

**TRAINING PROGRAM FOR THE
HIGH MOBILITY MULTIPURPOSE
WHEELED VEHICLE**

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HEADQUARTERS, DEPARTMENT OF THE ARMY

Training Circular 21-305-4

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TRAINING PROGRAM FOR THE HIGH MOBILITY MULTIPURPOSE WHEELED VEHICLE

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TC 21-305-4

PREFACE

This training circular (TC) provides standardized driver training and testing for the high mobility multipurpose wheeled vehicle (HMMWV) operator in accordance with AR 600-55. It stresses hands-on training with minimal classroom instruction. It does not include any theater-unique requirements.

This TC teaches the novice (inexperienced) driver to operate the HMMWV. It also can be used to teach the apprentice driver. (The apprentice driver is a driver that has been driving military vehicles for at least one year.) The apprentice driver may learn to operate the HMMWV in less time than the novice, assuming that skills learned on other military vehicles are positive skills transferable to operating a HMMWV.

NOTE: The trainer must realize that a positive transfer of skills does not always occur. Conceivably, the apprentice driver might need more training than the novice driver to safely operate the HMMWV.

To effectively execute this TC, each instructor should ensure their HMMWV operators are trained and tested to the standards contained in this TC. This TC was specifically designed for the HMMWV system to include PMCS and vehicle operations. Any deviation from the successful completion of these basic standards will only lessen the soldiers' overall driving effectiveness.

This training program offers some alternatives for the commander. Chapter 5 contains two lessons for optional instruction because of varying unit missions and terrain features. Chapter 6 includes additional lessons to allow the flexibility to add subjects based on the mission and level of driver training.

Graduates (licensed drivers) of this HMMWV training program should be supervised until they have gained the experience to operate safely. 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 the US Army Transportation School. Submit changes for improving this publication on DA Form 2028 and forward it to Commandant, US Army Transportation School, ATSP-TDI-DX, Fort Eustis, Virginia 23604-5389.

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

CHAPTER 1

RISK MANAGEMENT

1-1. BACKGROUND. Leaders at all levels must develop techniques that will save resources. The training mission has become increasingly demanding because the Army must be prepared to operate worldwide and so have the risks inherent in that mission. This increase in risks requires that leaders minimize or balance risks with essential mission needs.

1-2. DEFINITION. Risk can be defined as the possibility of a loss. The loss can be death, injury, property damage, or mission failure. Risk management is the identification of risks associated with a particular operation and the requirement to weigh these risks against the overall training value to be gained. There are three risk management basics:

- a. Accept no unnecessary risk.
- b. Accept necessary risks that produce a net Army benefit.
- c. Make risk decisions at the proper command level.

1-3. RISK MANAGEMENT PROCESS. The risk management process uses the following approach:

- a. Detect hazards and associated risks. Look for risks in each phase of the training or operations.
- b. Assess the risk. Ask these questions:
 - What is the likelihood of a mishap?
 - What degree of injury or equipment damage is possible?

A low likelihood of happening and a high probability of minor injury equals low risk. A low likelihood of happening and a high probability of a fatality equals high risk.

c. Develop risk control alternatives and make risk decisions. If the risk cannot be eliminated, then it must be controlled without sacrificing essential mission requirements. Some risks can be controlled by modifying task standards, operational procedures, training requirements, maintenance standards, and so on. Decisions take several forms:

- Selecting from available controls.
- Trading off mission elements against risk controls.
- Determining if controls reduce the risk to an acceptable level considering the mission benefits.

d. Implement the risk control measures. Procedures for controlling risks must be integrated into plans, orders, SOPS, and training. They must also be integrated into other means to ensure that the risk reduction measures will be used during actual operations.

e. Supervise the operations. Leaders use the same supervision techniques, such as on-the-scene, spot-checks, and performance indicators, to monitor risk controls that they use to monitor overall operations.

f. Evaluate the results. Include the effectiveness of risk management controls in the assessment of operational results.

1-4. RISK ASSESSMENT ELEMENTS. There are no hard and fast rules for assessing risks. Different training tasks involve different elements that can affect training safety. However, the following seven elements are central to the safe completion of most driver training tasks:

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

Using matrices that assign a numerical value to each of the elements is one way to quickly gain an appreciation of the overall risks. The following matrices offer examples of risk assessments for each of the seven elements common to driver training missions.

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

a. Soldier qualification is measured by comparing the level of task difficulty to the soldier's military driving experience.

SOLDIER QUALIFICATION RISK VALUE DRIVING EXPERIENCE			
TASK	LICENSED OVER 1 YEAR	LICENSED UNDER 1 YEAR	UNLICENSED
COMPLEX	3	4	5
ROUTINE	2	3	4
SIMPLE	1	2	3

EXAMPLE: Unlicensed drivers learning downhill braking techniques in a HEMTT would receive a risk value of 5.

- b. Vehicle type is measured by comparing the vehicle configuration to the location of the training tasks.

VEHICLE TYPE RISK VALUE VEHICLE CONFIGURATION			
LOCATION OF TRAINING	LIGHT TRUCKS	MEDIUM TRUCKS	TRACTOR/ SEMITRAILERS
ROAD	3	4	5
TRAINING AREA	2	3	4
MOTOR POOL	1	1	1

EXAMPLE: Driving an M915 tractor and semitrailer over the road would have a risk value of 5.

- c. Weather is measured by comparing temperature with moisture/visibility conditions.

WEATHER RISK VALUE VISIBILITY/MOISTURE			
TEMPERATURE FAHRENHEIT	CLEAR DRY	FOG/HUMID/ DRIZZLE /	DUST/RAIN/ SNOW/ICE
0° - 31° or 90° +	3	4	5
32° - 59°	2	3	5
60° - 89°	1	3	5

EXAMPLE: A task conducted outdoors at a temperature of 20°F with snow or ice would receive a risk value of 5.

- d. Terrain is measured by comparing the physical features of the land with the road network that exists in the area.

TERRAIN RISK VALUE TRAFFICABILITY			
TYPE OF TERRAIN	STREETS/ HIGHWAYS	CONGESTED STREETS/HIGHWAYS	TRAILS/ CROSS-COUNTRY
JUNGLE/MOUNTAIN/ DESERT	3	4	5
HILLS	2	4	4
FLAT/ROLLING	1	3	3

EXAMPLE: Driver training conducted at Fort Bragg over trails would be assessed a value of 3.

e. Supervision is measured by comparing the instructor to student ratio to the location of the training tasks.

SUPERVISION RISK VALUE			
INSTRUCTOR TO STUDENT RATIO	CLASSROOM	TRAINING AREA/ MOTOR POOL	ON/OFF ROAD
LOW	3	4	5
AVERAGE	2	3	4
HIGH	1	2	3

EXAMPLE: An instructor to student ratio of 1:8 for on-road driving would be assessed a value of 5.

f. Equipment is measured by comparing the age of the equipment to the maintenance level.

EQUIPMENT RISK VALUE			
EQUIPMENT AGE	C-1	C-2	C-3
OLD	3	4	5
AVERAGE	2	3	4
NEW	1	2	3

EXAMPLE: A 6-year old HMMWV maintained as C-2, would be assessed a value of 3.

g. Time of day is measured by comparing the level of light to familiarity with the route.

TIME OF DAY RISK VALUE			
ROUTE FAMILIARITY	DAY	DAWN/DUSK	NIGHT
NEVER DRIVEN ROUTE	3	4	5
DRIVEN ROUTE 1-3 TIMES	2	3	4
FAMILIAR ROUTE	1	2	3

EXAMPLE: A driving task over a familiar route that starts during the day but ends at dusk would have a risk value of 2.

h. After all the risks have been assessed, the value would be totaled and applied to a quick reference gauge.

QUICK REFERENCE GAUGE			
RISK LEVEL	LOW	CAUTION	HIGH
VALUES	7 - 12	13 - 18	19 - 35

When two or more elements are assigned a risk value of 5, you should consider the overall rating as high risk. (A risk value of 5 signifies a hazard inherent in that task and should be analyzed for ways to reduce or eliminate the danger.)

1-5. 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. This matrix is a proposed decision aid to assist in determining the leadership decision-making level.

DECISION AID		
RISK	POINTS	DECISION LEVEL
LOW	7 – 12	SENIOR INSTRUCTOR
CAUTION	13 – 18	COMPANY COMMANDER
HIGH	19 - 35	BATTALION COMMANDER

- a. Operations with a value of 7 to 12 are low risk, and normal standing operating procedures (SOP) apply.
- b. A value of 13 to 18 is a caution area. Complete unit command involvement is warranted. Give a caution rating special consideration if one or two elements have significantly raised the overall risk level. For example, a risk value of 4 in the weather element category indicates the soldiers are more susceptible to cold injuries and require closer supervision. If the risk level cannot be reduced, then the company commander must approve the training mission.
- c. A value of 19 to 35 or two or more areas assigned a risk value of 5 are high risk operations, and procedures in b above apply. If the risk level cannot be lowered, the battalion commander must approve the mission.

1.6 RISK CONTROL ALTERNATIVES. The following options can help control risk:

- a. Eliminate the hazard. Eliminate the hazard totally, if possible, or substitute a less hazardous alternative.
- b. Control the hazard. Reduce the magnitude of the hazard or provide barriers.
- c. Change operational procedures. Modify operational procedures to minimize risk exposure consistent with mission needs.
- d. Educate. Train personnel to use effective actions to avoid hazards.
- e. Motivate. Motivate personnel to use effective actions to avoid hazards.

1-7. RISK CONTROL MEASURES. Leaders must monitor the training to ensure that risk control measures are followed. Never underestimate the ability of subordinates to sidetrack a decision they do not understand or support. Leaders will also need to monitor the impact of risk reduction procedures when they are implemented to verify that they really are a good idea. This is especially true of new and untested procedures.

1-8. PAYOFFS. Risk management permits the execution of realistic training scenarios not possible without risk management procedures because of their high potential cost in accidents. It also minimizes personnel and materiel losses in day-to-day training activities.

SAMPLE RISK ASSESSMENT WORKSHEET

TRAINING TASK: _____

POINTS:

_____ 1. SOLDIER QUALIFICATION

SOLDIER QUALIFICATION RISK VALUE DRIVING EXPERIENCE			
TASK	LICENSED OVER 1 YEAR	LICENSED UNDER 1 YEAR	UNLICENSED
COMPLEX	3	4	5
ROUTINE	2	3	4
SIMPLE	1	2	3

_____ 2. VEHICLE TYPE

VEHICLE TYPE RISK VALUE VEHICLE CONFIGURATION			
LOCATION OF TRAINING	LIGHT TRUCKS	MEDIUM TRUCKS	TRACTOR/ SEMITRAILERS
ROAD	3	4	5
TRAINING AREA	2	3	4
MOTOR POOL	1	1	1

_____ 3. WEATHER

WEATHER RISK VALUE VISIBILITY/MOISTURE			
TEMPERATURE FAHRENHEIT	CLEAR DRY	FOG/HUMID/ DRIZZLE /	DUST/RAIN/ SNOW/ICE
0° - 31° or 90° +	3	4	5
32° - 59°	2	3	5
60° - 89°	1	3	5

_____ 4. TERRAIN

TERRAIN RISK VALUE TRAFFICABILITY			
TYPE OF TERRAIN	STREETS/ HIGHWAYS	CONGESTED STREETS/HIGHWAYS	TRAILS/ CROSS-COUNTRY
JUNGLE/MOUNTAIN/ DESERT	3	4	5
HILLS	2	4	4
FLAT/ROLLING	1	3	3

_____5. SUPERVISION

SUPERVISION RISK VALUE			
INSTRUCTOR TO STUDENT RATIO	CLASSROOM	TRAINING AREA/ MOTOR POOL	ON/OFF ROAD
LOW	3	4	5
AVERAGE	2	3	4
HIGH	1	2	3

_____6. EQUIPMENT

EQUIPMENT RISK VALUE			
EQUIPMENT AGE	C-1	C-2	C-3
OLD	3	4	5
AVERAGE	2	3	4
NEW	1	2	3

_____7. TIME OF DAY

TIME OF DAY RISK VALUE			
ROUTE FAMILIARITY	DAY	DAWN/DUSK	NIGHT
NEVER DRIVEN ROUTE	3	4	5
DRIVEN ROUTE 1-3 TIMES	2	3	4
FAMILIAR ROUTE	1	2	3

_____TOTAL POINTS

QUICK REFERENCE GAUGE			
RISK LEVEL	LOW	CAUTION	HIGH
VALUES	7 - 12	13 - 18	19 - 35

DECISION AID		
RISK	POINTS	DECISION LEVEL
LOW	7 - 12	SENIOR INSTRUCTOR
CAUTION	13 - 18	COMPANY COMMANDER
HIGH	19 - 35	BATTALION COMMANDER

APPROVED BY: _____ DATE: _____

CHAPTER 2

INSTRUCTIONAL AIDS

1. Student Requirements:

a. Vehicles per student: One high mobility multipurpose wheeled vehicle, M998 series, for every three students.

b. Forms per student:

DD Form 518.

DD Form 1970.

DA Form 2404.

Standard Form 91.

c. Publications per student:

TM 9-2320-280-10.

LO 9-2320-280-12.

2. Instructor Requirements:

One each of the above forms.

One each of the above publications.

DA Pamphlet 738-750.

FM 21-305.

All host nation or local directives and regulations.

3. Training Facilities:

Classroom.

Motor pool.

Training area(s).

Suitable road net for driver training and convoys.

4. Training Aids and Devices:

Television monitor.

Videocassette player.

Overhead projector.

Projection screen.

Videotape TVT 55-15, PIN: 709184 DA, "Operation of the HMMWV."

CHAPTER 3

SAMPLE TRAINING SCHEDULE

<u>WHEN</u>	<u>WHAT</u>	<u>WHERE</u>	<u>TASK NUMBER</u>
DAY 1			
0730-0830	Use Technical Manuals (TMs), Lubrication Orders (LOs), and DA Form 2404	Classroom	551-721-1352
0830-0930	Know Safety Rules and Procedures for Driving Under Adverse Road Conditions	Classroom	551-721-1361
0930-1030	Identify Instruments, Controls, Indicators, and Equipment	Motor Pool	551-721-1352
1030-1130	Perform Operator PMCS	Classroom/ Motor Pool	551-721-1352
1230-1330	Perform Operator PMCS	Motor Pool	551-721-1352
1330--1600	Operate an M998 Series HMMWV	Classroom/ Motor Pool/ Training Area	551-721-1366
1600-1630	Perform After-Operation PMCS	Motor Pool	551-721-1352
DAY 2			
0730-0800	Perform Before-Operation PMCS	Motor Pool	551-721-1352
0800-1130	Operate an M998 Series HMMWV	Training Area/ Driver Training Route	551-721-1366
1230-1500	Operate an M998 Series HMMWV	Training Area/ Driver Training Route	551-721-1366
1500-1530	Perform After-Operation PMCS	Motor Pool	551-721-1352
2000-2400	Operate an M998 Series HMMWV at Night	Driver Training Route	551-721-1366
2400-0030	Perform After-Operation PMCS	Motor Pool	551-721-1352

<u>WHEN</u>	<u>WHAT</u>	<u>WHERE</u>	<u>TASK NUMBER</u>
1930-2000	Perform Before-Operation PMCS	Motor Pool	551-721-1352
DAY 3			
1300-1330	Perform Before-Operation PMCS	Motor Pool	551-721-1352
1330-1600	Operate an M998 Series HMMWV	Driver Training Route	551-721-1366
1600-1630	Perform After-Operation PMCS	Motor Pool	551-721-1352
DAY 4			
0730-0800	Drive an M998 Series HMMWV Off Road Over Rough or Unusual Terrain	Classroom	551-721-1360
0800-0830	Perform Before-Operation PMCS	Motor Pool	551-721-1352
0830-1130	Drive an M998 Series HMMWV Off Road Over Rough or Unusual Terrain	Off-Road Training Area	551-721-1360
1230-1600	Drive an M998 Series HMMWV Off Road Over Rough or Unusual Terrain	Off-Road Training Area	551-721-1360
1600-1630	Perform After-Operation PMCS	Motor Pool	551-721-1352
DAY 5			
0730-0800	Perform Before-Operation PMCS	Motor Pool	551-721-1352
0800-1100	Drive an M998 Series HMMWV Off Road Over Rough or Unusual Terrain	Off-Road Training Area	551-721-1360
1100-1130	Perform After-Operation PMCS	Motor Pool	551-721-1352
1230-1530	End of Course Comprehensive Test	Classroom/ Motor Pool/ Test Route	All Tasks
ALTERNATE			
DAY 4			
0730-0800	Drive an M998 Series HMMWV in Desert Operations	Classroom	551-721-1370
0800-0830	Perform Before-Operation PMCS	Motor Pool	551-721-1352

<u>WHEN</u>	<u>WHAT</u>	<u>WHERE</u>	<u>TASK NUMBER</u>
0830-1130	Drive an M998 Series HMMWV in Desert Operations	Off-Road Training Area	551-721-1370
1230-1600	Drive an M998 Series HMMWV in Desert Operations	Off-Road Training Area	551-721-1370
1600-1630	Perform After-Operation PMCS	Motor Pool	551-721-1352
ALTERNATE DAY 5			
0730-0800	Perform Before-Operation PMCS	Motor Pool	551-721-1352
0800-1100	Drive an M998 Series HMMWV in Desert Operations	Off-Road Training Area	551-721-1370
1100-1130	Perform After-Operation PMCS	Motor Pool	551-721-1352
1230-1530	End of Course Comprehensive Test	Classroom/ Motor Pool/ Test Route	All Tasks

CHAPTER 4

BASIC DRIVING - LESSON OUTLINES

LESSON TITLE: USE TECHNICAL MANUALS (TMs), LUBRICATION ORDERS (LOs), AND DA FORM 2404

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

A. TRAINING OBJECTIVE

TASK: Use the HMMWV technical manual/ lubrication order and make operator entries on DA Form 2404 (Equipment Inspection and Maintenance Worksheet).

