TRAINING PROGRAM FOR THE M939 SERIES 5-TON TACTICAL CARGO TRUCK

HEADQUARTERS, DEPARTMENT OF THE ARMY

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DEPARTMENT OF THE ARMY
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THE M939 SERIES 5-TON TACTICAL CARGO TRUCK**

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PREFACE

This TC provides a training program for the M939 series 5-ton cargo vehicle operator according to AR 600-55. It provides standardized training and testing in the operation, maintenance, and safety of this vehicle. It stresses hands-on training with minimal classroom instruction and does not include any theater-unique requirements. Also during the development of this TC, it was assumed that each driver candidate would have a state driver's license, have completed accident avoidance training according to TC 21-305, and possess an OF 346 (stamped as a learner's permit).

The lesson content for this training program is arranged sequentially and separated into three chapters (Chapters 4, 5, and 7). Chapter 4 contains training for driving operations and Chapter 5 for trailer operations. Testing is contained in Chapter 7. For those operators trained on truck operations, testing is conducted after the training in Chapter 4. Operators that are trained in trailer operations are tested after receiving all training in Chapters 4 and 5. This allows the commander the flexibility to tailor 5-ton operator training based on the unit's equipment. Also, all training should be annotated on DA Form 348 (or ULLS-generated DA Form 348-E) according to AR 600-55.

To provide effective training, each instructor should ensure his operators are trained and tested to the standards in this TC. Any deviation from the successful completion of these basic standards will only lessen the soldiers' overall driving effectiveness.

Graduates of this training program (licensed drivers) should be supervised until they have gained the experience to safely operate the M939 series 5-ton cargo truck. They should not be placed in situations that may be above their skill level. Periodically, the supervisor should ride with each driver to observe safe operating procedures and to determine the need for additional training.

The proponent of this publication is HQ TRADOC. Submit changes for improving this publication on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forward it to Commandant, US Army Transportation School, ATTN: ATSP-TDI-DX, Fort Eustis, Virginia 23604-5389.

The US Army's environmental strategy into the 21st century defines the Army's leadership commitment and philosophy for meeting present and future environmental challenges. It provides a framework to ensure that environmental stewardship ethic governs all Army activities. The Army's environmental vision is to be a national leader in environmental and natural resource stewardship for present and future generations, as an integral part of all Army missions. The Army's environmental vision statement communicates the Army's commitment to the environment.

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

CHAPTER 1

RISK MANAGEMENT

1-1.   GENERAL. This chapter explains risk management as it applies to wheeled vehicle driver training. For more detailed risk management guidance, refer to FM 101-5, Appendix J.

1-2.   BACKGROUND. Ground vehicle accidents cost the Army millions of dollars each year and significantly reduce mission capabilities. Leaders must develop techniques that will save resources. Because the Army must be prepared to operate worldwide, the training mission has become increasingly demanding and so have the risks inherent in that mission. This increase in risk requires leaders to balance mission needs with hazards involved and make wise risk decisions.

1-3. DEFINITIONS.

     a.   **Risk Management.** Risk management is the process of identifying and controlling hazards to protect the force. It is a step-by-step process that provides a framework for analyzing any mission or task. The following are the five steps of risk management:

     (1) *Step 1 – Identify Hazards.* Identify hazards to the force. Consider all aspects of current and future situation, environment, and known historical problem areas.

     (2) *Step 2 – Assess Hazards.* Assess hazards to determine risks. Assess the impact of each hazard in terms of potential loss and cost based on probability and severity.

     (3) *Step 3 – Develop Controls and Make Risk Decision.* Develop control measures that eliminate the hazards or reduce its risk. As control measures are developed, risks are reevaluated until all risks are reduced to a level where benefits outweigh potential cost.

     (4) *Step 4 – Implement Controls.* Put controls in place that eliminate the hazards or reduce their risk.

     (5) *Step 5 – Supervise and Evaluate.* Enforce standards and controls. Evaluate the effectiveness of control and adjust/update as necessary.

     b.   **Hazard.** Any real or potential condition that can cause injury, illness, or death of personnel; or damage to or loss of equipment or property.

     c.   **Risk.** Chance of hazard or bad consequences; exposure to chance of injury or loss. Risk level is expressed in terms of hazard probability and severity.

     d.   **Exposure.** The frequency and length of time subjected to a hazard.

     e.   **Probability.** The likelihood that an event will occur.

      f.   **Severity.** The expected consequence of an event in terms of degree of injury, property damage, or other mission impairing factors (loss of combat power, adverse publicity, and so forth) that could occur.

      g.   **Controls.** Actions taken to eliminate hazards or reduce their risk.

      h.   **Risk Assessment.** The identification and assessment of hazards (first two steps of risk management process).

      i.   **Residual Risk.** The level of risk remaining after controls have been identified and selected for hazards that may result in loss of combat power. Controls are identified and selected until residual risk is at an acceptable level or until it cannot be practically reduced further.

      j.   **Risk Decision.** The decision to accept or not accept the risk(s) associated with an action.

1-4.   **RISK MANAGEMENT PROCESS**. The risk management process uses the following approach:

      a.   **Identify Hazards.** Look for hazards in each phase of the training or operation.

      b.   **Assess the Risk.** Ask these questions:

- What type of injury or equipment damage can be expected?
- What is the probability of an accident happening?

NOTE: A low probability of an accident and an expected minor injury equals low risk. A high probability of an accident and an expected fatality equals extremely high risk.

      c.   **Develop Risk Control Alternatives and Make Risk Decisions.** If you cannot eliminate the risk, then you must control it without sacrificing essential mission requirements. You can control some risks by modifying tasks, changing location, increasing supervision, wearing protective clothing, changing time of operation, and so on. Decisions take several forms:

- Selecting from available controls.
- Modifying the mission because risk is too great.
- Accepting risk because mission benefits outweigh potential loss.

      d.   **Implement Risk Control Measures.** You must integrate procedures to control risks into plans, orders, SOPs, and training. You must also ensure risk reduction measures are used during actual operations.

      e.   **Supervise the Operations.** Make sure leaders know what controls are in place, what standards are expected, and then hold those in charge accountable for implementation. This is the point when accident prevention actually happens.

1-5.   RISK ASSESSMENT ELEMENTS. There are no hard and fast rules for assessing risk. Different training tasks involve different elements that can affect training safety. However, the following seven elements are central to safely completing most driver training tasks:

- Soldier qualification.
- Supervision.
- Vehicle type.
- Equipment.
- Weather.
- Time of day.
- Terrain.

Using matrices that assign a risk level to each of the elements is one way to quickly appreciate the overall risks. The following matrices (Tables 1-1 through 1-7) are examples of risk assessments for the seven elements common to driver training missions.

NOTE: The factors are arbitrarily weighted. Modify them based on your particular mission and unit.

- Measure soldier qualification risk (Table 1-1) by comparing the level of task difficulty to the soldier's military driving experience.

Table 1-1. Soldier qualification risk value

SOLDIER QUALIFICATION RISK VALUE			
DRIVING EXPERIENCE			
TASK	LICENSED OVER 1 YEAR	LICENSED UNDER 1 YEAR	UNLICENSED
COMPLEX ROUTINE SIMPLE	Moderate Low Low	High Moderate Low	High High Moderate

EXAMPLE: Unlicensed drivers learning braking techniques in a 5-ton cargo truck with air brakes would be a high risk situation requiring substantial controls (new drivers generally do not have experience with air brake vehicles).

• Measure vehicle type risk (Table 1-2) by comparing the vehicle configuration to the locations of the training tasks.

Table 1-2. Vehicle type risk value

VEHICLE TYPE RISK VALUE			
VEHICLE CONFIGURATION			
LOCATION OF TRAINING	SMALL TRUCKS	STRAIGHT TRUCKS	COMBINATION UNITS
ROAD TRAINING AREA MOTOR POOL	Moderate Low Low	High Moderate Low	High High Moderate

EXAMPLE: Driving a 5-ton cargo truck over the road would have a high risk value.

• Measure weather risk (Table 1-3) by comparing road conditions with visibility.

Table 1-3. Weather risk value

WEATHER RISK VALUE			
VISIBILITY			
ROAD CONDITIONS	CLEAR	REDUCED	RESTRICTED
UNFAVORABLE ADEQUATE FAVORABLE	Moderate Low Low	High Moderate Moderate	High High High

EXAMPLE: Driving on icy roads in fog would have a high risk value.

- Measure terrain risk (Table 1-4) by comparing the physical features of the land with the existing road network.

Table 1-4. Terrain risk value

TERRAIN RISK VALUE			
ROAD NETWORK			
TYPE OF TERRAIN	IMPROVED ROADS	SECONDARY ROADS	UNIMPROVED
MOUNTAIN	Moderate	High	High
DESERT/JUNGLE	Low	Moderate	High
FLAT/ROLLING	Low	Low	Moderate

EXAMPLE: Driver training conducted at Fort Bragg, NC, over trails would have a moderate risk value.

- Measure supervision risk (Table 1-5) by comparing the level of supervision to the task location.

Table 1-5. Supervision risk value

SUPERVISION RISK VALUE			
TASK LOCATION			
LEVEL OF SUPERVISION	MOTOR POOL	TRAINING AREA/ NONCONGESTED ROAD	OFF ROAD/ CONGESTED ROAD
NOT OBSERVING	High	High	High
OBSERVING	Low	Moderate	High
IN VEHICLE	Low	Low	Moderate

EXAMPLE: A student driving alone, but observed, in a training area would have a moderate risk value.

- Measure equipment risk (Table 1-6) by comparing the equipment's age to the time (months) since the last semiannual service. Equipment age is defined as; old is 15 or more years old, average is 5 to 15 years old, and new is 5 or less years old.

Table 1-6. Equipment risk value

EQUIPMENT RISK VALUE			
LAST SEMIANNUAL SERVICE			
EQUIPMENT AGE	0 TO 2 MONTHS	+2 TO 4 MONTHS	+4 MONTHS
OLD AVERAGE NEW	Moderate Low Low	Moderate Moderate Low	High High Moderate

EXAMPLE: An eight-year-old 5-ton cargo truck serviced 3 months ago would have a moderate risk value.

- Measure time of day risk (Table 1-7) by comparing the level of light to familiarity with the route.

Table 1-7. Time of day risk value

TIME OF DAY RISK VALUE			
LIGHT LEVEL			
ROUTE FAMILIARITY	DAY	DAWN/DUSK	NIGHT
NEVER DRIVEN ROUTE	Moderate	High	High
DRIVEN ROUTE 1 TO 3 TIMES	Low	Moderate	High
FAMILIAR ROUTE	Low	Low	Moderate

EXAMPLE: A driving task over a familiar route that starts during the day but ends at dusk would have a moderate risk value.

After assessing all the risks, the overall risk value equals the highest risk identified for any one element. Now is the time to focus on high risk elements and develop controls to reduce risks to an acceptable level. Control examples may include conducting training in a different location or at a different time of day, putting an instructor in the vehicle with the student, waiting for better weather, using a different vehicle, and so on.

1-6.   DECISION AID. The level of the decision maker should correspond to the level of the risk. The greater the risk, the more senior the final decision maker should be. The matrix shown in Table 1-8 is a proposed decision aid to help determine the leadership decision-making level.

Table 1-8. Proposed decision aid

DECISION AID	
RISK	DECISION LEVEL
LOW MODERATE HIGH	SENIOR INSTRUCTOR COMPANY COMMANDER BATTALION COMMANDER

a. Moderate risk training warrants complete unit command involvement. For example, a moderate risk value in the weather element category indicates the soldiers are more susceptible to cold injuries and require closer supervision or a rescheduling of training. If you cannot reduce the risk level, the company commander should decide to train or defer the mission.

b. Operations with a high risk value warrant battalion involvement. If you cannot reduce the risk level, the battalion commander should decide to train or defer the mission.

1-7.   RISK CONTROL ALTERNATIVES. The following options can help control risk:

- Eliminate the hazard totally, if possible, or substitute a less hazardous alternative.
- Reduce the magnitude of the hazard by changing tasks, locations, times, and so forth.
- Modify operational procedures to reduce risk exposure consistent with mission needs.
- Train and motivate personnel to perform to standards to avoid hazards.

1-8.   SUPERVISION. Leaders must monitor the training to ensure risk control measures are followed. Never underestimate subordinates ability to sidetrack a decision they do not understand or support. You must also monitor the impact of risk reduction procedures when they are implemented to see that they really work. This is especially true of new, untested procedures.

1-9.   PAYOFFS. Risk management lets you use realistic training scenarios reducing personnel and equipment losses while training. Risk management is consistent with METT-T decision processes and can be used in battle to increase mission effectiveness.

SAMPLE RISK ASSESSMENT WORK SHEET FOR DRIVER TRAINING

TRAINING TASK: _____

RISK LEVEL: _____

_____1. SOLDIER QUALIFICATION

SOLDIER QUALIFICATION RISK VALUE			
DRIVING EXPERIENCE			
TASK	LICENSED OVER 1 YEAR	LICENSED UNDER 1 YEAR	UNLICENSED
COMPLEX ROUTINE SIMPLE	Moderate Low Low	High Moderate Low	High High Moderate

_____2. VEHICLE TYPE

VEHICLE TYPE RISK VALUE			
VEHICLE CONFIGURATION			
LOCATION OF TRAINING	SMALL TRUCKS	STRAIGHT TRUCKS	COMBINATION UNITS
ROAD TRAINING AREA MOTOR POOL	Moderate Low Low	High Moderate Low	High High Moderate

_____3. WEATHER

WEATHER RISK VALUE			
VISIBILITY			
ROAD CONDITIONS	CLEAR	REDUCED	RESTRICTED
UNFAVORABLE ADEQUATE FAVORABLE	Moderate Low Low	High Moderate Moderate	High High High

_____4. TERRAIN

TERRAIN RISK VALUE			
ROAD NETWORK			
TYPE OF TERRAIN	IMPROVED ROADS	SECONDARY ROADS	UNIMPROVED
MOUNTAIN DESERT/JUNGLE FLAT/ROLLING	Moderate Low Low	High Moderate Low	High High Moderate

_____5. SUPERVISION

SUPERVISION RISK VALUE			
TASK LOCATION			
LEVEL OF SUPERVISION	MOTOR POOL	TRAINING AREA/ NONCONGESTED ROAD	OFF ROAD/ CONGESTED ROAD
NOT OBSERVING OBSERVING IN VEHICLE	High Low Low	High Moderate Low	High High Moderate

_____6. EQUIPMENT

EQUIPMENT RISK VALUE			
LAST SEMIANNUAL SERVICE			
EQUIPMENT AGE	0 TO 2 MONTHS	+2 TO 4 MONTHS	+4 MONTHS
OLD AVERAGE NEW	Moderate Low Low	Moderate Moderate Low	High High Moderate

_____7. TIME OF DAY

TIME OF DAY RISK VALUE			
LIGHT LEVEL			
ROUTE FAMILIARITY	DAY	DAWN/DUSK	NIGHT
NEVER DRIVEN ROUTE	Moderate	High	High
DRIVEN ROUTE 1 TO 3 TIMES	Low	Moderate	High
FAMILIAR ROUTE	Low	Low	Moderate

_____OVERALL RISK LEVEL

DECISION AID	
RISK	DECISION LEVEL
LOW	SENIOR INSTRUCTOR
MODERATE	COMPANY COMMANDER
HIGH	BATTALION COMMANDER

APPROVED BY: _____ DATE: _____

2-1. STUDENT REQUIREMENTS.

a. **Vehicles Per Student.** Vehicle to student ratio is contained in the instructional material and varies from 1:1 to 1:2.

b. **Forms Per Student.**

- DD Form 518. Accident Identification Card.
- DD Form 1970. Motor Equipment Utilization Record (or DA Form 5987-E, Motor Equipment Dispatch).
- DA Form 348. Equipment Operator's Qualification Record (Except Aircraft).
- DA Form 2404. Equipment Inspection and Maintenance Worksheet (or DA Form 5988-E, Equipment Inspection Maintenance Worksheet).
- DA Form 6125-R. Road Test Score Sheet.
- OF 346. US Government Motor Vehicle Operator's Identification Card.
- SF Form 91. Motor Vehicle Accident Report.

c. **Publications Per Student.**

- TM 9-2320-272-10. Operator's Manual for Truck, 5-Ton, 6X6, M939, M939A1, and M939A2 Series Trucks (Diesel).
- LO 9-2320-272-12. Lubrication Order for Truck, 5-Ton, 6X6, M939, M939A1, and M939A2 Series Trucks (Diesel).

d. **Nonstandard Items.**

- Forty empty POL drums, traffic cones, or locally fabricated standards.
- Vehicle loads.

2-2. INSTRUCTOR REQUIREMENTS.

- One each of the above forms.
- One each of the above publications.
- AR 385-55. Prevention of Motor Vehicle Accidents.
- AR 600-55. The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing).
- DA Pamphlet 738-750. Functional Users Manual for the Army Maintenance Management System (TAMMS).
- FM 21-305. Manual for the Wheeled Vehicle Driver.
- STP 55-88M12-SM. Soldier's Manual, MOS 88M, Motor Transport Operator, Skill Levels 1/2.
- All HN or local directives and regulations.

2-3.   TRAINING FACILITIES.

- Classroom.
- Motor pool.
- Training area(s).
- Suitable road network for driver training (primary, secondary, and off road).

2-4.   TRAINING AIDS AND DEVICES.

- Overhead projector.
- Projection screen.
- Transparencies (paper copies included with the instructional material).
- Television monitor.
- Videocassette player.
- TVT 20-1088. M939 Series: Operating at Risk. 1996. (PIN: 708408).
- TVT 55-16. The M939A2 Series Cargo Truck. 1991. (PIN: 709233DA).

CHAPTER 3

SAMPLE TRAINING SCHEDULE

WHEN	WHAT	WHERE	TASK NUMBER
TRUCK OPERATIONS			
DAY 1			
0730-0830	Use TM, LO, and Make Entries on DA Form 2404	Classroom	551-721-1352
0830-0930	Prepare DD Form 1970	Classroom	551-721-1366
0930-1130	Report an Accident	Classroom	551-721-1388
1130-1230	Lunch		
1230-1300	Perform Operator PMCS	Classroom	551-721-1352
1300-1400	Identify Cab Controls, Instruments, and Indicators	Motor Pool	551-721-1352
1400-1430	Operate CTIS on the M939A2 Series Vehicle	Motor Pool	551-721-1391
1430-1630	Perform Operator PMCS	Motor Pool	551-721-1352

WHEN	WHAT	WHERE	TASK NUMBER
TRUCK OPERATIONS			
DAY 2			
0730-0800	Drive an M939 Series Cargo Truck	Classroom	551-721-1366
0800-0830	Perform Before-Operation PMCS	Motor Pool	551-721-1352
0830-1130	Drive an M939 Series Cargo Truck	Training Area	551-721-1366
1130-1230	Lunch		
1230-1600	Drive an M939 Series Cargo Truck (continued)	Training Area	551-721-1366
1600-1630	Perform After-Operation PMCS	Motor Pool	551-721-1352

WHEN	WHAT	WHERE	TASK NUMBER
TRUCK OPERATIONS			
DAY 3			
0730-0830	Drive an M939 Series Cargo Truck on the Road	Motor Pool	551-721-1366
0830-0900	Perform Before-Operation PMCS	Motor Pool	551-721-1352
0900-1130	Drive an M939 Series Cargo Truck on the Road	Driver Training Route	551-721-1366
1130-1230	Lunch		
1230-1600	Drive an M939 Series Cargo Truck on the Road (continued)	Driver Training Route	551-721-1366
1600-1630	Perform After-Operation PMCS	Motor Pool	551-721-1352

WHEN	WHAT	WHERE	TASK NUMBER

TRUCK OPERATIONS
DAY 4

WHEN	WHAT	WHERE	TASK NUMBER
0730-0800	Drive an M939 Series Cargo Truck Off Road	Motor Pool	551-721-1360
0800-0830	Perform Before-Operation PMCS	Motor Pool	551-721-1352
0830-1130	Drive an M939 Series Cargo Truck Off Road	Off Road Driver Training Area	551-721-1360
1130-1230	Lunch		
1230-1400	Drive an M939 Series Cargo Truck Off Road (continued)	Off Road Driver Training Area	551-721-1360
1400-1430	Perform After-Operation PMCS	Motor Pool	551-721-1352
1900-1930	Perform Before-Operation PMCS	Motor Pool	551-721-1352
1930-2330	Drive an M939 Series Cargo Truck at Night	Motor Pool/ Driver Training Route	551-721-1366
2330-2400	Perform After-Operation PMCS	Motor Pool	551-721-1352

TRUCK OPERATIONS
DAY 5

WHEN	WHAT	WHERE	TASK NUMBER
1230-1300	Perform Before-Operation PMCS	Motor Pool	551-721-1352
1300-1600	Drive an M939 Series Cargo Truck on the Road (continued)	Driver Training Route	551-721-1366
1600-1630	Perform After-Operation PMCS	Motor Pool	551-721-1352

TRUCK OPERATIONS
DAY 6

NOTE: This day 6 is for straight truck drivers only. Drivers training for trailer operations will continue to trailer operations day 6 and testing on day 8.

WHEN	WHAT	WHERE	TASK NUMBER
0730-0800	Perform Before-Operation PMCS	Motor Pool	551-721-1352
0800-1100	Drive an M939 Series Cargo Truck on	Driver Training Route	551-721-1366
1100-1130	Perform After-Operation PMCS	Motor Pool	551-721-1352
1130-1230	Lunch		
1230-1630	End of Course Comprehensive Test	Classroom/ Motor Pool/ Road Test	All Tasks
	and	Route/Off Road Training Area	
	Perform PMCS	Motor Pool	551-721-1352

WHEN	**WHAT**	**WHERE**	**TASK NUMBER**

TRAILER OPERATIONS
DAY 6

0730-0830	Perform PMCS on Trailers	Motor Pool	551-721-1353
0830-0900	Perform Before-Operation PMCS	Motor Pool	551-721-1352
			551-721-1353
0900-1130	Drive an M939 Series Cargo Truck with Trailer	Motor Pool/ Training Area/ Driver Training Route	551-721-1380 551-721-1385
1130-1230	Lunch		
1230-1600	Drive an M939 Series Cargo Truck with Trailer (continued)	Training Area/ Driver Training Route	551-721-1380 551-721-1385
1600-1630	Perform After-Operation PMCS	Motor Pool	551-721-1352 551-721-1353

TRAILER OPERATIONS
DAY 7

0730-0800	Perform Before-Operation PMCS	Motor Pool	551-721-1352 551-721-1353
0800-1130	Drive an M939 Series Cargo Truck with Trailer (continued)	Training Area/ Driver Training Route	551-721-1380 551-721-1385
1130-1230	Lunch		
1230-1600	Drive an M939 Series Cargo Truck with Trailer (continued)	Training Area/ Driver Training Route	551-721-1380 551-721-1385
1600-1630	Perform After-Operation PMCS	Motor Pool	551-721-1352 551-721-1353

TRAILER OPERATIONS
DAY 8

0730-0800	Perform Before-Operation PMCS	Motor Pool	551-721-1352
0800-1100	Drive an M939 Series Cargo Truck on the Road (continued)	Driver Training Route	551-721-1366
1100-1130	Perform After-Operation PMCS	Motor Pool	551-721-1352
1130-1230	Lunch		
1230-1630	End of Course Comprehensive Test	Classroom/ Motor Pool/ Road Test Route/Off Road	All Tasks
	and	Training Area	551-721-1352
	Perform PMCS	Motor Pool	551-721-1353

LESSON TITLE: USE TECHNICAL MANUALS (TMs) AND LUBRICATION ORDERS (LOs), AND MAKE ENTRIES ON DA FORM 2404 (EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET)

TASK NUMBER: 551-721-1352 (Perform Vehicle Preventive Maintenance Checks and Services [PMCS])

A. TRAINING OBJECTIVE.

TASK: Use the M939 Series TM/LO and make operator entries on DA Form 2404.

CONDITIONS: Given instruction, TM 9-2320-272-10, LO 9-2320-272-12, DA Form 2404, and a practical exercise.

STANDARD: Locate information in the TM/LO and make the required operator entries on DA Form 2404 in the correct sequence according to DA Pamphlet 738-750. Each student has 15 minutes to complete the practical exercise without error and will be graded on a GO/NO-GO basis.

B. INTERMEDIATE TRAINING.

Intermediate Training Objective 1

TASK: Use the M939 Series TM and LO.

CONDITIONS: Given instruction, TM 9-2320-272-10, LO 9-2320-272-12, and a practical exercise in a classroom environment.

STANDARD: Answer the questions correctly in the practical exercise by locating information in the TM/LO. Each student will be graded on a GO/NO-GO basis.

Intermediate Training Objective 2

TASK: Document a no-fault situation on DA Form 2404.

CONDITIONS: Given instruction, TM 9-2320-272-10, a practical exercise, and DA Form 2404 in a classroom environment.

STANDARD: You must fill out a no-fault situation on DA Form 2404 in the correct sequence according to DA Pamphlet 738-750. Each student will be graded on a GO/NO-GO basis.

Intermediate Training Objective 3

> **TASK:** Document a fault situation on DA Form 2404.
>
> **CONDITIONS:** Given instruction, TM 9-2320-272-10, a practical exercise, and DA Form 2404 in a classroom environment.
>
> **STANDARD:** You must fill out a fault situation on DA Form 2404 in the correct sequence according to DA Pamphlet 738-750. Each student will be graded on a GO/NO-GO basis.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Scheduled classroom.

3. Training type: Conference and practical exercise.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the class and one assistant instructor for every 20 students for the practical exercise.

6. Training aids and equipment: Overhead projector, screen, transparency (DA Forms 2404), TM 9-2320-272-10 (one per student), LO 9-2320-272-12 (one per student), DA Form 2404 (four per student), and a practical exercise situation sheet (one per student).

7. References: DA Pamphlet 738-750, TM 9-2320-272-10, and LO 9-2320-272-12.

D. SEQUENCE OF ACTIVITY.

NOTE: Before class arrival, ensure that each student desk or table has a TM 9-2320-272-10, LO 9-2320-272-12, and two DA Forms 2404. Completed samples of DA Forms 2404 are shown in Figure 4-1, page 4-6 and Figure 4-2, page 4-7. These samples can be used to make transparencies for an overhead projection system or reproduced as student handouts.

1. Introduction:

    a. Interest device.

    b. Tie-in.

    c. Lesson objective (paragraph A).

    d. Procedures:

        (1) Explanation.

(2) Practical exercise.

(3) Summary.

2. Explanation and demonstration:

    a. Proper technique for using the M939 Series -10 series TM.

        (1) Front cover index - corresponding thumb tab blackened pages and table of contents.

        (2) Warning summary and caution - warning statements.

        (3) PMCS tables.

        (4) Alphabetical subject index.

    b. Use of the M939 series LO 9-2320-272-12.

        (1) Cards (tables).

        (2) Warnings, cautions, and notes.

        (3) Level of maintenance codes.

        (4) Lubricant abbreviations and intervals.

        (5) Lubricate after fording and high-pressure washing.

    c. DA Form 2404 no-fault situation:

NOTE: If the organization is using ULLS, ULLS generated DA Form 5988-E may be used instead of using DA Form 2404. The blocks of DA Form 5988-E are completed similar to those of DA Form 2404.

        (1) Organization.

        (2) Nomenclature and model.

        (3) Registration/serial number/NSN.

