Background function allows you to choose the type, scale, zoom magnification, and appearance (brightness/contrast) of the map. The FBCB2 software defaults to the Compressed Arc Digital Raster Graphics (CADRG) format, which displays a digital map including contour lines, detailed fabricated features, and labels. The Vector Product Format (VPF) displays major man-made and natural features. Examples include cities, counties, major roads, rivers, and lakes. The Digital Terrain Elevation Data (DTED) type displays the terrain elevation using color graphics.

- (a) Select one or more Type check boxes (i.e., CADRG, VPF, or DTED). The system will display a check mark in the selected Type check box.
- (b) Select the Scale Down arrow and make a selection from the option list. The system will display the selection in the combo box.
- (c) Select the Zoom down arrow button. The system will display the zoom magnification option list. Select a magnification setting from the list. The system will display the selection in the combo box.
- (d) Select the Brightness control slider and drag the slider right and left to set the brightness of the SA display. The system will adjust the brightness of the SA display.
- (e) Select the Contrast control slider and drag the slider right and left to set the contrast of the SA display.
- (f) Select the Set Defaults button. The system will make the Background selection the default settings.
- (g) Or, select the Restore Defaults button. The system will restore the system defaults that were loaded at initialization.
- (h) Select the OK button. The system will apply the changes and close the window.
- (i) Or, select the Apply button. The system will apply the changes but will not close the window.
- (j) Select the Close button. The system will close the window and if you have not selected Apply will not apply the changes.

- (2) Select the Grid tab.

NOTE: The Grid tab group allows you to choose the coordinate type (i.e., Lat-Long, MGRS, UTM, or DMS) and accuracy of the displayed coordinates. You have the option to display computer generated grid lines on the SA display and you can choose the dimensions for grid line spacing and change the grid line color.

- (a) Select the Coordinate Type MGRS down arrow and make a selection from the option list. The system will display the selected option in the combo box.

Performance Steps

- (b) Select the MGRS Accuracy down arrow (if you select MGRS as your grid system) and make a selection from the option list. The system will display the option in the combo box.
 - (c) Select the Show Grid check box if you desire to display computer generated grid lines. The system will display a check mark in the check box.
 - (d) Select the grid line Spacing down arrow and make a selection from the option list. The system will display the option in the combo box.
 - (e) Select the grid line Color down arrow and make a selection from the option list. The system will display the option in the combo box.
 - (f) Select the Apply button. The system will apply the changes.
 - (g) Or, select the Set Defaults button. The system will make the Grid changes the default settings.
 - (h) Or, select the Restore Defaults button. The system will reset the system defaults that were loaded at initialization.
 - (i) Select the OK button. The system will execute the changes and close the dialog box.
- (3) Select the Center tab.

NOTE: The Center tab is accessed from Ops Map... or F1.

NOTE: The Center tab group allows you to center the map on your own location, a friendly location, an enemy location, a georeference location, or a location previously added to the list.

- (a) Select the Unit/Platform tab. The system will display the Unit/Platform tab group.
 - (b) Select the Unit/Platform down arrow and make a location from the option list. The system will highlight the selection.
 - (c) Select the Apply button. The system will center the map on the selected location.
 - (d) Select the Details button. The system will display the Hook Info Dialog box and highlight the icon on the SA.
 - (e) Select the Loc tab and the system will display the location tab. Select a location from the list. The system will highlight the selection.
 - (f) Select the Apply button. The system will center the map on the selected location.
 - (g) Select the Fill location button and select a location on the map. The system will display the coordinates of the selection in the Location text box.
 - (h) Select the Apply button. The system will center the map on the selected location.
 - (i) Select the Scroll tab. The system will display the Scroll tab group.
 - (j) Select a [Direction Arrow] button. The system will scroll the map 1/2 screen page in the direction of the selected arrow.
 - (k) Select the Close button. The system will close the map dialog box.
- e. Select the Filters... button or F2 on your the keyboard. The system will display the Filter Dialog box.

NOTE: The Filters function button is accessed from the Ops button.

NOTE: The filters function allows the user to de-clutter the SA display area by choosing the objects you want displayed. Objects not selected for the display remain in memory and can be selected for the display at any time.

- (1) Select the All On button. The system will display all objects on the SA display.
- (2) Or, select the All Off button. The system will hide all objects on the SA display.
- (3) Select a Labels radio button. The system will show all or no labels on the SA display.
- (4) Select a Friendly radio button. The system will show all or no friendly units on the SA display or if Select is chosen, the system will display the Friendly options group.
- (5) Select any or all of the Currency check boxes. The system will show all friendly units that are applicable to be selected Currency.
- (6) Select either of the Dimension check boxes. The system will show all friendly Air and/or Ground the vehicles.
- (7) Select the All or None Unit Type radio button. The system will show all or no friendly Unit Types on the SA display.
- (8) Or, select the Unit Type Select radio button. The system will display the friendly Unit Types options list.

Performance Steps

- (9) Select any number of Unit Types from the list. The system will highlight each Unit Types selected.
- (10) Select the All or None Echelon radio button. The system will show all or no friendly unit Echelons on the SA display.
- (11) Or, select Echelon All Select radio button. The system will display the enemy unit Echelons option list.
- (12) Select any number of Echelons from the list. The system will highlight each echelon selected.
- (13) Select any or all of the Source of info (ASAS FAAD Spot Rpt) check boxes. The system will show SA information received from the selected sources.
- (14) Select an unknown (All or None) radio button. The system will display all or no Unknown objects on the SA display.
- (15) Select a Georeference (All or None) radio button. The system will display all no Georeference objects on the SA display.
- (16) Select an Overlays (All or None) radio button. The system will show all or no Overlays on the SA display or if Select is chosen.
- (17) Or, Select the Select Overlays (All or None) radio button. The system will display the Overlays options group.
- f. Select the check box nest to the desired overlay. (To unload one or more overlays). The system will display a check mark in each box selected.
 - (1) Select the Unload selected button. The system will unload all selected overlays.
 - (2) Or, to unload all of the overlays - Select the Unload All button. The system will unload all overlays.
 - (3) Select the close button. The system will close the dialog box.
- g. Select the Status button.

NOTE: The status button is accessed from Ops or F5 button.

NOTE: The status button allows you to view the communication, SA data, network information, and Disk Usage status for your platform.

- (1) Select the Systems tab group. The system will display the Systems tab group.
- (2) Double click the GPS folder. The system displays the status of the subsystems.
- (3) Select the Refresh button. The system will update the current status.
- (4) Double click Local Comm. folder. The system will display the Local Comm. subsystem.
- (5) Select the Refresh button. The system will update the current status.
- (6) Or, select the SA tab group. The system will display the SA tab group.
 - (a) Select the net1 radio button. The system displays the status of the net1 group.
 - (b) Or, select the net2 radio button. The system displays the status of the net2 group.
 - (c) Select the refresh button. The system will update the current system status.
- (7) Select the General tab group. The system will display the General status options.
 - (a) Select the Refresh button. The system will update the current system status.
 - (b) Select the Close button. The system closes the Status Dialog box.
- h. Select the Admin.. button.

NOTE: The Admin.. button is accessed from the Ops button or F6.

NOTE: The Admin Button displays the Admin dialog box that contains Platform Settings, Local Display Settings, SA Settings, Location and Miscellaneous.

- (1) Select Platform Settings.

NOTE: The Platform Settings tab group is accessed from the Ops Admin.. button.

NOTE: The Platform Settings tab group allows you to set the Audio Alerts feature, the Message Send Warning feature, the Voice Alerts feature, and the Warning Time Interval.

- (2) Select the Location tab. The system will display the Location tab group.
 - (a) Select the Fill Loc button. The system will display the cursor as a cross hair.
 - (b) Select a location on the SA map. The system will display the location in the Location text box.

Performance Steps

- (3) Select the Quality down arrow button. The system will display the Quality Accuracy options list.
 - (a) Select an option from the list. The system the displays the cursor in the Quality combo box.
 - (b) Select the Course text box. The system will display the cursor in the Course text box.
 - (c) Enter the Course data (Numeric 1 to 359 degrees). The system will display the data in the Course text box.
 - (d) Select the Speed: text box. The system will display the cursor in the Speed text box.
 - (e) Enter the speed data (Numeric 0 to 124 KPH). The system will display the data in the Speed: text box.
 - (f) Select the Elevation: text box. The system will display the cursor in the Elevation text box.
 - (g) Enter the Elevation: data. The system will display the data in the Elevation: text box.
- (4) Select the Misc tab. The system will display the Misc tab group.

NOTE: The Miscellaneous tab group is used to set the MEDEVAC Call sign and Network frequency.

- (5) Select the OK button. The system will apply the changes and close the Admin Dialog box.
 - (a) Or, select the Apply button. The system will apply the changes made in the Admin Dialog box.
 - (b) Or, select the Close button. The system will display an Unapplied Confirmation Dialog box.
- (6) Select the Apply All button. The system will apply all changes and close the Admin Dialog box.
 - (a) Or, Select the Cancel button. The system will cancel the Unapplied Confirmation Dialog box and return to the Admin Dialog box.
 - (b) Or, select the Close button. The system will close the Admin Dialog box without applying the changes.
- (7) Select the Local Disp Setting tab to display the Local display Settings tab group.

NOTE: The Local display Setting tab group is used to toggle on and off the Audio Alerts, Message Send Warnings, and Voice Alerts. It also sets the Warning Time Interval and Local Time Zone.

NOTE: Set the Local display Setting according to unit SOP.

- (8) Select the SA Setting tab to display the situational awareness settings.

NOTE: The SA Setting tab group is used to set filters that effect the amount of time the system will display friendly and enemy icons on the SA Map.

NOTE: Set SA Setting according to unit SOP.

- i. Select Apply to apply changes and Close to return to the Operations screen.

Performance Measures

1. Conduct pre-operations checks and services.
2. Perform PLGR start up .
3. Perform EPLRS start up.
4. Perform SINCGARS start up.
5. Perform Applique+ computer start up.
6. Setup FBCB2 for operation.

GO **NO GO**

_____	_____
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Perform Message Management Using FBCB2

171-145-0006

Conditions: In a field environment, as a digital vehicle commander, you have received an operation order (OPORD) or fragmentary order (FRAGO) to perform a tactical operation. You have an operational Force XXI Battle Command Brigade-and-Below (FBCB2) 3.0 system.

Standards: As a minimum, you must -- (1) Select the FIPR button or use F2 on the keyboard to read any message. (2) Select the Long Message button or use F4 on the keyboard to create messages. (3) Set transmission settings and send messages that you create.

Performance Steps

1. Select the FIPR (flash, immediate, priority, routine) button when any message is received and you want to read it or use F2 on the keyboard.

NOTE: The system ranks messages by precedence as set by VMF (variable message format). The number at the end of the FIPR button represents the total number of messages received by the system and not read. The yellow exclamation mark (!) on the FIPR button informs the user that one or more warning messages are on the queue. The yellow plus (+) mark informs the user that an operator response is requested.

NOTE: As messages are received, the user is alerted by the flashing of the appropriate queue button accompanied by an audible tone if an operator response is requested.

- a. Select the FLASH tab when you want to read a flash (highest precedence) message.

NOTE: The system displays a screen with the following five columns.

- (1) Select the Alert column. It contains a yellow exclamation mark when the system receives an alert or warning message. Selecting the Alert tab causes the system to sort the messages with the yellow exclamation mark to the top of the queue.
 - (2) Select the Time column. This section displays the generated date time group (DTG) of the message. Selecting the Time tab causes the system to sort the message with the most recent message at the top.
 - (3) Select the Msg Type column. This section displays the message type. Selecting the Msg Type tab causes the system to sort the messages in alphabetical order, based on the message type.
 - (4) Select the OR (operator response) column. This section displays a Y if the message requires an operator response. Selecting the OR tab causes the system to sort the messages that require an operator response to be displayed at the top.
 - (5) Select the Source Originator column. This section displays the unit/platform description of the message's sender. Selecting the Source Originator tab causes the system to sort the messages in alphabetical order, based on the source.
- b. Select the Immediate tab when you want to read an immediate (second highest precedence) message.

NOTE: The system displays a screen with the following five columns.

- (1) Select the Alert column. It contains a yellow exclamation mark when the system receives an alert or warning message. Selecting the Alert tab causes the system to sort the messages with the yellow exclamation mark to the top of the queue.
- (2) Select the Time column. This section displays the generated date time group (DTG) of the message. Selecting the Time tab causes the system to sort the message with the most recent message at the top.
- (3) Select the Msg Type column. This section displays the message type. Selecting the Msg Type tab causes the system to sort the messages in alphabetical order, based on the message type.
- (4) Select the OR (operator response) column. This section displays a Y if the message requires an operator response. Selecting the OR tab causes the system to sort the messages that require an operator response to be displayed at the top.

Performance Steps

- (5) Select the Source Originator column. This section displays the unit/platform description of the message's sender. Selecting the Source Originator tab causes the system to sort the messages in alphabetical order, based on the source.

c. Select Priority tab when you want to read a priority (third highest precedence) message.

NOTE: The system displays a screen with the following five columns.

- (1) Select the Alert column. It contains a yellow exclamation mark (!) when the system receives an alert or warning message. Selecting the Alert tab causes the system to sort the messages with the yellow exclamation mark to the top of the queue.
- (2) Select the Time column. This section displays the generated date time group (DTG) of the message. Selecting Time tab causes the system to sort the message with the most recent message at the top.
- (3) Select the Msg Type column. This section displays the message type. Selecting the Msg Type tab causes the system to sort the messages in alphabetical order, based on the message type.
- (4) Select the OR (operator response) column. This section displays a Y if the message requires an operator response. Selecting the OR tab causes the system to sort the messages that require an operator response to be displayed at the top.
- (5) Select the Source Originator column. This section displays the unit/platform description of the message's sender. Selecting the Source Originator tab causes the system to sort the messages in alphabetical order, based on the source.

d. Select the Routine tab when you want to read a routine (lowest precedence) message.

NOTE: The system displays a screen with the following five columns.

- (1) Select the Alert column. It contains a yellow exclamation mark when the system receives an alert or warning message. Selecting the Alert tab causes the system to sort the messages with the yellow exclamation mark to the top of the queue.
- (2) Select the Time column. This section displays the generated date time group (DTG) of the message. Selecting Time tab causes the system to sort the message with the most recent message at the top.
- (3) Select the Msg Type column. This section displays the message type. Selecting the Msg Type tab causes the system to sort the messages in alphabetical order, based on the message type.
- (4) Select the OR (operator response) column. This section displays a Y if the message requires an operator response. Selecting the OR tab causes the system to sort the messages that require an operator response to be displayed at the top.
- (5) Select the Source Originator column. This section displays the unit/platform description of the message's sender. Selecting the Source Originator tab causes the system to sort the messages in alphabetical order, based on the source.

e. Select the Warning tab when you want to read a warning message (machine generated).

f. Select the Display button. When the display button is selected it will display the highlighted message.

NOTE: If there are no overlays loaded, a dialog box displays the prompt "NO OVERLAY IS LOADED, DISMISS."

NOTE: When the message is closed, the Operator Response Dialog Window automatically becomes active whenever a message requires an operator response.

NOTE: When you desire to forward a message, you must save the message before sending it. You must do this from the Long Message button below.

- (1) Select the Delete button. When the Delete button is selected it will delete the highlighted message.
- (2) Select the Refresh button. When the Refresh button is selected it will refresh or update the queue.
- (3) Select the Close button. When the Close button is selected it will close the FIPR messages and return to the main Operation Screen.
- (4) Select the Help button.

Performance Steps

NOTE: When the Help button is selected it explains: (1) An exclamation point (!) on the FIRP button means that one or more Alert messages are on the queue. (2) A plus mark (+) on the FIRP button means that one or more messages with an operator's response is on the queue. (3) A number on the FIRP button indicates the total number of messages on the queue.

2. Select the Top button when you want the most recently received highest precedence message displayed.

3. Select the Long Message button or select F4 on your keyboard.

NOTE: When the Long Message button is selected, the system will display the following six tabs.

- a. Select the Send tab when you desire to send a message to designated addressees.
- b. Select the Create tab when you desire to create a new message.
- c. Select the Edit tab when you desire to either make corrections to a previously created message, move the message to another folder, or save it in the same folder using a different file name.

