

**STP 9-63W12-SM-TG**

**SOLDIER'S MANUAL and TRAINER'S GUIDE**

**Wheel Vehicle Repairer**

**SKILL LEVELS 1 and 2**

**MOS 63W**

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# SOLDIER'S MANUAL and TRAINER'S GUIDE

## MOS 63W

### Wheel Vehicle Repairer

#### Skill Levels 1 and 2

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## PREFACE

This soldier training publication (STP) is intended for soldiers holding MOS 63W, Skill Levels 1 and 2, their supervisors, trainers, and commanders. It contains an MOS training plan providing information needed to plan, conduct, and evaluate unit training, one of the most important jobs of military leaders. It includes standardized training objectives in the form of task summaries that can be used to train and evaluate soldiers on critical tasks supporting unit missions during wartime.

Soldiers holding MOS 63W should have access to this publication. Trainers and first line supervisors should actively plan for soldiers' access, making it available in work areas, unit learning centers, and unit libraries. However, it is not intended for an individual copy to be provided to each MOS holder. The STP is obtainable on line from the Reimer Digital Library (RDL) at <http://www.adtdl.army.mil/adtdls.htm>.

Tasks in this manual apply to both Active and Reserve Component soldiers.

The proponent of this publication is HQ TRADOC. Submit comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Department of the Army, Training Directorate, Ordnance Training Division, ATTN: ATCL-AO, 401 First Street, Suite 227, Fort Lee, VA 23801-1511.

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

## CHAPTER 1

### Introduction

1-1. General. This soldier training publication (STP) identifies individual MOS training requirements for soldiers holding MOS 63W. Commanders, trainers, and soldiers should use it to plan, conduct, and evaluate individual training in units. The STP is the primary MOS reference for supporting self-development, evaluating MOS proficiency, and training of 63W soldiers. Commanders employ two primary methods to evaluate soldiers' proficiency:

- Commander's evaluation. Commander's evaluations are local tests or assessments of soldiers' 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.

This publication is the soldier's primary reference to prepare for a commander's evaluation of MOS-specific tasks. It contains task summaries for all critical tasks specific to the MOS and skill level (SL). Commanders and trainers will use this soldier's manual/trainer's guide (SM/TG) to plan and conduct training and commander's evaluations.

Chapter 2, Trainer's Guide, contains information needed to plan training requirements for this MOS. The trainer's guide

- Identifies subject areas in which soldiers must be trained.
- Identifies critical tasks for each subject area.
- Specifies where soldiers are initially trained on each task.
- Recommends how often each task should be trained to sustain proficiency.
- Recommends a strategy for cross-training soldiers.
- Recommends a strategy for training soldiers to perform higher-level tasks.

Use this STP along with STP 21-1-SMCT (Soldier's Manual of Common Tasks, Skill Level 1), STP 21-24-SMCT (Soldier's Manual of Common Tasks, Skill Levels 2-4), Army training and evaluation programs (ARTEPs), FM 25-4 (How to Conduct Training Exercises), FM 25-5 (Training for Mobilization and War), FM 25-100 (Training the Force), and FM 25-101 (Battle-Focused Training) to establish effective training plans and programs that integrate soldier, leader, and collective tasks.

1-2. Task Summaries. Task summaries outline wartime performance requirements for each critical task in the STP. They provide both soldier and trainer with the information necessary to prepare, conduct, and evaluate critical task training. As a minimum, task summaries include information soldiers must know and skills they must perform to standard for each task. Following is the task summary format:

- Task number. The task number is a 10-digit number that identifies the task and skill level. Include the task number and title in any correspondence relating to the task.
- Task title. The task title identifies the action to be performed.
- Conditions. The task conditions statement describes the field or garrison conditions under which the task will be performed and identifies the equipment, tools, references, job aids, and supporting personnel that the soldier needs to perform the task in wartime.
- Standards. The task standards describe how well and to what level of proficiency the soldier must perform the task under wartime conditions. Standards are typically expressed in terms of accuracy, completeness, duration, sequence, speed, and tolerance.
- Performance measures. This section identifies specific actions that the soldier must accomplish to complete the task successfully. Performance measures appear in a GO/NO-GO rating format for easy evaluation. Some tasks may also include detailed training information in a Training Information Outline and an Evaluation Preparation Section. The Evaluation Preparation Section indicates necessary modifications to task performance in order to train and evaluate a task that can not 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 instructions that should be given to the soldier before evaluation.
- References. This section identifies references that provide more detailed explanations of task performance requirements than are given in the task summary.
- Warnings. Warnings alert users to the possibility of immediate personal injury or equipment damage.
- Notes. Notes provide additional supportive explanations or tips relating to task performance.

1-3. Soldier's Responsibilities. Each soldier is responsible for performing individual tasks identified by the first-line supervisor based on the unit's mission-essential task list (METL). Soldiers must perform tasks to the standards included in the task summary. If

soldiers have questions about tasks or which tasks in this manual they must perform, they are responsible for asking their first-line supervisor for clarification. First-line supervisors know how to perform each task or can direct soldiers to appropriate training materials, including current field manuals, technical manuals, and Army regulations. Soldiers are responsible for using these materials to maintain performance. They are also responsible for maintaining performance of all common tasks listed in the SMCTs at their current skill level and below.

Periodically, soldiers should ask their supervisor or another soldier to check their performance to ensure that they can perform the tasks.

1-4. NCO Self-Development and the STP. Self-development is a key component of leader development. Leaders follow planned, progressive, sequential self-development programs developed by the individual NCO and his or her first-line supervisor to enhance and sustain military competencies. Self-development consists of individual study, research, professional reading, practice, and self-assessment. The self-development concept requires NCOs, as Army professionals, to take responsibility for remaining current in all phases of their MOS. The STP is the NCO's primary source for maintaining MOS proficiency.

Another important resource for self-development is the Army Correspondence Course Program (ACCP). Refer to DA Pamphlet 351-20 (Army Correspondence Course Program Catalog) for detailed eligibility requirements and enrollment information. The catalog is available at local education centers or on line through the Army Institute for Professional Development (AIPD) web site, <http://www.atsc.mil/accp/nonconsolidated.htm>. The web site offers on-line enrollment.

1-5. Commander's Responsibilities. Commanders must ensure that their unit training plans prepare the unit for war by enabling soldiers to develop and sustain proficiency in their MOS and skill level tasks. Commanders should design unit training programs to provide individual training for all soldiers assigned to the unit and to evaluate soldier proficiency routinely as part of the commander's evaluation program. The unit training program should also integrate individual training with crew drills and other collective training. The MOS training plan provides information on which to base integration, cross-train, train-up, and sustainment training programs. Commanders should use the MOS training plan when developing unit training plans.

1-6. Trainer's Responsibilities. Training is the business of all unit leaders. First-line leaders are the principal trainers in the unit because they directly supervise soldiers and lead crews, squads, sections, and teams.

Trainers can use the MOS training plan to determine the critical tasks each soldier is responsible for. They should tell each soldier which tasks he or she must be able to perform. Trainers should evaluate task performance to determine which tasks each soldier can or cannot perform to standard. Soldiers who cannot perform a task to

standard need further training. Developing effective training is explained in detail in FM 25-100 and FM 25-101.

Every task summary in this STP includes performance measures, which trainers may use year-round to determine if soldiers can perform critical tasks to the specified standards. The performance measures identify what the trainer needs to observe to score a soldier's performance. A blank space is provided for the trainer to check either the GO or NO-GO column for each performance measure. Some tasks require the trainer to watch the soldier perform them (evaluate the process). Other tasks call for the trainer to focus on the results of the soldier's performance (evaluate the product). Comments should not be written on the task summary.

Trainers can monitor the progress of their soldiers by recording task go/no-go results. Trainers may use DA Form 5164-R (Hands-On Evaluation) to record the performance measures a soldier passed or failed. The form, which may be locally reproduced, applies to all tasks in this STP. Trainers may have DA Form 5164-R overprinted with information unique to their training requirements before reproducing it. See Appendix A of this STP for a sample DA Form 5164-R with instructions.

Trainers may use DA Form 5165-R (Field Expedient Squad Book) to record hands-on go/no-go results for a group of soldiers (for example, a crew, section, or squad) having the same MOS and skill level. This form supports conduct of commander's evaluations, and can be used to record training results gathered in the field during slack time for all MOSs and skill levels. Use of this form is optional. See Appendix B for a sample DA Form 5165-R with instructions. Trainers should work with each soldier until tasks can be performed to specific task summary standards.

1-7. Training Support. References have been identified for each task to assist in planning and conducting training. A consolidated list of references identified by type, publication number, and title and a comprehensive glossary of acronyms, abbreviations, and definitions are included in this STP.

## CHAPTER 2

## Training Guide

63W CAREER FIELD DUTY POSITIONS			
Duty Position	Subject Area	Cross Train	Train-up/Merger
<b>Skill Level 1</b>			
63W10/Wheel Vehicle Repairer 63W10/Recovery Vehicle Operator	1 - 6	NA	63W20/Wheel Vehicle Repairer 63W20/Recovery Vehicle Operator
<b>Skill Level 2</b>			
63W20/Wheel Vehicle Repairer 63W20/Recovery Vehicle Operator	1 - 6	NA	63H30/Senior Automotive Repairer 63H30/Maintenance Analyst 63H30/Recovery Supervisor 63H30/Senior Fuel & Electric Systems Repairer 63H30/Automotive Repairer Sergeant 63H30/Mechanical Maintenance Sergeant 63H30/MHE Maintenance NCO 63H30/Technical Inspector 63H30/Operations Sergeant

2-1. General. The MOS Training Plan (MTP) identifies the essential components of an 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, train 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, etc.), the resident course where the task was taught. Figure 2-1 contains a list of training locations and their corresponding brevity codes.

<b>AIT</b>	Advanced Individual Training
<b>UNIT</b>	Trained in the Unit
<b>ASI/SD</b>	Additional Skill Identifier/Special Duty
<b>ANCOC</b>	Advanced NCO Course

Figure 2-1. Training Locations

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

<b>BA</b>	- Biannually
<b>AN</b>	- Annually
<b>SA</b>	- Semiannually
<b>QT</b>	- Quarterly
<b>MO</b>	- Monthly
<b>BW</b>	- Bi-weekly
<b>WK</b>	- 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 they maintain proficiency to soldier's manual standards.

2-2. Subject Area Codes.

**Skill Level 1**

- 1 TECHNICAL TASKS
- 2 ASI (H8) WHEEL RECOVERY TASKS

2-3. Duty Position Training Requirements.

Note: See chapter 2, section 2-1.

