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Driver Selection, Training, and Supervision

Track Combat Vehicles

		Page
Chapter 1	**Introduction**	
	Purpose	1
	Scope	1
	Effect of driving on combat efficiency	1
	Responsibilities in the selection, training, and supervision of drivers	2
Chapter 2	**Preparation for Conduct of Driver Training**	
	Initial planning	3
	Estimate of driver training situation	3
	Organizing the program	4
	Selecting instructors	4
	Training instructors	5
	Training examiners	5
Chapter 3	**Selection and Classification of Prospective Track Combat Vehicle Drivers**	
	Objective	6
	Screening prospective drivers	6
	Interviewing prospective drivers	6
	Driver Selection Battery II tests	8
	Physical evaluation tests	8
	Recording data on DA Form 348	10
Chapter 4	**Driver Training**	
Section I	Preliminary driver instruction	
	Objective	11
	Maintenance	11
	Administrative forms	11
	Visual signals	13
	Terrain evaluation	14
	Weight classifications	14
	Safety	14
	Fire prevention	16
	Fire extinguishing	16

*This manual supersedes TM 21-301, 25 July 1967.

Track combat vehicle characteristics 16
Driver maintenance 17
Engine-operations 18
Washing and cleaning vehicles 19
Field expedient recovery 19

Section II Training in driving
Preliminary training applied 20
Basic driving 20
Advanced driving 24

Chapter 5 **Qualification and Licensing of Track Combat Vehicle Drivers**

Section I Qualification
Mechanical knowledge test 27
Driver information test 27
Field driving proficiency test 27

Section II Licensing
Standard Form 46 28
Classification of Standard Form 46 29

Chapter 6 **Supervision of Drivers**
Need for supervision 30
How to supervise drivers 30
Checklists in supervision 30
Periodic testing of drivers 30
Incentive program 31

Appendixes
A References 32
B Recommended Track Combat Vehicle Driver Mechanical Knowledge Test *(with answers)* 33
C Recommended Track Combat Vehicle Driver Information Test *(with answers)* 35
D Recommended Checklist for the Track Combat Vehicle Driver Proficiency Test 42
E Standard Hand and Arm Signals for Track Combat Vehicle Driving 44
F Driver Testing and Training Device: Portable Equipment 49
G Operator Testing and Licensing Flow Chart 52
H Driver's Forms and Reports 54

Chapter 1
Introduction

Purpose
This manual outlines a system for selecting, training, and qualifying track combat vehicle drivers. The Army's inventory includes numerous track combat vehicles; some are weapons, while others carry men and materiel.

Scope
This manual contains the necessary steps for:

1. Selecting and training driver instructors and examiners.
2. Selecting, training, examining, and supervising drivers. (See the appendixes for suggested tests and checklists.)

Effect of Driving on Combat Efficiency
The contribution of the driver to combat efficiency is not always appreciated or recognized, even though his performance is a critical factor in keeping a vehicle in fighting condition. The best designed and constructed vehicles maintained by the best mechanics in the Army cannot compensate for poor driving practices; poor driving practices can cause any unit to fail to perform its mission.

Commanders too often blame their unit's failure to meet movement timetables on defective equipment, difficult terrain or excessive operational demands when poor driving and/or unsatisfactory operator or crew maintenance is a fault. They sacrifice mobility by failing to spot driver error as the source of trouble and neglect to make on-the-spot corrections because the effects of poor driving techniques are often subtle except when they result in accidents.

Proper maintenance and good equipment design may keep vehicles running despite poor driving practices, but unfortunately these bad practices result in vehicle abuse and increase maintenance requirements.

Responsibilities in the Selection, Training, and Supervision of Drivers

In setting up a driver's training program:

1. Select instructors who are competent and well-trained. They should have been licensed at least one year on the equipment used in the training program.
2. Select *only* qualified personnel as drivers (see procedures for driver examination, para 4, AR 600-55).
3. Conduct centralized training at battalion or squadron level where the best instructors and required equipment are available.
4. Conduct refresher training courses on:
   a. State, local and installation driving regulations.
   b. Safe driving procedures.
   c. Seasonal hazards.
   d. Maintenance and other related matters.

Chapter 2
Preparation for Conduct of Driver Training



Initial Planning

Good driver training is the result of careful planning and thorough instruction. Before instruction begins, make a careful and complete estimate of the driver training requirement. Based on this estimate, develop plans and schedules, select and train instructors, and assistant instructors, and make sure facilities and equipment are available.

Estimate of Driver Training Situation

When detailed to conduct a driver training program, first make an estimate of the driver training situation by answering the following questions:

1. How many new drivers are to be qualified?
2. How many previously licensed drivers are to be checked?
3. What is the capability and general experience of new drivers to be qualified?
4. How much time is available?
5. How many instructors and assistant instructors are available?
6. What special training do the instructors and assistant instructors require?
7. What facilities are available, including classrooms, training aids, shops, vehicles, and driving ranges with varied terrain?
8. What additional facilities are needed and how can they be obtained?
9. What must be done to prepare all equipment and facilities for operation?
10. What are the standards for training?

Then, analyze the answers to these questions and develop a plan for organizing and carrying out the program.

Organizing the Program

In organizing the program of instruction you must:

1. Determine the number of instructors and assistant instructors to be selected and trained and a schedule for their instruction.
2. Determine the duties and responsibilities of instructors and assistant instructors.
3. Determine the number of drivers to be trained or retrained and a schedule for their instruction.
4. Make up a list of students by groups and how groups will be rotated.
5. Decide what equipment and facilities are needed and the methods used to get them ready.
6. Determine what the training standards will be and how to implement them.
7. Develop a program of instruction.

Selecting Instructors

Skilled noncommissioned officers, tank drivers, or even well-qualified maintenance personnel do not necessarily make good driving instructors without special training. The success of the program depends on proper selection and training of instructors and assistant instructors. The steps for selecting instructors are:

1. *Interviewing* —A qualified officer conducts the interview. There are five essential requirements. All prospective instructors and assistant instructors must:
   a. Be qualified to operate the equipment and be licensed for one year whenever possible.
   b. Have technical knowledge of the equipment.
   c. Have scores on the Army classification tests of average or above.
   d. Have knowledge and experience necessary to instruct with authority.
   e. Have the personality and desire to instruct.
2. *Classifying* —The interviewing officer groups prospective instructors according to their potential:
   a. Fully Acceptable.

b. Conditionally Acceptable.

c. Not Acceptable.

3. *Selecting* —The best qualified and most experienced individuals are selected for further training.

Training Instructors

Regardless of apparent qualifications, instructors and assistant instructors must take a preliminary course before teaching. Even though this may delay instruction for students, it pays dividends in the long run.

The preliminary course for instructors will:

1. Include the entire course that is given to students. (It probably will not be necessary for instructors and assistant instructors to spend as much time on this as is scheduled for students. However, the entire course should be covered, emphasizing phases in which instructors and assistant instructors prove weakest.)
2. Apply the principles of instruction prescribed by FM 21-6.
3. Emphasize the importance of observing the student's driving techniques so that errors can be corrected immediately.
4. Provide special training for driver aptitude tests (pp 8-10), diagnostic checks (pp 49-51), and qualification examinations.

Training Examiners

The value of the examination depends largely on the competence of the examiners.

Examiners must:

1. Understand the purpose and nature of every test given.
2. Know the standards and how to test and score.
3. Be tested on the same scoring problems until their own scores reflect high, uniform results.



Chapter 3

Selection and Classification of Prospective Track Combat Vehicle Drivers

Objective

The best personnel must be selected from the available prospects. Not all persons who meet the Army's physical standards are emotionally or mentally capable of becoming satisfactory drivers. Unless poor training risks are eliminated before training starts, these persons may cause time loss and equipment damage.

Screening Prospective Drivers

This is the first step in the selection program. Screen the records of eligible personnel very carefully. DA Form 2-1 (Personnel Qualification Record, Part II) or DA Form 348 (Equipment Operator's Qualification Record [Except Aircraft], pp 56 and 57) show the standard score obtained on the Driver Selection Battery I tests. This score is the basis for determining which driver candidates are selected. However, to eliminate any chance of error, verify the results of these tests by personal interview and observation. The minimum score for Battery I tests is 85. The best prospects normally are those with the higher scores.

Note. Persons with a valid civilian driver's license are not required to take the Battery I test.

Interviewing Prospective Drivers

A carefully conducted interview uncovers useful information about each person under consideration. The interviewer must emphasize the importance of truthful answers and note any evidence of quick temper, extreme nervousness, poor hearing, or other characteristics which would affect driver performance.

Some information obtained during the interview may be recorded on DA Form 348. Therefore, advise the prospective driver of the Privacy Act provisions. Open the interview with introductory remarks such as, "You're going to be asked a number of questions about yourself and your driving experience. Answer every question as accurately as you can. Your answers will be used to help place you in work for which you are best qualified."

Suggested questions for the interview:

1. How much experience have you had in driving a passenger car?
2. How many miles did you drive during the 12 months before joining the Army?
3. Have you operated any special automotive equipment such as farm tractors or road-building equipment? If so, for how long?
4. How much experience have you had driving a truck of l\2-ton capacity or greater?
5. Have you ever driven a truck with all-wheel drive?
6. Have you ever driven a bulldozer?
7. How many accidents have you had in which someone was injured or in which the property damage exceeded $25?
8. How many times have you been cited for traffic violations?
9. Do you have any experience in automobile mechanics or related work?
10. How many years of schooling have you completed?
11. Do you think your general physical condition is average, better than average, or below average?
12. Have your eyes ever troubled you? Do you have difficulty seeing clearly at times?
13. Do you wear glasses while driving?
14. Have you ever had any hearing trouble?
15. Do you know of any other physical defects that might affect you as a driver?
16. Have you any personal objection to becoming a military motor vehicle operator? If so, explain.
17. How old are you?

If possible, interview at least 50 percent more personnel than you need to allow for eliminations—those who fail the written and/or physical requirements or fail to grasp driving fundamentals.

When the number available for training exceeds the number needed, use the interviews to select personnel.

In making your selection consider:

1. Age—Older persons are usually more stable than those who are younger.
2. Driving Experience—One year or more of driving in which the applicant drove over 4,000 miles without an accident usually indicates good judgment and coordination.
3. Education—Eighth grade or the equivalent is necessary for filling out forms and keeping required records.

When selecting personnel for training as track combat vehicle drivers, it is best to pick those with previous driving experience. However, a person with no previous driving experience can be readily taught to operate a track combat vehicle if the necessary physical and mental qualifications are met.

Driver Selection Battery II Tests

Motor Vehicle Driver Selection Battery II is a series of written and manual tests which determine if a driver has good:

1. Overall judgment.
2. Vision.
3. Eye-hand coordination.

The standard passing score is 80. Individuals who attain a score of 85 or higher on Battery I are not required to take Battery II. Individuals who score less than 85 on Battery I, or were not given the Battery I Test at the reception station, are required to take Battery II. Persons with a valid civilian driver's license are not required to take Battery II.

DA Forms used in Battery II:

DA Form 6122 (Emergency Judgment Test)—Determines individual reaction to emergency situations.

DA Form 6123 (Visual Judgment Test)—Determines whether or not the student sees well enough to drive safely.

DA Form 6124 (Two-Hand Coordination Test)—Determines accuracy and speed of hand movement in conjunction with eyesight.

Physical Evaluation Tests

These tests are intended for diagnostic, guidance, and counseling purposes. In addition, they will insure that all operators of motor vehicles possess the minimum physical requirements for safe driving.

Equipment —The Portable Driver Testing and Training Device is an item of supply used to administer the physical evaluation tests which includes the necessary instructions and material. The equipment can be requisitioned through supply channels, or, if assistance is required, the Post Safety Officer can properly identify the model and source of supply.

Testing Rooms —These should provide adequate light and ventilation. If it is necessary to test more than one student at a time and if the same room is used for more than one test, try to minimize distractions during the hearing and reaction time tests.

Instructions —These apply to all measurement and physical abilities and supplement specific instructions accompanying the equipment.

1. Before giving any test, know its purpose, the equipment to be used, and the testing procedure.
2. Before each test, explain its purpose to the student and tell him what he will be expected to do.
3. Upon completion of testing, note specific physical limitations and bring these to the attention of the student. For corrective measures, direct the student to a medical facility.

Measure physical evaluations in the following order:

1. *Visual Acuity Tests* are given to determine whether or not the student can see well enough to drive safely. The vision standards are:

   Uncorrected distant visual acuity of any degree which is corrected to not less than 20/40 in the better eye (for military personnel, a numerical designator “1,” “2,” or “3” under the “E” factor of the physical serial). Visual acuity tested with both eyes open must also be corrected with ordinary glasses to at least 20/40. All Army drivers who can attain 20/40 or better acuity with ordinary glasses will be required to wear these while operating an Army vehicle. Operator permits will be annotated to reflect this requirement.

2. *Field-of-Vision Tests* are given to determine how well the student can see to each side while looking straight ahead. A lateral range of 75 degrees on each side of the focus line is the minimum acceptable standard. If the standard is not met, refer the student to the post medical facility for further examination.

3. *Depth Perception Tests* are given as part of the Field Driving Proficiency Tests (p 27 and 28) and are used to determine how well the student can judge distances. Use the results of these tests in counseling and training the driver.

4. *Color Perception Tests* determine whether or not the student is colorblind. The student will not necessarily be disqualified for a vehicle operator's license because of color blindness. However, if there is any indication of color blindness, refer the student to the post medical facility for further evaluation.

5. *Reaction Time Tests* determine whether or not the student can move his feet quickly enough in response to driving conditions. The average reaction time is about 0.4 second, although 0.6 is acceptable. Refer any student with a reaction slower than 0.6 second to the post medical facility for further reflex testing.

6. *Hearing Tests* should include audiometric screening for pure tones, and the student should have normal threshold hearing in the speech frequency range (500-1,000-2,000 hz). A portable audiometer is available through the supply system for testing hearing. Training in the use of the audiometer can be obtained from any post medical facility. Consult the post clinic for ordering information.

Recording Data on DA Form 348

Record information obtained from the interview, battery tests, physical evaluation tests, and road test on DA Form 348 (pp 56 and 57).

Chapter 4
Driver Training



Section I

Preliminary Driver Instruction

Objective

This phase of instruction teaches the student driver:

1. Administrative procedures.
2. Basic features and characteristics of the vehicle.
3. Proper operating procedures.
4. How operating faults are detected and corrected.

Note. Students who have previously qualified to operate wheel vehicles need study only subjects peculiar to track vehicles.

Maintenance

The student is taught:

1. Major components of the vehicle and the functiond they perform.
2. Emergency repair.
3. Field expedients.
4. How to start and warm up the engine.
5. Safety precautions.

For every two hours of driving instruction or preliminary training, the student should receive at least one hour of instruction and practical work on driver and crew maintenance services. This enables the student to form correct habits when checking and servicing his vehicle.

Give the student basic information on organizational, direct support, general support, and depot maintenance categories which make up the Army maintenance system.

Administrative Forms

Since publications, forms, reports, and historical records are used in the daily operation and maintenance of military vehicles, they area very important part of the driver instruction program. These forms and publications insure proper maintenance and control of military vehicles (ref TM 38-750). Appendix H illustrates the proper way to fill out these forms.

Equipment Historical Records —These are major elements of the equipment records system and are designed to present an accurate review of the use and maintenance of each vehicle. This record begins at the time of delivery and is maintained until the equipment is removed from the Army inventory. Most importantly, it provides commanders with current knowledge of equipment readiness. These records must be with the vehicle when it is serviced, repaired, modified, or transferred. Damage, loss, or destruction of these records as a result of negligence is cause for disciplinary action. Operators of vehicles on authorized dispatch must have DA Form 2408-1 (Equipment Log) or DD Form 1970 (Motor Vehicle Utilization Record) properly completed and DA Form 2404 (Equipment Inspection and Maintenance Worksheet) for listing deficiencies and shortcomings.

DA Form 2404 (Equipment Inspection and Maintenance Worksheet) —Must be used in conjunction with the appropriate technical manual. When used in the performance of daily Preventive Maintenance Checks and Services (PMCS), the operator records only deficiencies and shortcomings which cannot be corrected by the operator.

Standard Form 46 (U.S. Government Motor Vehicle Operator's Identification Card) –Stamped or marked "ARMY LEARNER" when issued to student drivers for use during driving instruction. Detailed instructions for completing SF 46 are found in paragraph 12, AR 600-55.

Standard Form 91 (Operator's Report of Motor Vehicle Accident)—Taught best by practical exercise instruction. All vehicles must carry SF 91 and all operators must be able to fill it out properly before being licensed (pp 62 and 63).

DD Form 518 (Accident-Identification Card)—Carried on all vehicles and used to identify a military vehicle and the organization to which it is assigned. Enter the driver's name, vehicle identification, organization, and identity of the responsible authority on DD Form 518 at the time of an accident. Then give the completed form to the operators of all other vehicles or pedestrians involved in the accident. Under the Privacy Act of 1974, the social security number need not be included.

Lubrication Order —Published for every type of tactical and combat vehicle used by the Army. It prescribes the correct lubricants, intervals to observe, and special precautions to follow under unusual operating conditions. These lubrication services are mandatory. The lubrication order must be carried on the vehicle and all crewmembers must thoroughly understand it.

DA Form 348 (Equipment Operator's Qualification Record [Except Aircraft])–Provides a means of recording the complete history of an individual's civilian and military driving experience. Initiate this form when the individual is administered the Battery I test. Translate the results of the test into a standard score and enter on DA Form 2-1 in addition to DA Form 348. If the student has not attained a score of 85 or higher on the Battery I, give the Battery II and record the results of it along with the results of the physical evaluation tests. When the individual is trained to operate a track vehicle, record the prescribed tests. When the student passes the qualification course for either wheel or track vehicles, enter the permit number, date, type of permit, and limitations with the specific vehicle qualification in the appropriate blocks. This form is a permanent record maintained in the individual's 201 file and remains with the file when transferred. When the student is assigned driver duties on a daily dispatch basis, this form is maintained by the officer responsible for unit motor vehicle operation.

Operator's Manual —Carried on the vehicle and contains detailed procedures for operation and maintenance as well as a complete description of the vehicle and its components.

Visual Signals

If taught thoroughly, signals provide control in tactical situations, allow for fine adjustments of position in congested areas, and make orders easier to understand. Signals also permit commanders to control several vehicles without resorting to less secure communication measures. FM 21-60 illustrates and explains these signals in detail.

Hand and Arm Signals —Indicate direction, speed, caution, formation desired, and action expected. Signals can be added as the need arises; however, do not confuse the student with too many signals (app E).

Flag Signals —Limited by the colors and numbers of flags available. Green, orange, and red flags are included as part of the equipment on some track combat vehicles. Green normally means everything is operational and vehicle and crew are ready for orders. Red means danger. Orange usually indicates a vehicle out of action, but no help needed. By prearrangement, combinations of two or all three colors can be used to indicate action expected or serve as a warning of gas or chemical attack.

Light Signals —Indicate action expected or direction of movement and are used in night exercises to control formations and to move individual vehicles.