NOTE: The user has the ability to save messages which are repetitive and common. The user can save a generic message and quickly edit, send, and save it with the current information and a new name. This requires less time to create new messages. Users commonly refer to this procedure as canning.

d. Select the Print tab when you desire to print a hard copy of the selected message.

NOTE: Before using the print function, make sure your system is configured to use a printer.

e. Select the Manage tab to go into message management.

NOTE: The Manage tab allows you to manipulate messages. This action displays the Long Msg Dialog window for message management. In the center of the window, a display appears that shows the Folder/File tree. The left side of the window shows the message types available to you.

- (1) Select one or more message types from the Msg Type box when you desire to create a new folder. The system will display a check mark in the selected Msg Type block and display folders and file names.

NOTE: Folders, like directories, enable you to store and find messages quickly. There are two types of folders: (1) Pre-defined are created by the system. (2) User-defined are ones you create.

- (a) Select the Name text box.
- (b) Enter a name in the text box. It must be alphanumeric up to 15 characters.
- (c) Select the New Folder button. The system creates a new folder and displays it in the Manage window pane.

- (2) Select a folder/file name when you want to rename a folder/file.

NOTE: Use the Rename function when reorganizing or changing folder names. However, you cannot rename pre-defined Folders.

- (a) Select the Name text box. The system displays the selection name and cursor in the text box.
- (b) Enter the new name in the text box.
- (c) Select the Rename button. The system renames the file/folder.
- (3) Select a folder/file name you want deleted. The system will display the selection in the Name text box.

NOTE: The user cannot delete a system pre-defined folder.

NOTE: The system displays a deletion confirmation box in the lower left corner of the screen. The deletion confirmation contains the name of the folder selected for deletion. You must select Yes to confirm the deletion of the selected folder or No to cancel the delete function.

- (a) Select the Name text box
- (b) Select the Delete button. The system will display the Delete Folder confirmation dialog box.
- (c) Select the OK button. The system will delete the selected message.
- (d) Select the Close button. The system will close the Long Message dialog box.
- (4) Click on the message you want to move with the left mouse button, hold the center mouse button and drag the message from the folder it is in to the folder you want the message in.

Performance Steps

- (5) Select the Create tab to create a new Message. (See individual tasks 171-145-0007, 171-145-0008, 171-145-0009, and 171-145-0010 to create messages, orders, requests, reports, fires/alerts, or overlays).

NOTE: Two message fields exist within templates: mandatory and optional. Mandatory fields are the most important fields in the message templates. If a mandatory field is not filled or if the data is entered in the wrong format, the user cannot complete the edit, save, or send functions.

- f. Select the Sent Queue tab to sort or view messages sent to your platform.

NOTE: The Sent Queue tab, when selected, displays a table with sorting columns for Message Types, Time, Acknowledgement and sent status. It also allows you to view the contents of a sent message..

- (1) Select the Message Type button. The system sorts the Message Type column.
- (2) Select the Time button. The system sorts the Time column.
- (3) Select the Acks button. The system sorts the Acks column.
- (4) Select the Send Status button. The system sorts the Send Status column.
- (5) Select the Close button. The system will close the Sent Queue tab group.

4. Select the Transmission Settings... button to set default settings. This can be accessed from the Long Msgs button and the Send tab.

- a. Select the button from the Msg Type window pane. The system will display a check mark in the selection and display the folder/file list in the Send window pane.
- b. Select a message filename. The system will highlight the selection message.
- c. Select the Transmission Settings... button. The system will display the Transmission Dialog window.
- d. Select the Settings tab. The system will display the Settings tab group.
- e. Select the Emergency Cmd radio button when you want the message precedence to be emergency command. The system highlights the radio button and inserts the selection precedence into the header section of the selected message.
- f. Select the Flash radio button when you want the message precedence to be flash. The system highlights the radio button and inserts the selection precedence into the header section of the selected message.
- g. Select the Immediate radio button when you want the message precedence to be immediate. The system highlights the radio button and inserts the selection precedence into the header section of the selected message.
- h. Select the Priority radio button when you want the message precedence to be priority. The system highlights the radio button and inserts the selection precedence into the header section of the selected message.
- i. Select the Routine radio button when the message is routine. The system highlights the radio button and inserts the selection precedence into the header section of the selected message.
- j. Select the Machine Acknowledgement MA check block. The system will display a check mark in the box.

NOTE: A check in this box will flag the message causing the receiver's system to automatically send an acknowledgment message back to the sender upon receipt of your message.

- k. Select the Operator Acknowledgement OA check block. The system will display a check mark in the box.

NOTE: A check in this box will flag the message causing the receiver's system to send an acknowledgment message back to the user when the receiver displays this message.

- l. Select the Operator Response OR check block. The system will display a check mark in the box.

NOTE: A check in this box will flag the message causing the receiver to send an action response acknowledgment message back to the user.

- m. Select the Retries down arrow. Make a selection from the option list.

NOTE: The system can try to resend a message from zero to three times. The system default setting is two.

NOTE: To set the number of retries, pull down the menu and select the number from zero to three.

- (1) Flash tries to resend every 60 seconds.
- (2) Immediate tries to resend every 60 seconds.

Performance Steps

- (3) Priority tries to resend every 10 minutes.
- (4) Routine attempts to send every 30 minutes.
- n. Select the Perishability DTG text box. This indicates the date time group (DTG) when the message is no longer in effect.
- o. Select the Apply button. The system will apply the changes made to the transmission settings.
- p. Select the Cancel button. The system will NOT apply the changes.
- q. Select the OK button. The system will apply the changes.
- r. Select the Add Addressees tab.

NOTE: This function allows you to add an address to your information groups and your action groups.

- (1) Select the Select From down arrow. Make a selection from the option list.
- (2) Select the Selection text box and enter an address.
- (3) Select the Search button. The system will search the list for the address entered.
- (4) Select the Add to Information button. The system will add the selected address to the Info Addressees list.
- (5) Select the Add to Action button. The system will add the selected addressee to the Action Addressees list.
- (6) Select Apply or OK button.

NOTE: When you select Apply, the changes are made and the dialog box remains open. When you select OK, the changes are made and the dialog box is closed.

- s. Select the Action Addressees tab. The system will display the Action Addressees tab group.
 - (1) Select an address from the Action list. The system will highlight the selection.
 - (2) Select the Delete button. The system will delete the selection.
 - (3) Select the Delete All button. The system will delete all addressees.
 - (4) Select the Apply or OK button.

NOTE: When you select Apply, the changes are made but the dialog box remains open. When you select OK, the changes are made and the dialog box is closed.

- t. Select the Info Addressees tab. The system will display the Info Addressees tab group.
 - (1) Select an address from the Info list. The system will highlight the selection.
 - (2) Select the Delete button. The system will delete the selection.
 - (3) Select the Delete All button. The system will delete all addressees on the Info list.
 - (4) Select the Apply or OK button.

NOTE: When you select Apply, the changes are made and the dialog box remains open. When you select OK, the changes are made and the dialog box is closed.

- (5) Select the Cancel button. The system will not apply the changes.
- (6) Select the Close button. The system will delete all the selected changes, close the Transmission Settings template and return to the main screen.

- 5. Select the Send tab from the Long Message function. The system will display the Send tab group.
 - a. Make a selection from the Msg Type window pane. The system will display a check mark in the selection and display the folder/file list in the Send type window pane.
 - b. Select a message filename. The system will highlight the selected message.

NOTE: If the user attempts to execute a send before selecting a message, the system displays an error message. A message must be selected OK.

- c. Select the Execute button. The system will transmit the selected message and display a confirmation box.

NOTE: The system displays a message submitted for transmission conformation box in the center of the screen. This means the message was sent. There is an OK button in this box you must select it in order for the box to be removed from the screen.

- d. Select the Quick Send button. The system will open the Quick Send Button Setup dialog box.

NOTE: The Quick Send function allows you to transmit a predesignated message instantly. You can fill out the message template in advance, assign the message to one of two Quick Send buttons, and send the message instantly by selecting the button.

- (1) Select the top or bottom Quick Send message button. The system will highlight the selected radio button.

Performance Steps

- (2) Select a message from the Name Message Type window pane. The system will highlight the selected message.
- (3) Select the Display button to view the message contents. The system will display the message contents in the message dialog box.
 - (a) Select the Close button. The system will display the Close Verify dialog box.
 - (b) Select the Yes button. The system will close the message template dialog box.
- (4) Select the BUTTON LABEL text box and enter data (alphanumeric up to four characters).

NOTE: This is the name that will appear on the Quick Send Message Button on the main menu.

- (5) Select the BALLOON LABEL text box.
- (6) Enter data in the text box. The data must be alphanumeric up to 64 characters.
- (7) Select the OK button to close the dialog box and apply changes. Or, select the Apply button to apply the changes and the Close button to close the dialog box.
- (8) To send the message, select the Quick Send button from the Ops Function Bar.

Performance Measures**GO** **NO GO**

- | | | |
|----------------------------------|-------|-------|
| 1. Select FIPR. | _____ | _____ |
| a. Select Flash. | | |
| b. Select Priority. | | |
| c. Select Immediate. | | |
| d. Select Routine. | | |
| e. Select Warning. | | |
| f. Select Display. | | |
| g. Select Delete. | | |
| h. Select Refresh. | | |
| i. Select Close. | | |
| 2. Select Top. | _____ | _____ |
| 3. Select Long Message. | _____ | _____ |
| a. Select Send. | | |
| b. Select Create. | | |
| c. Select Edit. | | |
| d. Select Display. | | |
| e. Select Print. | | |
| f. Select Manage. | | |
| g. Select Sent Queue. | | |
| 4. Set Default Settings. | _____ | _____ |
| a. Select Precedence. | | |
| b. Set Acknowledgement. | | |
| c. Set Retries. | | |
| d. Select Perishability DTG. | | |
| e. Add Addresses. | | |
| f. Select Action Addresses. | | |
| g. select Information Addresses. | | |
| 5. Send a message. | _____ | _____ |
| a. Select Send. | | |
| b. Select Execute. | | |
| c. Quick Send Message. | | |

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier scores NO-GO, show him what was done wrong and how to do it correctly.

Prepare/Send Overlays Using FBCB2

171-145-0007

Conditions: In a field environment, given an operation order (OPORD), commander's guidance, and an operational Force XXI Battle Command Brigade-and-Below (FBCB2) 3.0 system.

Standards: As a minimum, you must -- (1) Create an overlay or select an overlay. (2) Change or edit an overlay. (3) Save the overlay. (4) Send an overlay.

Performance Steps

1. Select Overlays from the Create tab of the Message Dialog box or F4 on the keyboard.

NOTE: An overlay is a group of graphical objects displayed over the map in the situational awareness (SA) display area. The image displayed contains a combination of four display layers: map, SA elements, loaded overlays and current overlays. The user may cause any combination of these layers to appear on the screen in a preview mode, but not actually loaded. Thus, incoming overlays cannot be edited or toggled on/off until the overlay is saved to a folder. Current overlay is the overlay that is in use for the purpose of creating or editing. Only one overlay at a time can be designated as the current overlay.

NOTE: If your hardware is equipped with a two-button mouse, use the right and left mouse keys simultaneously to select an icon.

- a. Select the Execute button. The system will display the Overlay Toolbox dialog box.

NOTE: The system will display text data in the Overlay Type, Storage, Version, and Statistic fields when the user enters information in the Object Tab group.

- b. Select the Overlay Type drop down arrow button, to display the different overlay types. Select an option from the list.
 - c. Select the Reference Name text box to activate the text field. Enter a name.

NOTE: The Reference Name text box is an alphanumeric field.

- d. Select the Operation Set radio button. The system will display the Operation Set combo box with the current date-time group (DTG).
 - (1) If the DTG is not correct, select and highlight Mo: and enter the month (numeric 01 to 12). The system displays the month in the Mo: text box.
 - (2) Select and highlight Day: and enter the Day (numeric 01 to 31). The system displays the day in the Day: text box.
 - (3) Select and highlight Hr: and enter the hour (numeric 00 to 23). The system displays the hour in the Hr: text box.
 - (4) Select and highlight Min: and enter the minutes (numeric 00 to 59). The system displays the minute in the Min: text box.
 - e. Select and highlight Identification Num: and enter the number (numeric 00 to 99) in the text box. The system will display the number in the Num: text box.
 - f. Select and highlight Identification Yr: and enter the year (numeric 00 to 99). The system displays the year in the Yr: text box.

NOTE: If the Save As.. or the Send button is selected, the system will display a Warning dialog box with "THERE IS NO OBJECT TO SAVE." The user must select and enter data in the Object tab group.

- g. Select the Recalculate Size button to calculate and display the overlay file size in the Message Size information box.

NOTE: See the equipment operator's manual or pocket guide for maximum overlay size that can be transmitted.

- h. Select the Comment Set radio button to activate the comments field.

NOTE: The comments field holds a maximum 200 alphanumeric characters that will count towards your message size.

2. Select the Object tab group. The system will display the Object tab group.

Performance Steps

NOTE: The Object tab group allows the user to select areas, equipment, fire support, lines, obstacles, points and military units to include in the overlay. There are buttons that allow the user to select, copy, paste, cut, delete, undo, edit, and display information about objects on the overlay.

NOTE: If your hardware is equipped with a three-button mouse use the center button to select an icon. If your hardware is equipped with a two-button mouse use the right and left mouse keys simultaneous to select an icon.

- a. Select the GROUP tab to display the group tab group.
- b. Select the (+) preceding a folder in order to display the folder contents.
- c. Select an option from the folder list. The system will highlight the selection and display the related icon in the Preview box.
- d. Select the Attributes combo box in order to change the affiliation of the icon.
- e. Select the Add button to add the selected icon to the overlay.

NOTE: The overlay menu box will disappear and be replaced by the Create Object button bar.

- f. Select a point on the map with the left mouse button. The system will display the icon on the SA map.
- g. Select the OK button. This will close the Create Object button bar.
- h. Repeat steps 2.a. through 2.g. until the overlay is completed.
- i. Add lines and areas.
 - (1) Select the Areas or Lines folder.
 - (2) Select the (+) preceding a folder in order to display the folder contents.
 - (3) Select an option from the folder list. The system will highlight the selection and display the related icon in the Preview box.
 - (4) Select the Attributes combo box in order to change the attributes.
 - (5) Select the Add button to add the selected icon to the overlay.

NOTE: The overlay menu box will disappear and be replaced by the Create Object button bar.

- (6) Select a point on the map with the left mouse button. The system will display the point on the SA map.
- (7) Move the cursor to another point on the map and click the left mouse button.

NOTE: After marking a second point, the system will create a line connecting the points.

- (8) Repeat steps 2i(6) and 2i(7) until the line or area is completed.
- (9) Select the OK button. This will close the Create Object button bar.

- j. Edit icons.
 - (1) Highlight the icon to be edited on the overlay by clicking on it with the left mouse button.
 - (2) Select the EDIT button, to display the button dialog box that contains options that enable you to modify the selected object.

3. Create groups.

NOTE: The Group Setup tab allows you to create your own object groups populated with the areas and equipment you choose to include. The tab group contains widgets that allow a user to add and delete icons within a group, add or delete groups, rename a group, and restore group defaults.

- a. Select the Group Name text box to display the cursor in the Group Name text box and enter a name.
- b. Select the New Group button to display the new group name in the Group Setup pane.
- c. Populating groups with icons.
 - (1) Select the (+) preceding the desired folder to open the folder and display the icon filename options.
 - (2) Select the desired icon filename to highlight the selected icon filename.
 - (3) Select the desired folder to copy the icon to.
 - (4) Select the Add Icon button. The system will display the name in the selected folder.
- d. Select the Save Groups button to save the new group.

4. Save the overlay.

- a. Select the Overlay tab group. The system will display the Overlay tab group.
- b. Select the Save As... button. The system displays the Save As... dialog box.
- c. Select the Current Overlay radio button. The system will highlight the radio button.