        (4) Type of inspection (PMCS).

        (5) TM number and TM date.

        (6) Date of inspection (column c).

(7) Type of inspection (entered in column d when used for concurrent inspections).

(8) Disposition of DA Form 2404.

    d. DA Form 2404 fault situation.

NOTE: If the organization is using ULLS, ULLS generated DA Form 5988-E may be used instead of using DA Form 2404. The blocks of DA Form 5988-E are completed similar to those of DA Form 2404.

(1) Deferred maintenance. Check DA Form 2408-14 for any deferred maintenance before listing faults on DA Form 2404. Do not list faults that are already listed on DA Form 2404 or DA Form 2408-14. (This form is not required when an automated system such as ULLS, provides a list or printout of deferred maintenance and uncorrected faults that includes all elements on the DA Form 2408-14.)

NOTE: Explain to the students that when a DA Form 2404 has previous no-fault daily annotations, a new form does not have to be initiated when a fault is found. Tell them to use the same form and some of the steps listed below would already be completed.

(2) Organization.

(3) Nomenclature and model.

(4) Registration/serial number/NSN.

(5) Miles. If the reading is in kilometers, put the letter "K" before the number.

(6) Hours.

(7) Date.

(8) Type of inspection (PMCS).

(9) TM number and TM date.

(10) Signature and rank in block 8a.

(11) TM item number entered in column a. Circle item number if the fault makes the equipment NMC.

(12) Status symbol entered in column b.

(13) Deficiencies or shortcomings entered in column c.

(14) Disposition of DA Form 2404.

3. Practical exercise: Hand out one practical exercise and two DA Forms 2404 (or if using ULLS, ULLS generated DA Form 5988-E) to each student. Students will complete the practical exercise as outlined in paragraph 2 above within 15 minutes.

4. Evaluate: Check each student's practical exercise.

5. Summary:

    a. Recap main points.

    b. Allow for questions.

    c. Clarify questions.

    d. Give closing statement.

6. Retraining: Retrain and retest NO-GOs after normal duty hours.

E. SAFETY RESTRICTIONS. None.

F. ENVIRONMENTAL CONSIDERATIONS. None.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 1.0 hours (.5 conference and .5 practical exercise).

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

For use of this form, see DA PAM 738-750 and 738-751; the proponent agency is DCSLOG *B-308*

1. ORGANIZATION *B Co, 708th SPT BN*	2. NOMENCLATURE AND MODEL *Trk, Cgo, 5-ton, M925A2*

3. REGISTRATION/SERIAL/NSN *NPØEDC*	4a. MILES	b. HOURS	c. ROUNDS FIRED	d. HOT STARTS	5. DATE	6. TYPE INSPECTION *PMCS*

7. APPLICABLE REFERENCE

TM NUMBER *TM9-2320-272-10*	TM DATE *Aug 96*	TM NUMBER	TM DATE

COLUMN a — Enter TM item number.

COLUMN b — Enter the applicable condition status symbol.

COLUMN c — Enter deficiencies and shortcomings.

COLUMN d — Show corrective action for deficiency or shortcoming listed in Column c.

COLUMN e — Individual ascertaining completed corrective action initial in this column.

STATUS SYMBOLS

"X"—Indicates a deficiency in the equipment that places it in an inoperable status.

CIRCLED "X"—Indicates a deficiency, however, the equipment may be operated under specific limitations as directed by higher authority or as prescribed locally, until corrective action can be accomplished.

HORIZONTAL DASH "(-)"—Indicates that a required inspection, component replacement, maintenance operation check, or test flight is due but has not been accomplished, or an overdue MWO has not been accomplished.

DIAGONAL "(/)"—Indicates a materiel defect other than a deficiency which must be corrected to increase efficiency or to make the item completely serviceable.

LAST NAME INITIAL IN BLACK, BLUE-BLACK INK, OR PENCIL-Indicates that a completely satisfactory condition exists.

FOR AIRCRAFT-Status symbols will be recorded in red.

ALL INSPECTIONS AND EQUIPMENT CONDITIONS RECORDED ON THIS FORM HAVE BEEN DETERMINED IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.

8a. SIGNATURE (Person(s) performing inspection)	8b. TIME	9a. SIGNATURE (Maintenance Supervisor)	9b. TIME	10. MANHOURS REQUIRED

TM ITEM NO. a	STATUS b	DEFICIENCIES AND SHORTCOMINGS c	CORRECTIVE ACTION d	INITIAL WHEN CORRECTED e
		6 Jan 97		C.W.R.
		7 Jan 97		C.W.R.
		8 Jan 97		C.W.R.
		9 Jan 97		C.W.R.
		10 Jan 97	W	C.W.R.

DA FORM 2404 1 APR 79   Replaces edition of 1 Jan 64, which will be used

Figure 4-1. DA Form 2404 (No Fault Situation)

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

For use of this form, see DA PAM 738-750 and 738-751; the proponent agency is DCSLOG

B-128

1. ORGANIZATION *B Co 708th SPT BN*	2. NOMENCLATURE AND MODEL *Trk, Cgo, 5-ton, M923A2*			

3. REGISTRATION/SERIAL/NSN *NX110AC*	4a. MILES *2945*	b. HOURS *206*	c. ROUNDS FIRED	d. HOT STARTS	5. DATE *10 Jan 97*	6. TYPE INSPECTION *PMCS*

7. APPLICABLE REFERENCE

TM NUMBER *TM 9-2320-272-10*	TM DATE *Aug 96*	TM NUMBER	TM DATE

COLUMN a — Enter TM item number.

COLUMN b — Enter the applicable condition status symbol.

COLUMN c — Enter deficiencies and shortcomings.

COLUMN d — Show corrective action for deficiency or shortcoming listed in Column c.

COLUMN e — Individual ascertaining completed corrective action initial in this column.

STATUS SYMBOLS

"X"—Indicates a deficiency in the equipment that places it in an inoperable status.

CIRCLED "X"—Indicates a deficiency, however, the equipment may be operated under specific limitations as directed by higher authority or as prescribed locally, until corrective action can be accomplished.

HORIZONTAL DASH "(-)"—Indicates that a required inspection, component replacement, maintenance operation check, or test flight is due but has not been accomplished, or an overdue MWO has not been accomplished.

DIAGONAL "(/)"—Indicates a materiel defect other than a deficiency which must be corrected to increase efficiency or to make the item completely serviceable.

LAST NAME INITIAL IN BLACK, BLUE-BLACK INK, OR PENCIL-Indicates that a completely satisfactory condition exists.

FOR AIRCRAFT-Status symbols will be recorded in red.

ALL INSPECTIONS AND EQUIPMENT CONDITIONS RECORDED ON THIS FORM HAVE BEEN DETERMINED IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.

8a. SIGNATURE (Person(s) performing inspection) *Wylie W. Cooke, PFC*	8b. TIME	9a. SIGNATURE (Maintenance Supervisor)	9b. TIME	10. MANHOURS REQUIRED

TM ITEM NO. a	STATUS b	DEFICIENCIES AND SHORTCOMINGS c	CORRECTIVE ACTION	INITIAL WHEN CORRECTED e
		8 Jan 97		*W.W.C.*
		9 Jan 97		*W.W.C.*
2	/	*Passenger windshield cracked*		
9	X	*Spare tire missing*		
14	X	*Air dryer moisture ejector valve inoperable*		

DA FORM 2404
1 APR 79

Replaces edition of 1 Jan 64, which will be used

Figure 4-2. DA Form 2404 (Fault Situation)

PRACTICAL EXERCISE

LESSON TITLE: USE TECHNICAL MANUALS AND LUBRICATION ORDERS AND
       MAKE ENTRIES ON DA FORM 2404

NAME_____RANK_____DATE_____

To complete this practical exercise, you will need appropriate vehicle operator's TM, LO, two blank DA Forms 2404 (or ULLS generated DA Form 5988-E), and a pencil. You have 15 minutes to complete this practical exercise.

<u>FIRST REQUIREMENT</u>

Using the appropriate vehicle TM and LO, answer the following questions by writing your answer in the space provided after each question.

1. At what interval does the operator check the transmission for proper operation?

2. Where would you find the definition for the different classes of leaks?

3. In what section of the operator's TM would you find the BII authorized for the M923A2 cargo truck?

4. In what paragraph of the operator's TM would you find instructions for correct braking procedures?

5. What type of gear oil is used for the transfer case?

6. In what publication did you find the answer to question 5 above?

SECOND REQUIREMENT

NAME_____RANK_____DATE_____

From the following information, make the required operator entries on DA Form 2404 (or ULLS generated DA Form 5988-E):

You are assigned to the 58th Transportation Company as the operator of an M923A2 5-ton cargo truck, with registration number 23G9J111.

      a. On 13 January 1997, you perform a daily PMCS and find no faults.

      b. On 14 January 1997, you perform a daily PMCS and again find no faults.

      c. On 15 January 1997, you perform a daily PMCS and your vehicle voltmeter is registering in the red. Your odometer reading is 21,864 miles and your hour meter reads 1546.

      d. On 16 January 1997, you perform a daily PMCS and find your voltmeter has been repaired. No other faults are discovered.

      e. On 17 January 1997, you perform a weekly PMCS and find no faults.

LESSON TITLE: PREPARE DD FORM 1970 (MOTOR EQUIPMENT UTILIZATION RECORD)

TASK NUMBER: 551-721-1366 (Drive Vehicle with Automatic Transmission)

A. TRAINING OBJECTIVE.

        TASK: Make correct vehicle operator entries on DD Form 1970.

        CONDITIONS: Given instruction, DD Form 1970, pencil, and a practical exercise.

        STANDARD: Make the required operator entries on DD Form 1970 in correct sequence according to DA Pamphlet 738-750. Each student has 15 minutes to complete the practical exercise with no errors. Students will be graded on a GO/NO-GO basis.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

        1. Training time: As scheduled.

        2. Training location: Classroom.

        3. Training type: Conference and practical exercise.

        4. Students: Scheduled personnel.

        5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for each 20 students for the practical exercise.

        6. Training aids and equipment: Overhead projector, screen, transparencies, practical exercise situation sheet (one per student), and DD Form 1970 (one per student).

        7. References: DA Pamphlet 738-750.

D. SEQUENCE OF ACTIVITY.

        1. Introduction:

                a. Interest device.

                b. Tie-in.

                c. Lesson objective (paragraph A).

      d. Procedures:

          (1) Explanation.

          (2) Practical exercise.

          (3) Summary.

    2. Explanation and demonstration:

NOTE: Two completed samples of DD Form 1970 are shown in Figure 4-3, page 4-12, and Figure 4-4, page 4-13. These samples can be used to make transparencies for an overhead projection system or reproduced as student handouts.

      a. Explain the purpose and use of DD Form 1970. Also explain the dispatcher entries entered on the form.

      b. Explain the operator entries that must be entered on DD Form 1970.

    3. Practical exercise: Hand out one practical exercise and one DD Form 1970 to each student. Students will complete the practical exercise within 15 minutes.

    4. Evaluate: Check each student's practical exercise.

    5. Summary:

      a. Recap main points.

      b. Allow for questions.

      c. Clarify questions.

      d. Give closing statement.

    6. Retraining: Retrain NO-GOs and slow learners. NO-GOs will be retrained after normal duty hours.

E. SAFETY RESTRICTIONS. None.

F. ENVIRONMENTAL CONSIDERATIONS. None.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 1 hour (.5 conference and .5 practical exercise).

MOTOR EQUIPMENT UTILIZATION RECORD						
DATE *(YYMMDD)* ★ 970121	TYPE OF EQUIPMENT ★ Trk, Cgo, 5-Ton, M923A2	REGISTRATION NO./SERIAL NO. ★ 2C027B10			ADMINISTRATION NO. ★ TRK-105	

ORGANIZATION NAME ★ 123d Transportation Co.	ACTION	TIME	MILES	HOURS	FUEL	OIL
1ST OPERATOR *(Last Name, First, M.I.)* ★ Smith, Myron B., PFC	IN				REPORT TO *(Last Name, First, M.I.)* ★ Weaver, Marcus E., SFC	
OPERATOR'S SIGNATURE .	OUT	0730 ★	6242 ★	395 ★	DISPATCHER'S SIGNATURE ★ *Jimmy Jones PFC*	
	TOTAL					
2D OPERATOR *(Last Name, First, M.I.)*	IN				REPORT TO *(Last Name, First, M.I.)*	
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE	
	TOTAL					
3D OPERATOR *(Last Name, First, M.I.)*	IN				REPORT TO *(Last Name, First, M.I.)*	
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE	
	TOTAL					
4TH OPERATOR *(Last Name, First, M.I.)*	IN				REPORT TO *(Last Name, First, M.I.)*	
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE	
	TOTAL					

DESTINATION	TIME		RELEASED BY *(Signature)*	REMARKS
	ARRIVE	DEPART		
FROM 1.				
TO 2.				
TO 3.				
TO 4.				
TO 5.				
TO 6.				
TO 7.				
TO 8.				
TO 9.				
TO 10.				
TO 11.				
TO 12.				
TO 13.				
TO 14.				
TO 15.				
TO 16.				

SAMPLE

DD FORM 1970   EDITION OF FEB 75 MAY BE USED.

Note: An ★ denotes dispatcher entries.

Figure 4-3. Sample 1 of DD Form 1970

MOTOR EQUIPMENT UTILIZATION RECORD

DATE (YYMMDD) *	TYPE OF EQUIPMENT *	REGISTRATION NO./SERIAL NO. *	ADMINISTRATION NO. *
970121	Trk, Cgo, 5-Ton, M923A2	2C027B10	TRK-105

ORGANIZATION NAME * 123d Transportation Co.	ACTION	TIME	MILES	HOURS	FUEL 52 gal	OIL 2 qt

1ST OPERATOR (Last Name, First, M.I.) * Smith, Myron B., PFC	IN	1645	6498	402	REPORT TO (Last Name, First, M.I.) * Weaver, Marcus E., SFC	
OPERATOR'S SIGNATURE Myron B Smith	OUT	0730 *	6242 *	395 *	DISPATCHER'S SIGNATURE * Jimmy Jones PFC	
	TOTAL	9:15	256	7		

2D OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE	
	TOTAL					

3D OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE	
	TOTAL					

4TH OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE	
	TOTAL					

DESTINATION	TIME ARRIVE	DEPART	RELEASED BY (Signature)	REMARKS
FROM 1. Motor Pool		0815		
TO 2. TA 115	0900	0930		
TO 3. Ft Lee, Bldg 12005	1100	1300		
TO 4. Ft A.P. Hill, Bldg 400	1400	1430		
TO 5. TA 115.	1615	1630	M.E. Weaver, SFC	
TO 6. Motor Pool	1645			
TO 7.				
TO 8.				
TO 9.				
TO 10.				
TO 11.				
TO 12.				
TO 13.				
TO 14.				
TO 15.				
TO 16.				

DD FORM APR 81 1970   EDITION OF FEB 75 MAY BE USED.

Note: An * denotes dispatcher entries.

Figure 4-4. Sample 2 of DD Form 1970

PRACTICAL EXERCISE

LESSON TITLE: PREPARE DD FORM 1970 (MOTOR EQUIPMENT UTILIZATION
                  RECORD)

NAME_____RANK_____DATE_____

To complete this practical exercise, you will need one DD Form 1970 (with dispatcher entries made) and a pen or pencil. You have 15 minutes to complete this practical exercise.

Use the information provided in the situation below to make all required operator entries on DD Form 1970 in the proper sequence and in the prescribed time limit.

1. SITUATION:

      a. You left the motor pool in an M923A2, 5-ton cargo truck. Your run included stops at the following areas:

LOCATION	ARRIVED	DEPARTED
Motor Pool	NA	0715
Building 661	0730	0750
Building 705	0800	0830
Training area TA102	0920	1050
Dining facility, Building 663	1120	1230
Training area TA191	1300	1530
Motor pool	1600	

      b. The NCOIC was SSG Smith. He released you when you departed TA191 at 1530.

      c. When you returned to the motor pool, your odometer reading was 8202 and your hour meter reading was 503. You also noted that you filled the vehicle with 5 gallons of diesel and no oil was added.

2. REQUIREMENT:

      a. Complete the attached DD Form 1970.

      b. Be sure your entries are legible (other people can read your handwriting) and accurate (the entries agree with the details of the information in the situation).

LESSON TITLE: REPORT AN ACCIDENT (MAKE REQUIRED ENTRIES ON
DD FORM 518 AND SF 91)

TASK NUMBER: 551-721-1388 (Complete DD Form 518 and SF 91)

A. TRAINING OBJECTIVE.

     TASK: Make required entries on DD Form 518 and SF 91.

     CONDITIONS: Given instruction, DD Form 518, SF 91, pencil, and a practical
exercise.

     STANDARD: Make the required entries on DD Form 518 and SF 91 accurately,
legibly, and completely according to FM 21-305. Each student
has one hour to complete the practical exercise with no errors.
Students will be graded on a GO/NO-GO basis.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

     1. Training time: As scheduled.

     2. Training location: Classroom.

     3. Training type: Conference and practical exercise.

     4. Students: Scheduled personnel.

     5. Principal and assistant instructors required: One primary instructor for the conference
and one assistant instructor for each 20 students for the practical exercise.

     6. Training aids and equipment: Overhead projector, screen, transparencies, practical
exercise situation sheet (one per student), DD Form 518 (one per student), and SF 91 (one per
student).

     7. References: FM 21-305.

D. SEQUENCE OF ACTIVITY.

     1. Introduction:

          a. Interest device.

          b. Tie-in.

          c. Lesson objective (paragraph A).

d. Procedures:

    (1) Explanation.

    (2) Practical exercise.

    (3) Summary.

2. Explanation and demonstration:

NOTE: A completed sample of a DD Form 518 is shown in Figure 4-5, page 4-18. A completed sample of SF 91 is shown in Figures 4-6 through 4-9, pages 4-19 through 4-22, and a completed sample of SF 94 is shown in Figures 4-10 and 4-11, pages 4-23 and 4-24. These samples can be used to make transparencies for an overhead projection system or reproduced as student handouts.

a. Precautions and procedures. The following is not necessarily in the correct order. Each accident must be assessed to determine what should be done and in what order.

    (1) Stop immediately.

    (2) Take precautions to prevent further accidents or injuries by using road guards, highway warning devices, and flares.

    (3) Render first aid to the injured.

    (4) If fire breaks out, use an extinguisher or sand. Notify the fire department. Take precautions to prevent fire; for example, shut off engines and prohibit smoking.

    (5) Notify authorities (civil or military depending on who has jurisdiction) for emergency services (police, ambulance, rescue, or fire fighting).

    (6) Follow the rules or regulations of the state or area where accident took place when moving the vehicle from the scene of the accident.

b. Driver's responsibilities.

    (1) When involved in an accident, always stop and investigate the accident.

    (2) Secure hard-to-get facts first (names and addresses of people involved and witnesses, condition of the road, position of the vehicles, and an estimate of the amount of damage). Ask the witness(es) to complete SF 94.

    (3) Be exact. Spell names correctly. Give street addresses by number. State visible damage. Show exactly where vehicles were before and after the accident and what obstacles blocked the driver's view.

(4) Do not sign any paper or make any statement as to who was at fault (except to your supervisor or to a Federal Government investigator).

(5) Be polite. Try to get all the necessary information.

(6) Submit all reports and data to your supervisor ASAP but do not exceed one working day.

c. Instructions for filling out DD Form 518.

(1) Explain the purpose and use of DD Form 518. This form is used to give any persons involved in an accident all of the information that they require from you.

(2) Explain how to fill out this form block by block. Ensure zip codes are included and the students know that disclosure of the social security number is voluntary.

(3) Explain the disposition of the form. Give it to the person directly involved in the accident. Or, if a parked vehicle, place it in or on the parked vehicle in a conspicuous and secure location, such as under the windshield wiper.

d. Instructions for filling out SF 91.

(1) Explain the purpose and use of SF 91. Even though an accident is minor or not your fault, you must report it so that the facts will be clearly presented and so that you can give the names of the witnesses.

(2) Explain how to fill out this form block by block. The driver is responsible for filling out Sections I through IX. Section X, items 72 through 82c are filled out by the driver's supervisor. Sections XI through XIII are filled out by an accident investigator for bodily injury, fatality, and/or damage exceeding $500. No blocks should be left completely blank. If there is no information to put in a certain block, write None, Unknown, or NA.

e. SF 94 may be given to any witness at the scene of the accident. It is normally mailed to the witness by the investigating officer, commander, or supervisor.

3. Practical exercise: Hand out one practical exercise, SF 91, and DD Form 518 to each student. Students will complete the practical exercise within one hour.

4. Evaluate: Check each student's practical exercise.

5. Summary:

        a. Recap main points.

        b. Allow for questions.

        c. Clarify questions.

        d. Give closing statement.

6. Retraining: Retrain NO-GOs and slow learners. NO-GOs will be retrained after normal duty hours.

E. SAFETY RESTRICTIONS. None.

F. ENVIRONMENTAL CONSIDERATIONS. None.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 2 hours (1.0 conference and 1.0 practical exercise).

ACCIDENT–IDENTIFICATION CARD

(THIS FORM IS SUBJECT TO THE PRIVACY ACT OF 1974 – SEE REVERSE)

Any correspondence regarding accident should be addressed to:

Commanding General
FT Eustis, VA 23604-5000

MAKE REFERENCE TO

DATE OF ACCIDENT
17 Jan 97

MAKE AND TYPE OF VEHICLE
M923A2, Trk, CGo, 5-Ton

REGISTRATION NO.
2C 111FX

DRIVER *(Last name – first name – initial)*
Jones, John J

SSN

GRADE
PFC

ORGANIZATION
123d Trans Co
FT Eustis, VA
23604-5000

DD FORM 1 OCT 78 518 PREVIOUS EDITION IS OBSOLETE.

PRIVACY ACT STATEMENT

AUTHORITY: Sec 638a, Title 31, USC and EO 9397.

PRINCIPAL PURPOSE: To provide persons involved in an accident with a DoD owned/leased vehicle the identity of the person with the authority to act on the matter.

ROUTINE USES: Placed in each vehicle for purpose stated above. When a DoD vehicle is involved in an accident, the driver provides the other party(s) with a properly executed DD Form 518. The SSN is requested because of similarity of names, to further identify the driver of the DoD vehicle.

DISCLOSURE IS VOLUNTARY. No disciplinary action is taken in cases where the SSN is not provided.

*U.S. Government Printing Office: 1991 — 281-485/40451

Figure 4-5. DD Form 518

MOTOR VEHICLE ACCIDENT REPORT	Please read the Privacy Act Statement on Page 3.	INSTRUCTIONS: Sections I thru IX are filled out by the vehicle operator. Section X, Items 72 thru 82c are filled out by the operator's supervisor. Sections XI thru XIII are filled out by an accident investigator for bodily injury, fatality, and/or damage exceeding $500.

SECTION I - FEDERAL VEHICLE DATA

1. DRIVER'S NAME (Last, first, middle)	2. DRIVER'S LICENSE NO./STATE/LIMITATIONS	3. DATE OF ACCIDENT
Jones, John Jim	J-0000/US Army/Glasses	17 Jan 97

4a. DEPARTMENT/FEDERAL AGENCY PERMANENT OFFICE ADDRESS	4b. WORK TELEPHONE NUMBER
US Army/123d Transportation Company, FT Eustis, VA 23604-5000	(757) 878-0001

5. TAG OR IDENTIFICATION NUMBER	6. EST. REPAIR COST	7. YEAR OF VEHICLE	8. MAKE	9. MODEL	10. SEAT BELTS USED
2C 111 FX (Trk-120)	$2,000	1986	Trk Cgo 5-Ton	M923A2	☒ YES ☐ NO

11. DESCRIBE VEHICLE DAMAGE Right headlight & signal light broke, front bumper bent & torn, right fender crushed, right front tire cut.

SECTION II - OTHER VEHICLE DATA (Use Section VIII if additional space is needed.)

12. DRIVER'S NAME (Last, first, middle)	13. DRIVER'S LICENSE NUMBER/STATE/LIMITATIONS
Smith, Joseph James	111-11-1110/VA/Daylight only

14a. DRIVER'S WORK ADDRESS	14b. WORK TELEPHONE NUMBER
NA (retired)	( ) NA

15a. DRIVER'S HOME ADDRESS	15b. HOME TELEPHONE NUMBER
100 Panther Paw Patch, Gloucester, VA 23061-1114	(804) 693-0000

16. DESCRIBE VEHICLE DAMAGE	17. ESTIMATED REPAIR COST
Tailgate, bed, rearbumper & taillights smashed.	$4,000

18. YEAR OF VEHICLE	19. MAKE OF VEHICLE	20. MODEL OF VEHICLE	21. TAG NUMBER AND STATE
1989	Nissan	Pickup	123-ABC/VA

22a. DRIVER'S INSURANCE COMPANY NAME AND ADDRESS	22b. POLICY NUMBER
Tidewater Filecap Mutual Insurance	000-00-123
123 Hightide Road, Norfolk, VA 24671-1561	22c. TELEPHONE NUMBER (757) 321-0000

23. VEHICLE IS	24a. OWNER'S NAME(S) (Last, first, middle)	24b. TELEPHONE NUMBER
☐ CO-OWNED ☐ RENTAL ☐ LEASED ☒ PRIVATELY OWNED	Same as item 12.	( ) Same as item 15b.

25. OWNER'S ADDRESS(ES) Same as item 15a.

SECTION III - KILLED OR INJURED (Use Section VIII if additional space is needed.)

26. NAME (Last, first, middle)	27. SEX	28. DATE OF BIRTH
Smith, Joseph James	M	17 Jan 27

29. ADDRESS Same as item 15a.

A

30. MARK "X" IN TWO APPROPRIATE BOXES	31. IN WHICH VEHICLE	32. LOCATION IN VEHICLE	33. FIRST AID GIVEN BY
☐ KILLED ☒ DRIVER ☐ PASSENGER ☒ INJURED ☐ HELPER ☐ PEDESTRIAN	☐ FED ☒ OTHER (2)	Behind Steering Wheel	Mobydick Volunteer Rescue Squad

34. TRANSPORTED BY	35. TRANSPORTED TO
Mobydick Volunteer Rescue Squad	McDonald Army Community Hospital, FT Eustis, VA 23604-5001

36. NAME (Last, first, middle)	37. SEX	38. DATE OF BIRTH
None		

39. ADDRESS

B

40. MARK "X" IN TWO APPROPRIATE BOXES	41. IN WHICH VEHICLE	42. LOCATION IN VEHICLE	43. FIRST AID GIVEN BY
☐ KILLED ☐ DRIVER ☐ PASSENGER ☐ INJURED ☐ HELPER ☐ PEDESTRIAN	☐ FED ☐ OTHER (2)		

44. TRANSPORTED BY	45. TRANSPORTED TO

46. Pedestrian

a. NAME OF STREET OR HIGHWAY — None

b. DIRECTION OF PEDESTRIAN (SW corner to NE corner, etc.)
FROM | TO

c. DESCRIBE WHAT PEDESTRIAN WAS DOING AT TIME OF ACCIDENT (Crossing intersection with signal, against signal, diagonally; in roadway playing, walking, hitchhiking, etc.)

SAMPLE

Figure 4-6. SF 91, page 1

SECTION IV - ACCIDENT TIME AND LOCATION (Use Section VIII if additional space is needed.)

