Final Report FR-CD(L)-75-6

DEVELOPMENT OF A MODEL JOB PERFORMANCE TEST FOR A COMBAT OCCUPATIONAL SPECIALTY

Volume II. Instructions and Procedures for Conducting a Functionally Integrated Performance Test

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Alexandria, Virginia 22314

November 1975

Human Resources Research Organization
300 North Washington Street
Alexandria, Virginia 22314

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

(14) 1. REPORT NUMBER: HumRRO-FR-CD(L)-75-6 - Vol-2

2. GOVT ACCESSION NO.

3. RECIPIENT'S CATALOG NUMBER

(6) 4. TITLE (and Subtitle): DEVELOPMENT OF A MODEL JOB PERFORMANCE TEST FOR A COMBAT OCCUPATIONAL SPECIALTY. VOLUME II. INSTRUCTIONS AND PROCEDURES FOR CONDUCTING A FUNCTIONALLY INTEGRATED PERFORMANCE TEST.

(9) 5. TYPE OF REPORT & PERIOD COVERED: Final Report,

6. PERFORMING ORG. REPORT NUMBER: FR-CD(L)-75-6 Vol. II

(10) 7. AUTHOR(s): James H. Harris, Roy C. Campbell, William C. Osborn[illegible] John A. Boldovici

(12) 8. CONTRACT OR GRANT NUMBER(s): DAHC 19-74-C-0054

9. PERFORMING ORGANIZATION NAME AND ADDRESS
Human Resources Research Organization (HumRRO)
300 North Washington Street
Alexandria, Virginia 22314

10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
2Q162107A745
2Q162717A745

11. CONTROLLING OFFICE NAME AND ADDRESS
U.S. Army Research Institute for the Behavioral and Social Sciences
1300 Wilson Blvd., Arlington, Virginia 22209

(11) 12. REPORT DATE: November 1975

13. NUMBER OF PAGES: 86 (12 89p.)

14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)

15. SECURITY CLASSIFICATION OF THIS REPORT: Unclassified

15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

(16) DA-2-Q-162107-A-745,
DA-2-Q-162717-A-745

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

Research performed by HumRRO Central Division, Louisville Office, Louisville, Kentucky, under Work Unit MOD-TEST. See also "Development of a Model Job Performance Test for a Combat Occupational Specialty, Volume I. Test Development."

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Functionally integrated performance test
Leader-initiated tasks
Environment-initiated tasks
Self-initiated tasks
Measurement reliability

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The high costs of performance tests provided the impetus for the conduct of this project. The rationale was as follows: Tests are needed that are less expensive to administer and score than are job performance tests. To be useful, the less expensive tests must be validated. Since combat performance cannot be used as a criterion in validation studies, "less-than-ultimate" criteria are needed, namely, model performance tests. However, these performance tests should require not only that the responses elicited in testing be similar to those that will be performed on the job, but also

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Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

405 260

20. that the responses made in testing be elicited by stimuli that are similar to those that will be encountered on the job.

Such a test can be constructed by the use of modules in which several tasks are imbedded, with instructions given only for performance of the first task in the module. Completion of one task then serves as the stimulus for the initiation of the next task. This approach is referred to as "functionally integrated performance testing."

Results of the project indicated that the concept of functionally integrated performance tests is a feasible one. But revisions need to be made before the test can be implemented in the field. The test must remain experimental until reliability issues are resolved. The test is perhaps too costly to use for ongoing proficiency evaluation programs, but may be used experimentally, as a best possible criterion for examining the relevance of other measures of job proficiency.

The functionally integrated performance test may also be viewed as a comprehensive test of the jobs, from which samples of the job can be selected for use in lower-cost tests. But optimal methods for sampling from the "item pool" have not yet been developed.

PREFACE

This is the second volume of the final report on a project entitled, "Development of a Model Job Performance Test for a Combat Occupational Specialty." The project was directed toward the development and field test of an experimental job proficiency test which evaluates not only the soldier's mastery of skills and knowledges required in his MOS, but also his ability to respond without prompting to realistic stimulus conditions. This volume presents instructions and procedures for conducting a functionally integrated performance test. The first volume covers the rationale for developing a functionally integrated performance test, a description of the test development methodology, a discussion of test revisions and the reliability issues, and conclusions.

Work reported here was conducted by the Human Resources Research Organization (HumRRO) under Contract No. DAHC 19-74-C-0054 with the U.S. Army Research Institute for the Behavioral and Social Sciences. The research was performed at HumRRO's Central Division (Louisville) under the supervision of William Osborn, who is currently Director of the Louisville Office and was the Project Director. Dr. Wallace W. Prophet is Director of the HumRRO Central Division. The project staff included James H. Harris, Roy C. Campbell, John A. Boldovici, and Peter B. Wylie. Dr. Milton H. Maier, the Contracting Officer's Technical Representative, and Dr. Mazie Knerr, the Alternate Contracting Officer's Technical Representative, provided administrative guidance throughout the project. LTC Willis G. Pratt, Military Chief of ARI's Fort Knox Field Unit, was instrumental in securing support at Fort Bliss for the project.

Appreciation is expressed to the 3rd Armored Cavalry Regiment (ACR), Fort Bliss, Texas for allowing HumRRO personnel to observe the conduct of the Scout Squad Proficiency Course (SSPC). The SSPC was conducted by the 2/3 Cavalry without whose continuous cooperation the evaluation could not have been carried out. LTC Willard Burleson, CO, 2/3 Cavalry and CPT E.R. Lamison, S-3, 2/3 Cavalry, despite a full field-training schedule and the pressure of other training requirements, provided valuable time in assisting the HumRRO research effort. We are most grateful to 1LT C.G. Canavera, 1LT D.D. Newlin, 2LT C.H. Berlin III, SFC J. Ferguson, SSG E.J. Meyers, and SSG C. McCarty who gave their time and experience as raters during the field tryout, and participated with forebearance and enthusiasm during the many test runs.