2-4. Critical Tasks List.**MOS TRAINING PLAN  
63W12****CRITICAL TASKS**

<b>Subject Area</b>	<b>Task Number</b>	<b>Title</b>	<b>Training Location</b>	<b>Sust Tng Freq</b>	<b>Sust Tng SL</b>
<b>Skill Level 1</b>					
1. TECHNICAL TASKS	091-63W-2004	Perform Internal/External Timing on a Combustion Ignition Engine	AIT	AN	1/2
	091-63W-2021	Adjust Steering System	AIT	AN	1/2
	091-63W-2030	Repair Boom Extensions	AIT	AN	1/2
	091-63W-2031	Repair Electrical Interface Systems	AIT	AN	1/2
	091-63W-2032	Replace Rear Main Oil Seal	AIT	AN	1/2
	091-63W-2033	Repair Distributor Type Fuel Injection System	AIT	AN	1/2
	091-63W-2034	Replace Cylinder Head	AIT	AN	1/2
	091-63W-2035	Repair Unit Type Fuel Injection System	AIT	AN	1/2
	091-63W-2036	Repair Pressure Timed Injection System	AIT	AN	1/2
	091-63W-2037	Replace Differential	AIT	AN	1/2
	091-63W-2038	Replace Transmission	AIT	AN	1/2
	091-63W-2039	Replace Diesel Power Plant	AIT	AN	1/2
	091-63W-2040	Replace Input/Output Oil Seal	UNIT	AN	1/2
	091-63W-2041	Replace Clutch Disk	UNIT	AN	1/2
	091-63W-2042	Replace Pressure Plate	UNIT	AN	1/2
	091-63W-2043	Replace Release Bearing	UNIT	AN	1/2
	091-63W-2044	Replace Wiring Harness	UNIT	AN	1/2
	091-63W-2045	Repair Power Take Off (PTO)	UNIT	AN	1/2
	091-63W-2046	Repair Hydraulic Winch Motor	UNIT	AN	1/2
	091-63W-2047	Replace Water Pump	UNIT	AN	1/2
091-63W-2048	Replace Pilot Bearing/Bushing	UNIT	AN	1/2	
091-63W-2049	Replace Control Linkage	UNIT	AN	1/2	
091-63W-2050	Repair Electrical Systems	AIT	AN	1/2	

## CRITICAL TASKS

Subject Area	Task Number	Title	Training Location	Sust Tng Freq	Sust Tng SL
	091-63W-2051	Replace Transfer	UNIT	AN	1/2
2. ASI (H8) WHEEL RECOVERY TASKS	091-H8C-2001	Locate a Recovery Site	ASI/SD	SA	1/2
	091-H8C-2002	Determine Recovery Methods	ASI/SD	SA	1/2
	091-H8C-2003	Operate Tactical Communications Equipment	ASI/SD	SA	1/2
	091-H8C-2004	Operate Metal Cutting Equipment	ASI/SD	SA	1/2
	091-H8W-2002	Use and Maintain Basic Issue Items (BI) Related to Wheeled Recovery Operations	UNIT	QT	1/2
	091-H8W-2003	Drive Wheeled Recovery Vehicle	ASI/SD	SA	1/2
	091-H8W-2004	Operate Boom/Hoist, Wheeled Recovery Vehicle	ASI/SD	SA	1/2
	091-H8W-2005	Operate The Retrieval System on a Wheeled Vehicle	ASI/SD	WK	1/2
	091-H8W-2006	Operate Winches on a Wheeled Recovery Vehicle	ASI/SD	SA	1/2
	091-H8W-2007	Recover a Mired Wheeled Vehicle	UNIT	SA	1/2
	091-H8W-2009	Tow a Wheel Vehicle Using a Retrieval System	ASI/SD	SA	1/2
	091-H8W-2011	Perform Self Recovery on a Wheeled Vehicle	ASI/SD	SA	1/2
	091-H8W-2012	Perform Field Expedient Recovery on a Wheeled Vehicle	ASI/SD	SA	1/2

**CHAPTER 3**

**MOS/Skill Level Tasks**

Skill Level 1

Subject Area 1: TECHNICAL TASKS

**Perform Internal/External Timing on a Combustion Ignition Engine**

**091-63W-2004**

**Conditions:** In a field or garrison environment, given a wheel vehicle, repair parts, general mechanic's tool kit, A31 tool set, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Perform internal/external timing on a combustion ignition engine IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

**Performance Measures**

	<u>GO</u>	<u>NO GO</u>
1. Select and use applicable technical publications.	—	—
2. Select and use correct tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Perform internal/external timing.	—	—
5. Perform a final operational test to verify timing on combustion ignition engine to specifications.	—	—
6. Complete TAMMS forms are required.	—	—
7. Maintain tools and equipment.	—	—

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

**References**

**Required**

- TM 9-2320-280-10
- TM 9-2320-280-20-2
- TM 9-2320-280-34
- TM 9-2815-237-34

**Related**

- TM 9-8000

**Adjust Steering System  
091-63W-2021**

**Conditions:** In a field or garrison environment, given a wheel vehicle, repair parts, general mechanic's tool kit, A31 tool set, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Adjust the steering system IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Position steering wheel to halfway point.	—	—
5. Adjust sector shaft screw IAW applicable TMs.	—	—
6. Rotate steering wheel in both directions and check for pulsation.	—	—
7. Adjust worm screw IAW applicable TMs.	—	—
8. Rotate steering wheel in both directions and check for pulsation.	—	—
9. Perform a final operational check to verify steering system is adjusted to specifications.	—	—
10. Complete TAMMS forms as required.	—	—
11. Maintain tools and equipment.	—	—

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

**References**

**Required**

- TM 9-2320-279-10-1
- TM 9-2320-279-20-1
- TM 9-2320-279-20-3
- TM 9-2320-279-34-1
- TM 9-2320-279-34-2
- TM 9-2320-280-10
- TM 9-2320-280-20-1
- TM 9-2320-280-20-2

**Related**

- TM 9-2320-280-20-3
- TM 9-2320-364-10
- TM 9-2320-364-20-4
- TM 9-8000

**Repair Boom Extensions**

**091-63W-2030**

**Conditions:** In a field or garrison environment, given an M984A1, repair parts, general mechanic's tool kit, A31 tool set, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Repair the boom extensions IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Troubleshoot the M984A1 hydraulic system:	—	—
a. Measure crane/winch hydraulic pump flow output.		
b. Measure high pressure filter input flow.		
c. Adjust main relief valve pressure.		
5. Remove extension number 1 and wear pads.	—	—
6. Remove extension number 2 and wear pads.	—	—
7. Remove extension number 1 and 2 cylinder and wear pads.	—	—
8. Install extension number 1 and 2 cylinder and wear pads into extension number 2.	—	—
9. Install extension number 1 and 2 cylinder and wear pads into extensions number 1 and 2.	—	—
10. Install extension assembly into the boom.	—	—
11. Perform a final operational check to verify boom extensions are repaired to specifications.	—	—
12. Complete TAMMS forms as required.	—	—
13. Maintain tools and equipment.	—	—

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

**References**

<b>Required</b>	<b>Related</b>
TM-9-2320-260-10	
TM 9-2320-260-20	
TM 9-2320-272-10	
TM 9-2320-272-24-1	
TM 9-2320-279-10-1	TM 9-8000
TM 9-2320-279-10-2	
TM 9-2320-279-34-1	
TM 9-2320-279-34-2	
TM 9-2320-279-34-3	

**Electrical Interface Systems  
091-63W-2031**

**Conditions:** In a field or garrison environment, given an M984A1, repair parts, general mechanic's tool kit, A31 tool set, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Repair the electrical interface system IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Rough adjust crane electrical interface.	—	—
5. Repair boom angle switches.	—	—
6. Repair crane overload switches.	—	—
7. Final adjust crane electrical interface.	—	—
a. Perform 7,300 lb. weight adjustment.		
b. Perform 9,700 lb. weight adjustment.		
c. Perform 14,200 lb. weight adjustment.		
d. Perform 16,500 lb. weight adjustment.		
8. Perform a final operational check to verify electrical interface system is repaired to specifications.	—	—
9. Complete TAMMS forms as required.	—	—
10. Maintain tools and equipment.	—	—

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

**References**

**Required**

- TM 9-2320-279-10-1
- TM 9-2320-279-10-2
- TM 9-2320-279-34-1
- TM 9-2320-279-34-2
- TM 9-2320-279-34-3

**Related**

- TM 9-8000

**Replace Rear Main Oil Seal  
091-63W-2032**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Replace rear main oil seal IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Remove rear oil seal.	—	—
5. Clean oil seal housing.	—	—
6. Inspect oil seal housing.	—	—
7. Install rear oil seal.	—	—
8. Perform a final operational check to verify rear main oil seal is replaced to specifications.	—	—
9. Complete TAMMS forms as required.	—	—
10. Maintain tools and equipment.	—	—

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

**References**

**Required**

- TM 9-2320-272-10
- TM 9-2320-272-24-1
- TM 9-2320-272-24-2

**Related**

- TM 9-2320-279-10-1
- TM 9-2320-279-10-2
- TM 9-2320-279-20-1
- TM 9-2320-279-20-2
- TM 9-8000

**Repair Distributor Type Fuel Injection System  
091-63W-2033**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Repair distributor type fuel injection system IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Inspect system components for serviceability: <ul style="list-style-type: none"> <li>a. Bleed system.</li> <li>b. Check for leaks.</li> </ul>	—	—
5. Replace defective components.	—	—
6. Time injector pump, if injector pump is replaced.	—	—
7. Perform a final operational check to verify distributor type fuel injection system is repaired to specifications.	—	—
8. Complete TAMMS forms as required.	—	—
9. Maintain tools and equipment.	—	—

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

**References**

**Required**

- TM 9-2320-280-20-2
- TM 9-2320-280-20-3
- TM 9-2320-280-34
- TM 9-2815-237-34

**Related**

- TM 9-2320-280-10
- TM 9-8000

**Replace Cylinder Head  
091-63W-2034**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Replace cylinder head IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Remove cylinder head assembly.	—	—
5. Inspect cylinder head assembly.	—	—
6. Install cylinder head assembly.	—	—
7. Adjust the intake and exhaust valves.	—	—
8. Perform a final operational check to verify cylinder head is replaced to specifications.	—	—
9. Complete TAMMS forms as required.	—	—
10. Maintain tools and equipment.	—	—

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

**References**

**Required**

- TM 9-2320-272-24-1
- TM 9-2320-272-24-2
- TM 9-2815-224-34&P
- TM 9-2815-225-34&P-1
- TM 9-2815-237-34
- TM 9-2835-255-34

**Related**

- TM 9-2320-272-10
- TM 9-2320-272-24-3
- TM 9-2320-366-34-2
- TM 9-2320-366-34-3
- TM 9-2320-366-34-4

**Repair Unit Type Fuel Injection System  
091-63W-2035**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Repair unit type fuel injection system IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Inspect system components for serviceability: <ul style="list-style-type: none"> <li>a. Bleed system.</li> <li>b. Check for leaks.</li> </ul>	—	—
5. Replace defective components.	—	—
6. Perform a final operational check to verify unit type fuel injection system is repaired to specifications.	—	—
7. Complete TAMMS forms as required.	—	—
8. Maintain tools and equipment.	—	—

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

**References**

**Required**

- TM 9-2320-279-10-1
- TM 9-2320-279-10-2
- TM 9-2320-279-20-1
- TM 9-2320-279-20-2
- TM 9-2320-279-34-1
- TM 9-2320-279-34-2

**Related**

- TM 9-2320-279-20-3
- TM 9-2320-279-34-3
- TM 9-2320-364-10
- TM 9-2320-364-20-1
- TM 9-2320-364-20-2
- TM 9-2320-364-20-3
- TM 9-2320-364-20-4
- TM 9-2815-224-34&P
- TM 9-8000

**Repair Pressure Timed Injection System  
091-63W-2036**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Repair pressure timed fuel injection system IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u>GO</u>	<u>NO GO</u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Remove injector pump.	—	—
5. Install injector pump.	—	—
6. Purge system.	—	—
7. Check for leaks.	—	—
8. Start the engine.	—	—
9. Perform a final operational check to verify pressure timed fuel injection system is repaired to specifications.	—	—
10. Complete TAMMS forms as required.	—	—
11. Maintain tools and equipment.	—	—

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

**References**

<b>Required</b>	<b>Related</b>
TM 9-2320-272-10	
TM 9-2320-272-24-1	
TM 9-2320-272-24-2	
TM 9-2320-272-24-3	
TM 9-2320-272-24-4	
TM 9-2815-225-34&P-1	
TM 9-2815-225-34&P-2	

**Replace Differential  
091-63W-2037**

**Conditions:** In a field or garrison environment, given an M998 series vehicle, repair parts, general mechanic's tool kit, A31 tool set, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Replace differential IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Remove axle assembly.	—	—
5. Remove differential.	—	—
6. Inspect axle and differential.	—	—
7. Install differential.	—	—
8. Inspect axle assembly.	—	—
9. Check for leaks.	—	—
10. Perform a final operational check to verify differential is replaced to specifications.	—	—
11. Complete TAMMS forms as required.	—	—
12. Maintain tools and equipment.	—	—

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

**References**

**Required**

- LO 9-2320-280-12
- TM 9-2320-280-20-2
- TM 9-2320-280-34

**Related**

- TM 9-2320-280-10
- TM 9-8000

**Replace Transmission  
091-63W-2038**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, transmission jack, suitable lifting device, trestle, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Replace transmission IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Remove propeller shaft.	—	—
5. Remove air lines, hydraulic lines, and linkages.	—	—
6. Separate transmission from power plant.	—	—
7. Remove transmission assembly.	—	—
8. Separate transmission assembly.	—	—
9. Inspect transmission assembly.	—	—
10. Replace seals as needed.	—	—
11. Install transmission assembly.	—	—
12. Connect propeller shaft.	—	—
13. Connect air lines, hydraulic lines, and linkages.	—	—
14. Perform a final operational check to verify transmission is replaced to specifications.	—	—
15. Complete TAMMS forms as required.	—	—
16. Maintain tools and equipment.	—	—