CONDITION: Given instruction, TM 9-2320-280-10, LO 9-2320-280-12, DA Form 2404, and a practical exercise.

STANDARDS: Locate information in the TM/LO and make the required operator entries on DA Form 2404 in correct sequence in accordance with DA Pamphlet 738-750. Each student has 15 minutes to complete the practical exercise and will be graded on a Go/No-Go basis.

B. INTERMEDIATE TRAINING

Intermediate Training Objective 1

TASK: Use the HMMWV technical manual and lubrication order.

CONDITION: Given instruction, TM 9-2320-280-10, LO 9-2320-280-12, and a practical exercise in a classroom environment.

STANDARDS: Answer the questions 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.

CONDITION: Given instruction, TM 9-2320-280-10, a practical exercise, and DA Form 2404 in a classroom environment.

STANDARDS: Fill out a no-fault situation on DA Form 2404 in the correct

sequence in accordance with 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.
- CONDITION:** Given instruction, TM 9-2320-280-10, a practical exercise, and DA Form 2404 in a classroom environment.
- STANDARDS:** Fill out a fault situation on DA Form 2404 in the correct sequence in accordance with 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 instructor for the conference and one assistant instructor for every 20 students for the practical exercise.
6. Training aids and equipment: Overhead projector, transparency, screen, TM 9-2320-280-10 (one per student), LO 9-2320-280-12 (one per student), DA Form 2404 (four per student), and a practical exercise situation sheet (one per student).
7. References: TM 9-2320-280-10, LO 9-2320-280-12, and DA Pamphlet 738-750.

D. SEQUENCE OF ACTIVITY

NOTE: Before class arrival, ensure each student desk or table has a TM 9-2320-280-10, LO 9-2320-280-12, and two DA Forms 2404.

1. Introduction:
 - a. Interest device.
 - b. Tie-in.
 - (c) Lesson objective (paragraph A).

(d) Procedures:

- (1) Explanation.
- (2) Summary.
- (3) Practical exercise.

2. Explanation and Demonstration:

a. Proper technique for using the HMMWV technical manual (TM 9-2320-280-10):

- (1) Warning summary.
- (2) Table of contents (chapters and appendixes).
- (3) Operating instructions to include PMCS tables.
- (4) Alphabetical index.

b. Use of the HMMWV lubrication order (LO 9-2320-280-12):

- (1) Tables and notes.
- (2) Level of maintenance codes.
- (3) Lubrication after shallow or deepwater fording.
- (4) Lubricant abbreviations and intervals.

c. DA Form 2404 no-fault situation:

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

(1) Organization.

(2) Nomenclature and model.

(3) Registration/serial number/NSN.

(4) Miles.

(5) Hours.

(6) Date.

(7) Type of inspection (PMCS).

(8) TM number and TM date.

(9) Signature and rank in block 8a.

(10) TM item number entered in column a. Circle item number if fault makes equipment not mission capable (NMC).

(11) Status symbol entered in column b.

(12) Deficiencies or shortcomings entered in column c.

(13) Disposition of DA Form 2404.

3. Practical Exercise: Hand out one practical exercise and two DA Forms 2404 to each student. Students will complete practical exercise as outlined in paragraph 2 above within 15 minutes.

4. Evaluation: 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. No-Gos will be retrained and retested after normal duty hours.

E. SAFETY RESTRICTIONS. None.

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

PRACTICAL EXERCISE

LESSON TITLE: USE TECHNICAL MANUALS (TM), LUBRICATION ORDERS (LO), AND DA FORM 2404

NAME _____ RANK _____ DATE _____

To complete this practical exercise you will need the HMMWV operator's manual (TM), LO, two blank DA Forms 2404, and a pencil. You have 15 minutes to complete this practical exercise.

FIRST REQUIREMENT

Using the HMMWV vehicle TM and LO, answer the following questions. Write your answer in the space provided after each question.

1. At what interval does the operator check the transmission fluid level?

2. At what interval does the operator check the master cylinder level?

3. In what chapter and section of the operators manual would you find information on starting the HMMWV?

4. Dexron II is used as a lubricant for both the _____ and _____ .

5. The HMMWV is equipped with run flat devices. What is the recommended speed and distance for the HMMWV, when both rear tires are flat?
speed _____ distance _____

SECOND REQUIREMENT

From the following information, make the required operator entries on DA Form 2404.

You are assigned to the 223d Mess Kit Repair Company as the operator of a M998 HMMWV with a registration number of NG24PX.

- a. On 25 June 1990 you perform a daily PMCS and find no faults.

- b. On 26 June 1990 you perform a daily PMCS and again find no faults.
- c. On 27 June 1990 you perform a daily PMCS and while checking your vehicle parking brake, you notice the brake warning lamp fails to illuminate. Your odometer reading is 2845 miles.
- d. On 28 June 1990 you perform a daily PMCS and you find your the brake warning lamp has been repaired. No other faults are discovered.
- e. On 29 June 1990 you perform a weekly PMCS and find no faults.

LESSON TITLE: KNOW SAFETY RULES AND PROCEDURES FOR DRIVING UNDER ADVERSE ROAD CONDITIONS

TASK NUMBER: 551-721-1361 (Drive Cargo Vehicle on Snow/Ice)

A. TRAINING OBJECTIVE.

TASK: Demonstrate knowledge of procedures for driving under adverse conditions (snow and ice).

CONDITIONS: Given instruction, in a class room and a practical exercise.

STANDARD: Answer six of nine questions correctly on the practical exercise within 10 minutes.

B. INTERMEDIATE TRAINING. None.

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 instructor for the conference and one assistant instructor for every 20 students for the practical exercise.
6. Training aids and equipment: Overhead projector, transparency, screen, and a practical exercise (one per student).
7. References: TM 9-2320-280-10.

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. Install tire chains (4-wheel set) if needed for snow or ice.
- b. Travel at reduced speeds and be prepared to meet sudden changes in road conditions.
- c. Pump brakes gradually when stopping vehicle on snow and ice. Sudden braking will cause wheels to lock and vehicle to slide out of control.
- d. Place transmission shift lever in “D” (drive) and transfer case shift lever in “H/L” (high lock range) or “L” (low range) to descend/climb steep hills. Place transfer case shift lever to “H” (high range) on high traction surfaces.
 - (1) “2” (second) gear selection is used for hill climbing and for engine braking when descending steep hills.
 - (2) “1” (first) gear is used for maximum engine braking when descending very steep hills, for climbing steep hills, or when driving through deep snow.
- e. Place vehicle in motion slowly to prevent wheels from spinning.
- f. Press accelerator pedal slowly when changing speed.
- g. Keep accelerator pedal steady after vehicle reaches desired speed.
- h. Turn vehicle slowly when on slippery surfaces.
- i. Steer vehicle away from ruts and large snow banks.
- j. Steer vehicle straight up and down hills if possible.
- k. Drive at slower speeds and stay twice normal distance from vehicle ahead.
- l. Give turn signals sooner.

m. Apply brakes sooner and press brake pedal lightly to give early warning that vehicle will slow or stop. Pressing brake pedal lightly will help keep vehicle from skidding.

n. Keep windshield, windows, mirrors, headlights, stoplights, and area around air cleaner intake cap free of snow and ice. Snow and ice may melt, refreeze, and cause restriction in air intake system. If necessary, remove intake cap and clear ice and snow without damaging intake cap screen. Hold the cap near the vehicle exhaust to quickly melt ice without damaging the screen.

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

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

p. If rear of vehicle skids, do the following:

- (1) Let up on accelerator pedal.
- (2) Steer in same direction in which rear of vehicle is skidding.
- (3) When vehicle is under control, press brake pedal lightly.
- (4) Steer vehicle on straight course and slowly press accelerator pedal.

q. If vehicle starts to slide while climbing a hill, do the following:

- (1) Let up on accelerator pedal.
- (2) Steer vehicle in direction of slide until vehicle stops.
- (3) Slowly press accelerator pedal and steer vehicle on a straight course.
- (4) Use brake and throttle modulation to redirect torque to the wheels that are on solid ground and put the vehicle back in motion.

r. If vehicle becomes stuck do the following:

(1) Shovel clear path ahead of each wheel. Put boards, brush, or similar material in cleared paths to get better traction.

(2) If additional power is needed to extract vehicle when mired in snow, place transmission in “1” (first) and transfer case in “L” (low range). After vehicle is extracted from mired condition, immediately return transfer case to “H/L” (high lock range) position.

(3) If vehicle remains stuck, use wrecker or another vehicle equipped with winch to winch or tow stuck vehicle.

(4) If another vehicle is not available, use self recovery winch.

s. Park vehicle as follows:

(1) Park vehicle in sheltered area out of wind if possible. If no shelter is available, park so vehicle does not face into wind.

(2) Park vehicle on high, dry ground if possible. If high, dry ground is not available, spread out planks or brush to make raised and dry area so tires will not freeze in snow, water, ice, or mud.

(3) Clean snow, ice, and mud off vehicle as soon as possible.

3. Practical exercise: Hand out one practical exercise to each student. Students will complete practical exercise within 10 minutes.

4. Evaluation: Check each student’s practical exercise.

5. Summary:

a. Recap main points.

b. Allow for questions.

c. Clarify questions.

d. Closing statement.

6. Retraining: Retrain and retest No-Gos. No-Gos will be retrained and retested after normal duty hours.

E. SAFETY RESTRICTIONS. None.

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

PRACTICAL EXERCISE

LESSON TITLE: SAFETY RULES AND PROCEDURES FOR DRIVING UNDER ADVERSE ROAD CONDITIONS. (SNOW AND ICE)

NAME _____ RANK _____ DATE _____

To complete this practical exercise you will need a pen or pencil. You have 10 minutes to complete this practical exercise. To pass this practical exercise, you must correctly answer six out of the nine questions.

True/false questions: Read each question carefully and place a T or F on the blank line to the left of each question.

- _____ 1. The transfer case shift lever should be in "H/L (high lock range) when driving in snow or ice.
- _____ 2. If additional power is needed to extract vehicle when mired in snow, place transmission in "1" (first) and transfer case in "L" (low range).
- _____ 3. Transmission range selection "2" (second) is used for hill climbing and for engine braking when descending steep hills.
- _____ 4. The area around the air cleaner intake cap must be kept free of snow and ice.

Multiple choice: Read each question carefully and write the answer which is most correct on the blank line to the left of each question.

- _____ 5. If the vehicle starts to slide while climbing a hill, you would _____.
- a. Let up on the accelerator pedal.
 - b. Steer the vehicle in direction of the slide until the vehicle stops.
 - c. Slowly press the accelerator pedal and steer the vehicle on a straight course.
 - d. All of the above.
- _____ 6. How should you dry wet brake linings?
- a. Continue to drive at a slow speed with enough pressure on the brake pedal to cause a slight drag on the brakes.

- b. Pump the brake pedal.
- c. Pull over and wait 25 to 30 minutes to allow the brakes to dry out.
- d. Increase speed to allow more air to flow through the brakes.

_____ 7. When parking your vehicle in an extreme cold environment, in what direction should the vehicle be parked?

- a. Face into the wind.
- b. Sideways.
- c. Face away from the wind.
- d. No specific way.

_____ 8. For maximum traction when driving in snow or on ice, you should—

- a. Steer the vehicle diagonally up hills.
- b. Install tire chains (four wheel set).
- c. Install tire chains (two wheel set).
- d. Turn the vehicle quickly when on slippery surfaces.
- e. Both a and c above.

_____ 9. If your vehicle starts to skid, which should you do?

- a. Step on the brakes and hold the steering wheel straight.
- b. Nothing.
- c. Release the accelerator pedal and steer in the direction of the skid.
- d. Release the gas pedal and steer in the opposite direction of the skid.

LESSON TITLE: IDENTIFY INSTRUMENTS, CONTROLS, INDICATORS, AND EQUIPMENT

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

A. TRAINING OBJECTIVE.

TASK: Identify instruments, controls, indicators, and equipment.

CONDITIONS: Given instruction on the M998 series vehicle.

STANDARD: Correctly identify and explain the function of the instruments, controls, indicators, and equipment.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: As scheduled.
2. Training location: Motor Pool.
3. Training type: Conference.
4. Students: Scheduled personnel.
5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for every three students.
6. Training aids and equipment: : One M998 series vehicle for every three students. If the class is large, a PA system may be needed for the primary instructor.
7. References: TM 9-2320-280-10.

D. SEQUENCE OF ACTIVITY

1. Introduction:
 - a. Interest device.
 - b. Tie in.
 - c. Lesson objective (paragraph A).
 - d. Procedures:

(1) Explanation.

(2) Summary.

NOTE: 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 instruments, controls, indicators, and equipment. In the operator's manual and during this class the term "left" indicates the driver side of the vehicle and the term "right" indicates the passenger side of the vehicle.

a. Rotary Switch:

(1) The rotary switch, commonly called the ignition switch, is located on the left side of the dash. It is a three-position rotary switch. These positions are marked "ENG STOP", "RUN", AND "START".

(2) To start the vehicle, turn the switch to "RUN" and wait until the wait-to-start lamp, located directly above the switch, goes out.

(3) Turn the switch to the "START" position to engage the starter to crank the engine.

(4) After the engine starts, release the switch lever and it will automatically return to the "RUN" position.

b. Wait-To-Start Lamp: The lamp illuminates when the glow plugs are activated and goes out when the engine is ready to start.

c. Brake Warning Lamp: The vehicle has a brake warning lamp that illuminates when the parking brake is applied or if a hydraulic imbalance (leak, etc.) exists between the front and rear brake systems.

d. Air Restriction Gauge: This gauge is located on the instrument panel to the right of the rotary switch and directly below the brake warning lamp.

(1) This gauge signals the operator that a restriction exists in the air cleaner.

(2) Air cleaner service is required when the yellow air restriction indicator reaches the "RED ZONE" of the gauge.

e. Engine Oil Pressure Gauge: This gauge is the upper left gauge of the instrument cluster.

(1) The gauge indicates the engine's oil pressure when the engine is running.

(2) The gauge should register at least 6 psi with the engine at idle and should not drop below 15 psi with the engine under a load.

f. High Beam Indicator: This indicator is in the upper center of the instrument cluster and lights up when the headlights are switched to high beam.

g. Coolant Temperature Gauge: The coolant temperature gauge indicates the temperature of the engine coolant. The gauge should read between 190 to 230°F for normal operating temperature.

h. Defroster Control Knob: The defroster control knob is the upper control knob to the right of the instrument cluster. It controls the operation of the defroster.

i. Instrument Panel Lights: The instrument panel is illuminated by two lights in the instrument panel, one on each side of the speedometer. These lights have a dim and bright setting that is controlled by the master light switch.

j. Heater Control Knob: The heater control knob is located to the right of the instrument cluster, directly below the defroster control knob. It varies the temperature of the heated air into the vehicle.

k. Heater Fan Switch: The blower motor is controlled by the heater fan switch. The switch has three settings, "HI", "OFF", and "LO", to regulate the heater and defroster air flow.

l. Voltmeter: The voltmeter is the lower, right gauge in the instrument cluster. It indicates the charging level and activity of the battery charging system. It should register in the green area.

m. Speedometer/Odometer: Like most vehicles, the vehicle has a speedometer/odometer to register speed in miles per hour and accumulated mileage.

n. Fuel Gauge: The fuel gauge indicates the amount of fuel in the tank.

o. Hand Throttle: The hand throttle is provided to increase engine speed for use during cold weather starting, winch operation, and deep water fording, and to obtain maximum alternator output for communications/electrical requirements.

The hand throttle is not to be used as an automatic speed or cruise control. It does not automatically disengage when the brake is applied. Increased stopping distances and unsafe operation result if the hand throttle is improperly used.

p. Accelerator Pedal: The accelerator pedal, commonly called the “gas” pedal, allows us to control the engine speed with our foot.

q. Service Brake Pedal: The service brake pedal is used to slow or stop the vehicle by depressing the pedal.

r. Dimmer Switch: The dimmer switch is located in the upper left corner of the driver side floor board and is depressed with the foot to select high or low headlight beam.

s. Light Switch: One control that is entirely different from those in civilian cars is the light switch. This switch controls the service lights, parking lights, turn signals, blackout lights, and the horn.

(1) The switch has three control levers:

(a) The selector switch lever is at the top center of the switch and is used to select either service or blackout lights.

(b) The unlock switch lever on the bottom right is a lock release switch for the selector switch lever.

(c) The auxiliary lever is on the bottom left of the switch and controls the instrument panel and parking lights.

(2) For normal daylight driving--

(a) Lift the unlock lever to “UNLOCK” and hold it in position.

(b) Turn the selector switch to “STOPLIGHT”. This will allow operation of the stoplights, the turn signals, and the horn.

(3) For night driving--

(a) Lift the unlock lever to “UNLOCK” and hold it in position.

(b) Turn the selector switch to “SERVICE DRIVE”. This will allow operation of the service drive lights, the stoplights, and the horn.

(c) Use the dimmer switch for high or low beam selection.

(4) For blackout operations--

- (a) Move the selector lever to “UNLOCK” before the selector lever can before moving the selector lever.
- (b) Turn the selector switch lever to “B.O. MARKER” or “B.O. DRIVE” as desired.
- (c) The horn will not operate when the blackout lights are in operation.

(5) To illuminate the instrument panel--

- (a) Lift the “UNLOCK” lever and hold it in this position.
- (b) Turn the selector lever to any “ON” position except “B.O. MARKER”.
- (c) Turn the auxiliary lever to “DIM” or “PANEL BRT” for brightness desired.

(6) To activate parking lights--

- (a) Turn the selector lever to “SERVICE DRIVE”.
- (b) Turn the auxiliary lever to “PARK”.

t. Directional Signal Lever: For operation of the directional signal indicator, the light switch must be turned to either “STOPLIGHT” or “SERVICE DRIVE”.

- (1) For left turn indicator, pull down on directional signal lever.
- (2) For right turn indicator, push upward on directional signal lever.

u. Hazard Warning Lights: Another different control is the hazard warning or emergency flasher lights.