Signals are taught best by illustration, demonstration, and application and should be used throughout the course. Repeat signal drills until students are familiar enough with all signals to recognize them instantly, demonstrate them properly, and comply with them promptly.

Terrain Evaluation

Train the student driver to see terrain with the intention of crossing it with his vehicle. Emphasize map reading to include road maps, military maps, and military signs and symbols. Make terrain studies so that the student will develop a keen sense of terrain appreciation. During tactical operations or combat, it is often impossible to view the terrain over which vehicles must operate. A driver properly trained in map reading can often assist in selecting a good route.

Weight Classifications

Weight restrictions are imposed on many bridges, and these restrictions may not allow a track combat vehicle to cross over. Bridges and vehicles are marked with round yellow discs and black numerals to show the bridge weight limits and the approximate vehicle weight. For example, if the vehicle weighs 50 tons and the bridge limit sign indicates 35 tons as the limit, the vehicle may not cross the bridge. However, if the bridge limit sign indicates the bridge can carry 50 tons, but only 20 tons in both directions at the same time, the 50-ton vehicle may cross if it is the *only vehicle on the bridge* (Bridge and Vehicle Weight Classification, chap 4, TM 5-312).

Safety

Safety instruction is a command responsibility and is defined in the 385-series of Army regulations. Adequate safety instruction for the student prevents needless loss of manpower and damage to equipment.

Alertness —Be alert at all times, especially when on the outside of the vehicle. Metal decks become extremely slippery when wet, icy, or muddy. Contact with metal projections, gun mounts, guns, and hatches can cause injuries. Put the main gun in travel lock whenever possible.

Removal of Jewelry —Severe injuries to fingers and wrists, and even electrocutions can occur when personnel do not remove rings, bracelets, and wristwatches before mounting, dismounting, or operating equipment.

Mounting and Dismounting —This should only be done in the safe manner approved for each type of vehicle. These procedures are outlined in the operator's manual.

Riding Position —Crewmembers in a track combat vehicle should wear a combat vehicle crewmember's helmet (CVC) and ride with only their head and shoulders extended as necessary for safe operation. When a track combat vehicle collides or overturns, injuries usually result because crewmembers are improperly positioned.

Hearing Protection —When the vehicle is operating, the driver, crew, and all passengers should have hearing protection—either the CVC helmet or earplugs.

Hatch Covers —Injuries are common, and often result in smashed fingers or head concussions if the hatch cover latch is not locked.

Fire Prevention —Fire is an ever-present danger. If crewmen are trained thoroughly in this area, they are not likely to panic. Review the use of fire extinguishers and fire prevention equipment regularly. Stress that no track vehicle should be started unless its portable and fixed fire extinguishers are in operating condition and properly sealed.

Proper Toots —Many injuries result from using the wrong tools and equipment. During safety and mechanical training, stress the use of the proper tool for the job.

Shop Safety —Certain precautions must be taken when maintenance jobs are performed in the shop. Qualified shop personnel must take charge, and the driver must follow instructions carefully to insure the safety of all personnel.

Overturned Vehicles —If a track combat vehicle begins to overturn, crewmembers should remain inside and hold on rather than attempt to jump out. It is far wiser to remain in the vehicle and sustain a few bruises than to jump out and risk being crushed by the vehicle.

Escort Vehicles —When contact with the enemy is not imminent and there is normal traffic, a wheel vehicle, with flashing lights, must precede a track vehicle or column of track vehicles traveling on a road. On high speed roads, such as interstates or autobahns, the escort vehicle should use flashing lights and follow the convoy.

Ground Guides —These are required when moving track combat vehicles in confined or congested areas such as cantonment, bivouac, or parking areas.

Fire Prevention

Make sure all crewmembers are aware of the danger of fire when operating their vehicle. Rags, extra oil, gasoline and diesel fuels, and cleaning fluids must be removed from the vehicle, and fire extinguishers must be kept full and serviceable—ready for instant use.

Fire Extinguishing

All track combat vehicles are equipped with fire extinguishers and crewmembers must know how and when to use them. All fire extinguishers must be periodically weighed by the post engineers (fire marshal) to determine serviceability and resealed if necessary.

Fixed Extinguishers —Installed to cover areas where fires are most likely to start and require only the action of a trip handle to put them in operation.

Portable Fire Extinguishers —Provided to fight fires not within effective range of the fixed extinguishers. A portable extinguisher should always be immediately available and manned when a vehicle is being refueled.

Track Combat Vehicle Characteristics

Several track combat vehicles have been standardized in the military services for a variety of uses. Although considerably different in appearance, they are similar in many ways. For instruction on a specific vehicle, use the operator's manual.

Track and Suspension Systems

Instruct the student carefully in the services and maintenance that will be performed on the vehicle's track and suspension system. The major components may include the track shoes, end connectors, center guides, road wheels, support rollers, compensating idler wheels, shock absorbers, torsion bars, and support arms. The operator's manual for the specific vehicle, TM 9-8000 and TM 9-2530-200-24 are the best sources of information.

Engines

Direct instruction specifically toward the engine in the vehicle the student will be assigned to drive. Basic information is found in TM 9-8000 and pertinent vehicle technical manuals.

Power Transmission System

Instruction on the power transmission system should include the transmission and final drive. Basic information is found in TM 9-8000 and pertinent vehicle technical manuals.

Instruments and Controls

A thorough knowledge of the functions of vehicle instruments and warning lights is essential. Stress their importance in the operation of the vehicle.

Controls to be taught will include: fuel shutoff, accelerator, brakes, range selector, steering, and light switches.

Electrical System

Use TM 9-8000 as a reference in teaching the major components of the electrical system. In the specific application of theory to the vehicle being taught, use the technical manuals for the vehicle.

Fuel Systems

Instruction should include the major components of the vehicle's fuel system. Stress that cleanliness is essential within the system; every effort must be made to keep the fuel clean and all connections must be kept tight and free from leaks. Air cleaners are extremely important in proper operation of the engine. To keep impurities out of the fuel system, air cleaners and fuel filters must be serviced as specified on the lubrication order and in the technical manuals.

Auxiliary Equipment

Items included in this training, as a minimum, are the fire extinguisher system, auxiliary engine/generator, ventilating blower, personnel heaters, bilge pumps, and radio interphone procedure, if the vehicle is so equipped. Detailed information on auxiliary equipment is found in the operator's manual for the vehicle. Every student must be familiar with this equipment.

Storage of Vehicle Equipment

All track combat vehicles are issued with the necessary maintenance tools and equipment. On and within the vehicle are compartments, brackets, hooks, and boxes for securing this equipment. In addition to this, there are provisions for stowage of the crew's personal equipment, including rations and water. Ammunition stowage is planned carefully for maximum use of space and convenience to the crewmembers. Correct stowage of equipment is outlined in the operator's manual.

Driver Maintenance

The driver must fully understand his operator's manual and have an intimate knowledge of the vehicle to assist in performing preventive maintenance checks and services (PMCS).

Tools and Equipment —Must be carried on the vehicle at all times. Every military vehicle has an authorized set of tools and equipment. Each item must be properly used, carefully accounted for, properly stowed, and maintained in a serviceable condition.

Daily Services —Performed each day the vehicle is operated. They are detailed inspections by driver and crew before operation, observation of instruments and controls during operation, and inspection, servicing, and corrective action during and after operation. The preventive maintenance checks and services required for each track combat vehicle are found in the -10 technical manual for that vehicle.

Quarterly Services —Performed by organizational mechanics at battalion or squadron level who are assisted by the vehicle crew every 75 hours, 90 days, or 750 miles (whichever comes first). This is a thorough inspection and service of the vehicle to detect and correct equipment faults. The driver and crew accompany the vehicle during this service, assist the mechanics, and bring known equipment faults to their attention.

Engine Operations

The operator's manual outlines the correct procedure for operating a vehicle's engine. Follow this procedure carefully to avoid damaging the engine.

Starting —Track combat vehicles are simple to start under normal conditions. Do not engage the starter for more than 15 seconds at a time or longer than specified by the vehicle operator's manual.

Warm-up —Before moving the vehicle, warm-up the engine. The proper engine rpm for warmup is prescribed in the operator's manual. Rapid acceleration or deceleration is extremely harmful to an engine; the hand throttle should be used to hold the engine at a constant rpm until it is completely warmed up and the engine oil pressure is normal. Proper warmup allows the metals of the engine to expand uniformly and the engine oil to circulate thoroughly.

Idling —After operation, an engine should be idled for a short period before it is stopped. This allows the engine to cool uniformly from operating to idling temperature and prevents uneven cooling and distortion of metal.

Stopping —Most track vehicles have a fuel cutoff switch for actually stopping the engine. However, if the fuel cutoff switch fails to operate properly, the student must know the proper method of stopping the engine. The correct procedure is prescribed in the operator's manual.

Washing and Cleaning Vehicles

Clean track combat vehicles carefully after each day's operation. Mud must be removed so that the vehicle can be thoroughly inspected. Spilled oil, grease, or fuel must be wiped up promptly.

Washing —During washing, never allow cold water to strike any part of a hot engine or enter the exhaust pipes. Do not use water inside the vehicle except in small quantities from a container, and always leave hull drain valves open during washing. The valves must also be left open when the vehicle is parked outside so that rain water can drain. In freezing weather when thorough cleaning is impractical, hose off the track and suspension system to remove frozen mud which can cause severe damage.

Cleaning —Vision and sighting devices are the eyes of the track vehicle in combat. Wipe all optical devices with lens tissue or similar soft material and clean their encasements at periodic intervals. When you know that devices will not be used for a long period, store or cover them carefully to prevent exposure. When viewing devices are removed, cover the encasements to prevent damage that might cause difficulty in reinstallation.

Field Expedient Recovery

Field expedient recovery is an improvised method of recovering vehicles with the materials on hand. Detailed information is found in FM 20-22, Vehicle Recovery Operations.

Two Types of Disablement

Mechanically Disabled —Drivers and crewmembers with a thorough knowledge of their vehicle can often make temporary repairs to a mechanically disabled vehicle. Expedient repair must be taught carefully. Since some expedient measures might be harmful to the vehicle, they should be used *only* as a last resort.

Terrain Disabled —Knowledge of field expedients often makes it

possible to recover a vehicle disabled by terrain. Study the situation carefully. To succeed without causing damage, consider the capabilities and limitations of the vehicle and make sure that leverage and mechanical advantage are applied properly. Careful planning, although time-consuming, results in a successful recovery operation.

Section II Training in Driving

Preliminary Training Applied

The student is now ready to apply the knowledge he gained during preliminary training. The student must complete each phase satisfactorily before going on to the next. Rigid supervision prevents trial-and-error driving. Therefore, one instructor should supervise no more than five vehicles at a time and then only if the courses to be driven are compact and planned carefully.

1. In each vehicle, an assistant instructor acts as track commander; one student drives while another observes.
2. Periodically, students halt the vehicles and exchange positions. There should be no more than two students per vehicle.
3. On each new exercise, before the student attempts to drive, the assistant instructor demonstrates the correct procedures.
4. Intercommunication equipment must be used on all instructional vehicles. Radios should be netted with the instructor's radio for communication with assistant instructors and students.
5. The senior instructor observes all instructional driving. During road march instruction, the senior instructor may act as convoy commander or choose to move in the center of the group to better observe actions of the entire group.
6. Allow at least a half-hour of maintenance for each hour of operation. Emphasis on proper instruction and supervision prevents much vehicle abuse during driver training, although instructional vehicles receive hard wear even when drivers are properly supervised.
7. Each student maintains a DA Form 2404. At the end of the instruction period, the senior instructor reviews these DA Forms 2404 to determine the effectiveness of the student's inspections and services.

Basic Driving

In this course, the student performs before-, during-, and after-operation services on an operational vehicle. He must follow the

starting procedures, place the vehicle in motion, stop the vehicle, and follow the procedures for stopping the engine. The driving is elementary in nature, i.e., moving forward and backward in a straight line and making easy turns and simple maneuvers on a level course. The goal of basic driving instruction is to teach the student correct driving procedures, proper maintenance, and visual signals, while emphasizing the importance of developing good driving habits.

Training in basic driving is conducted on two types of terrain:

Level Terrain —Conduct training away from congested areas, obstructions and distractions. See the next page for a suggested course.

1. The student first performs a before-operation inspection independently.

2. The student then starts the engine and is checked for correct procedure. (See operator's manual for proper procedure.)

3. Actual driving follows. Emphasized are prompt, smooth response to orders, and the proper procedures for starting, stopping, and reversing. The course will be driven as follows:

   a. Drive forward during daylight and:

      (1) Stop within 5 meters from a speed of 10 mph.
      (2) Stop within 7 meters from a speed of 15 mph.
      (3) Make a right turn of 22 ft. radius.
      (4) Make a left turn of 44 ft. radius.
      (5) Make a left turn of 44 ft. radius.
      (6) Make a right turn of 22 ft. radius.
      (7) Pivot turn the vehicle 360° within 2 times the tank's length (for tanks only).

   b. Drive in reverse and:

      (1) Stop within 3 meters from a speed of 5 mph.
      (2) Stop within 5 meters from a speed of 10 mph.
      (3) Make a right turn of 20 ft. radius.
      (3) Make a left turn of 20 ft. radius.

   c. Drive at night using the driver's night viewer and IR lenses and:

      (1) Stop within 7 meters from a speed of 10 mph.
      (2) Stop within 10 meters from a speed of 15 mph.
      (3) Make a right turn of 24 ft. radius.

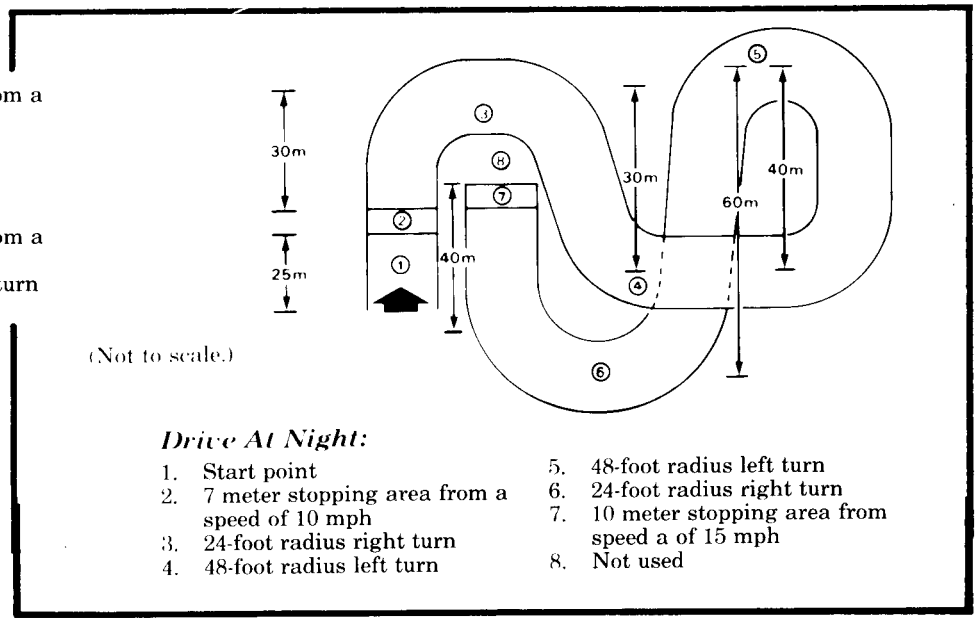
(4) Make a left turn of 48 ft. radius.
(5) Make a left turn of 48 ft. radius.
(6) Make a right turn of 24 ft. radius.

4. Whenever vehicles' are halted for more than a few minutes, require students to stop the engines. Check for correct stopping procedure. (See the operator's manual.)

Basic Driving Course (Level Terrain)

Drive Forward:

1. Start point
2. 5 meter stopping area from a speed of 10 mph
3. 22-foot radius right turn
4. 44-foot radius left turn
5. 44-foot radius left turn
6. 22-foot radius right turn
7. 7 meter stopping area from a speed of 15 mph
8. 18 meter diameter pivot turn area

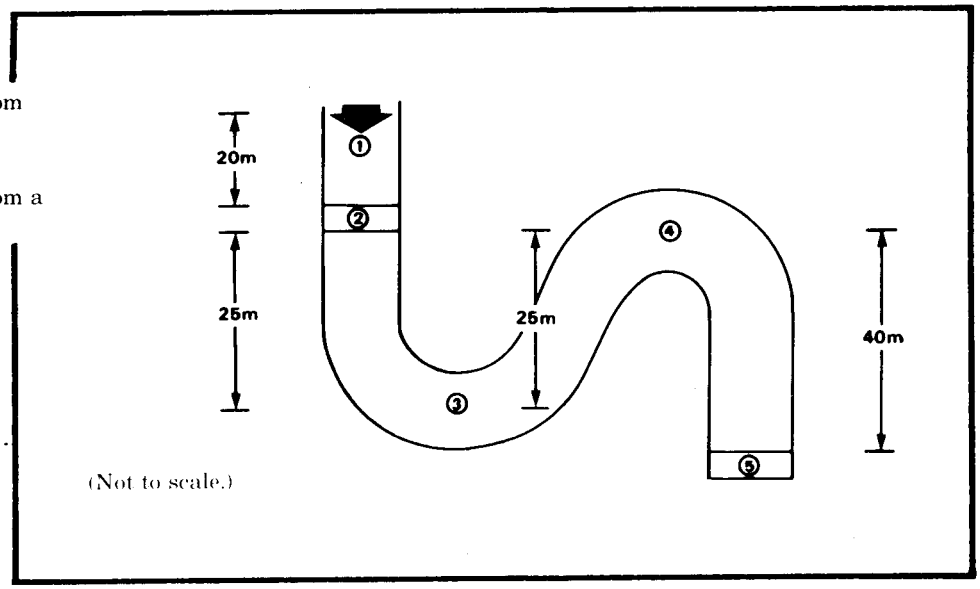


Drive At Night:

1. Start point
2. 7 meter stopping area from a speed of 10 mph
3. 24-foot radius right turn
4. 48-foot radius left turn
5. 48-foot radius left turn
6. 24-foot radius right turn
7. 10 meter stopping area from speed a of 15 mph
8. Not used

Drive In Reverse:

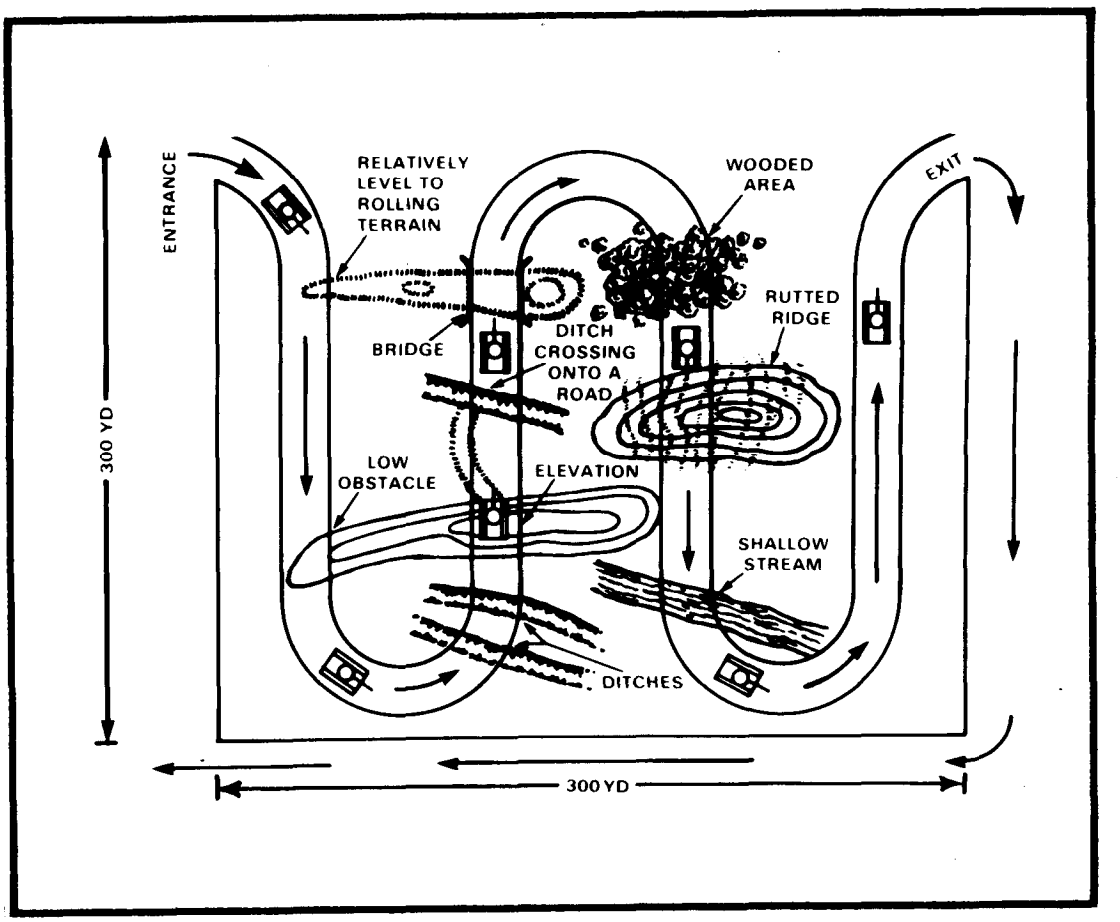
1. Start point
2. 3 meter stopping area from speed at 5 mph
3. 20-foot radius right turn
4. 20-foot radius left turn
5. 5 meter stopping area from a speed of 10 mph



Varied Terrain —The course progresses from a flat, smooth area to a more difficult area where the student is rated on his ability to negotiate the terrain. Precision will be developed by operating the vehicle through confined spaces and on a road.