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

**References**

<b>Required</b>	<b>Related</b>
LO 9-2320-272-12	
LO 9-2320-279-12	
LO 9-2320-280-12	
TM 9-2320-272-10	
TM 9-2320-272-24-1	
TM 9-2320-272-24-2	
TM 9-2320-272-24-3	
TM 9-2320-272-24-4	

**References**

**Required**

TM 9-2320-279-20-2  
TM 9-2320-279-34-2  
TM 9-2320-279-34-3  
TM 9-2320-280-20-2  
TM 9-2320-280-20-3  
TM 9-2320-280-34

**Related**

**Replace Diesel Power Plant**  
**091-63W-2039**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, suitable lifting device, bar, sling, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Replace diesel power plant IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Disconnect all applicable fuel, oil, air, and coolant lines.	—	—
5. Disconnect all applicable electrical connections.	—	—
6. Separate diesel power plant from transmission.	—	—
7. Remove diesel power plant.	—	—
8. Inspect diesel power plant.	—	—
9. Install diesel power plant.	—	—
10. Connect all applicable fuel, oil, air, and coolant lines.	—	—
11. Connect all applicable electrical connections.	—	—
12. Perform a final operational check to verify diesel power plant is replaced to specifications.	—	—
13. Complete TAMMS forms as required.	—	—
14. Maintain tools and equipment.	—	—

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

**References**

**Required**

LO 9-2320-272-12  
LO 9-2320-280-12  
TM 9-2320-272-24-1  
TM 9-2320-272-24-2  
TM 9-2320-272-24-3  
TM 9-2320-272-24-4  
TM 9-2320-280-20-2  
TM 9-2320-280-20-3  
TM 9-2320-280-34

**Related**

LO 9-2320-279-12  
LO 9-2320-364-12  
TM 9-2320-279-20-2  
TM 9-2320-279-20-3  
TM 9-2320-279-34-2  
TM 9-2320-279-34-3  
TM 9-2320-364-20-2  
TM 9-2320-364-20-3  
TM 9-2320-364-20-4  
TM 9-2320-365-20-2  
TM 9-2320-365-20-3

**References  
Required**

**Related**

TM 9-2320-365-20-4  
TM 9-2320-365-20-5  
TM 9-2320-366-20-2  
TM 9-2320-366-20-3  
TM 9-2320-366-20-4  
TM 9-2320-366-20-5  
TM 9-2320-366-34-2  
TM 9-2320-366-34-3  
TM 9-2320-366-34-4  
TM 9-8000

**Replace Input/Output Oil Seal  
091-63W-2040**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, and applicable vehicle TMs.

**Standards:** The transmission oil seal must be replaced IAW applicable technical manual procedures and specifications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select/use applicable publications.	—	—
2. Select/use correct tools/TMDE.	—	—
3. Follow prescribed safety procedures.	—	—
4. Practice maintenance discipline.	—	—
5. Remove oil seal.	—	—
6. Clean seal housing.	—	—
7. Install oil seal.	—	—
8. Check for leaks.	—	—
9. Verify fault is corrected.	—	—

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

**References**

**Required**

- LO 9-2320-272-12
- LO 9-2320-279-12
- LO 9-2320-280-12
- TM 9-2320-272-24-1
- TM 9-2320-272-24-2
- TM 9-2320-272-24-3
- TM 9-2320-272-24-4
- TM 9-2320-272-24P-1
- TM 9-2320-272-24P-2
- TM 9-2320-279-20-2
- TM 9-2320-279-20-3
- TM 9-2320-279-34-1
- TM 9-2320-279-34-2
- TM 9-2320-279-34-3
- TM 9-2320-280-20-1
- TM 9-2320-280-20-2
- TM 9-2320-280-20-3
- TM 9-2320-280-24P-1
- TM 9-2320-280-24P-2
- TM 9-2320-280-34

**Related**

- TM 9-8000

**Replace Clutch Disk  
091-63W-2041**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, and applicable vehicle TMs.

**Standards:** The clutch disk must be replaced IAW applicable technical manual procedures and specifications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select/use applicable publications.	_____	_____
2. Select/use correct tools/TMDE.	_____	_____
3. Follow prescribed safety procedures.	_____	_____
4. Practice maintenance discipline.	_____	_____
5. Remove clutch disk.	_____	_____
6. Inspect clutch housing, controls and linkage.	_____	_____
7. Install clutch disk.	_____	_____
8. Adjust clutch controls and linkage.	_____	_____
9. Verify fault is corrected.	_____	_____

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

**References**

**Required**

- TM 9-2320-272-10
- TM 9-2320-272-24-1
- TM 9-2320-272-24-3
- TM 9-2520-254-34

**Related**

- TM 9-2320-272-24-2
- TM 9-2320-272-24-4
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2
- TM 9-2320-279-20-1
- TM 9-2320-279-20-2
- TM 9-2320-279-20-3
- TM 9-2320-279-34-1
- TM 9-2320-279-34-2
- TM 9-2320-279-34-3
- TM 9-2320-280-10
- TM 9-2320-280-20-1
- TM 9-2320-280-20-2
- TM 9-2320-280-20-3
- TM 9-2320-280-24P-1
- TM 9-2320-280-24P-2
- TM 9-2320-280-34
- TM 9-8000

**Replace Pressure Plate  
091-63W-2042**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, and applicable vehicle TMs.

**Standards:** The pressure plate must be replaced IAW applicable technical manual procedures and specifications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select/use applicable publications.	—	—
2. Select/use correct tools/TMDE.	—	—
3. Follow prescribed safety procedures.	—	—
4. Practice maintenance discipline.	—	—
5. Remove pressure plate.	—	—
6. Inspect clutch housing, controls and linkage.	—	—
7. Adjust pressure plate as necessary.	—	—
8. Install pressure plate.	—	—
9. Adjust clutch controls and linkage.	—	—
10. Verify fault is corrected.	—	—

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

**References**

**Required**

- TM 9-2320-272-24-1
- TM 9-2320-272-24-2
- TM 9-2320-272-24-3
- TM 9-2520-254-34

**Related**

- TM 9-2320-272-10
- TM 9-2320-272-24-4
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2
- TM 9-2320-279-20-1
- TM 9-2320-279-20-2
- TM 9-2320-279-20-3
- TM 9-2320-279-34-1
- TM 9-2320-279-34-2
- TM 9-2320-279-34-3
- TM 9-2320-280-10
- TM 9-2320-280-20-1
- TM 9-2320-280-20-2
- TM 9-2320-280-20-3
- TM 9-2320-280-24P-1
- TM 9-2320-280-24P-2
- TM 9-2320-280-34
- TM 9-8000

**Replace Release Bearing  
091-63W-2043**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, and applicable vehicle TMs.

**Standards:** The release bearing must be replaced IAW applicable technical manual procedures and specifications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select/use applicable publications.	—	—
2. Select/use correct tools/TMDE.	—	—
3. Follow prescribed safety procedures.	—	—
4. Practice maintenance discipline.	—	—
5. Remove release bearing.	—	—
6. Install release bearing.	—	—
7. Verify fault is corrected.	—	—

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

**References**

**Required**

- TM 9-2320-272-24-1
- TM 9-2320-272-24-2
- TM 9-2320-272-24-3

**Related**

- TM 9-2320-272-10
- TM 9-2320-272-24-4

**Replace Wiring Harness  
091-63W-2044**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, and applicable vehicle TMs.

**Standards:** The wiring harness must be replaced IAW applicable technical manual procedures and specifications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select/use applicable publications.	—	—
2. Select/use correct tools/TMDE.	—	—
3. Follow prescribed safety procedures.	—	—
4. Practice maintenance discipline.	—	—
5. Disconnect wiring harness.	—	—
6. Remove wires from switches and connections.	—	—
7. Install new wiring harness.	—	—
8. Reconnect wiring harness.	—	—
9. Perform continuity checks for all points of connection.	—	—
10. Verifies fault is corrected.	—	—

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

**References**

**Required**

- TM 9-2320-272-10
- TM 9-2320-272-24-1
- TM 9-2320-272-24-2
- TM 9-2320-272-24P-1
- TM 9-2320-272-24P-2
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2
- TM 9-2320-279-20-1
- TM 9-2320-279-20-2
- TM 9-2320-279-34-1
- TM 9-2320-280-10
- TM 9-2320-280-20-1
- TM 9-2320-280-20-2
- TM 9-2320-280-20-3
- TM 9-2320-280-24P-1
- TM 9-2320-280-34

**Related**

- TM 9-2320-272-24-3
- TM 9-2320-272-24-4
- TM 9-2320-279-20-3
- TM 9-2320-279-34-2
- TM 9-2320-279-34-3
- TM 9-2320-280-24P-2

**Repair Power Take Off (PTO)  
091-63W-2045**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, and applicable vehicle TMs.

**Standards:** The power takeoff (PTO) must be repaired IAW applicable technical manual procedures and specifications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select/use applicable publications.	—	—
2. Select/use correct tools/TMDE.	—	—
3. Follow prescribed safety procedures.	—	—
4. Practice maintenance discipline.	—	—
5. Remove External components from PTO.	—	—
6. Tag shims for installation.	—	—
7. Remove internal components.	—	—
8. Mark position of shifter fork for installation.	—	—
9. Inspect components IAW applicable vehicle TM.	—	—
10. Install internal components.	—	—
11. Set PTO transfer shaft end play.	—	—
12. Ensure clutch collar and shifter are properly installed.	—	—
13. Ensure PTO shifter shaft will move in two positions.	—	—
14. Install external components	—	—
15. Verify fault is corrected.	—	—

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

**References**

<b>Required</b>	<b>Related</b>
TM 9-2320-272-10	
TM 9-2320-272-24-1	
TM 9-2320-272-24-2	
TM 9-2320-272-24-3	
TM 9-2320-272-24-4	
TM 9-2320-272-24P-1	
TM 9-2320-272-24P-2	
TM 9-2320-279-10-1	
TM 9-2320-279-10-2	
TM 9-2320-279-20-1	
TM 9-2320-279-20-2	

**References**

**Required**

- TM 9-2320-279-20-3
- TM 9-2320-279-34-1
- TM 9-2320-279-34-2
- TM 9-2320-279-34-3

**Related**

**Repair Hydraulic Winch Motor  
091-63W-2046**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, and applicable vehicle TMs.

**Standards:** The hydraulic winch motor must be repaired IAW applicable technical manual procedures and specifications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select/use applicable publications.	—	—
2. Select/use correct tools/TMDE.	—	—
3. Follow prescribed safety procedures.	—	—
4. Practice maintenance discipline.	—	—
5. Inspect parts and components.	—	—
6. Replace parts and components.	—	—
7. Make adjustments IAW specifications in Technical manuals.	—	—
8. Verify fault is corrected.	—	—

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

**References**

**Required**

- TM 9-2320-272-10
- TM 9-2320-272-24-1
- TM 9-2320-272-24-2
- TM 9-2320-272-24-3
- TM 9-2320-272-24-4
- TM 9-2320-272-24P-1
- TM 9-2320-272-24P-2
- TM 9-2320-279-10-2
- TM 9-2320-279-20-2
- TM 9-2320-279-20-3
- TM 9-2320-279-34-1
- TM 9-2320-279-34-2
- TM 9-2320-279-34-3

**Related**

**Replace Water Pump  
091-63W-2047**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic tool kit, A31 tool set, and applicable vehicle TMs.