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DEVELOPMENT OF A MODEL JOB PERFORMANCE TEST FOR A COMBAT OCCUPATIONAL SPECIALTY

VOLUME II. INSTRUCTIONS AND PROCEDURES FOR CONDUCTING A FUNCTIONALLY INTEGRATED PERFORMANCE TEST

INTRODUCTION

PROBLEM

Army personnel and training managers need valid job proficiency measures for quality control of training, evaluating MOS proficiency, evaluating the effect of changes in selection and assignment criteria, baseline data for personnel research, and evaluating unit readiness. Training and personnel managers have three general types of evaluation instruments available to measure job proficiency -- job performance ratings, job knowledge tests, and job performance tests. Job performance ratings not only lack the standardization which tests have but also are fraught with rater errors and biases. Job knowledge tests are widely used; however, there is a persistent question concerning the degree to which these tests can adequately assess a man's job performance capability. Job performance tests call for application of knowledge and demonstration of skill by eliciting behaviors that are equivalent, or nearly equivalent, to those required in actual job performance. Because of excessive demands on time and resources, performance tests are generally considered to be too expensive and usually cover only part of what men do and are expected to do on the job. The need then is for an evaluation instrument which produces results that are valid enough to be used with confidence by training and personnel managers and includes a wide enough range of job-relevant stimuli and duty positions to justify the expense.

OBJECTIVES OF THE STUDY

A possible solution to this problem lies in an approach to job performance testing which evaluates not only the soldier's mastery of skills and knowledges, but also his ability to recognize and react to conditions which initiate task performance. The test evaluates mastery of each task in a job-related module which includes several other tasks. The approach is termed here "functionally integrated performance testing," because each task is tested in a functional context which maintains the logical relationship of the tasks. This distinguishes the approach from the conventional method of testing each task as a discrete incident.

Although the concept of functionally integrated testing appears to have distinct advantages over the more traditional methods of job performance testing, several issues had to be resolved before the approach could be implemented on a wide scale. To resolve the issues, the research focused on two major objectives:

1. To examine the feasibility of developing a functionally integrated performance test for a combat occupational specialty.

2. To examine the applicability of a functionally integrated job performance test from the standpoint of:

    - Sampling tasks.
    - Scoring reliability.
    - Indicating a range of mastery.
    - Evaluating individual proficiency in a team context.

METHOD

A four-phase approach was used to develop the functionally integrated performance test. The phases are entitled:

1. MOS and duty position selection.
2. Task selection.
3. Test development.
4. Field tryout.

MOS AND DUTY POSITION SELECTION

The Armor Reconnaissance Specialist MOS (11D) was selected for this project because incumbents in the MOS perform many tasks that, though not common soldiering tasks, are performed by incumbents in the other combat MOSs. The densest duty position from each of the 11D10, 11D20, and 11D40 skill levels was selected. They are scout observer (11D10), vehicle driver (11D20), and vehicle commander (11D40).

TASK SELECTION

Task criticality was used as the criterion for selecting tasks for inclusion in the test. A panel of experts was selected to rate the criticality of tasks identified for inclusion in the test. Members of the project staff were part of the panel to insure that the job experts concentrated on the relationship of the task to the duty position and to insure that the respondents had the same understanding of what the task included.

TEST DEVELOPMENT

The reliability problems inherent in performance testing are recognized. The approach taken to develop the functionally integrated performance test reflects our concern with the issue of reliability. A job performance test which calls for application of knowledge and demonstration of skill by eliciting behaviors that are equivalent, or nearly equivalent, to those required in actual job performance must be reliable to have value for the user. The test development approach is based, in part, on the results of the field tryout and was developed in five phases:

1. Mission development.
2. Task assignment.
3. Test conditions.
4. Performance assessment factors.
5. Scoring criteria.

FIELD TRYOUT

A field test was conducted at Fort Bliss, Texas. Analysis of the data collected during the field test as well as observation of all the test runs suggested that at a minimum the following criteria be met when designing the final test which is contained in this report:

1. Use one vehicle on each test run. This provides standardized conditions for each individual being tested.

2. Eliminate low fidelity simulation. A barely discernible fence line was used during the field test to simulate a riverline with bridge and ford sites. The sites were white cards on the fence line listing the characteristics of the crossing site. These stimulus materials did not elicit realistic behaviors.

3. Test mission should be consistent with one the armor reconnaissance specialist would be given in combat.

4. Increase module distinctions. The separation of modules must be clearly discernible both to the raters and on the evaluation instruments; at the same time, they should be logically ordered. Many events during the field tryout were bunched too close and the raters were unable to determine where one situation ended and the next began.

5. Position raters for optimum observation of task performance. Too often the vehicles in which the raters traveled were incorrectly positioned for maximum observation.

6. Use fully operational equipment. Too often communications equipment was inoperable at the beginning of the test.

DISCUSSION

This volume contains instructions and procedures for conducting a functionally integrated performance test. The test is comprised of five modules which are related to each other but not dependent on each other for performance. The entire test requires 12 hours to complete and must be administered over terrain that supports the

events that are to occur. The first three modules are designed for daylight performance. The last two modules must be administered during hours of darkness. The test presented in this volume is designed for implementation in the field and contains the following sections:

1. Guidelines for test administrator.
2. Equipment lists.
3. Data reduction.
4. Instructions and Procedures for Module I: Preoperation.
5. Instructions and Procedures for Module II: Route Reconnaissance.
6. Instructions and procedures for Module III: Specific Reconnaissance.
7. Instructions and procedures for Module IV: Night Operations.
8. Instructions and procedures for Module V: Post Operations.

CONCLUSIONS

A functionally integrated performance test was developed and field tested. Results of the field tryout indicated that the concept of functionally integrated performance tests is a feasible one. Revisions needed to be made, however, before the test could be implemented in the field. The test must remain experimental until the reliability issues are resolved. The test is perhaps too costly to use for on-going proficiency evaluation programs, but is one which can be used experimentally as a best possible criterion for testing the relevance of other measures of job competency.

The functionally integrated performance test is viewed as a comprehensive test of the job from which a sample of parts of the job can be selected. Test expenses can be reduced by using a sample pool; however, methods of sampling from the pool must be developed.

GUIDELINES
FOR
TEST ADMINISTRATOR

This section provides guidelines for administering a functionally integrated performance test. Specific items covered are:

1. Standardized conditions.
2. Time requirements and control measures.
3. Predetermined data.
4. Environmental contamination.
5. Rater preparation.
6. Unit SOPs.
7. Uncontrolled test interruptions.
8. Job aids.
9. Individual vs crew performance.
10. Repeated tasks.
11. Sequential tasks.

Standardized Conditions. The importance of standardized test conditions cannot be overemphasized. The essence of any proficiency measure which professes to be a test is that of standardized conditions. It is mandatory that all personnel tested be presented identical stimulus conditions. The test conditions described for each module of the performance test must be strictly adhered to. Events cannot be allowed to "just happen" but must occur as prescribed in the directions for establishing and administering each module.