Performance Steps

- d. Select the Folder text box. The system will display the cursor in the Folder text box.
 - e. Enter a folder name. The system will display the folder name in the Folder text box.
 - f. Select the New Folder button. The system displays the Create Folder confirmation dialog box.
 - g. Select the Yes or No button. The system creates a new folder if yes is selected. The system does not create a new folder if no is selected.
 - h. Or, select an existing folder name. The system displays the folder name in the Folder text box.
 - i. Select the File: text box. The system will display the cursor in the File text box.
 - j. Enter a filename. The system displays the filename in the File text box.
 - k. Select the OK button. The system saves the message and closes the Save As... dialog box and displays the Overlay Tool Box.
 - l. Or, select the Cancel button. The system closes the Save As... dialog box without saving the message.
5. Send the overlay.
- a. Select the Transmission Settings... button. The system will display the Transmission Dialog window.
 - b. Select the Settings tab group to change the Precedence, Acknowledge, Retries, and Perishability DTG.
 - c. Or, select the Add Addressees tab group to change the address groups and to Add to Info or Add to Action.
 - d. Or, select the Action Addressees tab group to display action addressees.
 - e. Or, select the Info Addressees tab group to display the info addressees.
 - f. Select the Close button to close the Transmission Settings dialog box.
 - g. Select the Send button. The system will transmit the overlay to the addressees.
 - h. Select the Delete button. The system will display a confirmation box.
 - i. Select the Yes or No button. The system will delete the message without applying changes if yes is selected.
 - j. Select the Save button. The system will save the overlay with the same name.
 - k. Or, select the Keep overlay display button. The system will keep the overlay displayed after Close is selected.
 - l. Select the Close button. The system will close the Overlay Toolbox.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Select Overlays from the Create tab of the Long Form Message menu.	_____	_____
2. Select the appropriate overlay template.	_____	_____
3. Construct a mission overlay.	_____	_____
4. Save the overlay.	_____	_____
5. Send the overlay.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the Soldier scores NO-GO, show him what was done wrong and how to do it correctly.

Prepare/Send Reports Using FBCB2

171-145-0008

Conditions: In a field environment, as a digital vehicle commander, you have received an operation order (OPORD) or fragmentary order (FRAGO) to conduct a tactical operation. You have an operational Force XXI Battle Command Brigade-and-Below (FBCB2) 3.0 system.

Standards: Prepare reports filling all mandatory fields. Send reports to the units that the standing operating procedures (SOP) dictates.

Performance Steps

1. Select Long Msgs... or F4 on the keyboard.

NOTE: During the creation of a message, you have the following options: send, save as, delete, and close.

NOTE: This will display the six option tabs: Send, Create, Edit, Print, Manage, and Sent Queue. It also displays the four message types: Orders/Requests, Fires/Alerts, Reports, Overlays, and Set Default Transmission Settings.

2. Select the Create tab to prepare a report.

NOTE: A message cannot be saved or sent until all mandatory fields are specified and validated.

3. Select Reports from the Message (Msg) Types window pane.

NOTE: Determine the type of report to create: free text message, spot report, engagement report, situation report, bridge report, contact report, effective downwind message, NBC 1 report, personnel report, obstacle report, logistics report, position report, or land route report.

NOTE : You cannot send a message or report until you have set your default settings (see task 171-145-0006, Perform Message Management Using FBCB2).

4. Prepare a free text message.

NOTE: The free text message allows the user to send text data not covered by any other message. When you select a free text message you may type up to a total of 600 alphanumeric characters.

- a. Select the Free Text Message option from the Message (Msg) Type window pane. The system will highlight the selection.
- b. Select the execute button. The system will display the Free Text message template.
- c. Select the Free Text text box. The system will display the cursor in the Free Text text box.
- d. Enter the text data (alphanumeric up to 600 characters). The system displays the text data in the Free Text box.
- e. From this point you may send, save, close, or delete the message.

NOTE: To send this message, go to step 16d.

NOTE: To save, close, or delete this message, see task 171-145-0006, Perform Message Management Using FBCB2.

5. Prepare a spot report.

NOTE: The Spot Report message is used to provide initial combat intelligence information on the size, location, disposition and activities of enemy units to higher and adjacent echelons. When the report is completed the system will automatically display an icon on the SA screen.

- a. Select the Spot Report option from the Msg Type window pane. The system will highlight the selection.
- b. Select the Execute button. This will display the Spot Reports message template and highlight the Observer Unit Name text label.
- c. Select the Observer Unit Name down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- d. Select the Observer Information(Info) group button. The system will display the cursor in the Observer (Obsvr) Location (Loc) text box. This is an optional field category.

Performance Steps

- (1) Enter the grid location [alphanumeric 15-grid coordinate MGS (military grid reference system)] in the Observer Location text box. This is a mandatory field and must be filled. There are three different ways to do this:
 - (a) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Observer Location text box and terminate the entry by selecting the Enter key.
 - (b) Select the Fill Loc button and select the position on the map with the cross hair.
 - (c) Select the Fill Own button. The system will fill the text box with your location.
- (2) Select the Observer Activity down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- e. Select the Size Indicator down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- f. Select the Enemy Activity down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- g. Select the Enemy Location text box. This is a mandatory field and must be filled. There are three different ways to do this:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- h. Select the Enemy Unit group button. The system will open the Enemy Unit group with the cursor in the Course text box.
 - (1) Select the Course text box. The number must be from 0 to 359 degrees. This is a mandatory field and must be filled. There are two different ways to do this:
 - (a) Enter a number in the Course text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (2) Select the Speed text box. The number must be from 0 to 2047 kmph. This is a mandatory field and must be filled. There are two ways to do this:
 - (a) Enter a number in the Speed text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (3) Select the Enemy Unit Name text box. If the enemy unit name is known, enter the name and select Enter key to terminate. If the enemy unit name is not known the system defaults to Unknown.
- i. Check the Observation date-time group (DTG), if you correct the DTG (DDHHMMZmmmYY), you must select the Enter key to terminate the entry. This is a mandatory field and must be filled.
- j. Equipment category is a optional field category.
 - (1) Select the Enemy/unknown Type down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (2) Select the Enemy/unknown subtype down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (3) Select the Equipment Quantity text box. The number must be from 1 to 16383. This is a mandatory field and must be filled. There are two ways to do this:
 - (a) Enter a number in the Equipment Quantity text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (4) Select the Repeat Equipment group button. The system will display the cursor in the Ene/Unk Type text box and allow you to repeat any additional equipment data. This is a repeat category.
- k. Select the Comments text box if additional information is required. This is an optional field and does not have to be filled unless opened.
 - (1) Enter text data (alphanumeric up to 200 characters) in the text box.

Performance Steps

(2) Select the Enter key to terminate the entry.

- l. Select Repeat SALUTE group button. The system will open the Spot Report dialog box and highlight the Observer Unit Name and allow you to send additional spot report information, if you desire. This is a repeat optional category.

m. At this point you may save, send, close, or delete the message.

NOTE: To send this message, see step 16d.

NOTE: To save, close, or delete this message see task 171-145-0006, Perform Message Management Using FBCB2.

6. Prepare an engagement report.

NOTE: The engagement report message is used to transmit initiation of combat actions against enemy forces.

- a. Select the Engagement Report option from the Msg Type window pane. The system will highlight the selection.
- b. Select the Execute button.

NOTE: The system will open the Create Message dialog box and display the Engagement Report template and highlight the Observer ID text box.

- c. Select the Observer Identification (ID) down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- d. Select the Observer Information (Info) group button.

NOTE: The system will open the Observer (Obsvr) Info group with the cursor in the Obsvr Location (Loc) text box. This is optional field category.

- (1) Select the Observer Location text box. This is a mandatory field and must be filled. There are three ways to fill this box:
 - (a) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Observer Location text box and terminate the entry by selecting the Enter key.
 - (b) Select the Fill Loc button and select the position on the map with the cross hair.
 - (c) Select the Fill Own button. The system will fill the text box with your location.
- (2) Select the Observer Activity down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- e. Check the date-time group (DTG). If you correct the DTG (DDHHMMZmmmYY), you must select the Enter key to terminate the entry. This is an optional field and does not have to be filled.
- f. Select the Enemy Location text box. This is a mandatory field and must be filled. There are three ways to fill the box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- g. Select the Enemy Destroyed group button. The system will open the Enemy Destroyed group and highlight the Ene/Unk Type. This is an optional field category.
 - (1) Select the Enemy/unknown Type down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (2) Select the Enemy/unknown Sub Type down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
 - (3) Select the Equipment Quantity text box. The number must be from 0 to 9999. This is a mandatory field and must be filled. There are two ways to fill the box:
 - (a) Enter a number in the Equipment Quantity text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- h. Select the Repeat Enemy Destroyed group button. This is a repeat category.

NOTE: The system will open the Enemy Destroyed group and display the cursor in the Ene.Unk Type and allow you to repeat the Enemy Destroyed group.

Performance Steps

- i. Select the Comments text box if additional information is required. This is an optional field and does not have to be filled unless opened.
 - (1) Enter the text data (alphanumeric up to 200 characters) in the text box.
 - (2) Select the Enter key to terminate the entry.
- j. Select the Repeat Engagement group button. This is a repeat optional category.

NOTE: The system will open the Repeat Engagement dialog box, highlight the Observer ID box, and allow you to send additional information.

- k. At this point you may save, send, close, or delete the message.

NOTE: To send this message, see step 16d.

NOTE: To save, close, or delete this message, see task 171-145-0006, Perform Message Management Using FBCB2.

7. Prepare a situation report.

NOTE: The situation report message allows you to report and define tactical situations and status to higher headquarters

- a. Select the Situation Report option from the Msg Type window pane. The system will highlight the selection.
- b. Select the Execute button. The system opens the Create Message dialog box and displays the Situation Report template.
- c. Select the Enemy Activity down arrow. Make a selection from the option list. This is an optional field and does not need to be filled.
- d. Select the Own Unit Name down arrow button. This will automatically fill with your unit name. If you desire to change the Own Unit Name box, make a selection from the option list. This is a mandatory field and must be filled.
- e. Select the Unit name down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- f. Select the REDCON down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- g. Select the Current Operation down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- h. Select the Current Location (Loc) text box. This is an optional field and does not need to be filled. There are three ways to fill the box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Current Location text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- i. Select the Commander's (Cdr's) Assessment down arrow. Make a selection from the option list. This is an optional field and does not need to be filled.
- j. Select the Vehicle Status group button. The system will open the Vhcl/platform Type text box. This is an optional field category.
 - (1) Select the Vehicle/ Platform Type down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
 - (2) Select the # of Mission (Msn) capable (Cap) vehicle (Vehicle) text box. The number must be from 1 to 511. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (a) Enter a number in the # Msn Cap Vehicle text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (3) Select the Unit Material (Mtrl) Status down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- k. Select the Repeat Vehicle Status group button. This is a repeat optional category.

NOTE: The system will open the Repeat Vehicle Status group, display the cursor in the Repeat Vehicle Status text box, and allow you to repeat the Vehicle Status data if you desire.

Performance Steps

- I. Select the Class III group button. The system will open the Class III group and highlight the POL Type text label. This is an optional field category.
 - (1) Select the POL Type down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (2) Select the Class III Status text box. The number must be from 0 to 65535. This is an optional field and does not have to be filled. There are two ways to fill the box:
 - (a) Enter a number in the Class III Status text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (3) Select the Unit Material (Mtrl) Status down arrow button. Make a selection from the option list. This is an optional field and does not have to be filled.
- m. Select the Repeat Class III group button. The system will display the Repeat Class III group and allow you to add more information. This is a repeat optional category.
- n. Select the Class V group button. The system will open the Class V group. This is an optional field category.
 - (1) Select the Munitions Type down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.

NOTE: A secondary screen may be pulled down for more selection.

- (2) Select the Ammunition Quantity text box. The number must be from 1 to 1048575. This is an optional field and does not have to be filled. There are two ways to fill the box:
 - (a) Enter a number in the Ammo Quantity text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (3) Select the Unit Material Status down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- o. Select the Repeat Class V group button. The system will repeat the Class V group and allow you to add information. This is a repeat category.
- p. Select the Personnel group button. The system will open the Personnel group and display the cursor in the # of Personnel Available text box. This is an optional field category.
 - (1) Select the # of Personnel Available text box. The number must be from 0 to 4095. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (a) Enter a number in the # of Personnel Available text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (2) Select the Unit Material Status down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- q. Select the Repeat Unit group button. The system will display the Repeat Unit group. This is a repeat category.
- r. Select the Comments text box if additional information is required. This is an optional field and does not have to be filled unless opened.
 - (1) Enter text data (alphanumeric up to 200 characters) in the text box.
 - (2) Select the Enter key to terminate the entry.
- s. At this point, you may save, send, close, or delete the message.

NOTE: To send this message, go to step 16d.

NOTE: To save, close, or delete this message, see task 171-145-0006, Perform Message Management Using FBCB2.

8. Prepare a bridge report.

NOTE: The bridge report message is used to transmit information describing the bridge location, classification, capacity, traffic flow, clearance, and enemy activity near the bridge.

- a. Select Bridge Report option from the Msg Type window pane. The system will highlight the selection.

Performance Steps

- b. Select the Select Execute button. The system displays the Bridge Report template and highlights the Bridge Type option list.
- c. Select the Bridge Type down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- d. Select the Reporting Unit down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- e. Select the Report # text box. The number must be from 1 to 123. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (1) Enter a number in the Report # text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- f. Select the Bridge Location button. This is a mandatory field and must be filled. There are three ways to fill the box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Bridge Location text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- g. Select the Bridge Location # 2 text box. This is a mandatory field and must be filled. There are three ways to fill the box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Bridge Location # 2 text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- h. Select the Centering (Cntring) Force down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- i. Select the Weight Classification text box. The number must be from 1 to 999 tons. This is an optional field and does not need filled. There are two ways to fill the box:
 - (1) Enter the number in the Weight Classification text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- j. Select the Vehicle Type down arrow button. Make a selection from the option list. This is an optional field and does not need filled.
- k. Select the Traffic Flow Ind down arrow button. Make a selection from the optional list. This is an optional field and does not need to be filled.
- l. Select the Horizontal Clearance text box. The number must be from 1 to 999 meters. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (1) Enter a number in the Horizontal Clearance text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- m. Select the Under Bridge Clearance text box. The number must be from 1 to 999 Meters. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (1) Enter a number in the Under Bridge Clearance text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- n. Select the Span Count Ind Dir down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- o. Select the Span Information Group group button. The system will open the Span Info group with cursor in the Span # text box.
 - (1) Select the Span # text box. The number must be from 1 to 15. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (a) Enter a number in the Span # text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (2) Select the Span Material down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.

Performance Steps

- (3) Select the Span Type down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- (4) Select the Span Length text box. The number must be from 1 to 999 Meters. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (a) Enter a number in the Span Length text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (5) Select the Span Condition down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- p. Select the Span information Repeat group button. The system will open the Repeat Span information group. This is an optional repeat group.
- q. Select the Overall Length text box. The number must be from 1 to 1023 Meters. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (1) Enter a number in the Overall Length text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- r. Select the Travel Way Width text box. The number must be from 1 to 999 Meters. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (1) Enter a number in the Travel Way Width text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- s. Select the Vertical Clearance text box. The number must be from 1 to 999 Meters. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (1) Enter a number in the Vertical Clearance text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- t. Select the Bypass Potential down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- u. Select the Bypass Location (two locations may be inputted) text box. This is an optional field and does not need to be filled. There are three ways to fill the box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Bypass Location text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- v. Select the Comments text box if additional information is required. This is an optional field and does not have to be filled unless opened.
 - (1) Enter text data (alphanumeric up to 200 characters) in the text box.
 - (2) Select the Enter key to terminate the entry.
- w. Select the Repeat Bridge group button. The system will open the Repeat Bridge group. This is an optional repeat group.
- x. At this point you may save, send, close, or delete the message.

NOTE: To send this message, go to step 16d.

NOTE: To save, close, or delete this message, see task 171-145-0006, Perform Message Management Using FBCB2.

9. Prepare an obstacle report.

NOTE: The obstacle report message is used to transmit information describing the obstacle type, location, impact on movement, by pass location, safe corridors and enemy activity near the obstacle.

- a. Select the Obstacle Report option from the Msg Type window pane. The system will highlight the selection.
- b. Select the Execute button. The system displays the Obstacle Report template.
- c. Select the Friendly/Enemy down arrow button. Make a selection from the option list. This is a mandatory field and does not need to be filled.