**Standards:** The water pump must be replaced IAW applicable Technical Manual procedures and specifications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<b><u>GO</u></b>	<b><u>NO GO</u></b>
1. Select/use applicable publications.	—	—
2. Select/use correct tools/TMDE.	—	—
3. Follow prescribed safety procedures.	—	—
4. Practice maintenance discipline.	—	—
5. Remove water pump.	—	—
6. Clean mounting surfaces.	—	—
7. Install water pump gasket.	—	—
8. Install water pump.	—	—
9. Check for leaks.	—	—
10. Verify fault is corrected.	—	—

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

**References**

**Required**

- TM 9-2320-272-10
- TM 9-2320-272-24-1
- TM 9-2320-272-24P-1

**Related**

- TM 9-214
- TM 9-2320-272-24-2
- TM 9-2320-272-24P-2
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2
- TM 9-2320-279-20-1
- TM 9-2320-279-20-2
- TM 9-2320-279-20-3
- TM 9-2320-279-34-1
- TM 9-2320-279-34-2
- TM 9-2320-279-34-3
- TM 9-8000

**Replace Pilot Bearing/Bushing  
091-63W-2048**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic tool kit, A31 tool set, and applicable vehicle TM.

**Standards:** The pilot bearing/bushing must be replaced IAW applicable Technical Manual procedures and specifications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select/use applicable publications.	—	—
2. Select/use correct tools/TMDE.	—	—
3. Follow prescribed safety procedures.	—	—
4. Practice maintenance discipline.	—	—
5. Remove pilot bearing/bushing.	—	—
6. Clean and inspect pilot bearing/bushing housing.	—	—
7. Install pilot bearing/bushing.	—	—
8. Verify fault is corrected.	—	—

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

**References**

**Required**

- TM 9-214
- TM 9-2320-272-10
- TM 9-2320-272-24-1
- TM 9-2320-272-24-2
- TM 9-2320-272-24P-1
- TM 9-2320-272-24P-2
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2
- TM 9-2320-279-20-1

**Related**

- TM 9-2320-272-24-3
- TM 9-2320-272-24-4
- TM 9-2320-279-20-2
- TM 9-2320-279-20-3
- TM 9-2320-280-10
- TM 9-2320-280-20-1
- TM 9-2320-280-20-2
- TM 9-2320-280-20-3
- TM 9-2320-280-24P-1
- TM 9-2320-280-24P-2
- TM 9-2320-280-34

**Replace Control Linkage  
091-63W-2049**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, and applicable vehicle TMs.

**Standards:** The control linkage must be replaced IAW applicable technical manual procedures and specifications. When completed, the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select/use applicable publications.	—	—
2. Select/use correct tools/TMDE.	—	—
3. Follow prescribed safety procedures.	—	—
4. Practice maintenance discipline.	—	—
5. Remove control linkage.	—	—
6. Install control linkage.	—	—
7. Make adjustments IAW specifications in Technical Manual.	—	—
8. Verify fault is corrected.	—	—

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

**References**

**Required**

- TM 9-2320-272-10
- TM 9-2320-272-24-1
- TM 9-2320-272-24-2
- TM 9-2320-279-20-1
- TM 9-2320-279-20-2
- TM 9-2320-279-20-3
- TM 9-2320-280-10

**Related**

- TM 9-2320-272-24-3
- TM 9-2320-272-24-4
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2
- TM 9-2320-280-20-1
- TM 9-2320-280-20-2
- TM 9-2320-280-20-3
- TM 9-2320-280-24P-1
- TM 9-2320-280-24P-2

**Repair Electrical Systems  
091-63W-2050**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, applicable technical publications, additional tools and equipment as indicated in TMs, and supervision/assistance.

**Standards:** Repair electrical systems IAW applicable technical publications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Select and use applicable technical publications.	—	—
2. Select and use applicable tools and TMDE.	—	—
3. Practice shop safety and maintenance discipline.	—	—
4. Check fuse box and fusible links.	—	—
5. Locate faults by testing circuits for voltage and continuity.	—	—
6. Repair cab/engine wiring harness.	—	—
7. Inspect and replace components or parts as necessary.	—	—
8. Perform a final operational check to verify electrical systems are repaired to specifications.	—	—
9. Complete TAMMS forms as required.	—	—
10. Maintain tools and equipment.	—	—

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

**References**

**Required**

- TM 9-2320-272-10
- TM 9-2320-272-24-1
- TM 9-2320-272-24-2
- TM 9-2320-272-24P-1
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2
- TM 9-2320-279-20-1
- TM 9-2320-279-20-2
- TM 9-2320-279-34-1
- TM 9-2320-280-10
- TM 9-2320-280-20-1
- TM 9-2320-280-24P-1
- TM 9-2320-280-34
- TM 9-2320-366-10-1

**Related**

- TM 9-2320-272-24-3
- TM 9-2320-272-24-4
- TM 9-2320-272-24P-2
- TM 9-2320-279-20-3
- TM 9-2320-279-34-2
- TM 9-2320-279-34-3
- TM 9-2320-280-20-2
- TM 9-2320-280-20-3
- TM 9-2320-280-24P-2
- TM 9-2320-364-10
- TM 9-2320-364-20-1
- TM 9-2320-364-20-2
- TM 9-2320-364-20-3
- TM 9-2320-364-20-4
- TM 9-2320-366-10-2
- TM 9-2320-366-20-1
- TM 9-2320-366-20-2
- TM 9-2320-366-20-3

**References  
Required**

**Related**

- TM 9-2320-366-20-4
- TM 9-2320-366-20-5
- TM 9-2320-366-24P-1
- TM 9-2320-366-24P-2
- TM 9-2320-366-34-1
- TM 9-2320-366-34-2
- TM 9-2320-366-34-3
- TM 9-2320-366-34-4

**Replace Transfer  
091-63W-2051**

**Conditions:** In a field or garrison environment, given a wheeled vehicle, repair parts, general mechanic's tool kit, A31 tool set, and applicable vehicle TMs.

**Standards:** The transfer must be replaced IAW applicable technical manual procedures and specifications. When the task is completed the equipment or end item will be fully mission capable, or required maintenance actions to be performed by other than 63W SL 1/2 personnel will be identified.

<b>Performance Measures</b>	<b><u>GO</u></b>	<b><u>NO GO</u></b>
1. Select/use applicable technical publications.	—	—
2. Select/use correct tools and TMDE.	—	—
3. Follow prescribed safety procedures.	—	—
4. Practice maintenance discipline.	—	—
5. Disconnect control linkages.	—	—
6. Remove propeller shaft.	—	—
7. Remove transfer assembly.	—	—
8. Replace oil seals.	—	—
9. Replace transfer assembly.	—	—
10. Connect control linkages.	—	—
11. Install propeller shaft.	—	—
12. Perform a final operational check to verify transfer assembly is replaced to specifications.	—	—
13. Complete TAMMS forms as required.	—	—
14. Maintain tools and equipment.	—	—

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

**References**

**Required**

- LO 9-2320-272-12
- LO 9-2320-279-12
- LO 9-2320-280-12
- TM 9-2320-272-10
- TM 9-2320-272-24-1
- TM 9-2320-272-24-2
- TM 9-2320-272-24-3
- TM 9-2320-272-24-4

**Related**

- LO 9-2320-364-12
- LO 9-2320-386-12
- TM 9-2320-272-24P-1
- TM 9-2320-272-24P-2
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2
- TM 9-2320-279-20-1
- TM 9-2320-279-20-2
- TM 9-2320-279-20-3
- TM 9-2320-279-34-1
- TM 9-2320-279-34-2
- TM 9-2320-279-34-3

**References  
Required**

**Related**

TM 9-2320-280-10  
TM 9-2320-280-20-1  
TM 9-2320-280-20-2  
TM 9-2320-280-20-3  
TM 9-2320-280-24P-1  
TM 9-2320-280-24P-2  
TM 9-2320-280-34

Subject Area 2: ASI (H8) WHEEL RECOVERY TASKS

**Locate a Recovery Site**

**091-H8C-2001**

**Conditions:** In a classroom/field environment, given assistance, a military map 1:50,000 scale, protractor, straight edge and FM 21-26.

**Standards:** Locate a recovery site to within 10 meters and identify primary and alternate recovery routes determining distance for both with no greater than a 10% error.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Selected/used applicable publications.	—	—
2. Identified terrain features.	—	—
3. Identified map symbols and colors.	—	—
4. Located site using military grid reference system.	—	—
5. Calculated distance.	—	—

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

**References**

**Required**

FM 21-26

FM 21-31

**Related**

TC 43-35

**Determine Recovery Methods  
091-H8C-2002**

**Conditions:** In a classroom and field environment, given a FM 9-43-2, FM 5-125, Rigging Card, pencil and paper, snatch blocks, wire ropes and cables.

**Standards:** Determine Recovery Methods, source of effort and mechanical advantage needed IAW references.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Selected and used applicable publications.	—	—
2. Reconnoitered area.	—	—
3. Estimated situation.	—	—
4. Calculated ratios.	—	—
5. Obtained resistance.	—	—
6. Verified solution.	—	—
7. Erected rigging.	—	—
8. Rechecked rigging.	—	—

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

**References**

**Required**  
 FM 5-125  
 FM 9-43-2  
 TC 43-35

**Related**

**Operate Tactical Communications Equipment  
091-H8C-2003**

**Conditions:** In a classroom/field environment given a FM radio, recovery vehicle, TM 11-5820-890-10-3, FM 24-35, and training SOI/DRYAD.

**Standards:** The soldier will state the procedures to install, operate, use correct radio procedures for clear concise and secure communication IAW the appropriate publications.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Selected/used applicable publications.	—	—
2. Prepared communication equipment for operation.	—	—
3. Send tactical communications.	—	—
4. Received tactical communications.	—	—
5. Shut down tactical communication operation.	—	—
6. Followed prescribed safety procedures.	—	—

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

**References**

**Required**

FM 24-35  
TM 11-5820-890-10-3

**Related**

FM 24-18  
TC 43-35  
TM 11-5820-401-10-1  
TM 11-5820-401-10-2  
TM 11-5820-401-10-4  
TM 11-5830-340-12

**Operate Metal Cutting Equipment  
091-H8C-2004**

**Conditions:** In a classroom/shop environment with assistance, given an oxyacetylene equipment, tools, safety equipment, and applicable references.

**Standards:** Set up the oxyacetylene equipment, cut metal, and practice shop safety IAW the procedures in the applicable references.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Selected/used applicable publications.	_____	_____
2. Determined the method to cut metal.	_____	_____
3. Prepared metal cutting equipment as required.	_____	_____
4. Cut metal.	_____	_____
5. Secured metal cutting equipment.	_____	_____
6. Followed prescribed safety procedures.	_____	_____

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

**References  
Required**  
TC 9-237

**Related**  
AR 385-10  
AR 750-1  
DA PAM 738-750  
TC 43-35  
TM 9-243

**Use and Maintain Basic Issue Items (BII) Related to Wheeled Recovery Operations  
091-H8W-2002**

**Conditions:** In a garrison or field environment with assistance and supervision, given an applicable recovery vehicle with BII, general mechanic's tool kit, lubricants if required, applicable special tools/TMDE, required safety equipment, applicable forms and references. Use and maintain basic issue items (BII) related to wheel recovery operations.

**Standards:** Use and maintain basic issue items (BII) Related To Wheeled Recovery Operations IAW applicable FM procedures and specifications. NOTE: All safety precautions must have been observed.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Selected/used correct publications.	—	—
2. Used M578 to recover mired vehicle.	—	—
3. Use winch.	—	—
4. Used block and tackle.	—	—
5. Used BII to recover mired vehicle.	—	—

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

**References**

**Required**

- TC 43-35
- TM 9-2320-260-10
- TM 9-2320-272-10
- TM 9-2320-280-10

**Related**

- AR 385-10
- AR 750-1
- AR 750-43
- DA PAM 738-750
- TM 9-243

**Operate Boom/Hoist, Wheeled Recovery Vehicle  
091-H8W-2004**

**Conditions:** In a garrison or field environment with assistance and supervision, given an applicable recovery vehicle with BII, general mechanic's tool kit, lubricants if required, applicable special tools/TMDE, required safety equipment, applicable forms and references, and repair parts, if needed.