The course should be compact to allow maximum supervision by the senior instructor. A secondary road net is necessary to teach convoy procedures. A short circular route may suffice if it extends at least one mile.

Basic Driving Course
(Varied Terrain)



Exercises

1. Before-operation inspection and starting procedures.
2. Crossing a narrow, shallow ditch.
3. Driving over a slight elevation.
4. Moving through a small stream or waterhole.
5. Climbing over a short, steep elevation.
6. Crossing a wide, deep ditch.
7. Moving through a narrow defile or across a narrow bridge (real or simulated).
8. Road marching with emphasis on maintaining the correct interval and complying promptly with hand and arm signals.
9. Stopping the vehicle and after-operation maintenance.

All instructors must observe how the student:

1. Selects range.
2. Applies brakes.
3. Accelerates.
4. Steers.
5. Negotiates obstacles.

On-the-spot corrections must be made. Repetition of the exercises develops student self-confidence and smoothness of operation.

Note. See page 42 for a sample scoring checklist. When scoring the road marching exercise, consider errors *and* overall performance. For example, a delay in complying with the above five signals may warrant a loss of five points. However, if 20 signals are given and 15 promptly complied with, a deduction of 2.5 points is more reasonable.

Advanced Driving

This phase of training teaches the student how to operate the vehicle properly in all kinds of weather, in convoy, and over the most difficult and varied terrain. When possible, this course should include night driving (including buttoned up and use of passive sights), stream crossings, hilly areas, marshy places, sandy soil, rocky hillsides, cutover land with second growth, and road marching. If such terrain is not available, improvise using the best area available. When weather does not permit practical training, give oral instruction on operation in the extremes of cold and heat.

For maximum use of available terrain features, it maybe necessary to subdivide the course.

Exercises

1. Before-operation inspection and starting procedures (same as basic).
2. During-operation maintenance.
3. Road marching to the advanced driving area using both combat and noncombat techniques.
4. Driving through wooded areas.
5. Crossing vertical obstacles.
6. Approaching, fording or swimming, and emerging from a shallow stream.
7. Ascending and descending steep hills.
8. Crossing deep ditches or gullies.
9. Cross-country driving using the periscope during daylight.
10. Cross-country driving using the passive night driving device.
11. Formation driving.
12. Formation driving using the periscope during daylight.
13. Formation driving using the passive night driving device.
14. Road marching for a distance of several miles.
15. Stopping procedures and after-operation maintenance (same as basic).

Current Army training programs show increased emphasis on night combat training. Infrared or passive equipment is provided with each armored vehicle and special training and practice time are required for the student to be able to use this equipment properly and gain confidence in blackout driving.

The use of amphibious track combat vehicles and deep water fording kits on vehicles that are not floatable demands emphasis on driver training during water operations. This training should be provided only after the student is thoroughly familiar with the vehicle. The student must be able to demonstrate ability to drive the vehicle under all conditions listed in the above exercises. Correct procedures during water operations are listed in the operator’s manual.

Teaching and scoring points in the advanced phase vary slightly from those of basic driving since you attempt to determine whether the student has developed good judgment and can apply it (p 43). Driver confidence is reflected in the way the student operates the vehicle.

Base qualification largely upon driving ability, but do not neglect inspections, services, and procedures. Adequate instruction, followed by supervised maintenance periods and inspections, help the student become more efficient.

Advanced driver training continues throughout the driver's career. The best drivers will normally be those with the most experience under the greatest variety of conditions.

Chapter 5

Qualification and Licensing of Track Combat Vehicle Drivers



Section I

Qualification

Mechanical Knowledge Test

The mechanical knowledge test (app B) verifies the student's knowledge of the vehicle on which he trained.

1. Four vehicles designated as stations are arranged at extended intervals in an area free from congestion and distraction.
2. There is one examiner per vehicle, with the appropriate questionnaire for that vehicle and a station score card.
3. The student must identify all major components of the vehicle and explain or demonstrate the services and adjustments required of the driver.
4. The standards for this type of test are high. Therefore, examination procedure must be impartial and thorough to achieve the desired results.
5. Each student is tested individually.
6. A score of 80 percent is satisfactory.

Driver Information Test

The driver information test (app C) verifies the student's knowledge of track vehicle driving principles and practices.

1. This is a written test and can be given to students as a group.
2. A copy of the test is given each student.
3. The student records his answers on a locally reproduced or preprinted answer sheet.
4. A score of 80 percent is satisfactory.

Field Driving Proficiency Test

The field driving proficiency test (app D) is the final examination for the student. It is designed to determine his ability to drive the vehicle over difficult cross-country terrain and in convoys. Driving should clearly indicate the student's self-confidence.

When designing a field driving proficiency course, keep the following considerations in mind:

1. Response to verbal orders and hand and arm signals should be prompt.
2. The proficiency course should include as many of the features used in training as possible but should not duplicate the training course.
3. The student must drive the course half way with his hatch open and return with it closed, using indirect-vision devices. (If possible, the course should cover 3 to 5 miles.)
4. As a preliminary to the record run and to become accustomed to the testing vehicle, the student must drive a short familiarization course on which he must:
   a. Use indirect-vision devices to judge the distance to a post.
   b. Drive vehicle toward the post.
   c. Try to stop 2 feet from the post (3 lines should be marked off on the ground at 1-,2-, and 3-foot distances in front of the post). If the student stops within 1 foot on either side of the 2 footmark, he passes the exercise. Four attempts to pass are allowed.
5. Use a checklist (app D) to record the student's performance and carefully note any evidence of vehicle abuse or uncertainty on the student's part.
6. A score of 80 percent is satisfactory.

Depth perception is measured by requiring the examinee to pull up and stop his vehicle so that its bumper is within one foot from a stanchion, without hitting it or knocking it over. The stanchion should be located just before the point where the scored part of the road test begins. A line should be marked off on the ground at a distance of one foot from the stanchion. If the individual stops the vehicle so that its bumper is within one foot of the stanchion (but not touching it), he has passed the test. The examinee will be allowed three additional tries if he does not pass the first one.

Section II Licensing

Standard Form 46

A Standard Form 46 (SF 46) is a standard, non-limited, or full driver's permit. Specific information is found in paragraph 12, AR 600-55.

A ledger of all Standard Forms 46 issued is maintained by the unit or organization issuing the licenses. This ledger must include the name of the person to whom issued, date, type of permit, and authority or

certification. SF 46 is valid as indicated in AR 600-55 until revoked or suspended for cause. Renewal procedure is followed when a licensed driver qualifies on an additional type of vehicle. This procedure reevaluates the driver's qualifications.

The official block of the SF 46 is signed by the commanding officer or the authorized supervisor—civilian or commissioned officer.

Classification of Standard Form 46

Army Learner Permit —Issued to students at the beginning of the driving training program (p 12), with "ARMY LEARNER" stamped on the front side.

Standard Driver Permit —Issued to students who successfully complete driver training (see appendix G for flow chart of testing procedure). Specific nomenclature of the vehicle is entered on SF 46.

For example: Tank, M60A3
Recovery Vehicle, M88A1

The word "ARMY" is stamped on the front of SF 46 and "HEAVY" is stamped on the back. (In classifying operator's permits, all track vehicles are regarded as heavy; some wheel vehicles are regarded as heavy; others as light.)

Expert Driver Permit —Issued to Army motor vehicle operators with exceptionally good driving performance and safety records of one year or more. These individuals are eligible for safety awards under the provisions of AR 672-5-1 and, in recognition of merit, "ARMY—EXPERT" is stamped on their SF 46 permits.



Chapter 6
Supervision of Drivers

Need for Supervision
To maintain driver efficiency, training and testing must not stop with the issuing of SF 46. Supervisors must continuously train and test drivers, because without supervision, good driving habits and maintenance may deteriorate.

How to Supervise Drivers
Supervision is a principal duty of every officer and noncommissioned officer in the Army. A supervisor must know how to drive the vehicle and be able to recognize vehicle abuse. A checklist such as the preventive maintenance checks and services (PMCS) tables in the operator's manual is a useful reference.

Checklists in Supervision
A checklist is a practical way to discover driver faults and vehicle abuse. Spot-check drivers before, during, and after a march or exercise, and while the vehicles are warming up, observe for correct procedures. Question the drivers on correct engine rpm, length of warmup, normal readings of instruments, operator\crew maintenance, and the driver's during-operation inspection. Make a note of any deficiencies found so that additional instruction can be given.

During a march or exercise; ride with the column in a light vehicle to observe speeds, proper interval, and smoothness of operation.

On returning to the vehicle park, check the stopping and after operations procedures and correct any deficiencies. As soon as possible, give individual attention to drivers found operating their vehicles improperly.

Periodic Testing of Drivers
Drivers occasionally form bad habits not apparent from observation. For this reason, give periodic driver tests (written and practical). When required, review with drivers vehicle abuse and driver faults that observation shows most prevalent in the organization.

Every three years when the driver's license expires, or more often if warranted, make sure he is retested. Give each driver additional training as needed. After retraining, give the test again to anyone who failed it. If the driver still fails to pass, revoke his SF 46. This retesting and retraining procedure is essential in maintaining driver efficiency and must be just as thorough as those used to train and test new drivers.

Incentive Program

Every organization should provide incentives for drivers to improve themselves and their driving ability.

Competitive maintenance inspections, obstacle driving "rodeos," and vehicle maneuvers give drivers a chance to prove their abilities and give the commander a chance to evaluate driver training.

Expert driver permits should be awarded to all drivers who qualify for them. To emphasize their importance, present them at a ceremony or formation.

The motor vehicle operator badge is authorized for qualified drivers in accordance with the provisions of AR 672-5-1. It is authorized for track vehicle drivers with 12 months or 8,000 miles of operation who have no accidents or violations on their record. It also may be awarded to a driver instructor or examiner who has held the position for one year. AR 672-5-1 illustrates the driver's badge to be awarded and the appendages to be attached to the badge. A lieutenant colonel or higher may award this badge.

Use training extension courses (TEC) lessons to help drivers who want to improve their driving skills. They are available for most track combat vehicles and relate to a variety of driving situations. Lesson tapes and assistance in their use can be obtained at post or battalion learning centers.

Appendix

A

References

1. ***Field Manuals***

FM 20-22	Vehicle Recovery Operations
FM 21-6	How to Prepare and Conduct Military Training
FM 21-26	Map Reading
FM 21-30	Military Symbols
FM 21-60	Visual Signals
FM 21-305	Manual for the Wheeled Vehicle Driver
FM 55-30	Army Motor Transport Units and Operations

2. ***Technical Manuals***

TM 5-312	Military Fixed Bridges
TM 9-2530-200-24	Standards for Inspection and Classification of Tracks, Track Components, and Solid Rubber Tires
TM 9-8000	Principles of Automotive Vehicles
TM 21-306	Manual for the Tracked Combat Vehicle Driver
TM 38-750	The Army Maintenance Management System (TAMMS)

3. ***Training Circulars***

TC 21-5-7	Training Management in Battalions

4. ***Army Regulations***

AR 310-25	Dictionary of United States Army Terms
AR 310-50	Authorized Abbreviations and Brevity Codes
AR 385-40	Accident Reporting and Records
AR 385-55	Prevention of Motor Vehicle Accidents
AR 600-55	Motor Vehicle Driver Selection, Testing, and Licensing
AR 672-5-1	Military Awards
AR 7:)5-11	Accounting for Lost, Damaged, and Destroyed Property
AR 750-1	Army Materiel Maintenance Concepts and Policies

5. ***Department of the Army Pamphlets***

DA Pam 310-Series	Military Publications (indexes)
DA Pam 611-122	Administering and Scoring the Army Motor Vehicle Driver Selection Battery II
DA Pam 611-125	Test Procedures for Licensing Drivers of Army Vehicles

6. ***Tec Lessons***

020-171-5802F	Combat Driving Techniques
945-171-0100F	Varied Terrain Driving
945-171-O1O1F	Reduced Traction and Hazards



Recommended Track Combat Vehicle Driver Mechanical Knowledge Test

(answers on page 34.)

This test requires that four track vehicles be displayed. They must be the type on which the student has been instructed. Each is given a station number, with each station counting 25 points.

At each station, an instructor gives the student a questionnaire and requires that the component, service, or check be pointed out or explained. Each student's score is recorded at the station on an individual scoresheet carried by the student on a station scoresheet. A score of 80 percent is satisfactory. Failure to pass this test disqualifies the student for licensing until he completes retraining on the mechanics of the vehicle.

Station 1 — *Track and Suspension System: Component Identification and Functioning* (25 points)

1. Describe the check for serviceability of a shock absorber. (5 points)
2. What is the first thing to do in checking track tension? (5 points)
3. What check can be made to determine whether or not a torsion bar is serviceable? (5 points)
4. What may happen if the track tension is too tight? (5 points)
5. How can you determine if a track block is dead? (5 points)

Station 2 *—Engine Compartment Services* (25 points)

1. Demonstrate the methods for checking all oil levels in the engine compartment. (10 points)
2. Point out the air cleaners. When are they serviced? (5 points)
3. What checks does the driver make on linkages? (10 points)

Station 3 *—Driving Compartment: Precautions and Checks* (25 points)

1. How long may the starter be continuously operated if the engine fails to start? (5 points)
2. At what speed is the engine operated during warmup? (5 points)
3. Name five safety precautions in starting the engine. (5 points)
4. What checks are made at the instrument panel as soon as the engine starts? (5 points)
5. Name five safety checks that should be made before moving the vehicle. (5 points)

Station 4 *—General Vehicle Information* (25 points)

1. How does the crew check the fire extinguishers? (5 points)
2. What two precautions must be followed during refueling? (5 points)
3. How are the infrared lights checked? (5 points)
4. How is the blackout light turned on? (5 points)
5. When are during-operation maintenance services performed? (5 points)

Suggested Solutions for Station 1

1. For piston-type shock absorbers compare the temperature of the shock absorber with the temperature of the hull after about five minutes of operation over bumpy terrain. Shake the shock to determine if mounts are secure. For rotary-type shock absorbers: Check oil level indicators and check for obvious leakage.
2. Bring the vehicle to a coasting stop on level hardstand.
3. Attempt to pry up the roadwheel with a 5-foot bar. If the wheel moves up, the torsion bar or mountings are defective.
4. The vehicle will be sluggish due to loss of power. Excessive wear will occur to the engine, sprockets, and track connectors.
5. The dead track block will cause a dip or a "V" to occur in an otherwise straight track.

Suggested Solutions for Station 2

1. All dipsticks should be read correctly.
2. Air cleaners are inspected daily and serviced as needed.
3. Fuel system, steering, shifting, and braking linkages are checked for security of mounting, freedom of movement, and presence of locking devices or lacing wire.

1. The starting motor should never be operated continuously for more than 15 seconds.
2. A fast idle at the rpms prescribed in the vehicle technical manual.
3. Brakes on, selector or shift lever in neutral, personnel clear of exhaust, fire extinguishers serviceable, and radio off.
4. All instruments functioning properly and warning lights out.
5. Seat adjusted correctly and locked securely, brakes operating properly, steering controls normal, all personnel clear of the vehicle, and crew alert for movement.

Suggested Solutions for Station 4

1. Check that seals are intact, lines are secure, and operating handles are clear.
2. The fuel nozzle must be grounded against the filler neck, and the portable fire extinguisher must be manned.
3. Hold the hand in front of the lamp. If the light is on, heat will be felt.
4. Release the mechanical safety lock, then move the main switch to *BLACKOUT DRIVE.* Turn the *BOD* switch to the *IR* position. (To see through the infrared periscope, the *IR* receiver switch on the instrument panel must be turned on.)
5. During-operation maintenance services are performed whenever the crew has an opportunity to dismount.



Recommended Track Combat Vehicle Driver Information Test

(answers on page 43.)

Instructions

1. Place name, grade, and date in the spaces provided on the answer sheet.
2. This test is divided into three sections. Read the directions for each section carefully.
   a. Section I, Multiple-Choice (select the *best* answer), numbered 1 through 15.
   b. Section H, Multiple-Choice (select *all correct* answers), numbered 61 through 66.
   c. Section III, True/False, numbered 91 through 110
3. Indicate your solution by marking the appropriate space on the answer sheet. Do not make unnecessary marks on the answer sheet; all such marks must be thoroughly erased. Use only the electrographic pencil provided for marking the answer sheet (when machine scoring is used). When you complete the test, turn in the machine scored answer sheet and electrographic pencil.
4. You will have 45 minutes to complete this test.
5. In addition to the answer sheet, you may mark your answers in this test booklet until after the critique.
6. Consult the instructor if these instructions are not clear to you.