Time Requirements and Control Measures. Time requirements listed in the module descriptions are approximations. The time required to conduct the test will vary with the terrain. A dry run of the course

to determine a realistic maximum time to conduct each module is necessary before the test is administered. Each crew to be tested on the course must be allowed the maximum time to complete each module. Some crews may complete a module in less than the maximum time; however, no crew may take more than the maximum time.

Control measures in the form of identifiable phase lines, boundaries and check points must be inserted as required to aid adherence to a time schedule. The control measures must be equally applied to all crews.

Predetermined Data. Bridge classification data, demolition charge required, coordinates of known events (roadblock, enemy tank), probable variations on OP/LP locations, multiple ford sites, and multiple by-pass routes must be predetermined and provided the raters. A detailed route classification must be prepared to check against data provided by tested elements.

Environmental Contamination. Care must be taken during test scheduling to minimize the effect of outside influences on test results. These factors include seasonal variations in foliage, precipitation and atmospheric conditions affecting visibility. The test must be run at generally the same time of year, same time of day and generally under favorable weather conditions. While combat missions must be performed in all extremes, only through selection of the most "normal" conditions can standardized ratings be obtained. Perhaps more important are contaminating factors resulting from the test itself. As the test is run over the same terrain, tracks and marks made by previous test crews will provide cues to subsequent tested elements. To

minimize the effect of these cues, attention must be given to selecting terrain that allows shifting of some locations such as OPs and LPs. Additionally, the exact location of the contaminated area can be shifted for different runs and previously used fords can be rendered unusable by placing obstacles. Vehicle tracks will provide the most apparent cues; however, if the test area used has been well traveled by other track vehicles these generally become too numerous to be meaningful.

Rater Preparation. The raters are the key to a successful test. Rater responses must not be left to chance and every effort must be made to minimize rater subjectivity. The key to good rating lies in rater motivation and familarity of raters with the test as conducted "on the ground." It is necessary that raters have at least one walk thru and one wet run prior to their first scored run. The test administrator must frequently spot check the raters to insure objectivity and continuity.

The individuals who are to score the test must be knowledgeable concerning 11D MOS requirements. It is not necessary that all raters be officers but they should be at least scout squad leader incumbents. The raters must be knowledgeable of the procedures on test items and be made aware of the purpose of the test and the mechanics of evaluation. Raters must be prepared in advance and given a briefing on the subject matter they are to rate. Effort must be made to impress upon selected raters the importance of their duty, the need for objectivity and the requirement for test security. They must be provided reference

material such as FMs, TMs, job aids, copies of pertinent unit SOPs and a list of predetermined data. Three raters are to be used for each test run and each rater must separately rate the performance of all three crew members. One officer rater will also act as the platoon leader. Sufficient raters must be prepared to allow rater rotation between tested crews.

Positioning of the raters will vary with the module. Generally, during movement phases the raters will follow in a trail vehicle. During modules involving demolitions, OPs, and LPs it will be necessary for the raters to be located closer to the test participants. Raters must, however, avoid interfering with the activities of the tested individuals. During some portions of the test it may be desirable to pre-position raters (such as at the roadblock). In general, rater locations are identified under "Rater Activities" but adjustments will be necessary based on local conditions.

Unit SOPs. The evaluation of certain test items will depend on the SOP of the unit to which the individuals tested are assigned. These include items such as loading plans, seasonal combat uniforms, reporting frequency and format, use of codes and maintenance procedure. The test is designed so these local practices can be incorporated. It is important, however, that raters are familiar with the unit SOPs and that SOPs are used equally as a criterion in rating crews.

Uncontrolled Test Interruptions. It is recognized that certain events will occur that are not listed as test items. These may include minor equipment failures and reaction to events not planned for testing.

While these are not specifically evaluated, the surrounding behavior, e.g., reporting and security, is subject to evaluation within the context of the event being rated. These outside events must not be treated administratively. If a serious event such as a major breakdown or injury requiring treatment occurs, the test should be terminated until the situation is corrected. For retest, a new order should be given starting the test at the point of termination.

Other events will occur because of actions of crew members. A vehicle commander who goes off course enough to affect the outcome of events, can be brought back through the direction of the "platoon leader" by a radio transmission. Likewise, all requests for indirect fire support, aerial observation or other outside assistance should be acknowledged and denied.

Job Aids. Job aids of the type normally used on the job should also be used during the test. These include route and bridge classification cards, demolition cards, vehicle commander checklists and report format codes. TMs are to be used for operational checks. Army doctrine and unit SOP will dictate specific items which can or cannot be utilized; however, the general guideline is that aids cannot be used if they are specifically used only for this test.

Individual vs Crew Performance. An important factor of this test is that individual performance is being evaluated. This requires raters to observe closely the actions of each crew member. It is recognized, however, that the majority of activities will reflect on the vehicle commander. These will include most zero ratings given when a

task is not performed by a crew member because it is the responsibility of the vehicle commander to direct and supervise the activities of his crew. On the other hand, the vehicle commander should not have to direct every action of the driver and observer. The rater must use his experience to rate tasks performed by subordinate crew members. In some cases a dual rating may be given for the crew member performing the task and for the vehicle commander who supervises it. For example, if the OP is inadequately camouflaged both the crew member who performs the task and the vehicle commander who supervises should be rated NO-GO. Conversely, a driver who improperly negotiates an obstacle or an observer who fails to observe his sector should not reflect on the vehicle commander.

Not all activities will be performed by the same incumbent on each test crew. In general, the more complicated tasks (demolitions, bridge classification) will be performed by the vehicle commander and the "routine" tasks (dismounted reconnaissance, probe for mines) conducted by another crew member. This does not preclude tasks being performed interchangeably by all crew members. A vehicle commander must not, however, allow himself to become so involved with performing tasks that should likely be performed by others that he is no longer effective as a supervisor. Judgment and reason of the raters must prevail in making this evaluation. In all cases, the actual crew member performing the task will be evaluated for that task.

Repeated Tasks. Many of the tasks listed are repeated several times during a module and throughout the modules. The purpose is to determine specific behavior traits of generalized actions. Each time the behavior item is listed it should be rated only for that particular occurrence or in the time period immediately preceding the rating. Raters must be careful not to generalize these ratings. Their evaluations must be based only on what they observe during the time or event being rated.