**Standards:** Operate boom/hoist to recovery a disabled vehicle and tow bar without causing damage to the equipment or injury to personnel IAW applicable publications.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Selected/used correct publications.	_____	_____
2. Used/operated boom/hoist IAW TMs and FM.	_____	_____

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

**References**

**Required**

- TM 9-2320-260-10
- TM 9-2320-272-10
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2

**Related**

- AR 385-10
- DA PAM 738-750
- DA PAM 738-751
- TC 43-35

**Operate the Retrieval System on a Wheeled Vehicle  
091-H8W-2005**

**Conditions:** In a garrison or field environment with assistance and supervision, given an applicable recovery vehicle with BII, general mechanic's tool kit, lubricants if required, applicable special tools/TMDE, required safety equipment, applicable forms and references, and repair parts, if needed. Operate wheeled recovery vehicle retrieval system (HEMTT).

**Standards:** Operate wheeled recovery vehicle retrieval system (HEMTT) recover a vehicle and tow without causing damage to the equipment or injury to personnel IAW applicable publications.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Position recovery vehicle.	—	—
2. Select proper vehicle hookup devices.	—	—
3. Connect hookup devices to disabled vehicle.	—	—
4. Connect retrieval system to disabled vehicle.	—	—
5. Tow disabled vehicle.	—	—
6. Disconnect retrieval system.	—	—

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

**References**

**Required**

TM 9-2320-279-10-1  
TM 9-2320-279-10-2

**Related**

AR 385-10  
AR 750-1  
DA PAM 738-750  
FM 21-60  
FM 4-30.3 (FM 9-43-1)  
FM 9-43-2  
TC 43-35

**Operate Winches on a Wheeled Recovery Vehicle  
091-H8W-2006**

**Conditions:** In a garrison or field environment with assistance and supervision, given an applicable recovery vehicle with BII, general mechanic's tool kit, lubricants if required, applicable special tools/TMDE, required safety equipment, applicable forms and references, and repair parts, if needed.

**Standards:** Operate winches to recover a wheeled vehicle and tow without causing damage to the equipment or injury to personnel IAW applicable publications.

<b>Performance Measures</b>	<u>GO</u>	<u>NO GO</u>
1. Selected/used correct publications.	—	—
2. Used/operated winches IAW TMs and FM.	—	—

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

**References**

**Required**

- TM 9-2320-272-10
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2

**Related**

- AR 385-10
- AR 750-1
- DA PAM 738-750
- FM 21-60
- FM 4-30.3 (FM 9-43-1)
- FM 9-43-2
- TM 9-243

**Recover a Mired Wheeled Vehicle  
091-H8W-2007**

**Conditions:** In a garrison or field environment with assistance and supervision, given an applicable recovery vehicle with BII, general mechanic's tool kit, lubricants if required, applicable special tools/TMDE, required safety equipment, applicable forms and references, and repair parts, if needed.

**Standards:** Recover a mired wheeled vehicle and tow to a predetermined location using the boom and tow bar without causing damage to the equipment or injury to personnel IAW applicable publications.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Selected/used correct publications.	—	—
2. Determined recovery methods.	—	—
3. Recovered mired vehicle IAW TM and FM.	—	—

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

**References**

**Required**

- TM 9-2320-272-10
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2

**Related**

- AR 385-10
- DA PAM 738-750
- TC 43-35

**Tow a Wheel Vehicle Using a Retrieval System**  
**091-H8W-2009**

**Conditions:** In a garrison or field environment with assistance and supervision, given an applicable recovery vehicle with BII, general mechanic's tool kit, lubricants if required, applicable special tools/TMDE, required safety equipment, applicable forms and references, and repair parts, if needed.

**Standards:** Tow a disabled wheeled vehicle to a predetermined location using the retrieval system without causing damage to the equipment or injury to personnel IAW applicable publications.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Positioned recovery vehicle.	—	—
2. Selected proper vehicle hookup devices.	—	—
3. Connected hookup devices to disabled vehicle.	—	—
4. Connected retrieval system to disabled vehicle.	—	—
5. Towed disabled vehicle.	—	—
6. Disconnected retrieval system.	—	—
7. Disconnected hookup devices to disabled vehicle.	—	—

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

**References**

**Required**

- DA PAM 738-750
- TM 9-2320-270-10
- TM 9-2320-272-10
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2

**Related**

- AR 385-10

**Perform Self Recovery on a Wheeled Vehicle  
091-H8W-2011**

**Conditions:** Given a wheeled vehicle requiring self/ field expedient recovery, Bll, general mechanic's tool kit and applicable references to perform self recovery on a wheel vehicle.

**Standards:** Perform self recovery on a wheeled vehicle.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Selected/used correct publications.	—	—
2. Performed expedient recovery using applicable references.	—	—

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

**References**

**Required**

TM 9-2320-260-10  
TM 9-2320-272-10

**Related**

AR 385-10  
DA PAM 738-750  
TC 43-35

**Perform Field Expedient Recovery on a Wheeled Vehicle**  
**091-H8W-2012**

**Conditions:** Given a wheeled vehicle requiring field expedient recovery, BII, general mechanic's tool kit and applicable references to perform self recovery on a wheeled vehicle,

**Standards:** Perform Field Expedient Recovery on a Wheeled Vehicle

<b>Performance Measures</b>	<b><u>GO</u></b>	<b><u>NO GO</u></b>
1. Selected/used applicable publications.	—	—
2. Determined method of field expedient recovery.	—	—
3. Prepared vehicle for field expedient recovery as required.	—	—
4. Performed vehicle field expedient recovery.	—	—
5. Secured recovery equipment.	—	—
6. Followed prescribed safety procedures.	—	—

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

**References**

**Required**

- FM 9-43-2
- TC 43-35
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2

**Related**

- AR 385-10
- DA PAM 738-750

**Drive Wheeled Recovery Vehicle  
091-H8W-2003**

**Conditions:** In a garrison or field environment with assistance and supervision, given an applicable recovery vehicle with BII, general mechanic's tool kit, lubricants if required, applicable special tools/TMDE, required safety equipment, applicable forms and references, and repair parts, if needed.

**Standards:** Drive a wheeled recovery vehicle, tow a disabled vehicle to a predetermined location using the boom and tow bar without causing damage to the equipment or injury to personnel IAW applicable publications.

<b>Performance Measures</b>	<u><b>GO</b></u>	<u><b>NO GO</b></u>
1. Selected/used correct publications.	—	—
2. Performed PMCS.	—	—
3. Operated vehicle IAW TM.	—	—
4. Completed TAMMS forms as required.	—	—

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

**References**

**Required**

- DA PAM 738-750
- TM 9-2320-260-10
- TM 9-2320-272-10
- TM 9-2320-279-10-1
- TM 9-2320-279-10-2

**Related**

- AR 385-10
- TC 43-35

**APPENDIX A****HANDS-ON EVALUATION (DA FORM 5164-R)  
INSTRUCTIONS  
(Excerpted from STP 21-24-SMCT, Appendix C)**

DA Form 5164-R (Hands-On Evaluation) allows the trainer to keep a record of the performance measures a soldier passes or fails on each task.

**Before evaluation:**

1. Obtain a blank copy of DA Form 5164-R, which you may locally reproduce on 8 ½" x 11" paper.
2. Enter the task title and 10-digit number from the STP task summary.
3. In Column a, enter the performance measure numbers from the task summary.
4. In Column b, enter the performance measure corresponding to the number in Column a (you may abbreviate this information if necessary).
5. Locally reproduce the partially completed form when evaluating more than one soldier on the task or when evaluating the same soldier more than once.

**During evaluation:**

1. Enter the date just before evaluating the soldier's task performance.
2. Enter the evaluator's name, the soldier's name, and the unit.
3. For each performance measure in Column b, enter a check in Column c (PASS) or Column d (FAIL), as appropriate.
4. Compare the number of performance measures the soldier passes (and, if applicable, which ones) against the task standards specified in the task summary. If the standards are met or exceeded, check the GO block under STATUS; otherwise, check the NO-GO block.

<b>HANDS-ON EVALUATION</b> For use of this form, see AR 350-57; the proponent agency is ODCSOPS		DATE	
TASK TITLE		TASK NUMBER	
ITEM a	PERFORMANCE STEP TITLE b	SCORE (Check One)	
		PASS c	FAIL d
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
		<input type="checkbox"/> P	<input type="checkbox"/> F
EVALUATOR'S NAME		UNIT	
SOLDIER'S NAME		STATUS <input type="checkbox"/> GO <input type="checkbox"/> NO GO	

DA FORM 5164-R, SEP 85

EDITION OF DEC 82 IS OBSOLETE

USAPPC V2.00

**APPENDIX B****FIELD EXPEDIENT SQUAD BOOK (DA FORM 5165-R)  
INSTRUCTIONS  
(Excerpted from STP 21-24-SMCT, Appendix C)**

DA Form 5165-R (Field Expedient Squad Book) allows the trainer to keep a record of task proficiency for a group of soldiers.

**Before evaluation:**

1. Obtain a blank copy of DA Form 5165-R, which you may locally reproduce on 8 ½" x 11" paper.
2. Locally reproduce the partially completed form if you are evaluating more than nine soldiers.

**During evaluation:**

1. Enter the names of the soldiers you are evaluating, one name per column, at the top of the form.
2. Under STATUS, record (in pencil) the date in the GO block if the soldier demonstrated task proficiency to soldier's manual standards. Keep this information current by always recording the most recent date on which the soldier demonstrated task proficiency. Record the date in the NO-GO block if the soldier failed to demonstrate task proficiency to soldier's manual standards. Soldiers who failed to perform the task should be retrained and reevaluated until they can meet the standards. When the standards are met, enter the date in the appropriate GO block and erase the previous entry from the NO-GO block.

**After evaluation:**

1. Read down each column (GO/NO-GO) to determine the training status of an individual. This will give you a quick indication of which tasks a soldier needs training on.
2. Read across the rows for each task to determine the training status of all soldiers. You can readily see which tasks to focus training on.
3. Line through the STATUS column of any soldier who leaves the unit.

**GLOSSARY****Section I**  
**Abbreviations**

<b>AIT</b>	Advanced Individual Training
<b>UNIT</b>	Trained in the Unit
<b>A</b>	Aliquot Fraction of Water Extract Used
<b>ACCP</b>	Army Correspondence Course Program
<b>AIPD</b>	Army Institute for Professional Development
<b>AN</b>	Annually
<b>ANCOC</b>	Advanced Noncommissioned Officers Course
<b>APP</b>	Appendix
<b>ARTEP</b>	Army training and evaluation program
<b>BA</b>	Biannually
<b>BNCOC</b>	Basic Noncommissioned Officers Course
<b>BW</b>	Biweekly
<b>C</b>	Centigrade
<b>CONT</b>	Continued
<b>CTT</b>	Common Task Test
<b>F</b>	Fahrenheit
<b>FM</b>	Field Manual
<b>HQ</b>	Headquarters
<b>IAW</b>	In Accordance With
<b>L</b>	Left
<b>LB</b>	Pound
<b>M</b>	Meter
<b>METL</b>	Mission Essential Task List
<b>MHE</b>	Materials Handling Equipment
<b>MIL-STD</b>	Military Standard

<b>MO</b>	Monthly
<b>MOS</b>	Military Occupational Specialty
<b>MOSC</b>	Military Occupational Specialty Code
<b>MTP</b>	MOS training plan
<b>N</b>	Normality
<b>P</b>	Pass
<b>PARA</b>	Paragraph
<b>PTO</b>	Power Take-Off
<b>QT</b>	Quarterly
<b>R</b>	Right
<b>RDL</b>	Reimer Digital Library
<b>REF</b>	Reference
<b>S</b>	Second
<b>SA</b>	semiannually
<b>SEC</b>	Second
<b>SL</b>	Skill Level
<b>SM/TG</b>	Soldier's Manual/Trainer's Guide
<b>SMCT</b>	Soldier's Manual of Common Tasks
<b>STP</b>	Soldier Training Publication
<b>TAMMS</b>	The Army Maintenance Management System
<b>TM</b>	Technical Manual
<b>TMDE</b>	Test Measurement and Diagnostic Equipment
<b>TRADOC</b>	Training and Doctrine Command
<b>UNIT</b>	Trained in the Unit
<b>WK</b>	Weekly

**Section II**  
**Terms**

**Malfunction**

Failure of an item to function in accordance with its expected performance or functioning of the explosive components during a nonfunctional test. A critical malfunction is one which may cause a hazard under the circumstances described above. For purposes of clarity, malfunctions do not include accidents and incidents resulting from negligence, malpractice, or implication in such situations as vehicular accidents, fires, etc. However, malfunctions do include abnormal or premature function of explosive ammunition items during normal handling, maintenance, storage, transportation, and tactical deployment. Includes cook off, hangfire, misfire, etc.