Note. These instructions should be changed to meet the situation. For example, if machine scored answer sheets and electrographic pencils are not available, instructions pertaining to them will not be needed. Also, if it is necessary to re-use each test form, the student should not be allowed to mark his answers in the test booklet.

1. ***Directions***

Each of the questions or incomplete statements listed below is followed by several possible answers. From these, select the *best* answer for each test item, and mark the appropriate space on your answer sheet. Each test item counts 3 points.

Section I Multiple-Choice

(Numbered 1 through 15—select the best answer.)

2. ***Sample Test Item***

X. *The US Army Armor Center is Located at*

a. Fort Sill.
b. Fort Riley.
c. Fort Knox.
d. Fort Bliss.

X.	a	b	c	d
	❑	❑	■	❑

Note. Begin with number 1 on your answer sheet.

1. *When approaching a hill, a track vehicle driver should*

   a. always place the vehicle in the lowest range.
   b. choose the range that will carry the vehicle over the hill.
   c. leave the vehicle in the range it is in until the engine "lugs down," then shift to the desired range.
   d. always bring the vehicle to a complete stop, then place the selector in the lowest range until the hill is negotiated.

2. *Most vehicle skids are the result of*

   a. vehicles operating on steel tracks.
   b. vehicles operating on rubber tracks or pads.
   c. vehicles operating on slippery, unsafe roads.
   d. driving too fast for the road surface conditions.

3. *When a guide brings his hands together in front of him, it means*

   a. slow down.
   b. stop your engine.
   c. stop.
   d. go straight ahead.

4. *Unequal track tension will cause*

   a. no difference in riding qualities.
   b. no difference in driving qualities.
   c. the vehicle to jump or steer erratically.
   d. the vehicle to lead to one side.

5. *When one track is spinning (i.e., losing traction), power can best be applied to the opposite track by*

   a. chaining the slipping track to a roadwheel arm.
   b. applying steering control to the slipping track with the transmission in neutral.
   c. applying steering action with the transmission in a driving range.
   d. moving the selector lever rapidly with the engine accelerated and applying no steering action.

6. *To bring a vehicle with a cross-drive transmission to an emergency stop*

   a. move the selecter lever to low range, accelerate, and apply the brakes.
   b. move the selector lever to reverse and accelerate.

c. release the accelerator and apply full brakes.
d. move the selector lever to reverse and cut off the main engine.

7. *To bring a vehicle out of a skid it is best to place the range selector in*

a. neutral.
b. neutral steer and pivot the vehicle in the direction of the skid.
c. low range, accelerate, and steer in the direction of the skid.
d. reverse, accelerate, and steer until the vehicle is brought to a stop.

8. *When a vehicle approaches from the rear to pass, you should*

a. be warned by the vehicle commander, keep to the right, and allow it to pass.
b. increase speed so that the vehicle cannot pass.
c. disregard the vehicle until the next scheduled halt, when it can pass.
d. move to the right, halt, and motion the vehicle to pass.

9. *When a red warning light comes on while the vehicle is in operation, the driver should*

a. assertain the source of trouble at the next scheduled halt.
b. proceed, but inform the vehicle commander and let him investigate.
c. stop the vehicle immediately and determine the source of trouble before proceeding.
d. disregard the light, as most warning panels do not function properly.

10. *A throat-cutting motion with the right hand and arm is the signal for*

a. starting the engine.
b. increasing speed.
c. turning off the headlights.
d. stopping the engine.

11. *A driver needs to develop a keen sense of terrain appreciation to select*

a. bivouac areas.
b. the best route of movement.
c. attack positions.
d. assembly areas.

12. *To cross a ditch or small ravine, a driver should*

a. back off to get space for a maximum speed approach, then jump the vehicle over the ditch.
b. be certain the ditch is narrow enough to cross, then move slowly over the edge in low range, braking until the vehicle eases into the ditch, then accelerate enough to carry the vehicle up and over the other side.
c. move rapidly into the obstacle in high range at maximum engine rpm; maintain full acceleration until the obstacle is cleared.
d. move slowly to the edge of the ditch, then accelerate fully until the obstacle is cleared..

13. *When coming onto a road from an adjoining field*

a. go through the ditch at a right angle, turning sharply on the shoulder of the road.
b. go through the ditch at a right angle, then pivot, turning onto the road.
c. cross the ditch at an oblique angle, turning gradually onto the road.
d. go through the ditch at a right angle, pulling to the center of the road, then pivot-turn in the direction you wish to go.

14. *In crossing a soft field of mud or sand*

a. follow the tracks of the vehicle ahead.
b. zigzag across the field as fast as possible.
c. move as straight and steady as possible; do not track the vehicle ahead.
d. stop and reverse the vehicle occasionally to remove mud or sand from the tracks.

15. *When crossing over a vertical obstacle*

a. approach rapidly in high range to allow the momentum to take you over.
b. back over the vertical obstacle, as most track vehicles climb high vertical obstacles better in reverse.
c. approach at a slow speed in low range, release the accelerator when the balance point is reached, then accelerate smoothly when the vehicle noses down to move away from the obstacle.
d. approach at a steady speed in low range; when the balance point is reached, shift to high range and fully accelerate to move down and away from the obstacle.

Section II
Multiple-Choice

(Numbered 61 through 66- select all correct answers.)

1. ***Directions***
Each of the questions or incomplete statements listed below is followed by several possible answers. From these, select all the correct answers for each test item and indicate your selection(s) by marking the appropriate space(s) on your answer sheet. One point will be given for each correct answer.

2. ***Sample Test Item***
X. *Fort Knox, Kentucky, is important because it is the location of the*

a. Gold Depository.
b. Washington Monument.
c. Patton Museum.
d. US Army Armor Center

X.	a	b	c	d
	■	□	■	■

Note. Begin with number 61 on your answer sheet.

61. *DA Form 2404 (Equipment Inspection and Maintenance Worksheet) is used to*

a. record all movements of the vehicle for the period of dispatch.
b. record quarterly preventive maintenance services.
c. record all equipment faults noted by the crew that they could not correct.
d. record parts used to correct equipment faults.

62. *Possession of a US Government Operator's Permit (SF 46) indicates that the driver*

a. is authorized to operate only the vehicles listed on the license.
b. is permitted to disregard local traffic laws when driving a government vehicle.
c. has passed certain minimum mental and physical standards.
d. is authorized to operate all Army vehicles.

63. *Before-operation maintenance service is important because*

a. it often prevents during-operation failures.
b. overnight leaks can be detected.
c. tampering or sabotage will be noted before extensive damage can result.
d. it permits a check to insure that equipment removed for safekeeping during the night has been returned to the vehicle.

64. *The accident report form and the accident identification card*

a. need not be on the vehicle at all times, but must be in the vehicle pack at all times.
b. must be filled out as soon as possible after an accident.
c. need be filled out only partially since much of the information on it is obsolete.
d. must include names of witnesses and other vehicle drivers involved.

65. *Advanced driver training is important because*

a. confidence is developed between the driver and other crewmembers.
b. the driver learns to operate efficiently with the hatch closed.
c. crewmembers learn to operate with their field equipment.
d. the driver learns to use the range finder.

66. *Which of the following publications and forms must be on the vehicle any time it is on dispatch?*

a. pertinent vehicle technical manual.
b. DA Form 348 *(Equipment Operator's Qualification Record Except [Aircraft]).*
c. Lubrication Order.
d. preventive maintenance schedule and roster.

Section III
True/False

(Numbered 91 through 110.)

1. ***Directions***
Listed below are a number of statements: some true, some false. If any part of a statement is false, the *entire* statement is false. Make your decisions with regard to each statement and indicate your answer by marking the appropriate space on your answer sheet. Each test item counts 2 points.

2. ***Sample Test Item***
X. *The US Army Armor Center is located at Fort Knox.*

T	F
■	□

Note. Begin with number 91 on your answer sheet.

91. Before an engine is stopped it should be cooled by idling as prescribed in the operator's manual.

92. During normal operation, the hand throttle should be pulled out slightly to keep the engine from stalling.

93. Diesel engines may routinely be operated using fuels other than diesel fuel.

94. Permitting vehicles to stand overnight with low fuel level will cause condensation, resulting in water in the fuel.

95. The color green on military maps indicates water or swampy areas.

96. Solvent or gasoline is a recommended cleaner for batteries.

97. Driving along the sides of hills is to be avoided as much as possible because it tends to throw the track.

98. The best way to warm up an engine is to race it several times.

99. It is necessary to check for a hydrostatic lock in diesel engines in cold weather because diesel fuel vaporizes easily at low temperatures.

100. The engine should be stopped immediately if there is no oil pressure 10 seconds after starting the engine.

101. Fuel shutoff valves are closed only when the vehicle is to be placed in storage.

102. The contour lines on a military map indicate height and can be used to estimate percentage of slope.

103. A driver should be sure the radio switch is turned off before starting the main engine.

104. Use of indirect-vision devices by track vehicle drivers does not limit their ability to see.

105. Track sprocket wear on all track vehicles should be carefully observed and sprockets should be turned at the proper time to provide maximum sprocket life.

106. Track vehicle crewmembers have direct responsibility for their vehicle.

107. On the M60-series tank, the driver's main warning light glows when any warning light on the' main panel goes on.

108. The main battle tank can ford shallow streams when properly equipped.

109. A track vehicle with no fire extinguishers should not be started or operated.

110. Improper engine operation usually can be detected by listening to engine sounds and by inspecting the instruments on the instrument panel.

Appendix



A Recommended Checklist for the Track Combat Vehicle Field Driving Proficiency Test

Date: _____ **Organization:** _____

Name: _____ **Grade:** _____

Examiner: _____ **Vehicle:** _____

Preparation for Starting

Failed to. . . .

___ Check fire extinguisher.

___ Check parking brake.

___ Check forms and records.

___ Check that radio and accessories were turned off.

___ Perform before-operation preventive maintenance checks and services.

Engine Operating Checks

Failed to. . . .

___ Warm engine properly.

___ Check instruments, lights, and gages.

___ Check controls for operation.

___ Check transmission oil level (when applicable).

Stopping Procedure

Failed to. . . .

___ Apply parking brake when parking.

___ Idle engine as prescribed for proper cooling.

___ Stop engine properly.

___ Complete after-operation inspection.

Driving in a Restricted Area of Movement

Failed to. . . .

___ Demonstrate proper control.

___ Maintain proper speed.

___ Comply with signals promptly.

___ Demonstrate smooth acceleration and braking.

*Depth Preception Test

(Two feet from target)

___ First try.

___ Second try.

___ Third try.

___ Fourth try.

*Mandatory qualification

Driving Over a Vertical Obstacle

Failed to. . . .

___ Select proper range on approach.

___ Climb smoothly and steadily.

___ Cross balance point correctly.

___ Descend properly to level area.

Driving in a Wooded Area

Failed to. . . .

___ Avoid all possible obstacles.

___ Reduce speed when visibility was restricted.

___ Select best routes around obstacles.

___ Judge side clearances correctly.

Driving During a Water Operation

Failed to. . . .

___ Check bilge pumps on vehicles so equipped.

___ Verify that all drain valves and hatches were closed properly.

___ Enter water in proper driving range.

___ Operate vehicle steadily and confidently.

___ Select best exit.

___ Exit water properly.

Driving Up and Down a Steep Hill

Failed to. . . .

___ Select proper range prior to starting ascent or descent.

___ Make minimum use of steering control during ascent.

___ Accelerate properly to maintain steady movement.

Driving Over Soft Terrain

Failed to. . . .

___ Select proper range prior to starting across.

___ Select straightest route and use minimum steering control.

___ Avoid tracking vehicle ahead.

___ Maintain steady speed without hesitation.

Driving in a Controlled Convoy on Road Operation

Failed to. . . .

___ Maintain correct speed and interval.

___ Perform during-operation checks.

___ Use brakes, accelerator, and steering controls smoothly.

___ Comply promptly and correctly with signals received.

Parking and After-Operation Services

Failed to. . . .

___ Request ground guide for parking.

___ Set parking brake with shift lever in PARK of the NEUTRAL-PARK position.

___ Idle engine as prescribed for proper cooling.

___ Stop engine properly.

___ Complete after-operation inspection.

Score: A tally mark will be made for each error. Add all tally marks and subtract the sum from 100; 100 less errors equals final score.

Remarks:

Solutions to Track Combat Vehicle Driver Information Test

Section I

1. *b*	9. *c*
2. *d*	10. *d*
3. *c*	11. *b*
4. *d*	12. *b*
5. *c*	13. *c*
6. *c*	14. *c*
7. *c*	15. *c*
8. *a*	

Section II

61. *b, c, d*
62. *a, c*
63. *a, b, c, d*
64. *b, d*
65. *a, b*
66. *a, c*

Section III

91. *T*	101. *F*
92. *F*	102. *T*
93. *F*	103. *T*
94. *T*	104. *F*
95. *F*	105. *T*
96. *F*	106. *T*
97. *T*	107. *T*
98. *F*	108. *T*
99. *F*	109. *T*
100. *T*	110. *T*

Appendix

11

Standard Hand Signals for Track Combat Vehicle Driving

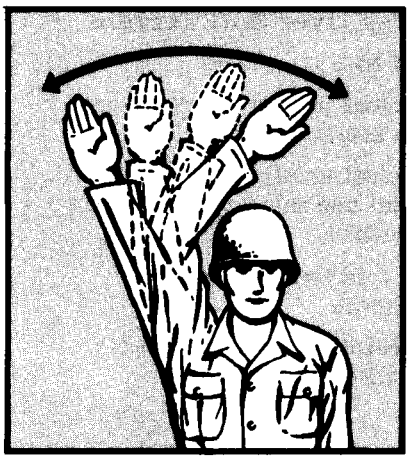


Figure 1. ATTENTION. Extend the arm sideways, slightly above the horizontal; palm to the front; wave arm to and away from the head several times.

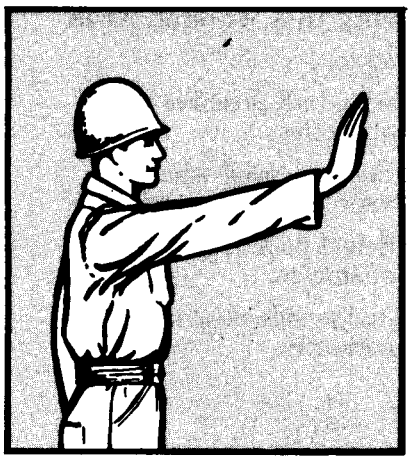


Figure 2. I AM READY or ARE YOU READY? Extend the arm toward the person being signaled; then raise arm slightly above horizontal, palm facing outward.

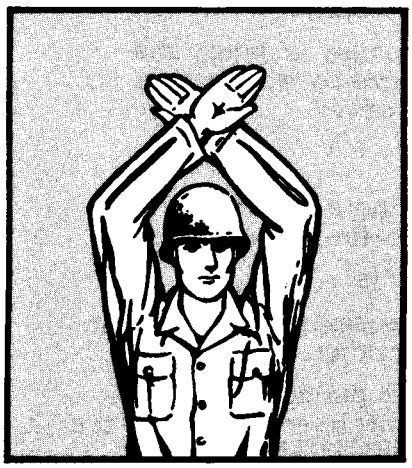


Figure 3. DISREGARD PREVIOUS COMMAND or AS YOU WERE. Raise both arms and cross them over the head, palms to the front.



Figure 4. ASSEMBLE or RALLY. Raise the arm vertically overhead, palm to the front, and wave in large horizontal circles.

Note. Signal is normally followed by the signaler pointing to the assembly or rally site.

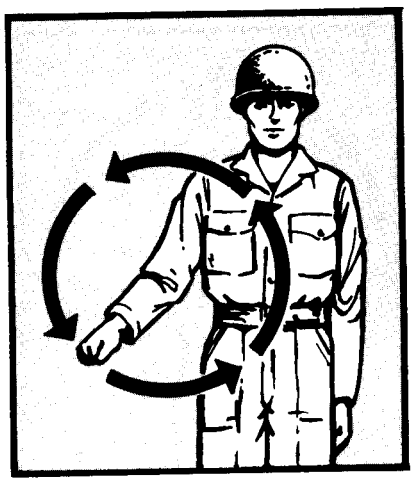


Figure 5. START ENGINE or PREPARE TO MOVE. Simulate cranking of engines by moving arm in a circular motion at waist level.



Figure 6. HALT or STOP. Raise the full extent of the arm, palm to the front. Hold that position until the signal is understood.

Note. For alternate signal to stop vehicles, see figure 19.

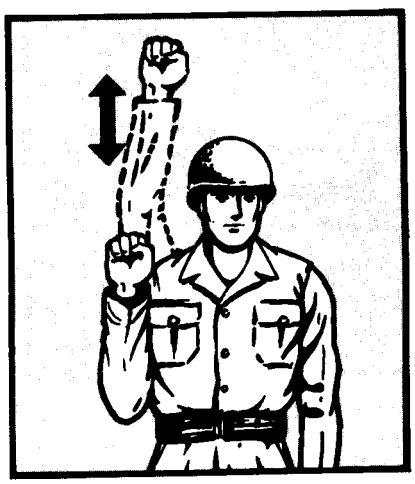


Figure 7. INCREASE SPEED, DOUBLE TIME, or RUSH. Raise the hand to the shoulder, fist closed; thrust the fist upward to the shoulder rapidly several times.

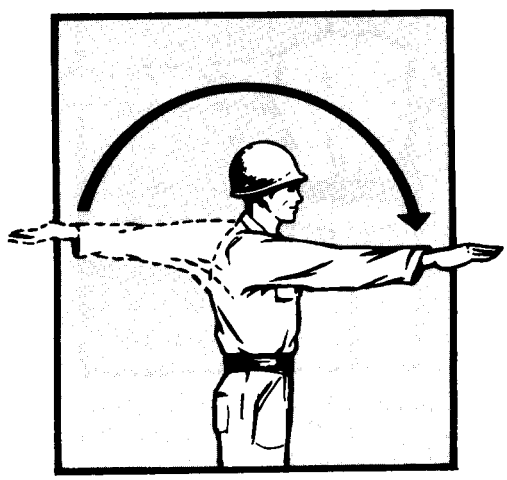


Figure 8. ADVANCE or MOVE OUT. Face the desired direction of movement; hold the arm extended to the rear; then swing it overhead and forward in the direction of desired movement until it is horizontal, palm down.