Sequential Tasks. Some tasks selected for evaluation are dependent on performance of precipitative tasks. For example, to submit a spot report on enemy activity the crew must first perceive the activity. The test is designed so that the cues necessary to generate tasks are easily discernible by the crew. However, raters must be briefed not to rate as NO-GO tasks which were not performed only because the preceding task did not occur. For example, if a crew fails to dismount the machinegun when establishing an OP they would receive a NO-GO for that item but would not receive a rating for remounting the machinegun when withdrawing the OP. Raters should be briefed to mark these tasks N/A or to make an appropriate note as to what occurred. Raters must also be alert for tasks that do not occur, i.e., as part of "Recon Route," the task "Search Key Terrain," is listed as a recurring task. Naturally if there is no key terrain during that portion of the route, the task is not scored.

Whenever it is realistically possible the platoon leader/rater should act to insure the events listed take place. For example,

upon observing a tested crew that fails to by-pass the contaminated area, the platoon leader/rater should call the vehicle commander requesting his location. Upon receiving an answer he should inform the vehicle commander that the area is contaminated and must be by-passed 1500 meters to the north or south. The vehicle commander would receive a NO-GO for "Select By-pass" but then would be rated on his performance on the by-pass on the remainder of the checklist items. It is not intended, however, that the platoon leader/rater direct every action of the tested crew or that he hand-feed incompetent crews. However, where conditions exist allowing varying courses of action, the rater/platoon leader should use his presence to insure standardization of each test run.

Conclusions. The test administrator of a functionally integrated performance test will be presented with requirements for control and test standardization that are not present in other crew or unit test situations. Adherence to these guidelines during preparation and conduct of the test will prevent uncontrolled conditions from developing and increase the reliability of individual scores.

DATA REDUCTION

At the completion of each test the information on the rating sheets must be reduced to allow display in workable form. The attached format is provided to assist reduction. One sheet is prepared for each rater and totals from all raters can be compiled on the same format.

RAW SCORES

	Vehicle Commander			Scout Observer			Driver		
	GO	NO GO	NOT PERF	GO	NO GO	NOT PERF	GO	NO GO	NOT PERF
MODULE I									
MODULE II									
MODULE III									
MODULE IV									
MODULE V									
(TOTAL)									

From the score sheet for each module, total the number of (+) ratings, (-) ratings and (0) ratings for the vehicle commander and enter under the GO, NO GO and NOT PERF columns respectively. Repeat for the scout observer and driver. Add the columns for all five modules.

Crew Number _____

Vehicle Commander _____

Scout Observer _____

Driver _____

EQUIPMENT LISTS

The attached equipment lists are considered the minimum equipment, materials, supplies and personnel specifically required for conduct of the test. Local conditions may require more or different support material. Basic issue items (BII) are considered to be those items listed in the vehicle TM. Medical, administrative, clerical, mess and control support will be determined by the unit field SOP and are not listed here.

EQUIPMENT LIST
TESTED CREW

M114A1 w/BII, radios, cupola mounted automatic weapon, M60 machinegun w/blank adapter

Individual weapons w/blank adapter

Blank ammunition

300 rd per M60 MG
100 rd per M16

Demolition set

TNT or C4

Detonating cord

Detonaters

Trip flares w/wire

Radio, AN/PRC 77

Remote set, AN/GRA 39

Wire, WD1

Binoculars

Night vision sights, hand held or weapon mounted

Flashlight w/filter

Brass spike probes

Measuring tape

Map 1:50,000

Unit SOPs

Unit report formats

CEOI extract

Route classification GTA

Bridge classification GTA

Protective mask

Uniform, seasonal combat as per SOP

EQUIPMENT LIST
RATERS

Trail vehicle w/BII, radios and CVC, headset or external speaker

Radio, AN/PRC 77

Binoculars

Night vision devices

Protective mask

Evaluation sheets, Modules I thru V

Script for operation order, Modules I thru V

Overlays or strip map issued vehicle commander

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Map 1:50,000

CEOI extract

Unit SOPs

Unit loading plan

Predetermined data for route, enemy locations, bridge classification, OP locations, LP locations, demolition charges

EQUIPMENT LIST
OTHER SUPPORT

Aggressor personnel w/weapons, blank ammunition and AN/PRC 77 Radio (Module II, Module IV)

Aggressor tank w/crew (Module II)

Aggressor truck w/driver (Module IV)

Support maintenance personnel (Module I, Module V)

POL support (Module I, Module V)

Friendly personnel (Module V)

Dummy mines (Module II)

CS pots or grenades (Module II)

Handheld flares (Module IV)

Boobytraps (Module II)

Noise Devices (empty shell casings, artillery simulator or whistle thunderer) (Module IV)

MODULE I: PREOPERATIONS

PURPOSE

The purposes of Module I are to assess:

1. The vehicle commander's ability to issue an operation order.
2. Crew members' ability to prepare for a combat mission, including performing before-operation checks and services on vehicles, weapons, and equipment.

CREW MEMBER ACTIVITIES

Upon receiving the oral order from the platoon leader, the vehicle commander will formulate his plan for accomplishing the mission, and will issue an operation order to the crew covering:

1. The actions necessary for preparing for the mission.
2. The planned conduct of the mission.

The crew will then prepare the vehicle, themselves, weapons, radios, and other equipment for the mission. The vehicle commander will assist in the preoperations, will spot-check performance of preoperations in which he does not assist, and will make a final determination that the crew is mission-ready.

CONDITIONS

This module is to be administered during daylight hours, in a motor pool or assembly area. All equipment and blank ammunition to be used on the problem will be issued, and the vehicle will be in tactical configuration as required by SOP. The preoperations area will be located at least 1 KM from the LD, with maintenance support available. Uniform will be combat, as required by SOP. The platoon leader will initiate the operation by issuing the frag order and a strip map or overlay showing the route, phaselines, boundaries, checkpoints, and critical areas.

RATER ACTIVITIES

An officer-rater will act as platoon leader and issue the operation order to the vehicle commander. This rater will function as platoon leader throughout the test. Each rater must observe independently each of the operations on the attached checklist. The raters will not question crew members, indicate the ratings that are being given, or prompt

crew members in any way. After the preoperations have been performed and the crew is mounted, the raters will mount a trail vehicle and follow the tested vehicle to the LD. The platoon leader/rater will respond over the radio to communications checks from the tested vehicle.