Performance Steps

- d. Check the Effective date-time group (DTG) # 1, if you correct the DTG (DDHHMMZmmmYY) you must select the Enter key to terminate the entry. This is an optional field and does not need to be filled.
- e. Select the Effective DTG #2 text box. This is an optional field and does not need to be filled.
 - (1) Enter the DTG in the text box (DDHHMMZMMMYY).
 - (2) Terminate the entry by selecting the Enter key.
- f. Select the Obstacle # text box. The number must be from 1 to 123. This is a mandatory field and must be filled. There are two ways to fill the box:
 - (1) Enter a number in the Obstacle # text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- g. Select the Laying Unit down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- h. Select the Obstacle Intent down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- i. Select the Obstacle Type down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.

NOTE: A secondary screen may be pulled down for more selections.

- j. Select the Obstacle Size group button. The system will display the Obstacle Height text box. This is an optional field category.
 - (1) Select the Obstacle Height text box. The number must be from 0 to 750 Meters. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (a) Enter a number in the Obstacle Height text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (2) Select the Obstacle Depth text box. The number must be from 1 to 31 Meters. This is an optional field and does not need to be filled.
 - (a) Enter a number in the Obstacle Depth text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (3) Select the Obstacle Length text box. The number must be from 1 to 1023 Meters. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (a) Enter a number in the Obstacle Length text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (4) Select the Obstacle Width text box. The number must be from 1 to 1023 Meters. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (a) Enter a number in the Obstacle Width text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- k. Select the Location #1 text box. This is a mandatory field and must be filled. There are three ways to fill the text box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Location # 1 text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- l. Select the Location #2 text box. This is an optional field and does not need to be filled. There are three ways to fill the text box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Location # 2 text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.

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- m. Select the Methods group button. The system will open the Methods group and display Delivery Method. This is an optional field category.

- (1) Select the Delivery method down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
 - (2) Select the Method of Laying down arrow. Make a selection from the option list. This is an optional field and does not need to be filled.

- n. Select the Obstacle Status down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.

NOTE: A secondary screen may be pulled down for more selections.

- o. Select the Bypass Potential down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.

NOTE: A secondary screen may be pulled down for more selections.

- p. Select the Bypass Location # 1 text box. This is a mandatory field and must be filled. There are three ways to fill the text box:

- (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Bypass Location # 1 text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.

- q. Select the Bypass Location # 2 text box. This is an optional field and does not need to be filled. There are three ways to fill the text box:

- (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Bypass Location # 2 text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.

- r. Select the Lane Location # 1 text box. This is a mandatory field and must be filled. There are three ways to fill the box:

- (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Lane Location # 2 text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.

- s. Select the Lane Location # 2 text box. This is an optional field and does not need to be filled. There are three ways to fill the text box:

- (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Lane Location # 2 text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.

- t. You may select the Repeat Obstacle Report text box. If selected the system gives you the ability to repeat the complete Obstacle Report. This is a repeat category.

- u. Select the Comments text box if additional information is required. This is an optional field and does not have to be filled unless opened.

- (1) Enter text data (alphanumeric up to 200 characters) in the text box.
 - (2) Select the Enter key to terminate the entry.

- v. At this point you may save, send, close, or delete the message.

NOTE: To send this message, go to step 16d.

NOTE: To save, close, or delete this message, see task 171-145-0006, Perform Message Management Using FBCB2.

10. Prepare a position report.

NOTE: The position report message is used by friendly forces to report own, subordinate and other friendly unit locations.

- a. Select the Position Report option from the Msg Type window pane. The system will highlight the selection.
- b. Select the Execute button. The system will display the Position Report template.
- c. Select the Unit Name down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.

Performance Steps

- d. Select the Unit Location text box. This is a mandatory field and must be filled. There are three ways to fill the text box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Unit Location text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- e. Select the Location Derivation down arrow button. Make a selection from the optional list. This is a mandatory field and must be filled.
- f. Select the Location Quality down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- g. Select the Course/Speed group button. The system will open the Course/Speed group and display the cursor in the Course text box. This is an optional field category.
 - (1) Select the Course text box. The number must be from 0 to 359 Degrees. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Course text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (2) Select the Speed text box. The number must be from 1 to 2047KPH. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Speed text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- h. Select the Elevation text box. The number must be from -1320 to 65535 feet. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (1) Enter a number in the Elevation text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- i. Select the Altitude text box. The number must be from -1313 to 65535 feet. This is an optional field and does not need to be filled. There are two ways to fill the box:
 - (1) Enter a number in the Altitude text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- j. Check the date-time group (DTG), if you correct the DTG (DDHHMMZmmmYY) you must select the Enter key to terminate the entry. This is a mandatory field and must be filled.
- k. Select the Platform Category down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- l. Select the Vehicle/Platform Type down arrow button. Make a selection from the option list. This is an optional field and does not need filled.
- m. Select the Repeat Position Report group button. The system will allow you to repeat the Position Report. This is a repeat category.
- n. At this point you may save, send, close, or delete the message.

NOTE: To send this message, go to step 16d.

NOTE: To save, close, or delete this message, see task 171-145-0006, Perform Message Management Using FBCB2.

11. Prepare a land route report.

NOTE: The land route report is used to report the military utility of a Land Route for use in combat operations.

- a. Select the Land Route Report option from the Msg Type window pane. The system will highlight the selection.
- b. Select the Execute button. The system will display the Land Route Report and display the cursor in the Rte Recon Loc # 1 text box.
- c. Select the Route Recon Location # 1 text box. This is a mandatory field and must be filled. There are three ways to fill the text box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Route Recon Location # 1 text box and terminate the entry by selecting the Enter key.

Performance Steps

- (2) Select the Fill Loc button and select the position on the map with the cross hair.
- (3) Select the Fill Own button. The system will fill the text box with your location.
- d. Select the Rte Recon Location # 2 text box. This is an optional field and does not need to be filled. There are three ways to fill the text box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Rte Recon Location # 2 text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- e. Select the Route Code word (alphanumeric up to 9) text box. This is an optional field and does not need to be filled.
 - (1) Enter a name in the text box.
 - (2) Terminate the entry by selecting the Enter key.
- f. Select the Type of Route down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- g. Select the Route Class down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- h. Select the Movement Rate down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- i. Select the Open/Concealed Ind down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- j. Select the Route Type down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- k. Select the Overhead Clearance/Height text box. The number must be from 1 to 7 meters. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (1) Enter a number in the Overhead Clearance/Height text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- l. Select the Traveled Way Width text box. The number must be from 0 to 999 Meters. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (1) Enter a number in the Traveled Way Width text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- m. Select the Weight Classification text box. The number must be from 0 to 999 Tons. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (1) Enter a number in the Weight Classification text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- n. Select the Route Const/Crit Points group button. The system will open the Route Const/Crit Points group and highlight the Const/Crit Pt Descrip options list. This is an optional field group.
 - (1) Select the Const/Crit pt Description down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (2) Select the Const/Crit Location text box. This is a mandatory field and must be filled. There are three ways to fill the text box:
 - (a) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Const/Crit Location text box and terminate the entry by selecting the Enter key.
 - (b) Select the Fill Loc button and select the position on the map with the cross hair.
 - (c) Select the Fill Own button. The system will fill the text box with your location.
- o. Select the Repeat Const/Crit Pt group button. The system will display the Const/Crit Pt group. Use this option to send additional Const/Crit Pt information. This is a repeat optional category.
- p. Select the 'Const/Crit Pt Location text box. This is a mandatory field and must be filled. There are three ways to fill the text box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Const/Crit Pt Location text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.

Performance Steps

- q. Select the Bypass Location text box. This is an optional field and does not need to be filled. There are three ways to fill the text box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Bypass Location text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- r. Select the Comments text box if additional information is required. This is an optional field and does not have to be filled unless opened.
 - (1) Enter text data (alphanumeric up to 200 characters) in the text box.
 - (2) Select the Enter key to terminate the entry.
- s. Select the Repeat Land Route group button. The system will display the Land Route template. Use this option to send additional Land Route information. This is a repeat optional category.
- t. At this point you may save, send, close, or delete the message.

NOTE: To send this message, go to step 16d.

NOTE: To save, close, or delete this message, see task 171-145-0006, Perform Message Management Using FBCB2.

12. Prepare a contact report.

NOTE: The contact report message allows you to report enemy contact to higher headquarters.

- a. Select the Contact Report option from the Msg Type window pane. The system will display the selection.
- b. Select the Execute button. The system will display the Contact Report template and highlight the Observer Unit option list.
- c. Select the Observer ID down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- d. Select the Observer Info group button. The system will open the Observer Info group and will display the cursor in the Obsvr Loc text box . This is a mandatory group and must be filled.
 - (1) Select the Observer Location text box. This is a mandatory field and must be filled. There are three ways to fill the text box:
 - (a) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Observer Location text box and terminate the entry by selecting the Enter key.
 - (b) Select the Fill Loc button and select the position on the map with the cross hair.
 - (c) Select the Fill Own button. The system will fill the text box with your location.
 - (2) Select the Observer Activity down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- e. Check the date-time group (DTG) text box . If you change the DTG you terminate the entry by selecting the Enter key. This is an optional field and does not need to be filled.
- f. Select the Enemy Location text box. This is a mandatory field and must be filled. There are three ways to fill the text box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- g. Select the Enemy Destroyed group button. The system will open the Enemy Destroyed group. This is an optional group.
 - (1) Select the Ene/Unk Type down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (2) Select the Ene/Unk Subtype down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
 - (3) Select the Equipment Quantity text box. The number must be from 0 to 9999. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Equipment Quantity text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.

Performance Steps

- h. Select the Repeat Enemy Destroyed group button. The system will display the Enemy Destroyed field. Use this option to send additional information. This is a repeat group and is an optional group.
- i. Select the Comments text box if additional information is required. This is an optional field and does not have to be filled unless opened.
 - (1) Enter text data (alphanumeric up to 200 characters) in the text box.
 - (2) Select the Enter key to terminate the entry.
- j. Select the Repeat Contact group button. The system will open the Repeat Contract group and allow you to repeat the Contract Report. This is a repeat group and is an optional group.
- k. At this point you may save, send, close, or delete the message.

NOTE: To send this message, go to step 16d.

NOTE: To save, close, or delete this message, see task 171-145-0006, Perform Message Management Using FBCB2.

13. Prepare an effective downwind report.

NOTE: The effective downwind report message is used to transmit the actual effective downwind data needed for predicting fallout areas resulting from a nuclear burst for either the nearest six hours or a period of more than six hours in the future.

- a. Select the Effective Downwind Report option from the Msg Type window pane. The system will highlight the selection.
- b. Select the Execute button. The system displays the Effective Downwind template.
- c. Select the Indicator down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- d. Select the Effected Area text box. This is a mandatory field and must be filled.
 - (1) Enter the Effected Area name data (alphanumeric up to 20) in the text box.
 - (2) Select the Enter key to terminate the entry.
- e. Check the Observation date-time group (DTG) text box. If the date-time group (DTG) text box is changed, terminate the entry by selecting the Enter key. This is a mandatory field and must be filled.
- f. Select the Valid From (DTG) text box. This is an optional field and does not need to be filled.
 - (1) Enter the date-time group (DTG) in the text box (DDHHMMZMMYY).
 - (2) Terminate the entry by selecting the Enter key.
- g. Select the Valid To (DTG) text box. This is an optional field and does not need to be filled.
 - (1) Enter the date-time group (DTG) in the text box (DDHHMMZMMYY).
 - (2) Terminate the entry by selecting the Enter key.
- h. Select the Danger Zone group. The system will display the Nuclear Yield Group group. This is an optional field group and does not need to be opened.
 - (1) Select the Nuclear Yield Group down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (2) Select the Radius Zone 1 text box button. The number must be from 100 to 99900 in 100 Meter increments. This is an optional field and does not need to be filled. There are two ways listed to fill the text box:
 - (a) Enter the number in the Radius Zone 1 text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- i. Select the Downwind group button. The system will display the Downwind group. This is an optional group and does not need to be opened.
 - (1) Select the Downwind Direction text box. The number must be from 0 to 359 Degrees. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Downwind Direction text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.

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- (2) Select the Downwind Speed text box. The number must be from 0 to 999. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Downwind Speed text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- j. Select the Expansion Angle down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- k. Select the Repeat Danger Zone group button. The system will open the Repeat Danger Zone group and allow you to repeat the Danger Zone information. This is a repeat group and is option for to open this field.
- l. At this point you may save, send, close, or delete the message.

NOTE: To send this message, go to step 16d.

NOTE: To save, close, or delete this message, see task 171-145-0006, Perform Message Management Using FBCB2.

14. Prepare an NBC 1 report.

NOTE: The NBC 1 report message is used to transmit observer's basic data on a single NBC attack.

- a. Select NBC 1 Report option from the Msg Type window pane. The system will highlight the selection.
- b. Select the Execute button. The system displays the NBC 1 Report template and highlights the NBC Event Type.
- c. Select the NBC Event Type down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- d. Select the Type of Burst down arrow button. Make a list from the option list. This is a mandatory field and must be filled.
- e. Select the Observers Position text box. This is a mandatory field and must be filled. There are three ways to fill the text box:
 - (1) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Observer Position text box and terminate the entry by selecting the Enter key.
 - (2) Select the Fill Loc button and select the position on the map with the cross hair.
 - (3) Select the Fill Own button. The system will fill the text box with your location.
- f. Select the Azimuth to Attack text box. The number must be from 0 to 359 Degrees. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (1) Enter the number in the Azimuth to Attack text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- g. Select the Start date-time group (DTG) text box. This is a mandatory field and must be filled.
 - (1) Enter the date-time group (DTG) in the text box (DDHHMMZMMYY).
 - (2) Terminate the entry by selecting the Enter key.
- h. Select the End date-time group (DTG) text box. This is an optional field and does not need to be filled.
 - (1) Enter the date-time group (DTG) in the text box (DDHHMMZMMYY).
 - (2) Terminate the entry by selecting the Enter key.
- i. Select the Attack Location group button. The system will display the Attack Location group and highlight the Location Qualifier down arrow. This is an optional group field and does not need to be opened.
 - (1) Select the Location Qualifier down arrow button. Make a selection from the option list. This is an option field and does not need to be filled.
 - (2) Select the Location of Attack text box. This is an optional field and does not need to be filled. There are three ways to fill the text box:
 - (a) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Location of Attack text box and terminate the entry by selecting the Enter key.
 - (b) Select the Fill Loc button and select the position on the map with the cross hair.
 - (c) Select the Fill Own button. The system will fill the text box with your location.

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- (3) Select the Location of Attack text box. This is an optional field and does not need to be filled. There are three ways to fill the text box:
 - (a) Enter the grid location (alphanumeric 15-grid coordinate MGRS) in the Location of Attack text box and terminate the entry by selecting the Enter key.
 - (b) Select the Fill Loc button and select the position on the map with the cross hair.
 - (c) Select the Fill Own button. The system will fill the text box with your location.
- j. Select the Type of Agent #1 down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- k. Select the Type of Agent # 2 down arrow button. Make a selection from the option list. This is an optional field and does not need to be filled.
- l. Select the Delivery group button. The system will display the Delivery group and highlight the Suspect/Observer Ind. This is an optional group field and does not need to be opened.
 - (1) Select the Suspect/Observer Ind down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (2) Select the Delivery Means down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (3) Select the # of Munitions text box. The number must be from 1 to 999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the # of Munitions text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- m. Select the Repeat Means group button. The system will display the Delivery Means group. Use this option to to send additional information. This is an optional repeat group and does not need to be opened.
- n. Select the Crater group button. The system opens the Crater group and displays the Crater Present Ind. This is an optional group and does not need to be opened.
 - (1) Select the Crater Present Ind down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (2) Select the FTB Time text box. The number must be from 1 to 1023 in seconds. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the FTB Time text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- o. Select the Cloud Size group button. The system will display the Cld Width @H+5 text box. This is an optional group and does not need to be opened.
 - (1) Select the Cloud Width @H+5 text box. The number must be from 0 to 6399 feet. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Cloud Width @H+5 text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (2) Select the Cloud Top/Bot Ind down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (3) Select the Stabilized Cloud Ht text box. The number must be from 0 to 99999 feet. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Stabilized Cloud Height text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (4) Select the Cloud Angle @ H+10 text box. The number must be from 0 to 6399. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Cloud Angle @ H+10 text box and select the Enter key to terminate the entry.