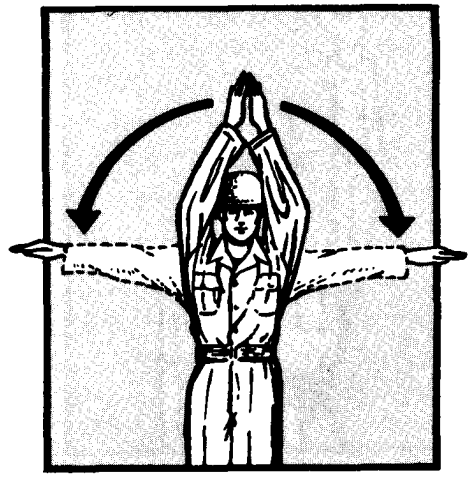


Figure 9. OPEN UP (EXTEND DISTANCE BETWEEN MEN OR VEHICLES). Extend arms overhead, palms facing inward and lower slowly to a horizontal position with palms down.

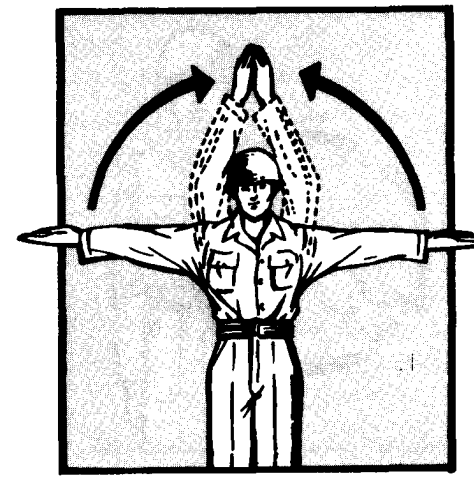


Figure 10. CLOSE UP. Extend arms horizontally, palms up, and raise slowly to an overhead position with palms together.

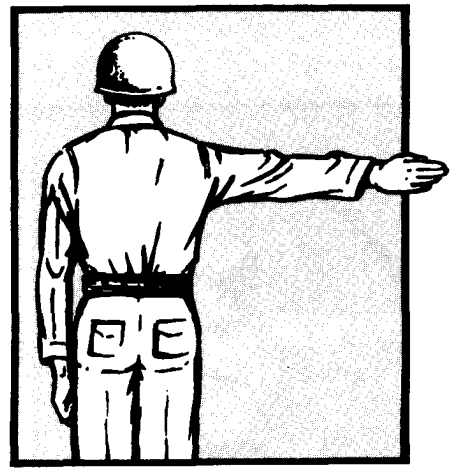


Figure 11. RIGHT (LEFT) TURN or COLUMN RIGHT (LEFT) while marching. Extend arm horizontally to the side, palm outward.

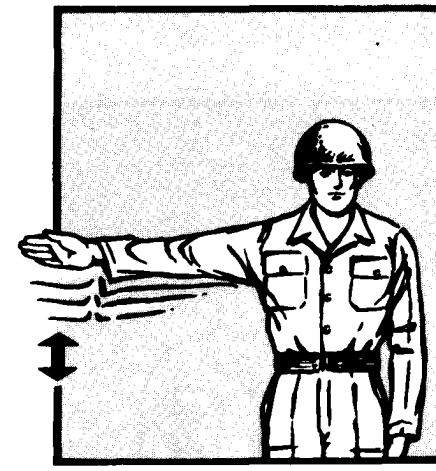


Figure 12. DECREASE SPEED (vehicle) QUICK TIME (dismounted troops). Extend the arm horizontally sideward, palm to the front, and wave arm slightly downward several times keeping the arm straight. Do not move arm above horizontal.

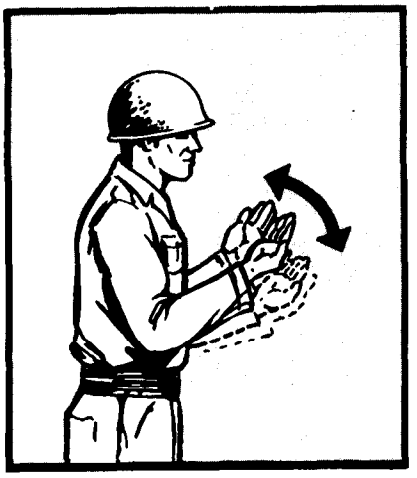


Figure 13. MOVE (the vehicles) FORWARD or COME FORWARD. Move hands backwards and forwards with palms toward the chest as if pulling the vehicle.

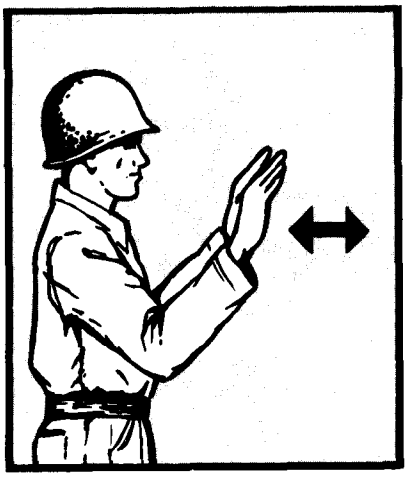


Figure 14. MOVE IN REVERSE (back-up). Face the unit (vehicle) being signaled, raise hands to shoulder level, palms to the front. Move hands forward and backwards as if pushing vehicle away.



Figure 15. CLOSE UP DISTANCE BETWEEN VEHICLES AND STOP. Face the vehicle being signaled and extend forearms to the front, palms inward and separated by at least the width of the shoulders. Bring palms together as the distance shortens. The vehicle must stop when the palms come together.

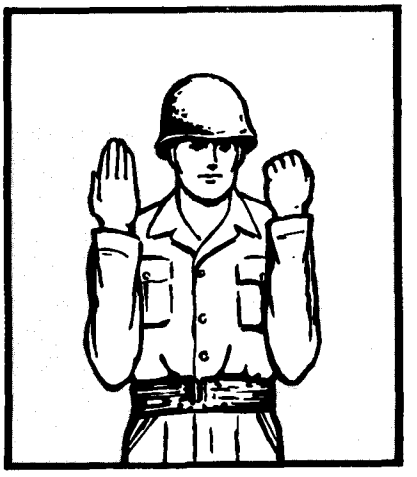


Figure 16. CHANGE DIRECTION. Raise hands to shoulder level in front of the body. Form clenched fist on arm in direction turn is to be made; make beckoning motion with other arm to bring vehicle forward; to reverse, make pushing motion.

Note. If a change in direction is necessary during the time the vehicle is being moved rearward, the ground guide will raise *both* hands to shoulder level in front of his body, form a clenched fist on the arm in the direction the turn is to be made, and make a pushing motion with the outer arm to keep the vehicle moving in reverse.

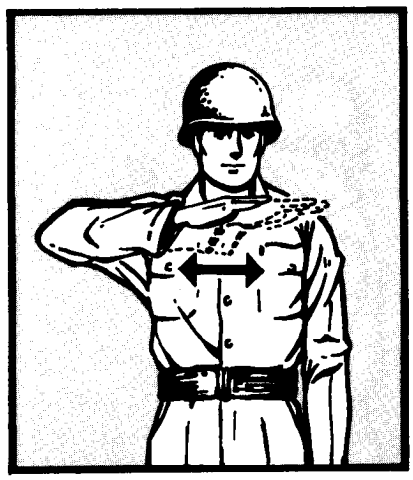


Figure 17. STOP ENGINES. Draw right hand, palm down, across the neck in a "throat cutting" motion from left to right.

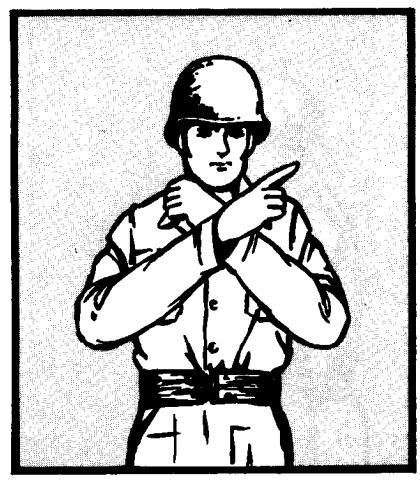


Figure 18. NEUTRAL STEER (track vehicles). Cross wrists at throat; point index finger in direction steer is to be made. Clench fist of other hand.

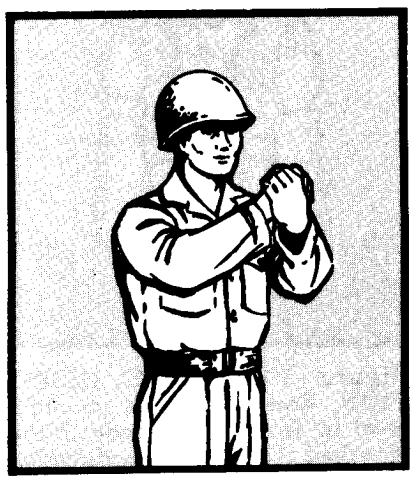


Figure 19. (ALTERNATE SIGNAL USED TO STOP TRACK VEHICLES.) Clasp the hands together, palms facing each other, at chin level.

Note. Alternate signal to stop vehicles, see figure 6.

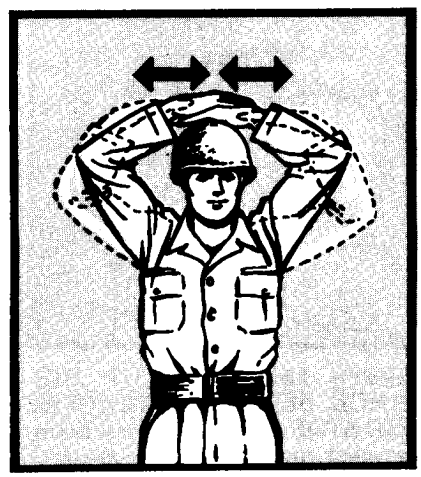


Figure 20. BUTTON-UP or UNBUTTON. To signal BUTTON-UP, place both hands, one on top of the other, palms down on top of the helmet; with both arms back and in the same plane as the body. To signal UNBUTTON, give the BUTTON-UP signal, then separate the hands moving them lightly to each side in a slicing motion; repeat.



Driver Testing and Training Device: Portable Equipment

Introduction

By following the simple instructions outlined in this manual, anyone can properly administer the five psychophysical tests.

Proper administration of the psychophysical tests makes the subject admit his limitations. He must tell the examiner when taking the Visual Acuity Test, "That's as far as I can see." In the Field of Vision Test, he cannot see the targets until they are actually within his field of vision, and so forth. The examiner does not tell the sub ect that he needs professional visual care, or that his distance judgment is faulty or his field of vision is limited, etc.

Visual acuity, color perception, field-of-vision, depth perception, simple and complex reaction time are all factors for which there is compensation, providing the driver is aware of these limitations and taught how to compensate for them properly.

Preparation

1. Place cabinet on a table 30 inches high and sufficiently narrow to afford the examiner access to rear of cabinet.

2. Open front door by releasing catch and pulling out.

3. VISUAL ACUITY. Open right and left doors by inserting hand inside of cabinet through front door and releasing spring catches on inside of each door. Open doors to a 90° angle with cabinet.

4. FIELD-OF-VISION. Remove perimeter from slots indoor by loosening wing nuts. Remove wing nuts and insert two bolts in holes provided in top front of cabinet. Place perimeter so that the nasal notch faces forward with cord extended to the rear. Affix wing nuts to bolts on inside of case and tighten.

5. REACTION TIME. Remove foot pedal assembly from lower compartment and place on floor directly in front of instrument.

6. Remove extension cord and plug into 110-120 VOLT ALTERNATING CURRENT. Where only DIRECT CURRENT is available, a converter MUST be used.

7. Turn toggle switch inside of instrument to ON position. This illuminates visual acuity charts.

8. The testing unit is now ready for operation.

Instructions to the Examiner

Know the simple operating instructions before attempting administration of the tests. You may reword the instructions to suit yourself, but be certain that each person tested receives the same instructions. This will insure uniformity of results and scores.

Psychophysical tests are of major importance for an accident-free record. Stress that the subject, even though he may have a good or a perfect score, should not assume expertness as a driver. Proper driver training experience, correct driver habits, and attitudes are also essential to safe driving.

Visual Acuity Test

Procedure

Seat subject at a point 20 feet from chart. Test each eye separately, starting with the right; the left is covered with a card by placing the long edge on the tip of the nose and the center of the forehead. The left eye should be similarly tested and, finally, both eyes together.

The subject should start at the top of the chart and should read down from left to right.

Scoring

The degree of visual acuity is determined by the smallest letters that can be deciphered separately by each eye when subject is seated 20 feet from the chart. The number at the left or bottom of each line indicates the visual acuity of the subject.

Traffic Color Recognition Test

Procedure

The test is administered by depressing buttons inside the lower compartment in rear of timer to activate colored traffic lights and having the subject identify them by their correct color.

Field-of-Vision Test

Procedure

Have the subject sit in front of the instrument and place his nose in the notch so that his eyes are on a level with the upright bar of the movable targets. Instruct him to focus his eyes on a convenient object in front of the aparatus.

Move the targets slowly from the 100° mark by first pulling one string until the subject says he sees the target; then follow the same procedure with the other string.

Note. The red, amber and green lenses are removable to permit interchange of the three positions. This prevents subject from predetermining color locations.

Watch to see that the subject does not move his head or shift his eyes during the test. Hold the strings taut with your hand out of sight behind the cabinet.

Scoring

A lateral range of 75° from the focus line is the minimum standard acceptable for each eye. (A person with vision in only one eye should have a lateral range of 1350.)

Reaction Time Test

Procedure for Simple Reaction Time

Seat the subject directly in front of the cabinet so that he is facing the colored lights.

Instruct the subject to make himself comfortable and to place his right foot firmly on the button (accelerator), and his left foot on the plate marked same. As soon as he sees the light, he is to move his right foot as quickly as possible from the accelerator button to the brake pedal. After he has applied the brake, he must remove his foot from the brake pedal and bring it back to the accelerator.

Instruction to the Examiner

Make certain that the subject is firmly depressing the accelerator and that the green light is on.

Press the timer switch button. This turns the green light off, the red light on, and starts the electric timer.

Important: Be sure to release the red button *before* the subject removes his foot from the brake pedal. Then read the scoring shown on the dial in 100ths of a second. Give the subject a minimum of three trials.

Procedure for Complex Reaction Time

Now tell the subject that this will differ from the Simple Reaction Time Test in that he will have to make more than one decision. Point out that on the road a driver makes at least 10 decisions a mile or as many as 40 to 50 decisions an hour, depending on the speed at which he is traveling.

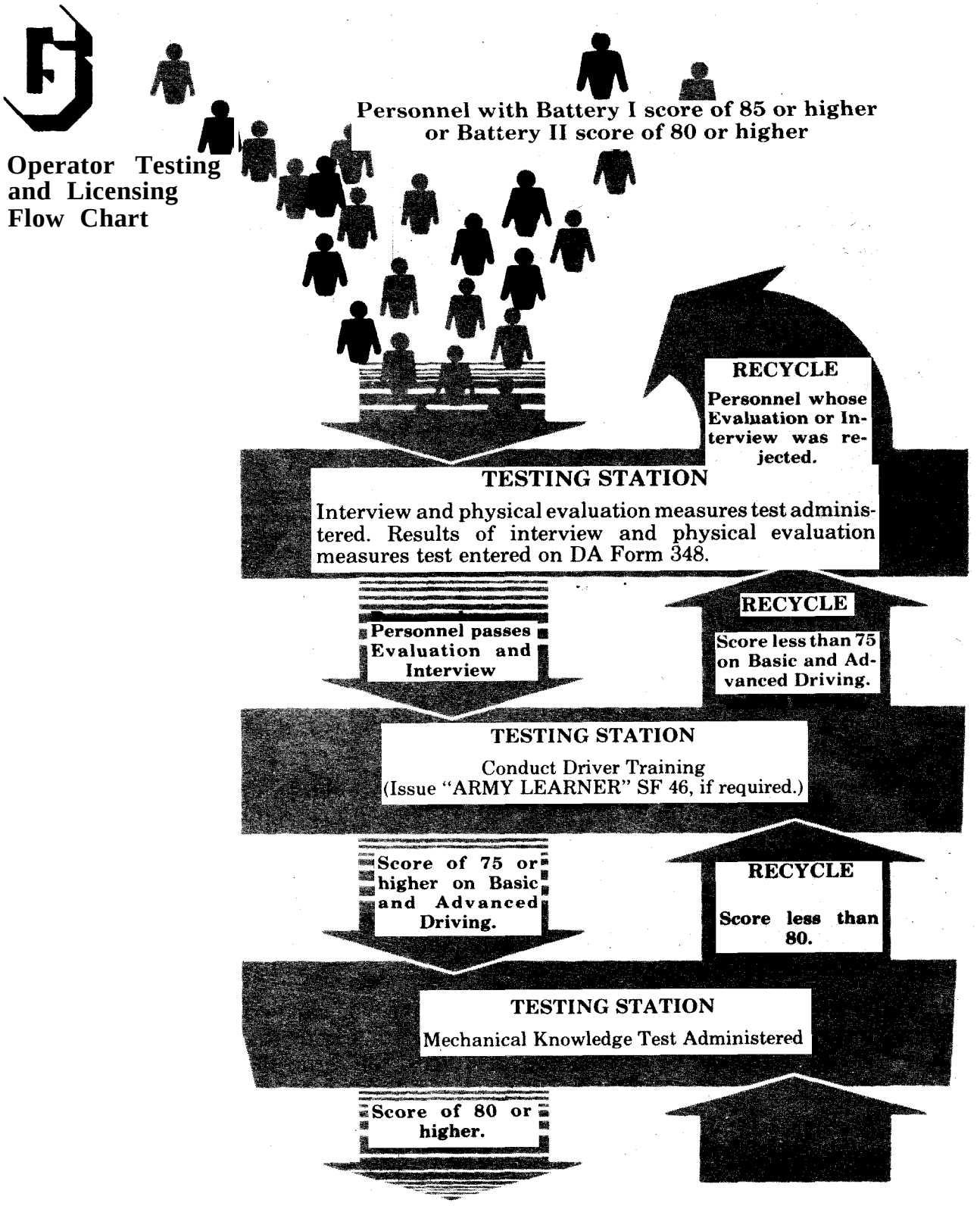
Instruct the subject that if the amber light appears, he is to decelerate (lift foot from the accelerator button), *but not apply the brake.* If the red light appears, he is to make an emergency stop as in the Simple Reaction Time Test. We are now bringing into play the "think factor." The subject's attention has been diverted and he has to think before making the proper decision. Generally, this will slow down his reaction time and will more closely approximate actual driving performance on the highway.