- (1) Turn the light switch selector to “STOPLIGHT” or “SERVICE DRIVE”.
- (2) Pull the warning hazard tab out and move the turn signal indicator lever up to lock the lever in place.
- (3) To deactivate the signals, move the turn signal lever back to neutral.

(4) The warning flashers override the brake lights. This means that when the warning flashers are operating and the brake pedal depressed, the brake lights will not operate.

v. Horn Button: The horn button is located in the center of the steering wheel and is depressed to activate the horn. Remember, before the horn will operate, the light switch must be on "STOPLIGHT" or "SERVICE DRIVE".

w. Baffle Operating Rods: On the top right side of the dash are two baffle operating rods. The rods open and close baffles to allow or restrict heated air into the crew compartment.

x. Transmission Shift Lever: The transmission shift lever is located on the driver's right in the center console and is similar to those found in civilian cars.

(1) The transmission shift lever can be shifted to five positions:

(a) "N" (Neutral). The neutral position is used for starting the vehicle's engine and also for parking the vehicle. The HMMWV does not have a "park" position so the parking brake must be applied when the vehicle is parked.

(b) "R" (reverse) is used to move the vehicle backwards. The button on top of the shift lever must be pressed to shift the transmission to "R". This helps prevent accidental shifting into "R" when the vehicle is in motion.

(c) "D" (drive) is used for normal driving and for fording.

(d) "2" (second) is used for hill climbing and for engine braking to slow the vehicle when descending steep hills.

(e) "1" (first) is used for maximum engine braking when descending very steep hills or when driving through deep snow, mud, or sand.

(2) The proper transmission range selection is made in conjunction with transfer case range selection.

y. Transfer Case Shift Lever: The transfer case shift lever, located to the left of the transmission shift lever, is used to select the transfer case driving range. The ranges and their purposes are--

(1) "H" (high range). Select this driving range whenever possible. Use this range when operating on all primary, secondary, and off-road surfaces

where little or no wheel slippage occurs. Use also when encountering sharp, continuous turns on high traction surfaces.

(2) “H/L” (high lock range). Select this driving range only when continuous wheel slippage is evident. It is used especially when operating in mud, snow, loose sand, or on ice, and when increased control or additional traction is required.

(3) “L” (low range). Select this driving range only when high ranges do not provide sufficient power to negotiate steep hills or engine braking on down grades. This range can also be used when the vehicle is mired and cannot free itself using the high lock range.

(4) “N” (neutral). This selection will be used when the vehicle is disabled and must be towed.

z. Parking Brake Lever: The vehicle is equipped with a mechanical parking brake that works independent of the service brakes. The parking brake lever is located immediately to the right of the operator’s seat. The brake lever is pulled up to apply the brake and pushed down to release it.

aa. Steering Wheel Lock Cable: This vehicle is equipped with a steering wheel lock cable located to the immediate left of the hand throttle. Because this vehicle does not have an ignition key, this cable permits the steering wheel to be locked to prevent unauthorized use of the vehicle.

bb. Windshield Washer/Wiper Control Knob: The windshield washer/wiper control knob is located on the wiper motor at the center top of the windshield.

(1) Turn the wiper on by rotating the knob clockwise to the “LO” or “HI” position for the desired wiper speed.

(2) Activate the washer by turning on the wipers and depressing the control knob.

cc. Vehicle Batteries: The vehicle batteries are located in the battery box under the passenger seat. The two batteries provide 24 volts of power to the vehicle electrical system.

dd. First Aid Kit Bracket and Strap: The first aid kit bracket and strap are located inside the battery box and are used to secure a first aid kit, which is part of the vehicle basic issue items (BII).

ee. Slave Receptacle: The slave receptacle is located at the outside front of the battery box and is the connecting point for a NATO slave adapter used to slave start the vehicle.

ff. Engine Access Cover: The engine access cover is located at the center front of the console and is removed to provide access to the rear of the engine.

gg. Fire Extinguisher Bracket: The fire extinguisher, which is also a BII component, is stowed in the fire extinguisher bracket that is located between the driver's seat and the passenger's seat.

hh. Driver's Seat: The driver's seat is adjusted by means of adjusting slots located below the seat and permit the seat to be locked in a forward or rearward position.

ii. Cargo Tie-Downs: There are eight cargo tie-downs located in the cargo area of the M998/M1038 that provide tie-down points for use in cargo operations.

jj. Tailgate, Tailgate Chains, and Hooks: The tailgate is located at the rear of the vehicle and opens and closes to allow access to the vehicle cargo area. The tailgate chains and hooks are located on both sides of the tailgate and are used to secure the tailgate to the rear of the vehicle body.

kk. Lifting Shackles: A feature that is common to tactical vehicles is the lifting shackles. These are located on both ends of the vehicle and are used for slinging the vehicle, normally when being loaded aboard ship, they are also used as tie-down points.

ll. Trailer Receptacle: The trailer electrical receptacle is another common feature of tactical vehicles. The vehicles are wired so that the lights on any towed trailer will operate simultaneously with the vehicles pulling them. This is done by connecting the trailer electrical cable to the vehicle's electrical receptacle.

mm. Towing Pintle: The towing pintle is located at the center rear of the vehicle and provides a connection point for towing equipment. This also is a common feature of tactical vehicles.

nn. Fuel Tank Filler Cap: The fuel tank filler cap is located at the right rear side of the vehicle and is removed to permit fuel servicing.

oo. Hood: The hood on this vehicle is heavy and requires some caution when raising and lowering it. Unlike the hood on civilian cars, the hood must be raised and lowered twice every time the vehicle is operated: once for the before-operation checks and once for the after-operation checks.

(1) Apply these steps to raise the hood:

- (a) Apply the parking brake.
- (b) Release the left and right hood latches by pulling down on the latches.
- (c) Always maintain the proper lifting posture, legs bent and back straight to ensure opening of the hood is accomplished safely and effectively.
- (d) Push the hood away laterally before lifting to eliminate the possibility of it flexing.
- (e) Face the driver's side of the hood and position one hand at the rear area of the hood and the other hand at the rear area of the wheel well.
- (f) Lift to open the hood, ensuring that the hood prop rod is securely positioned in the hood support bracket. The hood prop rod should automatically engage the support bracket when the hood is raised.

WARNING:

Personal injury or damage to the equipment may occur if the hood is not properly secured in the raised position.

- (2) Use the following steps to lower the hood:

- (a) Grasp the prop rod above the retaining ring while supporting and slightly raising the hood, pull the rod out and release the hood.

WARNING:

Do not pull the rod at the hook. Otherwise, fingers may be injured.

- (b) Once the prop rod hook is clear of the support bracket, slowly lower the hood and secure the latches.

3. Practical Exercise: None.

4. Evaluation: Students are evaluated daily during driving tasks and tested during the End of Course Comprehensive Test (EOCCT).

5. Summary:

- a. Recap main points.

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- 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. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 1 hour (conference).

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 preventive maintenance checks and services on the M998 series vehicle (HMMWV).

CONDITIONS: Given instruction, DA Form 2404, a pencil, TM 9-2320-280-10, equipment records folder, rags, lubricants, coolant, and a M998 series vehicle with basic issue items.

STANDARD: Inspect the vehicle according to the PMCS Tables in TM 9-2320-280-10, correct all faults within the operator's level of maintenance, and record all others on DA Form 2404 legibly. If no faults are found, make necessary entries on DA Form 2404.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: As scheduled.
2. Training location: Classroom and motor pool as scheduled.
3. Training type: Conference and practical exercise.
4. Students: Scheduled personnel.
5. Principal and assistant instructors required: One instructor for the conference, one assistant instructor for every three students for the demonstration, and one assistant instructor for every three students for the practical exercise.
6. Training aids and equipment: Television, videocassette player, videotape TVT 55-15 "Operation of the HMMWV," rags, lubricants, and coolant, DA Form 2404, pencil, TM 9-2320-280-10, equipment records folder, and an M998 series vehicle with basic issue items for every three students.
7. References: TM 9-2320-280-10 and 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:
 - a. Show videotape TVT 55-15 “Operation of the HMMWV”.
 - b. Demonstrate before-, during-, and after-operation PMCS to the students.
3. Practical exercise:
 - a. Assign students to vehicles and issue TM 9-2320-280-10, pencils, DA Form 2404, and equipment records folder. Instruct students on the location of rags, lubricants, coolant.
 - b. Students perform PMCS.
4. Evaluation: Check each student’s performance of PMCS.
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 the videotape TVT 55-15 “Operation of the HMMWV,” and reinforced throughout the course. Students perform PMCS daily and are tested on the End of Course Comprehensive Test (EOCCT).

E. SAFETY RESTRICTIONS. None.

1. Ensure all chock blocks are in place.
2. Ensure parking brake is set.
3. Ensure students remove all jewelry and identification tags before performing PMCS.
4. Ensure students pay particular attention to the cautions and warnings listed in the operators manual.
5. Always place transmission in neutral, set parking brake, and shut off engine before leaving vehicle.

F. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 2 hours (.5 conference, .5 demonstration, and 1.0 practical exercise). The remaining PMCS is performed throughout the course in conjunction with driving tasks.

LESSON TITLE: OPERATE A M998 SERIES HMMWV

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

A. TRAINING OBJECTIVE.

TASK: Operate an M998 series HMMWV.

CONDITIONS: Given instruction, DD Form 1970, DA Form 2404, a pencil, TM 9-2320-280-10, equipment records folder, rags, lubricants, coolant, a suitable training area, improved surfaced roads, and a M998 series HMMWV with basic issue items.

STANDARD: Without accident or injury, operate the M998 HMMWV; start vehicle, read gauges, use high range, upshift and downshift the transmission selector lever through all gear ranges, manipulate the controls, use correct braking procedures, and perform basic driving maneuvers to include backing the HMMWV.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: As scheduled.
2. Training location: Classroom, motor park, training area, and driver training route (built up and rural areas) as scheduled.
3. Training type: Conference, demonstration, and practical exercise.
4. Students: Scheduled personnel.
5. Principal and assistant instructors required: One instructor for the conference, one assistant instructor for every three students for the demonstration, and one assistant instructor for every three students for the practical exercise.
6. Training aids and equipment: Television, video cassette player, videotape TVT 55-15 "Operation of the HMMWV", rags, lubricants, and coolant, 40 traffic cones or empty POL drums, DA Form 2404, DD Form 1970, pencil, TM 9-2320-280-10, equipment records folder, and a HMMWV with basic issue items for every three students.
7. References: TM 9-2320-280-10 and 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:
 - a. Show videotape TVT 55-15 "Operation of the HMMWV".
 - b. The students will be required to perform before-, during-, and after-operation PMCS on their assigned vehicle.
 - c. Demonstrate hand and arm signals required for this exercise.
 - d. Explain run flat devices to include maximum speed limits and distances for travel in this mode.
 - e. Explain ground guide safety precautions for backing the HMMWV. (During training, ground guides are required for backing in the motor pool and training areas.)
 - f. Demonstrate driving through each maneuver. (Sample training areas are in Chapter 7.)
3. Practical Exercise:
 - a. Assign students to vehicles and issue TM 9-2320-280-10, pencils, DA Form 2404, DD Form 1970, and equipment records folder. Instruct students on the location of rags, lubricants, coolant.
 - b. Students perform before-operation PMCS.

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- c. Students practice maneuvering the HMMWV through the courses laid out in the training area(s). They also conduct during-operation PMCS at this time.

NOTE: As each student practices driving, an assistant instructor rides in the right front seat. The other two students will ride in the rear seats and rotate driving duties. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts after-action reviews with each driver.

- 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 and ensure all operator entries required on DA Form 2404 and DD Form 1970 are accurate, complete, and legible.

4. Evaluation: 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 the videotape "TVT 55-15 "Operation of the HMMWV," and reinforced throughout the course. Students perform driving tasks daily and are tested on the End of Course Comprehensive Test (EOCCT).

E. SAFETY RESTRICTIONS. None.

1. Always place transmission in neutral, set parking brake, and shut off engine before leaving vehicle.

2. Ensure students remove all jewelry and identification tags before performing PMCS.

3. Ensure students pay particular attention to the cautions and warnings listed in the operators manual.

4. Ensure ground guides are always used when backing the HMMWV during training.

5. Maintain a safe following distance and speed limit when driving in the training area (as determined by the local command).

6. Ensure all occupants wear seat belts while vehicle is in operation.
7. Ensure all chock blocks are in place when vehicles are parked.

F. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 13.5 hours (1.0 conference, 1.0 demonstration, and 11.5 practical exercise, including 2.5 PMCS).

LESSON TITLE: OPERATE A M998 SERIES HMMWV AT NIGHT

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

A. TRAINING OBJECTIVE.

TASK: Operate an M998 series HMMWV at night.

CONDITIONS: Given instruction, DD Form 1970, DA Form 2404, a pencil, TM 9-2320-280-10, equipment records folder, rags, lubricants, coolant, improved surfaced roads, and an M998 series HMMWV with basic issue items.

STANDARD: Without accident or injury, drive the designated route at night with headlights; start vehicle, read gauges, use high range, upshift and downshift the transmission selector lever through all gear ranges, manipulate the controls, use correct braking procedures, and perform basic driving maneuvers to include backing the HMMWV.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: As scheduled.
2. Training location: Motor park and driver training route (built up and rural areas) as scheduled.
3. Training type: Practical exercise.
4. Students: Scheduled personnel.
5. Principal and assistant instructors required: One instructor for the class and one assistant instructor for every three students.
6. Training aids and equipment: Rags, lubricants, coolant, DA Form 2404, DD Form 1970, pencil, TM 9-2320-280-10, equipment records folder, and a HMMWV with basic issue items for every three students.
7. References: TM 9-2320-280-10 and 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: None.
3. Practical Exercise:
 - a. Assign students to vehicles and issue TM 9-2320-280-10, pencils, DA Form 2404, DD Form 1970, and equipment records folder. Instruct students on the location of rags, lubricants, coolant.
 - b. Students perform before-operation PMCS.
 - c. Students practice driving the designated route. They also conduct during-operation PMCS at this time.

NOTE: As each student practices driving, an assistant instructor rides in the right front seat. The other two students will ride in the rear seats and rotate driving duties. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts after-action reviews with each driver.

- d. Students perform after-operation PMCS and ensure all operator entries required on DA Form 2404 and DD Form 1970 are accurate, complete, and legible.
4. Evaluation: Check each student's performance of PMCS and driving.
5. Summary:
 - a. Recap main points.

TC 21-305-4

- b. Allow for questions.
 - c. Clarify questions.
 - d. Give closing statement.
6. Retraining: Retrain No-Gos and slow learners.

E. SAFETY RESTRICTIONS

1. Always place transmission in neutral, set parking brake, and shut off engine before leaving vehicle.
2. Ensure students remove all jewelry and identification tags before performing PMCS.
3. Ensure students pay particular attention to the cautions and warnings listed in the operators manual.
4. Ensure ground guides are always used when backing the HMMWV during training.
5. Maintain a safe following distance and speed limit when driving on the designated route (as determined by the local command).
6. Ensure all occupants wear seat belts while vehicle is in operation.
7. Ensure all chock blocks are in place when vehicles are parked.

F. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 5 hours practical exercise, including 1 hour PMCS).

CHAPTER 5**ADVANCED DRIVING - LESSON OUTLINES**

LESSON TITLE: DRIVE AN M998 SERIES HMMWV OFF ROAD OVER ROUGH OR UNUSUAL TERRAIN

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

A. TRAINING OBJECTIVE

TASK: Drive a HMMWV off road over rough or unusual terrain.

CONDITION: Given instruction, DD Form 1970, DA Form 2404, a pencil, TM 9-2320-280-10, equipment records folder, rags, lubricants, coolant, a suitable training area, an M998 series HMMWV with basic issue items and a requirement to operate the vehicle off road (to include ditches, marshes, gullies, ravines, steep grades, woods, mud, rocky terrain, and shallow streams [30 inches or less]) during day and night.

STANDARDS: Operate the vehicle safely at reduced speeds, taking caution not to damage the vehicle while driving over rough terrain.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: As scheduled.
2. Training location: Classroom, motor park and off-road training area.
3. Training type: Conference and practical exercise.
4. Students: Scheduled personnel.
5. Principal and assistant instructors required: One instructor for the conference and one assistant instructor for every three students for the practical exercise.
6. Training aids and equipment: Television, videocassette player, videotape TVT 55-15, "Operation of the HMMWV," rags, lubricants, coolant, DA Form 2404, DD Form 1970, pencil, TM 9-2320-280-10, equipment records folder, and an M998 series HMMWV with basic issue items for every three students.
7. References: TM 9-2320-280-10 and 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:

a. Reshowing videotape. As an option show videotape TVT 55-15 "Operation of the HMMWV," to reinforce driving tasks. This step may be deleted because the students should have viewed this tape in earlier lessons.

b. Driving off road. Driving off road or over rough terrain basically requires good driving sense. Experience is the best teacher, but there are a few good rules to keep in mind when driving under these conditions.

(1) Select the proper transmission and transfer case gear ranges. "D" (drive) and "H" (high range) are used for most situations. The HMMWV must be stopped and the transmission placed in "N" before shifting the transfer lever.

(a) Do not shift into any lower gear than is necessary to maintain headway.

(b) Use "H/L" (high lock range) or "L" (low range) only when absolutely required by terrain, weather, or road conditions.

(c) On steep grades with hard surfaces and good traction, before starting up the hill, shift the transfer case to "L" (low range) and the transmission to "2" (second) or "1" (first), depending on the steepness of the grade.

(2) Keep the engine operating at a constant, moderate speed to slow down or speed up quickly without changing gears.

(a) The engine works at its best in the mid-RPM range. Maximum torque is attained at 2000 RPM.

(b) Use the transmission and transfer case to help control the engine speed.

(3) Attempt to keep the vehicle's wheels from spinning. If the wheels start to spin, ease off the accelerator until traction is regained.

c. Climbing steep grades.