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- (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - p. Select the Comments text box if additional information is required. This is an optional field and does not have to be filled unless opened.
 - (1) Enter text data (alphanumeric up to 200 characters) in the text box.
 - (2) Select the enter key to terminate the entry.
 - q. At this point you may save, send, close, or delete the message.
- NOTE: To send this message, go to step 16d.
- NOTE: To save, close, or delete this message, see task 171-145-0006, Perform Message Management Using FBCB2.

15. Prepare a personnel report.

NOTE: The personnel report message is submitted to the higher headquarters to report the status. You the user submit duty changes through your First Sergeant. These changes are forwarded to the BN and BDE S1.

- a. Select the Personnel Report option from the Msg Type window pane. The system will highlight the selection.
- b. Select Execute button. The system will display the Personnel Report template and highlight the Unit Name template.
- c. Select the Unit Name down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- d. Check the Report date-time group text box. If a change is made in the Report date-time group (DTG) text box, you must select the Enter key to terminate the entry. This is a mandatory field and must be filled.
- e. Select the Personnel Battle Loss group button. The system will display the Personnel Battle Loss group with the cursor in the Social Security # text box. This is an optional group and does not need to be opened.
 - (1) Enter the Social Security Number (numeric nine characters) in the text box. This is a mandatory field and must be filled.
 - (2) Select the Personnel Status down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- f. Select the Repeat Personnel Battle Loss group button. The system will display the Personnel Battle Loss group. Use this option to send further Personnel Battle Loss information. This is a repeat optional group.
- g. Select the Personnel Classification group. This is a mandatory field and must be opened.
 - (1) Select the Personnel Class down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (2) Select the Personnel Assigned text box. The number must be from 0 to 9999. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel Assigned text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (3) Select the Gender Ind down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (4) Select the Personnel On Hand text box. The number must be from 0 to 9999. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel On Hand text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- h. Select the Personnel Summary group button. The system will display the Personnel Authorized and display the cursor in the Personnel Authorized text box. This is an optional group and does not need to be opened.

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- (1) Select the Personnel Authorized text box. The number must be from 0 to 9999. This is an optional field and does not need to be opened. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel Authorized text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (2) Select the Personnel Gains text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel Gains text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (3) Select the # Replacements text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the # Replacements text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (4) Select the # Returned to Duty text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the # Returned to Duty text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (5) Select the Personnel Deployed text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel Deployed text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (6) Select the Personnel Attached text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel Attached text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (7) Select the Personnel KIA text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel KIA text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (8) Select the Personnel WIA text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel WIA text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (9) Select the Personnel MIA text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel MIA text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.

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- (10) Select the Disease NB Inj Loss text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Disease NB Inj Loss text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (11) Select the Personnel AWOL text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel AWOL text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (12) Select the # of Deserters text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the # of Deserters text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- i. Select the Repeat Personnel Classification group button. The system will display the Personnel Classification group. Use this option to send additional Personnel Classification information. This is a repeat optional group and does not need to be opened.
- j. Select the MOS Name text box. The number must be from 1 to 5 alphanumeric characters. This is a mandatory field and must be filled.
 - (1) Enter a MOS Name in the text box.
 - (2) Select the Enter key to terminate the entry.
- k. Select the Pay Grade down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
- l. Select the Personnel Assigned text box. The number must be from 0 to 9999. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (1) Enter a number in the Personnel Assigned text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- m. Select the Personnel on Hand text box. The number must be from 0 to 9999. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (1) Enter a number in the Personnel on Hand text box and select the Enter key to terminate the entry.
 - (2) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- n. Select the Personnel Details group button The system will display the Personnel Auth text box. This is an optional field and does not need to be opened.
 - (1) Select the Personnel Authorized text box. The number must be from 0 to 9999. This is an optional field and does not need to be opened. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel Authorized text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (2) Select the Personnel Gains text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel Gains text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
 - (3) Select the # Replacements text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the # Replacements text box and select the Enter key to terminate the entry.

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- (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (4) Select the # Returned to Duty text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the # Returned to Duty text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (5) Select the Personnel Deployed text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel Deployed text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (6) Select the Personnel Attached text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel Attached text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (7) Select the Personnel KIA text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel KIA text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (8) Select the Personnel WIA text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel WIA text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (9) Select the Personnel MIA text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel MIA text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (10) Select the Disease NB Inj Loss text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Disease NB Inj Loss text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (11) Select the Personnel AWOL text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel AWOL text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- (12) Select the # of Deserters text box. The number must be from 0 to 9999. This is an optional field and does not need to be filled. There are two ways to fill the text box:
 - (a) Enter a number in the # of Deserters text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.

Performance Steps

- o. Select the Repeat MOS Details group button. The system will open the MOS Detail group and highlight the Pay Grade text box. This is a repeat optional group and does not need to be opened.
- p. Select the Repeat MOS group button. The system will open the MOS group and display the cursor in the MOS Name text box. This is a repeat optional group and does not need to be opened.
- q. Select the Others' Status group button. The system will open the Others' Status group and highlight the Gender Ind text box. This is an optional group and does not need to be opened.
 - (1) Select the Gender Ind down arrow button. Make a selection from the option list. This is a mandatory field and must be filled.
 - (2) Select the Personnel Other text box. The number must be from 0 to 9999. This is a mandatory field and must be filled. There are two ways to fill the text box:
 - (a) Enter a number in the Personnel Other text box and select the Enter key to terminate the entry.
 - (b) Select the numeric key pad and enter the number. Select Done to terminate the entry.
- r. Select the Repeat Personnel group button. The system will open the Personnel group and allow you to repeat the Personnel Status message. This is a repeat optional group and does not need to be opened.
- s. Select the Comments text box if additional information is required. This is an optional field and does not have to be filled unless opened.
 - (1) Enter text data (alphanumeric up to 200 characters) in the text box.
 - (2) Select the Enter key to terminate the entry.
- t. At this point you may save, send, close, or delete the message.

NOTE: To send this message, go to step 16d.

NOTE: To save, close, or delete this message, see task 171-145-0006, Perform Message Management Using FBCB2.

16. Send a message.

- a. Select the Send tab from the Long Message function. The system will display the Send tab group.
- b. Make a selection from the Msg Type window pane. The system will display a check mark in the selection and display the folder/file list in the send type window pane.
- c. Select a message file name. The system will highlight the selected message.

NOTE: If you attempt to execute a send before selecting a message, the system displays an error message "A MESSAGE MUST BE SELECTED." Select OK.

- d. Select the Execute button. The system will transmit the selected message and display a confirmation box.

NOTE: The system displays a message submitted for transmission confirmation box on the screen. This means the report was sent. There is a dismiss button in this box. You must select OK in order for the box to be removed from the screen.

- e. Select the Quick Send button. The system will open the Quick Send Button Setup dialog box.

NOTE : The Quick Send function allows you to transmit a predesignated message instantly. You can fill out the message template in advance, assign the message to one of two Quick Send buttons, and send the message instantly by selecting the button.

- (1) Select the top or bottom Quick Send message button. The system will highlight the selected radio button.
- (2) Select a message from the Name Message Type window pane. The system will highlight the selected message.
- (3) Or, select the Display button to view the message contents. The system will display the message content in the message dialog box.
 - (a) Select the Close button. The system will display the Close Verify dialog box.
 - (b) Select the Yes button. The system will close the message template dialog box.
- (4) Select the Button Label text box, and enter data (alphanumeric up to four characters).

NOTE: This is the name that will appear on the Quick Send Message button on the main menu.

Performance Steps

- (5) Select the Balloon Label text box to enter data (alphanumeric up to 64 characters).
- (6) Enter the data in the text box.
- (7) Select the OK button to close the dialog box and apply changes, or select the Apply button to apply the changes and the Close button to close the dialog box.
- (8) To send the message you must select the Quick Send button from the Ops Function Bar.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Select Long Msgs....	_____	_____
2. Select Create.	_____	_____
3. Select Reports.	_____	_____
4. Prepare a free text message.	_____	_____
5. Prepare a spot report.	_____	_____
6. Prepare an engagement report.	_____	_____
7. Prepare a situation report.	_____	_____
8. Prepare a bridge report.	_____	_____
9. Prepare an obstacle report.	_____	_____
10. Prepare a logistics report.	_____	_____
11. Prepare a position report.	_____	_____
12. Prepare a land route report.	_____	_____
13. Prepare a contact report.	_____	_____
14. Prepare an effective downwind message.	_____	_____
15. Prepare an NBC report.	_____	_____
16. Prepare a personnel report.	_____	_____
17. Send created report.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier scores NO-GO, show him what was done wrong and how to do it correctly.

Perform Operator Maintenance on FBCB2

171-145-0011

Conditions: In a field environment, as a digital vehicle commander, given an operational Applique + computer with Force XXI Battle Command Brigade-and-Below (FBCB2) 3.0 software loaded.

Standards: Perform complete operator maintenance on the FBCB2 system in sequence.

Performance Steps

1. Perform basic preventive maintenance checks and services (PMCS)

WARNING: Observe all safety precautions. Contact with frayed, bare, or broken wires or cables can result in serious injury.

CAUTION: Do not disconnect the computer cables. Personnel at the user level should not disconnect or reconnect loose computer cables. Contact maintenance personnel.

CAUTION: Make sure all computer cables are properly stowed to reduce tripping hazards and damage to computer cables, connected equipment, and components.

CAUTION: Do not connect loose computer equipment cables. Improper cable hook ups and electrostatic discharge (ESD) can permanently damage the computer equipment.

NOTE: Before performing PMCS on any piece of electrical equipment, disconnect the power supply.

- a. Check for loose hardware, dents, cracks, damage to the external power module (EPM) and keyboard.
- b. Check for cracks and scratches on the display unit glass.
- c. Check for broken or missing keys on the keyboard
- d. Check cables for frayed or broken wires.
- e. Check connectors for cracked shells and/or corrosion when attaching peripherals.
- f. Press keys to make sure they return without sticking.
- g. Check air vents for blockage.
- h. Check electrical connections for cracked or broken wires or loose connectors.

2. Complete the maintenance form (DA Form 2404).

3. If you encounter minor problems with either hardware or software, before notifying the unit maintenance perform troubleshooting procedures in accordance with the operator's manual and/or the FBCB2 Pocket Guide.

4. Clean the equipment.

- a. Clean metal surfaces using a mild detergent with a wet sponge or lint free cloth. After gently washing surfaces, wipe with a dry, lint-free cloth.
- b. Clean the polycarbonate display unit screen using a mild detergent with a soft moist lint free cloth. After gently washing, wipe with a dry, lint-free cloth.

CAUTION: Never submerge loose or disconnected cables in water.

- c. Clean cables by wiping them down with a wet sponge or moist cloth. Wipe them dry with a clean cloth.
- d. Gently clean the molded keypad membrane on the keyboard unit using a soft, lint-free, moist cloth. Wipe it dry with a clean, lint-free cloth.

5. Troubleshoot.

NOTE: Make sure the computer is receiving power and the cables are connected correctly.

- a. If a hard drive error occurs, the hard drive has bad sectors or has failed. Contact the computer technician.
- b. If there is no light on the hard drive, it is receiving no power. Check the power cable.

Performance Steps

- c. If the embedded numeric keypad on the computer keyboard disabled, the Num Lock function is not turned on. Press the <FN> + <END> key to enable the Num Lock function and numeric keypad.
- d. If the keypad is locked, it is due to User initiated Quick Lock. Enter your password to exit Quick Lock.

NOTE: The user takes responsibility for unit level maintenance. The contractor takes responsibility for all other levels of maintenance.

Performance Measures**GO** **NO GO**

- | | | |
|--|-------|-------|
| 1. Perform basic PMCS. | _____ | _____ |
| a. Check for loose hardware, dents, cracks, and damage to the external power module and keyboard. | | |
| b. Check for cracks and scratches on the display unit glass. | | |
| c. Check for broken or missing keys on the keyboard. | | |
| d. Check cables for frayed or broken wires. | | |
| e. Check connectors for cracked shells and corrosion when attaching peripherals. | | |
| f. Press the keys to make sure they return without sticking. | | |
| g. Check air vents for blockage. | | |
| h. Check electrical connections for cracked or broken wires or loose connectors. | | |
| 2. Complete DA form 2404. | _____ | _____ |
| 3. If there are hardware problems, check all physical connections and cables to isolate the bad component. | _____ | _____ |
| 4. If there are software problems, reboot and/or re-initialize the computer system. | _____ | _____ |
| 5. Troubleshoot. | _____ | _____ |
| a. Make sure the computer is receiving power and the cables are connected correctly. | | |
| b. If there is a hard drive error, check the power cable. | | |
| c. If there is no light on the hard drive, check the power cable. | | |
| d. If the numeric keyboard is disabled, check the NumLock function and take corrective action. Press <FN> + <END> to enable the NumLock function and numeric keypad. | | |
| e. If the keypad is locked, enter your password to exit QuickLock. | | |

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier scores NO-GO, show him what was done wrong and how to do it correctly.

Perform Shut-Down Procedures for FBCB2

171-145-0012

Conditions: In a field or garrison environment, given a vehicle, an operational Applique+ computer with Force XXI Battle Command Brigade-and-Below (FBCB2) 3.0 software loaded, FBCB2 Pocket Guide and Software Guide, precision lightweight Global Positioning System receiver (PLGR), enhanced position location radio system (EPLRS), Single-channel Ground and Airborne Radio System (SINCGARS) with internet controller (INC).

Standards: Shutdown the FBCB2 and components in accordance with proper shutdown procedures.

Performance Steps

CAUTION: Do not shut down the V2 computer without first following software shut down procedures.

1. Shut down the FBCB2 system.
 - a. Close all menus until you are at the OPS main screen.
 - b. Select the Admin... button.
 - c. Select Exit FBCB2.
 - d. Cancel Timeout.
 - e. Select Shutdown and confirm with Yes.

NOTE: Do not proceed to the next step until the following message is displayed "TYPE ANY KEY TO CONTINUE."

2. Shutdown Applique+ computer. Press the PWR button for 2 seconds then release.
3. Shutdown the PLGR. Press the (0) OFF button for 2 seconds.
4. Shutdown SINCGARS.
 - a. Place the FCTN switch in STBY mode.
 - b. At Amplifier Adapter, turn CB1 power switch to OFF.
5. Shutdown EPLRS. Switch the power switch to OFF.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Shut down the FBCB2 system.	—	—
2. Shut down the V2 computer.	—	—
3. Shut down PLGR.	—	—
4. Shut down SINCGARS.	—	—
5. Shut down EPLRS.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed. Score the soldier NO-GO if any step is failed. If the soldier scores NO-GO, show him what was done wrong and how to do it correctly.

Prepare a Digital Topographic Support System-Heavy (DTSS-H) for Movement
052-245-1033

Conditions: You are given a DTSS-H, a generator, and table(s) of organization and equipment (TOE).

Standards: Prepare the Digital Topographic Support System (DTSS) equipment for movement and stow each component in its assigned area. Store all items according to the appropriate technical manual (TM).

Performance Steps

1. Prepare the internal equipment.
 - a. Secure the portable workstation.
 - b. Secure the workstations.
 - c. Secure the plotters.
 - d. Secure the small scanner.
 - e. Secure work materials.
 - f. Secure the classified material.
 - g. Secure the disk array.
 - h. Lock all storage lockers.
 - i. Disconnect the M8A1 chemical alarm.
 - j. Disable the emergency light.
 - k. Perform final shelter power-down procedures.
2. Prepare the exterior equipment.
 - a. Disconnect the signal cables from the shelter.
 - b. Perform generator power-down procedures.
 - c. Disconnect the power and ground cables from the shelter and the generator.
 - d. Pack the support vehicle with the additional equipment.
 - e. Perform final shelter closing.
 - f. Store the rear platform.
 - g. Secure the ladder and rail to the rear platform.

Evaluation Preparation: Setup: Provide a DTSS-H with a generator connected that is setup in a field environment.

Brief soldier: Tell the soldier to abide by all safety warnings while handling power cables and computer equipment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Prepared the internal equipment.	_____	_____
2. Prepared the exterior equipment.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References
Required

Related
TB 11-6675-291-10

Prepare a Digital Topographic Support System-Heavy (DTSS-H) for Operation
052-245-1034

Conditions: You are given a DTSS-H, a generator, Technical Manual (TM) 9-6115-643-10, and table(s) of organization and equipment (TOE).

Standards: Prepare the DTSS-H for operation by properly emplacing, grounding, covering up, and starting workstations.