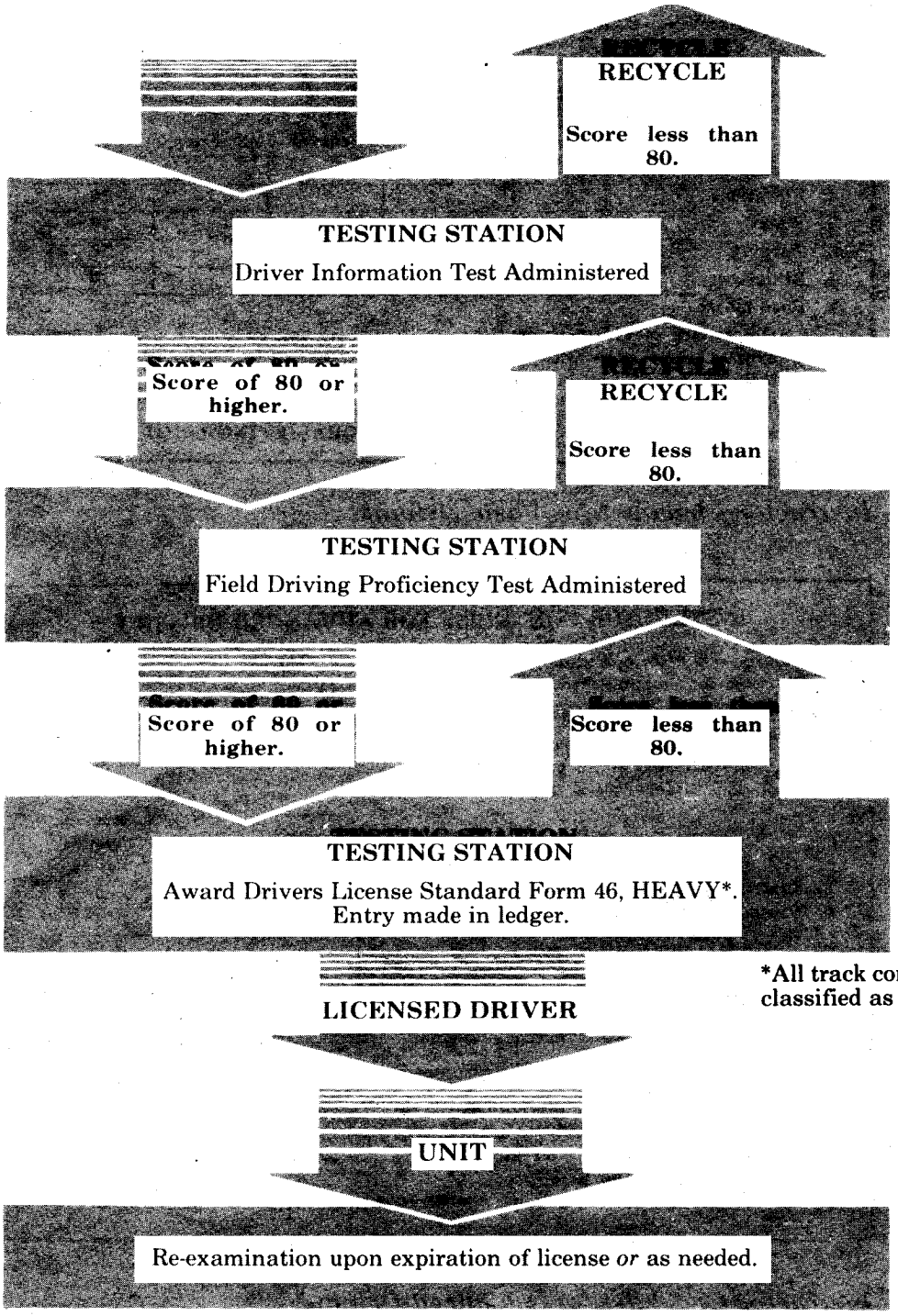
The important thing is that, as an educational means, you can very easily point out the importance of the "think factor" in driving and get across the significance of stopping distances, following distances, etc.

- Scoring for Simple Reaction Time: 0.4 to 0.6 second average is acceptable.
- Scoring for Complex Reaction Time: 0.4 to 0.6 second average is acceptable.

Appendix

Operator Testing and Licensing Flow Chart





*All track combat vehicles are classified as ***HEAVY.***

Appendix



Driver's Forms and Reports

INSTRUCTOR CHECKLIST FOR BASIC DRIVING

1. Before- and after-operation check (from vehicle TM) ..... 15 points
2. Starting and stopping procedure (same as in basic) ..... 10 points

Note. Scoring key for items 3–7:

1. Excellent—E, 2 points.
2. Satisfactory—S, 1 point.
3. Unsatisfactory—U, 0 point

	Speed	*Range*	*Acceleration*	*Braking*	*Steering*	*Maximum Possible Points*
3. Ditches						10
4. Elevations						10
5. Water						10
6. Turning						10
7. Bridges						10

8. Road march:
   - a. Observance of safety precautions ..... 5 points
   - b. Prompt compliance with signals ..... 10 points
   - c. Maintaining correct interval ..... 10 points

POSSIBLE POINTS: 100

MINIMUM QUALIFYING POINTS: 75

Instructor Checklist for Basic Driving

INSTRUCTOR CHECKLIST FOR ADVANCED DRIVING

1. Before- and after-operation services (from vehicle TM) ..... 10 points
2. Starting and stopping procedure (same as in basic) ..... 8 points

Note. Scoring key for items 3–9:

1. Excellent—E, 2 points.
2. Satisfactory—S, 1 point.
3. Unsatisfactory—U, 0 point.

	Controls	*Confidence*	*Proper Operation*	*Maximum Possible Points*
3. Restricted area				6
4. Vertical obstacle				6
5. Woods				6
6. River crossing				6
7. Hill climb				6
8. Hill descent				6
9. Soft terrain				6

10. Road march:
    - a. Observance of safety precautions ..... 5 points
    - b. Prompt compliance with signals ..... 5 points
    - c. Maintaining correct interval ..... 5 points
11. Performance of daily service ..... 25 points

POSSIBLE POINTS: 100

Instructor Checklist for Advanced Driving

Standard Form 46
Revised Jan 1977
USCSC
FPM Chapter 930

U.S. Government Motor Vehicle Operator's Identification Card

Card No. FK 6200-66

Name of Operator	Sex	Date Issued
Stuart R. Griffee	M	7 Nov 80

Height	Weight	Date of Birth	Social Security No.	Date Expires
69"	155	17 Oct 50	404-07-0527	7 Nov 83

LEARNER

Color of Hair	Color of Eyes	NOT TRANSFERABLE
Brn	Grey	Card must be carried at all times when operating Government vehicles.

Signature of Operator (*Not valid until signed*)
Stuart R. Griffee

Name and Location of Issuing Unit	Signature and Title of Issuing Official
US Army Armor Center TMP, Fort Knox, KY	William J. Wilson

The holder of this card is qualified to operate U.S. Government vehicles and/or equipment specified, subject to the restrictions set forth on the reverse of this card.

PRIVACY ACT NOTICE

Authority: This information is provided pursuant to Public Law 93-579 (Privacy Act of 1974), December 31, 1974, for individuals being issued Standard Form 46, U.S. Government Motor Vehicle Operator's Identification Card. U.S. Code, Title 5, section 301.

Purposes and Uses: The purpose of SF 46 is to identify Federal employees who have been authorized by their agencies to operate Government owned motor vehicles.

Effects of Nondisclosure: The effect of nondisclosure of the information required on the SF 46 is that an individual will not be authorized to drive a Federal motor vehicle. Failure to disclose accurate information that results in a negative reply from the National Drivers Register Service can result in revocation of an issued operator's identification card. The disclosure of this information is mandatory when an employee's job requires driving a Federal motor vehicle and is voluntary otherwise.

Information Regarding Disclosure of Your Social Security Number Under Public Law 93-579 Section 7 (b): Disclosure by you of your Social Security Number (SSN) is

(continued on reverse)

(Front) SF 46
U.S. Government Motor Vehicle Operator's Identification Card

Restrictions
Valid with glasses only

QUALIFIED TO OPERATE

Type Vehicle and/or Equipment	Capacity	Qualifying Official
Sedan	5P	Mike Hagen
Truck 6X6 (All)	2-½ Ton	George Riese
Tank, M60	N/A	J. Zaschins
		J. Collier

OTHER RECORDS (*Optional*)

Generator, Electric 1.5 KW

mandatory to obtain the U.S. Government Motor Vehicle Operator's Identification Card. Solicitation of the SSN by the United States Civil Service Commission is authorized under provisions of Executive Order 9397, dated November 22, 1943. The SSN is used as an identifier throughout your Federal career from the time of application through retirement.

The SSN will be used by the National Drivers Register Service in conducting a routine check of your driving record. The SSN also will be used by the Civil Service Commission and other Federal agencies in connection with lawful requests for information about you from former employers, educational institutions, financial, law enforcement, or other organizations. The information gathered through the use of the number will be used only as necessary in personnel administration processes carried out in accordance with established regulations and published notices of systems of records. The SSN also will be used for the selection of persons to be included in statistical studies of personnel management matters. The use of the SSN is made necessary because of the large number of present and former Federal employees and applicants who have identical names and birth dates, and whose identities can only be distinguished by the SSN.

(Back) SF 46
U.S. Government Motor Vehicle Operator's Identification Card

NAME (Last, first, initial) AND SOCIAL SECURITY ACCOUNT NUMBER				PERMIT (Initial)		
DREW, FRED Q. 402-71-1113 POB NASHVILLE, TENN				NUMBER ~~USA-06-78~~		DATE ISSUED 22 JUNE 78
				TYPE STANDARD		LIMITATIONS (Physical or operational) W/GLASSES LIGHT/HEAVY
SEX	DATE OF BIRTH	COLOR HAIR	COLOR EYES	HEIGHT	WEIGHT	POSITION TITLE (If civilian)
M	13 JAN 57	BROWN	BLUE	6'1"	180 LBS	NA

SECTION I - OFFICIAL QUALIFICATIONS

TYPE OF EQUIPMENT	SIZE	SPECIAL QUALIFICATION[1]	DATE QUALIFIED	QUALIFIED AT	NAME OF EXAMINER
SEDAN	5P	NONE	22 JUN 78	FT KNOX, KY	William Magana
TRK UTIL M151A2	1/4T	SEE SEC III	25 JUN 78	FT KNOX, KY	Bob Smith
TRK CGO M35A2	2 1/2 T	NONE	25 JUN 78	FT KNOX, KY	Bob Smith
TRK CAT E/T M60A1	53T	NONE	26 JUN 78	FT KNOX, KY	Bob Smith
GEN ELECT GED	1.5 KW	NONE	28 JUN 78	FT KNOX, KY	Bob Smith
CARR AR M113A1	12T	SEE SEC III	28 JUN 78	FT KNOX, KY	Bob Smith

SECTION II - BACKGROUND AND EXPERIENCE

TYPE OF EQUIPMENT	SIZE	TYPE OF DRIVING OR OPERATION[2]	ADDITIONAL DRIVER'S LICENSES (State or agency)	NUMBER OF OTHER DRIVER'S LICENSES	SATISFACTORY EXPERIENCE VERIFIED BY
AUTOMOBILE	5P	CITY - RURAL	CA 1976	P6498435	William Magana

[1] Special equipment, special operations or conditions [2] City, rural, long haul, etc.

SECTION III - PERFORMANCE RECORD

(List chronologically as "credits" - awards, training, retraining, testing, retesting, roadeos, permit renewal, relicensing, etc; and as "debits" - accidents, arrests, violations, warnings, revocations, suspensions, etc.)

DATE	CREDITS	DEBITS	TYPE OR NATURE	ACTION TAKEN
5 JAN 78	8 hrs		DEFENSIVE	COMPLETED NSC DRIVER
			DRIVING	IMPROVEMENT PROGRAM
				USAARMC, FT KNOX, KY J.R.R.
25 JUN 78	2 hrs		1/4 TON SAFETY	TR9-2320-218-10-1 J.R.R.
			TRAINING	
28 JUN 78	4 hrs		GENERATOR	SATISFACTORILY COMPLETED
			OPERATION	OPER + MAINT OF 1.5 KW ELEC
				GEN. GED 110V., 60CY IAW
				BN SOP J.R.R.
5 JUL 78		8 hrs	SPEEDING	REMEDIAL TNG IAW BN SOP J.R.R.
22 JUN 81			SF 46 RENEWED	USA-09-81 J.R.R.
9 SEP 81			ACCIDENT	SM WAS FOUND TO BE NOT
				AT FAULT J.R.R.

EQUIPMENT OPERATOR'S QUALIFICATION RECORD *(EXCEPT AIRCRAFT)*

For use of this form, see AR 385-55 and AR 600-55; the proponent agency is Office of the Deputy Chief of Staff for Personnel.

DA FORM 1 OCT 64 348 — REPLACES DA FORM 348, 1 AUG 60, WHICH WILL BE USED. AND DD FORM 1369 WHICH IS OBSOLETE FOR ARMY USE.

(Extract from personnel file to maintain at operating level.)

(Front) DA Form 348
Equipment Operator's Qualification Record

SECTION IV - EXAMINATION FINDINGS

BATTERY I - (Administered as a part of reception processing, at reception stations)	BATTERY II - (To be administered to all applicants for Driver Permit SF 46) (To transfer raw score to standard score see DA Pamphlet 611-119)	RAW SCORE	STANDARD SCORE
ENTER SCORE FROM ITEM 24 OF INDIVIDUAL'S DA FORM 20	DA FORM 6122	15	82
	DA FORM 6123	91	102
	DA FORM 6124	104	96
	TOTAL STANDARD SCORE		280
	STANDARD SCORE FOR BATTERY II (Divide Total Standard Score by 3)		93

STANDARD SCORE	SUCCESSFUL COMPLETION	EXAMINATION ADMINISTERED BY (Last name - first name - middle initial)
NONE	☒ YES ☐ NO	WILLIAM FRANCIS S.

I PHYSICAL EVALUATION MEASURES			✓ - IF QUALIFIED X - IF SUBSTANDARD	SIGNATURE OF EXAMINER	COMMENTS AND RECOMMENDATIONS ON SUB-STANDARD ITEMS
1. VISUAL ACUITY	LEFT EYE 20/ 30	RIGHT EYE 20/ 20	✓	Hugh Brown	N/A
2. FIELD OF VISION	LEFT EYE 80 /°	RIGHT EYE 90 /°	✓	Hugh Brown	
3. HEARING	LEFT EAR 20 /20	RIGHT EAR 20 /20	✓	Hugh Brown	
4. REACTION TIME	50 100 SEC	50 100 SEC	✓	Hugh Brown	
5. DEPTH PERCEPTION			NORMAL	Hugh Brown	SIGNATURE OF MEDICAL AUTHORITY
6. COLOR PERCEPTION			NORMAL	Hugh Brown	

II DRIVING PERFORMANCE TEST *(Check "✓" if successful, "x" if failed and corrective training is needed)*

A. ROAD TEST - PREREQUISITE

1. INSTRUMENTS (Location, correct reading, action for abnormal reading)	✓ OIL LEVEL STICK	✓ TEMPERATURE GAGE	✓ OIL PRESSURE GAGE	✓ VOLTOMETER			
	NA AMMETER	NA TACHOMETER	✓ FUEL GAGE	NA AIR PRESSURE GAGE			
2. BEFORE OPERATION CHECK	✓ VEHICLE DAMAGE	✓ CONDITION OF TIRES	✓ CLEAN HEADLIGHTS	✓ OIL LEVEL	✓ BATTERY	✓ SEAT ADJUSTMENT	
	✓ MIRROR ADJUSTMENT	✓ HORN	✓ HAND BRAKES	✓ FOOT BRAKES	✓ WATER LEVEL	✓ WIPER	
3. EMERGENCY EQUIPMENT (Location and use)	FIRE EXTINGUISHER ✓	HIGHWAY WARNING KIT ✓	OTHER (Describe) N/A				
4. CONTROLS - "DRY RUN"	GEARS ✓	BRAKE ✓	CLUTCH ✓	FRONT AXLE N/A			
5. DEPTH PERCEPTION (Two feet from target)	FIRST TRY ✓	SECOND TRY N/A	THIRD TRY N/A				
6. PRACTICE RUN (½ mile)	START ✓	PULL OUT ✓	SHIFT ✓	3 STOPS X	TURNS ✓	BACKING ✓	
7. ADDITIONAL REQUIREMENTS FOR LICENSE	✓ LOCAL LAWS	✓ OPERATING PROCEDURES	✓ ACCIDENT REPORTING				
	OTHER (Describe) HAS SUCCESSFULLY DEMONSTRATED PREPERATION OF DA FORM 2404						

B. ROAD TEST - SCORED PHASE *(DA PRT 2678)* — 100

COMMENTS AND RECOMMENDATIONS OF ROAD TEST EXAMINER	NUMBER OF TALLY MARKS ON CHECK LIST PRT 2678 (Subtract)	5
BRAKING TOO FAST	ROAD TEST SCORE	95
	SIGNATURE OF ROAD TEST EXAMINER	William Mayer

MY DRIVING WEAKNESSES HAVE BEEN MADE KNOWN TO ME AND I HAVE BEEN SHOWN HOW TO OVERCOME OR ADJUST THEM.	DATE	SIGNATURE OF APPLICANT
	22 JUN 78	Fred Q. Drew

(Back) DA Form 348
Equipment Operator's Qualification Record

LUBRICATION ORDER **LO5-6115-586-12**

18 OCTOBER 1979 (Supersedes LO5-6115-586-12, 18 November 1972)

POWER PLANT UTILITY, GAS TURBINE ENGINE DRIVEN
(LIBBY WELDING CO. MODEL LPU-71)

Reference: TM5-6115-586-12, C9100-IL

Intervals and related task-hour times are based on normal hours of operation. The task-hour time specified is the time you need to do all the services prescribed for a particular interval. Change the interval if your lubricants are contaminated or if you are operating the equipment under adverse operating conditions, including longer-than-usual operating hours. You may extend the interval during periods of low activity, but you must take adequate preservation precautions.

*The time specified is the time required to perform all services at the particular interval.

Clean parts with SOLVENT dry cleaning, SD-2. Dry before lubricating. Drain crankcase when HOT. Fill and check level. The lowest level of maintenance authorized to lubricate a point is indicated by one of the following: (C) Operator/crew; or (O) Organizational Maintenance.

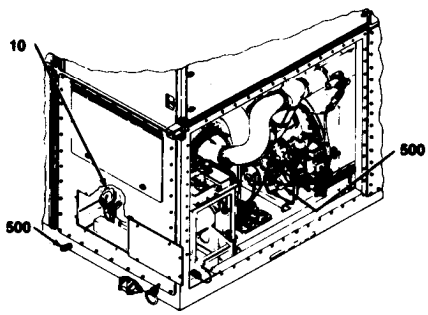
You can improve this publication by calling attention to errors and by recommending improvements and by stating your reasons for the recommendations. Your letter or DA Form 2028 (Recommended Changes to Publications and Forms) should be mailed direct to Commander, U.S. Army Troop Support and Aviation Material Readiness Command, ATTN: DRSTS-MTPS, 4300 Goodfellow Blvd., St. Louis MO 63120. A reply will be furnished direct to you.