(1) The best way for civilian cars and most tactical trucks to get up a steep grade with poor traction is to get a run at it. This creates a safety problem if the vehicle does not make it up the grade. The vehicle must still be taken up the hill or brought back down the hill. With the HMMWV, speed should not be a factor for climbing any hill.

(2) The HMMWV is equipped with torque biasing differentials. When one or more wheels lose traction and begin to spin freely, the differential has applied torque to the area losing traction or the one creating the least resistance. By using brake modulation, torque is redirected to the wheels that have traction. To do this,--

(a) Apply light pressure to the brake pedal while depressing the accelerator to stop the free spinning wheel. This causes the torque biasing differential to send equal torque to the other side of the vehicle, and the wheels that have traction will move the vehicle.

(b) Start up the hill at a slow, steady speed, and use brake modulation to keep the HMMWV moving if traction on one or more wheels is lost.

NOTE: Remember, slight pressure on the brake pedal and steady acceleration will move the vehicle through most places. When in doubtful situations, go around the obstacle. Use this procedure when climbing a hill, operating over obstacles such as gullies, logs, and walls, or when negotiating muddy terrain.

d. Descending a steep hill.

(1) Shift the transfer case into "L" (low) and the transmission into "2" (second) or "1" (first) gear, depending on the steepness of the grade.

(2) Do not use the brakes. Remember, the HMMWV is in constant four-wheel drive. Therefore, when the transfer case and transmission are placed in the lower gears, all four wheels are working against compression to create a braking effect.

e. Traveling across a slope. Do not travel diagonally across a slope unless it is absolutely necessary. Choose the smallest angle possible when moving across the slope, keep the vehicle moving, and avoid turning the vehicle quickly.

f. Forging a shallow body of water (30 inches or less).

(1) Ensure water depth does not exceed 30 inches.

(2) Make sure the oil dipstick, transmission dipstick, oil filler cap, and fuel tank cap are secure.

(3) Secure all loose objects on vehicle.

(4) Make sure all battery caps are present and tight.

(5) Place the transfer case shift lever in "H" (high range) and transmission lever in "D" (drive).

(6) Enter water slowly and maintain even vehicle speed while fording (5 MPH or less).

(7) Exit water in area with gentle slope.

(8) Do not rely on service brakes after fording until the brakes dry out. Keep applying brakes until uneven braking ceases.

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

(10) If fording operation was through salt water, wash and wipe off all salt deposits as soon as possible.

(11) Vehicles completing shallow water fording operation must be lubricated and serviced by organizational maintenance as soon as possible.

3. Practical Exercise:

a. Assign students to vehicles and issue TM 9-2320-280-10, pencils, DA Form 2404, DD Form 1970, and equipment records folder. Instruct students on the location of rags, lubricants, coolant.

- b. Students perform before-operation PMCS.
- c. Students practice driving the HMMWV off-road. They perform during-operation PMCS at this time.

NOTE: As each student practices driving, an assistant instructor rides in the right front seat. The other two students will ride in the rear seats and rotate driving duties. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts after-action reviews with each driver.

- d. Students perform after-operation PMCS and ensure all operator entries required on DA Form 2404 and DD Form 1970 are accurate, complete, and legible.
4. Evaluation: 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. This can be accomplished using the videotape TVT 55-15, "Operation of the HMMWV" and reinforced throughout the course. Students perform driving tasks daily and are tested on the End of Course Comprehensive Test (EOCCT).

E. SAFETY RESTRICTIONS

1. Always place transmission in neutral, set parking brake, and shut off engine before leaving vehicle.
2. Ensure students remove all jewelry and identification tags before performing PMCS.
3. Ensure students pay particular attention to the cautions and warnings listed in the operators manual.
4. Maintain a safe following distance and speed limit when driving on the off-road driving course (as determined by the local command).
5. Ensure all occupants wear seat belts while vehicle is in operation.

6. Ensure all chock blocks are in place when vehicles are parked.

F. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 12 hours (.5 conference, and 11.5 practical exercise, including 2 PMCS).

LESSON TITLE: DRIVE AN M998 SERIES HMMWV IN DESERT OPERATIONS

TASK NUMBER: 551-721-1370 (Drive Vehicle in Sand)

A. TRAINING OBJECTIVE

TASK: Drive a HMMWV in desert operations.

CONDITION: Given instruction, DD Form 1970, DA Form 2404, a pencil, TM 9-2320-280-10, equipment records folder, rags, lubricants, coolant, a suitable training area, an M998 series HMMWV with basic issue items and a requirement to operate the vehicle in the desert (to include sand, sand dunes, hillock areas, thorn areas, rock areas, lava beds, and salt marshes) during day and night.

STANDARDS: Operate the vehicle safely at reduced speeds, taking caution not to damage the vehicle while driving over desert terrain.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: As scheduled.
2. Training location: Classroom, motor park and off-road training area.
3. Training type: Conference and practical exercise.
4. Students: Scheduled personnel.
5. Principal and assistant instructors required: One instructor for the conference and one assistant instructor for every three students for the practical exercise.
6. Training aids and equipment: Rags, lubricants, coolant, DA Form 2404, DD Form 1970, pencil, TM 9-2320-280-10, equipment records folder, and an M998 series HMMWV with basic issue items for every three students.
7. References: TM 9-2320-280-10 and FM 90-3.

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. Using good driving sense. Driving in desert operations requires good driving sense. Experience is the best teacher, however keep these rules in mind when driving under these conditions.

(1) The best time to drive on sand is at night or early morning when the sand is damp and gives better traction.

(2) Park the vehicle in the shade whenever possible to protect tires, soft tops, paint, wood, and seals from sun, dust, and sand.

(3) Reduce tire inflation to 12 pounds per square inch (psi) front and 16 psi rear to increase traction when operating in sand.

(4) Select the proper transmission and transfer case gear ranges. "D" (drive) and "H" (high range) are used for most situations.

(5) Do not shift into any lower gear than is necessary to maintain headway.

(a) Use "H/L" (high lock range) when operating in loose sand or soft terrain. If additional power is needed to extract the vehicle when mired in sand, place the transmission in "1" (first) and transfer case in "L" (low range). After the vehicle is extracted from the mired condition, immediately return the transfer case to "H/L" (high lock range) position.

(b) On steep grades with hard surfaces and good traction, before starting up the hill, shift the transfer case to "L" (low range) and the transmission to "2" (second) or "1" (first), depending on the steepness of the grade.

(6) Keep the engine operating at a constant, moderate speed to slow down or speed up quickly without changing gears.

(a) The engine works best in the mid-RPM range. Maximum torque is attained at 2000 RPM.

(b) Use the transmission and transfer case to help control the engine speed.

(7) Attempt to keep the vehicle's wheels from spinning. Accelerate slowly so the wheels will not spin and dig into the sand.

b. Climbing steep grades.

(1) The best way for civilian cars and most tactical trucks to get up a steep grade with poor traction is to get a run at it. This creates a safety problem if the vehicle does not make it up the grade. The vehicle must still be taken up the hill or brought back down the hill. With the HMMWV, speed should not be a factor for climbing any hill.

(2) The HMMWV is equipped with torque biasing differentials. When one or more wheels lose traction and begin to spin freely, the differential has applied torque to the area losing traction or the one creating the least resistance. By using brake modulation, torque is redirected to the wheels that have traction. To do this,--

(a) Apply light pressure to the brake pedal while depressing the accelerator to stop the free spinning wheel. This causes the torque biasing differential to send equal torque to the other side of the vehicle, and the wheels that have traction will move the vehicle.

(b) Start up the hill at a slow, steady speed, and use brake modulation to keep the HMMWV moving if traction on one or more wheels is lost.

NOTE: Remember, slight pressure on the brake pedal and steady acceleration will move the vehicle through most places. When in doubtful situations, go around the obstacle. Use this procedure when climbing a hill, operating over obstacles such as gullies, logs, and walls, or when negotiating muddy terrain.

c. Descending a steep hill.

(1) Shift the transfer case into "L" (low) and the transmission into "2" (second) or "1" (first) gear, depending on the steepness of the grade.

(2) Do not use the brakes. Remember, the HMMWV is in constant four-wheel drive. Therefore, when the transfer case and transmission are placed in the lower gears, all four wheels are working against compression to create a braking effect.

d. Traveling across a slope. Do not travel diagonally across a slope unless it is absolutely necessary. Choose the smallest angle possible when moving across the slope, keep the vehicle moving, and avoid turning the vehicle quickly.

e. Forging a shallow body of water (30 inches or less). In some desert regions, there may be a requirement to ford the HMMWV. This vehicle has a shallow water fording capability without the use of a deep water fording kit. To ford shallow water--

(1) Ensure water depth does not exceed 30 inches.

(2) Make sure the oil dipstick, transmission dipstick, oil filler cap, and fuel tank cap are secure.

(3) Secure all loose objects on vehicle.

(4) Make sure all battery caps are present and tight.

(5) Place the transfer case shift lever in "H" (high range) and transmission lever in "D" (drive).

(6) Enter the water slowly. Entering the water too fast will splash water over the hood and into the air intake. This will cause the engine to stop abruptly and it will not restart. If this happens, contact organizational maintenance. Do not continue to try to restart the vehicle. This may cause damage to the engine.

(7) Maintain even vehicle speed of 5 MPH or less while in the water.

(8) Exit the water in area with a gentle slope.

(9) Do not rely on service brakes after fording until the brakes dry out. Keep applying brakes until uneven braking ceases.

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

(11) If fording operation was through salt water, wash and wipe off all salt deposits as soon as possible.

(12) Vehicles completing shallow water fording operation must be lubricated and serviced by organizational maintenance as soon as possible.

f. Considering terrain features.

(1) Some sand areas will be covered by a surface crust. This is caused by chemicals in the ground cementing the sand particles together. In many cases, it will be possible to drive on top of this crust and minimize dust signature and the chance of bogging down. Vehicles should be driven without breaking through the crust. To do this--

(a) The drivers must determine the minimum speed vehicles must maintain to avoid breaking through the crust.

(b) Drivers should avoid making sharp turns and abrupt stops.

(c) Drivers should reconnoitered different shaded patches to ensure they are not softer than the surrounding crust.

(2) Normally, the upwind side of the dune will be covered with a crust and have a fairly gradual slope. The downward side will be steeper and have no crust. Before crossing a dune, the driver should climb it on foot and check the crust thickness and the degree of the slope and the softness of the downwind side. He should also check the angle at the crest to ensure the vehicle will not become bellied at the top. If the vehicle can safely climb the dune, he should drive it straight up the dune, crest the dune, and maintain a controlled descent on the other side.

(3) The wind may have built up sand around small shrubs forming hillocks. Do not attempt to move through these areas without engineer assistance.

(4) Cactus or thorn bushes will cause many tire punctures. Do not attempt to drive through these areas because the HMMWV does not carry a spare.

(5) Rock- and boulder-strewn areas including lava beds, may extend for many miles. Eroded and sharp-edged desert rocks vary in size and are so numerous that it is almost impossible to avoid any but the largest. The subsequent harsh jolting causes extreme wear on wheels, springs, and shock absorbers and tires individuals. Vehicles can follow one another in this type of terrain. If possible reconnoiter and mark a route.

(6) Salt marshes are normally impassable. The worst type are those with a dry crust of silt on top. Marsh mud used on desert sand will, however, produce an excellent temporary road. Many desert areas have salt marshes

either in the center of a drainage basin or near the sea coast. Old trails or paths that cross the marsh are visible during the dry season but not in the wet season, trails are indicated by standing water because the crust is too hard or too thick for water to penetrate it. Such routes should not be used by vehicles without prior reconnaissance and marking.

g. Considering maintenance.

- (1) The maintenance section should have spares available. These spares should be included on one vehicle.
- (2) Vehicles are more prone to overheating; therefore, ensure extra coolant is available.
- (3) Oil consumption is abnormally high; therefore, check the oil more frequently.
- (4) Electrical components have higher failure rates. The maintenance must carry extra electrical parts.
- (5) Transmissions on the HMMWV may overheat; therefore, stop frequently to allow the transmission to cool.
- (6) On rocky deserts, the HMMWV is more susceptible to power steering seal leaks. Check the power steering reservoir during stops.
- (7) Frequently check the air filter restriction indicator and clean the air filter as required. Also clean the air filter dump valve at rest halts.
- (8) At the end of daily operation, remove sand from accelerator linkage and brake components.
- (9) Vehicles completing operation in dusty, sandy areas must be lubricated and serviced by organizational maintenance as soon as possible.

3. Practical Exercise:

- a. Assign students to vehicles and issue TM 9-2320-280-10, pencils, DA Form 2404, DD Form 1970, and equipment records folder. Instruct students on the location of rags, lubricants, coolant.
- b. Students perform before-operation PMCS.
- c. Students practice driving the HMMWV in desert operations. They conduct during-operation PMCS at this time.

NOTE: As each student practices driving, an assistant instructor rides in the right front seat. The other two students will ride in the rear seats and rotate driving duties. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts after-action reviews with each driver.

d. Students perform after-operation PMCS and ensure all operator entries required on DA Form 2404 and DD Form 1970 are accurate, complete, and legible.

4. Evaluation: Check each student's performance of PMCS and desert 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 End of Course Comprehensive Test (EOCCT).

E. SAFETY RESTRICTIONS

1. Always place transmission in neutral, set parking brake, and shut off engine before leaving vehicle.
2. Ensure students remove all jewelry and identification tags before performing PMCS.
3. Ensure students pay particular attention to the cautions and warnings listed in the operators manual.
4. Maintain a safe following distance and speed limit when driving (as determined by the local command).
5. Ensure all occupants wear seat belts while vehicle is in operation.
6. Ensure sufficient fresh water is available for all personnel (in some areas as much as 5 gallons of water per person).
7. Ensure all chock blocks are in place when vehicles are parked.

F. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 12 hours (.5 conference, and 11.5 practical exercise, including 2 PMCS).

CHAPTER 6**ADDITIONAL SUBJECTS - LESSON OUTLINES**

LESSON TITLE: PREPARE DD FORM 1970 (Motor Equipment Utilization Record)

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

A. TRAINING OBJECTIVE.

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

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

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

B. INTERMEDIATE TRAINING. None.

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 instructor for the conference and one assistant instructor for every 20 students for the practical exercise.
6. Training aids and equipment: Overhead projector, screen, transparencies, practical exercise situation sheet (one per student), pencils, 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:

- a. Explain the purpose and use of DD Form 1970. Also explain the dispatcher entries that are entered on the form.
- b. Explain the operator entries required to be entered on DD Form 1970.

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

4. Evaluation: 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. No-Gos will be retrained and retested after normal duty hours.

E. SAFETY RESTRICTIONS. None.

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

MOTOR EQUIPMENT UTILIZATION RECORD							
DATE (YYMMDD)		TYPE OF EQUIPMENT		REGISTRATION NO./SERIAL NO.		ADMINISTRATION NO.	
900515 *		TRK, UTIL, M998 *		NG24PX *		A-21 *	
ORGANIZATION NAME		ACTION	TIME	MILES	HOURS	FUEL	OIL
A Co, 27th Inf, Bn. *							
1ST OPERATOR (Last Name, First, M.I.)		IN				REPORT TO (Last Name, First, M.I.)	
JONES, JOHN P. SPC *		OUT	0800 *	7111 *		BUELL, SHIRLEY P. MAJ. *	
OPERATOR'S SIGNATURE		TOTAL				DISPATCHER'S SIGNATURE	
						<i>John J. Smith, SPC *</i>	
3D OPERATOR (Last Name, First, M.I.)		IN				REPORT TO (Last Name, First, M.I.)	
		OUT				DISPATCHER'S SIGNATURE	
OPERATOR'S SIGNATURE		TOTAL				DISPATCHER'S SIGNATURE	
3D OPERATOR (Last Name, First, M.I.)		IN				REPORT TO (Last Name, First, M.I.)	
		OUT				DISPATCHER'S SIGNATURE	
OPERATOR'S SIGNATURE		TOTAL				DISPATCHER'S SIGNATURE	
4TH OPERATOR (Last Name, First, M.I.)		IN				REPORT TO (Last Name, First, M.I.)	
		OUT				DISPATCHER'S SIGNATURE	
OPERATOR'S SIGNATURE		TOTAL				DISPATCHER'S SIGNATURE	
DESTINATION		TIME		RELEASED BY		REMARKS	
		ARRIVE	DEPART	(Signature)			
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16.							

DD FORM 1970
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EDITION OF FEB 78 MAY BE USED.

NOTE: * Denotes dispatcher entries. This sample can be used to make a transparency for overhead projection system.

MOTOR EQUIPMENT UTILIZATION RECORD							
DATE (YYMMDD)	TYPE OF EQUIPMENT	REGISTRATION NO./SERIAL NO.			ADMINISTRATION NO.		
900515 *	TRK, UTIL, M998 *	NG24PX *			A-21 *		
ORGANIZATION NAME		ACTION	TIME	MILES	HOURS	FUEL	OIL
A Co, 27th Inf, Bn. *						5 gal	1 qt
1ST OPERATOR (Last Name, First, M.I.)		IN	1430	7201		REPORT TO (Last Name, First, M.I.)	
JONES, JOHN P. SPC *		OUT	0800 *	7111 *		BUELL, SHIRLEY P. MAJ. *	
OPERATOR'S SIGNATURE		TOTAL	6:30	90		DISPATCHER'S SIGNATURE	
<i>John P. Jones</i>						<i>John J. Smith, SPC *</i>	
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. Motor Pool	/	0815					
TO 2. T.A. 5	0840	0930					
TO 3. Bldg 1211	1000	1045					
TO 4. T.A. 2	1030	1110					
TO 5. Bldg 2202	1130	1230					
TO 6. TA 57	1300	1400					
TO 7. Motor Pool	1430	/	<i>Harold Johnson, MSG</i>				
TO 8.							
TO 9.							
TO 10.							
TO 11.							
TO 12.							
TO 13.							
TO 14.							
TO 15.							
TO 16.							