Performance Steps

1. Select a site.
2. Set up and ground the generator.
3. Set up the shelter.
 - a. Set up the rear platform.
 - b. Ground the DTSS-H.
 - c. Connect power cables between the shelter and the generator.
 - d. Connect the data and signal cables.

WARNING: WHEN WORKING WITH ELECTRICITY, BE SURE TO READ ALL THE SAFETY MESSAGES AND WARNINGS IN THE TMs BEFORE HANDLING.

4. Power up the generator.

5. Power up the shelter.

NOTE: Workstations and peripherals must be powered up in a sequence. Be sure to follow the steps in the TM.

6. Power up the workstations.

7. Log on to the workstation.

Evaluation Preparation: Setup: Provide a DTSS-H, a generator, TM 9-6115-643-10, and the TOE.

Brief soldier: Tell the soldier to setup the DTSS-H according to the TM. Tell the soldier to adhere to all safety notices and warnings. Tell him he must be able to log on to a workstation.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Selected a site.	_____	_____
2. Set up and grounded the generator.	_____	_____
3. Set up the shelter.	_____	_____
4. Powered up the generator.	_____	_____
5. Powered up the shelter.	_____	_____
6. Powered up the workstations.	_____	_____
7. Logged on to the workstation.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

STP 5-81T1-SM

References

Required

TM 9-6115-643-10

Related

TB 11-6675-291-10

Perform Preventive-Maintenance Checks and Services (PMCS) on Digital Topographic Support System (DTSS) Equipment
052-245-1036

Conditions: You are in classroom or laboratory using the DTSS equipment and manuals.

Standards: Demonstrate proficiency to correctly perform PMCS on the DTSS equipment.

Performance Steps

1. Check the external equipment.
2. Check the internal equipment.
3. Check the Standard Integrated Command Post System (SICPS) tent.
4. Check the workstation equipment.
5. Check the color, flat-panel display (CFPD).
6. Check the printer.
7. Check the peripheral equipment.
8. Check the communications equipment.
9. Check the secure terminal equipment (STE).

Evaluation Preparation: Setup: Provide a DTSS, the appropriate manual, and the mission directive.

Brief soldier: Tell the soldier to observe all warnings, cautions, and safety notes when handling electricity.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Checked the external equipment.	_____	_____
2. Checked the internal equipment.	_____	_____
3. Checked the SICPS tent.	_____	_____
4. Checked the workstation equipment.	_____	_____
5. Checked the CFPD.	_____	_____
6. Checked the printer.	_____	_____
7. Checked the peripheral equipment.	_____	_____
8. Checked the communications equipment.	_____	_____
9. Checked the STE.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

Related

TM 11-6675-294-10

Prepare a Digital Topographic Support System-Light (DTSS-L) for Operation

052-245-1047

Conditions: You are given a Digital Topographic Support System-Light (DTSS-L), a generator, a Geographical Information System (GIS), Technical Manual (TM) 11-6675-295-10, TM 9-6115-642-10, and table(s) of organization and equipment (TOE).

Standards: Prepare the DTSS-L for operation by proper emplacement, grounding, powering up, and logging on to the workstation.

Performance Steps

1. Select a site.
2. Position the generator.
3. Position the DTSS-L.
4. Install the boot wall and the Standard Integrated Command Post System (SICPS) tent.
5. Power up the generator.
6. Power up the DTSS-L.
7. Power up the workstation.
8. Log on to the workstation.

Evaluation Preparation: Setup: Provide a DTSS-L, a generator, a GIS, TM 11-6675-295-10, TM 9-6115-642-10, and TOE. Provide an area large enough for setup.

Brief soldier: Tell the soldier to observe all warnings, cautions, and safety notes when handling electricity.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Selected a site.	_____	_____
2. Positioned the generator.	_____	_____
3. Positioned the DTSS-L.	_____	_____
4. Installed the boot wall and the SCIPS tent.	_____	_____
5. Powered up the generator.	_____	_____
6. Powered up the DTSS-L.	_____	_____
7. Powered up the workstation.	_____	_____
8. Logged on to the workstation.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TM 11-6675-295-10
TM 9-6115-642-10

Related

Prepare a Digital Topographic Support System-Deployable (DTSS-D) for Operation
052-245-1048

Conditions: You are given a cleared area large enough to allow a complete DTSS-D setup.

Standards: Demonstrate proficiency in setting up the entire DTSS-D for operation.

Performance Steps

1. Conduct a site survey and select a location for the DTSS-D.
2. Unpack the DTSS-D.
3. Set up the equipment.
4. Power up the equipment.

CAUTION: POWER-UP OF THE COMPUTER EQUIPMENT MUST BE COMPLETED IN A SEQUENCE THAT ENABLES ALL SMALL COMPUTER SYSTEM INTERFACE (SCSI) EQUIPMENT TO OBTAIN THE CORRECT ADDRESSING.

Evaluation Preparation: Setup: Provide all the items listed in the conditions. Give the soldier a safety briefing before starting the test. Prepare the field area and equipment in advance to ensure that the task standards can be met.

Brief soldier: Tell the soldier to follow all safety precautions.

Performance Measures

1. Conducted a site survey and selected a location for the DTSS-D.
2. Unpacked the DTSS-D.
3. Set up the equipment.
4. Powered up the equipment.

GO **NO GO**

_____	_____
_____	_____
_____	_____
_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

Related

TM 11-6675-294-10

Prepare a Digital Topographic Support System-Light (DTSS-L) for Movement
052-245-1049

Conditions: You are given a DTSS-L, a generator, Technical Manual (TM) 11-6675-295-10, and table(s) of organization and equipment (TOE).

Standards: Prepare the DTSS-L equipment for movement and stow each component in its assigned area. Store all items according to the appropriate TM.

Performance Steps

1. Prepare the internal equipment.
 - a. Secure the portable workstation.
 - b. Secure the workstation.
 - c. Secure the plotters.
 - d. Secure the work materials.
 - e. Secure the printer.
 - f. Disable the emergency light.
 - g. Perform final shelter shutdown procedures.
 - h. Secure the disk array.
2. Prepare the external equipment.
 - a. Disconnect the signal cables from the shelter.
 - b. Perform generator shutdown procedures.
 - c. Disconnect the power and ground cables from the shelter and generator.
 - d. Remove the tent and boot wall.
 - e. Pack the support vehicle with additional equipment.
 - f. Perform final shelter closing.
 - g. Store the ladder on the shelter.
 - h. Connect the generator trailer to the Digital Topographic Support System (DTSS).

Evaluation Preparation: Setup: Provide a DTSS-L with a generator connected that is set up in a field environment.

Brief soldier: Tell the soldier to abide by all safety notices and warnings while handling power cables and computer equipment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Prepared the internal equipment.	_____	_____
2. Prepared the external equipment.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TM 11-6675-295-10

Related

Prepare a Digital Topographic Support System-Deployable (DTSS-D) for Movement
052-245-1050

Conditions: You are given a DTSS-D, a generator, Technical Manual (TM) 11-6675-295-10, and table(s) of organization and equipment (TOE).

Standards: Prepare the DTSS-D equipment for movement and stow each component in its assigned area. Store all items according to the appropriate TM.

Performance Steps

1. Power down the equipment.
2. Prepare the scanner. Set the scanner power switch to OFF.
3. Prepare the compact disk-read/writer (CD-RW). Set the power switch to the OFF position.
NOTE: The orange light-emitting diode (LED) will go off.
4. Prepare the laptop.
5. Prepare the plotters. Set the ON/OFF button on the two plotters to the OFF position, and verify that the front panel power LED goes out.
6. Prepare the uninterruptible power supply (UPS).
7. Prepare the surge protector. Turn the power switch to OFF.
NOTE: All LEDs will go out.
8. Prepare for movement.
9. Place equipment in cases.

Evaluation Preparation: Setup: Provide a DTSS-D with a generator connected that is set up in a field environment.

Brief soldier: Tell the soldier to abide by all safety notices and warnings while handling power cables and computer equipment.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Powered down the equipment.	_____	_____
2. Prepared the scanner. Set the scanner power switch to OFF.	_____	_____
3. Prepared the CD-RW. Set the power switch to the OFF position.	_____	_____
4. Prepared the laptop.	_____	_____
5. Prepared the plotters. Set the ON/OFF button on the two plotters to the OFF position, and verified that the front panel power LED went out.	_____	_____
6. Prepared the UPS.	_____	_____
7. Prepared the surge protector. Turned the power switch to OFF.	_____	_____
8. Prepared for movement.	_____	_____
9. Placed equipment in cases.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

STP 5-81T1-SM

References

Required

TM 11-6675-295-10

Related

TM 11-6675-294-10

TM 9-2320-366-10-1

TM 9-6115-604-12

Operate the Digital Topographic Support System-Heavy (DTSS-H) in a Degraded Mode

052-245-1078

Conditions: You are given a DTSS-H, Technical Bulletin (TB) 11-6675-294-10, a shelter, and a power source.

Standards: Demonstrate proficiency by successfully operate in a degraded mode.

Performance Steps

WARNING: BEFORE REMOVING ANY EQUIPMENT OR SWAPPING CABLES, MAKE SURE THAT THE COMPUTERS AND ALL PERIPHERALS ARE POWERED DOWN AND THE CIRCUIT BREAKERS ARE IN THE OFF POSITION.

NOTE: There are two different possible scenarios of failure: high-capacity computer unit (HCU) 1 failure and HCU 2 failure. The steps to correct these scenarios will be done in the following order.

HCU 1 failure:

1. Remove the hard-disk drive (HDD) from the HCU 1 (if required).
 - a. Unscrew the thumbscrews on the front cover.
 - b. Release the two lock screws to unlock the HDD.
 - c. Slide the HDD out of the slot using the handle.

2. Replace the HDD in the HCU 2 by reversing the procedures above.

NOTE: Refer to the software user's manual (SUM) for software reconfiguration procedures.

3. Connect the compact disk (CD) recorder to the portable workstation.
 - a. Retrieve the 8-foot small computer system interface (SCSI) bypass cable (W154) from storage.
 - b. Unscrew the thumbscrews on the CD recorder and pull the unit out.
 - c. Disconnect the cable (W144) from the small computer system interface (SCSI) connector and the CD recorder and set aside.
 - d. Connect the 8-foot (W154) SCSI bypass cable to the SCSI 2 connector on the portable workstation located on the right side panel of the unit.
 - e. Pass the bypass cable behind the unit, and place the cable through the rack into the rear CD recorder shelf.
 - f. Connect the other end of the bypass cable to the SCSI 1 connector on the CD recorder.
4. Turn the digital data network (DDN)/mobile subscriber equipment packet network (MPN) switches on the data-switching panel to the EXPLORER position.
5. Turn the strategic/tactical secure voice terminal (STS VT) switch at the STS VT switching panel to mobile subscriber equipment (MSE) or to the COMMERCIAL PHONE LINE position as required.

6. Power up the HCU 2.

HCU 2 failure:

7. Remove the HDD from the HCU 2 (if required).
 - a. Unscrew the thumbscrews on the front cover.
 - b. Release the two lock screws to unlock the HDD.
 - c. Slide the HDD out of the slot using the handle.

8. Replace the HDD in the HCU 1 by reversing the procedures above.

NOTE: See the SUM for software reconfiguration procedures.

9. Reconnect the small scanner to the portable workstation.
 - a. Retrieve the 18-foot SCSI (SCSI 1 to SCSI 2 connectors) bypass cable (W155) from storage.
 - b. Place the cable across the floor between the scanner and the portable workstation, and tape down to prevent a trip hazard.

Performance Steps

- c. Disconnect the small scanner SCSI cable (W118) from the unit and set aside.
- d. Connect the SCSI bypass cable (SCSI 1) to the SCSI connector on the small scanner.
- e. Connect the other end of the bypass cable (SCSI 2) to the portable workstation.

10. Power up the HCU 1.

Evaluation Preparation: Setup: Provide TB 11-6675-294-10 and a DTSS-H that is set up in a shelter and is powered up.

Brief soldier: Tell the soldier that the workstation has had a catastrophic failure and they need to reconfigure the system to work off the laptop. Tell him he is required to log on.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Removed the HDD from the HCU 1 (if required).	—	—
2. Replaced the HDD in the HCU 2 by reversing the previous procedures.	—	—
3. Connected the CD recorder to the portable workstation.	—	—
4. Turned the DDN/MPN switches on the data-switching panel to the EXPLORER position.	—	—
5. Turned the STSVT switch at the STSVT switching panel to MSE or the COMMERCIAL PHONE LINE position as required.	—	—
6. Powered up the HCU 2.	—	—
7. Removed the HDD from the HCU 2 (if required).	—	—
8. Replaced the HDD in the HCU 1 by reversing the procedures above.	—	—
9. Reconnected the small scanner to the portable workstation.	—	—
10. Powered up the HCU 1.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required**

TB 11-6675-294-10

Related

Operate the Digital Topographic Support System-Light (DTSS-L) in a Degraded Mode 052-245-1079

Conditions: You are given a DTSS-L, Technical Manual (TM) 11-6675-295-10, a shelter, and a power source.

Standards: Operate the DTSS-L in a degraded mode by making the correct peripheral swaps, booting up the system, and logging on.

Performance Steps

NOTE: If the workstation becomes inoperable, the laptop computer can be used in the shelter to perform most of the functions of the workstation. This will allow access to the redundant array of independent disks (RAID) and the compact disk-read/writer (CD-RW).

1. Prepare the laptop for operation.
 - a. Remove the laptop computer case from the storage area.
 - b. Remove the laptop computer from the case.
 - c. Place the laptop and cables on a fully extended shelf.
 - d. Connect cables W128 P3 KYBD and W128 P4 mobile subscriber equipment (MSE) into the emulator using the corresponding markings on the cables and emulator.
 - e. Connect the emulator cables into the adapter on cable W148.
 - f. Connect cable W148 into the laptop external mouse port, using the markings on the laptop.
 - g. Connect cable W101 into the RJ45 port on the laptop.
 - h. Connect cable W128 P2 into the 9-pin video serial port on the laptop.
 - i. Connect cable W143 at the P1 end into the personal computer memory card interface (PCMCIA) slim, small computer system interface (SCSI) card, and plug the SCSI card into the top PCMCIA slot on the laptop.

NOTE: Ensure that the SCSI booster data interface processor (DIP) switches A and B terminators are set to OFF.

- j. Connect cable W143 at the P2 end into the cable converter that is connected to the SCSI booster.
 - k. Loosen the retainer screws on the pullout panel tray for the CD-RW.
 - l. Pull out the CD-RW panel tray carefully.
 - m. Remove connector J2 (cable W122) from port A on the SCSI booster.
 - n. Replace cable W122 with cable W150 located in the CD-RW panel tray.
 - o. Close the CD-RW panel tray carefully.
 - p. Secure the retaining screws on the panel.
 - q. Connect the power cord to the laptop.
2. Power up the shelter.
3. Set the SCSI switch.
 - a. Select MENU and arrow down to SET PORTS at the SCSI switch.
 - b. Arrow to 1A and press ENTER to remove the setting.
 - c. Arrow to 1B and press 1B to select; arrow right to 2B to select.

4. Power up the laptop.

NOTE: The keyboard-video-mouse (KVM) buttons 1 and 2 are used to change access between the workstation and the laptop.

5. Press the button labeled 2 on the KVM.

Evaluation Preparation: Setup: Provide TM 11-6675-295-10 and a DTSS-L that is set up in a shelter and is powered up.

Brief soldier: Tell the soldier that the workstation has had a catastrophic failure and that he needs to log on and reconfigure the system to work off the laptop.

Performance Measures

1. Prepared the laptop for operation.
2. Powered up the shelter.
3. Set the SCSI switch.
4. Powered up the laptop.
5. Pressed the button labeled 2 on the KVM.

GO **NO GO**

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TM 11-6675-295-10

Related

Operate the Digital Topographic Support System-Deployable (DTSS-D) in a Degraded Mode 052-245-1080

Conditions: You are given a DTSS-D, the appropriate technical manual (TM), a shelter, and a power source.

Standards: Operate the DTSS-D in a degraded mode by making the correct peripheral swaps, booting up the system, and logging on.