47. DATE OF ACCIDENT	48. PLACE OF ACCIDENT (Street address, city, state, ZIP Code; Nearest landmark; Distance nearest intersection; Kind of locality (Industrial, business, residential, open country, etc.); Road description).
17 Jan 97	200 Block, Highway 101, Newport News, VA, 75 yards southwest
49. TIME OF ACCIDENT	of Jones & Jones railway crossing. Locality - residential.
0810 (AM) PM	Road description - Blacktop, wet from rain.

50. INDICATE ON THIS DIAGRAM HOW THE ACCIDENT HAPPENED

Use one of these outlines to sketch the scene. Write in street or highway names or numbers.

a. Number Federal vehicle as 1, other vehicle as 2, additional vehicle as 3 and show direction of travel with arrow.

Example: → 1 ◁ 2 ←

b. Use solid line to show path before accident and broken line after the accident - - - - - - 2 ▷

c. Show pedestrian by → ○

d. Show railroad by +++++++++++

e. Place arrow in this circle to indicate NORTH ↑

51. POINT OF IMPACT (Check one for each vehicle)

FED	2	AREA
		a. FRONT
✓		b. R. FRONT
		c. L. FRONT
	✓	d. REAR
		e. R. REAR
		f. L. REAR
		g. R. SIDE
		h. L. SIDE

52. DESCRIBE WHAT HAPPENED (Refer to vehicles as "Fed", "2", "3", etc. Please include information on posted speed limit, approximate speed of the vehicles, road conditions, weather conditions, driver visibility, condition of accident vehicles, traffic controls (warning light, stop signal, etc.) condition of light (daylight, dusk, night, dawn, artificial light, etc.), and driver actions (making U-turn, passing, stopped in traffic, etc.).

I was traveling northeast on highway 101 at approximately 15 MPH, I looked down at an oil can rolling on the floor of my truck. When I looked back up at the roadway, there was a black pickup truck stopped in the roadway. The road was wet causing me to slide into the rear of the pickup.

SECTION V - WITNESS/PASSENGER (Witness must fill out SF 94, Statement of Witness) (Continue in Section VIII.)

53. NAME (Last, first, middle)	54. WORK TELEPHONE NUMBER	55. HOME TELEPHONE NUMBER
White, Sarah Mary	(757) 887-9999	(757) 229-1888
56. BUSINESS ADDRESS	**57. HOME ADDRESS**	
1216 Oyster Point Rd, Newport News, VA 22164	8765 York Blvd, Yorktown, VA 12345-0010	
58. NAME (Last, first, middle)	59. WORK TELEPHONE NUMBER	60. HOME TELEPHONE NUMBER
None	( )	( )
61. BUSINESS ADDRESS	62. HOME ADDRESS	

SECTION VI - PROPERTY DAMAGE (Use Section VIII if additional space is needed.)

63a. NAME OF OWNER	63b. OFFICE TELEPHONE NUMBER	63c. HOME TELEPHONE NUMBER
None	( )	( )
63d. BUSINESS ADDRESS	63e. HOME ADDRESS	
64a. NAME OF INSURANCE COMPANY	64b. TELEPHONE NUMBER ( )	64c. POLICY NUMBER
65. ITEM DAMAGED	66. LOCATION OF DAMAGED ITEM	67. ESTIMATED COST $

SECTION VII - POLICE INFORMATION

68a. NAME OF POLICE OFFICER	68b. BADGE NUMBER	68c. TELEPHONE NUMBER
CPL Betty White	1234	(757) 887-1212
69. PRECINCT OR HEADQUARTERS	**70a. PERSON CHARGED WITH ACCIDENT**	**70b. VIOLATION(S)**
Newport News, VA	PFC John J. Jones	Inattentive Driving

STANDARD FORM 91 PAGE 2 (REV. 2-93)

Figure 4-7. SF 91, page 2

SECTION VIII - EXTRA DETAILS

SPACE FOR DETAILED ANSWERS. INDICATE SECTION AND ITEM NUMBER FOR EACH ANSWER. IF MORE SPACE IS NEEDED, CONTINUE ITEMS ON PLAIN BOND PAPER.

None

SAMPLE

SECTION IX - FEDERAL DRIVER CERTIFICATION

In compliance with the Privacy Act of 1974, solicitation of the information requested on this form is authorized by Title 40 U.S.C. Section 491. Disclosure of the information by a Federal employee is mandatory as the first step in the Government's investigation of a motor vehicle accident. The principal purposes for using this information is to provide necessary data for legal counsel in legal actions resulting from the accident and to provide accident information/statistics in analyzing accident causes and developing methods of reducing accidents. Routine use of information may be by Federal, State or local governments, or agencies, when relevant to civil, criminal, or regulatory investigations or prosecutions. An employee of a Federal agency who fails to report accurately a motor vehicle accident involving a Federal vehicle or who refuses to cooperate in the investigation of an accident may be subject to administrative sanctions.

I certify that the information on this form *(Sections I thru VIII)* is correct to the best of my knowledge and belief.

71a. NAME AND TITLE OF DRIVER	71b. DRIVER'S SIGNATURE AND DATE
John J. Jones, PFC, Driver	John J. Jones, 17 Jan 97

SECTION X - DETAILS OF TRIP DURING WHICH ACCIDENT OCCURRED

72. ORIGIN	73. DESTINATION

74. EXACT PURPOSE OF TRIP

	DATE	TIME *(Circle one)*		DATE	TIME *(Circle one)*
75. TRIP BEGAN		a.m. p.m.	76. ACCIDENT OCCURRED		a.m. p.m.

77. AUTHORITY FOR THE TRIP WAS GIVEN TO THE OPERATOR	78. WAS THERE ANY DEVIATION FROM DIRECT ROUTE
☐ ORALLY ☐ IN WRITING *(Explain)*	☐ NO ☐ YES *(Explain)*

79. WAS THE TRIP MADE WITHIN ESTABLISHED WORKING HOURS	80. DID THE OPERATOR, WHILE ENROUTE, ENGAGE IN ANY ACTIVITY OTHER THAN THAT FOR WHICH THE TRIP WAS AUTHORIZED.
☐ YES ☐ NO *(Explain)*	☐ NO ☐ YES *(Explain)*

81. COMPLETED BY DRIVER'S SUPERVISOR	a. DID THIS ACCIDENT OCCUR WITHIN THE EMPLOYEE'S SCOPE OF DUTY	
	☐ YES ☐ NO	b. COMMENTS

82a. NAME AND TITLE OF SUPERVISOR	82b. SUPERVISOR'S SIGNATURE AND DATE	82c. TELEPHONE NUMBER ( )

STANDARD FORM 91 PAGE 3 (REV. 2–93)

Figure 4-8. SF 91, page 3

SECTION XI - ACCIDENT INVESTIGATION DATA

83. DID THE INVESTIGATION DISCLOSE CONFLICTING INFORMATION. ☐ YES ☐ NO *(If "Yes", explain below.)*

84. PERSONS INTERVIEWED

NAME	DATE	NAME	DATE
a.		c.	
b.		d.	

85. ADDITIONAL COMMENTS *(Indicate section and item number for each comment.)*

SECTION XII - ATTACHMENTS

LIST ALL ATTACHMENTS TO THIS REPORT

SAMPLE

SECTION XIII - COMMENTS/APPROVALS

86. REVIEWING OFFICIAL'S COMMENTS

87. ACCIDENT INVESTIGATOR	88. ACCIDENT REVIEWING OFFICIAL
a. SIGNATURE AND DATE	a. SIGNATURE AND DATE
b. NAME *(First, middle, last)*	b. NAME *(First, middle, last)*
c. TITLE	c. TITLE
d. OFFICE	d. OFFICE
e. OFFICE TELEPHONE NUMBER ( )	e. OFFICE TELEPHONE NUMBER ( )

*U.S.GPO:1995-390-660/09125   STANDARD FORM 91 PAGE 4 (REV. 2-93)

Figure 4-9. SF 91, page 4

STATEMENT OF WITNESS (Attach additional sheets if necessary)	1. DID YOU SEE THE ACCIDENT? YES	2. WHEN DID THE ACCIDENT HAPPEN?		FORM APPROVED O.M.B. NUMBER 3090-0118
		a. TIME 8:15 a.m. p.m.	b. DATE Jan 17, 1997	

3. WHERE DID THE ACCIDENT HAPPEN? (Give street location and city)

Highway 101 at the Jones & Jones Railway Crossing, Newport News, VA

4. TELL IN YOUR OWN WAY HOW THE ACCIDENT HAPPENED

This pickup truck was approaching the railroad crossing going real slow. This big Army truck just ran into the rear of the pickup truck. He didn't even hit his brakes.

5. WHERE WERE YOU WHEN THE ACCIDENT OCCURRED?

At the side of highway 101, next to C. street.

6. WAS ANYONE INJURED, AND IF SO, EXTENT OF INJURY IF KNOWN?

The man in the pickup had neck or back injuries.

7. DESCRIBE THE APPARENT DAMAGE TO PRIVATE PROPERTY

None

8. DESCRIBE THE APPARENT DAMAGE TO GOVERNMENT PROPERTY

The front bumper and right fender were busted up.

9. IF TRAFFIC CASE, GIVE APPROXIMATE SPEED OF:

a. GOVERNMENT VEHICLE
25 Miles per Hr.

b. OTHER VEHICLE
5-10 Miles per br.

10. GIVE THE NAMES AND ADDRESSES OF ANY OTHER WITNESSES TO THE ACCIDENT (If known)

a. NAMES	b. ADDRESSES (Include ZIP Code)
None	

WITNESS COMPLETING THIS FORM	11. HOME ADDRESS (Include ZIP Code) 8765 York Blvd. Yorktown, VA 12345-0010	12. WITNESS (Print Name) Sarah M. White Sign here ▶ Sarah M. White	a. HOME TELEPHONE NO. 757-229-1888
			b. TODAY'S DATE 30 Jan 1997
	13. BUSINESS ADDRESS (Include ZIP Code) 1216 Oyster Point Rd. Newport News, VA 22164		TELEPHONE NO. 757-887-9999

14. INDICATE ON THE DIAGRAM BELOW WHAT HAPPENED:

1. Number Federal vehicle as 1—other vehicle as 2—additional vehicle as 3, and show direction of travel by arrow
   (Example: ──▶ [1] [2] ◀──)
2. Use solid line to show path before accident ─── [2] ▷
   Broken line after accident ─ ─ ─ [2] ▷

3. Show pedestrian by ─────▶ O
4. Show railroad by ┼┼┼┼┼┼┼┼┼┼┼┼┼┼
5. Give names or numbers of streets or highways
6. Indicate north by arrow in this circle (↑)

Highway 101

B Street

A Street

SAMPLE

NSN 7540-00-634-4045
94-105

Figure 4-10. SF 94, front

FILE REFERENCE:

Ms. Sarah M. White
8765 York Blvd.
Yorktown, VA 12345-0010

This office has been notified that you witnessed an accident which occurred January 17, 1997.

SAMPLE

It will be helpful if you will answer, as fully as possible, the questions on the other side of this letter. Please read the Privacy Act Statement below.

Your courtesy in complying with this request will be appreciated. An addressed envelope, which requires no postage, is enclosed for your convenience in replying.

Sincerely,

JOHN P. TENTPIN
CAPTAIN, TC
Commanding

Enclosure

Use by the public is voluntary. In compliance with the Privacy Act of 1974, the following information is provided: Solicitation of the information requested on this form is authorized by Title 40 U.S.C. Section 491. Disclosure of the information by a Federal employee is mandatory as it is the first step in the Government's investigation of a motor vehicle accident. The principal purposes for which the information is intended to be used are to provide necessary data for use by legal counsel in legal actions resulting from the accident, and to provide accident information/statistics for use in analyzing accident causes and developing methods of reducing accidents. Routine use of the information may be by Federal, State or local governments or agencies, when relevant to civil, criminal, or regulatory investigations or prosecution.

*U.S. GPO: 1993-300-892/60175

STANDARD FORM 94 BACK (REV. 2—83)

Figure 4-11. SF 94, back

PRACTICAL EXERCISE

LESSON TITLE: REPORT AN ACCIDENT (MAKE REQUIRED ENTRIES ON
                   DD FORM 518 AND SF 91)

NAME_____RANK_____DATE_____

To complete this practical exercise, you will need one DD Form 518, one SF 91, and a pen or pencil. You have 45 minutes to complete this practical exercise.

1. SITUATION:

On Friday, 17 January 1997 at 0800, you left the motor pool in an M925A2, 5-ton cargo truck (registration number AA101BB) that had been dispatched to you. Your destination was the orderly room, Company A, 225th Infantry Battalion, Fort Walk, NY 09111-5000. You were to report to your first sergeant.

Approximately 10 minutes later, you were driving east on MacArthur Boulevard (a four-lane street) in the right lane at 20 MPH. A civilian vehicle driving north on Pershing Street made a right turn (east) onto MacArthur Boulevard. You applied your brakes but hit the civilian's truck on the left rear fender. The civilian was in the right lane traveling 5 to 10 MPH when you hit him. His truck moved 20 to 30 feet ahead after the collision and stopped by the right curb. Your vehicle also moved another 20 to 30 feet and ended up in the left lane. The weather was clear. The concrete roadway was dry.

You stopped your vehicle, jumped out, and ran to the civilian's vehicle. Luckily, he was not hurt. Since there were no other occupants in either vehicle and no threat of fire or explosion, there was no need to call the fire company or an ambulance. You and the civilian driver exchanged information. You wrote down the following information from his driver's license and registration:

Operator's name: John P. Jones
Operator's home address: 121 Buffalo Street, Indian, Montana 54321-1000
Operator's state permit number and state: 111-00-1000, Montana
Make of vehicle: Dodge
Type: Dakota pickup
Year: 1990
Vehicle license number and state: 123-ABC, Montana
Vehicle owned by: John P. Jones
Owner's address: 121 Buffalo Street, Indian, Montana 54321-1000

If you have any reason to doubt the information you were given was correct, note it on your form. Record the estimates of damage to each vehicle. You looked at the civilian's truck. His left rear fender was dented, taillight broken, and the tailgate was bent. He estimated the amount of damage at $1,000. Then you looked at your vehicle. Your front bumper was scratched and bent; you approximate the amount of damage at $200.

After estimating the damage, you went to a telephone across the street and called the MP. Within minutes MP officer SPC Joe Smith, Badge Number 321, Company B, 123d MP Battalion, arrived. He recorded comments made by you and the civilian. There were no other witnesses to the accident. The officer did record that there is a traffic light with a turn-on-red signal at the southeast corner of Pershing Street, that your vehicle was equipped with seat belts, and that you were wearing your seat belt at the time of the accident. Since you had recorded the information and given the other driver a copy of DD Form 518, you drove back to the motor pool.

2. REQUIREMENT:

     a. Complete the attached DD Form 518 and SF 91.

     b. Be sure your entries are legible (other people can read your handwriting) and accurate (the entries agree with the details of the information in the situation). Use your name, rank, social security number, and present age to complete these forms. Your military driver's license number is R-1456. You live in the A Company barracks. The barracks telephone number is 555-9999.

LESSON TITLE: PERFORM OPERATOR PREVENTIVE MAINTENANCE CHECKS
AND SERVICES (PMCS)

TASK NUMBER: 551-721-1352 (Perform Vehicle Preventive Maintenance Checks and
Services [PMCS])

A. TRAINING OBJECTIVE.

TASK: Perform operator PMCS on an M939 series cargo truck.

CONDITIONS: Given instruction, DA Form 2404 (or ULLS generated DA Form
5988-E), pencil, TM 9-2320-272-10, equipment records folder,
rags, lubricants, coolant, and an M939 series cargo truck with BII.

STANDARD: Inspect the vehicle according to the PMCS tables listed in
TM 9-2320-272-10, correct all faults within the operator's level of
maintenance, and legibly record all others on DA Form 2404 (or
ULLS generated DA Form 5988-E). If no faults are found, make
necessary entries on DA Form 2404 (or ULLS generated DA
Form 5988-E).

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. When training will be given: As scheduled.

2. Training location: Classroom and motor pool as scheduled.

3. Training type: Conference, demonstration, and practical exercise.

4. Who will be trained: Personnel as scheduled.

5. Principal and assistant instructors required: One primary instructor for the class and one
assistant instructor for every two students for the demonstration and practical exercise.

6. Training aids and equipment: Television, VCR, TVT 55-16, hearing protection, rags,
lubricants, and coolant. DA Form 2404 (or ULLS generated DA Form 5988-E), pencil,
TM 9-2320-272-10, equipment records folder, and an M939 series cargo truck with BII for every
two students.

7. References: AR 385-55, DA Pamphlet 738-750, and TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

    1. Introduction:

        a. Interest device.

        b. Tie-in.

        c. Lesson objective (paragraph A).

        d. Procedures:

            (1) Explanation.

            (2) Practical exercise.

            (3) Summary.

    2. Explanation and demonstration:

        a. Show TVT 55-16.

        b. Demonstrate before, during, after, weekly, and monthly checks to students.

    3. Practical exercise:

        a. Assign students to vehicles and issue TM 9-2320-272-10, pencils, DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags, lubricants, and coolant are located.

        b. Students perform PMCS.

    4. Evaluate: Check each student's PMCS performance.

    5. Summary:

        a. Recap main points.

        b. Allow for questions.

        c. Clarify questions.

        d. Give closing statement.

    6. Retraining: Students perform PMCS daily and have it reinforced throughout the course. PMCS is tested on the EOCCT.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

6. Ensure ground guide(s) are used when backing.

7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around this vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, and injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.

17. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions, and notify unit maintenance. Failure to do this could result in injury or death.

18. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle or cause injury or death to personnel.

F. ENVIRONMENTAL CONSIDERATIONS.

1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

3. Ensure that drip pans remain under parked vehicles.

4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 2.5 hours (.5 conference, 1.0 demonstration and 1.0 practical exercise). The remaining PMCS is performed throughout the course in conjunction with driving tasks.

LESSON TITLE: IDENTIFY CAB CONTROLS, INSTRUMENTS, AND INDICATORS

TASK NUMBER: 551-721-1352 (Perform Vehicle Preventive Maintenance Checks and Services [PMCS])

A. TRAINING OBJECTIVE.

TASK: Identify cab controls, instruments, and indicators.

CONDITIONS: Given instruction on the M939 series cargo truck and a requirement to identify and explain the functions of cab controls, instruments, and indicators.

STANDARD: Correctly identify and explain the functions of cab controls, instruments, and indicators.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Scheduled motor pool.

3. Training type: Conference.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the class and one assistant instructor for every three students.

6. Training aids and equipment: One M939 series cargo truck for each three students. If the class is large, a PA system may be needed for the primary instructor.

7. References: TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

1. Introduction:

   a. Interest device.

   b. Tie-in.

   c. Lesson objective (paragraph A).

d. Procedures:

(1) Explanation.

(2) Summary.

NOTE: The instructor will emphasize the importance of safely getting into and out of the cab (maintaining three points of contact), observing all warnings, and using seat belts.

NOTE: At this time, separate the class into groups of three and assign each group to a vehicle. Ensure each group has an assistant instructor. The assistant instructor will identify and demonstrate the use of each item to his group of students as the instructor explains each item.

2. Explanation and demonstration: Location, description, and use of the cab controls, instruments, and indicators.

a. Air cleaner indicator shows red when engine air filter needs servicing.

b. Parking brake warning light illuminates when parking brakes are engaged.

c. Low air pressure warning light illuminates when air brake system pressure drops below 50 to 60 psi.

d. Spring brake warning light illuminates when spring brakes are engaged.

e. Low coolant level light (M939A2 series vehicle) illuminates when engine coolant level is low.

f. Axle lock-in light illuminates when front-wheel drive lock-in switch is engaged.

g. High beam indicator illuminates when front headlights are on high beam.

h. Hand throttle control sets engine speed at desired rpm without maintaining pressure on the accelerator pedal. The throttle control locks in the desired position when pulled out. Rotating the control handle clockwise or counterclockwise unlocks it. The hand throttle is used for engine warm up and so forth. It is NOT to be used as a "cruise control".

i. Battery switch activates and deactivates all electrical circuits on or off except arctic heater and lights.

j. Ignition switch has off, run, and start positions. Switch automatically returns from start to run when hand pressure is released.

k. Tachometer indicates engine speed in rpm and operating hours in tenths.

l. Speedometer/odometer indicates vehicle speed and total mileage.

m. Engine coolant temperature gauge indicates engine coolant temperature. The normal engine coolant operating temperature for M939/A1 series vehicles is 175 to 195° F and 190 to 200° F for the M939A2 series vehicles.

n. Primary air pressure gauge indicates air pressure in the primary brake system. The normal pressure is 90 to 130 psi.

o. Defroster control opens vents to direct heated air to the windshield.

p. Heat vent control controls the amount of heat blown into the cab by adjusting the opening of the heat ventilation doors.

q. Fresh air vent control pulls out to open ventilation doors. This allows outside air to circulate in the cab.

r. Spring brake release control is pushed in to release spring brakes independently of the mechanical parking brake. The control is used to release spring brakes in order to test and adjust mechanical brakes.

s. Voltmeter indicates the charging condition of the battery.

t. Secondary air pressure gauge indicates air pressure in the secondary brake system. The normal operating pressure is 90 to 130 psi.

u. Transmission oil temperature gauge indicates the temperature of the transmission oil. The normal operating temperature is 120 to 220° F.

v. Engine oil pressure gauge indicates oil pressure when the engine is running. The normal operating pressure at idle is 15 psi.

w. Fuel gauge indicates the fuel level in the fuel tank.

x. Emergency engine stop control is pulled out to cut off fuel to the engine. It is used only in an emergency.

y. Heater blower motor switch activates the heater blower.

z. Wiper motor switches activate wipers and controls windshield wiper speed.

aa. Windshield washer control is pushed in to spray cleaning solution on the windshield.

bb. Turn signal control lever is moved down to operate the vehicle left turn signals, up to operate the right turn signals. The level automatically returns to the off position after the turn is completed. The turn signal control is also equipped with a hazard tab button control (four-way flashers).

cc. Horn button is pressed to operate the vehicle horn.

dd. Front wheel drive lock-in switch allows operator to engage front wheel drive and is used only when the vehicle's transfer case is in high range. In low range, the vehicle's front-wheel drive engages automatically. The vehicle may be in motion or stopped to engage the front-wheel drive lock-in switch.

ee. Light switch controls the operation of the vehicle's lights.

ff. Ether start switch injects ether into the engine for cold weather starting.

gg. Instrument panel lights illuminate instrument panel gauges.

hh. Transmission power take-off control lever (M925/A1/A2 and M928/A1/A2) engages the transmission PTO to provide power for the winch.

ii. Front winch control lever (M925/A1/A2 and M928/A1/A2) is pulled back to wind the front winch and forward to unwind for lowering loads during A-frame operation.

jj. Automatic transmission selector lever is used to select the vehicle driving gear.

kk. Mechanical parking brake control lever is pulled up to engage the parking brakes and down to disengage the brakes. The knob on top of the handle is turned clockwise to increase parking brake tension, counterclockwise to decrease parking brake tension. Applying the parking brake lever also trips a valve to release air pressure from the spring brakes. This engages the spring brakes.

ll. Transfer case shift lever is pushed down to high range for light load operations, up to low range for heavy road operations. Six-wheel drive is achieved automatically when the transfer case shift lever is placed in low range.

mm. Accelerator pedal controls speed.

nn. Brake pedal is depressed to stop or slow the vehicle.

oo. Dimmer switch is depressed to raise or lower the headlight beam.

pp. Cowl ventilator (one on each side of cab) is opened manually to provide fresh air ventilation.

qq. Access door (M939/A1) opens to provide access to the transmission dipstick and oil fill.

rr. Transmission dipstick (M939/A1) is turned counterclockwise to remove and to check transmission oil level.

3. Practical exercise: None.

4. Evaluate: Students are evaluated daily during driving tasks and are tested during the EOCCT.

5. Summary:

      a. Recap main points.

      b. Allow for questions.

      c. Clarify questions.

      d. Give closing statement.

6. Retraining: Training is reinforced during daily driving tasks.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

F. ENVIRONMENTAL CONSIDERATIONS. None.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 1 hour conference.

LESSON TITLE: OPERATE THE CENTRAL TIRE INFLATION SYSTEM (CTIS) ON AN M939A2 SERIES VEHICLE

TASK NUMBER: 551-721-1391 (Operate a Central Tire Inflation System (CTIS) on the M939A2 Series Vehicle)

A. TRAINING OBJECTIVE.

    TASK: Operate the CTIS on the M939A2 series cargo truck.

    CONDITIONS: Given instruction on the M939A2 series cargo truck and a requirement to locate the controls and explain the function of CTIS in all four operating modes.

    STANDARD: Correctly locate the controls and explain the operation of the CTIS.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

    1. Training time: As scheduled.

    2. Training location: Motor pool as scheduled.

    3. Training type: Conference.

    4. Students: Scheduled personnel.

    5. Principal and assistant instructors required: One primary instructor for the class.

    6. Training aids and equipment: An M939A2 series cargo truck for the class.

    7. References: TM 9-2320-272-10 and STP 55-88M12-SM.

D. SEQUENCE OF ACTIVITY.

    1. Introduction:

        a. Interest device.

        b. Tie-in.

        c. Lesson objective (paragraph A).

        d. Procedures:

            (1) Explanation.

(2) Practical exercise.

(3) Summary.

2. Explanation and demonstration:

NOTE: The instructor should point out the location of the components and controls as he is explaining each item to the students.

a. Central tire inflation system . The CTIS is designed to work automatically in case of tire leakage. The CTIS will also adjust tire pressure when a road surface selection is made to preset values.

b. CTIS integration with the air brake system. The CTIS uses the same air compressor that supplies air to the vehicle brakes. The vehicle brakes are always given priority over the CTIS. When brake operation causes the air pressure in the air reservoir to fall below a preset limit (90 to 105 psi), inflation will stop until the air compressor has refilled the brake reservoir. If the CTIS was deflating the tires, it would continue to do so.

c. Rapid inflation. The most rapid tire pressure increase is achieved during vehicle operation. Keep the transmission downshifted to a lower gear and maintain engine speed at 2,000 rpm. This engages the turbocharger which supplies extra air directly to the air compressor.

d. Selector panel. The selector panel is part of the ECU and contains selectors for four preset tire pressure modes and a run flat selector. Each selector has its own light. A steady selector light shows that the tire pressure selected has been achieved. A flashing selector light means that the system is working to change tire pressures.

(1) HWY mode. The highway tire pressure selector is the normal operating mode of CTIS. The highway mode is automatically set each time the engine is started. The HWY mode is 60 psi. If a lower tire pressure mode had been selected the last time the truck was operated, the CTIS will automatically begin to inflate to the highway setting.

(2) X-C mode. The cross-country tire pressure selector is used for operating the vehicle on non-paved secondary roads and unimproved surfaces. It allows operation up to 35 MPH. When 35 MPH is exceeded for more than one minute, the amber overspeed warning light on the instrument panel will flash. If 35 MPH is exceeded for more than two minutes, the CTIS will automatically begin to inflate to the HWY pressure. (When driving on secondary roads, the driver must be aware of his speed. If the system does add air to the tires, this smaller footprint can cause traction problems and the driver may lose control of the vehicle. This is especially true of "washboard roads" that cause tires to bounce.)