DD FORM 1970
APR 81

EDITION OF FEB 75 MAY BE USED.

NOTE: * Denotes dispatcher entries.
This sample can be used to make a transparency for overhead projection system.

PRACTICAL EXERCISE

LESSON TITLE: PREPARE DD FORM 1970

NAME _____ RANK _____ DATE _____

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

Using the information provided in the situation below, 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 a M998 HMMWV. Your run included stops at the following areas:

Motor Pool -	departed 0715.
Building 661 -	arrived 0730, departed 0750.
Building 705 -	arrived 0800, departed 0830.
Training Area TA 102 -	arrived 0920, departed 1050.
Dining Facility Building 663 -	arrived 1120, departed 1230.
Training Area TA 191 -	arrived 1300, departed 1530.
Motor Pool -	arrived 1600.

b. When you return to the Motor Pool, your odometer reading is 8202. You also note that you filled the vehicle with 5 gallons of diesel. No oil was added. The NCOIC was SSG Smith and he releases you when you arrive back at the motor pool at 1600 hours.

2. REQUIREMENT:

a. Complete the attached DD Form 1970.

b. Make 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 (Accident Identification Card) and SF 91 (Operator's Report of Motor Vehicle Accident).

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

STANDARD: Make the required entries on DD Form 518 and SF 91 accurately, legibly, and completely in accordance with FM 21-305. Each student has 45 minutes to complete the practical exercise with no errors. Student will be graded on a Go-No basis.

B. INTERMEDIATE TRAINING. None.

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 instructor for the conference and one assistant instructor for every 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:

- a. Precautions and procedures. The following is not necessarily in the correct order. Access each accident to determine what should be done and in what order.
 - (1) Take precautions such as road guards, highway warning devices, and flares to prevent further accidents or injuries.
 - (2) Render first aid to injured.
 - (3) If fire breaks out, use extinguisher or sand, or notify fire department. Take precautions to prevent fire (shut off engines, prohibit smoking and so on).
 - (4) Notify authorities for emergency services (police, ambulance, rescue, or fire fighting, civil or military depending on who has jurisdiction).
 - (5) Follow the rules or regulations of the state or area where the 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 it.
 - (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).
 - (3) Be exact (spell names correctly, give street addresses by number, state visible damage, and show exactly where vehicles were before and after accident and what obstacles blocked the driver's view).
 - (4) Give no opinion about who was at fault, be polite, and try to get all the necessary information.

c. Instructions for filling out DD Form 518 (Accident Identification Card).

- (1) Explain the purpose and use of DD Form 518.
- (2) Explain filling out this form block by block. Ensure zip codes are included and the students are aware that disclosure of social security account number is voluntary.
- (3) The disposition of this form is to 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 (Operator's Report of Motor Vehicle Accident).

- (1) Explain the purpose and use of SF 91.
- (2) Explain filling out this form block by block. No blocks should be left completely blank. If there is no information to put in a certain block, write "None," "Unknown," or "NA."

3. Practical exercise: Hand out (one of each) practical exercise, SF 91, and DD Form 518 to each student. Student will complete practical exercise within 45 minutes.

4. Evaluation: 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 N0-Gos. No-Gos will be retrained and retested after normal duty hours.

E. SAFETY RESTRICTIONS

F. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 2 hours (1 hour conference and 1 hour practical exercise)

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.

GPO : 1983 O - 413-728

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	
6 August 1990	
MAKE AND TYPE OF VEHICLE	
1 1/4 Ton 4x4, Cargo	
REGISTRATION NO.	
2C 111 FX	
DRIVER (Last name - first name - initial)	
Jones, John J.	
SSN	GRADE
000-11-0000	SPC
ORGANIZATION	
123d Trans. Co. Ft Eustis, Va. 23604-5000	

DD FORM 518 1 OCT 78 PREVIOUS EDITION IS OBSOLETE.

This is a sample DD Form 518 and can be used to make a transparency for overhead projection system.

OPERATOR'S REPORT OF MOTOR VEHICLE ACCIDENT		DEPARTMENT OR AGENCY Department of the Army	
This form is to be completed by the Government operator at the time and the scene of the accident if possible. See the Privacy Act Statement on page 4.		NAME AND LOCATION OF ORGANIZATION TO WHICH YOU ARE ASSIGNED 123^d Transportation Company Ft. Eustis, Va. 23604-5000	
1. OPERATOR DATA	LAST NAME Jones	FIRST NAME John	MIDDLE INITIAL J
	AGE 22	RANK, RATING OR TITLE SPC	SERVICE NUMBER OR SOCIAL SECURITY NO. 000-11-0000
	GOVT. MOTOR VEHICLE OPERATOR PERMIT NO. J-0000	HOME ADDRESS (Number, street, city, State, ZIP code) 123^d Trans. Co. Ft. Eustis, Va 23604-5000	
2. ACCIDENT TIME AND LOCATION	HOME TELEPHONE NO. 878-0100		NUMBER OF HOURS ON DUTY PRIOR TO ACCIDENT 3
	ACCIDENT OCCURRED	DATE 6/8/90	DAY OF WEEK Monday
		TIME 10:30 P.M.	PLACE OF ACCIDENT (If in city, give number, street, city and State, if outside city limits, indicate mileage to nearest city, or other landmark.) Intersection of Ft Eustis Blvd. and Jefferson Ave., Newport News, Va.
		ORIGIN OF TRIP 123^d Trans. Co. Ft Eustis, Va	DESTINATION Ft. A.P. Hill, Va
3. FEDERAL VEHICLE (includes privately owned, federally approved)	PURPOSE OF TRIP On site coordination		
	MAKE mpgg, 1/4 ton, 4x4	TYPE Cargo	REGISTRATION NUMBER OR OTHER IDENTIFICATION 2C111 FX
	PARTS OF VEHICLE DAMAGED (Describe) Tailgate bent		OPERATOR'S ESTIMATED AMOUNT OF DAMAGE \$250.00
IF THIS WAS A BACKING ACCIDENT, WAS A GUIDE AVAILABLE? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If "Yes," was guide used? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
4. OTHER VEHICLE INVOLVED (if more than one, show in item 12, page 1)	MAKE Ford	TYPE 2-Dr. Sedan	YEAR 1986
	OPERATOR'S STATE PERMIT NUMBER Va. - 111-11-1110		VEHICLE LICENSE NUMBER AND STATE ABC-111, Va.
	OPERATED BY	NAME Joseph P. Smith	
		HOME ADDRESS (Number, street, city, State, ZIP code) Rt 1, Box 372, Gloucester, Va 23601-1000	
	OWNED BY	NAME Joseph P. Smith	
	ADDRESS (Number, street, city, State, ZIP code) Rt 1, Box 372, Gloucester, Va 23601-1000		
PARTS OF VEHICLE DAMAGED (Describe) Hood bent, grill broken		OPERATOR'S ESTIMATED AMOUNT OF DAMAGE \$700.00	
5. OTHER PROPERTY DAMAGED (Explain. If more space is needed, continue in item 12, page 1.) None			

This is a sample of SF 91, page 1, and can be used to make a transparency for overhead projection system.

		NAMES	HOME ADDRESSES
6. PERSONS INJURED		None	
7. OCCUPANTS IN YOUR VEHICLE		1LT James W. Doe	123 ^d Trans Co. Ft Eustis, Va
8. OCCUPANTS IN OTHER VEHICLE(S)		None	
9. WITNESSES AND POLICE		None	
		POLICE OFFICER CPL. Betty James	BADGE NUMBER 1234
		PRECINCT OR HEADQUARTERS Newport News	
10. ACCIDENT CONDITIONS	INDICATE:	FEDERAL VEHICLE <i>(includes privately owned Federally operated)</i>	OTHER VEHICLE (2)
	DIRECTION OF TRAVEL	East on Ft Eustis, Blvd	East on Ft Eustis Blvd
	SIDE OF STREET OR HIGHWAY	Right	Right
	APPROXIMATE SPEED	Stopped (0) MILES PER HOUR	10 MILES PER HOUR
	CONDITION OF ROADWAY <i>(Wet or dry, icy, etc.)</i>	Wet	WEATHER <i>(Clear, foggy, rain, snow, etc.)</i> Rain
			TYPE OF ROADWAY <i>(concrete, macadam, etc.)</i> Black top
OTHER INFORMATION <i>(Explain stop signs, traffic signals, obstructions, etc.)</i> Traffic light located at intersection by "X".			

STANDARD FORM 91 PAGE 2 (REV. 11-76)

This is a sample of SF 91, page 2, and can be used to make a transparency for overhead projection system.

11. EVENTS AFTER ACCIDENT	STATE WHO GAVE MEDICAL AID, IF ANY WAS GIVEN		WHERE WAS INJURED TAKEN		
	None		NA		
	CONDITION OF OTHER DRIVER				
	Good				
If other driver or persons injured made statements as to cause of accident and extent of personal or property damage, relate conversation, also, give names and addresses of others hearing such statements.					
Other driver made no statement.					
12. OTHER VEHICLE OR PROPERTY INVOLVED CONTINUATION—If more than one vehicle involved	MAKE		TYPE	YEAR	
	None		NA	NA	
	OPERATOR'S STATE PERMIT NUMBER		VEHICLE LICENSE NUMBER AND STATE		
	NA		NA		
	OPERATED BY	NAME			
		None			
	OWNED BY	HOME ADDRESS (Number, street, city, State, ZIP code)			
NA					
PARTS OF VEHICLE DAMAGED (Describe)	NAME			OPERATOR'S ESTIMATED AMOUNT OF DAMAGE	
	None				
ADDRESS (Number, street, city, State, ZIP code)			: NA		
NA					
OTHER PROPERTY DAMAGED (Explain)					
None					
13. DIAGRAM WHAT HAPPENED BY USING THESE SYMBOLS, BELOW					
<p>1. Number Public vehicle as location vehicle or 2-additional vehicle as 1, and show direction of travel by arrow</p> <p>2. Show position of _____</p> <p>3. Show vehicle by _____</p> <p>4. Show vehicle by _____</p> <p>5. Show lanes or numbers of lanes or highway</p> <p>6. Indicate mark by arrow at this mark</p>					

This is a sample of SF 91, page 3, and can be used to make a transparency for overhead projection system.

1A. OPERATOR'S STATEMENT OF ACCIDENT AND USE OF SAFETY EQUIPMENT

Tell in your own way how the accident happened:

I was driving east on Ft Eustis Blvd. I stopped at the intersection of Ft Eustis Blvd and Jefferson Ave for a red traffic signal. I heard tires squealing behind me. I glanced in my rear view mirror and saw a red Ford sliding towards me. The Ford hit me and pushed my vehicle about 10 feet into the intersection.

WAS VEHICLE EQUIPPED WITH SEAT BELTS?

YES NO

If "Yes," were they in use at time of accident?

YES NO

Have you answered ALL the questions as completely as possible? **YES**

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 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.

OPERATOR SIGN HERE ▶

John J. Jones

DATE SIGNED

6 Aug 90

STANDARD FORM 91 PAGE 4 (REV. 11-76)

This is a sample of SF 91, page 4, and can be used to make a transparency for overhead projection system.

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 pen or pencil. You have 45 minutes to complete this practical exercise.

1. SITUATION:

On Friday, 27 July 1990, at 0800 hours, you left the motor pool in a M998 HMMWV (registration number NG25PX) that had been dispatched to you. Your destination was the Orderly Room , Company A, 225th Infantry Battalion, Fort Walk, N.Y. 09111-5000, and 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 Blvd. You applied your brakes but hit the civilian's truck on the left rear fender. The civilian was in the right lane travelling 5 to 10 MPH when he was hit. 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, and the concrete roadway was dry.

You stopped your vehicle, jumped out, and ran up to the civilian's vehicle. Luckily, he wasn't 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:	1988.
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, you make a note of it on your form. Record the estimates of damage done to each vehicle. You looked at the civilian's truck. His left rear fender was dented, taillight broken, and the bumper and tailgate bent. He estimated the amount of damage at \$900. Then you looked at your vehicle. Your right front fender was cracked and the "A" pillar was bent. Approximate amount of damage is \$500.

After estimating the damage, you went and called the military police. Within minutes military police officer SPC Joe Smith, Badge No. 321, Co. B. 123d MP Bn, arrived. He recorded your comments and the civilian's comments. There were no other witnesses to the accident. The officer did record the fact 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 you were using the seat belt at the time of the accident. The officer recorded the information. 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. Make 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 Co barracks, and the barracks phone number is 555-9999.

LESSON TITLE: DEEP WATER FORD AN M998 SERIES HMMWV

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

A. TRAINING OBJECTIVE

TASK: Deep water ford a M998 series HMMWV.

CONDITION: Given instruction, DD Form 1970, DA Form 2404, a pencil, TM 9-2320-280-10, equipment records folder, rags, lubricants, coolant, a suitable training area, a deep water fording kit, and an M998 HMMWV with basic issue items.

STANDARDS: Install and remove the deep water fording kit on the HMMWV; ford the HMMWV (30 to 60 inches) without injury to personnel, damage to equipment, or getting the vehicle stuck, in accordance with the instructions in TM 9-2320-280-10.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: As scheduled.
2. Training location: Training area and motor pool.
3. Training type: Practical exercise.
4. Students: Scheduled personnel.
5. Principal and assistant instructors required: One primary instructor for the conference and one assistant instructor for every three students for the practical exercise.
6. Training aids and equipment: Rags, lubricants, coolant, DA Form 2404, DD Form 1970, pencils, TM 9-2320-280-10, equipment records folder, a deepwater fording kit, and an M998 series HMMWV with basic issue items for every three students. A communication system is recommended for emergency services.
7. References: TM 9-2320-280-10.

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. Explain installation and removal of the HMMWV deepwater fording kit in accordance with paragraph 2-28, TM 9-2320-280-10.
- b. Explain deepwater fording procedures.
 - (1) Ensure water depth does not exceed 60 inches. If some sinking is expected, determine if this sinking added to the water depth will exceed 60 inches. If the fording limit will be exceeded, find another crossing site.
 - (2) Make sure the oil dipstick, transmission dipstick, oil filler cap, and fuel tank cap are secure.
 - (3) Secure all loose objects on vehicle.
 - (4) Make sure all battery caps are present and tight.
 - (5) Place the transfer case shift lever in "H" (high range) and transmission lever in "D" (drive). If continuous wheel slippage occurs or more power is needed, place transfer case shift lever in "H/L" (high lock) or "L" (low) range.
 - (6) Turn off all nonessential electrical loads, such as lights, fan, and heater/defroster.
 - (7) Place fording selector switch in "DEEP FORD" before entering water.
 - (8) Open driver and passenger windows and unfasten seat belts.
 - (9) Pull out hand throttle until engine speed reaches approximately 1,500-2,000 RPM. Twist hand throttle to lock engine speed.

NOTE: Entering the water too fast will cause water to splash up over the hood and into the air intake. This will cause the engine to stop abruptly, and it will not crank. Do not continue starting operations. Severe damage to the engine will result. Recover the vehicle and notify organizational maintenance.

(10) For M996 and M997 vehicles only, enter water until water level has reached the bottom of the driver and passenger windows, stop for a 2-minute waiting period to allow the ambulance body to fill with water, then proceed with operations.

(11) Enter water slowly and maintain an even vehicle speed (5 MPH or less) while fording.

(12) Exit water in an area with a gentle slope.

(13) Place fording selector switch in "VENT" upon leaving water.

(14) Unlock and push in the hand throttle. After fording, do not use the hand throttle as a automatic speed or cruise control.

(15) Do not rely on service brakes after fording until the brakes dry out. Keep applying brakes until uneven braking ceases.

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

(17) If fording operation was through salt water, wash and wipe off all salt deposits as soon as possible.

(18) Vehicles completing deepwater fording operation must be lubricated and serviced by organizational maintenance as soon as possible.

c. The students will be required to perform before-, during-, and after- operation PMCS on their assigned vehicle.

3. Practical exercise:

a. Assign students to vehicles and issue deepwater fording kits, TM 9-2320-280-10, pencils, DA Form 2404, DD Form 1970, and equipment records folder. Instruct students on the location of rags, lubricants, coolant.

b. Students install the deepwater fording kit on their assigned HMMWV, in accordance with paragraph 2-28, TM 9-2320-280-10.

c. Students perform before-operation PMCS.

- d. Students practice fording the HMMWV. They conduct during-operation PMCS at this time.

NOTE: As each student practices fording, an assistant instructor rides in the right front seat. The other two students will ride in the rear seats and rotate driving duties. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts after-action reviews with each driver.

- d. Students perform after-operation PMCS and ensure all operator entries required on DA Form 2404 and DD Form 1970 are accurate, complete, and legible.

- e. Students remove, clean, and store the deepwater fording kit from their assigned HMMWV in accordance with paragraph 2-28, TM 9-2320-280-10.

- f. Students perform after-operation PMCS and ensure all operator entries required on DA Form 2404 and DD Form 1970 are accurate, complete, and legible.

4. Evaluation: Check each student's performance of PMCS and fording.

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 all chock blocks are in place when vehicles are parked.
2. Ensure transmission is placed in neutral, parking brake is set, and engine is shut off before leaving vehicle.
3. Ensure students remove all jewelry and identification tags before performing PMCS.
4. Ensure students pay particular attention to the cautions and warnings listed in the operators manual.

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5. Ensure a safe following distance is maintained when fording (as determined by the local command).

6. All occupants must wear seat belts while vehicle is in operation. For safety considerations seat belts are not to be used during fording operation.

F. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 6 hours (.5 conference and 5.5 practical exercise, including 1 PMCS).

LESSON TITLE: DRIVE AN M998 SERIES HMMWV IN A CONVOY

TASK NUMBER: 551-721-1359 (Drive Vehicle in a Convoy)

A. TRAINING OBJECTIVE.

TASK: Drive an M998 series HMMWV in a convoy.

CONDITIONS: Given instruction, DD Form 1970, DA Form 2404, a pencil, TM 9-2320-280-10, equipment records folder, rags, lubricants, coolant, a suitable training area, and an M998 HMMWV with basic issue items.