**Military occupational specialty (MOS) code**

A fixed number which indicates a given military occupational specialty. Also known as military occupational number and specification serial number.

**Performance test**

An evaluation of the actual performance of the task or learning objective using the conditions under which it will be performed and the absolute standards for acceptable performance.

## REFERENCES

### Required Publications

Required publications are sources that users must read in order to understand or to comply with this publication.

#### Department of Army Pamphlets

DA PAM 738-750                      Functional Users Manual for The Army Maintenance Management System (TAMMS) (This Item is Included on EM 0001) 1 August 1994

#### Field Manuals

FM 21-26                              Map Reading and Land Navigation 7 May 1993  
 FM 21-31                              Topographic Symbols (Reprinted w/ Basic Incl C1) (This item is included on EM 0028) 19 June 1961  
 FM 24-35                              (O) Signal Operation Instructions "The SOI" 26 October 1990  
 FM 5-125                              Rigging Techniques, Procedures, and Applications (This Item is Included on EM 0028) 3 October 1995  
 FM 9-43-2                             Recovery and Battlefield Damage Assessment and Repair (FMFRP 4-34; TO 36-1-181) 3 October 1995

#### Lubrication Orders

LO 9-2320-272-12                    Truck, 5-Ton, 6x6, M939, M939A1 and M939A2 Series (Diesel) Truck, Cargo, 5-Ton, 6x6, Dropside, M923 (NSN 2320-01-050-2084), M923A1 (2320-01-206-4087), M923A2 (2320-01-230-0307), M925 (2320-01-047-8769), M925A1 (2320-01-206-4088), M925A 11 June 1990  
 LO 9-2320-279-12                    M977 Series, 8x8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck, with Winch, M977 (NSN 2320-01-097-0260), Truck, Cargo, without Winch M977 (2320-01-099-6426), Truck Tank, Fuel with Winch M978, (This item is included on EM 0030) 15 December 1998  
 LO 9-2320-280-12                    Truck, Utility: Cargo/Troop Carrier, 1 1/4 Ton, 4 X 4, M998 Truck, Utility: Cargo/Troop Carrier, 1-1/4 Ton, 4 X 4, W/Winch, M1038; Truck Utility: TOW Carrier, Armored, 1-1/4 Ton, 4 X 4, M966 (This Item is Included on EM 0030) 19 January 1990  
 LO 9-2320-283-12                    Truck, Tractor, Line Haul; 50,000 GVWR, 6x4, M915A1 (NSN 2320-01-125-2640) (This Item is Included On EM 0048) 27 June 1983  
 LO 9-2320-364-12                    Palletized Load System (PLS) M1074/M1075 (NSN 2320-01-304-2277) (2320-01-304-2278) (This Item is Included on EM 0052) 1 October 1993  
 LO 9-2320-386-12                    Extended Service Program for 2-1/2 Ton, 6X6, M44A3 ESP Vehicle: Truck, Cargo, Fixed Side: M35A3; Truck, Cargo, Dropside: M35A3C; Truck, Cargo, Long, Wheelbase: M36A3 [TO 36A12-1B-112LC-1] 26 January 1996

#### Technical Manuals

TM 11-5820-890-10-3                Operator for Radio Set AN/PRC 119 VRC 87-92  
 TM 9-214                              Inspection, Care, and Maintenance of Antifriction Bearings 19 November 1959  
 TM 9-2320-260-10                    Operator's Manual for Truck, 5-Ton, 6X6, M809 Series (Diesel): Truck, Cargo: M813, M813A1 and M814; Truck Bolster, Logging; M815; Truck, Wrecker, Medium: M816, Truck Dump: M817; Truck Tractor: M818; Truck, Tractor, Wrecker: M819; 14 June 1985

TM 9-2320-270-10	Operator's Manual for Truck, Tractor, Commercial Heavy Equipment Transporter (C-HET), 85,000 GVWR, 8x6, M911 (NSN 2320-01-025-3733) (Reprinted W/Basic Incl C1-7) 2 December 1983
TM 9-2320-272-10	Operator's Manual for Truck, 5-Ton,6X6, M939, M939A1, and M939A2 Series Truck (Diesel), Truck Cargo: 5-Ton, 6X6 Dropside, M923/A1/A2; M925/A1/A2; M927/A1/A2; M928/A1/A2; M929/A1/A2; (This Item is Included on EM 0039) 15 August 1996
TM 9-2320-272-24-1	Unit, Direct Support and General Support Maintenance Manual for Truck,5-Ton,6X6, M939, M939A1, M939A2 Series Trucks (Diesel) Truck, Cargo: 5-Ton, 6X6, Dropside, M923; M923A1; M923A (This Item is Included on EM 0039) 30 June 1998
TM 9-2320-272-24-2	Unit, Direct Support and General Support Maintenance Manual for Truck, 5-Ton, 6X6, M939, M939A1, M939A2 Series Trucks (Diesel) Truck, Cargo: 5-Ton, 6X6, Dropside, M923; M923A1; M923A (This Item is Included on EM 0039) 30 June 1998
TM 9-2320-272-24-3	Unit, Direct Support and General Support Maintenance Manual for Truck,5-Ton,6X6, M939, M939A1, M939A2 Series Trucks (Diesel) Truck, Cargo: 5-Ton, 6X6, Dropside, M923; M923A1; M923A (This Item is Included on EM 0039) 30 June 1998
TM 9-2320-272-24-4	Unit, Direct Support and General Support Maintenance Manual for Truck,5-Ton,6X6, M939, M939A1, M939A2 Series Trucks (Diesel) Truck, Cargo: 5-Ton, 6X6, Dropside, M923; M923A1; M923A (This Item is Included on EM 0039) 30 June 1998
TM 9-2320-272-24P-1	Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Truck, 5-Ton, 6X6, M939, M939A1, M939A2 Series Trucks (Diesel) Truck, Cargo: 5-Ton, 6X6, Dropside, M923 (NSN 2320-01-050-2084)(EIC:BRY); 1 February 1999
TM 9-2320-272-24P-2	Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Truck, 5-Ton, 6X6, M939, M939A1, M939A2 Series Trucks (Diesel) Truck, Cargo: 5-Ton, 6X6, Dropside, M923 (NSN 2320-01-050-2084)(EIC:BRY); M923A1 1 February 1999
TM 9-2320-279-10-1	Operators Manual for M977 Series 8X8 Heavy Expanded, Mobility Tactical Trucks (HEMTT), Truck, Cargo, with Winch, M977 (NSN 2320-01-097-0260) Truck, Cargo, without Winch , M977 (2320-01-099-6426) Truck, Tank, Fuel With Winch, M978 21 November 1986
TM 9-2320-279-10-2	Operator's Manual for M977 Series, 8X8 Heavy Expanded Mobility Tactical Truck (HEMTT) Truck, Cargo, With Wench, M977, (2320-01-097-0260) Truck, Cargo, Without Wench, M977 (2320-01-099-6426) Truck, Tank, Fuel, With Winch, M978 15 June 1987
TM 9-2320-279-20-1	Maintenance Instructions for Organizational Maintenance M977 Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck, Cargo, with Winch M977 (NSN 2320-01-097-0260) Truck, Cargo, without Winch M977 (2320-01-099-6426) Truck, Tank 7 April 1987
TM 9-2320-279-20-2	Volume 2 - Maintenance Instructions for Organizational Maintenance M977 Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck Cargo, With Winch M977 (NSN 2320-01-097-0260) Truck, Cargo, Without Winch M977 (2320-01-099-6426) 7 April 1987
TM 9-2320-279-20-3	Maintenance Instructions for Organizational Maintenance 977 Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck Cargo, With Winch M977 (NSN 2320-01-097-0260) Truck, Cargo, Without Winch M977 (2320-01-099-6426) 8 April 1987
TM 9-2320-279-34-1	Maintenance Instructions Direct Support and General Support for M977Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT)

	Truck, Cargo, With Winch M977(2320-01-097-0260) Truck, Cargo Without Winch M977 (2320-01-099-6426) 3 June 1987
TM 9-2320-279-34-2	Technical Manual Maintenance Instructions Direct Support and General Support for M977Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck, Cargo, With Winch M977(2320-01-097-0260) Truck, Cargo Without Winch M977 3 June 1987
TM 9-2320-279-34-3	Technical Manual Maintenance Instructions Direct Support and General Support for M977Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck, Cargo, With Winch M977(2320-01-097-0260) Truck, Cargo Without Winch M977 3 June 1987
TM 9-2320-280-10	Operator's Manual for Truck, Utility: Cargo/Troop Carrier, 1 1/4-Ton, 4X4, M998 (EIC:BBD); M998A1 (EIC:BBN); Truck, Utility: Cargo/Troop Carrier; 1-1/4 Ton, 4X4, W/Winch; M1038, 1038A1; M1097 (This Item is Included on EM 0030 & EM 0034) 31 January 1996
TM 9-2320-280-20-1	Unit Maintenance Volume 1 of 3 for Truck, Utility: Cargo/Troop Carrier, 1-1/4 Ton, 4 X 4, M998 (EIC:BBD); M998A1 (EIC: BBD); Truck, Utility: Cargo/Troop Carrier, 1-1/4Ton, 4 X 4, W/Winch, M1038 (This Item is Included on EM 0030) 31 January 1996
TM 9-2320-280-20-2	Unit Maintenance Volume 2 of 3 for Truck, Utility: Cargo/Troop Carrier, 1-1/4 Ton, 4 X 4, M998; M998A1; Truck, Utility: Cargo/Troop Carrier, 1-1/4Ton, 4 X 4, W/Winch, M1038 (This Item is Included on EM 0030 & EM 0034) 31 January 1996
TM 9-2320-280-20-3	Unit Maintenance manual for Truck, Utility: Cargo/Troop Carrier, 1-1/4 Ton, 4 X 4, M998 (EIC:BBD); M998A1(EIC: BBD); Truck, Utility: Cargo/Troop Carrier, 1-1/4Ton, 4 X 4, W/Winch, M1038 (This Item is Included on EM 0030) 31 January 1996
TM 9-2320-280-24P-1	Unit, Direct Support/General Support Maintenance, Repair Parts and Special Tools List, Volume 1 of 2, for Truck Utility, Cargo/Troop Carrier, 1 1/4 Ton, 4X4, M998 (This Item is Included on EM 0030) 31 January 1996
TM 9-2320-280-24P-2	Unit, Direct Support/General Support Maintenance, Repair Parts and Special Tools List, Volume 2 of 2, for Truck, Utility, Cargo/Troop Carrier, 1 1/4 Ton, 4X4, M998 (This Item is Included on EM 0030) 31 January 1996
TM 9-2320-280-34	Direct and General Support Maintenance Manual for Truck, Cargo and Utility, 1 1/4-Ton, HMMWV (This Item is Included on EM 0030) 31 January 1996
TM 9-2320-364-10	Operators Manual for Truck, Tractor, M1074 and M1075 Palletized Load System (PLS) (NSN 2320-01-304-2277) (2320-01-304-2278) 1 August 1999
TM 9-2320-364-20-1	Unit Maintenance Manual, Volume I for Palletized Load System M1074/M1075 (NSN 2320-01-304-2277)(2320-01-304-2278) (This item is included on EM 0052) 1 August 1999
TM 9-2320-364-20-2	Unit Maintenance Manual, Volume II for Palletized Load System M1074/M1075 (NSN 2320-01-304-2277) (2320-01-304-2278) (This item is included on EM 0052) 4 August 1999
TM 9-2320-364-20-3	Unit Maintenance Manual, Volume III for Palletized Load System M1074/M1075 (NSN 2320-01-304-2277) (2320-01-304-2278) (This item is included on EM 0052) 1 August 1999
TM 9-2320-364-20-4	Unit Maintenance Manual, for Palletized Load System Model M1074/M1075 (NSN 2320-01-304-2277) 2320-01-304-2278) (This item is included on EM 0052) 1 August 1999