RATER EQUIPMENT AND MATERIAL

Evaluation sheets, Module I, attached
Script for reconnaissance order, attached
TM 9-2320-224-10
Map, 1:50,000
Overlay or strip map issued vehicle commander
CEOI extract
Unit loading plan

PERFORMANCE ASSESSMENT

Module I must be completed within one hour of issue of the operation order by the platoon leader.

Using the attached checklist, each rater will independently assign a GO, NO-GO, or NOT PERFORMED to each item. No partial credit will be given for performance. Each item is either "all-go" or it is rated NO-GO.

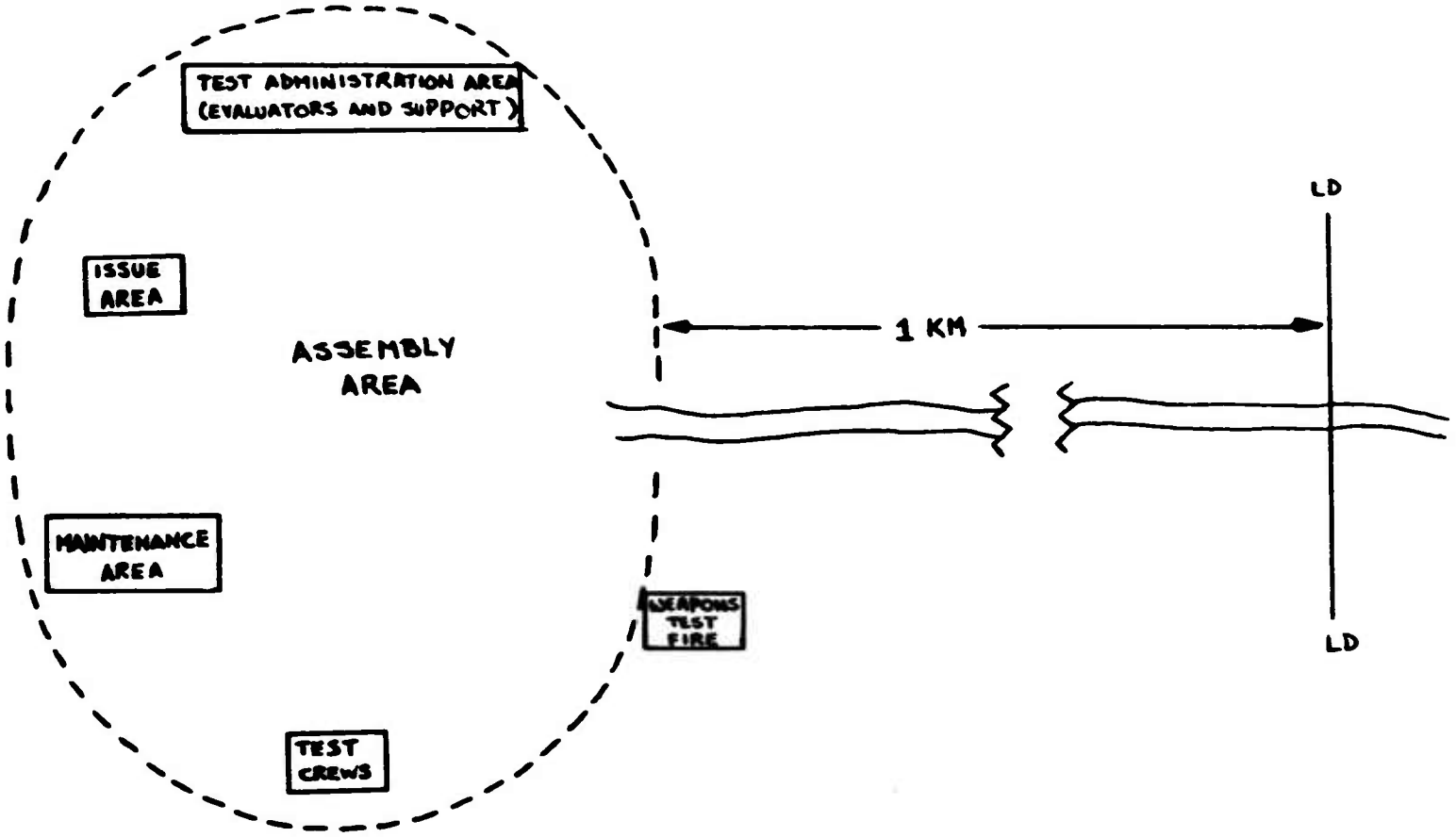
The following guidelines will be used to judge adequacy of performance of the items on the checklist:

1. The TM must be followed in performing preoperation maintenance checks and services.
2. The log book must reflect daily entries. Faults and repair items on requisition must be reflected in the log book. Log book must reflect operational status of the vehicle.
3. Operational checks must be performed on all weapons. The weapons must be clean and lubricated, with bores clean and dry.
4. A ground guide must be used when moving the vehicle within the assembly area. The ground guide must use hand signals to move the vehicle to the desired location. The driver must follow the ground guide's signals.
5. The vehicle commander must make a spot check of the vehicle, personnel, and equipment before reporting as ready.

ATTACHMENTS

Schematic diagram, Module I
Order for Route Reconnaissance
Evaluation sheet, Module I, Preoperations

MODULE I


TEST ADMINISTRATION AREA (EVALUATORS AND SUPPORT)
ISSUE AREA
ASSEMBLY AREA
MAINTENANCE AREA
TEST CREWS
WEAPONS TEST FIRE
1 KM
LD
LD

Initial Frag Order
and
Route Reconnaissance

(By Platoon Leader)

"Friendly forces. The 1st Brigade is conducting a movement to contact. Our tank battalion is conducting a movement to contact along two axes. Due to heavy mine damage in last week's operation you will be operating alone. Your scout vehicle is to conduct a route reconnaissance along Axis Blue. Enemy forces are conducting delaying actions with small pockets of resistance and are expected to continue to do so. The enemy has employed chemical munitions and has contaminated areas with persistent chemicals.

Your mission is to conduct a route reconnaissance from this assembly area to PL ZULU as shown on your sketch map. Part of our battalion will be moving over this route at _____ hours. You must reach PL ZULU by _____ hours. Report passage of all phase lines. SLAR has reported heavy activity last night at this location (Roadblock) _____ on your sketch map so check that area carefully. The shaded area on your sketch map indicates an area that is reported to have chemical contamination.