(3) Sand mode. When the mission requires maximum traction in sand, snow, or mud, select sand on the selector panel. It allows operation up to 20 MPH. When 20 MPH is exceeded for more than one minute, the amber overspeed warning light on the instrument panel will flash. If 20 MPH is exceeded for more than two minutes, CTIS will automatically begin to inflate to the X-C pressure.

CAUTION

Speed must be limited to 10 MPH in the emergency mode to prevent damage to tires.

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(4) Emergency mode. When the mission requires maximum traction on extremely adverse terrain, select emergency mode by depressing EMER on the selector panel. The dash mounted amber warning light will illuminate. Operation in emergency mode is limited to 10 minutes, then the system automatically inflates to the sand pressures. If the mission demands extended emergency mode use, select EMER as needed.

(5) Run flat selector. When the mission requires operation with a punctured tire, select run flat by depressing RUN FLAT on the selector panel. Run flat causes CTIS to check tire pressure every 15 seconds. Normally, checks occur every 15 minutes. Repeated damage detection results in repeated inflation attempts. The punctured tire receives a new supply of air each 15 seconds. Operation in run flat is limited to 10 minutes unless reselected. If no longer required, press the run flat selector a second time.

3. Practical exercise: The practical exercise for this lesson is integrated in the driving and off-road driving lessons.

4. Evaluate: Students are evaluated in the driving lessons and tested on the EOCCT.

5. Summary:

    a. Recap main points.

    b. Allow for questions.

    c. Clarify questions.

    d. Give closing statement.

6. Retraining: Training is reinforced during daily driving tasks.

E. SAFETY RESTRICTIONS. None.

F. ENVIRONMENTAL CONSIDERATIONS. None.

G. ADDITIONAL COMMENTS AND INFORMATION.

1. Recommended instructional time is .5 hour conference.

2. The following additional M939A2 CTIS tasks are contained in STP 55-88M12-SM:

TASK NUMBER   **TASK**

551-721-1392	Remove and Remount Tires on Vehicle with Central Tire Inflation System (CTIS)
551-721-1393	Replace Rear Wheel with Spare Tire on the M939A2 Series Vehicle
551-721-1394	Remove the Rear Wheel Valve from the M939A2 Series Vehicle
551-721-1395	Install Rear Wheel Valve on the Spare Tire of an M939A2 Series Vehicle
551-721-1396	Replace Front Wheel with Spare Tire on the M939A2 Series Vehicle
551-721-1397	Remove the Front Wheel Valve from the M939A2 Series Vehicle
551-721-1398	Install Front Wheel Valve on the Spare Tire of a M939A2 Series Vehicle

LESSON TITLE: DRIVE AN M939 SERIES CARGO TRUCK

TASK NUMBER: 551-721-1366 (Drive Vehicle with Automatic Transmission)

A. TRAINING OBJECTIVE.

        TASK: Drive an M939 series cargo truck.

        CONDITIONS: Given instruction, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, a suitable driver training area, an M939 series cargo truck with BII, and a requirement to drive the truck; start the vehicle, put the vehicle in motion, read gauges, upshift and downshift the transmission, manipulate the controls, use correct braking procedures, perform basic driving maneuvers to include backing using ground guides, and shut off the engine.

        STANDARD: Drive the vehicle correctly and safely without accident or injury.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

    1. Training time: As scheduled.

    2. Training location: Classroom, motor pool, and training area as scheduled.

    3. Training type: Conference, demonstration, and practical exercise.

    4. Students: Scheduled personnel.

    5. Principal and assistant instructors required: One primary instructor for the conference, one assistant instructor for the demonstration, and one assistant instructor for each two students for the practical exercise.

    6. Training aids and equipment: Television, VCR, TVT 55-16, TVT 20-1088, rags, lubricants, coolant, and 40 traffic cones or empty POL drums. DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, and an M939 series cargo truck with BII for each two students.

    7. References: AR 385-55, DA Pamphlet 738-750, FM 21-305, and TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

    1. Introduction:

        a. Interest device.

b. Tie-in.

c. Lesson objective (paragraph A).

d. Procedures:

(1) Explanation.

(2) Practical exercise.

(3) Summary.

2. Explanation and demonstration:

NOTE: An instructor will be in the cab sitting next to the driver, with nothing between the student and instructor, whenever a student is driving the M939 series cargo truck.

a. Show TVT 55-16 and TVT 20-1088.

b. Place vehicle in motion:

(1) Perform before-operation PMCS.

WARNING

When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle, or cause injury or death to personnel.

---

(2) Remove and stow wheel chocks.

(3) Check load, if present, for blocking and bracing and cargo tiedowns for security.

(4) Adjust seat as needed.

(5) Adjust each rear view mirror so back of truck and view of road can be seen.

(6) Adjust and fasten seat belt.

WARNING

Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

---

(7) Start engine and allow it to warm up.

(8) Check all gauges and instruments. Ensure that they are registering normal readings.

WARNING

Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions, and notify unit maintenance. Failure to do this could result in injury or death.

---

(9) Turn on lights as appropriate .

CAUTION

Do not shift the transfer case shift lever from high range to low range, or low range to high range, unless the transmission range selector is in N.

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(10) With the transmission range selector in N, select the transfer case driving range:

(a) Depress lockout switch and press transfer case shift lever down to high range for normal driving conditions. (The transfer case may be shifted to high range when the vehicle is stopped or moving at any speed.)

(b) Depress lockout switch and lift transfer case shift lever up to low range if vehicle is heavily loaded, facing a steep grade, and/or operating off road. (The transfer case may be shifted to low range when the vehicle is stopped or moving at speeds of 22 MPH or less.)

(11) Apply the service brake, and move the transmission range selector to the appropriate range as shown in Table 4-1.

Table 4-1. Transmission driving range selection table

Range Selection	Condition	Maximum Operating Speeds w/Transfer Case			
		M939 Series		M939A1 and M939A2 Series	
		In High	In Low	In High	In Low
R (reverse)	Easy grades clear of traffic with ground guide	5 MPH	-	5 MPH	-
N (neutral)		-	-	-	-
1-5 (drive)	Good roads, grades, traffic condition	*50 MPH	22 MPH	*50 MPH	26 MPH
1-4 (fourth)	Moderate grades, traffic restricted speed limits	*43 MPH	17 MPH	*50 MPH	20 MPH
1-3 (third)	Moderate grades, heavy traffic, restricted speed limits	*33 MPH	13 MPH	*38 MPH	16 MPH
1-2 (second)	Steep grades, heavy traffic, rough terrain	*25 MPH	10 MPH	*29 MPH	12 MPH
1 (first)	Starting heavy loads, extreme grades, rough terrain	*12 MPH	5 MPH	*15 MPH	6 MPH

* PRECAUTIONARY NOTE: The following information was extracted from GPM, TACOM No. 96-4:
1. A large number of driving accidents have occurred while operating/driving the M939 series 5-ton trucks. The cause of these accidents are commonly the result of the vehicle operators driving too fast for the conditions and/or locking the wheels when attempting to stop the vehicles.
2. The air brakes of the M939 series truck are very sensitive when the trucks are lightly loaded, empty, or when driving on wet/slippery pavement.
3. The operator must gradually apply the brakes when stopping the vehicle. "Overbraking" will lockup the rear wheels. Locking the wheels may cause the engine to stall which leads to loss of steering. Any of these situations can lead to: loss of vehicle control often resulting in collisons, jackknifing, and/or rollovers.
4. For these reasons the maximum safe operating speeds for the M939 series truck is limited to: highway and secondary roads -- 40 MPH, cross country roads - 35 MPH, sand and snow - 25 MPH, and icy conditions - 12 MPH.
5. A new GPM is expected to be released by TACOM during FY 97.

(12) Release the parking brake by pushing forward to the floor.

(13) Release the service brake pedal and slowly press the accelerator pedal until the vehicle reaches the desired speed.

(14) Accelerate, brake, and steer as required.

WARNING

Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a cruise control device could result in injury or death.

CAUTION

Do not hold the steering wheel at the full left or right position for longer than 10 seconds. Power steering oil overheating and pump damage can result.

---

(15) Manually downshift the transmission range selector to match driving conditions.

c. Stop the truck.

(1) Release the accelerator pedal.

(2) Depress the brake pedal.

WARNING

Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

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(3) As the vehicle begins to reduce speed, decrease brake pedal pressure.

(4) Stop smoothly by releasing the brake pedal pressure gradually as the stopping rate increases.

(5) After stopping, apply the brake just enough to keep the truck stopped.

d. Backing the truck. Since the driver cannot see directly behind his vehicle, backing is always a dangerous maneuver. Common sense therefore dictates that backing be avoided whenever possible. For example, if the vehicle must be parked, the driver parks so that he will be able to pull forward when leaving. Even though planning ahead can reduce the need to back, almost everyone who drives will have to back on occasion. These four simple rules will help in backing safely:

(1) Inspect your intended path.

(2) Back and turn toward the driver's side.

(3) Use four-way flashers and horn.

(4) Use ground guide(s).

WARNING

Do not back up without a ground guide. Failure to do this may result in damage to vehicle, injury, or death.

WARNING

When backing or going forward, ground guides should never stand directly in the vehicle's path. Keep 10 yards between the vehicle and ground guides at the front or rear and at the corners of the vehicle (never directly behind the vehicle). Ground guides must not position themselves between the vehicle being guided and another object where an inadvertent engine surge or momentary loss of vehicle control could cause injury. The vehicle driver will immediately stop the vehicle if he loses sight of ground guides or notes that the guide is dangerously positioned between the vehicle and another object. In such cases, the vehicle driver will secure his vehicle, dismount, and make an on-the-spot correction before commencing operations.

CAUTION

Do not back up with transfer case shift lever in low range.

---

e. Park the truck and shut down the engine.

(1) Align the front tires in a straight ahead position.

(2) Apply parking brake by pulling up on parking brake lever.

(3) Move the transmission selector lever to N.

(4) Chock wheels (for proper placement see Figure 4-12). The rear suspension of the M939 series cargo truck is designed to ride over obstacles and can easily roll or be pushed over the chock blocks placed at the intermediate or rear wheels. The front axle suspension on these vehicles is much firmer, therefore the rolling resistance is greatly increased.
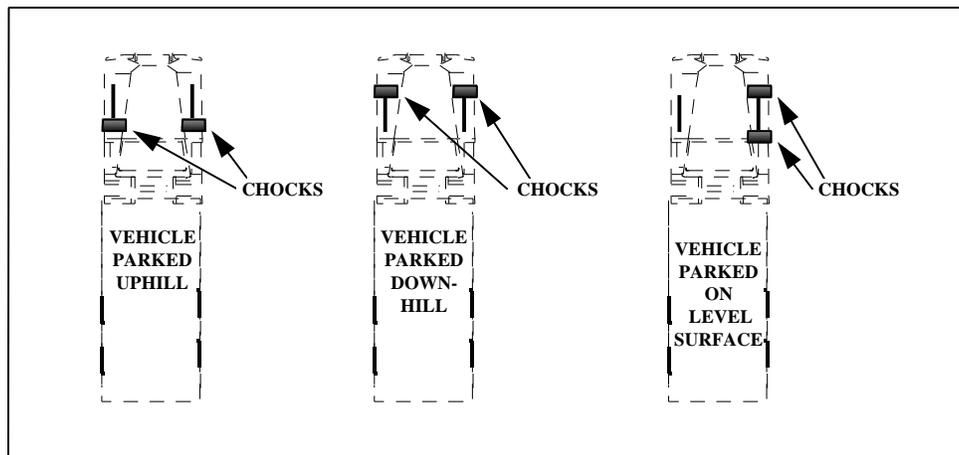
Figure 4-12. Correct chock block placement

(5) Let engine idle for five minutes if engine coolant temperature gauge reads above 195° F.

(6) Turn the vehicle light switch, ignition switch, and battery switch to off. Hold the engine stop switch all the way down until the engine shuts down.

CAUTION

Pull out emergency engine stop control if engine continues to run after ignition and battery switches are in the off position. Do not attempt to restart the M939/M939A1 series vehicle engine until unit maintenance has reset fuel cutoff valve.

---

(7) Perform after-operation PMCS.

WARNING

When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle, or cause injury or death to personnel.

---

f. Give safety briefing to include safety restrictions and ground guide precautions for backing the truck.

g. Demonstrate hand and arm signals required for this exercise.

h. Demonstrate driving within the training area.

3. Practical exercise:

a. Assign students to vehicles and issue TM 9-2320-272-10, pencil, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags, lubricants, and coolant are located.

b. Students perform before-operation PMCS.

c. Students practice maneuvering the truck through the courses laid out in the training area(s). Sample training areas are in Chapter 6 (Figures 6-1 through 6-7). During-operation PMCS is also conducted at this time.

NOTE: As each student practices driving, an assistant instructor rides in the seat next to the driver. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts AARs with each driver. Now is the time to pass on valuable experience and correct any bad driving habits.

d. Students perform after-operation PMCS. Ensure all operator entries required on DD Form 1970 (or ULLS generated DA Form 5987-E) and DA Form 2404 (or ULLS generated DA Form 5988-E) are accurate, complete, and legible.

4. Evaluate: Check each student's performance of PMCS and driving.

5. Summary:

a. Recap main points.

b. Allow for questions.

c. Clarify questions.

d. Give closing statement.

6. Retraining: Retrain NO-GOs and slow learners. This can be accomplished using TVT 55-16. Students perform driving tasks daily and are tested on the EOCCT.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

6. Ensure ground guide(s) are used when backing.

7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around this vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, and injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.

17. Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a cruise control device will result in injury or death.

18. Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

19. Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

20. Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

21. Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

22. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions, and notify unit maintenance. Failure to do this will result in injury or death.

23. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle, or cause injury or death to personnel.

F. ENVIRONMENTAL CONSIDERATIONS.

　　　　1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

　　　　2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

　　　　3. Ensure that drip pans remain under parked vehicles.

　　　　4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 8 hours (.5 conference, .5 demonstration, and 7.0 practical exercise, including 1.0 PMCS).

LESSON TITLE: DRIVE AN M939 SERIES CARGO TRUCK ON THE ROAD

TASK NUMBER: 551-721-1366 (Drive Vehicle with Automatic Transmission)

A. TRAINING OBJECTIVE.

TASK: Drive an M939 series cargo truck (empty, partially loaded [2 to 3 tons], and fully loaded) on the road (primary and secondary).

CONDITIONS: Given instruction, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, designated driving route (improved surfaced and secondary roads), an M939 series cargo truck with BII, vehicle loads, and a requirement to drive a designated route (to include making right and left turns, making gradual steering corrections, signal intentions in advance, pass oncoming vehicles, maintain vehicle interval, obey highway warning and regulatory signs, operate the lights as required, monitor gauges and indicator lights, upshift/downshift the transmission through all gear ranges, manipulate the controls, and perform basic driving maneuvers to include downhill braking and backing using ground guides).

STANDARD: Operate the vehicle correctly and safely without accident or injury.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Motor pool and driver training route (built up and rural areas) as scheduled.

3. Training type: Conference and practical exercise.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for each two students for the practical exercise.

6. Training aids and equipment: Hearing protection, rags, lubricants, coolant, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, an M939 series cargo truck with BII for each two students, and vehicle loads.

7. References: AR 385-55, DA Pamphlet 738-750, FM 21-305, and TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

    1. Introduction:

        a. Interest device.

        b. Tie-in.

        c. Lesson objective (paragraph A).

        d. Procedures:

            (1) Explanation.

            (2) Practical exercise.

            (3) Summary.

    2. Explanation and demonstration:

NOTE: An instructor will be in the cab sitting next to the driver, with nothing between the student and instructor, whenever a student is driving the M939 series cargo truck.

NOTE: The students will be required to drive the vehicle fully loaded, partially loaded, and empty. If three vehicles are used, the following arrangement will allow the students to rotate in a round robin fashion:

- One vehicle should be loaded (load should be as close to maximum weight as possible [-5 tons]).
- A second vehicle should be partially loaded (2 to 3 tons).
- The third vehicle should be empty.

NOTE: To prevent loss of cargo or shifting en route, check cargo for blocking/bracing and cargo tiedowns for security before operation and repeatedly during operation.

      a. Explain braking precautions. Most likely, this is the first exposure to air brake equipped vehicles for these students. They really need to understand the difference between air brakes and hydraulic brakes. The M939 family carries with it a *known* risk: They have conventional air-brake systems, and the air brakes are very sensitive. Air brakes are unique in that braking force is proportional to pedal travel, but the driver does not experience resistance from the brake pedal. Air brakes do not "feel" like hydraulic brakes. The untrained driver, or even the cross-trained one, may respond to this lack of resistance by applying too much force to the brake pedal. This causes the brakes to lock up and the vehicle to become uncontrollable. All drivers of these trucks must be thoroughly trained in operating tactical trucks with air brakes. A warning is printed in the technical manual. This warning can also be considered a control: *Apply* brakes *gradually when stopping.* Panic stops

will cause vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually may result in injury or death.

WARNING

Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

WARNING

Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

---

    b. Explain procedures for hill climbing.

        (1) The engine works hardest when moving a loaded vehicle up a grade. Proper use of gear ranges will shorten the time on hills.

        (2) Unless the hill is extreme, begin in gear range 1-5 (drive), and depress the accelerator pedal all the way downward. Keep it there as the vehicle moves up the grade. Remain in this gear range and allow the transmission to upshift and downshift automatically. If the transmission is constantly changing gears, then downshift one selection at a time, such as 1-4, then 1-3.

        (3) As you progress up the hill count the number of downshifts.

NOTE: The automatic transmission is equipped with a lockup clutch which automatically engages after the load is rolling and torque demand is low. This provides increased fuel economy at highway cruising speeds. It automatically releases at lower vehicle speeds. Lockup engagement, like range shifts, may be felt under some conditions and you may hear a slight change in engine sound as rpm drop. A little driving experience will enable you to tell the difference between gear range changes and lockup engagement or disengagement.

(4) When you reach the top of the hill, manually downshift the transmission to the gear that the transmission is in (this was the reason for counting the number of downshifts). This is normally the gear the truck should be in to descend the other side of the hill.

CAUTION

Do not accelerate at full power when downshifting or upshifting to and from forward driving range 1 (first).

CAUTION

Do not allow the M939 series vehicles to exceed 5 MPH or M939A1/A2 series vehicles to exceed 6 MPH when transfer case is in low and the transmission is in 1 (first). Failure to do so will result in damage to internal engine components.

---

(5) For starting on maximum grades with maximum load (such as vehicle fully loaded), stop the vehicle and shift the transmission to N and the transfer to low. Start in transmission gear range 1 or 1-2, depress the accelerator pedal to the floor, and manually upshift the transmission selector lever one range at a time, shifting when engine speed approaches 2,000 rpm.

CAUTION

Do not allow engine speed to exceed 2,100 rpm in any transmission gear ratio.

---

c. Explain procedures for downhill driving.

(1) Select a "safe" speed that is not too fast for the following:

- Total weight of the vehicle and cargo.
- Length of the grade.
- Steepness of the grade.
- Road conditions.
- Weather.

(2) Manually downshift the transmission into a lower gear before starting downgrade. (The general rule is to use the same gear to descend the grade that would be needed to climb the grade.)

(3) Check brakes before starting the downgrade.

(4) Pay attention to signs indicating the location of escape ramps.

CAUTION

Do not allow engine speed to exceed 2,100 rpm in any transmission gear ratio.

---

(5) When vehicle speed reaches the maximum "safe" speed, apply the brakes just hard enough to feel a definite slowdown.

(6) When the vehicle speed has been reduced to approximately 5 MPH below the "safe" speed, release the brakes. (This brake application should last for about 3 seconds.)

NOTE: New drivers generally have two problems with air brake systems on down grades:

- They try to maintain a constant speed down hill by dragging the brakes. This glazes the brakes and they become completely ineffective.
- They drain the air system by continually pumping the brakes.

(7) When vehicle speed has increased to the "safe" speed, repeat steps (5) and (6).

(8) If braking power diminishes, pull off to the side of the road and allow the brakes to cool.

CAUTION

Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

---

d. Explain following distances.

(1) Maintain one second for each ten feet of vehicle length (40 MPH and less). (The M923A2 is 40.8 feet long [other models vary], so at speeds of up to 40 MPH, allow four seconds following distance.)

(2) Increase by one second for speeds over 40 MPH. At 45 MPH, with the M923A2, allow five seconds following distance.

(3) Increase by several seconds for rain, fog, and winter conditions.

e. Explain driving in adverse weather conditions. Two major hazards associated in driving during adverse weather conditions are reduced visibility and reduced traction.

(1) Countermeasures for driving during periods of reduced visibility:

(a) Travel at reduced speeds and be prepared to meet sudden changes in road conditions.

(b) Do not use high beams. Switch to low beams if high beams are on.

(c) Look to the right if blinded by oncoming vehicles.

(d) Do not overrun the headlights and stay twice the normal distance from the vehicle ahead.

(e) Give turn signals sooner.

(f) Apply brakes sooner and press brake pedal lightly to give early warning that vehicle will slow or stop.

(g) Use defrosters and wipers to help keep the windshield clear.

(h) Keep windshield, windows, mirrors, headlights, brake lights, reflectors, and area around air cleaner intake free of snow and ice. Snow and ice may melt, refreeze, and cause restriction in the air intake system.

(i) Watch for pedestrians and vehicles pulled over to the side of the road.

(j) Use caution when weather reduces visibility to near zero. This is particularly true at night, in heavy snow, in a downpour of rain, or dense fog. When this happens, it is unsafe to drive.

- Exit the highway, stop, and wait until visibility improves before continuing.
- Do not stop on the shoulder with flashers on. Stopping on shoulders may induce a rear end collision/chain reaction.

(2) Reduced traction countermeasures:

CAUTION

Attempting operation of the M939 series cargo truck with only one drive wheel equipped with tire chain may result in damage to tire and/or power train.

(a) Install tire chains, if needed, for snow or ice. Use tire chains on the intermediate axle tires only. For M939 series vehicles, place chains on outside tires. Remove as soon as mission allows. For M939A2 series vehicles, select the sand setting on the CTIS selector panel. (Tire chains are authorized for use on the M939A2 series vehicles, however chains could cause damage to CTIS components.)

WARNING

Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

(b) Pump the brakes gradually when stopping the vehicle on snow and ice (pumping air brake vehicles may be dangerous, do not pump the brakes more than three to four times and allow the air pressure to build back up before reapplying the brakes). Sudden braking will cause wheels to lock and vehicle to slide out of control.

(c) Place the transmission shift lever and the transfer case shift lever in the appropriate driving range to descend or climb steep hills.

(d) Place the vehicle in motion slowly to prevent wheels from spinning.

(e) Press the accelerator pedal slowly when changing speed.

(f) Keep the accelerator pedal steady after vehicle reaches the desired speed.

(g) Turn the vehicle slowly and make gradual steering adjustments when on slippery surfaces.

(h) Steer the vehicle away from ruts and large snow banks.

(i) Steer the vehicle straight up and down hills if possible.

(j) Check for black ice. Black ice is clear and cannot be seen because the road surface is visible through the ice. The ice becomes invisible to the driver. Black ice usually occurs on bridges, beneath underpasses, in dips in the road, in shaded areas, and on lower sides of banked curves.

- When driving in rain or near freezing temperatures, feel for ice along the front of a mirror. If ice is there it may be on the road surface as well.
- When in doubt, test surface traction by first checking to see that nothing is following your vehicle, then slow down and apply the brakes gently to see if the vehicle skids.

(k) Sudden changes in speed or direction result from over acceleration, over braking, and over steering. These changes result in skidding and jackknifing. Use the following procedures if the vehicle's rear skids:

- Let up on the accelerator pedal.
- Steer in the same direction in which the rear of the vehicle is skidding.
- When vehicle is under control, press the brake pedal lightly.
- Steer vehicle on a straight course and slowly press the accelerator pedal.

(l) Do the following if the vehicle starts to slide while climbing a hill:

- Let up on the accelerator pedal.
- Steer the vehicle in the direction of the slide until the vehicle stops sliding.
- Slowly press the accelerator pedal and steer the vehicle on a straight course.

(m) The best advice in regard to a stuck vehicle is to avoid getting stuck. However, do the following if the vehicle does get stuck:

- Shovel clear path ahead of each wheel. Put boards, brush, sand, gravel, or similar material in cleared paths to get better traction.
- If the vehicle is equipped with CTIS (M939A2 series), lower the tire pressure to the emergency setting.
- If additional power is needed to extract vehicle when mired in snow, place transmission in 1 (first gear range) and transfer case in low range. Do not rock the vehicle or spin the wheels.
- If vehicle remains stuck, use wrecker or another vehicle equipped with winch to tow or winch the stuck vehicle.
- If vehicle is equipped with a self recovery winch, it may be used to help free the vehicle.

(n) Drive slowly and test brakes after driving through slush or water. If brakes slip do the following:

- Continue to drive slowly.
- Apply moderate pressure on brake pedal to cause slight brake drag.
- When brakes are dry and they no longer slip and uneven braking ceases, let up on the brake pedal.
- Resume normal driving speed.

(o) When driving during hot weather, adjust your driving for bleeding tar conditions on the roadway. Do the following to drive under these conditions:

- Frequently scan the roadway ahead.
- Identify a black tar area ahead.
- Maintain steady speed.
- Make no sudden steering maneuvers.
- Make no sudden braking maneuvers.
- If braking is required, ensure all wheels are on a similar surface.

f. Explain driving on secondary roads.

(1) When driving CTIS equipped vehicles, select the X-C setting on the CTIS selector panel. Speed in this mode is limited to 35 MPH. If this speed is exceeded for more than two minutes, CTIS will automatically inflate the tires to the highway setting. At the highway setting, this smaller footprint can cause traction problems and the driver may lose control of the vehicle.

(2) Do not drive in dust clouds created by other vehicles. Maintain a longer following distance when traveling on dusty roads. Establish procedures to warn approaching vehicles (driving in dust and other restricted visibility conditions) of vehicles that are stopped or broken down.

(3) Drive slowly on secondary roads. All models of the M939 series trucks have been known to lose traction on secondary roads, especially when the vehicles are empty or lightly loaded. This is because the rear wheels tend to bounce on the rough road.

(4) Travel on the solid part of the roadway and stay away from the edge of soft shouldered roads. Edges of trails and secondary roads have been known to give way, causing the vehicle to roll on its side.

g. Give safety briefing to include safety restrictions and ground guide precautions for backing the truck.

3. Practical exercise:

a. Assign students to vehicles and issue TM 9-2320-272-10, pencil, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags, lubricants, and coolant are located.

b. Students perform before-operation PMCS.

c. Students practice driving the truck on the road (primary and secondary). During-operation PMCS is also conducted at this time.

NOTE: As each student practices driving, an assistant instructor rides in the seat next to the driver. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts AARs with each driver. Now is the time to pass on valuable experience and correct any bad driving habits.

d. Students perform after-operation PMCS. Ensure all operator entries required on DD Form 1970 (or ULLS generated DA Form 5987-E) and DA Form 2404 (or ULLS generated DA Form 5988-E) are accurate, complete, and legible.

4. Evaluate: Check each student's performance of PMCS and driving.

5. Summary:

    a. Recap main points.

    b. Allow for questions.

    c. Clarify questions.

    d. Give closing statement.

6. Retraining: Retrain NO-GOs and slow learners. Students perform driving tasks daily and are tested on the EOCCT.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

6. Ensure ground guide(s) are used when backing.

7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around this vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, and injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.

17. Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a cruise control device will result in injury or death.

18. Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

19. Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

20. Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

21. Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

22. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions, and notify unit maintenance. Failure to do this will result in injury or death.

23. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle or cause injury or death to personnel.

24. Ensure a safe following distance and speed are maintained when driving on the designated route (as determined by the local command).

F. ENVIRONMENTAL CONSIDERATIONS.

1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

3. Ensure that drip pans remain under parked vehicles.

4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 16 hours (1.0 conference and 15.0 practical exercise, including 3.0 PMCS).

LESSON TITLE: DRIVE AN M939 SERIES CARGO TRUCK OFF ROAD

TASK NUMBER: 551-721-1360 (Drive Cargo Vehicle on Side Roads and Unimproved Roads)

A. TRAINING OBJECTIVE.

TASK:	Drive an M939 series cargo truck (empty, partially loaded [2 to 3 tons], and fully loaded) off road.
CONDITIONS:	Given instruction, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, designated driving route (improved surfaced and secondary roads), an M939 series cargo truck with BII, vehicle loads, and a requirement to operate the vehicle off road (to include streams, ravines, gullies, ditches, wooded areas, rocky terrain, swamps, and mud).
STANDARD:	Operate the vehicle safely at reduced speeds and over rough terrain without injury to personnel or damage to the vehicle.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Motor pool and off road driver training area as scheduled. A classroom is required if optional videotape is shown.

3. Training type: Conference and practical exercise.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for each two students for the practical exercise.

6. Training aids and equipment: Hearing protection, rags, lubricants, coolant, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, an M939 series cargo truck with BII for each two students, and vehicle loads. Television, VCR, and TVT 55-16 are required if the videotape is reshown to the students.

7. References: AR 385-55, DA Pamphlet 738-750, FM 21-305, and TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

    1. Introduction:

        a. Interest device.

        b. Tie-in.

        c. Lesson objective (paragraph A).

        d. Procedures:

            (1) Explanation.

            (2) Practical exercise.

            (3) Summary.

    2. Explanation and demonstration:

NOTE: An instructor will be in the cab sitting next to the driver, with nothing between the student and instructor, whenever a student is driving the M939 series cargo truck.

NOTE: The students will be required to drive the vehicle fully loaded, partially loaded, and empty. If three vehicles are used, the following arrangement will allow the students to rotate in a round robin fashion:

- One vehicle should be loaded (load should be as close to maximum weight as possible [-5 tons]).
- A second vehicle should be partially loaded (2 to 3 tons).
- The third vehicle should be empty.

NOTE: To prevent loss of cargo or shifting en route, check cargo for blocking/bracing and cargo tiedowns for security before operation and repeatedly during operation.

        a. As an option, show TVT 55-16, to reinforce driving tasks. This step may be deleted because the students should have viewed this TVT in earlier lessons.

        b. General off road driving procedures:

            (1) For starting with heavy loads, extreme grades, and in rough terrain, with the transfer case shift lever in high, and the transmission selector lever in 1 (first), limit speed to 12 MPH (15 MPH for the M939A1 and A2 models). If the transfer case shift lever is in low and the transmission selector lever is in 1 (first), limit speed to 5 MPH (6 MPH for the M939A1 and A2 models).

(2) For steep grades, heavy traffic, and rough terrain, with the transfer case shift lever in high and the transmission selector lever in 1-2 (second), limit speed to 25 MPH (29 MPH for the M939A1 and A2 models). If the transfer case shift lever is in low and the transmission selector lever is in 1-2 (second), limit speed to 10 MPH (12 MPH for the M939A1 and A2 models).

(3) When operating M939A2 series vehicles cross country, pre-select the X-C mode on the CTIS selector panel. When the mission requires maximum traction in sand, snow, or mud, select sand on the selector panel. When the mission requires maximum traction in extremely adverse terrain, select emergency on the selector panel.

(4) When operating vehicle without CTIS (M939 and A1 series vehicles) off the road in heavy rain, deflate tires to 25 psi. Inflate tires immediately to the correct pressure when operation changes to paved roads.

c. Shallow ditches require the following maneuvers:

(1) Stop the vehicle.

(2) Check the terrain for obstacles.

(3) Place the transfer case shift lever in high.

(4) Engage front wheel drive lock-in switch.

(5) Place the transmission shift lever in 1 or 1-2.

(6) Steer the vehicle toward the ditch so that one wheel on the axle will leave the ditch as the other wheel on the same axle enters it.

d. Deep ditches require the following driving techniques:

(1) Stop the vehicle.

(2) Check the terrain for obstacles.

(3) Cut away sides of the ditch, if necessary.

(4) Place the transfer case shift lever in low (low range automatically engages 6X6 drive).

(5) Place the transmission shift lever in 1 or 1-2.

(6) Approach the ditch at an angle.

(7) Accelerate the vehicle enough to keep it rolling as it goes up the other side.

e. Gullies and ravines require the following maneuvers:

(1) Stop the vehicle.

(2) Check the terrain for obstacles.

(3) Place the transfer case shift lever in low (low range automatically engages 6X6 drive).

(4) Place the transmission shift lever in 1 or 1-2.

(5) Ease the front wheels over the edge into the ravine.

(6) Steer a straight course so that both front wheels strike the bottom at the same time.

(7) Accelerate enough so that the vehicle can climb up the opposite bank.

f. Wooded area driving techniques include the following:

(1) Stop the vehicle.

(2) Check the terrain for obstacles.

(3) Remove tarps and bows as necessary.

(4) Place the transfer case shift lever in high.

(5) If needed, engage front wheel drive lock-in switch.

(6) Place the transmission shift lever in 1 or 1-2.

(7) Maneuver around obstacles.

(8) Center larger saplings on the vehicle bumper.

g. Rocky terrain requires the following driving techniques:

(1) Stop the vehicle. CTIS should be set to the X-C mode. Any lower tire pressure can cause breaks in the tires as large rocks force the tire to contact the rim.

(2) Check the terrain for obstacles.

(3) Drive slowly choosing route while advancing. Drivers should achieve a "rolling" effect as they cross large rocks by braking as the vehicle's wheels ride over a rock so the axle settles relatively gently on the far side.

(4) Remove stones as often as possible from between dual tires (M939 series vehicles only).

h. Fording shallow streams (30 inches or less) calls for these handling techniques:

(1) Stop the vehicle.

(2) Check the terrain for obstacles.

(3) Check the stream for depth and firm support.

(4) Tighten fuel tank cap.

(5) Secure all loose objects on vehicle.

(6) Make sure battery caps are all installed and tight. Make sure transmission dipstick is secured.

(7) Start engine. Make sure engine is running properly.

(8) Pull the transfer case shift lever up to low range and place the transmission selector lever in 1 (first).

WARNING

Do not attempt to cross water deeper than 30 inches. Limit vehicle speed while fording to 3 or 4 MPH. Failure to do this could result in damage to the vehicle or injury or death to personnel.

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(9) Enter water slowly at a gentle sloping area.

(10) Maintain a constant vehicle speed while fording, and exit water in an area with a gentle slope. Unless absolutely necessary, do not stop while in the water.

(11) If vehicle accidentally enters water deeper than 30 inches, do the following:

- Apply brake pedal and hold to stop vehicle.
- Shift transmission to N and transfer case to high range.
- Move the transmission shift lever to R.
- Let up on the brake pedal and slowly back vehicle out of the water.

WARNING

Do not rely on service brakes until they dry out. Keep applying brakes until uneven braking ceases. Failure to do this could result in injury or death.

(12) After leaving the water, apply the brake pedal lightly and hold while driving slowly to dry out brake linings.

(13) When clear of the fording area, stop the vehicle, apply and release the parking brakes several times to remove water from brake components.

(14) Wash all parts of vehicle with fresh water as soon as possible and have it serviced by organizational maintenance.

i. Mud and swamps require the following driving techniques:

(1) Stop the vehicle.

(2) Place the transfer case shift lever in low (low range automatically engages 6X6 drive).

(3) Place the transmission shift lever in 1-5.

(4) Place vehicle in motion slowly without causing wheels to spin or engine to race.

(5) Place transfer case shift lever in high range when vehicle is under way. If necessary, engage front wheel dive lock-in switch.

j. Clean mud from wheels, brakes, axles, universal joints, steering mechanism, and radiator as soon as possible. Make sure the axle breather vent caps move freely on breather body.

k. Give safety briefing, to include reinforcing ground guide safety procedures for backing the vehicle.

3. Practical exercise:

a. Assign students to vehicles and issue TM 9-2320-272-10, pencil, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags, lubricants, and coolant are located.

b. Students perform before-operation PMCS.

      c. Students practice driving the truck off road. During-operation PMCS is also conducted at this time.

NOTE: As each student practices driving, an assistant instructor rides in the seat next to the driver. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts AARs with each driver. Now is the time to pass on valuable experience and correct any bad driving habits.

      d. Students perform after-operation PMCS. Ensure all operator entries required on DD Form 1970 (or ULLS generated DA Form 5987-E) and DA Form 2404 (or ULLS generated DA Form 5988-E) are accurate, complete, and legible.

    4. Evaluate: Check each student's performance of PMCS and off road driving.

    5. Summary:

      a. Recap main points.

      b. Allow for questions.

      c. Clarify questions.

      d. Give closing statement.

    6. Retraining: Retrain NO-GOs and slow learners. Students perform driving tasks daily and are tested on the EOCCT.

E. SAFETY RESTRICTIONS.

    1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

    2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

    3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

    4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

    5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

    6. Ensure ground guide(s) are used when backing.

    7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around this vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, and injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.

17. Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a cruise control device could result in injury or death.

18. Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

19. Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

20. Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

21. Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

22. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions and notify unit maintenance. Failure to do this will result in injury or death.

23. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle or cause injury or death to personnel.

24. Do not rely on service brakes until they dry out. Keep applying brakes until uneven braking ceases. Failure to do this could result in injury or death.

25. Ensure a safe following distance and speed are maintained when driving on the designated route (as determined by the local command).

F. ENVIRONMENTAL CONSIDERATIONS.

1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

3. Ensure that drip pans remain under parked vehicles.

4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 6 hours (.5 conference and 5.5 practical exercise, including 1.0 PMCS).

LESSON TITLE: DRIVE AN M939 SERIES CARGO TRUCK AT NIGHT

TASK NUMBER: 551-721-1366 (Drive Vehicle with Automatic Transmission)

A. TRAINING OBJECTIVE.

      TASK: Drive an M939 series cargo truck at night.

      CONDITIONS: Given instruction, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, designated driving route (improved surfaced and secondary roads), an M939 series cargo truck with BII, and a requirement to drive a designated route at night with headlights using defensive driving (accident avoidance) methods; operate the lights, monitor gauges and indicator lights, manipulate the controls, and perform basic driving maneuvers to include downhill braking and backing using ground guides.

      STANDARD: Operate the vehicle correctly and safely without accident or injury.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

    1. Training time: As scheduled.

    2. Training location: Motor pool and driver training route (built up and rural areas) as scheduled.

    3. Training type: Conference and practical exercise.

    4. Students: Scheduled personnel.

    5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for each two students for the practical exercise.

    6. Training aids and equipment: Rags, lubricants, coolant, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, and an M939 series cargo truck with BII for each two students.

    7. References: AR 385-55, DA Pamphlet 738-750, FM 21-305, and TM 9-2320-272-10.

D. SEQUENCE OF ACTIVITY.

    1. Introduction:

        a. Interest device.

        b. Tie-in.

        c. Lesson objective (paragraph A).

        d. Procedures:

            (1) Explanation.

            (2) Practical exercise.

            (3) Summary.

    2. Explanation and demonstration:

NOTE: An instructor will be in the cab, sitting next to the driver with nothing between the student and instructor, whenever a student is driving the M939 series cargo truck.

        a. Night driving factors.

            (1) Driver factors:

                (a) Vision. The driver has limited vision at night because of the following:

- Eyes need time to adjust to the change between light and darkness.
- Drivers cannot see as sharply at night.
- Drivers cannot see to the sides as well at night.

                (b) Glare. Temporary blindness is caused by glare, normally from oncoming headlights but sometimes from other lights.

                (c) Fatigue. Reduces the ability to see clearly. The driver becomes less alert, slower to see hazards, and does not react as promptly.

                (d) Driver inexperience. Newness to driving, coupled with the problems of reduced vision, glare, and fatigue account for the fact new drivers have higher nighttime accident rates than more experienced drivers.

(2) Roadway factors:

(a) Low illumination. Illumination provided by street lights is often only fair to poor. On most roads, the only illumination is from the driver's headlights. Headlights are useful for a relatively short and narrow path directly ahead of the vehicle. Headlights do not bend around corners.

(b) Variation in illumination. The driver must constantly adjust his eyes to different types and degrees of lighting. Flashing lights distract as much as they illuminate. Traffic signs are hard to see against the background of other lights especially in towns and cities.

(c) Familiarity with roads. The driver needs to be particularly alert on roads that he has never driven during the day. On familiar roads, drivers tend to be overconfident. This is dangerous because of the following:

- The view of the roadway is not the same.
- Situations on some stretches will change.

(d) Other road users. The driver must adjust his driving to hazards such as pedestrians, joggers, bicyclists, and animals.

(e) Drinking drivers. The likelihood of encountering drunken drivers increases after sundown. Be especially alert when driving near roadside taverns and similar attractions.

(3) Vehicle factors:

(a) Headlights. Sight distance is limited to the range of the headlights. Therefore, the driver must drive at a speed that allows him to stop within his sight distance.

(b) Auxiliary lights. Trucks are better seen at night by other drivers when reflectors, marker lights, clearance lights, tail lights, and brake lights are clean and working properly.

(c) Turn signals. The ability to communicate with other drivers depends on turn signals. Nonfunctional or dirty turn signal lights greatly increase the risk of an accident.

(d) Windshield and wipers. A clean windshield and properly working wipers are a must for safe driving.

(e) Mirrors. Mirrors help the driver see what is going on around him. Keep them clean and properly adjusted.

b. Night driving procedures.

(1) Preparing to drive at night:

(a) Getting yourself ready.

- If you wear glasses, be sure they are clean.
- Remove sunglasses.
- Be well rested.

(b) Plan your route.

- Know the location of rest stops.
- Plan for hazards such as unlighted areas, exit ramps, construction areas, and other changes in the highway environment.

(c) Getting the vehicle ready.

- Ensure windshield, mirrors, lights, and reflectors are clean.
- Ensure all lights are operational.

(2) Driving at night:

(a) Avoid blinding others.

- Dim high beams when oncoming vehicles are less than 500 feet away.
- Do not use high beams to retaliate against other drivers.

(b) Avoid glare.

- Set interior panel lights at the lowest setting to reduce glare.
- Look to the right when oncoming vehicles are using high beams.

(c) Maximize visibility.

- Use low beams when desired visual range is about 250 feet.
- Use high beams when there are no oncoming vehicles and desired visual range is 350 to 500 feet.

(d) Adjust basic driving techniques.

- Exercise additional caution because of reduced vision.
- Signal earlier than you would during daylight to give other drivers more time to react.

3. Practical exercise:

   a. Assign students to vehicles and issue TM 9-2320-272-10, pencil, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags, lubricants, and coolant are located.

   b. Students perform before-operation PMCS to include the operation and cleanliness of all lights.

   c. Give safety briefing with emphasis on safety precautions for night operations.

   d. Students drive the designated route. During-operation PMCS is also conducted at this time.

NOTE: As each student practices driving, an assistant instructor rides in the seat next to the driver. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts AARs with each driver. Now is the time to pass on valuable experience and correct any bad driving habits.

   e. Students perform after-operation PMCS. Ensure all operator entries required on DD Form 1970 (or ULLS generated DA Form 5987-E) and DA Form 2404 (or ULLS generated DA Form 5988-E) are accurate, complete, and legible.

4. Evaluate: Check each student's performance of PMCS and night driving.

5. Summary:

   a. Recap main points.

   b. Allow for questions.

   c. Clarify questions.

   d. Give closing statement.

6. Retraining: Retrain NO-GOs and slow learners.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

6. Ensure ground guide(s) are used when backing.

7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around this vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, and injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.

17. Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a cruise control device will result in injury or death.

18. Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

19. Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

20. Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

21. Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

22. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions, and notify unit maintenance. Failure to do this will result in injury or death.

23. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle or cause injury or death to personnel.

24. Ensure a safe following distance and speed are maintained when driving on the designated route (as determined by the local command).

F. ENVIRONMENTAL CONSIDERATIONS.

1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

3. Ensure that drip pans remain under parked vehicles.

4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 5 hours (.5 conference and 4.5 hours practical exercise, including 1.0 PMCS).

LESSON TITLE: PERFORM OPERATOR PREVENTIVE MAINTENANCE CHECKS
AND SERVICES (PMCS) ON TRAILERS

TASK NUMBER: 551-721-1353 (Perform Preventive Maintenance Checks and Services
[PMCS] on Trailers)

A. TRAINING OBJECTIVE.

TASK: Perform operator PMCS on a trailer.

CONDITIONS: Given instruction, DA Form 2404 (or ULLS generated DA Form
5988-E), pencils, appropriate trailer operator's manual, equipment
records folder, rags, lubricants, and a trailer coupled to an M939
series cargo truck with BII.

STANDARD: Inspect the trailer according to the PMCS tables listed in the
appropriate trailer operator's manual, correct all faults within the
operator's level of maintenance, and legibly record all others on DA
Form 2404 (or ULLS generated DA Form 5988-E). If no faults
are found, make necessary entries on DA Form 2404 (or ULLS
generated DA Form 5988-E).

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

1. When training will be given: As scheduled.

2. Training location: Motor pool as scheduled.

3. Training type: Demonstration and practical exercise.

4. Who will be trained: Personnel as scheduled.

5. Principal and assistant instructors required: One primary instructor for the class and one
assistant instructor for every two students for the demonstration and practical exercise.

6. Training aids and equipment: Rags, lubricants, DA Form 2404 (or ULLS generated DA
Form 5988-E), pencil, appropriate trailer operator's manual, equipment records folder, and a trailer
coupled to an M939 series cargo truck with BII for each two students.

7. References: AR 385-55, DA Pamphlet 738-750, and appropriate trailer operator's
manual.

D. SEQUENCE OF ACTIVITY.

    1. Introduction:

        a. Interest device.

        b. Tie-in.

        c. Lesson objective (paragraph A).

        d. Procedures:

            (1) Explanation.

            (2) Practical exercise.

            (3) Summary.

    2. Explanation and demonstration: Demonstrate before, during, and after checks to students.

    3. Practical exercise:

        a. Assign students to coupled trailers and issue trailer operator's manuals, pencils, DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags and lubricants are located.

        b. Students perform PMCS.

    4. Evaluate: Check each student's PMCS performance.

    5. Summary:

        a. Recap main points.

        b. Allow for questions.

        c. Clarify questions.

        d. Give closing statement.

    6. Retraining: Retrain NO-GOs and slow learners.

E. SAFETY RESTRICTIONS.

      1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

      2. If trailer is not coupled to towing vehicle, ensure the trailer wheels are securely chocked. Failure to do so may cause the trailer to roll, resulting in injury to personnel or damage to equipment.

      3. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

      4. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle or trailer.

      5. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manuals.

      6. Ensure personnel maintain at least three points of contact when mounting or dismounting the trailer (to include performing PMCS).

      7. Ensure all personnel stand clear of towing vehicle and trailer during coupling and uncoupling operations. Failure to follow this warning may result in serious injury or death.

F. ENVIRONMENTAL CONSIDERATIONS.

      1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

      2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

      3. Ensure that drip pans remain under parked vehicles.

      4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 1.0 hours (.5 demonstration and .5 practical exercise). The remaining PMCS is performed in conjunction with driving tasks.

LESSON TITLE: DRIVE AN M939 SERIES CARGO TRUCK WITH TRAILER

TASK NUMBER: 551-721-1380 (Transport General Cargo in Trailer) and 551-721-1385 (Couple/Uncouple Pintle-Connected Trailer)

A. TRAINING OBJECTIVE.

    TASK: Drive an M939 series cargo truck with trailer.

    CONDITIONS: Given instruction, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, appropriate trailer operator's manual, equipment records folder, rags, lubricants, coolant, designated driving route (improved surfaced and secondary roads), an M939 series cargo truck with BII, trailer and vehicle loads, suitable training area, and a requirement to drive a designated route.

    STANDARD: Without accident or injury, drive the designated route. Couple and uncouple the trailer, back the trailer in a straight line, and perform basic driving maneuvers.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS.

    1. When training will be given: As scheduled.

    2. Training location: Motor pool, training area, and driver training route as scheduled.

    3. Training type: Conference, demonstration, and practical exercise.

    4. Who will be trained: Personnel as scheduled.

    5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for every two students for the demonstration and practical exercise.

    6. Training aids and equipment: Rags, lubricants, coolant, 40 traffic cones or empty POL drums, suitable driver training area, and designated driving route (improved surfaced and secondary roads). DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, appropriate trailer operator's manual, equipment records folder, and a trailer coupled to an M939 series cargo truck with BII for each two students.

    7. References: AR 385-55, DA Pamphlet 738-750, FM 21-305, TM 9-2320-272-10, and appropriate trailer operator's manual.

D. SEQUENCE OF ACTIVITY.

    1. Introduction:

        a. Interest device.

        b. Tie-in.

        c. Lesson objective (paragraph A).

        d. Procedures:

            (1) Explanation.

            (2) Practical exercise.

            (3) Summary.

    2. Explanation and demonstration:

NOTE: The instructions contained in this lesson for a pintle-connected trailer are in general terms because this lesson covers a variety of trailers. Although procedures for these types of trailers are similar, the instructor should consult the specific trailer operator's manual for detailed instructions. Also, when towing other authorized equipment such as towed howitzers, consult the specific TM for the equipment being towed before conducting any towing operations.

        a. Connect the trailer to the vehicle.

WARNING

All personnel must stand clear of towing vehicle and trailer during coupling operation. Failure to comply with this warning may result in serious injury or death to personnel.

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        (1) Sound the horn before backing. Using ground guides, back the vehicle to the trailer. Be sure no one stands between the vehicle and trailer.

WARNING

Do not back up without a ground guide. Failure to do this may result in damage to vehicle, injury, or death.

CAUTION

Do not back up with transfer case shift lever in low range.

WARNING

When backing or going forward, ground guides should never stand directly in the vehicle's path. Keep 10 yards between the vehicle and ground guides at the front or rear and at the corners of the vehicle (never directly behind the vehicle). Ground guides must not position themselves between the vehicle being guided and another object where an inadvertent engine surge or momentary loss of vehicle control could cause injury. The vehicle driver will immediately stop the vehicle if he loses sight of ground guides or notes that the guide is dangerously positioned between the vehicle and another object. In such cases, the vehicle driver will secure his vehicle, dismount, and make an on-the-spot correction before commencing operations.

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(2) Stop the vehicle. Engage the parking brake. Shut off the engine. Get out of the vehicle to connect the trailer.

(3) Remove the pintle safety cotter pin and open the pintle. Release the trailer handbrake(s).

(4) Lift the trailer. (Some trailers are light and can be lifted by one person, while others will require several people, and still others have a mechanical lift.) Secure the trailer drawbar ring in the pintle of the towing vehicle. Close the pintle. Install the pintle safety cotter pin in the pintle.

(5) Hook the two safety chains from the trailer to the rear lifting shackles of the towing vehicle.

(6) Raise the retractable support (landing leg).

(7) Connect the intervehicular brake hoses to the towing vehicle. Turn on the air supply.

(8) Connect the intervehicular electrical cable to the towing vehicle.

(9) Operate the controls in the towing vehicle to check brake action and operation of all lights.

b. Disconnect the trailer from the vehicle.

(1) Position the trailer on level ground if possible.

WARNING

All personnel must stand clear of towing vehicle and trailer during uncoupling operation. Failure to comply with this warning may result in serious injury or death to personnel.

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(2) Close the vehicle's air coupling shut-off cock(s) and disconnect the intervehicular brake hose(s). Stow on the bracket provided on the trailer.

(3) Lower the retractable support (landing leg). Ensure it is locked in position to prevent the trailer from falling.

(4) Unhook the safety chains.

(5) Remove the pintle safety cotter pin and open the pintle.

(6) With assistance, remove the drawbar ring from the towing vehicle and lower the trailer on its support leg.

(7) Apply the trailer hand brake or chock wheels to prevent trailer movement.

(8) Close the pintle. Reinstall the pintle safety cotter pin in the pintle.

(9) Level the trailer if required and perform after-operation PMCS on the trailer.

c. Driving. When driving the towing vehicle and trailer, keep the overall length of the unit in mind when passing other vehicles and turning. Backing is also affected because the unit is hinged in the middle.

WARNING

Before moving trailer, ensure all loose equipment is properly stowed and that nothing will drag on the ground. If trailer is loaded, ensure that load is properly secured. Failure to follow this warning may result in injury to personnel or damage to equipment.

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(1) Safely towing a trailer requires increased concentration, alertness, and strict compliance with towing speeds.

(2) Trailers have a tendency to fishtail or swerve very easily when the driver makes an erratic movement of any magnitude. This can be caused by–

    (a) Speed.

    (b) A slight swerve to miss a pothole.

    (c) A quick lane change.

    (d) A slip of the hand on the steering wheel.

    (e) Rough or uneven road.

(3) To prevent trailer fishtail or swerve–

    (a) Never exceed the recommended speed for the trailer that you are towing.

    (b) Never exceed the trailer's maximum recommended weight capacity.

    (c) Always slow down for curves, wet or rough roads, or downgrades.

    (d) Anticipate all stops to take longer as a result of the added weight. Brake early and gently. Do not slam on the brakes.

    (e) On downgrades, slow down before starting downhill. Use a lower gear. Let the engine compression help slow the vehicle.

(4) To correct trailer fishtail or swerve–

    (a) Steer straight ahead.

    (b) Gradually decelerate.

    (c) Do not brake until both the towing vehicle and trailer have stabilized.

(5) When turning corners, allow for the fact that the trailer wheels turn inside the turning radius of the towing vehicle.

    (a) To make a right turn–

- Check traffic ahead, to the rear, and to the right side.
- If not in the right-hand lane, be sure that lane is clear, signal, and move into the lane well in advance of the turn.

- Signal for the turn at least 150 feet in advance and reduce speed.
- Check other traffic that is in, at, or approaching the intersection. (Be sure no bicycle or motorcycle is to the right. Be especially alert for pedestrians.)
- Take a position farther from the curb or edge of the pavement (still within the right lane) than the driver would if driving a straight truck (no trailer).
- Drive the truck approximately halfway into the intersection and then cut sharply to the right. This will keep the trailer wheels off the curb.
- Keep the vehicle close enough to the edge of the road to prevent following vehicles from trying to pass on the right.
- During the turn, monitor the mirrors for off-tracking and keep both hands on the steering wheel.
- If you cannot make the turn without swinging into another lane, turn wide as you complete the turn.
- If you must cross into an oncoming lane and a vehicle comes toward you, allow it to get by you. Stop if you have to, but do not back up.
- After completing the turn, cancel the signal.
- When it is safe to do so, steer the vehicle into the desired lane (four-lane roads).

(b) To make a left turn–

- Check traffic ahead, to the rear, and to both sides.
- Signal for the turn at least 150 feet in advance and reduce speed.
- Check other traffic that is in, at, or approaching the intersection.
- Ensure there is an adequate gap to make a turn in front of traffic.
- Before turning, drive the truck into the center of the intersection to allow for the trailer.
- Turn hard to the left. Watch for oncoming traffic, if applicable.
- During the turn, monitor the mirrors for off-tracking and keep both hands on the steering wheel.
- If you are turning into a multi-lane street, enter the right lane.
- If there are two left turning lanes, start your turn from the right-most lane.
- After completing the turn, cancel the signal.