TM 9-2320-365-10	Operator's Instructions Manual for M1078 Series, 2 1/2-Ton, 4X4 Light Medium Tactical Vehicles (LMTV) Trk, Car., LMTV, M1078 w/Wn (NSN 2320-01-360-1898) (EIC:BHH) w/o Wn (2320-01-354-3385)(EIC:BHD) Trk, Van, LMTV, M1078 w/Wn 17 June 1998
TM 9-2320-365-20-1	Maintenance Instructions for Unit Maintenance M1078 Series, 2 1/2-Ton , 4X4 Light Medium Tactical Vehicle(LMTV) Trk, Car., LMTV, M1078 w/Wn (NSN 2320-01-360-1898) (EIC:BHH) w/o Wn (2320-01-354-3385)) (EIC:BHD) Trk, Van, LMTV, M1079 w/Wn 17 June 1998
TM 9-2320-365-20-2	Maintenance Instructions for Unit Maintenance M1078 Series, 2 1/2-Ton , 4X4 Light Medium Tactical Vehicle(LMTV) Vol No. 2 of 5 for Trk, Car., LMTV, M1078 w/Wn (NSN 2320-01-360-1898) (EIC:BHH) w/o Wn (2320-01-354-3385))(EIC:BHD)Trk, Van, LMTV 17 June 1998
TM 9-2320-365-20-3	Maintenance Instructions for Unit Maintenance M1078 Series, 2 1/2-Ton , 4X4 Light Medium Tactical Vehicle(LMTV) Vol No. 3 of 5 for Trk, Car., LMTV, M1078 w/Wn (NSN 2320-01-360-1898) (EIC:BHH) w/o Wn (2320-01-354-3385))(EIC:BHD)Trk, Van, LMTV 17 June 1998
TM 9-2320-365-20-4	Technical Manual Maintenance Instructions for Unit Maintenance M1078 Series, 2 1/2-Ton , 4X4 Light Medium Tactical Vehicle(LMTV) Vol No. 4 of 5 for Trk, Car, LMTV, M1078 w/Wn (NSN 2320-01-360-1898)(EIC:BHH) w/o Wn (2320-01-354-3385) 17 June 1998
TM 9-2320-365-20-5	Technical Manual Maintenance Instructions for Unit Maintenance M1078 Series, 2 1/2-Ton , 4X4 Light Medium Tactical Vehicle(LMTV) VOL NO. 5 of 5 for Trk, Car., LMTV, M1078 w/Wn (NSN 2320-01-360-1898) (EIC:BHH) w/o Wn (2320-01-354-3385) 17 June 1998
TM 9-2320-365-24P	Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for M1078 Series 2-1/2 Ton, 4X4 Light Medium Tactical Vehicle (LMTV) TRK, CAR., LMTV, M1078 W/WN (NSN 2320-01-360-1898) (EIC:BHH) W/O WN 17 June 1998
TM 9-2320-365-34-1	Maintenance Instructions Direct Support Maintenance For M1078 Series, 2 1/2-Ton, 4x4, Light Medium Tactical Vehicles (LMTV) Trk, Car., LMTV, M1078 W/Wn (NSN 2320-01-360-1898) (EIC: BHH) W/O Wn (2320-01-354-3385) (EIC: BHD) Trk, Van 17 June 1998
TM 9-2320-366-10-1	Operator's Instructions Manual for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) Volume 1 of 2 Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354-3386)(EIC:BR2) Trk, Car., MTV w/MATL HDLG EQPT (MHE) 15 September 1998
TM 9-2320-366-10-2	Operator's Instructions Manual for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) Volume 2 of 2 Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354-3386) (EIC:BR2) Trk, Car., MTV w/MATL HDLG EQPT (MHE) 15 September 1998
TM 9-2320-366-20-1	Maintenance Instructions Unit Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) for Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895)(EIC:BT3) w/o Wn (2320-01-354-3386) (EIC:BR2) Trk, Car., MTV, w/MATL HDLG EQPT (MHE), 15 September 1998
TM 9-2320-366-20-2	Maintenance Instructions Unit Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) VOL NO. 2 of 5 Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354-3386) (EIC:BR2) Trk, Car., MTV, w/M 15 September 1998
TM 9-2320-366-20-3	Maintenance Instructions Unit Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) VOL NO. 3 of 5 for Trk, Car., MTV,

	M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354-3386) (EIC:BR2) Trk, Car., MTV, w/M 15 September 1998
TM 9-2320-366-20-4	Maintenance Instructions Unit Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) VOL NO. 4 of 5 for Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354-3386) (EIC:BR2) Trk, Car., MTV, w/M 15 September 1998
TM 9-2320-366-20-5	Maintenance Instructions Unit Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) VOL NO. 5 of 5 for Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354-3386) (EIC:BR2) Trk, Car., MTV, w/M 15 September 1998
TM 9-2320-366-24P-1	Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for M1083 Series 5 Ton, 6X6 Medium Tactical Vehicle (MTV) Volume NO. 1 of 2, Model TRK, CAR., M1083 W/WN (NSN 2320-01-360-1895) (EIC:BT3); 15 September 1998
TM 9-2320-366-24P-2	Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for M1083 Series 5 Ton, 6X6 Medium Tactical Vehicle (MTV) Volume NO. 2 of 2, Model TRK, CAR., M1083 W/WN (NSN 2320-01-360-1895) (EIC:BT3); 15 September 1998
TM 9-2320-366-34-1	Maintenance Instructions for Direct Support and General Support Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) Volume NO. 1 of 2 Model Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354- 15 September 1998
TM 9-2320-366-34-2	Maintenance Instructions for Direct Support and General Support Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) Volume NO. 2 of 2 Model Trk, Car, MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354- 15 September 1998
TM 9-2320-366-34-3	Maintenance Instructions for Direct Support and General Support Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) Volume NO. 3 of 4 Model Trk, Car, MTV, M1083 w/Wn (NSN 2320-01-360-1895)(EIC:BT3) w/o Wn (2320-01-354- 15 September 1998)
TM 9-2320-366-34-4	Maintenance Instructions for Direct Support and General Support Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) Volume NO. 4 of 4 Model Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354- 15 September 1998
TM 9-2520-254-34	Direct and General Support Maintenance Manual for Transmission, Automatic (This Item is Included on EM 0040, EM 0076, & EM 0078) 13 October 1971
TM 9-2815-224-34&P	Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Engine, Diesel, Detroit Diesel Model 8V92T (Includes Parts and Special Tools List) 20 January 1988
TM 9-2815-225-34&P-1	Direct Support and General Support Maintenance Manual Including Repair Parts and Special Tools List for Engine, Diesel: 6 Cylinder, Inline, Turbocharged (Cummins Model NTC-400) (NSN 2815-01-142-2745) 19 December 1983
TM 9-2815-225-34&P-2	Direct Support and General Support Maintenance Manual Including Repair Parts and Special Tools List For Engine, Diesel; 6 Cylinder, Inline, Turbocharged (Cummins Model NTC-400) (NSN 2815-01-142-2745) 19 December 1983
TM 9-2815-237-34	Direct Support and General Support Maintenance for Engine, Diesel, 8 Cylinder, Naturally Aspirated, Fuel-Injected, Water Cooled, Injection,

DDA Model 6.2 Liter (This Item is Included on EM 0030) 31 January 1996

TM 9-2835-255-34 Direct Support and General Support Maintenance Manual for Turbine Engine, Field Service, Model AGT 1500 (M1/1PM1) (P/N 12287428) and Turbine Engine, Field Service Model AGT 1500 (M1A1) (P/N 12324029) 28 October 1987

### Training Circulars

TC 43-35 Recovery Training 3 October 1995

TC 9-237 Operator's Circular Welding Theory and Application (This item is included on EM 0028) 7 May 1993

### Related Publications

Related publications are sources of additional information. They are not required in order to understand this publication.

### Army Regulations

AR 385-10 The Army Safety Program (This item is included on EM 0001) 23 May 1988

AR 750-1 Army Materiel Maintenance Policy and Retail Maintenance Operations (This Item is Included on EM 0001) 1 August 1994

AR 750-43 Army Test, Measurement and Diagnostic Equipment Program (This Item Is Included on EM 0001) 28 November 1997

### Department of Army Pamphlets

DA PAM 738-750 Functional Users Manual for The Army Maintenance Management System (TAMMS) (This Item is Included on EM 0001) 1 August 1994

DA PAM 738-751 Functional Users Manual for the Army Maintenance Management System-Aviation (TAMMS-A) (This Item is Included on EM 0001) 15 March 1999

### Field Manuals

FM 21-60 Visual Signals

FM 24-18 Tactical Single-Channel Radio Communications Techniques 30 September 1987

FM 4-30.3 (FM 9-43-1) Maintenance Operations and Procedures 1 September 2000

FM 9-43-2 Recovery and Battlefield Damage Assessment and Repair (FMFRP 4-34; TO 36-1-181) 3 October 1995

### Lubrication Orders

LO 9-2320-279-12 M977 Series, 8x8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck, with Winch, M977 (NSN 2320-01-097-0260), Truck, Cargo, without Winch M977 (2320-01-099-6426), Truck Tank, Fuel with Winch M978, (This item is included on EM 0030) 15 December 1998

LO 9-2320-364-12 Palletized Load System (PLS) M1074/M1075 (NSN 2320-01-304-2277) (2320-01-304-2278) (This Item is Included on EM 0052) 1 October 1993

LO 9-2320-386-12 Extended Service Program for 2-1/2 Ton, 6X6, M44A3 ESP Vehicle: Truck, Cargo, Fixed Side: M35A3; Truck, Cargo, Dropside: M35A3C;

Truck, Cargo, Long, Wheelbase: M36A3 [TO 36A12-1B-112LC-1] 26  
January 1996

### Technical Manuals

TM 11-5820-401-10-1	Operator's Manual for Radio Sets AN/VRC-12 (NSN 5820-00-223-7412), AN/VRC-43 (NSN 5820-00-223-7415), AN/VRC-44 (NSN 5820-00-223-7417), AN/VRC-45 (NSN 5820-00-223-7418), AN/VRC-45 (NSN 5820-00-223-7418), AN/VRC-46, -47, -48, and -49 15 January 1986
TM 11-5820-401-10-2	Operator's Manual for Radio Sets AN/VRC-12 (NSN 5820-00-223-7412), AN/VRC-43 (NSN 5820-00-223-7415), AN/VRC-44 (NSN 5820-00-223-7417), AN/VRC-45 (NSN 5820-00-223-7418), AN/VRC-45 (NSN 5820-00-223-7418), AN/VRC-46, -47, -48, and -49 23 November 1982
TM 11-5820-401-10-4	Operator's Quick Checks for Receiver-Transmitter, RT-246 ( )/VRC (NSN 5820-00-892-0623) and RT-524 ( ) (5820-00-892-0622) (This item Included on EM 0062 & EM 0079) 16 October 1980
TM 11-5820-498-12	Operator's And Organizational Maintenance Manual: Radio Sets, An/Vrc-53 (NSN 5820-00-223-7467), AN/VRC-64 (5820-00-223-7475), AN/GRC-125 (5820-00-223-7411) and AN/GRC-160 (5820-00-223-7473) 31 May 1967
TM 11-5830-340-12	Operator's and Unit Organizational Maintenance Manual for Intercommunication Set AN/VIC-1 and Control, Intercommunication Set, C-10456/VRC (This Item is Included on EM 0063) 15 January 1986
TM 9-214	Inspection, Care, and Maintenance of Antifriction Bearings 19 November 1959
TM 9-2320-272-10	Operator's Manual for Truck, 5-Ton,6X6, M939, M939A1, and M939A2 Series Truck (Diesel), Truck Cargo: 5-Ton, 6X6 Dropside, M923/A1/A2; M925/A1/A2; M927/A1/A2; M928/A1/A2; M929/A1/A2; (This Item is Included on EM 0039) 15 August 1996
TM 9-2320-272-24-2	Unit, Direct Support and General Support Maintenance Manual for Truck, 5-Ton, 6X6, M939, M939A1, M939A2 Series Trucks (Diesel) Truck, Cargo: 5-Ton, 6X6, Dropside, M923; M923A1; M923A (This Item is Included on EM 0039) 30 June 1998
TM 9-2320-272-24-3	Unit, Direct Support and General Support Maintenance Manual for Truck,5-Ton,6X6, M939, M939A1, M939A2 Series Trucks (Diesel) Truck, Cargo: 5-Ton, 6X6, Dropside, M923; M923A1; M923A (This Item is Included on EM 0039) 30 June 1998
TM 9-2320-272-24-4	Unit, Direct Support and General Support Maintenance Manual for Truck,5-Ton,6X6, M939, M939A1, M939A2 Series Trucks (Diesel) Truck, Cargo: 5-Ton, 6X6, Dropside, M923; M923A1; M923A (This Item is Included on EM 0039) 30 June 1998
TM 9-2320-272-24P-1	Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Truck, 5-Ton, 6X6, M939, M939A1, M939A2 Series Trucks (Diesel) Truck, Cargo: 5-Ton, 6X6, Dropside, M923 (NSN 2320-01-050-2084)(EIC:BRY); 1 February 1999
TM 9-2320-272-24P-2	Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Truck, 5-Ton, 6X6, M939, M939A1, M939A2 Series Trucks (Diesel) Truck, Cargo: 5-Ton, 6X6, Dropside, M923 (NSN 2320-01-050-2084)(EIC:BRY); M923A1 1 February 1999
TM 9-2320-279-10-1	Operators Manual for M977 Series 8X8 Heavy Expanded, Mobility Tactical Trucks (HEMTT), Truck, Cargo, with Winch, M977 (NSN 2320-01-097-0260) Truck, Cargo, without Winch, M977 (2320-01-099-6426) Truck, Tank, Fuel With Winch, M978 21 November 1986