FOLD FOLD

LUBRICANT • INTERVAL

Oil Fill Cap and Dipstick (Check oil level and replenish as required) (See note 2) (O)

Oil Drain Cap (Drain and refill.)(O)



INTERVAL • LUBRICANT

Oil Filter (Disassemble, clean housing, renew element, and reassemble.) (See note 1.) (O)

*TOTAL TASK-HR		*TOTAL TASK-HR	
INTERVAL	TASK-HR	INTERVAL	TASK-HR
10	0.1	500	0.6

CARD 1 OF 2

STS Form 2273
1 Dec 76
☆ U.S. GOVERNMENT PRINTING OFFICE: 1979 O—304-766

(Front) Lubrication Order

—KEY—

LUBRICANTS	REFILL CAPACITY	ALL TEMPERATURES	INTERVALS
LUBRICATING OIL, Turbine		MIL-L-7808 or MIL-L-23699 (See note 2)	Intervals given are in hours of normal operation.
Oil Tank	10 qts (9.4625L)		

NOTES:
1. OIL FILTER. After installing new filter element, fill oil tank, operate engine 5 minutes, check level, check filter housing and lines for leaks.

2. CHANGING OIL BRANDS OR SPECIFICATIONS. Do not mix different brands or specifications of oil. The lubricant system must be flushed and the filter element replaced when changing from one brand or specification of oil to another.

3. LUBRICATION. The following is a list of lubricants with the Military Symbols and applicable specification numbers.
MIL-L-7808
MIL-L-23699

Copy of this Lubrication Order will remain with the equipment at all times; instructions contained herein are mandatory.

By Order of the Secretary of the Army:

E. C. MEYER
General, United States Army
Chief of Staff

Official:

J. C. PENNINGTON
Major General, United States Army
The Adjutant General

DISTRIBUTION:
To be distributed in accordance with DA Form 12-25A, Operator Maintenance Requirements for MUST System Equipment.

FOLD FOLD

CARD 2 OF 2

STS Form 2273
1 Dec 76
☆ U.S. GOVERNMENT PRINTING OFFICE: 1979 O—304-766

(Back) Lubrication Order

MOTOR VEHICLE UTILIZATION RECORD

DATE	TYPE	REGISTRATION NO./SERIAL NO.	ADMINISTRATION NO.
	M151A2	261241	HQ 5

ORGANIZATION	ACTION	TIME	MILES	HOURS	
HHC 2-12 AR					
1ST OPERATOR: H Harvey	IN	1700	12152		REPORT TO: Cpt James Avery
OPERATOR'S SIGNATURE: T. Adkins	OUT	0600	12112		DISPATCHER'S SIGNATURE: Thomas Brooks
	TOTAL	1100	40		
2D OPERATOR	IN				REPORT TO
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE
	TOTAL				
3D OPERATOR	IN				REPORT TO
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE
	TOTAL				
4TH OPERATOR	IN				REPORT TO
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE
	TOTAL				

DESTINATION	TIME ARRIVE	TIME DEPART	RELEASED BY (Signature)	REMARKS
FROM 1. MP		0645		
TO 2. HHC ORD RM	0625	0730		
TO 3. RG 86	0915	1555		
TO 4. B CO ORD RM	1640	1645	J. Smith	
TO 5. MP	1700			
TO 6.				
TO 7.				
TO 8.				
TO 9.				
TO 10.				
TO 11.				
TO 12.				
TO 13.				
TO 14.				
TO 15				

DD FORM 1 FEB 75 1970

(Front) DD Form 1970
Motor Vehicle Utilization Record

INSTRUCTIONS

1. Date. Enter the calendar date the equipment is to be used.

2. Type. Enter the type of equipment as designated in the equipment log.

3. Registration Number or Serial Number. Enter the equipment registration number or serial number.

4. Administration Number. Enter the unit bumper or administrative number.

5. Organization. Enter the organization to which the equipment is assigned.

6. Operator. Enter the name of the equipment operator.

7. Operator's Signature. The equipment operator (item 6) will enter signature immediately upon receipt of equipment.

8. Time. Indicate time to the nearest 5 minutes using the 24-hour clock.

a. In. Enter time equipment was returned from dispatch or use.

b. Out. Enter the time the equipment was released for operation by the dispatcher.

c. Total. Enter total time the equipment was in the possession of the operator. Time is obtained by subtracting the time listed in "Out" line from that listed on the "In" line.

9. Miles. Will be recorded to the nearest whole mile.

a. In. The operator will enter the mileage reading when the equipment is returned. If odometer is inoperative, enter estimated mileage.

b. Out. The dispatcher will enter the mileage reading at the time of dispatch.

c. Total. Enter the difference between the "Out" and "In" mileage.

10. Hours. Will be recorded to the nearest whole hour. On those items which require servicing on an hourly basis and are not equipped with an hour meter, enter the estimated hours of operation.

a. In. The operator will enter the hour meter reading upon completion of the equipment usage.

b. Out. The dispatcher will enter the hour meter reading prior to equipment release.

c. Total. Enter the total hours dispatched for operation.

11. Report To. Enter the name of the individual to whom the operator is to report.

12. Dispatcher's Signature. Self-explanatory.

13. Destination. Indicate each location at which a trip begins and ends. Normally this starts from the equipment pool ("From" Line) and ends at the same place after one or more intervening destinations.

14. Time. All time will be recorded using the 24-hour clock, rounded off to the nearest 5 minutes.

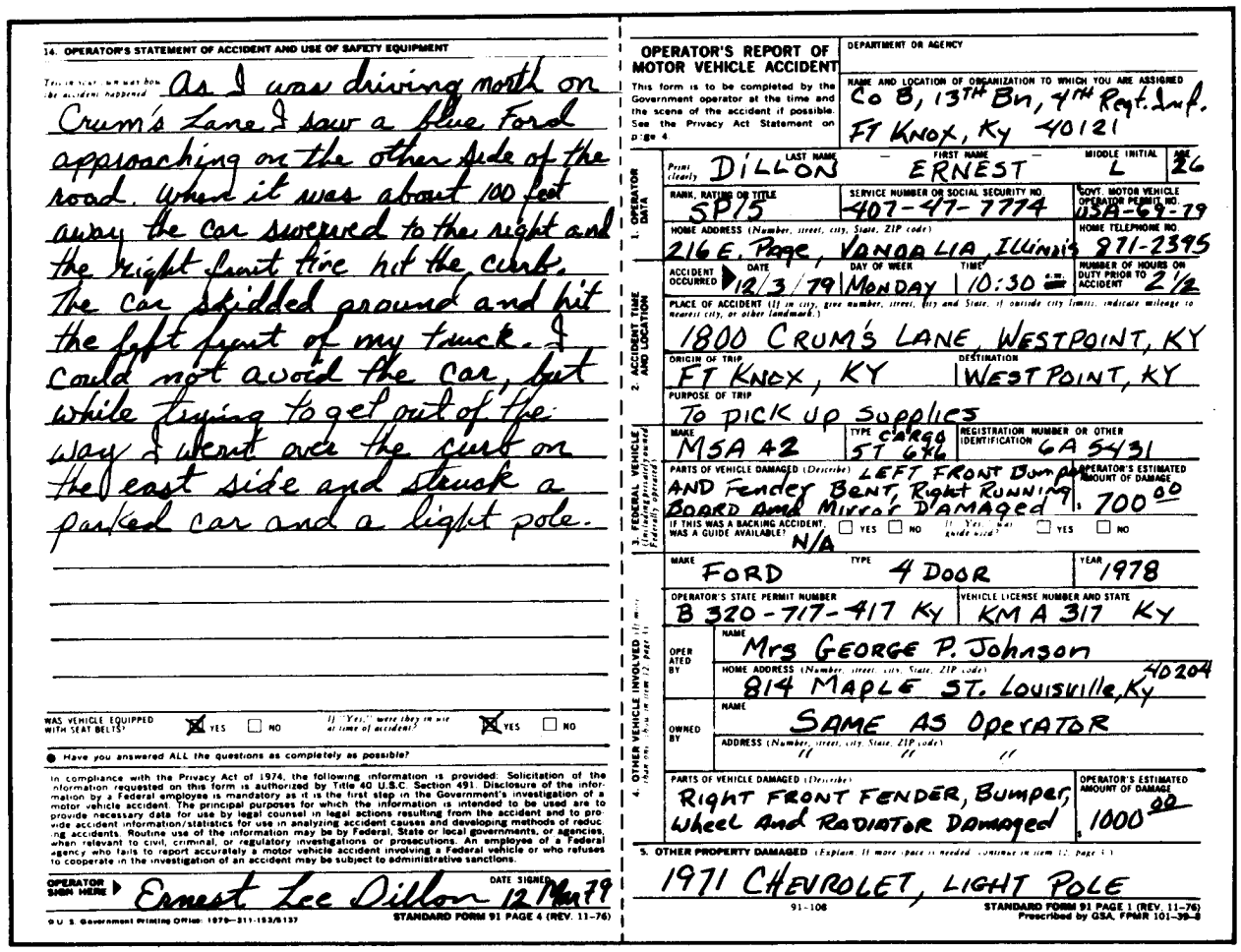
a. Arrive. Enter the arrival time at each destination.

b. Depart. Enter the departure time from the motor pool and each succeeding location.

15. Released By. The person in charge of equipment on dispatch will release by signing on the line indicating the destination where the equipment was released to the operator. Upon termination of equipment used, but not moved, the person in charge will release the equipment by signing in the top block of this column.

16. Remarks. The remarks column will be used by the operator to record unusual operation or abnormal occurrences during operation, or other information as directed.

(Back) DD Form 1970
Motor Vehicle Utilization Record



14. OPERATOR'S STATEMENT OF ACCIDENT AND USE OF SAFETY EQUIPMENT

Tell in your own words how the accident happened: As I was driving north on Crum's Lane, I saw a blue Ford approaching on the other side of the road. When it was about 100 feet away the car swerved to the right and the right front tire hit the curb. The car skidded around and hit the left front of my truck. I could not avoid the car, but while trying to get out of the way I went over the curb on the east side and struck a parked car and a light pole.

WAS VEHICLE EQUIPPED WITH SEAT BELTS? [X] YES [ ] NO — If "Yes," were they in use at time of accident? [X] YES [ ] NO

● Have you answered ALL the questions as completely as possible?

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 ▶ Ernest Lee Dillon DATE SIGNED 12 Mar 79

U.S. Government Printing Office: 1976—211-193/6137

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

OPERATOR'S REPORT OF MOTOR VEHICLE ACCIDENT

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

DEPARTMENT OR AGENCY

NAME AND LOCATION OF ORGANIZATION TO WHICH YOU ARE ASSIGNED: Co B, 13TH Bn, 4TH Regt. Inf. FT KNOX, Ky 40121

1. OPERATOR DATA

Print clearly — LAST NAME: DILLON — FIRST NAME: ERNEST — MIDDLE INITIAL: L — AGE: 26

RANK, RATING OR TITLE: SP/5 — SERVICE NUMBER OR SOCIAL SECURITY NO.: 407-47-7774 — GOVT. MOTOR VEHICLE OPERATOR PERMIT NO.: USA-69-79

HOME ADDRESS (Number, street, city, State, ZIP code): 216 E. Page, VANDALIA, ILLINOIS — HOME TELEPHONE NO.: 971-2395

2. ACCIDENT TIME AND LOCATION

ACCIDENT OCCURRED — DATE: 12/3/79 — DAY OF WEEK: MONDAY — TIME: 10:30 a.m. — NUMBER OF HOURS ON DUTY PRIOR TO ACCIDENT: 2 1/2

PLACE OF ACCIDENT (If in city, give number, street, city and State. If outside city limits, indicate mileage to nearest city, or other landmark.): 1800 CRUM'S LANE, WESTPOINT, KY

ORIGIN OF TRIP: FT KNOX, KY — DESTINATION: WEST POINT, KY

PURPOSE OF TRIP: TO PICK UP Supplies

3. FEDERAL VEHICLE (Including any vehicle Federally operated)

MAKE: M5A 42 — TYPE: CARGO 5T 6X6 — REGISTRATION NUMBER OR OTHER IDENTIFICATION: GA 5431

PARTS OF VEHICLE DAMAGED (Describe): LEFT FRONT Bumper AND Fender BENT, Right RUNNING BOARD And Mirror DAMAGED — OPERATOR'S ESTIMATED AMOUNT OF DAMAGE: $ 700.00

IF THIS WAS A BACKING ACCIDENT, WAS A GUIDE AVAILABLE? N/A [ ] YES [ ] NO — If "Yes," was guide used? [ ] YES [ ] NO

4. OTHER VEHICLE INVOLVED (If more than one, list on page 2)

MAKE: FORD — TYPE: 4 DOOR — YEAR: 1978

OPERATOR'S STATE PERMIT NUMBER: B 320-717-417 Ky — VEHICLE LICENSE NUMBER AND STATE: KMA 317 Ky

OPERATED BY — NAME: Mrs GEORGE P. Johnson — HOME ADDRESS (Number, street, city, State, ZIP code): 814 MAPLE ST. Louisville, Ky 40204

OWNED BY — NAME: SAME AS OPERATOR — ADDRESS (Number, street, city, State, ZIP code): " " "

PARTS OF VEHICLE DAMAGED (Describe): RIGHT FRONT FENDER, Bumper, Wheel And RADIATOR DAMAGED — OPERATOR'S ESTIMATED AMOUNT OF DAMAGE: $ 1000.00

5. OTHER PROPERTY DAMAGED (Explain. If more space is needed, continue in item 12, page 3.)

1971 CHEVROLET, LIGHT POLE

91-108

STANDARD FORM 91 PAGE 1 (REV. 11-76) Prescribed by GSA, FPMR 101-39.4

(Front) SF 91
Operator's Report of Motor Vehicle Accident

	NAMES	HOME ADDRESSES
6. PERSONS INJURED	MRS GEORGE P. JOHNSON	814 MAPLE ST. LOUISVILLE, KY 40204
7. OCCUPANTS IN YOUR VEHICLE	SGT THOMAS F. CLAY	CO B. 13TH BN, 4TH TNG BRGT. INF. FT KNOX, KY 40121
8. OCCUPANTS IN OTHER VEHICLE(S)	MR JOSEPH W. RAY	429 JACKSON ST. FRANKFORT, KY
	MS ALICE E. WHITE	938 WEST MAIN ST. LOUISVILLE, KY 40202
9. WITNESSES AND POLICE	SGT THOMAS F. CLAY	SAME AS #7
	MR JOSEPH W. RAY	SAME AS #8
	MS ALICE E. WHITE	SAME AS #8
	MR JACK T. FRANKLIN	1813 CRUM'S LANE WEST POINT, KY
	POLICE OFFICER	BADGE NUMBER / PRECINCT OR HEADQUARTERS

10. ACCIDENT CONDITIONS

INDICATE:	FEDERAL VEHICLE (Includes privately owned Federally operated)	OTHER VEHICLE (2)
DIRECTION OF TRAVEL	NORTH ON CRUMS LANE	SOUTH ON CRUMS LANE
SIDE OF STREET OR HIGHWAY	EAST	WEST
APPROXIMATE SPEED	30 MILES PER HOUR	30 MILES PER HOUR

CONDITION OF ROADWAY (Wet or dry, icy, etc.)	WEATHER (Clear, foggy, rain, snow, etc.)	TYPE OF ROADWAY (concrete, macadam, etc.)
WET	OVERCAST, RAIN	ASPHALT

OTHER INFORMATION (Explain stop sign, traffic signals, obstructions, etc.)

SPEED LIMIT WAS 30 MPH. MY HEADLIGHTS WERE ON.
DRIVER OF PARKED CAR COULD NOT BE LOCATED. POLICE CALLED AND GOT NAME AND ADDRESS OF OWNER. CAR COULD BE DRIVEN.

STANDARD FORM 91 PAGE 2 (REV. 11–76)

11. EVENTS AFTER ACCIDENT

STATE WHO GAVE MEDICAL AID, IF ANY WAS GIVEN: MICHAEL P. NORRIS, MAJ.
WHERE WAS INJURED TAKEN: IRELAND ARMY HOSPITAL FT KNOX, KY 40121
CONDITION OF OTHER DRIVER: HEAD INJURIES – CONDITION UNKNOWN

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.

NO STATEMENTS WERE MADE BY EITHER PARTY IMPLYING FAULT.

12. OTHER VEHICLE OR PROPERTY INVOLVED CONTINUATION—If more than one vehicle involved

MAKE	TYPE	YEAR
CHEVROLET	CONVERT	1971

OPERATOR'S STATE PERMIT NUMBER: UNK
VEHICLE LICENSE NUMBER AND STATE: EMA 693 Michigan

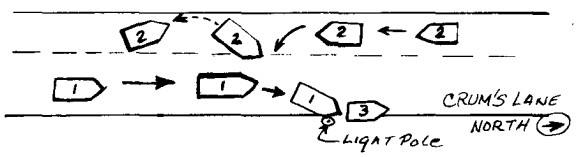
OPERATED BY
NAME: UNK
HOME ADDRESS (Number, street, city, State, ZIP code): UNK

OWNED BY
NAME: MR JOHN P. HAGGERTY
ADDRESS (Number, street, city, State, ZIP code): 393 GOLDBRICK ROAD, LOUISVILLE, KY

PARTS OF VEHICLE DAMAGED (Describe): REAR PANEL AND TRUNK LID SMASHED, Right Tail Light Broken
OPERATOR'S ESTIMATED AMOUNT OF DAMAGE: $ 450.00

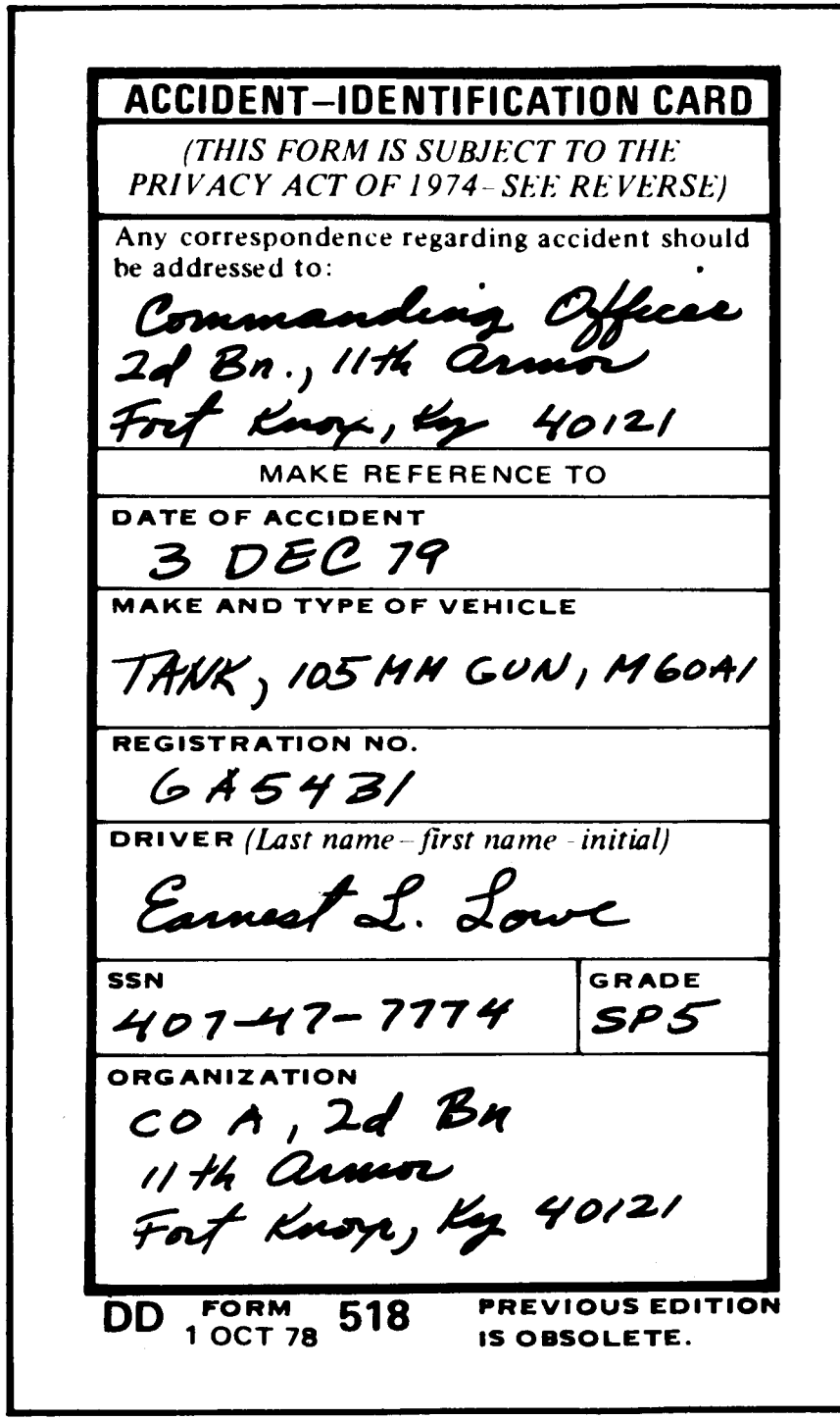
OTHER PROPERTY DAMAGED (Explain): LIGHT POLE. METAL BASE BROKEN