(6) Stopping requires more distance when pulling a trailer. Apply brakes gradually and smoothly. Stepping on the brake pedal will stop both the towing vehicle and trailer.

WARNING

Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

WARNING

Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

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d. Backing the trailer in a straight line. Since the driver cannot see directly behind the vehicle, backing is always dangerous. Avoid backing whenever possible, even if you must go around the block to do so. When backing follow these rules.

(1) Get out of the vehicle. Check the area to the sides, rear, and overhead for obstructions.

(2) Use ground guides to direct while backing.

WARNING

When backing or going forward, ground guides should never stand directly in the vehicle's path. Keep 10 yards between the vehicle and ground guides at the front or rear and at the corners of the vehicle (never directly behind the vehicle). Ground guides must not position themselves between the vehicle being guided and another object where an inadvertent engine surge or momentary loss of vehicle control could cause injury. The vehicle driver will immediately stop the vehicle if he loses sight of ground guides or notes that the guide is dangerously positioned between the vehicle and another object. In such cases, the vehicle driver will secure his vehicle, dismount, and make an on-the-spot correction before commencing operations.

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┌─────────────────────────────────────────────────────────────────┐
│                           CAUTION                                 │
│                                                                   │
│      Do not back up with transfer case shift lever in low range.  │
└─────────────────────────────────────────────────────────────────┘
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(3) Adjust the rearview mirrors before backing.

(4) Sound the horn before backing, where it is legal to do so.

(5) Remember, when backing, the trailer's rear will move in the opposite direction from which the front towing vehicle wheels are turned.

(a) If the wheels are turned to the right, the trailer will go left.

(b) If the wheels are turned to the left, the trailer will go right.

(6) Make gradual steering corrections in relation to trailer alignment.

(7) Pull up if necessary to improve the trailer's alignment.

(8) Stop the vehicle when the desired position is reached.

e. Explain to the students that they must perform before-, during-, and after-operation PMCS on their assigned vehicle.

f. Demonstrate hand and arm signals required for this exercise.

g. Demonstrate driving through each maneuver.

3. Practical exercise:

a. Assign students to vehicles/trailers and issue TM 9-2320-272-10, trailer operator's manuals, pencil, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), and equipment records folder. Tell students where rags, lubricants, and coolant are located.

b. Students perform before-operation PMCS.

c. Students practice maneuvering the truck through the courses laid out in the training area(s). Sample training areas are in Chapter 6. During-operation PMCS is also conducted at this time.

NOTE: As each student practices driving, an assistant instructor rides in the seat next to the driver. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts AARs with each driver. Now is the time to pass on valuable experience and correct any bad driving habits.

d. After the students have mastered driving the vehicle in the training area, they will practice driving on the road.

e. Students perform after-operation PMCS. Ensure all operator entries required on DD Form 1970 (or ULLS generated DA Form 5987-E) and DA Form 2404 (or ULLS generated DA Form 5988-E) are accurate, complete, and legible.

4. Evaluate: Check each student's performance of PMCS and driving.

5. Summary:

    a. Recap main points.

    b. Allow for questions.

    c. Clarify questions.

    d. Give closing statement.

6. Retraining: Retrain NO-GOs and slow learners.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manuals.

5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

6. Ensure ground guide(s) are used when backing.

7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around this vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, and injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this could result in injury or death.

17. Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a "cruise control" device could result in injury or death.

18. Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

19. Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

20. Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

21. Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

22. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions, and notify unit maintenance. Failure to do this could result in injury or death.

23. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle or cause injury or death to personnel.

24. All personnel must stand clear of towing vehicle and trailer during coupling and uncoupling operations. Failure to comply with this warning may result in serious injury or death to personnel.

25. Before moving trailer, ensure all loose equipment is properly stowed and that nothing will drag on the ground. If trailer is loaded, ensure that load is properly secured. Failure to follow this warning may result in injury to personnel or damage to equipment.

F. ENVIRONMENTAL CONSIDERATIONS.

1. Ensure that all hazardous materials and hazardous wastes are stored and labeled properly.

2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable soldiers to contain a spill on land or in water.

3. Ensure that drip pans remain under parked vehicles.

4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 15 hours (.5 conference, .5 demonstration, and 14.0 practical exercise, including 2.0 PMCS).

CHAPTER 6

SAMPLE TRAINING AREAS FOR THE 5-TON CARGO TRUCK

This chapter shows the sample training areas for the 5-ton cargo truck. The figures in this chapter depict the 5-ton cargo as follows:

5-TON CARGO STOPPING WITHIN PRESCRIBED LIMITS

258' MIN

200'   20'   38'

A   B   C

START POINT   APPLIES BRAKES   STOP LINE

NOTES:

TRAFFIC CONES = ◯   STOP LINE = ════

THE DISTANCE (WIDTH) BETWEEN TRAFFIC CONES IS 12 FEET.

THE DRIVER PULLS OUT AT POINT A. HIS SPEED AT POINT B SHOULD BE 10 MPH WITH TRUCK LOADED AND 20 MPH WITH TRUCK EMPTY. HE APPLIES HIS BRAKES AT POINT B AND MUST STOP BEFORE REACHING POINT C.

Figure 6-1. 5-ton cargo stopping within prescribed limits

5-TON CARGO DIMINISHING CLEARANCE

Figure 6-2. 5-ton cargo diminishing clearance

5-TON CARGO OFFSET ALLEY

180'

START

50'

26'

50'

50'

26'

26'

WIDTH OF ALLEY IS 9'2"

WIDTH OF ALLEY IS 9'2"
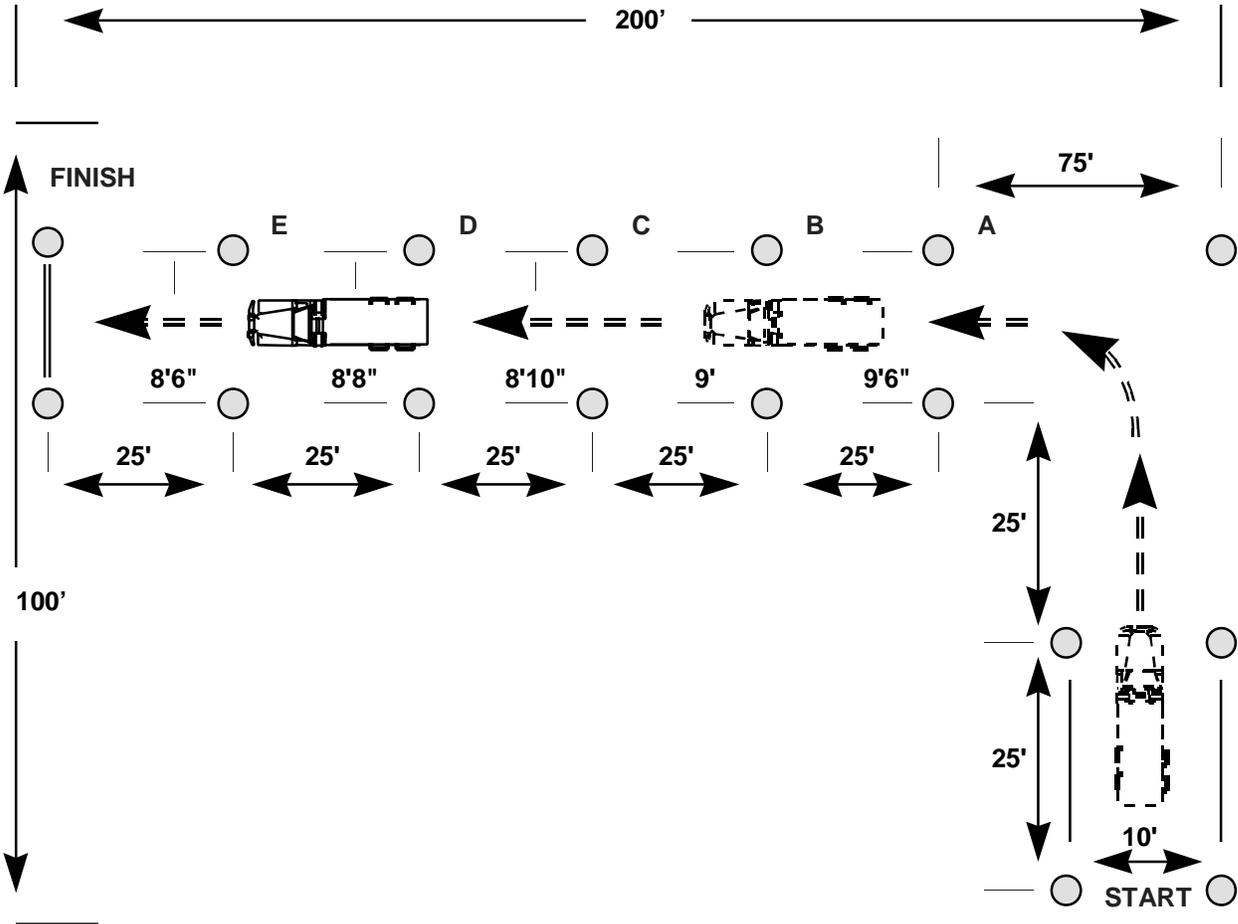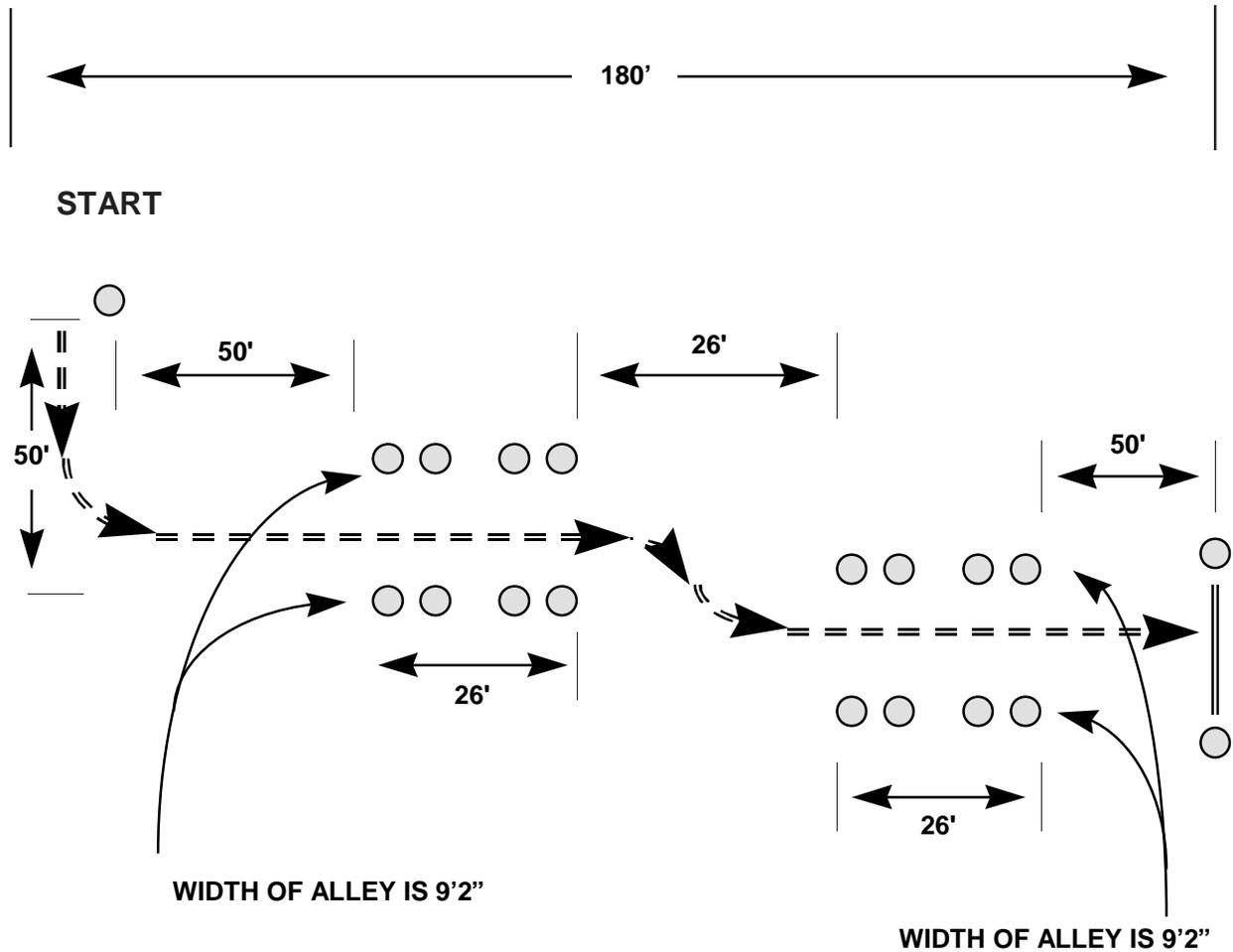
NOTES:

TRAFFIC CONES =

STOP LINE =

FORWARD =

Figure 6-3. 5-ton cargo offset alley

5-TON CARGO SERPENTINE COURSE
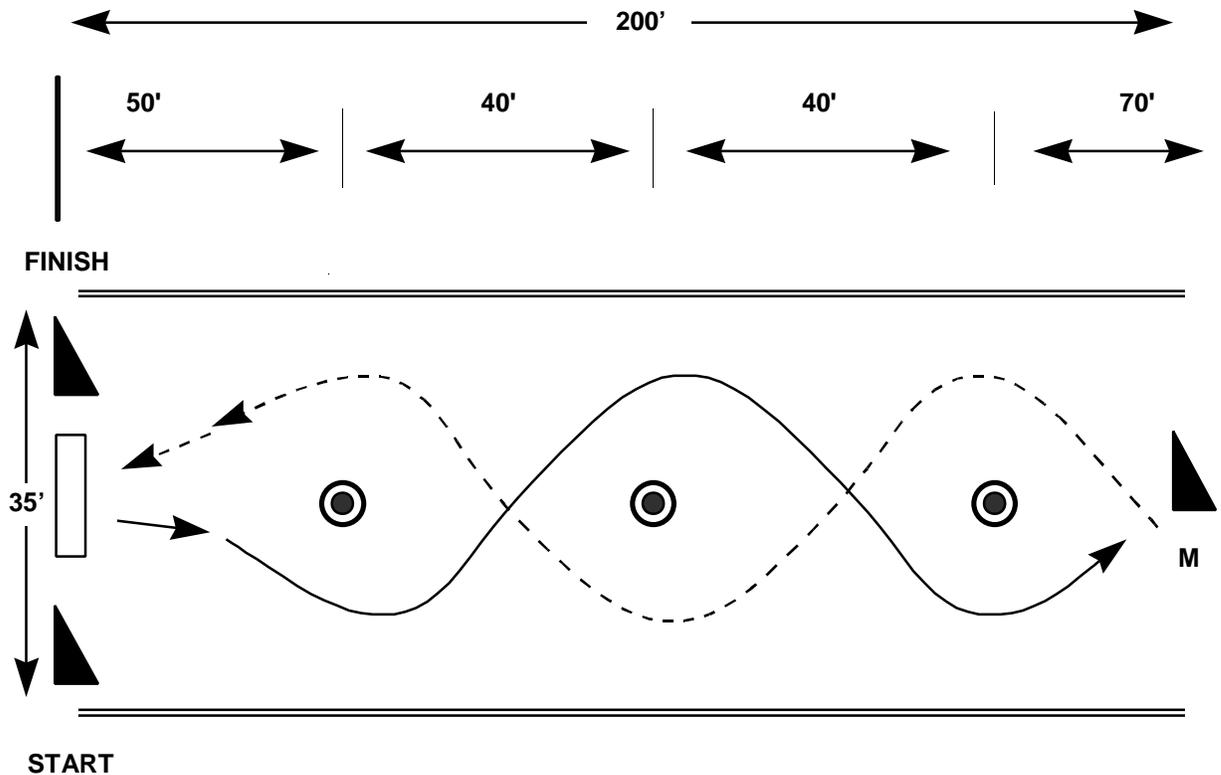
NOTES:

EMPTY POL DRUMS = ◉   FIXED BOUNDARIES = ═══

STANDARD = ◣   (WIDTH BETWEEN STANDARDS IS 12')

FORWARD = ───▶   BACKING = ◀- - - -

START AND FINISH = ▭   MIDPOINT = **M**

MINIMUM SIZE OF AREA IS 200' LONG AND 35' WIDE.

IF YOU HAVE A PERMANENT SITE, USE PAINT TO MARK THE FIXED BOUNDARIES. TO MINIMIZE CONFUSION, PAINT OUT EXISTING LINES WITH A COLOR THAT MATCHES THE PAVING.   IF YOU CANNOT PAINT LINES, USE TRAFFIC CONES, ENGINEER TAPE OR YELLOW POLYPROPYLENE ROPE.

Figure 6-4. 5-ton cargo serpentine course

5-TON CARGO FORWARD STOP/ STRAIGHT LINE BACKING
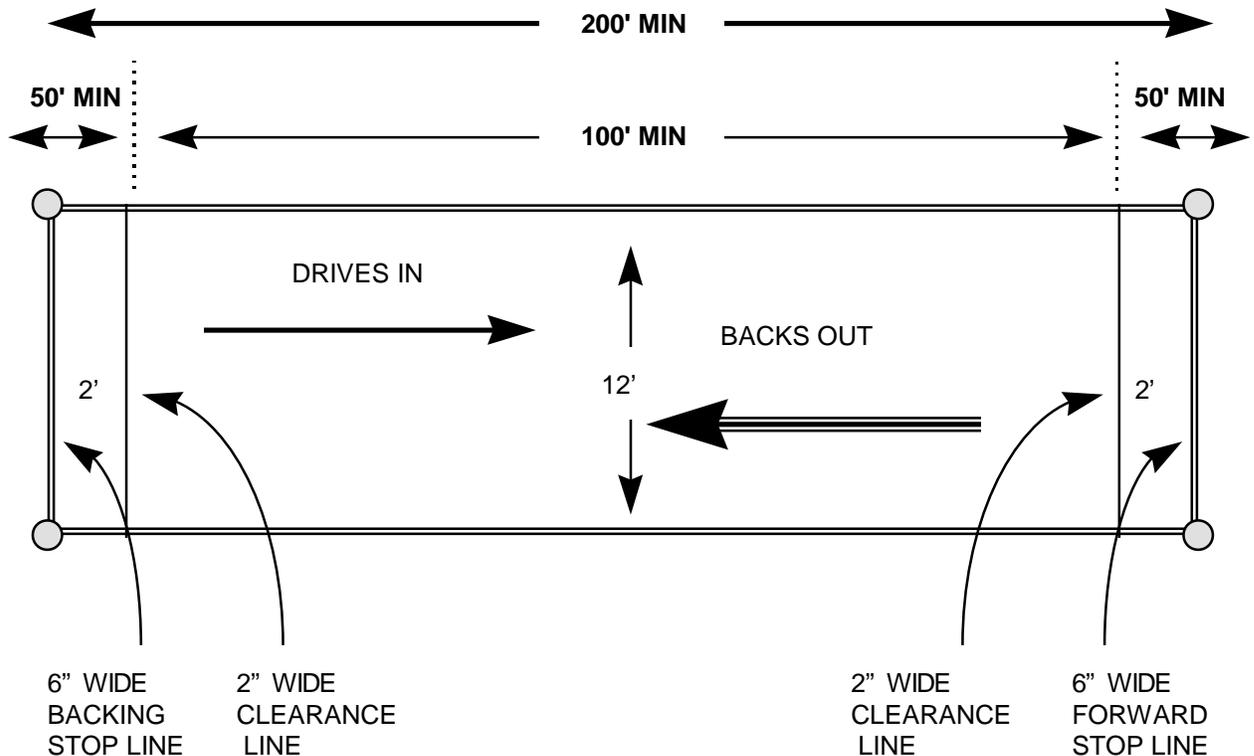
200' MIN

50' MIN

100' MIN

50' MIN

DRIVES IN

BACKS OUT

2'

12'

2'

6" WIDE BACKING STOP LINE

2" WIDE CLEARANCE LINE

2" WIDE CLEARANCE LINE

6" WIDE FORWARD STOP LINE

NOTES:

TRAFFIC CONES = ◯   FIXED BOUNDARIES = ═══════

IF YOU HAVE A PERMANENT SITE, USE PAINT TO MARK THE FIXED BOUNDARIES. TO MINIMIZE CONFUSION, PAINT OUT EXISTING LINES WITH A COLOR THAT MATCHES THE PAVING.   IF YOU CANNOT PAINT LINES, USE TRAFFIC CONES, ENGINEER TAPE OR YELLOW POLYPROPYLENE ROPE.

SCORING STANDARD FOR THE FORWARD STOP IS THE DRIVER DRIVES THROUGH THE ALLEY AND STOPS SO THAT THE FRONT OF THE TRUCK IS BETWEEN THE CLEARANCE LINE AND THE STOP LINE, WITHOUT HITTING ANY CONES OR TOUCHING THE BOUNDARIES.

SCORING STANDARD FOR THE STRAIGHT LINE BACKING IS THE DRIVER PULLS HIS VEHICLE COMPLETELY OUT OF THE ALLEY. HE THEN MUST BACK THROUGH THE ALLEY AND STOP WHEN THE FRONT OF THE TRUCK IS BETWEEN THE STOP LINE AND THE CLEARANCE LINE WITHOUT HITTING ANY CONES OR TOUCHING THE BOUNDARY.

Figure 6-5. 5-ton cargo forward stop/straight line backing

5-TON CARGO LEFT AND RIGHT TURNS
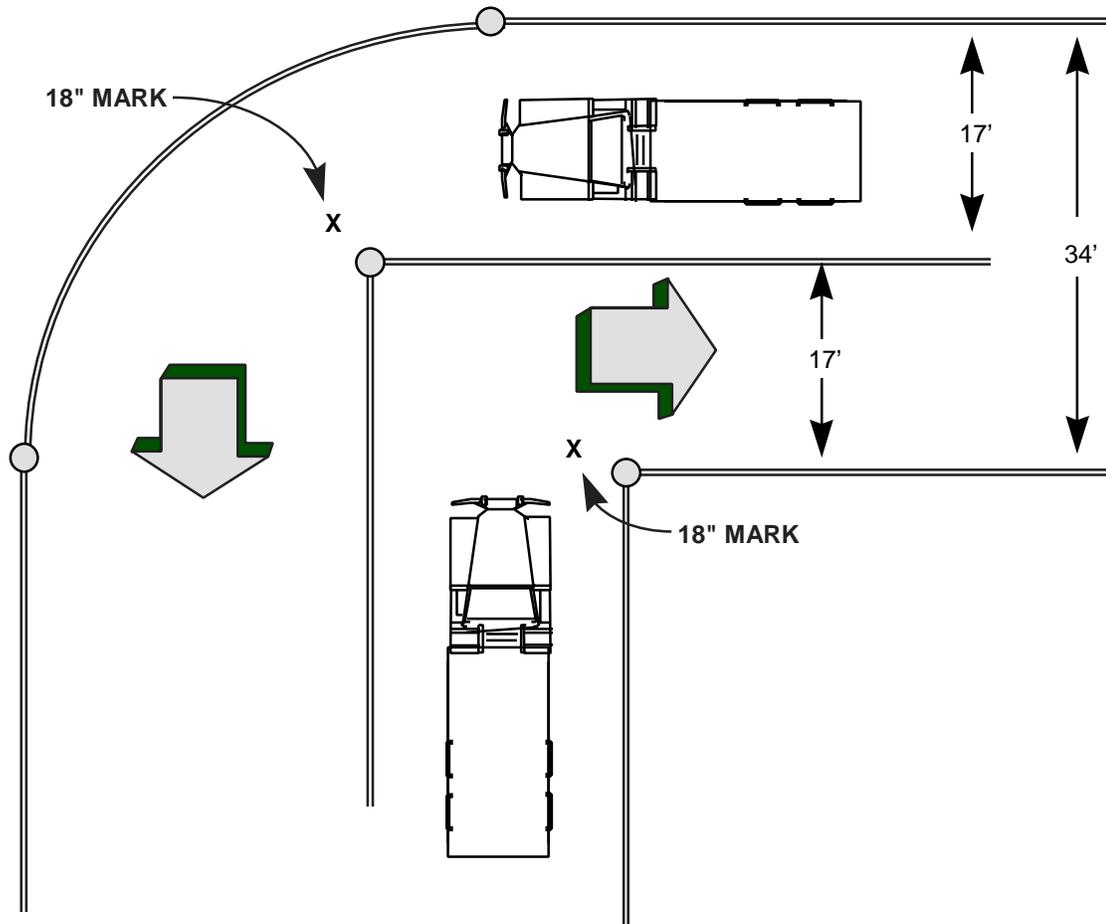
NOTES:

TRAFFIC CONES = ◯   FIXED BOUNDARIES = ═══

IF YOU HAVE A PERMANENT SITE, USE PAINT TO MARK THE FIXED BOUNDARIES. TO MINIMIZE CONFUSION, PAINT OUT EXISTING LINES WITH A COLOR THAT MATCHES THE PAVING.   IF YOU CANNOT PAINT LINES, USE TRAFFIC CONES, ENGINEER TAPE OR YELLOW POLYPROPYLENE (POLY) ROPE.

ONE TRAINING AREA CAN BE USED FOR BOTH MANEUVERS, BUT THE MANEUVERS MUST BE DONE SEPARATELY, SUCH AS ALL STUDENTS DOING THE RIGHT TURN FIRST, THEN THE LEFT TURN.

THE ACCEPTABLE STANDARD IS, THE REAR WHEELS OF THE TRUCK (OR TRAILER) MUST BE WITHIN 18" OF THE CONE, WITHOUT HITTING THE CONE OR GOING OVER ANY BOUNDARIES.