STANDARD: Operate the vehicle in accordance with specific instructions of the march unit commander. Using defensive driving (accident avoidance) methods; maintain vehicle interval, obey highway warning and regulatory signs, interpret and relay all mechanical/hand signals correctly, and use correct braking procedures without accident or injury.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: As scheduled.
2. Training location: Motor pool and convoy route.
3. Training type: Conference and practical exercise.
4. Students: Scheduled personnel.
5. Principal and assistant instructors required: One instructor for the conference and one assistant instructor for every three students for the practical exercise.
6. Training aids and equipment: Rags, lubricants, coolant, DA Form 2404, DD Form 1970, pencils, TM 9-2320-280-10, equipment records folder, convoy strip map, an M998 series HMMWV with basic issue items for every three students, convoy signs ("CONVOY AHEAD" and "CONVOY FOLLOWS"), convoy flags (blue, green, and black/white), and convoy control vehicles (minimum of 2 vehicles required). A communication system is recommended for the control vehicles.
7. References: TM 9-2320-280-10, FM 55-312, and 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:

- a. Give convoy safety briefing (see attached sample convoy commander's briefing).
- b. The students will be required to perform before-, during-, and after-operation PMCS on their assigned vehicle.
- c. Demonstrate hand and arm signals required for this exercise.

3. Practical exercise:

- a. Assign students to vehicles and issue TM 9-2320-280-10, pencils, DA Form 2404, DD Form 1970, convoy strip map, and equipment records folder. Instruct students on the location of rags, lubricants, coolant.
- b. Students perform before-operation PMCS.
- c. Students practice driving the HMMWV on assigned convoy route. They conduct during-operation PMCS at this time.

NOTE: As each student practices driving, an assistant instructor rides in the right front seat. The other two students will ride in the rear seats and rotate driving duties. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts after-action reviews with each driver.

TC 21-305-4

- d. Students perform after-operation PMCS and ensure all operator entries required on DA Form 2404 and DD Form 1970 are accurate, complete, and legible.
4. Evaluation: Check each student's performance of PMCS and driving the HMMWV in convoy.
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 all chock blocks are in place when vehicles are parked.
2. Ensure transmission is always placed in neutral, parking brake is set, and engine is shut off before leaving vehicle.
3. Ensure students remove all jewelry and identification tags before performing PMCS.
4. Ensure students pay particular attention to the cautions and warnings listed in the operators manual.
5. Ensure ground guide is always used when backing the HMMWV during training.
6. Ensure a safe following distance and speed limit are maintained when driving on the convoy route (as determined by the local command).
7. Ensure all occupants wear seat belts while vehicle is in operation.
8. Ensure no one walks between vehicles parked in a column.

F. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 5 hours (.5 conference, and 4.5 practical exercise, including 1 PMCS).

SAMPLE CONVOY COMMANDERS BRIEFING

1. Always follow civilian police instructions when given.
2. Use only truck parking areas on controlled access highways.
3. Make only emergency halts on roadside of controlled access highways.
4. Do not stand on traffic side of a convoy during halts on conventional highways.
5. Perform vehicle operation maintenance and check cargo security at every halt.
6. Move vehicles off highway before beginning maintenance.
7. Have reflectors and warning devices in place before beginning maintenance.
8. Use warning lights during periods of darkness or reduced visibility.
9. Begin convoy movement only at convoy commander's signal.
10. Vehicle speed restrictions: _____ as determined by the local commander.
11. Vehicle intervals (minimums):
 - Controlled access highway - 200 yards.
 - Rural conventional highway - 150 yards.
 - Urban conventional highway - 50 yards.
12. Maintain close interval until reaching main convoy route.
13. Use acceleration lane, when available, to reach convoy speed.
14. Gradually attain proper vehicle interval once on main convoy route.
15. In case of accident, main column does not stop to provide assistance. Next following vehicle provides immediate assistance to accident vehicle.
16. If an accident occurs to a vehicle ahead, make maximum effort to clear traffic lanes.
17. Operate all vehicles with headlights on at all times.
18. Use warning devices correctly.

TC 21-305-4

19. Add any additional comments as local conditions warrant.

LESSON TITLE: DRIVE AN M998 SERIES HMMWV IN A CONVOY UNDER NIGHT AND BLACKOUT CONDITIONS

TASK NUMBER: 551-721-1363 (Drive Vehicle in Blackout Conditions)

A. TRAINING OBJECTIVE.

TASK: Drive an M998 series HMMWV in a convoy under night and blackout conditions.

CONDITIONS: Given instruction, DD Form 1970, DA Form 2404, a pencil, TM 9-2320-280-10, equipment records folder, rags, lubricants, coolant, a suitable training area, and an M998 series HMMWV with basic issue items.

STANDARD: Operate the vehicle in accordance with specific instructions of the march unit commander. Drive the designated convoy route at night using defensive driving (accident avoidance) methods; maintain vehicle interval, and operate the tactical light switch, including headlights and blackout drive without accident or injury.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: As scheduled.
2. Training location: Motor pool and convoy route.
3. Training type: Conference and practical exercise.
4. Students: Scheduled personnel.
5. Principal and assistant instructors required: One instructor for the conference and one assistant instructor for every three students for the practical exercise.
6. Training aids and equipment: Rags, lubricants, coolant, DA Form 2404, DD Form 1970, pencils, TM 9-2320-280-10, equipment records folder, convoy strip map, and an M998 series HMMWV with basic issue items for every three students, convoy signs ("CONVOY AHEAD" and "CONVOY FOLLOWS"), convoy flags (blue, green, and black/white), and convoy control vehicles (minimum of 2 vehicles required). A communication system is recommended for the control vehicles.
7. References: TM 9-2320-280-10, FM 55-312, and 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:
 - a. Demonstrate night convoy control signals as listed in FM 21-305.
 - b. Demonstrate the operation of the tactical light switch for turning on/off headlights, blackout drive lights, and blackout marker lights.
 - c. Have 3 HMMWVs positioned with blackout drive lights on so the students can see the rear blackout marker and stop light at different distances.
 - (1) Too far - more than 180 feet.
 - (2) Proper distance - between 60 and 180 feet.
 - (3) Too close - less than 60 feet.
 - d. Give convoy safety briefing (see attached sample convoy commander's briefing).
3. Practical exercise:
 - a. Assign students to vehicles and issue TM 9-2320-280-10, pencils, DA Form 2404, DD Form 1970, convoy strip map, and equipment records folder. Instruct students on the location of rags, lubricants, coolant.
 - b. Students perform before-operation PMCS to include the operation and cleaning of all lights.

- c. Students practice driving the HMMWV first with headlights on and then under blackout conditions on assigned convoy route. They conduct during-operation PMCS at this time.

NOTE: As each student practices driving, an assistant instructor rides in the right front seat. The other two students will ride in the rear seats and rotate driving duties. The assistant instructor explains driving techniques, ensures the driver is aware of driving situations, and conducts after-action reviews with each driver.

- d. Students perform after-operation PMCS and ensure all operator entries required on DA Form 2404 and DD Form 1970 are accurate, complete, and legible.

4. Evaluation: Check each student's performance of night driving both with headlights and under blackout conditions.

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 all chock blocks are in place when vehicles are parked.
2. Always place transmission neutral, set parking brake, and shut off engine before leaving vehicle.
3. Ensure students remove all jewelry and identification tags before performing PMCS.
4. Ensure students pay particular attention to the cautions and warnings listed in the operator's manual.
5. Ensure ground guide is always used when backing the HMMWV during training.
6. Ensure a safe following distance and speed limit are maintained when driving on the convoy route (as determined by the local command).

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7. Ensure all occupants wear seat belts while vehicle is in operation.
8. Ensure ground guides and road guides wear reflective vests and carry filtered flashlights at night.

F. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 5 hours (.5 conference, and 4.5 practical exercise, including 1 PMCS).

SAMPLE CONVOY COMMANDERS BRIEFING

1. Always follow civilian police instructions when given.
2. Use only truck parking areas on controlled access highways.
3. Make only emergency halts on roadside of controlled access highways.
4. Do not stand on traffic side of a convoy during halts on conventional highways.
5. Perform vehicle operation maintenance and check cargo security at every halt.
6. Move vehicles off highway before beginning maintenance.
7. Have reflectors and warning devices in place before beginning maintenance.
8. Use warning lights during periods of darkness or reduced visibility.
9. Begin convoy movement only at convoy commander's signal.
10. Vehicle speed restrictions: _____ as determined by the local commander.
11. Vehicle intervals (minimums):
 - Controlled access highway - 200 yards.
 - Rural conventional highway - 150 yards.
 - Urban conventional highway - 50 yards.
 - Blackout conditions - 60 to 180 feet.
12. Maintain close interval until reaching main convoy route.
13. Use acceleration lane, when available, to reach convoy speed.
14. Gradually attain proper vehicle interval once on main convoy route.
15. In case of accident, main column does not stop to provide assistance. Next following vehicle provides immediate assistance to accident vehicle.
16. If an accident occurs to a vehicle ahead, make maximum effort to clear traffic lanes.
17. Operate all vehicles with headlights on at all times (except under blackout conditions).

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18. Use warning devices correctly.
19. Add any additional comments as local conditions warrant.

LESSON TITLE: PERFORM SELF RECOVERY OF AN M998 SERIES HMMWV

TASK NUMBER: 551-721-1389 (Self Recover Wheeled Vehicle)

A. TRAINING OBJECTIVE.

TASK: Perform self-recovery of an M998 series HMMWV.

CONDITIONS: Given instruction, a suitable training area, a suitable anchor, a HMMWV with operational winch, and basic issue items.

STANDARD: Recover the vehicle in the correct sequence so that it is free to move under its own power without causing damage to the vehicle or injury to personnel.

B. INTERMEDIATE TRAINING. None.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: As scheduled.
2. Training location: Classroom and training area as scheduled.
3. Training type: Conference, demonstration, and practical exercise.
4. Students: Scheduled personnel.
5. Principal and assistant instructors required: One instructor for the conference, two assistant instructors for the demonstration, and one assistant instructor for every three students for the practical exercise.
6. Training aids and equipment: Television, video cassette recorder, videotape TVT 55-15 "Operation of the HMMWV," HMMWV with basic issue items and an anchor for every three students, and heavy work gloves for each student.
7. References: TM 9-2320-280-10 and FM 20-22.

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 videotape TVT 55-15 "Operation of the HMMWV."

NOTE: The classroom must be near the training area where recovery operations are to be practiced. This allows the student to view the tape and put into practical application the self-recovery procedures with a minimum loss of learned skills.

b. Explain the following procedures:

(1) Leave engine running.

(2) Place the transmission shift lever in the "N" (neutral) position.

(3) Look for a tree, a heavy object, or another large object to anchor the winch cable to.

(4) Turn the clutch lever counterclockwise to "FREE SPOOL," and, wearing leather gloves, pull out the winch cable by hand to the desired length.

(5) Ensure that four wraps of cable remain on the drum, and connect the winch cable to the anchor leaving one foot of slack in the cable.

(6) Remove the remote control switch from the stowage box. Direct all personnel to stand clear of the winch cable at a distance greater than the length of the winch cable and opposite the angle of pull.

(7) Turn the clutch lever clockwise to "ENGAGED," and pull out the throttle cable until the engine speed reaches approximately 1,500 RPM.

(8) Operate the remote control switch to "IN" until the vehicle can move under its own power, and set the parking brake.

(9) Once the winch operation is complete, disconnect the winch cable from the anchor. Wind the winch cable in until the hook is 4 feet from the cable guide.

(10) Turn the clutch lever counterclockwise to "FREE SPOOL," and rotate the drum by hand to retrieve the remaining cable.

(11) Turn the clutch lever clockwise to "ENGAGED." Place the remote control switch in the stowage box, and release the hand throttle.

- c. Demonstrate hand and arm signals required for this exercise.
- d. Explain all safety precautions for this exercise.
- e. Demonstrate self-recovery of a HMMWV.

3. Practical exercise:

- a. Assign students to vehicles and recovery location. Issue work gloves to each student.
- b. Students practice self-recovery of the HMMWV.

WARNING

Do not allow the students to do any unsafe acts. Recovery operations must be closely supervised because of the potential for injury or death.

4. Evaluation: Check each student's performance of self-recovery.

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 all chock blocks are in place when vehicles are parked.

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2. Ensure transmission is always placed in neutral, parking brake is set, and engine is shut off before leaving vehicle.

3. Ensure students pay particular attention to the cautions and warnings listed in the operators manual.

4. Ensure heavy work gloves are always worn when handling cable. Never let cable run through your hands. A frayed cable may cause severe cuts.

5. Ensure no one walks between the vehicle and anchor.

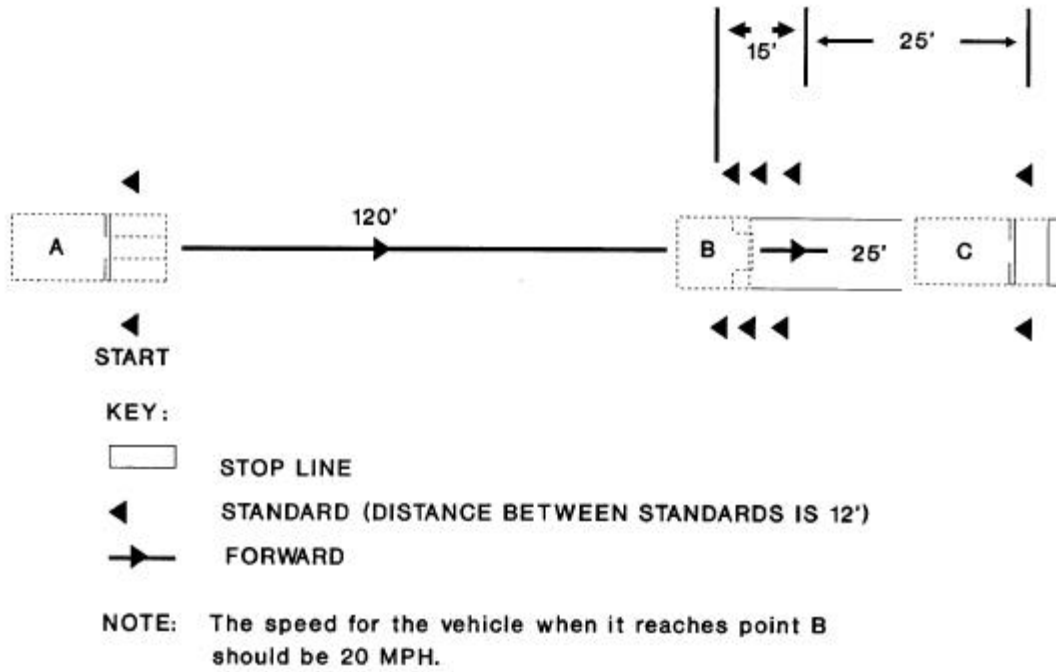
6. Ensure cable is not bent at sharp angles.

7. Keep all personnel clear of the area near the winch cable when tension is on the cable. If winch cable breaks, it can cause severe injury or death.

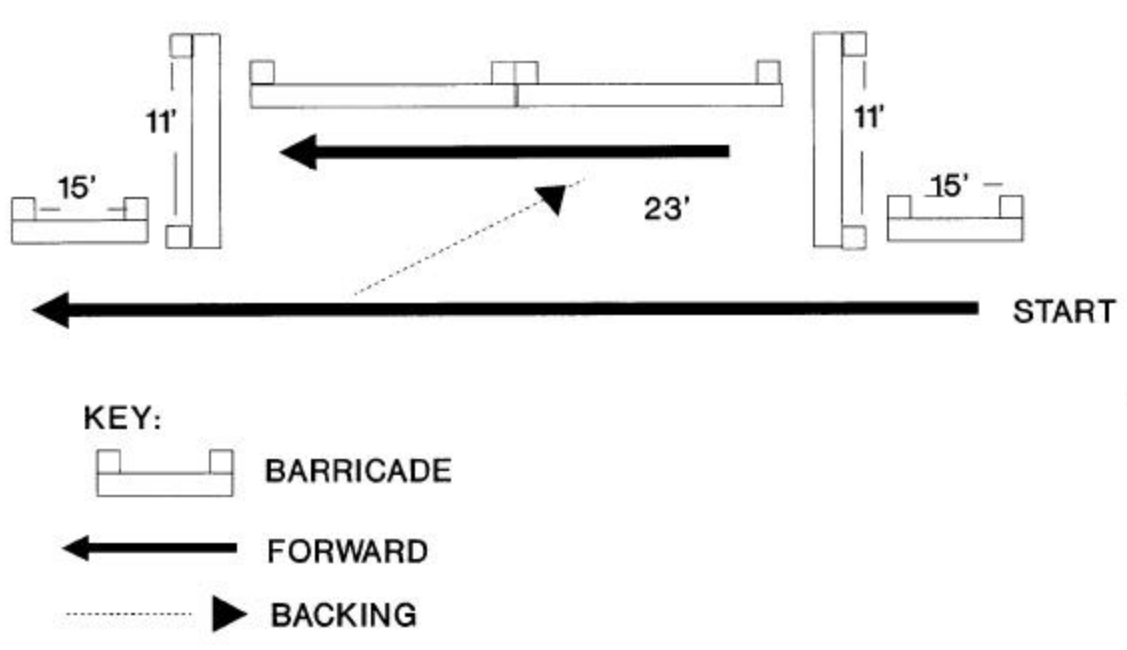
F. ADDITIONAL COMMENTS AND INFORMATION. Recommended instructional time is 3 hours (.5 conference, .5 demonstration, and 2.0 practical exercise).