After you reach PL ZULU move to the high ground in this area _____ and establish an OP until the tank column passes. The OP must be functioning by _____ hours.

Be prepared to continue the operation on order. Make sure your vehicle and weapons are in top shape and all your preoperations are completed before you move out.

Fire support should be requested thru me. All reports are to be submitted directly to me. Current CEOI remains in effect. I will be located one terrain feature to your rear. I want you to cross the LD at _____ hours, Time is now _____. Any questions?"

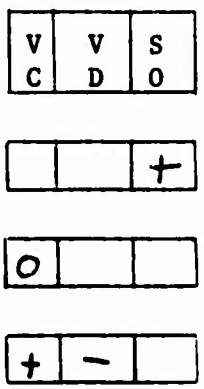
INSTRUCTIONS FOR COMPLETING RATING SHEET

If the vehicle commander (VC), vehicle driver (VD) or scout observer (SO) performs the listed task correctly enter the GO symbol (+) in the box under the duty position. If the task is performed incorrectly or incompletely enter the NO GO symbol (-) under the duty position. In all situations rate the individual who actually performed the task.

If the task is not performed by any crew member, enter the "Should have performed but did not" symbol (0) under the duty position for the crew member who should have performed the task at that time.

If you did not observe the task, do not enter a rating. Determine ratings on what you observe; not on what you think occured. Do not ask other raters what they observed.

EXAMPLE



SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

In the above example the mine was inspected correctly by the scout observer. However, the vehicle commander did not submit a report to the platoon leader and he was given a rating for "Should have performed but did not." Both the vehicle commander and the vehicle driver were maintaining security. The vehicle commander was performing correctly but the vehicle driver, while performing the task, was not doing it correctly or completely.

MODULE I
PREOPERATIONS

V C	V D	S O

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Crew Briefing

Vehicle commander gives:

. Situation

. Mission

. Time of departure and location of LD

. Essential information being sought

Vehicle commander directs equipment to be taken:

. Ammunition

. Weapons

. Rations

. Special Equipment

Call signs & frequencies are explained

Vehicle commander insures map is posted

VC	VD	SO

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Pre Op

Perform before operations checks on:

. Suspension			
. Tracks			
. Engine oil levels			
. Transmission oil levels			
. Geared steering unit oil levels			
. Fuel level			
. Controls			
. Instruments			
. Brakes			
Log book entries made (following format in TM 38-750)			
Equipment and ammunition loaded LAW loading plan			
Radios:			
. Clean			

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

	VC	VD	SO
. Mounted			
. Antennas secured			
Operational communication checks made of:			
. Intercom			
. Radio			
Weapons serviced:			
. Individual			
. M60			
. Commander's weapon			
Battlesights applied (per unit SOP):			
. Individual			
. M60			
. Commander's weapon			
Operate M114 with ground guide			
Machinegun test fired			

V C	V D	S O

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Vehicle commander inspects:

. Individuals

. Weapons

. Vehicle

Crew reported as ready

MODULE II: ROUTE RECONNAISSANCE

PURPOSE

The purposes of Module II are to assess:
1. Individuals' ability to perform a route reconnaissance mission.
2. Individuals' ability to prepare and occupy an observation post.
3. Individuals' ability to function under CBR conditions.
4. Individual conduct of security and tactical movement.
5. Vehicle commander's reaction to mission interruption under time pressure.

CREW MEMBER ACTIVITIES

The crew performs route reconnaissance upon crossing the LD. During the reconnaissance they encounter:
1. A road block requiring removal.
2. An enemy tank.
3. A destroyed bridge requiring locating a ford.
4. A gas attack and contaminated area requiring locating a by-pass.

The crew will move to an OP site to establish and occupy OPs after completing the route reconnaissance.

CONDITIONS

This module is to be administered during daylight hours following a route that is capable of supporting tank traffic. The route will not exceed 5 KM and have not more than a total of four lateral routes or key terrain features. The roadblock cannot be by-passed and must be within the crew's capability of removing. Sniper fire at the roadblock will be initiated as the tested crew members are inspecting the roadblock and will continue whenever crew members expose themselves during removal. The roadblock will be boobytrapped with trip wires and pressure release fuses. The enemy tank will be moving at a distance of 300-500 meters and will not initiate action against the test crew. The destroyed condition of the bridge must be ascertainable from a distance. CS grenades or pots will be detonated downwind of the tested vehicle at the edge of the contaminated area. The platoon leader/rater will pick up the route overlay when he issues the order for the specific reconnaissance. (Module III)

RATER ACTIVITIES

The raters will follow the tested crew in a trail vehicle during all movement phases. The platoon leader/rater will respond to all tested vehicle radio traffic and will initiate or respond to radio traffic to insure the test situations, boundaries and time limitations are being followed. Raters will dismount and position themselves as necessary to facilitate observation of tasks at the roadblock, ford site and observation post. Each rater must observe independently each of the operations on the attached checklist. Raters will not question crew members, indicate the ratings that are being given or prompt crew members in any way other than realistic interaction required between the platoon leader/rater and the vehicle commander. The platoon leader/rater will pick up the route overlay and issue the order for Module III during occupation of the OP.

RATER EQUIPMENT AND MATERIAL

Evaluation sheets, Module II, attached
Script for Specific Reconnaissance, attached
Map, 1:50,000
Overlay or strip map issued vehicle commander
CEOI extract
Trail vehicle w/radios
Binoculars
Protective mask
Predetermined route overlay
Predetermined location listing: enemy, OPs, by-passes
CVC, headset or external speakers

PERFORMANCE ASSESSMENT

Module II must be completed within 4 hours, 45 minutes of crossing the LD. The route reconnaissance must be completed within 4 hours of crossing the LD.

Using the attached checklist, each rater will independently assign a GO, NO-GO, or NOT PERFORMED to each item. No partial credit will be given for performance. Each item is either "all-go" or it is rated NO-GO.

The following guidelines will be used to judge adequacy of performance of the items on the checklist:

1. Route Reconnaissance
   . The entire route must be traversed.
   . All information is recorded and reported regardless of apparent value.
   . Minimum information must include:
     - minimum width.
     - type of road (all weather, limited all weather, fair weather).
     - load capacity.
     - restrictions or limiting factors.
   . Lateral routes must be checked to one terrain feature from the main route.
   . Key terrain must:
     - be identified.
     - searched.
     - condition reported and recorded.