Performance Steps

1. Power down the workstation.
2. Disconnect the redundant array of independent disks (RAID) from the workstation.
3. Disconnect the scanner from the compact disk-read/writer (CD-RW).
4. Connect the CD-RW to the laptop.
5. Connect the CD-RW to the RAID.
6. Power up the system.
7. Log on to the laptop.

Evaluation Preparation: Setup: Provide the appropriate TM and a DTSS-D that is setup in a shelter and is powered up.

Brief soldier: Tell the soldier that the workstation has had a catastrophic failure and he has to log on and reconfigure the system to work off the laptop.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Powered down the system.	_____	_____
2. Disconnected the RAID from the workstation.	_____	_____
3. Disconnected the scanner from the CD-RW.	_____	_____
4. Connected the CD-RW to the laptop.	_____	_____
5. Connected the CD-RW to the RAID.	_____	_____
6. Powered up the system.	_____	_____
7. Logged on to the laptop.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References Required

Related
TM 11-6675-294-10

Establish Digital Topographic Support System (DTSS) With an Army Battle Command System (ABCS)

052-245-1083

Conditions: You are given a digital topographic support system-deployable (DTSS-D) and DTSS software in a large, clear work area.

Standards: Correctly establish DTSS connectivity with an ABCS.

Performance Steps

1. Configure an ethernet switch.
2. Add users.
3. Set file permissions.
4. Check the task manager.
5. Use miscellaneous administrative tools.
6. Care for and maintain the DTSS.

Evaluation Preparation: Setup: Provide all the items listed in the conditions.

Brief soldier: Tell the soldier to establish DTSS connectivity with an ABCS.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Configured an ethernet switch.	_____	_____
2. Added users.	_____	_____
3. Set file permissions.	_____	_____
4. Checked the task manager.	_____	_____
5. Used miscellaneous administrative tools.	_____	_____
6. Cared for and maintained the DTSS.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

**References
Required**

Related
TM 11-6675-294-10

Establish File Directories and Paths
052-245-1094

Conditions: Given a Digital Topographic Support System (DTSS) with commercial off-the-shelf (COTS) or government off-the-shelf (GOTS) Geospatial Information System (GIS) software and hardware, one or more geospatial terrain products, and a mission directive.

Standards: Establish file directories on the DTSS.

Performance Steps

1. Perform start-up operations.
 - a. Right click START.
 - b. Click EXPLORE.
2. View the directories and subdirectories.

NOTE: A directory containing a subdirectory will show a [+] next to the folder icon. Expand the directory to show a subdirectory by clicking on the [+], depressing the right mouse button and selecting EXPAND, or depressing the [-] on the number pad.

 - a. View the directories.
 - b. Expand and collapse the file directories and subdirectories.
3. Create a new directory.
 - a. Highlight the directory where the new directory is to be established.
 - b. Click FILE.
 - c. Click NEW.
 - d. Click FOLDER.
 - e. Type the desired name for the directory.
 - f. Click outside the FILE NAME box to finish creating the new directory.

Evaluation Preparation: Setup: Provide the items listed in the conditions statement.

Brief soldier: Tell the soldier to establish file directories on the DTSS.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Performed start-up operations.	_____	_____
2. Viewed the directories and subdirectories.	_____	_____
3. Created a new directory.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References	Related
Required	TM 11-6675-294-10

Subject Area 4: Database Management

Import Geospatial Information Data**052-245-1038**

Conditions: Given a Geographic Information System (GIS), Technical Bulletin (TB) 11-6675-291-10, the appropriate software, a digital database, a table(s) of organization and equipment (TOE), tools, equipment, and a mission directive.

Standards: Import geospatial information data. View the imported product using a viewer.

Performance Steps

NOTE: This task assumes that the soldier is at the Combat Terrain Information System (CTIS) window on the workstation. Use TB 11-6675-291-10 to complete this task.

1. Access the tactical decision aid (TDA) window.
2. Select IMPORT from the tools pull-down menu.
3. Select a format type from the TYPE field.
4. Select a media type from the MEDIA field.

NOTE: The remaining steps will vary based on the type and media selected.

5. Follow the instructions in the associated menu window, completing all steps in sequence.
6. Open and view the file using the viewer.

Evaluation Preparation: Setup: Provide the items listed in the conditions statement.

Brief soldier: Tell the soldier the data type and mass storage device to use to import data. All steps must be done in sequence.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Accessed the TDA window.	_____	_____
2. Selected IMPORT from the tools pull-down menu.	_____	_____
3. Selected a format type from the TYPE field.	_____	_____
4. Selected a media type from the MEDIA field.	_____	_____
5. Followed the instructions in the associated menu window, and completed all steps in sequence.	_____	_____
6. Opened and viewed the file using the viewer.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required**

TB 11-6675-291-10

Related

Export Geospatial Information Data

052-245-1039

Conditions: Given a Geographic Information System (GIS), Training Bulletin (TB) 11-6675-291-10, the appropriate software, a digital database, a table(s) of organization and equipment (TOE), tools, equipment, and a mission directive.

Standards: Export the GIS. View the exported product using a viewer.

Performance Steps

NOTE: This task assumes that the soldier is at the Combat Terrain Information System (CTIS) window on the workstation. Use TB 11-6675-291-10 to complete this task.

1. Access the tactical decision aid (TDA) window.
2. Select EXPORT from the tools pull-down menu.
3. Select a format type from the TYPE field.
4. Select a media type from the MEDIA field.

NOTE: The remaining steps will vary based on the type of media selected.

5. Follow the instructions in the associated menu window, completing all steps in the proper sequence.
6. Open the file and view it using the viewer.

Evaluation Preparation: Setup: Provide the items listed in conditions statement.

Brief soldier: Tell the soldier to export the data type specified by the using mass storage device specified. All steps must be done in sequence.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Accessed the TDA window.	_____	_____
2. Selected EXPORT from the tools pull-down menu.	_____	_____
3. Selected a format type from the TYPE field.	_____	_____
4. Selected a media type from the MEDIA field.	_____	_____
5. Followed the instructions in the associated menu window, and completed all steps in the proper sequence.	_____	_____
6. Opened the file and viewed it using the viewer.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-291-10

Related

Install Data on a Map Server
052-245-1076

Conditions: You are given a Digital Topographic Support System (DTSS) with a Geographic Information System (GIS), a map server, the appropriate software, Technical Bulletin (TB) 11-6675-291-10, and a mission directive.

Standards: Post geospatial products to the DTSS map server.

Performance Steps

1. Use the data object processed (DOP) to export geospatial products to the joint mapping tool kit (JMTK) of the common tactical picture.
 - a. Select TOOLS from the DTSS window main menu. Select DTSS OVERLAY PROVIDER to launch the DOP stand-alone window.
 - b. Select FILE on the DOP stand-alone window and select START JMTK.
 - c. Create a tape archive (tar) package of an available geospatial product.
 - (1) Select CHANGE DIRECTORY above the AVAILABLE PACKAGES window to access the package directory pop-up window.
 - (2) Use the directories list display to locate the directory where the geospatial product is stored as a .tgz file.
 - (3) Select GEOSPATIAL FILE from the FILES display window, and select OK to return to the DOP stand-alone window.

NOTE: The file should be displayed in the AVAILABLE PACKAGES window.

- d. View a geospatial overlay in the DOP.
 - (1) Select the geospatial product in the AVAILABLE PACKAGE display of the DOP stand-alone window.
 - (2) Select UNZIP/TAR PACKAGE and the product will be moved to the AVAILABLE OVERLAYS display.
 - (3) Select the geospatial product in the AVAILABLE OVERLAYS display.
 - (4) Select VIEW OVERLAY to display the geospatial product in an index window in the JMTK system window active chart tab.
 - (5) Manipulate colors and patterns on the index window to facilitate viewing of the geospatial product data, as required. Select CLOSE on the PRODUCT INDEX window.
- e. Select STOP JMTK from the FILE menu on the DOP stand-alone window to remove the JMTK from the DTSS screen when viewing is complete.

2. Post the information to the DTSS web page.
 - a. Select PREFERENCES from the EDIT menu.
 - (1) Select TRIANGLE to the left of the navigator to select APPLICATIONS to access the helper applications.
 - (2) Review the paths for the different file types, and ensure that the paths point to the proper application for viewing the file.
 - (3) Change the file search parameter by entering the file information under the filter.

NOTE: If helpers are not configured correctly, the program will try to download files as American Standard Code for Information Interchange (ASCII) text.

- b. Select WEB SERVER from the UTILITIES option on the DTSS main menu to access the web server window.
- c. Select FILE > NEW to access the NEW PRODUCT SELECTION window.
- d. Navigate the directories display to access the directory containing the file to be posted, select the file, and then select OK to access the ADD NEW PRODUCT window.
- e. Input file information into all the fields displayed, and select OK to create or update the web page.db file.
- f. Select FILE > EXIT from the web server menu to accurately incorporate the new data on the home page.
- g. Verify the new data by accessing the home page and clicking on the file.

Performance Steps

NOTE: If the program can read the file, it will display it. If not, it will provide the FILE > SAVE AS menu to copy to the local hard drive for other application use.

- h. Edit or delete the web page database.
 - (1) Type RM WORK/WK1/USTATIC_DATA/WEB PAGE.DB in the command line of the program and then press ENTER.
 - (2) Type RM FTPSITE/PUB/DTSS/.*, and press ENTER to complete the deletion.

NOTE: Repeat the steps above to recreate and add pages to the web page.db.

- 3. Produce a geospatial compact disk (CD) for courier distribution.

NOTE: This is useful in exporting the Earth Resources Data Analysis System (ERDAS), tagged image file format (TIFF), and other files for further analysis at lower echelons using a software program.

- a. Access the CD-read only memory (ROM) recorder utility from the UTILITIES option on the DTSS main menu window to display the BURNIT window and the CD-ROM RECORDER window.
- b. Select SETUP to access the four setup windows if running the application for the first time.
 - (1) Input the following data on the first setup menu window, and then select NEXT.
 - (a) Type 0, 1, 0 in the ID BUS field.
 - (b) Type 4 in both the READ and WRITE SPEED fields.
 - (2) Input the following data on the second setup menu window, and then select NEXT.
 - (a) Type the path to the data directory holding the data to record in the DEFAULT SOURCE PATH.
 - (b) Select the DEFAULT FILE SYSTEM.
 - (c) Select CLEAR USERID to allow general access to the recorded data.
 - (3) Input nothing on the third setup menu window, and then select NEXT.
 - (4) Input the following data on the fourth setup menu window, and then select SAVE.
 - (a) Type the directory path in the IMAGE MOUNT point field where the data image file (created during the burn operation) will be mounted for testing.
 - (b) Type the directory path in the TEMP DIRECTORY field where the data file will be stored before being written to the CD-ROM.
- c. Select SIMPLE on the BURNIT window to access the SIMPLE menu.
 - (1) Insert a blank CD-ROM in the CD-ROM drive.
 - (2) Select CD-ROM on the SIMPLE menu window followed by NEXT.
 - (3) Input the following data on the third FILE SYSTEM menu window, and then select NEXT.
 - (a) Select the file system for the intended data receiver.
 - (b) Select CLEAR USERID to allow general access to the recorded data.
 - (4) Select MODE-1 on the second CD-ROM SIMPLE menu window, and then select NEXT.
 - (5) Input the following data on the third CD-ROM SIMPLE menu window, and then select SAVE.
 - (a) Type the path to the data directory holding the data to record in the SOURCE DIRECTORY field.
 - (b) Type CD-ROM information as applicable in the four fields at the bottom of the menu (optional).
 - (6) Select only 4X(600KB/S) on the fourth CD-ROM SIMPLE menu window, and then select BURN.

NOTE: A blank disk must be in the CD-ROM drive before BURN is selected or the process returns an error and the procedure is cancelled. The burn process produces an image file of what was recorded to the CD-ROM and saves it to the IMAGE MOUNT POINT directory established in the setup procedures.

Evaluation Preparation: Setup: Provide the items listed in the conditions statement.

Brief: Tell the soldier to install data on the map server.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Used the DOP to export geospatial products to the JMTK of the common tactical picture.	_____	_____
2. Posted the information to the DTSS web page.	_____	_____
3. Produced a geospatial CD for courier distribution.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-291-10

Related

TB 11-6675-294-10

Integrate Geospatial Information (GI) Into the Common Operational Picture

052-245-1077

Conditions: Given a Digital Topographic Support System (DTSS) with a Geographic Information System (GIS), the appropriate software, Technical Bulletin (TB) 11-6675-291-10, and a mission directive.

Standards: Determine the proficiency, and integrate operational pictures into the military decision-making process (MDMP).

Performance Steps

1. Review the area of operations (AOs).
2. Review the current product development and the predetermined GI products.
3. Review the available GI.
4. Request additional GI if needed.
5. Determine the available time for the geospatial product.
6. Determine the products necessary to support the planning procedures and mission.
7. Develop tactical decision aids that support the commander's requirements.

NOTE: Products may support more than one critical activity. Units should identify geospatial product requirements relating to the planning and mission execution.

- a. Develop geospatial data products depicting the feature, slope elevation, and soil conditions.
- b. Develop geospatial products depicting the impact on the vehicle and human speed capability, operational tempo (OPTEMPO), trafficability, maneuverability of various forces, and maintenance requirements.
- c. Develop weather effects on both geospatial data and its impact on operations.
8. Develop tactical decision aids that support mission requirements.
9. Produce tactical decision aids that support the intelligence, surveillance, and reconnaissance development.
10. Produce tactical decision aids that support the target selection process.
11. Produce TerraBase products to show dead space, range fans, intervisibility lines, battle position terrain aspects, three-dimensional (3-D) perspective, and fly-through views.
12. Produce tactical decision aids that support the mission execution.
 - a. Produce command information center digital screen hard copies.
 - b. Produce a digital overlay of imagery views to support the mission's critical information requirements.
13. Update previously generated GI products.
14. Disseminate tactical decision aid products.
 - a. Disseminate a digital overlay or product intra local area network (LAN).
 - b. Disseminate a digital overlay or product intra LAN.
 - c. Produce disk copy geospatial updates.
 - d. Print a map or map overlay of other geospatial paper products.
 - e. Print an acetate overlay product.
15. Store the geospatial information on the map server.

Evaluation Preparation: Setup: Provide the soldier with the items listed in the conditions statement. Give the soldier a safety briefing before starting the test. Ensure that all safety precautions are followed.

Prepare the topographic area and equipment in advance to ensure that the task standards can be met.

Brief soldier: Tell the soldier to integrate the GI into the MDMP.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Reviewed the AOs.	—	—
2. Reviewed the current product development and the predetermined GI products.	—	—
3. Reviewed the available GI.	—	—
4. Requested additional GI if needed.	—	—
5. Determined the available time for the geospatial product.	—	—
6. Determined the products necessary to support the planning procedures and mission.	—	—
7. Developed tactical decision aids that support the commander's requirements.	—	—
8. Developed tactical decision aids that support mission requirements.	—	—
9. Produced tactical decision aids that support the intelligence, surveillance, and reconnaissance development.	—	—
10. Produced tactical decision aids that supported the target selection process.	—	—
11. Produced TerraBase products to show dead space, range fans, intervisibility lines, battle position terrain aspects, 3-D perspective, and fly-through views.	—	—
12. Produced tactical decision aids that supported the mission execution.	—	—
13. Updated previously generated GI products.	—	—
14. Disseminated tactical decision aid products.	—	—
15. Stored geospatial information on the map server.	—	—

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

TB 11-6675-291-10

Related

FM 3-34.230

FM 5-33

Create a Database Using the Digital Topographic Support System-Base (DTSS-B)
052-245-1085

Conditions: As a geospatial analyst of a terrain section, given a DTSS-B with operational ArcInfo™ software and a requirement to create a geospatial database.

Standards: Build a geospatial database with ArcInfo™ 8 and ArcCatalog™ software that will allow the terrain team to view and manage the contents on the DTSS-B.

Performance Steps

1. Design a database.
 - a. Create feature data sets.
 - b. Create tables.
 - c. Create a projection.
 - d. Create geometric networks.
 2. Create the scheme using ArcCatalog™.
- NOTE:** The most important step in creating an effective database is designing the scheme.
3. Import existing data.
 - a. Import coverages.
 - b. Import information tables.
 - c. Import a geospatial database.
 - d. Load the data into the existing simple feature classes and tables.
 - e. Register the spatial database engine (SDE) layers and tables with the geospatial database.
 4. Use computer-aided software engineer (CASE) tools.
 - a. Select unified modeling language (UML) packages and static-structure diagrams.
 - b. Set tag values.
 - c. Create feature classes.
 - d. Select nonattributed and attributed relationship classes.
 - e. Create domains.
 - f. Create relationship rules.
 5. Create connectivity.
 - a. Create an edge junction.
 - b. Create an edge edge.
 6. Load data into the scheme.