TM 9-2320-279-10-2	Operator's Manual for M977 Series, 8X8 Heavy Expanded Mobility Tactical Truck (HEMTT) Truck, Cargo, With Winch, M977, (2320-01-097-0260) Truck, Cargo, Without Winch, M977 (2320-01-099-6426) Truck, Tank, Fuel, With Winch, M978 15 June 1987
TM 9-2320-279-20-1	Maintenance Instructions for Organizational Maintenance M977 Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck, Cargo, with Winch M977 (NSN 2320-01-097-0260) Truck, Cargo, without Winch M977 (2320-01-099-6426) Truck, Tank 7 April 1987
TM 9-2320-279-20-2	Volume 2 - Maintenance Instructions for Organizational Maintenance M977 Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck Cargo, With Winch M977 (NSN 2320-01-097-0260) Truck, Cargo, Without Winch M977 (2320-01-099-6426) 7 April 1987
TM 9-2320-279-20-3	Maintenance Instructions for Organizational Maintenance 977 Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck Cargo, With Winch M977 (NSN 2320-01-097-0260) Truck, Cargo, Without Winch M977 (2320-01-099-6426) 8 April 1987
TM 9-2320-279-34-1	Maintenance Instructions Direct Support and General Support for M977Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck, Cargo, With Winch M977(2320-01-097-0260) Truck, Cargo Without Winch M977 (2320-01-099-6426) 3 June 1987
TM 9-2320-279-34-2	Technical Manual Maintenance Instructions Direct Support and General Support for M977Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck, Cargo, With Winch M977(2320-01-097-0260) Truck, Cargo Without Winch M977 3 June 1987
TM 9-2320-279-34-3	Technical Manual Maintenance Instructions Direct Support and General Support for M977Series, 8X8 Heavy Expanded Mobility Tactical Trucks (HEMTT) Truck, Cargo, With Winch M977(2320-01-097-0260) Truck, Cargo Without Winch M977 3 June 1987
TM 9-2320-280-10	Operator's Manual for Truck, Utility: Cargo/Troop Carrier, 1 1/4-Ton, 4X4, M998 (EIC:BBD); M998A1 (EIC:BBN); Truck, Utility; Cargo/Troop Carrier; 1-1/4 Ton, 4X4, W/Winch; M1038, 1038A1; M1097 (This Item is Included on EM 0030 & EM 0034) 31 January 1996
TM 9-2320-280-20-1	Unit Maintenance Volume 1 of 3 for Truck, Utility: Cargo/Troop Carrier, 1-1/4 Ton, 4 X 4, M998 (EIC:BBD); M998A1 (EIC: BBD); Truck, Utility: Cargo/Troop Carrier, 1-1/4Ton, 4 X 4, W/Winch, M1038 (This Item is Included on EM 0030) 31 January 1996
TM 9-2320-280-20-2	Unit Maintenance Volume 2 of 3 for Truck, Utility: Cargo/Troop Carrier, 1-1/4 Ton, 4 X 4, M998; M998A1; Truck, Utility: Cargo/Troop Carrier, 1-1/4Ton, 4 X 4, W/Winch, M1038 (This Item is Included on EM 0030 & EM 0034) 31 January 1996
TM 9-2320-280-20-3	Unit Maintenance manual for Truck, Utility: Cargo/Troop Carrier, 1-1/4 Ton, 4 X 4, M998 (EIC:BBD); M998A1(EIC: BBD); Truck, Utility: Cargo/Troop Carrier, 1-1/4Ton, 4 X 4, W/Winch, M1038 (This Item is Included on EM 0030) 31 January 1996
TM 9-2320-280-24P-1	Unit, Direct Support/General Support Maintenance, Repair Parts and Special Tools List, Volume 1 of 2, for Truck Utility, Cargo/Troop Carrier, 1 1/4 Ton, 4X4, M998 (This Item is Included on EM 0030) 31 January 1996
TM 9-2320-280-24P-2	Unit, Direct Support/General Support Maintenance, Repair Parts and Special Tools List, Volume 2 of 2, for Truck, Utility, Cargo/Troop Carrier, 1 1/4 Ton, 4X4, M998 (This Item is Included on EM 0030) 31 January 1996

TM 9-2320-280-34	Direct and General Support Maintenance Manual for Truck, Cargo and Utility, 1 1/4-Ton, HMMWV (This Item is Included on EM 0030) 31 January 1996
TM 9-2320-364-10	Operators Manual for Truck, Tractor, M1074 and M1075 Palletized Load System (PLS) (NSN 2320-01-304-2277) (2320-01-304-2278) 1 August 1999
TM 9-2320-364-20-1	Unit Maintenance Manual, Volume I for Palletized Load System M1074/M1075 (NSN 2320-01-304-2277) (2320-01-304-2278) (This item is included on EM 0052) 1 August 1999
TM 9-2320-364-20-2	Unit Maintenance Manual, Volume II for Palletized Load System M1074/M1075 (NSN 2320-01-304-2277) (2320-01-304-2278) (This item is included on EM 0052) 4 August 1999
TM 9-2320-364-20-3	Unit Maintenance Manual, Volume III for Palletized Load System M1074/M1075 (NSN 2320-01-304-2277) (2320-01-304-2278) (This item is included on EM 0052) 1 August 1999
TM 9-2320-364-20-4	Unit Maintenance Manual, for Palletized Load System Model M1074/M1075 (NSN 2320-01-304-2277) (2320-01-304-2278) (This item is included on EM 0052) 1 August 1999
TM 9-2320-365-20-2	Maintenance Instructions for Unit Maintenance M1078 Series, 2 1/2-Ton , 4X4 Light Medium Tactical Vehicle(LMTV) Vol No. 2 of 5 for Trk, Car., LMTV, M1078 w/Wn (NSN 2320-01-360-1898) (EIC:BHH) w/o Wn (2320-01-354-3385))(EIC:BHD)Trk, Van, LMTV 17 June 1998
TM 9-2320-365-20-3	Maintenance Instructions for Unit Maintenance M1078 Series, 2 1/2-Ton , 4X4 Light Medium Tactical Vehicle(LMTV) Vol No. 3 of 5 for Trk, Car., LMTV, M1078 w/Wn (NSN 2320-01-360-1898) (EIC:BHH) w/o Wn (2320-01-354-3385) (EIC:BHD)Trk, Van, LMTV 17 June 1998
TM 9-2320-365-20-4	Technical Manual Maintenance Instructions for Unit Maintenance M1078 Series, 2 1/2-Ton , 4X4 Light Medium Tactical Vehicle(LMTV) Vol No. 4 of 5 for Trk, Car, LMTV, M1078 w/Wn (NSN 2320-01-360-1898)(EIC:BHH) w/o Wn (2320-01-354-3385) 17 June 1998
TM 9-2320-365-20-5	Technical Manual Maintenance Instructions for Unit Maintenance M1078 Series, 2 1/2-Ton , 4X4 Light Medium Tactical Vehicle(LMTV) VOL NO. 5 of 5 for Trk, Car., LMTV, M1078 w/Wn (NSN 2320-01-360-1898) (EIC:BHH) w/o Wn (2320-01-354-3385) 17 June 1998
TM 9-2320-366-10-2	Operator's Instructions Manual for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) Volume 2 of 2 Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895)(EIC:BT3) w/o Wn (2320-01-354-3386) (EIC:BR2) Trk, Car., MTV w/MATL HDLG EQPT (MHE) 15 September 1998
TM 9-2320-366-20-1	Maintenance Instructions Unit Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) for Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354-3386) (EIC:BR2) Trk, Car., MTV, w/MATL HDLG EQPT (MHE), 15 September 1998
TM 9-2320-366-20-2	Maintenance Instructions Unit Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) VOL NO. 2 of 5 Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354-3386) (EIC:BR2) Trk, Car., MTV, w/M 15 September 1998
TM 9-2320-366-20-3	Maintenance Instructions Unit Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) VOL NO. 3 of 5 for Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895)(EIC:BT3) w/o Wn (2320-01-354-3386)(EIC:BR2) Trk, Car., MTV, w/M 15 September 1998

TM 9-2320-366-20-4	Maintenance Instructions Unit Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) VOL NO. 4 of 5 for Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895)(EIC:BT3) w/o Wn (2320-01-354-3386) (EIC:BR2) Trk, Car., MTV, w/M 15 September 1998
TM 9-2320-366-20-5	Maintenance Instructions Unit Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) VOL NO. 5 of 5 for Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354-3386)(EIC:BR2) Trk, Car., MTV, w/M 15 September 1998
TM 9-2320-366-24P-1	Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for M1083 Series 5 Ton, 6X6 Medium Tactical Vehicle (MTV) Volume NO. 1 of 2, Model TRK, CAR., M1083 W/WN (NSN 2320-01-360-1895) (EIC:BT3); 15 September 1998
TM 9-2320-366-24P-2	Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for M1083 Series 5 Ton, 6X6 Medium Tactical Vehicle (MTV) Volume NO. 2 of 2, Model TRK, CAR., M1083 W/WN (NSN 2320-01-360-1895) (EIC:BT3); 15 September 1998
TM 9-2320-366-34-1	Maintenance Instructions for Direct Support and General Support Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) Volume NO. 1 of 2 Model Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354- 15 September 1998
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TM 9-2320-366-34-3	Maintenance Instructions for Direct Support and General Support Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) Volume NO. 3 of 4 Model Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354- 15 September 1998
TM 9-2320-366-34-4	Maintenance Instructions for Direct Support and General Support Maintenance for M1083 Series, 5-Ton, 6X6, Medium Tactical Vehicles (MTV) Volume NO. 4 of 4 Model Trk, Car., MTV, M1083 w/Wn (NSN 2320-01-360-1895) (EIC:BT3) w/o Wn (2320-01-354- 15 September 1998
TM 9-243	Use And Care of Hand Tools And Measuring Tools [M6290-AJ-MAN-010; To 32-1-101; TM-10209-10/1] (Reprinted W/Basic Incl C1-2) (This Item is Included on EM 0178) 12 December 1983
TM 9-2815-224-34&P	Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Engine, Diesel, Detroit Diesel Model 8V92T (Includes Parts and Special Tools List) 20 January 1988
TM 9-8000	Principles of Automotive Vehicles (Reprinted W/Basic Incl C1) 25 October 1985

### **Training Circulars**

TC 43-35 Recovery Training 3 October 1995

**STP 9-63W12-SM-TG**  
**16 JUNE 2001**

By Order of the Secretary of the Army:

**ERIC K. SHINSEKI**  
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