2. Movement
   . When operating the M114A1, the driver must:
     - operate the vehicle in a manner to enhance the accomplishment of the mission with minimum direction from the vehicle commander.
     - select his course of movement by viewing and analyzing the terrain prior to movement.
     - position the vehicle, both moving and at the halt, to take advantage of terrain and vegetation.
     - evaluate soil condition through color and vegetation to avoid impassable ground.
     - ascend steep slopes in a straight line and without shifting.
     - cross obstacles by accelerating, decelerating and accelerating.
     - maintain steady speed during movement.
     - select the route that offers the least obstacles consistent with the mission.
     - descend steep slopes by braking with the engine.
     - avoid abrupt turns, especially on side slopes.
     - perform during operation and at halt maintenance.

   . Rate of Movement
     - phase lines must be crossed within 3 minutes of established time.
     - open areas visually reconnoitered must be traversed rapidly.
     - areas not affording visibility must be traversed slowly or checked on foot.
     - security precautions must not hamper movement necessary to accomplish mission.

3. Security
   . Dismount observer:
      - to improve observation.
      - to prevent enemy detection.
      - to provide security.
      - selectively--as required, but not to impede movement.

   . Local security is maintained at the halt by:
      - dismounting the observer.
      - driver manning the automatic weapon when vehicle commander is dismounted.
      - maintaining cover and concealment of mounted and dismounted elements.

   . Minimize radio traffic:
      - reports not required by SOP or immediately by the situation are not submitted by radio.
      - reports required are submitted by:
         - SOP format or,
         - Who.
         - What.
         - Where.
         - When.
         - Activity.

   . Maintain radio security:
      - friendly information not sent in the clear.
      - correct radio-telephone procedure used.
      - codes and clear text not interchanged.

4. The ford sites must be checked for mines. The site must be visually inspected for evidence of recent disturbances.

5. The best ford site is selected by considering:
   . proximity to the route.
   . condition of approach.
   . condition of exit.
   . cover and concealment on approach side.
   . width of crossing.
   . depth of crossing.
   . effects of key terrain.

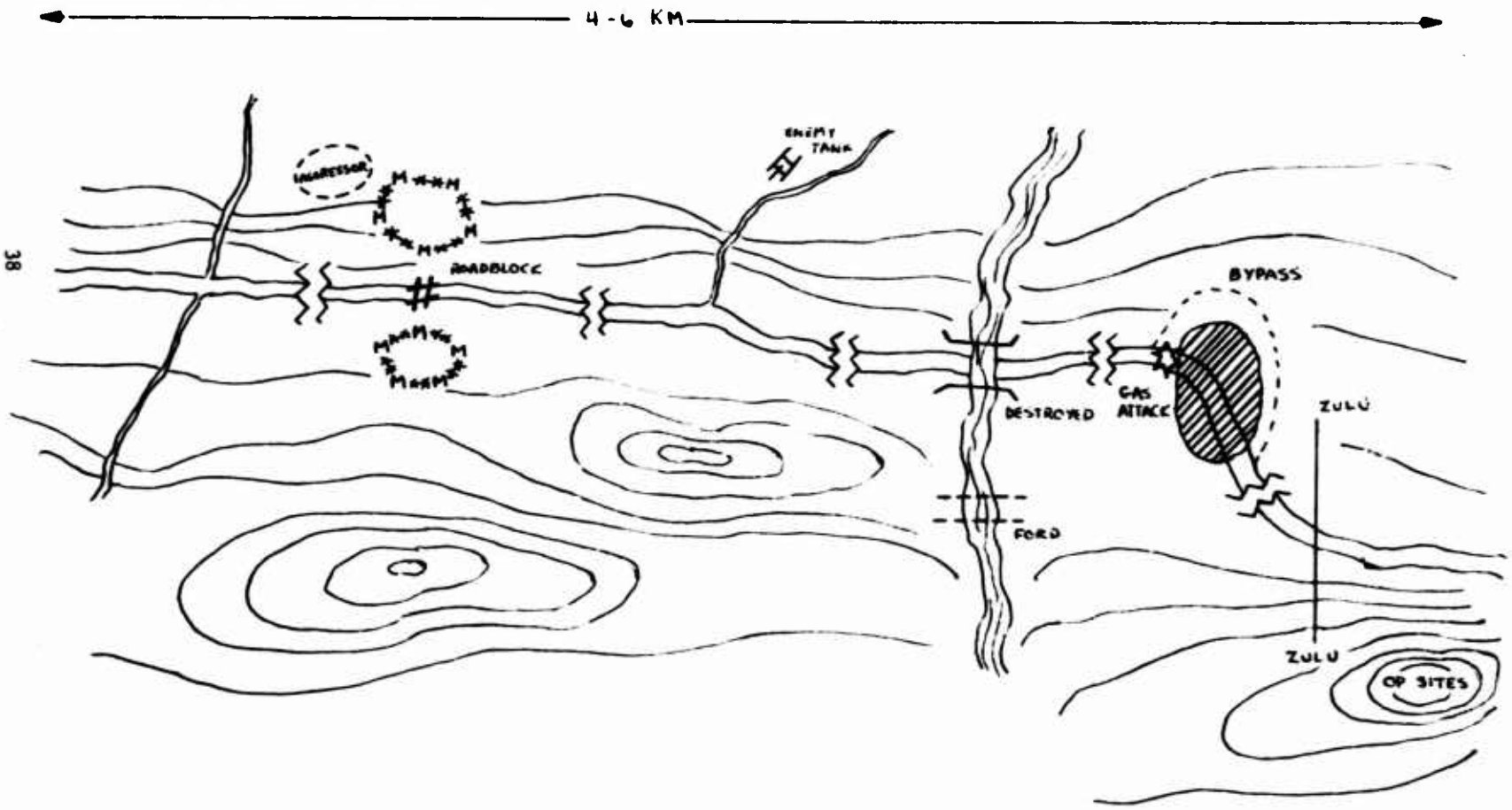
6. Select OP site:
   . covering likely avenues of approach.
   . providing width and depth of view.
   . avoiding land marks.
   . located on topographic crest of the high ground.
   . affording natural concealment.
   . facilitating installation of communications and placement of weapons.