Evaluation Preparation: Setup: Ensure that all safety precautions are followed. Prepare the topographic area and equipment in advance to ensure that the task standards can be met.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Designed a database.	_____	_____
2. Created the scheme using ArcCatalog™.	_____	_____
3. Imported existing data.	_____	_____
4. Used CASE tools.	_____	_____
5. Created connectivity.	_____	_____
6. Loaded data into the scheme.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

Related

TB 11-6675-294-10

Update a Database Using the Digital Topographic Support System-Base (DTSS-B)
052-245-1086

Conditions: As a geospatial analyst in a terrain section, given a DTSS-B with operational ArcInfo software and the requirement to update a database.

Standards: Update the database with ArcInfo 8 and ArcCatalog software, allowing the terrain team to view and manage the contents on the DTSS-B. Ensure that all safety precautions are followed.

Performance Steps

1. Review and update the database. Update the—
 - a. Feature data sets.
 - b. Tables.
 - c. Projection.
 - d. Geometric networks.
 2. Update the scheme using the ArcCatalog.
- NOTE:** The most important step in updating an effective database is designing its scheme.
3. Import existing data.
 - a. Review and import new coverages.
 - b. Review and import new information tables.
 - c. Review and import the new database.
 - d. Load data into existing simple feature classes and tables.
 - e. Register spatial database engine (SDE) layers and tables with the updated database.
 4. Use computer-aided software engineer (CASE) tools.
 - a. Select unified modeling language (UML) packages and static-structure diagrams.
 - b. Set tag values.
 - c. Update feature classes.
 - d. Select nonattributed and attributed relationship classes.
 - e. Update domains.
 5. Update connectivity. Update the—
 - a. Edge junction.
 - b. Edge edge.
 6. Reload the revised and updated data into the scheme.

Evaluation Preparation: Setup: Provide the soldier with the items listed in the condition statement.

Brief soldier: Tell the soldier to update a database using the DTSS-B.

Performance Measures	<u>GO</u>	<u>NO GO</u>
1. Reviewed and updated the database.	_____	_____
2. Updated the scheme using the ArcCatalog.	_____	_____
3. Imported existing data.	_____	_____
4. Used CASE tools.	_____	_____
5. Updated connectivity.	_____	_____
6. Reloaded the revised and updated data into the scheme.	_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

Related

FM 3-34.230

TB 11-6675-294-10

Disseminate a Database Using the Digital Topographic Support System-Base (DTSS-B)
052-245-1087

Conditions: Given a DTSS-B with commercial off-the-shelf (COTS) or government off-the-shelf (GOTS) Geographic Information System (GIS) software and hardware, one or more geospatial terrain products, a geospatial products web site, and a requirement to disseminate one or more geospatial products.

Standards: Disseminate or add a geospatial product(s) to a product web site.

Performance Steps

1. Open the web exporter tool.
2. Select the add tool.
3. Navigate to the location of the product.
4. Select the file to add.
5. Add the file to the web.
6. Update the product meta data.

Evaluation Preparation: Setup: Provide the soldier with the items listed in the conditions statement. Provide the soldier a safety briefing before beginning the test. Ensure that all safety precautions are followed. Prepare the topographic area and equipment in advance to ensure that the task standards can be met.

Brief soldier: Tell the soldier to disseminate geospatial products.

Performance Measures

1. Opened web exporter tool.
2. Selected the add tool.
3. Navigated to the location of the product.
4. Selected the file to add.
5. Added the file to the web.
6. Updated the product meta data.

GO NO GO

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References

Required

Related

TB 11-6675-294-10

Establish a Geospatial Information (GI) Database

052-245-1093

Conditions: Given maps, imagery, digital raster graphics, overlays, written text, 5 x 8 index cards, table(s) of organization and equipment (TOE) tools and equipment, and a mission directive. This task should be performed indoors under adequate lighting conditions.

Standards: Establish a GI database to provide a fast and accurate storage and retrieval process.

Performance Steps

1. Catalog material. Ensure that the material includes—
 - a. A map.
 - b. Remote-sensed imagery.
 - c. Text.
 - d. A compact disk.
 - e. An overlay.
 - f. Film and fiche.
2. Assign a control number to each item.
3. Annotate data on 5 x 8 index cards. Ensure that the data includes—
 - a. A control number.
 - b. A geographic area.
 - c. The type of item.
 - d. A subject.
 - e. A scale.
 - f. A source.
 - g. A title.
 - h. The date.
 - i. An edition number.
 - j. A sheet number.
 - k. A sheet name.
4. Prepare cross-reference index cards. Ensure that the information includes—
 - a. A geographic area.
 - b. The type of item.
 - c. A scale.
 - d. A subject.
5. Store the material. Annotate, on the primary and cross-reference index cards, the storage locations of each item.
6. Retrieve the material.
7. Return the material to the correct storage location.

Evaluation Preparation: Setup: Provide the soldier with the materials listed in the conditions statement. Storage cabinets, flat-file map cabinets, and other storage areas should be available.

Brief soldier: Tell the soldier to manually establish a GI database.

Performance Measures

	<u>GO</u>	<u>NO GO</u>
1. Cataloged material.	_____	_____
2. Assigned a control number to each item.	_____	_____

Performance Measures

3. Annotated data on 5 x 8 index cards.
4. Prepared cross-reference index cards.
5. Stored the material.
6. Retrieved the material.
7. Returned the material to the correct storage location.

GO **NO GO**

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Evaluation Guidance: Score the soldier GO if all steps are passed (P). Score the soldier NO-GO if any step is failed (F). If the soldier fails any step, show him how to do it correctly.

References**Required****Related**

FM 3-34.230
FM 5-33

APPENDIX A - DEPARTMENT OF THE ARMY (DA) FORM 5164-R (HANDS-ON EVALUATION)

A-1. This appendix provides a copy of DA Form 5164-R. Locally reproduce DA Form 5164-R on 8 1/2- by 11-inch paper.

A-2. The use of this form is optional, but highly encouraged. This evaluation allows you to maintain and track the soldier's proficiency at the performance level.

A-3. Use the following instructions to complete DA Form 5164-R:

- Enter the title and number of the task to be evaluated at the top of the form.
- Enter in column "a" the number of each performance step from the evaluation guide.
- Enter in column "b" each performance step from the evaluation guide that corresponds to the number in column "a." Abbreviate the information, if necessary.
- Locally reproduce the partially completed DA Form 5164-R if more than one soldier will be evaluated on the specific task or the same soldier will be evaluated more than once.
- Enter the date, the evaluator's name, and the soldier's name and unit before starting the evaluation.
- Enter a check in column "c" (PASS) or column "d" (FAIL) for each performance step evaluated, as appropriate.
- Check the status block GO or NO-GO.

HANDS-ON EVALUATION		DATE	
For use of this form, see AR 350-57; the proponent agency is ODCSOPS			
TASK TITLE		TASK NUMBER	
ITEM a	PERFORMANCE STEP TITLE b	SCORE (Check One)	
		PASS c	FAIL d
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
		☐ P	☐ F
EVALUATOR'S NAME		UNIT	
SOLDIER'S NAME		STATUS ☐ GO ☐ NO GO	

DA FORM 5164-R, SEP 85

EDITION OF DEC 82 IS OBSOLETE

USAPPC V2.00

APPENDIX B - CONVERSION FACTORS (UNITED STATES [US] UNITS AND METRIC)**Table B-1. Conversion Chart**

US Units	Multiplied By	Equals Metric Units
Length		
Feet	0.30480	Meters
Inches	2.54000	Centimeters
Inches	0.02540	Meters
Inches	25.40010	Millimeters
Miles (statute)	1.60930	Kilometers
Miles (nautical)	1.85320	Kilometers
Yards	0.91400	Meters
Area		
Square inches	6.45160	Square centimeters
Square feet	0.09290	Square meters
Square yards	0.83610	Square meters
Volume		
Cubic inches	16.38720	Cubic centimeters
Cubic feet	0.02830	Cubic meters
Cubic yards	0.76460	Cubic meters
Gallons	3.78540	Liters
Fluid ounces	29.57300	Milliliters
Quarts	0.94600	Liters
Weight		
Ounces	28.34900	Grams
Pounds	453.59000	Grams
Pounds	0.45359	Kilograms
Short tons	0.90700	Metric tons
Long tons	1.01600	Metric tons

Metric Units	Multiplied By	Equals US Units
Length		
Centimeters	0.39370	Inches
Meters per second	2.23700	Miles per hour
Millimeters	0.03937	Inches
Kilometers	0.62137	Miles (statute)
Kilometers	0.53960	Miles (nautical)
Meters	3.28080	Feet
Meters	39.37000	Inches
Meters	1.09360	Yards
Area		
Square centimeters	0.15500	Square inches
Square meters	10.76400	Square feet
Square meters	1.19600	Square yards
Volume		
Cubic centimeters	0.06100	Cubic inches
Cubic meters	35.31440	Cubic feet
Cubic meters	1.30790	Cubic yards
Milliliters	0.03380	Fluid ounces
Liters	1.05700	Quarts
Liters	0.26420	Gallons
Weight		
Grams	0.03527	Ounces
Kilograms	2.20460	Pounds
Metric tons	1.10200	Short tons
Metric tons	0.98400	Long tons

GLOSSARY**1SG**

first sergeant

2-D

two dimensional

3-D

three dimensional

ABCS

Army Battle Command System

AC

active component; alternating current

ACCP

Army Correspondence Course Program

ADMIN

administrative

AIT

advanced individual training

ALZ

area landing zone

AML

Arc Macro language

AN

annually

ANCOC

Advanced Noncommissioned Officers Course

AO

area of operation

APPS

Analytical Photogrammetric Positioning System

AR

Army regulation; armor; angle of repose

ARTEP

Army Training and Evaluation Program

ASAS

All Source Analysis System

ASCII

American Standard Code for Information Interchange

ATTN

attention

AWOL

absent without leave

B

width of the T beam; width of the stringers; filler block, backward; bulb; bravo; base

BA

biannually

bldg

building

BNCOC

Basic Noncommissioned Officers Course

BT

basic training; blade team

BW

biweekly; biological warfare

cap

capable

CASE

computer-aided software engineer

CCM

cross-country movement; compacted cubic meters

CD

compact disk

CDR

commander

CD-RW

compact disk-read/writer

CFPD

color flat panel display

Class V

Ammunition of all types, including chemical, bombs, explosives, mines, fuzes, detonators, pyrotechnics, missiles, rockets, propellants, and other associate items.

CMF

career management field

COMSEC

communications security

COTS	commercial off the shelf
CPU	central processing unit
CSM	command sergeant major
CTIS	Combat Terrain Information System
CTT	common task test; common task training
DA	Department of the Army; Denmark; direct action
DDN	digital data network
DEM	digital elevation model
DIP	data interface processor
DMA	Defense Mapping Agency
DMS	Defense Mapping School; degrees minutes second
DOP	DTSS overlay provider; data object processed
DTED	digital terrain elevation data
DTG	date-time group
DTSS	Digital Topographic Support System
DTSS-B	Digital Topographic Support System-Base
DTSS-D	Digital Topographic Support System-Deployable
DTSS-H	Digital Topographic Support System-Heavy
DTSS-L	Digital Topographic Support System-Light

DZ

drop zone

E1

private 1

E2

private 2

E3

private first class

E4

specialist

E5

sergeant; Table value E5

E6

staff sergeant

E7

sergeant first class

E8

master sergeant; first sergeant

E9

sergeant major; command sergeant major

EETI

essential elements of terrain information; essential elements of threat information

EPLRS

Enhanced Position Location and Reporting System

EPM

external power module

EPMS

Enlisted Personnel Management System

ERDAS

Earth Resources Data Analysis System

ESD

electrostatic discharge

F

frequency; fail; failed; Fahrenheit; full

FBCB2

Force XXI Battle Command Brigade and Below

FIPR	flash, immediate, priority, routine
FM	field manual; frequency modulated/modulation
FRAGO	fragmentary order
FREQ	frequency
GED	general education development
GI	geospatial information; government issue
GIF	graphics image file
GIS	Geographic Information System; Geospatial Information System; geospatial information and services
GOTS	government off the shelf
HCU	hand-control unit; high-capacity computer unit
HDD	hard-disk drive
HLZ	helicopter landing zone
HTML	hyper text markup language
Hz	hertz
ID	identification; infantry division; inside diameter
inc	incorporated; internet controller
intel	intelligence
IPB	intelligence preparation of the battlefield; intelligence preparation of the battlespace

ITD

interim terrain data

JMTK

Joint Mapping Tool Kit

KIA

killed in action

kmph

kilometers per hour

KVM

keyboard-video-mouse

LAN

local area network

LAT

latitude

LED

light-emitting diode

LOC

lines of communications; location

Long

longitude

LRF

laser range finder

MANSCEN

Maneuver Support Center

MCWP

Marine Corp Warfighting Publication

MDMP

military decision-making process

MEDEVAC

medical evacuation

METL

mission-essential task list

MGRS

Military Grid Reference System

MIA

Missing In Action

mil

military

MLC	military load classification; military load class
MO	Missouri; monthly
MOS	military occupational specialty; minimum operating strip
MOUT	military operations on urbanized terrain
MPN	mobile subscriber equipment packet network
MSE	mobile subscriber equipment
MSG	message; master sergeant
msn	mission
MTD	mounted
MTP	mission training plan; MOS training plan
mtrl	material
NBC	nuclear, biological, chemical
NBC 1 Report	Observer's Initial Report. This report is used by the observing unit to give basic, initial, and follow-up data about an NBC attack. This report is sent by platoons and companies to the battalion headquarters or by designated observers to the division NBC Center (NBCC).
NCO	noncommissioned officer
NCOES	Noncommissioned Officer Education System
NG	National Guard
No.	number
NSN	national stock number; nonstandard number

obsvr

observer

OPORD

operation order

ops

operational procedures; operations

OPTEMPO

operational tempo; operating tempo

P

needs practice; pass; passed; barometric pressure; mean radius of curvature

PCMCI

personal computer memory card interface

PLDC

Primary Leadership Development Course

PLGR

precision lightweight GPS receiver

PMCS

preventive-maintenance checks and services

POL

petroleum, oils, and lubricants

QT

quarterly

RAID

redundant array of independent disks

RC

rapid cure; reserve component

RECON

reconnaissance

ROM

read only memory

RSI

remote sensing imagery; rationalization, standardization, and interoperability

RT

radius of target; receiver/transmitter

RW

read/writer

SA	semiannually; situational awareness
SALUTE	size, activity, location, unit, time, and equipment
SCO	single-color overprints
SCSI	small computer system interface
SDE	spatial database engine
SGM	sergeant major
SICPS	Standard Integrated Command Post System
SINCGARS	Single-Channel, Ground-to-Air Radio System
SL	skill level; side lap
SLF	standard linear format
SM	soldier's manual
SMCT	soldier's manual of common tasks
SOP	standing operating procedure
spec	specification
SPPB	special purpose product builder
STE	secure terminal equipment
STP	soldier training publication
STSVT	strategic/tactical secure voice terminal
SUM	software user's manual

SUST

sustainment

tar

tape archive

TB

technical bulletin

TDA

tactical decision aids; Table of Distribution and Allowance

TIFF

tagged image file format

TM

team; technical manual; trademark

TNG

training

TO

theater of operations

TOE

table(s) of organization and equipment

TTADB

tactical terrain analysis database (specifications)

UML

unified modeling language

Unit training

Training (individual, collective, and joint or combined) conducted in a unit.

UPS

universal polar stereographic; uninterruptible power supply

URL

uniform resource locator

US

United States

USASMA

United States Army Sergeants Major Academy

UTM

universal transverse Mercator

VPF

vector product format

WIA
wounded in action

WK
weekly

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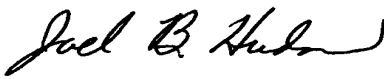
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STP 5-81T1-SM
20 FEBRUARY 2003

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