CHAPTER 7
SAMPLE TRAINING AREAS

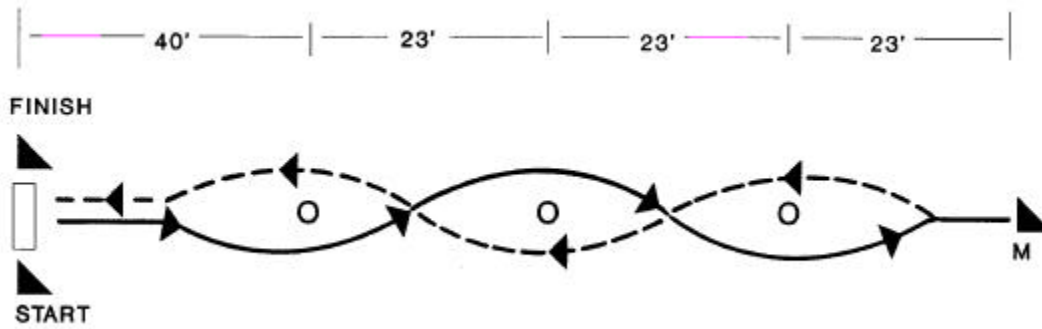
HMMWV STOPPING WITHIN PRESCRIBED LIMITS



HMMWV PARALLEL PARKING



HMMWV SERPENTINE COURSE



KEY:

▲ STANDARD

○ TRAFFIC CONE

M MIDPOINT

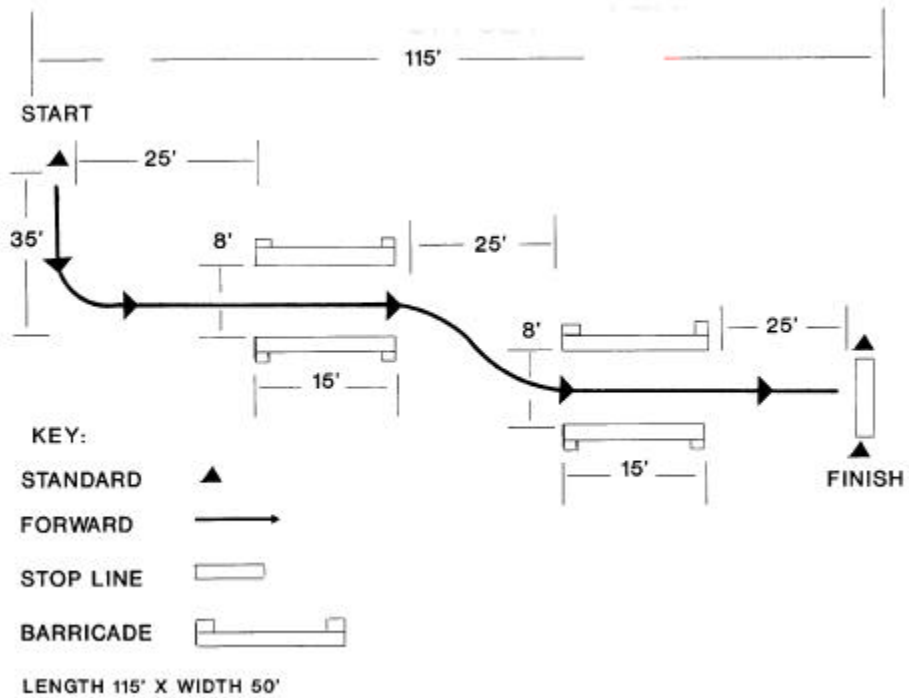
→ FORWARD

----- BACKING

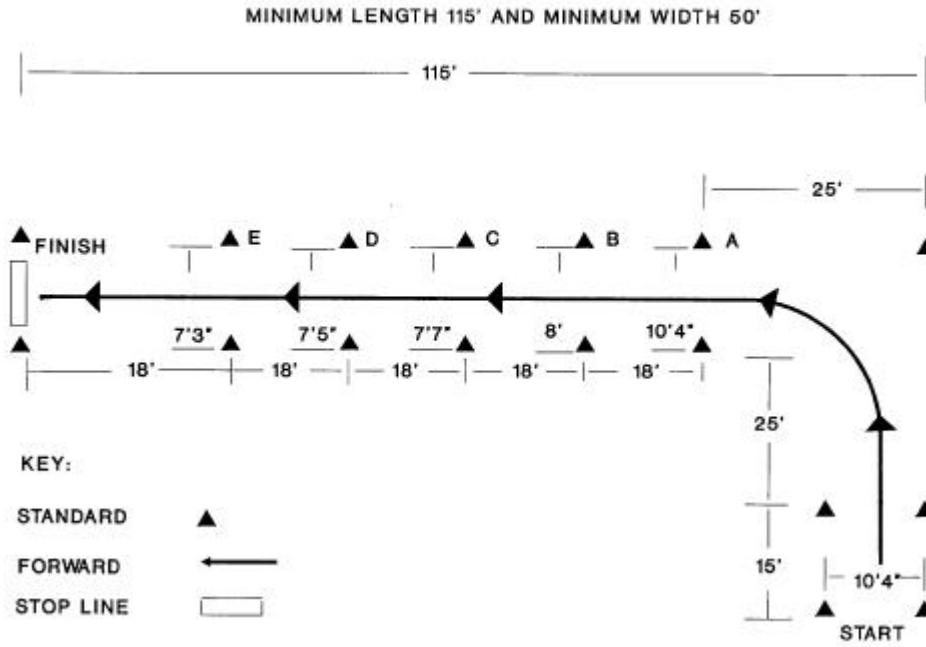
▭ START AND FINISH (WIDTH BETWEEN STANDARDS IS 20')

LENGTH 109' X WIDTH 40'

HMMWV OFFSET ALLEY



HMMWV DIMINISHING CLEARANCE



CHAPTER 8

END OF COURSE COMPREHENSIVE TEST (EOCCT)

LESSON TITLE: END OF COURSE COMPREHENSIVE TEST (EOCCT)

TASK NUMBER: ALL PREVIOUS TASKS

A. TRAINING OBJECTIVE.

TASK: Pass the end of course comprehensive test (EOCCT).

CONDITIONS: Given an examination booklet, DD Form 1970, DA Form 2404, pencil, TM 9-2320-280-10, equipment records folder, rags, lubricants, coolant, suitable training area, road test route, and M998 series HMMWV with basic issue items.

STANDARD: Answer correctly 21 of 30 questions on the written examination and pass the driver's road test with a score of 70 or higher.

B. INTERMEDIATE TRAINING

Intermediate Training Objective 1

TASK: Pass a written examination.

CONDITION: Given an examination booklet and pencil.

STANDARDS: Answer correctly 21 of 30 questions within 30 minutes. Use either the primary written test or the alternate written test.

Intermediate Training Objective 2

TASK: Pass the driver's road test.

CONDITION: Given DD Form 1970, DA Form 2404, pencil, TM 9-2320-280-10, equipment records folder, rags, lubricants, coolant, suitable training area, road test route, and M998 series HMMWV with basic issue items.

STANDARDS: Achieve a score of 70 or higher. Use the driver's performance test (road test) instructions and the driver's road test checklist.

C. ADMINISTRATIVE INSTRUCTIONS

1. Training time: As scheduled.
2. Training location: Classroom, motor park, road test route, and training area as scheduled.
3. Training type: Performance evaluation.
4. Students: Scheduled personnel.

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5. Principal and assistant instructors required: One instructor for the class for the written test and one assistant instructor for each student for the driver's road test.

6. Training aids and equipment: Examination booklet, DD Form 1970, DA Form 2404, pencil, rags, lubricants, coolant, TM 9-2320-280-10, equipment records folder, and M998 series HMMWV with basic issue items.

7. References: TM 9-2320-280-10, DA Pamphlet 738-750, and 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:

- a. Administer written examination.
- b. Administer driver's road test.

4. Evaluation: Check driver's road test checklists and written test results.

5. Summary:

- a. Recap main points.
- b. Allow for questions.
- c. Clarify questions.
- d. Give closing statement.

6. Retraining: Retrain and retest No-Gos

E. SAFETY RESTRICTIONS

1. Ensure all chock blocks are in place when vehicles are parked.
2. Ensure transmission is always placed in neutral, parking brake is set, and engine is shut off before leaving vehicle.

3. Ensure students remove all jewelry and identification tags before performing PMCS.
4. Ensure students pay particular attention to the cautions and warnings listed in the operators manual.
5. Ensure a safe following distance and speed limit are maintained when driving on the road test route (as determined by the local command and traffic control devices).
6. Ensure all occupants wear seat belts while vehicle is in operation.

F. ADDITIONAL COMMENTS AND INFORMATION. Recommended testing time is 3 hours (.5 written test and 2.5 road test).

INTERMEDIATE TRAINING OBJECTIVE 1

WRITTEN TEST (PRIMARY)

NAME _____ RANK _____ DATE _____

SECTION I. True/false questions: Read each question carefully and place a T or F on the blank line to the left.

- _____ 1. The transfer case shift lever should be in “H/L” (high lock) range when driving in snow or on ice.
- _____ 2. Use the transmission range selection “2” (second) for hill climbing and for engine braking when descending steep hills.
- _____ 3. Air cleaner service is required when the air restriction gauge yellow indicator reaches the “YELLOW ZONE” of the gauge.
- _____ 4. Before the horn will operate, the light switch must be in the “STOPLIGHT” or “SERVICE DRIVE” position
- _____ 5. The hazard warning (emergency flashers) do not override the brake lights.
- _____ 6. The coolant temperature gauge indicates a normal engine temperature of 230° to 250° F.
- _____ 7. You can use the hand throttle as a cruise control device.
- _____ 8. After operating the HMMWV in mud, clean the air cleaner dump valve.

SECTION II. Multiple choice: Read each question carefully and write the answer that is most correct on the blank line to the left.

- _____ 9. The HMMWV is equipped with--
 - a. A turbo charger.
 - b. Limited slip differentials.
 - c. Torque biasing differentials.
 - d. Posi-traction differentials.
- _____ 10. If your vehicle starts to skid, which should you do?
 - a. Step on the brakes and hold the steering wheel straight.
 - b. Nothing.

- c. Let up on the accelerator pedal and steer in the direction of the skid.
 - d. Release the gas pedal and steer in the opposite direction of the skid.
- _____ 11. How should you dry wet brake linings?
- a. Continue to drive at a slow speed with enough pressure on the brake pedal to cause a slight drag on the brakes until uneven braking ceases.
 - b. Pump the brake pedal.
 - c. Pull over and wait 25 to 30 minutes to allow the brakes to dry out.
 - d. Increase speed to allow more air to flow through the brakes.
- _____ 12. For extra traction when driving in snow or on ice, you should--
- a. Steer the vehicle diagonally up hills.
 - b. Install tire chains (four-wheel set).
 - c. Install tire chains (two-wheel set).
 - d. Turn the vehicle quickly when on slippery surfaces.
- _____ 13. When doing after-operation PMCS, you must drain the fuel filter of all contaminated fuel. What do you do with the contaminated fuel?
- a. Drain on the ground.
 - b. Drain on the wash rack.
 - c. Drain into a suitable container.
 - d. Pour it in your fuel tank.
- _____ 14. 14. The HMMWV is equipped with a wait-to-start lamp. This lamp illuminates when the--
- a. Engine is ready to start.
 - b. Engine is running.
 - c. Glow plugs are activated.
 - d. Head lights are on.
- _____ 15. Use the hand throttle to increase engine speed--
- a. When towing a trailer.
 - b. To drive through deep snow, sand, or mud.
 - c. To test brake modulation.
 - d. During cold weather starting or winch operation.
- _____ 16. The brake warning lamp illuminates when--
- a. The parking brake is released.
 - b. The parking brake is applied.

- c. The parking brake is wet and stays on until it has dried.
 - d. The vehicle is new and stays on until the disc brakes need to be replaced.
- _____ 17. The voltmeter indicates the charging level and activity of the battery charging system. If the charging system and gauge are operating properly, the voltmeter should register in the--
- a. Green area.
 - b. Yellow area.
 - c. Red area.
 - d. Blue area.
- _____ 18. By applying light pressure to the brake pedal while at the same time depressing the accelerator pedal, you are--
- a. Checking the operation of the blackout drive lights.
 - b. Attempting to stop.
 - c. Performing brake modulation.
 - d. Checking the operation of the stoplights.
- _____ 19. When you ford the HMMWV, the vehicle speed should be--
- a. 20 MPH or less.
 - b. 15 MPH or less.
 - c. 10 MPH or less.
 - d. 5 MPH or less.
- _____ 20. You achieve maximum efficiency and torque output of the engine at--
- a. The lower RPM (revolutions per minute) range.
 - b. The mid-RPM range.
 - c. The higher RPM range.
 - d. At all ranges.
- _____ 21. When you are driving the HMMWV on a dry, paved highway, the transfer case shift lever should be in what range?
- a. "H" (high).
 - b. "L" (low).
 - c. "H/L" (high lock).
 - d. "N" (neutral).
- _____ 22. The slave receptacle on the HMMWV is located at the--
- a. Outside rear of the battery box.

- b. Outside front of the battery box.
 - c. Floorboard under the driver's seat.
 - d. Right front of the vehicle, under the hood.
- _____ 23. The HMMWV can safely ford water up to _____ inches deep without using a fording kit.
- a. 30.
 - b. 40.
 - c. 50.
 - d. 60.
- _____ 24. If the vehicle starts to slide while climbing a hill, your first action is to--
- a. Let up on the accelerator pedal.
 - b. Steer the vehicle in the direction of the slide until the vehicle stops.
 - c. Slowly press the accelerator pedal and steer the vehicle on a straight course.
 - d. Hit the brakes.
- _____ 25. Place the transfer case shift lever in the _____ position only when continuous wheel slippage is evident.
- a. "H" (high).
 - b. "H/L" (high lock).
 - c. "L" (low).
 - d. "N" (neutral).
- _____ 26. Place the transfer case shift lever in the _____ position when the vehicle is stuck in deep snow or mud.
- a. "H" (high).
 - b. "H/L" (high lock).
 - c. "L" (low).
 - d. "N" (neutral).
- _____ 27. As a general rule when driving the HMMWV cross-country, you should--
- a. Never use the transfer case and transmission to assist the engine for braking purposes.
 - b. Use the brakes only when towing a trailer.
 - c. Use the brakes only when going down a steep hill.
 - d. Not use the vehicle brakes.
- _____ 28. Damage to the drive train will result if the transfer case is operated in _____ on high traction surfaces where little or no wheel slippage is evident.

- a. "N" (neutral position).
- b. "D" (drive position).
- c. "H/L" (high lock range).
- d. "H" (high range).

_____ 29. Before starting the HMMWV, you must place the transmission shift lever in--

- a. "N" (neutral).
- b. "D" (drive).
- c. "P" (park).
- d. "2" (second).

_____ 30. The HMMWV is equipped with run flat devices allowing the vehicle to be driven with one or more flat tires. The maximum distance the vehicle can travel during run flat operations is--

- a. 10 miles (16 kilometers).
- b. 20 miles (36 kilometers).
- c. 30 miles (48 kilometers).
- d. 40 miles (64 kilometers).

INTERMEDIATE TRAINING OBJECTIVE 1
WRITTEN TEST ANSWER SHEET (PRIMARY)

1.	T	11.	A	21.	A
2.	T	12.	B	22.	B
3.	F	13.	C	23.	A
4.	T	14.	C	24.	A
5.	F	15.	D	25.	B
6.	F	16.	B	26.	C
7.	F	17.	A	27.	D
8.	T	18.	C	28.	C
9.	C	19.	D	29.	A
10.	C	20.	B	30.	C

INTERMEDIATE TRAINING OBJECTIVE 1

WRITTEN TEST (ALTERNATE)

NAME _____ RANK _____ DATE _____

SECTION I. True/false questions: Read each question carefully and place a T or F on the blank line to the left.

- _____ 1. You can use the hand throttle as a cruise control device.
- _____ 2. Use the transmission range selection “2” (second) for hill climbing and for engine braking when descending steep hills.
- _____ 3. Before the horn will operate, the light switch must be in the “STOPLIGHT” or “SERVICE DRIVE” position.
- _____ 4. Air cleaner service is required when the air restriction gauge yellow indicator reaches the “YELLOW ZONE” of the gauge.
- _____ 5. The coolant temperature gauge indicates a normal engine temperature of 230° to 250° F.
- _____ 6. The hazard warning (emergency flashers) do not override the brake lights.
- _____ 7. After operating the HMMWV in mud, clean the air cleaner dump valve.
- _____ 8. The transfer case shift lever should be in “H/L” (high lock) range when driving in snow or on ice.

SECTION II. Multiple choice: Read each question carefully and write the answer that is most correct on the blank line to the left.

- _____ 9. Use the hand throttle to increase engine speed--
 - a. When towing a trailer.
 - b. To drive through deep snow, sand, or mud.
 - c. To test brake modulation.
 - d. During cold weather starting or winch operation.
- _____ 10. Damage to the drive train will result if the transfer case is operated in _____ on high traction surfaces where little or no wheel slippage is evident.
 - a. “N” (neutral position).

- b. "D" (drive position).
 - c. "H/L" (high lock range).
 - d. "H" (high range).
- _____ 11. If your vehicle starts to skid, which should you do?
- a. Step on the brakes and hold the steering wheel straight.
 - b. Nothing.
 - c. Let up on the accelerator pedal and steer in the direction of the skid.
 - d. Release the gas pedal and steer in the opposite direction of the skid.
- _____ 12. The HMMWV is equipped with run flat devices allowing the vehicle to be driven with one or more flat tires. The maximum distance the vehicle can travel during run flat operations is--
- a. 10 miles (16 kilometers).
 - b. 20 miles (36 kilometers).
 - c. 30 miles (48 kilometers).
 - d. 40 miles (64 kilometers).
- _____ 13. How should you dry wet brake linings?
- a. Continue to drive at a slow speed with enough pressure on the brake pedal to cause a slight drag on the brakes until uneven braking ceases.
 - b. Pump the brake pedal.
 - c. Pull over and wait 25 to 30 minutes to allow the brakes to dry out.
 - d. Increase speed to allow more air to flow through the brakes.
- _____ 14. The HMMWV is equipped with a wait-to-start lamp. This lamp illuminates when the--
- a. Engine is ready to start.
 - b. Engine is running.
 - c. Glow plugs are activated.
 - d. Head lights are on.
- _____ 15. When you are driving the HMMWV on a dry, paved highway, the transfer case shift lever should be in what range?
- a. "H" (high).
 - b. "L" (low).
 - c. "H/L" (high lock).
 - d. "N" (neutral).
- _____ 16. Place the transfer case shift lever in the _____ position only when continuous wheel

slippage is evident.