Figure 6-6. 5-ton cargo left and right turns

5-TON CARGO ALLEY DOCK
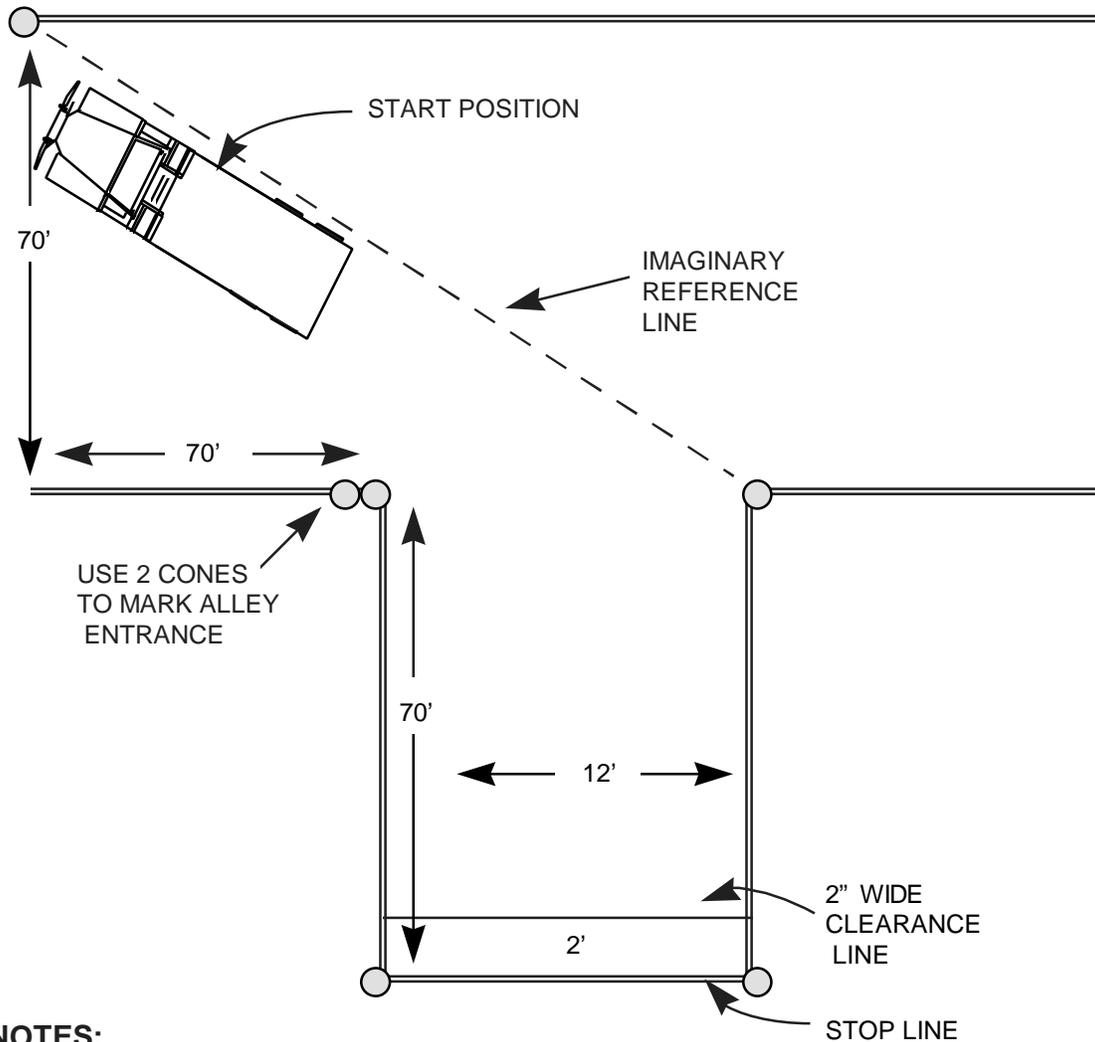
START POSITION

70'

IMAGINARY
REFERENCE
LINE

70'

USE 2 CONES
TO MARK ALLEY
ENTRANCE

70'

12'

2" WIDE
CLEARANCE
LINE

2'

STOP LINE

NOTES:

TRAFFIC CONES = ◯   FIXED BOUNDARIES = ══

IF YOU HAVE A PERMANENT SITE, USE PAINT TO MARK THE FIXED BOUNDARIES. TO MINIMIZE CONFUSION, PAINT OUT EXISTING LINES WITH A COLOR THAT MATCHES THE PAVING. IF YOU CANNOT PAINT LINES, USE TRAFFIC CONES, ENGINEER TAPE OR YELLOW POLYPROPYLENE ROPE.

THE DRIVER WILL DRIVE FORWARD TO THE LEFT SIDE OF THE REFERENCE LINE,WITHOUT GOING PAST THE OUTER BOUNDARIES, KEEPING THE ALLEY ENTRANCE ON HIS LEFT SIDE. HE WILL THEN BACK IN A CURVED PATH INTO THE ALLEY.

THE SCORING STANDARD IS TO BACK INTO THE ALLEY, WITHOUT HITTING ANY CONES OR TOUCHING ANY BOUNDARIES, AND STOP WITH THE REAR OF THE TRUCK BETWEEN THE STOP AND CLEARANCE LINES, WITH NO MORE THAN 2 PULL-UPS.

Figure 6-7. 5-ton cargo alley dock

LESSON TITLE: END OF COURSE COMPREHENSIVE TEST (EOCCT)

TASK NUMBER: All previously taught tasks.

A. TRAINING OBJECTIVE.

TASK: Pass the EOCCT.

CONDITIONS: Given an examination booklet, pencil, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, an M939 series cargo truck with BII, road test route, and a suitable off road training area. When testing for trailer operations, additional requirements are appropriate trailer operator's TM and a trailer coupled to an M939 series cargo truck.

STANDARD: Pass all written and performance tests.

B. INTERMEDIATE TRAINING.

Intermediate Training Objective 1

TASK: Pass a written examination.

CONDITIONS: Given an examination booklet and pencil.

STANDARD: Answer correctly 21 of 30 questions within 40 minutes. Use either the primary written test or the alternate written test.

Intermediate Training Objective 2

TASK: Pass the driver's road test.

CONDITIONS: Given DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), pencil, TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, road test route, an M939 series cargo truck with BII, and road test route. When testing for trailer operations, additional requirements are appropriate trailer operator's manual and a trailer coupled to an M939 series cargo truck.

STANDARD: Achieve a score of 75 or higher. Use the driver's performance test (road test) instructions and the driver's road test score sheet (DA Form 6125-R).

Intermediate Training Objective 3

TASK:	Drive the M939 series cargo truck off road.
CONDITIONS:	Given DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), TM 9-2320-272-10, equipment records folder, rags, lubricants, coolant, a suitable off road training area, an M939 series cargo truck with BII, and a requirement to operate the truck off road (to include ditches, marshes, gullies, ravines, steep grades, woods, mud, rocky terrain, and shallow streams [30 inches or less]) during daylight hours. When testing for trailer operations, additional requirements are appropriate trailer operator's manual and a trailer coupled to an M939 series cargo truck.
STANDARD:	Operate the vehicle safely at reduced speeds, taking precautions not to damage the truck while driving over rough terrain and receive all GOs on the performance test checklist.

C. ADMINISTRATIVE INSTRUCTIONS.

1. Training time: As scheduled.

2. Training location: Classroom, motor pool, road test route, and off road training area(s) as scheduled.

3. Training type: Performance evaluation.

4. Students: Scheduled personnel.

5. Principal and assistant instructors required: One primary instructor for the class for the written tests and one assistant instructor for every student for the performance tests.

6. Training aids and equipment: Hearing protection, rags, lubricants, coolant, examination booklet, pencil, DD Form 1970 (or ULLS generated DA Form 5987-E), DA Form 2404 (or ULLS generated DA Form 5988-E), DA Form 6125-R, TM 9-2320-272-10, equipment records folder, and an M939 series cargo truck with BII for every student. When testing for trailer operations, additional requirements are appropriate trailer operator's manual and a trailer coupled to an M939 series cargo truck.

7. References: AR 385-55, AR 600-55, DA Pamphlet 738-750, FM 21-305, TM 9-2320-272-10, and appropriate trailer operator's manual.

D. SEQUENCE OF ACTIVITY.

1. Introduction:

a. Interest device.

b. Tie-in.

c. Lesson objective (paragraph A).

d. Procedures.

(1) Performance testing.

(2) Evaluation.

(3) Summary.

2. Performance testing:

NOTE: The driver will test in the order listed below and will not do the next test until he successfully passes the previous test.

a. Intermediate training objective 1 (written test).

b. Intermediate training objective 2 (road test).

c. Intermediate training objective 3 (off road driving without trailer).

3. Evaluate: Check written test results, road test score sheets, and performance test checklists.

4. Summary:

a. Recap main points.

b. Allow for questions.

c. Clarify questions.

d. Give closing statement.

5. Retraining: Retrain and retest NO-GOs.

E. SAFETY RESTRICTIONS.

1. Ensure that all chock blocks are in place when vehicles are parked or maintenance is to be performed.

2. Ensure the transmission is in N, the parking brake is set, and the engine is shut off before leaving the vehicle, when the vehicle is parked, or maintenance is being performed.

3. Ensure all personnel remove all wristwatches, rings, bracelets, ID tags, neck chains, and any other jewelry before working in or around the vehicle.

4. Ensure all personnel pay particular attention to the cautions and warnings listed in the operator's manual.

5. Ensure the driver and ground guides know and understand the hand and arm signals, especially the signal to stop, as outlined in FM 21-305.

6. Ensure ground guide(s) are used when backing.

7. Ensure all backing is conducted at a speed of 5 MPH or less.

8. Hearing protection is required for all personnel working in and around the vehicle while the engine is running.

9. Inspect all seat belts for damage and ensure all occupants wear seat belts while the vehicle is in operation.

10. Ensure personnel maintain at least three points of contact when mounting or dismounting the vehicle (to include performing PMCS).

11. Ensure all personnel are clear of vehicle before engine start is attempted. Operator must visually check to see that all areas of the truck are clear of personnel before attempting to start the engine. Failure to do so could result in serious injury or death to personnel.

12. Extreme care should be taken when removing the surge tank filler cap if the temperature gauge reads above 175° F. Steam or hot coolant under pressure will cause injury such as serious burns.

13. The exhaust pipe and muffler can become very hot during vehicle operation. Be careful not to touch these parts with your bare hands or allow the body to come in contact with the exhaust pipe or muffler. Exhaust system parts can become hot enough to cause serious burns.

14. Reemphasize the removal of all jewelry such as rings, ID tags, or bracelets before working around batteries. Be careful not to short out battery terminals. If jewelry or tools contact the battery terminal, a direct short may occur resulting in instant heating, damage to equipment, or injury to personnel. Do not smoke or use open flame near batteries. Batteries may explode from a spark. Battery acid is harmful to skin and eyes.

15. Fuel is very flammable and can explode easily. To avoid serious injury or death, keep fuel away from open fire and keep a fire extinguisher within easy reach when working with fuel. Do not work on the fuel system when the engine is hot. Fuel can be ignited by the hot engine. When working with fuel, post signs that read: "NO SMOKING WITHIN 50 FEET OF VEHICLE".

16. Alcohol used in alcohol evaporator is flammable, poisonous, and explosive. Do not smoke when adding fluid and do not drink fluid. Failure to do this will result in injury or death.

17. Do not use hand throttle while driving. When brakes are applied, the hand throttle does not automatically disengage. Using the hand throttle as a cruise control device could result in injury or death.

18. Apply brakes gradually when slowing or stopping and pump brakes gradually when slowing or stopping the vehicle on ice, snow, or wet pavement. A panic stop will cause the vehicle wheels to lock and the engine to stall. Power steering will be lost. Failure to apply brakes gradually can result in injury or death.

19. Rapid operation repeatedly of service brakes will consume compressed air supply and cause automatic spring brake application. Failure to follow proper service brake operating procedures may cause serious injury or death to personnel.

20. Never use the parking brake for normal braking. The wheels will lock up causing a severe skid. A skidding vehicle could result in serious injury or death.

21. Excessive use of the service brake to control downhill speed will result in the loss of braking power because of heat buildup.

22. Do not put the vehicle in motion until the low air pressure warning light goes out and the alarm (buzzer) stops sounding. Air pressure gauges should indicate at least 90 psi. If warnings continue beyond three minutes, and/or pressure gauges do not reach 90 psi, turn the ignition switch and battery switch to OFF positions and notify unit maintenance. Failure to do this could result in injury or death.

23. When raising the vehicle hood, ensure it is secured from falling. Do this by securing the hood retaining bar to the bumper bracket with the safety pin. Failure to do so may damage the vehicle or cause injury or death to personnel

24. All personnel must stand clear of towing vehicle and trailer during coupling and uncoupling operations. Failure to comply with this warning may result in serious injury or death.

25. Before moving trailer, ensure all loose equipment is properly stowed and that nothing will drag on the ground. If trailer is loaded, ensure that load is properly secured. Failure to follow this warning may result in injury to personnel or damage to equipment.

26. If trailer is not coupled to towing vehicle, ensure the trailer wheels are securely chocked. Failure to do so may cause the trailer to roll, resulting in injury to personnel or damage to equipment.

F. ENVIRONMENTAL CONSIDERATIONS.

1. Ensure that all hazardous materials and wastes are stored and labeled properly.

2. Ensure that spill kits are within reach when changing or adding vehicle fluids or in the case of vehicle failures. Spill kits should enable the soldiers to contain a spill on land or in water.

3. Ensure that drip pans remain under parked vehicles.

4. Ensure that containers are the proper size and type for draining vehicle fluids.

G. ADDITIONAL COMMENTS AND INFORMATION. Recommended testing time is 4.0 hours.

NAME _____ RANK _____ DATE _____

Instructions for Test

A. This test consists of 30 multiple choice questions.

B. Read all questions and answers carefully; then write the answer that is MOST correct on the blank line to the left.

C. Any unanswered questions will be scored as <u>incorrect</u> responses.

_____1. In which gear do you start the engine?

   a. 1-5.

   b. 1-3.

   c. "P".

   d. "N".

_____2. What should you do when stopping the vehicle with a load?

   a. Use the engine as a brake.

   b. Downshift the transmission.

   c. Use the service brakes.

   d. All of the above.

_____3. How do you gain access to the battery compartment?

   a. Raise the two-person crew seat.

   b. Raise the hood.

   c. Open the access door on the right fender.

   d. Open the access panel above the right running board.

_____4. The brake system in the M939 series vehicles is --

    a. An air over hydraulic system.

    b. An air brake system.

    c. A hydraulic over air system.

    d. A hydraulic system.

_____5. For normal driving conditions, use which transmission gear range?

    a. 1-5.

    b. 1-4.

    c. 1-3.

    d. 1-2.

_____6. The recommended method of braking this truck is –

    a. Push pedal down hard until the tires start to slide.

    b. Continuously apply and release the brake pedal - pump the brakes.

    c. Apply brakes gradually when slowing or stopping.

    d. Deploy the parachute.

_____7. How many personnel are authorized to ride in the cab?

    a. 1.

    b. 2.

    c. 3.

    d. As many as can get in the cab.

_____8. The maximum hard bottom fording depth is how many inches?

    a. 30.

    b. 36.

    c. 40.

    d. 48.

_____9. What braking procedure is used when stopping on ice or snow?

     a. There is no specific method for applying the brakes.

     b. Hit the brake pedal hard.

     c. Ride the brakes.

     d. Pump the brakes gradually.

_____10. What color will the air cleaner indicator show when it needs servicing?

     a. Yellow.

     b. Green.

     c. Blue.

     d. Red.

_____11. The spring brake warning light illuminates when --

     a. Spring brakes are not engaged.

     b. There is too much tension on spring brake.

     c. There is not enough tension on spring brake.

     d. Spring brakes are engaged.

_____12. What is the purpose of the slave receptacle?

     a. Of no purpose.

     b. Hooks up to AC current to play your radio.

     c. Is the plug-in point to slave start your vehicle when batteries have become discharged.

     d. To power auxillary work lights.

_____13. What is the purpose of the tire davit boom?

    a. To hold the spare tire in place.

    b. To assist the driver in lifting and guiding the spare tire over the side of the truck.

    c. To assist in replacing davits.

    d. To raise the truck.

_____14. At what interval must the air tanks be drained?

    a. After daily operation.

    b. During daily operation.

    c. Weekly operation.

    d. Monthly operation.

_____15. What sequence and interval is used when performing PMCS?

    a. No specific sequence or interval.

    b. Any way that gets the job completed.

    c. Made in the sequence as listed and at the designated intervals as set forth in the operator's (-10) manual.

    d. Conduct weekly checks prior to any daily checks.

_____16. Do not operate the starter continuously for more than how many seconds?

    a. 5.

    b. 8.

    c. 10.

    d. 15.

_____17. The air pressure gauge must read how many psi before the warning light goes out and the warning buzzer stops?

    a. 30 to 40.

    b. 40 to 50.

    c. 50 to 60.

    d. 90 to 150.

_____18. What is a safe engine oil pressure gauge reading?

    a. 15 psi or higher.

    b. 10 psi.

    c. 5 psi.

    d. Any of the above.

_____19. When do you upshift and downshift the transmission selector lever?

    a. When you want to.

    b. When you reach the bottom of a grade.

    c. As necessary whenever driving conditions change.

    d. Never.

_____20. What is the maximum safe speed, in MPH, for shifting the transfer shift lever from high range to low range?

    a. 42.

    b. 32.

    c. 30.

    d. 22.

_____21. All M939 series vehicles are equipped with what type of hood?

    a. A tilt forward hood.

    b. A tilt back hood.

    c. A split hood.

    d. Cab over.

_____22. Which way should the vehicle face when parking in sand or extremely cold weather?

    a. Into the wind.

    b. No specific way.

    c. Away from the wind.

    d. Sideways.

_____23. The purpose of the hand throttle is for which one of the following?

    a. Engine warm-up and material handling equipment.

    b. Highway operation, using it as a "cruise control".

    c. Raising and lowering the heavy hood.

    d. Lowering the spare tire.

_____24. Hearing protection is required for --

    a. The driver only.

    b. The assistant driver only.

    c. Anyone working around the vehicle when the engine is running.

    d. All the above.

_____25. When the air brake pressure falls below 50 to 60 psi the low air pressure warning light will --

    a. Start flashing.

    b. Illuminate.

    c. Go out.

    d. Do nothing.

_____26. The two air pressure gauges found on the M939 series vehicles are --

    a. Primary and Secondary.

    b. Primary and backup.

    c. Secondary and backup.

    d. Over and under.

_____27. What is the purpose of the emergency engine stop control?

    a. Cuts off fuel to the engine and can be used at anytime.

    b. Cuts off fuel to the engine in emergency situations only.

    c. Cuts off fuel to engine if fuel pump delivers too much fuel to engine.

    d. Disengages the ignition system.

_____28. When does the warning alarm buzzer sound?

    a. Only when parking brakes are engaged.

    b. The air-brake system pressure drops below 50 to 60 psi or when parking brake is engaged.

    c. Only when air-brake system pressure drops below 50 to 60 psi.

    d. When spring brakes are applied.

_____29. The transmission selector lever must be in what position to shift transfer case shift lever?

    a. "N".

    b. "1".

    c. "5".

    d. In any position.

_____30. How do you accelerate when operating in a sandy environment?

    a. Any way.

    b. Rapidly.

    c. Slowly.

    d. Run the engine to 1,500 rpm, then shift the transmission to 1-2.

1. d	16. c
2. d	17. c
3. a	18. a
4. b	19. c
5. a	20. d
6. c	21. a
7. c	22. c
8. a	23. a
9. d	24. d
10. d	25. b
11. d	26. a
12. c	27. b
13. b	28. b
14. a	29. a
15. c	30. c

NAME _____ RANK _____ DATE _____

Instructions for Test

A. This test consists of 30 multiple choice questions.

B. Read all questions and answers carefully; then write the answer that is MOST correct on the blank line to the left.

C. Any unanswered questions will be scored as <u>incorrect</u> responses.

_____1. What is the purpose of the emergency engine stop control?

       a. Cuts off fuel to the engine in emergency situations only.

       b. Cuts off fuel to the engine and can be used at anytime.

       c. Cuts off fuel to engine if fuel pump delivers too much fuel to engine.

       d. Disengages the ignition system.

_____2. When does the warning alarm buzzer sound?

       a. Only when parking brakes are engaged.

       b. The air-brake system pressure drops below 50 to 60 psi or when parking brake is engaged.

       c. Only when air-brake system pressure drops below 50 to 60 psi.

       d. When spring brakes are applied.

_____3. The spring brake warning light illuminates when --

       a. Spring brakes are not engaged.

       b. There is too much tension on spring brake.

       c. There is not enough tension on spring brake.

       d. Spring brakes are engaged.

_____4. The transmission selector lever must be in what position to shift transfer case shift lever?

    a. "5".

    b. "1".

    c. "N".

    d. In any position.

_____5. How do you accelerate when operating in a sandy environment?

    a. Any way.

    b. Rapidly.

    c. Slowly.

    d. Run the engine to 1,500 rpm, then shift the transmission to 1-2.

_____6. The brake system in the M939 series vehicles is --

    a. An air over hydraulic system.

    b. An air brake system.

    c. A hydraulic over air system.

    d. A hydraulic system.

_____7. Hearing protection is required for --

    a. The driver only.

    b. The assistant driver only.

    c. Anyone working around the vehicle when the engine is running.

    d. All of the above.

_____8. The maximum hard bottom fording depth is how many inches?

    a. 30.

    b. 36.

    c. 40.

    d. 48.

_____9. What is the purpose of the slave receptacle?

    a. Of no purpose.

    b. Hooks up to AC current to play your radio.

    c. Is the plug-in point to slave start your vehicle when batteries have become discharged.

    d. To power auxillary work lights.

_____10. For normal driving conditions, use which transmission gear range?

    a. 1-5.

    b. 1-4.

    c. 1-3.

    d. 1-2.

_____11. The recommended method of braking this truck is –

    a. Push pedal down hard until the tires start to slide.

    b. Continuously apply and release the brake pedal - pump the brakes.

    c. Apply brakes gradually when slowing or stopping.

    d. Deploy the parachute.

_____12. How many personnel are authorized to ride in the cab?

    a. 1.

    b. 2.

    c. 3.

    d. As many as can get in the cab.

_____13. What sequence and interval is used when performing PMCS?

    a. No specific sequence or interval.

    b. Any way that gets the job completed.

    c. Made in the sequence as listed and at the designated intervals as set forth in the operator's (-10) manual.

    d. Conduct weekly checks prior to any daily checks.

_____14. Do not operate the starter continuously for more than how many seconds?

    a. 5.

    b. 8.

    c. 10.

    d. 15.

_____15. What is the purpose of the tire davit boom?

    a. To hold the spare tire in place.

    b. To assist the driver in lifting and guiding the spare tire over the side of the truck.

    c. To assist in replacing davits.

    d. To raise the truck.

_____16. At what interval must the air tanks be drained?

    a. During daily operation.

    b. After daily operation.

    c. Weekly operation.

    d. Monthly operation.

_____17. The air pressure gauge must read how many psi before the warning light goes out and the warning buzzer stops?

    a. 30 to 40.

    b. 40 to 50.

    c. 50 to 60.

    d. 90 to 150.

_____18. What is a safe engine oil pressure gauge reading?

    a. 15 psi or higher.

    b. 10 psi.

    c. 5 psi.

    d. Any of the above.

_____19. Which way should the vehicle face when parking in sand or extremely cold weather?

    a. Into the wind.

    b. No specific way.

    c. Away from the wind.

    d. Sideways.

_____20. When the air brake pressure falls below 50 to 60 psi the low air pressure warning light will --

    a. Illuminate.

    b. Start flashing.

    c. Go out.

    d. Do nothing.

_____21. All M939 series vehicles are equipped with what type of hood?

    a. A tilt back hood.

    b. A tilt forward hood.

    c. A split hood.

    d. Cab over.

_____22. The purpose of the hand throttle is for which one of the following?

    a. Engine warm-up and material handling equipment.

    b. Highway operation, using it as a "cruise control".

    c. Raising and lowering the heavy hood.

    d. Lowering the spare tire.

_____23. The two air pressure gauges found on the M939 series vehicles are --

    a. Primary and backup.

    b. Secondary and backup.

    c. Over and under.

    d. Primary and Secondary .

_____24. In which gear do you start the engine?

    a. 1-5.

    b. 1-3.

    c. "P".

    d. "N".

_____25. When do you upshift and downshift the transmission selector lever?

    a. When you want to.

    b. When you reach the bottom of a grade.

    c. As necessary whenever driving conditions change.

    d. Never.

_____26. What is the maximum safe speed, in MPH, for shifting the transfer shift lever from high range to low range?

    a. 42.

    b. 32.

    c. 30.

    d. 22.

_____27. What should you do when stopping the vehicle with a load?

    a. Use the engine as a brake.

    b. Downshift the transmission.

    c. Use the service brakes.

    d. All of the above.

_____28. How do you gain access to the battery compartment?

    a. Raise the two-person crew seat.

    b. Raise the hood.

    c. Open the access door on the right fender.

    d. Open the access panel above the right running board.

_____29. What braking procedure is used when stopping on ice or snow?

    a. There is no specific method for applying the brakes.

    b. Hit the brake pedal hard.

    c. Ride the brakes.

    d. Pump the brakes gradually.

_____30. What color will the air cleaner indicator show when it needs servicing?

    a. Yellow.

    b. Red.

    c. Green.

    d. Blue.

1. a	16. b
2. b	17. c
3. d	18. a
4. c	19. a
5. c	20. a
6. b	21. b
7. d	22. a
8. a	23. d
9. c	24. d
10. a	25. c
11. c	26. d
12. c	27. d
13. c	28. a
14. c	29. d
15. b	30. b

INTERMEDIATE TRAINING OBJECTIVE 2

DRIVER'S PERFORMANCE TEST (ROAD TEST) INSTRUCTIONS

1.   GENERAL.

        a. This test is to be conducted according to the guidelines set forth in AR 600-55. Also, the specific directions for this test are to be followed without deviation. No omissions or changes in the wording of these directions are permitted.

        b. The purpose of the road test is to evaluate the driver's ability to drive safely in most on-the-road situations. It serves as the basis for the issuance of an operator's permit and provides a means for instructional reinforcement and counseling. Driving weaknesses that surface as a result of the test should be called to the attention of the examinee so that specific steps can be taken to eliminate these weaknesses.

        c. Final evaluations will be recorded on DA Form 348 (or ULLS generated DA Form 348-E). Once this transfer of information has been accomplished, the completed DA Form 6125-R will be destroyed.

        d. The examiner will be a thoroughly qualified operator of the M939 series 5-ton cargo truck. He will also be familiar with the road test route and the testing procedures as set forth in AR 600-55 and this TC. Before administering the test to any examinees, he must practice administering the test to a regular licensed driver qualified on the M939 series vehicles (must be specifically qualified on the model he is driving, such as M923A2 or M923) This practice administration will help him become acquainted with the test route and testing procedures.

NOTE: Operators trained in trailer operations will perform these tests with the trailer connected to the vehicle.

        e. The road test will consist of three scored phases: the PMCS test, the vehicle control test, and the on-the-road driving test. The driver will be tested on these phases in the order listed and will not move on to the next phase until successfully passing the previous phase. If the driver fails any phase of the test, the entire road test will be terminated at that point and the examiner will annotate the DA Form 6125-R and conduct an AAR with the driver. This procedure will help to ensure that only safe and proficient drivers get behind the wheel of the M939 series vehicles.

2.   SETTING UP THE ROAD TEST. For the road test, the driver drives a predetermined route. To set up the test, the examiner must plan the route to be used. Once a route is established (in a given locality) it should be used for all examinees who are to be tested in the M939 series vehicles. Should it prove necessary to vary the route, care should be taken that the different kinds of route requirements, as well as the number of requirements remain the same. Every road test route will meet the following requirements (to the extent possible):

a. An area to conduct PMCS.

(1) The site should be a flat parking area suitable for heavy vehicles.

(2) There should be at least 8 feet of open space around the vehicle. This will give the driver room to conduct the inspection and the examiner room to observe the driver's inspection performance.

(3) The site should be quiet enough that the examiner can hear the driver explain what he is doing during the inspection.

(4) Avoid using a parking space on a street or any place where traffic is passing close by.

b. A vehicle control test area with the following maneuvers:

(1) Forward stop (see Figure 6-5). Pull vehicle forward through a straight alley and then stop the vehicle so that the frontmost part of the vehicle is within 2 feet of the forward stop line.

(2) Straight line backing (see Figure 6-5). Back the vehicle through a straight alley and then stop the vehicle so that the frontmost part of the vehicle is within 2 feet of the stop line.