13. DIAGRAM WHAT HAPPENED BY USING THESE SYMBOLS, BELOW



STANDARD FORM 91 PAGE 3 (REV. 11–76)

(Back) SF 91
Operator's Report of Motor Vehicle Accident



ACCIDENT–IDENTIFICATION CARD

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

Any correspondence regarding accident should be addressed to:

Commanding Officer
2d Bn., 11th Armor
Fort Knox, Ky 40121

MAKE REFERENCE TO

DATE OF ACCIDENT
3 DEC 79

MAKE AND TYPE OF VEHICLE
TANK, 105 MM GUN, M60A1

REGISTRATION NO.
GA5431

DRIVER *(Last name – first name - initial)*
Earnest L. Lowe

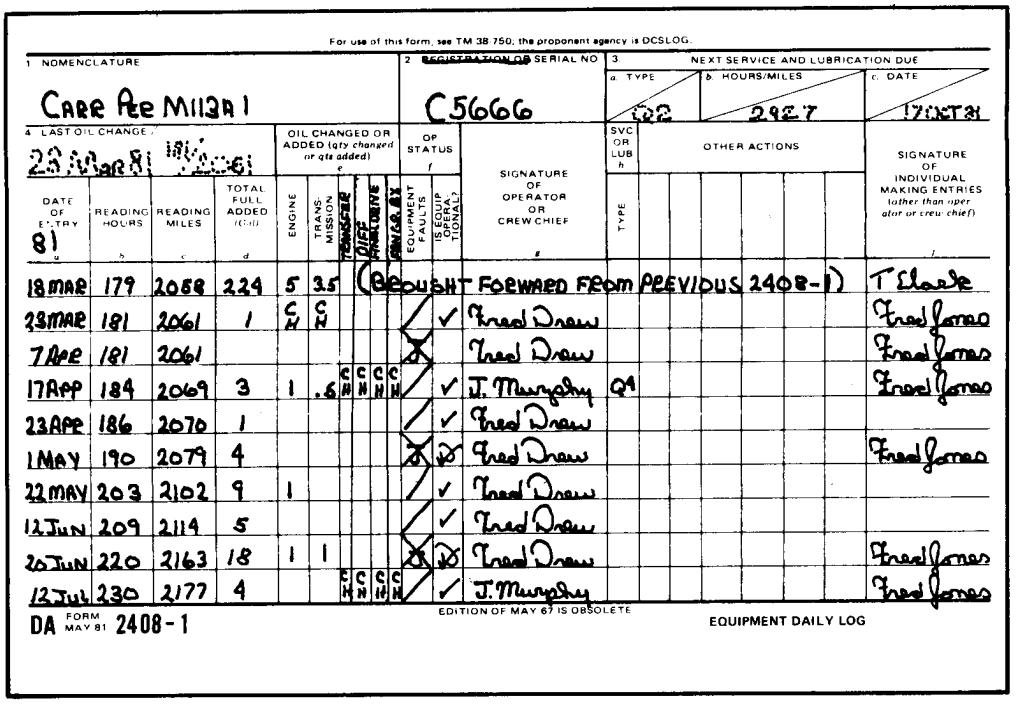
SSN
407-47-7774

GRADE
SP5

ORGANIZATION
CO A, 2d Bn
11th Armor
Fort Knox, Ky 40121

DD FORM 1 OCT 78 518 PREVIOUS EDITION IS OBSOLETE.

DD Form 518
Accident Identification Card



For use of this form, see TM 38-750; the proponent agency is DCSLOG.

1 NOMENCLATURE: CARE ACE M113A1

2 REGISTRATION OR SERIAL NO: C56666

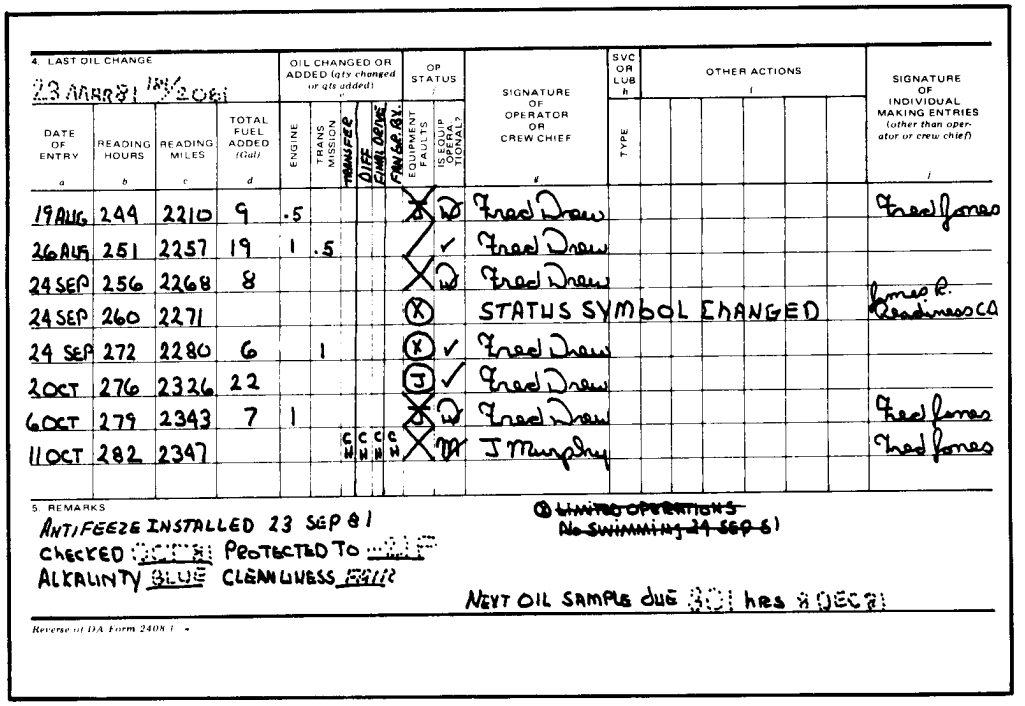
3 NEXT SERVICE AND LUBRICATION DUE — a. TYPE: 182 — b. HOURS/MILES: 2927 — c. DATE: 17OCT81

4 LAST OIL CHANGE: 23MAR81 1812061

DATE OF ENTRY a	READING HOURS b	READING MILES c	TOTAL FUEL ADDED (Gal) d	OIL CHANGED OR ADDED (qty changed or qts added) e: ENGINE	TRANSMISSION	TRANSFER	DIFF FINAL DRIVE	FINAL DRIVE	OP STATUS f: EQUIPMENT FAULTS	IS EQUIP OPERATIONAL?	SIGNATURE OF OPERATOR OR CREW CHIEF g	SVC OR LUB h: TYPE	OTHER ACTIONS i	SIGNATURE OF INDIVIDUAL MAKING ENTRIES (other than operator or crew chief) j
81														
18MAR	179	2058	224	5	3.5						(BROUGHT FORWARD FROM PREVIOUS 2408-1)			T Clark
23MAR	181	2061	1	CH	CH					✓	Fred Drew			Fred Jones
7APR	181	2061							X		Fred Drew			Fred Jones
17APR	184	2069	3	1	.6	CH	CH	CH		✓	J. Murphy	QY		Fred Jones
23APR	186	2070	1							✓	Fred Drew			
1MAY	190	2079	4						X	X	Fred Drew			Fred Jones
22MAY	203	2102	9	1						✓	Fred Drew			
12JUN	209	2114	5							✓	Fred Drew			
26JUN	220	2163	18	1	1				X	X	Fred Drew			Fred Jones
12JUL	230	2177	4			CH	CH	CH		✓	J. Murphy			Fred Jones

FORM DA MAY 81 2408-1 — EDITION OF MAY 67 IS OBSOLETE — EQUIPMENT DAILY LOG

(Front) DA Form 2408-1
Equipment Daily or Monthly Log



4 LAST OIL CHANGE: 23MAR81 1812061

DATE OF ENTRY a	READING HOURS b	READING MILES c	TOTAL FUEL ADDED (Gal) d	OIL CHANGED OR ADDED (qty changed or qts added) e: ENGINE	TRANSMISSION	TRANSFER	DIFF FINAL DRIVE	FINAL DRIVE	OP STATUS f: EQUIPMENT FAULTS	IS EQUIP OPERATIONAL?	SIGNATURE OF OPERATOR OR CREW CHIEF g	SVC OR LUB h: TYPE	OTHER ACTIONS i	SIGNATURE OF INDIVIDUAL MAKING ENTRIES (other than operator or crew chief) j
19AUG	249	2210	9	.5					X	⊘	Fred Drew			Fred Jones
26AUG	251	2257	19	1	.5					✓	Fred Drew			
24SEP	256	2268	8						X	⊘	Fred Drew			
24SEP	260	2271							(X)		STATUS SYMBOL CHANGED			James R. Condimos CO
24 SEP	272	2280	6		1				(X)	✓	Fred Drew			
2OCT	276	2326	22						(J)	✓	Fred Drew			
6OCT	279	2343	7	1					X	⊘	Fred Drew			Fred Jones
11OCT	282	2347				CH	CH	CH	X	M	J Murphy			Fred Jones

5 REMARKS

ANTIFEEZE INSTALLED 23 SEP 81
CHECKED [illegible] PROTECTED TO [illegible]
ALKALINTY BLUE CLEANLINESS FAIR

(X) ~~LIMITED OPERATIONS~~ ~~No Swimming 24 SEP 81~~

NEXT OIL SAMPLE DUE [illegible] hrs 8 DEC 81

Reverse of DA Form 2408-1

(Back) DA Form 2408-1
Equipment Daily or Monthly Log

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

For use of this form, see TM 38-750; the proponent agency is the Office of the Deputy Chief of Staff for Logistics.

1. ORGANIZATION	2. NOMENCLATURE AND MODEL
Co A 2ND BN 11TH ARMOR	CARR PER M113A1

3. REGISTRATION/SERIAL/NSN	4a. MILES	b. HOURS	c. ROUNDS FIRED	d. HOT STARTS	5. DATE	6. TYPE INSPECTION
C5666	2342	276			6 OCT 81	DAILY

7. APPLICABLE REFERENCE

TM NUMBER	TM DATE	TM NUMBER	TM DATE
9-2300-257-10 W/C1	AUG 78		

COLUMN a — Enter TM item number.

COLUMN b — Enter the applicable condition status symbol.

COLUMN c — Enter deficiencies and shortcomings.

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

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

STATUS SYMBOLS

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

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

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

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

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

FOR AIRCRAFT-Status symbols will be recorded in red.

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

8a. SIGNATURE *(Person(s) performing inspection)*	8b. TIME	9a. SIGNATURE *(Maintenance Supervisor)*	9b. TIME	10. MANHOURS REQUIRED
Fred Drew SP4				

TM ITEM NO. a	STATUS b	DEFICIENCIES AND SHORTCOMINGS c	CORRECTIVE ACTION d	INITIAL WHEN CORRECTED e
		2 OCT 81		F.D.
		5 OCT 81		F.D.
		6 OCT 81		
(17)	X	L/FRONT ROADWHEEL ARM BENT	REPLACED ARM	F.D.
18	/	GENERATOR BELTS FRAYED	DA Form 2408-14	F.D.
(18)	X	FAN MAKING GRINDING NOISE	REPLACED	F.D.
20	X	HIGH BEAM INDICATOR	REPLACED BULB	F.D.
		LIGH INOP		
21	/	RIGHT #2 OUTSIDE	DA Form 2408-14	F.D.
		ROADWHEEL 1/3 CHUNKED		

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

(Front) DA Form 2404
Equipment Inspection and Maintenance Work Sheet

TM ITEM NO. *a*	STATUS *b*	DEFICIENCIES AND SHORTCOMINGS *c*	CORRECTIVE ACTION *d*	INITIAL WHEN CORRECTED *e*

SAMPLE

☆ U.S. GOVERNMENT PRINTING OFFICE: 1979-294-272

(Back) DA Form 2404
Equipment Inspection and Maintenance Work Sheet

Index

A

Accident reports, 12
Adjusting track tension, 16
Administering tests, 33-43
Advanced driving, 24
Arm and hand signals, 13, 44-48
Assistant instructors, 4
Authenticating operator's permits, 28-29
Auxiliary generator, 17
Awards, driver, 29, 31

B

Badges, driver, 31
Basic driving, 20-24
Battery I test, 6
Battery II test, 8
Bridge and vehicle weight classification, 14

C

Card, accident-identification, 12, 64
Card, vehicle operator's identification, 28-29, 55
Characteristics, track combat vehicle, 16
Checklist:
  Advanced driving, 54
  Basic driving, 54
  Field driving proficiency test, 42
  Supervision, 30
Classifying:
  Instructors, 4
  Prospective drivers, 6
Cleaning and washing the vehicle, 19
Color perception test, 10
Combat efficiency, 1
Competition, 31
Course:
  Advanced driving, 24
  Basic driving, 22-23
  Field driving proficiency test, 27
  Training instructors, 5

D

Depth perception test, 28
Driver:
  Badge, 31
  Information test, 27, 35
  Instruction, preliminary, 11
  Maintenance, 11
  Permit, 28, 55
  Publications, forms and reports, 11
  Qualification record, 6
  Selection, 6-10
  Supervision, 30
  Training situation, estimate of, 3
Driving:
  Advanced, 24
  Basic, 20
  Training, 20

E

Effect of driving on combat efficiency, 1
Electrical system, 17
Elementary map reading, 14
Emergency judgment test, 8
Engines, 16
Equipment for physical evaluation test, 9
Equipment stowage, 17
Estimate of driver training situation, 3
Evaluation, terrain, 14
Examination (See Test)
Examiners, training, 5
Exercises:
  Advanced driving, 25
  Basic driving, 24
Expedients, field, 19
Expert driver permit, 29
Extinguishers, fire, 16

F

Facilities, training course, 22, 23
Field:
  Driving proficiency test, 27-28, 42-43
  Expedients, 19
  Of vision test, 50
Fire prevention and extinguishing, 16
Flag signals, 13
Foot reaction time test, 51
Forms, driver, 54-67
Fuel systems, 17

G

Generator, auxiliary, 17
Grouping prospective instructors (See Classifying)

H

Hearing, 6, 10
How to supervise drivers, 30

I

Idling engine, 18
Incentive program, 31
Injuries, 12
Instructor:
  Checklist (See Checklist)
  Selection, 4
  Training, 5
Instruments and controls, 17
Interviewing instructors, 4
Interviewing prospective drivers, 6-7

L

Learner permit, 28-29, 55
Lessons, TEC, 31
Licensing drivers, 28
Light signals, 13
Lubrication order, 12, 58-59

M

Maintenance:
  General, 11
  Driver, 17-18
  Record, 12
  Training, 18
Map reading, 14
March, supervision during, 30
Mechanical knowledge test, 27
Methods of supervision, 30
Minimum standards:
  Driver candidates, 6
  Physical evaluation tests, 8-10

N

Need for supervision, 30

O

Operator's permit, 28-29, 55
Operator's report of motor vehicle accident, 12, 62-63
Order, lubrication, 12, 58-59
Organizational maintenance, 11
Organizing the program, 4

P

Periodic testing of drivers, 30-31
Permit, operator's, 28, 55
Physical evaluation tests, 8-10
Power transmission system, 16
Precautions, safety, 14
Preliminary driver instruction, 11
Prevention of fire and extinguishing, 16
Preventive maintenance (See Maintenance)
Prospective drivers:
  Interviewing, 6
  Screening, 6
  Selecting and classifying, 6-10
Publications, driver, 11

Q

Qualification record, 13, 56-57
Questioning prospective drivers, 7

R

Radios, 17
Reaction time test, 51
Recording test results, 10, 56-57
Records:
  Operator's permit, 28, 55
  Screening of prospective drivers, 6
References, 32
Renewing permits, 31
Reports, driver, 54-67

S

Safety training, 14
Scoring:
  Advanced driving, 24-26
  Basic driving, 20-24
  Driving examiners, 5
  Driving information test, 27
  Driving instructors, 5
  Field driving proficiency test, 27, 35-41
  Mechanical knowledge test, 27, 33-34
Screening prospective drivers, 6
Selecting:
  Instructors, 4
  Prospective drivers, 6-8
Services, maintenance (See Maintenance)
Signals, visual, 13, 44-48
Standard permit, 28, 55
Standards: (Also see Scoring)
  Driver candidates, 6
  Physical evaluation tests, 8-10
Starting procedure, 18
Stopping procedure, 18
Stowage, 17
Supervision:
  Drivers, 30
  Training in driving, 20
Suspension system, 16

T

TEC lessons, 31
Terrain evaluation, 14
Test:
  Battery I, 6
  Battery II, 8
  Driving information, 27
  Field driving proficiency, 27, 35-41
  Mechanical knowledge, 27, 33-34
  Periodic, 31
  Physical evaluation, 8-10
Tools, 15
Training:
  Driving, 20
  Driving examiners, 5
  Driving instructors, 5
  Situation, estimate of, 3
  Two-hand coordination test, 8

U

US Government motor vehicle operator's identification card, 28, 55
Use of signals, 13

V

Vehicle operator's identification card, 28, 55
Vehicle and bridge weight classification, 14
Visual:
  Acuity test, 9
  Judgment test, 10
  Signals, 13, 44-48

W

Warmup procedure, 18
Warning lights, 17
Washing and cleaning the vehicle, 19
Weight classification, bridge and vehicle, 14

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