- a. "H" (high).
- b. "H/L" (high lock).
- c. "L" (low).
- d. "N" (neutral).

- _____ 17. The HMMWV can safely ford water up to _____ inches deep without using a fording kit.
- a. 30.
 - b. 40.
 - c. 50.
 - d. 60.
- _____ 18. If the vehicle starts to slide while climbing a hill, your first action is to--
- a. Let up on the accelerator pedal.
 - b. Steer the vehicle in the direction of the slide until the vehicle stops.
 - c. Slowly press the accelerator pedal and steer the vehicle on a straight course.
 - d. Hit the brakes.
- _____ 19. Place the transfer case shift lever in the _____ position when the vehicle is stuck in deep snow or mud.
- a. "H" (high).
 - b. "H/L" (high lock).
 - c. "L" (low).
 - d. "N" (neutral).
- _____ 20. The slave receptacle on the HMMWV is located at the--
- a. Outside rear of the battery box.
 - b. Floorboard under the driver's seat.
 - c. Right front of the vehicle, under the hood.
 - d. Outside front of the battery box.
- _____ 21. The HMMWV is equipped with--
- a. A turbo charger.
 - b. Limited slip differentials.
 - c. Torque biasing differentials.
 - d. Posi-traction differentials.
- _____ 22. The brake warning lamp illuminates when--

- a. The parking brake is released.
 - b. The parking brake is applied.
 - c. The vehicle is new and stays on until the disc brakes need to be replaced.
 - d. The parking brake is wet and stays on until it has dried.
- _____ 23. When you ford the HMMWV, the vehicle speed should be--
- a. 20 MPH or less.
 - b. 15 MPH or less.
 - c. 10 MPH or less.
 - d. 5 MPH or less.
- _____ 24. By applying light pressure to the brake pedal while at the same time depressing the accelerator pedal, you are--
- a. Checking the operation of the blackout drive lights.
 - b. Attempting to stop.
 - c. Checking the operation of the stoplights.
 - d. Performing brake modulation.
- _____ 25. You achieve maximum efficiency and torque output of the engine at--
- a. The lower RPM (revolutions per minute) range.
 - b. The mid-RPM range.
 - c. The higher RPM range.
 - d. At all ranges.
- _____ 26. The voltmeter indicates the charging level and activity of the battery charging system. If the charging system and gauge are operating properly, the voltmeter should register in the--
- a. Green area.
 - b. Yellow area.
 - c. Red area.
 - d. Blue area.
- _____ 27. As a general rule when driving the HMMWV cross-country, you should--
- a. Use the brakes only when towing a trailer.
 - b. Use the brakes only when going down a steep hill.
 - c. Not use the vehicle brakes.
 - d. Never use the transfer case and transmission to assist the engine for braking purposes.

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- _____ 28. For extra traction when driving in snow or on ice, you should--
- a. Steer the vehicle diagonally up hills.
 - b. Install tire chains (four-wheel set).
 - c. Install tire chains (two-wheel set).
 - d. Turn the vehicle quickly when on slippery surfaces.
- _____ 29. When doing after-operation PMCS, you must drain the fuel filter of all contaminated fuel. What do you do with the contaminated fuel?
- a. Drain on the ground.
 - b. Drain on the wash rack.
 - c. Drain into a suitable container.
 - d. Pour it in your fuel tank.
- _____ 30. Before starting the HMMWV, you must place the transmission shift lever in--
- a. "N" (neutral).
 - b. "D" (drive).
 - c. "P" (park).
 - d. "2" (second).

INTERMEDIATE TRAINING OBJECTIVE 1

WRITTEN TEST ANSWER SHEET (ALTERNATE)

1.	F	11.	C	21.	C
2.	T	12.	C	22.	B
3.	T	13.	A	23.	D
4.	F	14.	C	24.	D
5.	F	15.	A	25.	B
6.	F	16.	B	26.	A
7.	T	17.	A	27.	C
8.	T	18.	A	28.	B
9.	D	19.	C	29.	C
10.	C	20.	D	30.	A

INTERMEDIATE TRAINING OBJECTIVE 2

DRIVER'S PERFORMANCE (ROAD TEST) INSTRUCTIONS

1. General

a. The driver's performance test determines, if an individual is proficient in operating a motor vehicle properly and safely under conditions of traffic and terrain where he is expected to drive. It thus serves as a basis for issuing an operator's permit. Furthermore, the test provides a means for instructional reinforcement and counseling. Driving weaknesses that may show up as a result of the test can be called to the examinee's attention and specific steps can be taken to eliminate them.

b. Final evaluations are recorded on DA Form 348 or on an equivalent official form.

c. The examiner will be a thoroughly qualified operator of the HMMWV. He will be familiar with the road test route and the testing procedures. Before administering the test to any examinees, he must practice administering the test to a regular licensed driver qualified on the HMMWV. This practice administration will help him become acquainted with the test route and testing procedures.

2. Testing Method

a. 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 instructions which are indented and printed in large type are read or spoken aloud to the examinees. When giving instructions aloud, give the instructions slowly and distinctly, making sure the examinees understand. The directions in regular type, including those in parentheses, are for the information of the examiner only and are not given aloud.

3. Directions for Administering the Road Test

a. The standard road test is 5 miles long, with traffic and terrain representative of those areas in which the examinee is expected to drive. About 2 miles of this route is in a more congested traffic area. About 1 mile will be devoted to off-road driving. Once a route is established (in a given locality), it should be used for all examinees who are to be tested. 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 will meet the following requirements (to the extent possible):

- (1) Five right turns.
- (2) Five left turns.
- (3) Two intersections.

- (4) Two traffic lights or stop signs.
- (5) Two slow zones.
- (6) One railroad crossing.
- (7) One steep upgrade.
- (8) One steep downgrade.
- (9) One parallel parking space.
- (10) One backing area of 50 feet, with a clearly marked line extending for the whole length of the 50 feet.

b. The road test consists of a series of operations that must be performed by the examinee. These operations are listed on the Checklist of Driver's Road Test, which must be used in administering this test. Typical operations are starting the motor, pulling out, and parking.

c. Give instructions to perform an operation well in advance of that operation to allow the driver sufficient time to conform. In giving instructions, first make sure to tell the examinee where to perform the operation and then tell him what to do. For example, "At the corner two blocks from here, turn right." Notice the location was given in terms of landmarks. This must always be done.

CAUTION

The driver must never be urged to do something which is unsafe or which he does not want to do. Such urging may lead to an accident.

d. Take the following precautions to prevent accidents:

(1) Road tests should normally NOT be given if road conditions present a hazard such as ice or rain. The exception is when testing is specifically for driving under such conditions.

(2) Be prepared to take control of the vehicle at a moment's notice. Always watch traffic conditions and warn the examinee of dangers which you think he does not see. If the driver becomes involved in a dangerous or unlawful moving traffic incident or an accident, the test is to be terminated immediately and the examiner will drive the vehicle back to the start point, once on-scene responsibilities are fulfilled.

e. To begin the road test, do the following:

(1) On the Checklist of Driver's Road Test, enter date in the appropriate place. Then say to the examinee--

WHAT IS YOUR NAME, LAST NAME FIRST? SPELL IT.

(2) Fill in the examinee's name after the word NAME, then say—

WHAT IS YOUR RANK?

(3) Enter individual's rank after the word RANK, then say-

WHAT IS YOUR ORGANIZATION?

(4) Enter the name of the organization after the word ORGANIZATION. Enter your name after the word EXAMINER (last name first). After the word VEHICLE, enter the model of vehicle used in the road test. Then say to the examinee--

THERE WILL BE NO "TRICK" ORDERS.

YOU WILL NOT BE ASKED TO DO ANYTHING IN VIOLATION OF THE LAW OR OF GOOD DRIVING PRACTICES.

YOUR SCORED TEST BEGINS WITH BEFORE-OPERATION PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS). (The examiner may stop the PMCS process when he is sure the examinee is knowledgeable in the PMCS procedures.)

FOLLOW MY INSTRUCTIONS. DRIVE PROPERLY AND SAFELY.

ARE THERE ANY QUESTIONS?

(5) Answer all questions, except those pertaining to the scoring procedures. Then say--

DURING THE TEST, I WILL MAKE SOME OBSERVATIONS AND KEEP NOTES. DO NOT BE CONCERNED. YOUR SCORED ROAD TEST STARTS NOW. ALL RIGHT, START YOUR MOTOR.

(6) Directions for each operation, such as "Next block, turn left," are to be given one at a time in their proper sequence, as set up by the test route according to paragraph 3a above.

4. Scoring the Road Test

a. Within each of the operations that the examinee will be required to perform, there is a list of errors on the Checklist for Driver's Road Test. Every time the examinee makes one of these errors under the specific operation, place a tally mark next to the error. For example, if the examinee fails to signal when leaving the curb,

place a tally mark next to "Fails to give proper signal" under the operation "Pulling Out," and nowhere else. The tally mark will be placed in the space to the left of the specific error. Since an individual will be required to repeat some of the operations, such as right turns, a number of times, more than one tally mark can be placed next to the same error under a given operation. Some test routes do not lend themselves to all operations indicated on the checklist. In these cases, score only the operations that apply.

b. At the completion of the test, count the number of tally marks and subtract this number from 100 to obtain the examinee's score. Record the score in the space provided on the checklist.

c. The lowest passing score is 70. If the examinee does not achieve 70 or above, indicate the reason for failure in the space provided under REMARKS. For example, "Examinee did not obtain minimum passing score" or "Examinee exhibited undue nervousness."

d. The following are automatic failures:

- (1) Any unsafe driving act.
- (2) Failure to properly perform PMCS.
- (3) Not knowing location and function of gauges and controls.
- (4) Undue nervousness.
- (5) Failure to achieve minimum passing score.

NOTE: If an individual scores 70 or higher on the road test and, in the judgment of the test examiner, he needs additional training, the examiner has the right not to issue a license.

5. After-Action Review (AAR). Weaknesses exhibited by the examinee in the test will be brought to his attention, and he will be advised in what areas he needs further practice or training. The counseling will be accomplished whether the examinee passes or fails the road test. After an examinee who has failed the test receives additional training, he will be retested. An examinee who fails the road test must retake the entire road test.

INTERMEDIATE TRAINING OBJECTIVE 2
DRIVER'S ROAD TEST CHECKLIST FOR THE HMMWV

NAME	RANK	DATE	VEHICLE
ORGANIZATION		EXAMINER	

BEFORE STARTING ENGINE

FAILS TO:--

- _____ Ensure vehicle is properly dispatched.
- _____ Sign DD Form 1970 and/or other forms as required.
- _____ Perform before-operations preventive maintenance checks and services (PMCS) using appropriate -10 manual.
- _____ Unchock wheels and stow chock blocks (as required).
- _____ Adjust all mirrors.
- _____ Adjust seat.
- _____ Fasten seat belt/safety restraint.

STARTING ENGINE

FAILS TO:--

- _____ Ensure proper gear selection, such as neutral.
- _____ Ensure (wait-to-start) lamp is off before starting engine.
- _____ Warm engine properly.
- _____ Check to ensure all gauges are functioning properly.

PULLING OUT

FAILS TO:--

- _____ Select proper gear.
- _____ Release parking brakes.
- _____ Look back and check traffic (use mirrors and windows).
- _____ Give proper signal.
- _____ Allow traffic to pass.
- _____ Make a smooth start.
- _____ Check all gauges periodically.
- _____ Check mirrors periodically.
- _____ Keep both hands on steering wheel (except as required by driving needs).

DRIVING IN TRAFFIC (SPEED)

FAILS TO:--

- _____ Stay within the speed limits.
- _____ Reduce speed when required by road conditions.
- _____ Maintain adequate speed (drives too slowly).
- _____ Maintain constant speed as much as possible (feeds accelerator erratically).
- _____ Maintain proper speed for gear selection.
- _____ Reduce speed when required by traffic conditions.
- _____ Check all gauges periodically.
- _____ Check mirrors periodically.
- _____ Keep both hands on steering wheel (except as required by driving needs).

DRIVING IN TRAFFIC (ATTENTION, ATTITUDE)

FAILS TO:--

- _____ Stay in proper lane.
- _____ Maintain proper following distance from vehicle ahead in traffic (twice the speedometer reading in feet).
- _____ Maintain proper following distance at high speeds (40 mph or over) from vehicle ahead on open highways (two times the speedometer reading in yards).
- _____ Anticipate action of other drivers and pedestrians.
- _____ Observe and obey signs, signals, or police officers
- _____ Give necessary warning (sound horn).
- _____ Yield right-of-way to other vehicles.
- _____ Yield right-of-way to pedestrians.
- _____ Be courteous toward other drivers.
- _____ Slow down when approaching railroad grade crossings.
- _____ Prevent creeping or drifting when stopped.
- _____ Perform during-operation PMCS.
- _____ Check all gauges periodically.
- _____ Check mirrors periodically.
- _____ Keep both hands on steering wheel (except as required by driving needs).

LEFT TURN

FAILS TO:--

- _____ Give proper signal in advance.
- _____ Turn from proper lane (usually adjacent to centerline).
- _____ Turn into proper lane (usually immediately to the right of the centerline).
- _____ Avoid cutting corners.
- _____ Maintain safe speed.
- _____ Straighten out properly.
- _____ Check mirrors periodically.
- _____ Keep both hands on steering wheel (except as required by driving needs).

**RIGHT TURN
FAILS TO:--**

- _____ Give proper signal in advance.
- _____ Turn from proper lane (usually the right lane).
- _____ Turn into proper lane (usually the right lane).
- _____ Avoid swinging too wide.
- _____ Maintain safe speed.
- _____ Avoid cutting corners.
- _____ Straighten out properly.
- _____ Check mirrors periodically.
- _____ Keep both hands on steering wheel (except as required by driving needs).

**USE OF CONTROLS
FAILS TO:--**

- _____ Use proper transfer and transmission gear ranges.
- _____ Avoid racing engine.
- _____ Start on hill without rolling back.
- _____ Keep both hands on steering wheel (except as required by driving needs).
- _____ Check all gauges periodically.
- _____ Maintain engine speed (mid-RPM range).

**OFF-ROAD DRIVING
FAILS TO:--**

- _____ Shift transfer into "H/L" or "L" range with transmission in "N" position.
- _____ Operate engine at mid-RPM range (1,500 to 2,000 RPM).
- _____ Set transmission range selector to "2" or "1" as needed.
- _____ Drive around, not over large rocks.
- _____ Maintain control of vehicle/maintain steady speed.
- _____ Cross ravines and ditches properly.
- _____ Ascend/descend hills in a straight approach.
- _____ Not go over fording depth/speed.
- _____ Use engine as a brake
- _____ Use brake modulation as required.

SLOWING OR STOPPING

FAILS TO:--

- _____ Signal intention in advance.
- _____ Observe traffic to the rear, using mirrors and windows.
- _____ Brake smoothly.
- _____ Use engine as a brake.
- _____ Keep both hands on steering wheel (except as required by driving needs).

OVERTAKING AND PASSING

FAILS TO:--

- _____ Check for other traffic, using mirrors and windows.
- _____ Signal in advance.
- _____ Maintain proper following distance before passing.
- _____ Pass in proper lane.
- _____ Change lane gradually in passing.
- _____ Return to proper lane only after signaling intent and ensuring the lane is clear.
- _____ Obey “no passing” signs, rules, or regulations (such as on hills, curves and intersections).
- _____ Check mirrors periodically.
- _____ Check all gauges periodically.
- _____ Keep both hands on steering wheel (except as required by driving needs).

BACKING

FAILS TO:--

- _____ Look behind vehicle before backing.
- _____ Sound horn.
- _____ Back slowly.
- _____ Back smoothly.
- _____ Back in a straight line using mirrors (50 feet within 6 inches of line laterally).
- _____ Keep both hands on steering wheel (except as required by driving needs).

PARKING

FAILS TO:--

- _____ Check for other traffic.
- _____ Give proper signal for traffic to pass.
- _____ Park within two attempts.
- _____ Park without bumping or scraping curb.
- _____ Park in space 3 feet wider than test vehicle (parallel parking).
- _____ Set parking brake.
- _____ Chock wheels (as required).
- _____ Perform after-operation PMCS.

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_____ Keep both hands on steering wheel (except as required by driving needs).

ROAD TEST SCORE

100

NUMBER OF TALLY MARKS (SUBTRACT) _____

ROAD TEST SCORE _____

REMARKS:

GLOSSARY

AAR	after-action review
BII	basic issue items
bldg	building
BRT	bright
bn	battalion
co	company
D	drive
EOCCT	End of Course Comprehensive Test
F	false
H	high
H/L	high lock
HEMTT	heavy-expanded mobility tactical truck
HMMWV	high mobility multipurpose wheeled vehicle
L	low
LO	lubrication order
MP	military police
MPH	miles per hour
NATO	North Atlantic Treaty Organization
NCOIC	noncommissioned officer in charge
NMC	not mission capable
NSN	national stock number
no	number
PA	public address
PIN	production identification number
PMCS	preventive maintenance checks and services
POL	petroleum, oils, lubricants
psi	pounds per square inch
RPM	revolutions per minute
SF	standard form
SSN	social security number
SOP	standing operating procedures
SPC	specialist
SSG	staff sergeant
T	true
TC	training circular
TM	Technical manual
TVT	television tape

REFERENCES

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FM 90-3. Desert Operations (How to Fight). 19 August 1977.

DOCUMENTS NEEDED

These documents must be available to the intended users of this publication.

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31 MAY 1991

By Order of the Secretary of the Army:

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