(3) Right turn (see Figure 6-6). Drive the vehicle forward about 30 to 50 feet, and then turn the vehicle right around a cone or other point. Bring the rear tires of the vehicle within 18 inches from the cone without touching it.

(4) Alley dock (see Figure 6-7). Pull the vehicle forward past the alley, keeping the alley entrance on the left. Back in a curved path into the alley without touching the sides and stop the rear of the vehicle within 2 feet of the stop line at the rear of the alley.

c. On-the-road driving test with the following maneuvers:

(1) Eight left turns and eight right turns. Include turns at traffic lights, stop signs, and uncontrolled intersections. The turns should range from easy to somewhat difficult for a heavy vehicle. Get a mixture of types of intersections so that they vary in complexity.

(2) A straight section of urban business streets. The section should be 1 to 2 miles long with moderate traffic density. It should contain through intersections and intersections with traffic lights. Try to get a section where the driver can make lane changes somewhere along the route. The section should be one that lets the examiner see how the driver copes with traffic in a typical business area.

(3) Two through intersections and two intersections where a stop has to be made. If possible, these intersections should be included in the urban section.

(4) Two railway crossings. Try to get at least one uncontrolled crossing. The crossing should have enough sight distance for the examiner to see if the driver makes head search movements when approaching each crossing. The driver's attempt to look left and right down the

track will often be the only way to tell if the driver noticed the crossing. If the area does not have any railway crossings, simulate this exercise.

(5) Two curves, one to the left and one to the right. Try to get curves tight enough to produce noticeable off-tracking.

(6) A two-lane rural or semirural road. This section should be about 2 miles long. If there is no rural road near the motor pool, an industrial street with few entrances and a higher speed limit is a good substitute. An undeveloped suburban road is another good substitute. In general, use any road that has characteristics similar to a rural road.

(7) A section of expressway. The section should start with a conventional ramp entrance and end with a conventional ramp exit. The section should be long enough for the M939 series 5-ton cargo truck to make two lane changes. A section of four-lane highway can be used if there is no expressway is available.

(8) A downgrade. The grade should be steep enough and long enough to require gearing down and braking. A steep short hill is the next best choice if a long grade cannot be found. If the local area does not have any steep grades, simulate this exercise.

(9) An upgrade. The grade should be steep enough and long enough to require gear changing to maintain speed. A steep short hill is the next best choice if a long grade cannot be found. If it is hard to find steep grades in the local area, use the same grade for both the downgrade and the upgrade.

(10) A downgrade for stopping. This is a grade where a vehicle can safely stop (or pull off) and park for a minute or so. The grade only needs to be steep enough to cause a vehicle to roll if the driver does not park properly. If the local area does not have any steep grades, simulate this exercise.

(11) An upgrade for stopping. This is another grade where a vehicle can safely stop and park for a minute or so. If needed, use the same grade as was used for the downgrade stop.

(12) One underpass or low clearance and one bridge. The underpass should have a posted clearance height. The bridge should have a posted weight limit. If the local area does not have underpasses or bridges with posted limits, use ones that do not have posted limits. If needed, substitute a bridge for an underpass or an underpass for a bridge. If the local area does not have any low clearances or bridges, look for places that have signs an M939 series vehicle driver should see. Examples of such signs are "No Commercial Vehicles after 11:00 PM" or "Bridge with 12 Ton Weight Limit in 2 Miles."

d. Route design.

(1) When designing a route, try to include all of the specified maneuvers. If there is not an ideal example for a maneuver, find the closest substitute. Do not drop a maneuver because there is not an ideal example. The most important thing is to have a route that tests the driver in as wide a variety of situations as possible.

(2) There is no minimum length for a route and no minimum amount of time that a route must take. A route is acceptable whenever it has all the specified maneuvers. It is a good idea to have at least two routes available so that there is an alternate route if construction or traffic prevents using the primary route.

3.   ADMINISTERING THE ROAD TEST.

    a. Preventing accidents.

      (1) Road tests should normally NOT be given if road or weather conditions present a hazard such as ice, snow, rain, or blowing dust. The exception is when testing is specifically for driving under such conditions.

      (2) The examiner must always watch traffic conditions and warn the examinee of dangers which he may not see. If the driver becomes involved in a dangerous or unlawful moving traffic incident or an accident, terminate the test immediately. The examiner will drive the vehicle back to the start point once on-scene responsibilities are fulfilled.

    b. Beginning the road test.

      (1) Fill in the driver's name and your name (examiner's) on the front of the Road Test Score Sheet. (A sample of a completed DA Form 6125-R is shown in Figure 7-1, page 7-28 and Figure 7-2, page 7-29). A reproducible DA Form 6125-R is located at the back of AR 600-55. Read the following instructions to the driver at the beginning of the test:

DURING THE ROAD TEST, I WILL GIVE YOU DIRECTIONS AS WE GO ALONG.

I WILL ALWAYS GIVE DIRECTIONS FOR TURNS, AND SO ON, AS FAR IN ADVANCE AS POSSIBLE.

THERE WILL BE NO TRICK DIRECTIONS TO GET YOU TO DO SOMETHING ILLEGAL OR UNSAFE.

KEEP IN MIND THAT YOU ARE ALWAYS IN CHARGE OF THE VEHICLE. DO NOT FOLLOW A DIRECTION IF IT TURNS OUT AT THE LAST MINUTE TO LEAD TO AN UNSAFE ACT.

AS WE GO ALONG, I WILL BE MAKING VARIOUS MARKS ON THE SCORING FORM. WHEN YOU SEE THIS, IT DOES NOT NECESSARILY MEAN YOU HAVE DONE ANYTHING WRONG. IT IS BEST FOR YOU TO CONCENTRATE ON DRIVING AND NOT WORRY ABOUT WHAT I AM DOING.

YOUR SCORED TEST BEGINS WITH BEFORE-OPERATIONS PREVENTIVE MAINTENANCE CHECKS AND SERVICES. IF YOU ARE SUCCESSFUL IN THAT PORTION OF THE TEST, YOU WILL PROCEED TO THE VEHICLE CONTROL TEST, AND FINALLY TO THE ON-THE-ROAD DRIVING TEST.

ARE THERE ANY QUESTIONS?

ROAD TEST SCORE SHEET	DATE
For use of this form, see AR 600-55; the proponent agency is OCSA	7 MAR 97

NAME OF DRIVER	NAME OF EXAMINER
BROOKS, CHARLES	BAJSERT, BRIAN

SSAN	SCORE	ROUTE
000-00-0000	-22	PRIMARY

STOP/START ON GRADE

Approach

	Up	Down
Traffic check	Ø	O
Signal On	O	O
Moves to proper lane	O	Ø
Smooth deceleration	O	O
Does not coast to stop	O	O

Stop

Vehicle parallel to curb	O	O
Vehicle does not roll	O	O
Signal off/4-ways on	Ø	
Parking brake on	Ø	

Resume

Traffic check	O	O
4-ways off/signal on	O	O
Release parking brake.................................	O	O
Did not stall engine	O	O
Traffic check	O	O
Accelerate to traffic fow	O	O
SEARCH...	O	O
DIRECTION..	O	O
SPEED..	O	O
No errors..	–	–

EXPRESSWAY

Merge On

Traffic check	O
Signal On	O
Maintains spacing	O
Avoids stopping	O
Smooth merge	O
Cancel signal...	O

Lane Changes

	Left	Right
Traffic check	O	O
Signal on	O	Ø
Adequate spacing...	O	Ø
Smooth lane change	O	O
Cancel signal...	O	O

Exit

Traffic check	O
Signal on	O
Smooth merge to exit lane	Ø
Decelerate in exit lane	O
Adequate spacing	O
Correct ramp speed	O
Cancel signal...	O
SEARCH...	O
DIRECTION..	O
SPEED..	O
No errors	–

DRIVING UP GRADE

In proper gear	O
Stays in right lane	O
Uses 4-ways if slow	O
Traffic check	O
SEARCH...	O
DIRECTION..	O
SPEED..	Ø
No errors..	✓

DRIVING DOWN GRADE

Clear brakes	O
In proper gear	O
Steady braking on grade	O
Does not ride clutch	Ø
Maintain steady speed	O
Traffic check	O
SEARCH...	O
DIRECTION..	O
SPEED..	Ø
No errors..	

GENERAL DRIVING BEHAVIOR

Use clutch properly *(to shift, double clutched, didn't ride)*	Ø
Used gears properly *(not over-rev/lug engine, clash gears, coast)* ..	O
Used brakes properly *(no hard braking, no riding or pumping brake)*	O
Proper steering *(both hands on wheel, not over/under steer)*	Ø
Obeyed all traffic signs and signals	O
Drove without an accident	O
Never put vehicle over sidewalks, lane markings, stop lines, etc. ...	O
Examiner was never thrown to left, right, or forward	O
Driver was never forced to take evasive action	O
Wore seat belt	O
Yielded right of way to pedestrians	O
Yielded right of way to other vehicles, as appropriate	O
No errors..	–

NOTES

Before-operations PMCS satisfactory.

DA FORM 6125-R, AUG 93	EDITION OF MAR 65 IS OBSOLETE.	USAPPC V1.00

LEFT TURNS   RIGHT TURNS

Approach

1 2 3 4 5 6 7 8 — Traffic check ....
Signal on......................
Smooth deceleration .....
Did not coast to start of turn ....
Correct lane to begin turn ....

1 2 3 4 5 6 7 8

RAILWAY CROSSINGS

1 2 3

Checks for trains ....
Followed relevant laws ....
Did not change gears ....
Did not stop on tracks ....
No errors ....

If Vehicle Stops

1 2 3 4 5 6 7 8 — Gap to vehicle in front ...
Not over stop line ....
Came to full stop ....
Wheels straight ahead....
Stop was necessary ......

1 2 3 4 5 6 7 8

BRIDGE/UNDERPASS

Know weight limit on bridge ....
No error...
Know clearance of underpass ....
No errors...

Turning

1 2 3 4 5 6 7 8 — Traffic check ....
Both hands on wheel .....
No gear change.............
Proper speed.............
Turn not too wide/short

1 2 3 4 5 6 7 8

Completes Turn

1 2 3 4 5 6 7 8 — Turned into correct lane..
Traffic Check ....
Cancel signal...............
Accelerated to traffic flow ....

1 2 3 4 5 6 7 8

CURVES

Left Right

Reduce speed on entering....................
Maintain speed going through ....
Stay in lane ....
Traffic check ....
No errors ....

SEARCH......................
DIRECTION.................
SPEED.......................
No errors.....................

URBAN/RURAL

STRAIGHT SECTIONS

Regular traffic   Urban Rural

Regular traffic check ....
Selects proper lane ....
Keeps vehicle in lane..
Adequate following distance ....
Appropriate speed...

SEARCH...
DIRECTION...
SPEED..
No errors ....

LANE CHANGES

Left Right

Traffic check ....
Signal one..
Adequate spacing...
Smooth lane change..
Cancel signal..
No errors..

INTERSECTIONS

Stopping

1 2

Traffic check ....
Smooth deceleration ....
Did not coast to stop ....
Gap to vehicle in front ....
Not over stop line ....
Came to full stop ....

Driving Through

1 2 3 4

Traffic check ....
Yields as necessary....................................
No lane change...
No gear change...
Accelerates to traffic flow ....

SEARCH...
DIRECTION...
SPEED..
No errors...

REVERSE OF DA FORM 6125-R, AUG 93   USAPPC V1.00

(2) The road test actually begins when the driver starts his before-operations PMCS. If the driver performs the PMCS to appropriate standards, the examiner will annotate in the NOTES section of the DA Form 6125-R "Before-operations PMCS satisfactory." If he does not perform PMCS to the examiner's satisfaction, the examiner will stop the road test at that point and fail the driver. In this situation, the examiner will annotate "Before-operations PMCS unsatisfactory" in the NOTES section, list specific deficiencies if any, and refer the driver for further training. The examiner will follow the same procedures for grading during- and after-operations PMCS.

(3) If the driver successfully completes the before-operations PMCS, he will proceed to the vehicle control test. It is important to ensure that the driver is proficient in basic vehicle control skills before taking him on the road with other traffic.

(a) Upon arrival at the vehicle control test site, give the driver an overview of all four exercises (forward stop, straight line backing, right turn, and alley dock). Use a diagram of the site to show the driver what to do, and explain that he will get detailed instructions for each exercise as it comes up. When he is ready, the driver gets into the vehicle and proceeds to the first exercise for instructions.

(b) The examiner will evaluate the exercises from the ground and observe the driver's ability to control the vehicle during each maneuver. If the driver demonstrates satisfactory vehicle control skills, the examiner will indicate in the NOTES section "Vehicle control test satisfactory." If the driver is unable to satisfactorily negotiate the course, the examiner will stop the road test and fail the driver at that point. The examiner will indicate in the NOTES section "Vehicle control test unsatisfactory," indicate specific weaknesses if any, and refer the driver for further training.

(4) If the driver satisfactorily completes the vehicle control test, he will proceed to the driving portion of the road test. When the driver is ready, get into the vehicle with the driver and start giving directions for following the road test route. Give the directions in this form: At the (location), make (maneuver). For example, "At the next intersection, turn right," or "At the stop sign, turn left."

(5) If necessary, give combined directions. For example, "Immediately after you complete your right turn, you will have to turn left into that road over there."

(6) Avoid using commercial signs or buildings as landmarks for directions unless there is no alternative. Do not assume that the driver is familiar enough with the area that he knows such landmarks.

(7) Give directions well before the maneuver is to be performed. Always give a direction at a point where the driver can see where he will do the maneuver. However, give the directions close enough to the location so the driver can be sure of where to do the maneuver. For example, do not tell the driver to turn at the next intersection if there is another intersection before the one where you want the driver to turn.

(8) In addition to directions for getting the driver around the route, there are some directions to give for the expressway, urban straight, and rural sections.

(a) At the beginning of the expressway section say, "We will be driving along this expressway for about (2 or however many) miles. When it is safe to do so, make a lane change to the left. Then when it is safe to do so, make a lane change to the right."

(b) At the beginning of the urban straight section, say, "We will be driving along this street for about (2 or however many) miles. When it is safe to do so, make a lane change to the left. Then when it is safe to do so, make a lane change back to the right. When we get near the end of this section, I will tell you what to do next."

(c) At the beginning of the rural section, say, "We will be driving along this road for about (2 or however many) miles. When we get near the end, I will tell you what to do next."

(9) In general, give all directions in a way that avoids distracting the driver. Also, avoid unnecessary conversation.

4.   SCORING THE ROAD TEST.

a. The scoring form for the road test is DA Form 6125-R, a two-sided single sheet. (A sample of a completed DA Form 6125-R is at Figures 7-1 and 7-2). A reproducible DA Form 6125-R is located at the back of AR 600-55. The main headings in the boxes give the names of the different maneuvers. Each maneuver has a list of driver behaviors to be scored. Beside each behavior is a letter "O" used for marking the driver for the behavior. In cases where a maneuver is done several times on the route, there is a column of O's for each time the maneuver appears on the route.

b. To score a behavior, draw a stroke through the O whenever the driver's performance is unsatisfactory. Make no mark if the driver performs the behavior correctly. For each maneuver, there is a "No Errors" category at the bottom of the list of behaviors. There is a space beside "No Errors" where you can put a check mark if the driver is satisfactory on all behaviors. These check marks will show that you scored the driver even if the driver made no errors.

c. The only other marking that needs to be done on the test is to indicate maneuvers that were not done. A maneuver might not be done because you missed it for some reason or because there was no opportunity for it on the route. To show that a maneuver was not performed, draw a vertical line down through the entire column of O's used for marking that maneuver.

d. To score the maneuver, follow these steps:

(1) Find the maneuver on the score sheet and be ready to mark it.

(2) Check the driver and the traffic. When the driver can pay attention, give the directions for the next maneuver.

(3) Watch the driver perform the maneuver.

(4) Mark the score sheet.

e. Mark the driver's score sheet immediately after each maneuver. Do not try to remember what the driver did and mark the sheet later on in the route or back at the office.

f. The following paragraphs describe how to mark the score sheet for each type of maneuver:

(1) Stop/start on a grade. There are two columns of O's to mark: one for the upgrade stop and one for the downgrade stop. The columns are labeled "Up" and "Down." The behaviors are organized in three groups: approach, stop, and resume. Score each group separately as the driver does them. Score the approach as soon as the driver comes to a stop. Then check the stop behaviors and score them before telling the driver to continue. After the driver pulls away, score the rest of the behaviors.

(2) Expressway. Score the expressway section in three phases: merge on, lane changes, and exit. Mark each phase as the driver completes it. There are two columns of O's for the lane changes. Mark the one labeled "Left" for the lane change to the left. Mark the one labeled "Right" for the lane change to the right.

(3) Driving upgrade and driving downgrade. Driving up a grade and driving down a grade are scored separately. Observe how the driver handles the grade and score the behaviors listed. It is especially important that the driver uses the proper gear and appropriate signals and speed on grades because these can affect other traffic.

(4) General driving behavior. General behaviors such as gear changing should be marked at the end of the test. Specific actions such as traffic violations can be marked when they happen. There is also space to write notes. Use this space to make notes of things that do not fit into any scoring categories or to record any unusual events during the test. Remember to draw a vertical line through behaviors that are not graded, such as use of clutch when grading on the M939 series vehicle.

(5) Turns. There are eight columns of O's on the left of the box; eight columns of O's on the right (see Figure 7-2). The columns on the left are for left turns. The ones on the right are for right turns. The columns are numbered according to the order in which the turns occur on the route. Column 1 of the left turn columns is for the first left turn on the route, column 2 is for the second turn, and so on. The first few times an examiner uses a route, it is a good idea to write the names of the locations of the turns at the tops of the columns. This will help keep track of the turns until the route is completely memorized.

(a) Mark a turn in four steps: "Approach," "If Vehicle Stops," "Turning," and "Completes Turn." Mark the "If Vehicle Stops" section only if the driver has to make a legal stop before starting the turn, such as at a traffic light, a stop sign, or yield sign. Do not mark this section if the driver stops for some other reason, such as being blocked by other vehicles part way around the turn.

(b) It is important to observe whether the driver is aware of his vehicle position throughout the turn, because it can affect other traffic. If there is more than one left turn lane, the driver should start his turn from the rightmost turn lane.

(6) Railway crossing. This section has three columns for scoring. The ones labeled "1" and "2" are for actual railway crossings on the route. The one labeled "S" is for the simulated crossing. Vehicles transporting passengers or hauling hazardous cargo are required by law to stop between 15 and 50 feet from the nearest railroad crossing and take whatever actions are necessary (for example an open window) to look and listen for trains.

(7) Bridge/underpass. There is one space for marking a bridge and one for marking an underpass.

(8) Curves. There are two columns for scoring curves. The one labeled "Left" is for a curve that turns to the left. The column labeled "Right" is for a curve that turns to the right. Drivers should reduce to a safe speed before entering the curve, then maintain that speed during the curve.

(9) Urban/rural straight sections. This section has two columns. Use the one labeled "Urban" for the urban section. Use the one labeled "Rural" for the rural section. In most cases you will mark the driver when he gets to the end of the section. However, if you see the driver make an error while driving along the section, such as driving in the wrong lane, mark the error as soon as you see it. The driver should drive in the right lane if it is clear or in the center lane if the right lane is blocked or has a large volume of merging traffic.

(10) Lane changes. The column labeled "Left" is for a lane change to the left. The column labeled "Right" is for a lane change to the right. The lane changes are part of the urban section (in addition to the expressway section). Mark each lane change as soon as the driver makes it.

(11) Intersections. There are four columns for marking the driver on intersections. Columns 1 and 2 are for intersections where the driver has to make a legal stop; for example, at a traffic light or a stop sign. Columns 3 and 4 are for marking intersections that the driver goes straight through. There are two phases to marking a stop intersection, stopping and driving through. For a stop intersection, driving through items cover the time from when the driver starts off from the stop to when the driver resumes normal traffic speed. For a driving through intersection, you only mark columns 3 and 4. The urban straight section normally has more than enough intersections to score. Start scoring the intersections as soon as the examinee begins driving along the section. Score stop and through intersections in whatever order they come up in. It does not matter if an intersection with traffic lights is sometimes scored as a stop intersection and sometimes scored as a through intersection.

(12) Search, direction, and speed. Most of the grading blocks discussed above have areas for grading search, direction, and speed in addition to the other behaviors listed. These are general categories which the examiner should be monitoring through each exercise.

(a) Search. At all times during the road test the driver must be constantly checking the front, sides, and rear of his vehicle for traffic, pedestrians, obstructions, emergencies,

and so forth. During each maneuver, the examiner must observe whether the driver is checking around him and yields right of way to other road users when appropriate.

(b) Direction. The driver must be aware of the position of his vehicle at all times. During each maneuver, the examiner must observe the vehicle position in the lane, whether the vehicle is in the correct lane, and whether the driver maintains the appropriate distance from traffic, stop lines, and so on.

(c) Speed. The driver must be aware not only of his speed in comparison with the speed limit, but how his speed affects other traffic. During each maneuver the examiner must watch to see that the driver maintains posted speed limits, accelerates and decelerates smoothly, uses the proper gear for his speed, and blends in with the traffic flow. The examiner must also observe that the driver does not lug or race the engine, coast the vehicle, change gears or brake on tracks or in the middle of intersections, stall the engine, and so forth.

(13) Driver errors at nonmarking locations. Since the examiner scores at predetermined locations, there will be occasions when the driver makes an error at some place other than one of these locations. Score the error in the General Driving Behavior section of the form if appropriate. Otherwise, ignore the error. If the route has a lot of places where the examiner cannot score the driver, the route is probably inefficient. If the driver makes errors in places where the examiner does not score, the driver will likely make errors in places where scoring can be done. Do not decide where to score a driver based on when the driver makes an error. Stick to scoring at the predetermined locations.

5.   COMPUTING THE DRIVER'S SCORE.

a. Road test score sheet. At the end of the test, make sure all driver and examiner information is completed. Check that everything is marked clearly and correctly. Be sure to cross out maneuvers that were not done on the test. Review the scored maneuvers for repeated errors and score errors in the general driving behavior. Carefully add the number of marked letter O's and write the total in the "Score" space on the front of the form. A passing score is 25 errors or less. The driver fails the road test if he makes 26 or more errors (errors accumulated on the vehicle control test DO NOT count toward the score on the driving portion of the road test). If the score is close to a failing score, double-check that you have added correctly.

b. Failures. Annotate reason for failure in the Notes section; for example, "Examinee exhibited undue nervousness." The following are some reasons for failures:

(1) Any unsafe driving act.

(2) Failure to properly perform PMCS.

(3) Not knowing location and function of gauges and controls.

(4) Unsatisfactory performance on vehicle control test.

(5) Undue nervousness.

(6) Failure to achieve minimum passing score.

NOTE: If the individual scores 25 errors or less, but the examiner feels that the individual needs additional training, the examiner has the right not to issue a license.

       c. After-action review. Whether the driver passes or fails, the examiner will review the results of the road test with him and bring to his attention any weaknesses that require further practice or training. If the driver failed, tell him what caused him to fail. Advise him that an standard Army OF 346 cannot be issued and he will have to retake the entire performance test at a later date. Whether pass or fail, the results must be recorded on the DA Form 6125-R.

INTERMEDIATE TRAINING OBJECTIVE 3

PERFORMANCE TEST - OFF ROAD DRIVING

NAME _____ RANK _____ UNIT _____

EVALUATOR _____ DATE _____

	<u>STEPS</u>	GO	NO-GO
1.	PRESETS THE CTIS SELECTOR TO THE CROSS-COUNTRY (X-C) MODE (M939A2 SERIES).		
2.	SHIFTS THE TRANSFER CASE SHIFT LEVER WITH THE TRANSMISSION IN THE "N" POSITION.		
3.	SHIFTS THE TRANSFER CASE SHIFT LEVER WHEN VEHICLE SPEED IS LESS THAN 22 MPH.		
4.	ALLOWS CTIS AMPLE TIME TO ADJUST BEFORE ENCOUNTERING ADVERSE TERRAIN (M939A2 SERIES).		
5.	ENGAGES FRONT WHEEL DRIVE LOCK-IN ONLY WHEN THE TRANSFER CASE IS IN HIGH RANGE.		
6.	SETS THE TRANSMISSION RANGE SELECTOR TO 1 AS NEEDED.		
7.	ANTICIPATES TERRAIN AND, BEFORE NEGOTIATING, TAKES POSITIVE ACTION TO MATCH CTIS (M939A2 SERIES), TRANSMISSION AND TRANSFER CASE GEAR SELECTION TO TERRAIN FEATURES.		
8.	DOES NOT SHIFT INTO ANY LOWER GEAR THAN IS NECESSARY TO MAINTAIN HEADWAY.		
9.	CHECKS FOR OBSTRUCTIONS/CLEARANCES AND CHOOSES THE BEST ROUTE OF TRAVEL TO AVOID OBSTACLES.		
10.	MAINTAINS CONTROL OF THE VEHICLE.		
11.	MANEUVERS AROUND, NOT OVER OBSTACLES.		

STEPS	GO	NO-GO
12. DRIVES SLOWLY ENOUGH TO PREVENT TRUCK DAMAGE, LOOSE OR SHIFTING CARGO, AND INJURY TO VEHICLE OCCUPANTS.		
13. MANUALLY DOWNSHIFTS/UPSHIFTS THE TRANSMISSION PROPERLY WHEN NECESSARY, SUCH AS ON GRADES.		
14. DOES NOT BACK THE VEHICLE WITH THE TRANSFER CASE IN LOW.		
15. DOES NOT ALLOW THE VEHICLE TO EXCEED 5 MPH WHEN THE TRANSFER CASE IS IN LOW AND THE TRANSMISSION IS IN "1".		
16. ASCENDS/DESCENDS HILLS IN A STRAIGHT APPROACH.		
17. CROSSES RAVINES AND DITCHES PROPERLY.		
18. DOES NOT EXCEED THE FORDING DEPTH/SPEED.		

AAR after-action review
AC alternating current
AR Army regulation
ASAP as soon as possible
ATTN attention
BII basic issue items
CTIS central tire inflation system
DA Department of the Army
DD Department of Defense
E electronic (as in electronic forms)
ECU electronic control unit
EMER emergency
EOCCT end of course comprehensive test
FY fiscal year
F Fahrenheit
FM field manual
GPM ground precautionary message
HN host nation
HQ headquarters
HWY highway
ID identification
K kilometers
LO lubrication order
MP military police
METT-T mission, enemy, terrain, troops, and time available
MIN minimum
MOS military occupational specialty
MPH miles per hour
N neutral
NA not applicable
NC North Carolina
NCOIC noncommissioned officer in charge
NMC not mission capable
No. number
NSN national stock number
NY New York
OF optional form
P park
PA public address
PIN production identification number
PMCS preventive maintenance checks and services
POL petroleum, oils, and lubricants
psi pounds per square inch
PTO power take-off
Qty quantity

R reverse
rpm revolutions per minute
rqr requirement
S simulated
SF standard form
SOP standing operating procedure
SSG staff sergeant
SPC specialist
STP soldier training publication
TA training area
TACOM US Army Tank-automotive and Armaments Command
TAMMS The Army Maintenance Management System
TC training circular
TM technical manual
TRADOC United States Army Training and Doctrine Command
TVT training videotape
ULLS unit level logistics system
US United States (of America)
VCR video cassette recorder
w with
X-C cross-country

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