7. Unmasking - One crew member breaks mask seal to check air before entire crew unmasks.

8. Route reconnaissance overlay must show:
   - . road widths.
   - . trafficability.
   - . load classification.
   - . obstructions and limiting factors.
   - . special conditions.
   - . curves.
   - . constrictions.
   - . fords.
   - . by-passes.
   - . lateral routes.
   - . key terrain.
   - . use of proper symbols.

ATTACHMENTS

Schematic diagram, Module II
Evaluation Sheets: Module II, Route Reconnaissance
Order for Specific Reconnaissance


4-6 KM
AGGRESSOR
ENEMY TANK
ROADBLOCK
BYPASS
DESTROYED
GAS ATTACK
ZULU
FORD
ZULU
OP SITES

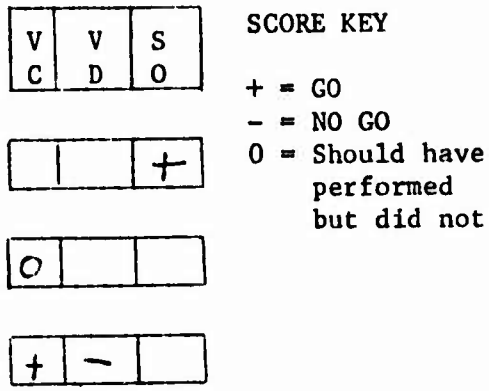
INSTRUCTIONS FOR COMPLETING RATING SHEET

If the vehicle commander (VC), vehicle driver (VD) or scout observer (SO) performs the listed task correctly enter the GO symbol (+) in the box under the duty position. If the task is performed incorrectly or incompletely enter the NO GO symbol (-) under the duty position. In all situations rate the individual who actually performed the task.

If the task is not performed by any crew member, enter the "Should have performed but did not" symbol (0) under the duty position for the crew member who should have performed the task at that time.

If you did not observe the task, do not enter a rating. Determine ratings on what you observe; not on what you think occured. Do not ask other raters what they observed.

EXAMPLE



In the above example the mine was inspected correctly by the scout observer. However, the vehicle commander did not submit a report to the platoon leader and he was given a rating for "Should have performed but did not." Both the vehicle commander and the vehicle driver were maintaining security. The vehicle commander was performing correctly but the vehicle driver, while performing the task, was not doing it correctly or completely.

MODULE II
ROUTE RECONNAISSANCE

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

	VC	VD	SO
LD			
Identify LD on the ground			
Cross LD on the move			
Report crossing LD within 1 minute			
Cross LD ± 1 minute of H			
Recon Route			
Traverse all of route			
Search key terrain			
Search lateral routes			
Movement			
Operate M114			
Halt vehicle in covered/concealed positions			
Move by most direct covered/concealed route			

	VC	VD	SO
Rate of movement conforms to situation and control measures			
Position selected in advance			
Security			
Observer dismounted as required			
All sectors observed (360°)			
Binoculars used for observation			
Local security maintained at the halt			
Radio traffic kept to a minimum			
Radio security maintained			
Roadblock			
Roadblock observed from covered/ concealed position			
Roadblock reported (within 100 meters)			
Security overwatch established			
Roadblock approached dismounted			
Dismounted individuals move by covered/ concealed routes			

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

	VC	VD	SO
Individuals react immediately to sniper fire by taking cover			
Suppressive fire directed at known/ suspected sniper positions			
Roadblock removed using the vehicle			
Driver/vehicle commander operate with hatch covers closed during removal of roadblock			
Security/overwatch maintained during roadblock removal			
Security elements do not divert attention to watch removal			
Roadblock checked for booby traps prior to removal			
Individuals remain in covered positions during removal			
Removal reported			
Reconnaissance immediately resumed (within 2 minutes of removal)			
Recon Route			
Traverse all of route			

	V C	V D	S O

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Search key terrain

Search lateral routes

Movement

Operate M114

Halt vehicle in covered/concealed positions

Rate of movement conforms to situation and control measures

Positions selected in advance

Security

Observer dismounted as required

All sectors observed (360°)

Binoculars used for observation

Local security maintained at the halt

Radio traffic kept to a minimum

Radio security maintained

VC	VD	SO

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Enemy Tank

Tank identified as enemy			
Vehicle moved immediately to obtain concealment and cover			
Fire discipline maintained (tank not engaged)			
Tank location reported (within 100 meters)			
Observation of tank maintained until out of sight			
Reconnaissance mission resumed without delay (within 2 minutes after tank passes)			

Recon Route

Traverse all of route			
Search key terrain			
Search lateral routes			

Movement

Operate M114			
Vehicle halts in covered/concealed positions			

	V C	V D	S O
Move by most direct covered/ concealed routes			
Rate of movement conforms to situation and control measures			
Positions selected in advance			
Security			
Observer dismounted as required			
All sectors observed (360°)			
Binoculars used for observation			
Local security maintained at the halt			
Radio traffic kept to a minimum			
Radio security maintained			
Ford Site			
Destroyed bridge observed from covered/concealed position			
Bridge condition reported			
Bridge by-passed as soon as condition of bridge is ascertained			

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

VC	VD	SO

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Tentative ford site selected based on map and visual reconnaissance			
Tentative ford sites inspected dismounted			
Dismounted individuals move by covered/ concealed routes			
Overwatch maintained			
Ford site inspected for:			
. Type			
. Bottom			
. Condition of approach			
. Condition of exit			
Ford approaches visually checked for mines			
Best ford site selected based on reconnaissance			
Ford reported (within 100m)			
Route reconnaissance mission immediately resumed (within 2 minutes after fording)			

VC	VD	SO

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Recon Route

Traverse all of route			
Search key terrain			
Search lateral routes			

Movement

Operate M114			
Vehicle halts in covered/concealed positions			
Move by most direct covered/ concealed routes			
Rate of movement conforms to situation and control measures			
Positions selected in advance			

Security

Observer dismounted as required			
All sectors observed (360°)			
Binoculars used for observation			
Local security maintained at the halt			

	V C	V D	S O
Radio traffic kept to a minimum			
Radio security maintained			

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Gas Attack

Alert given immediately on detection			
Individuals mask (within 9 seconds)			
Exposed flesh protected			
Vehicle withdraws from contaminated area			
Attack reported (within 100m of vehicle location)			
Individuals operate while masked			
Air checked before unmasking			
By-pass route selected from map			
By-pass used avoids contaminated area			
By-pass rejoins original route			
Key terrain on by-pass searched			

	V C	V D	S O

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Cross country route navigated accurately to point within 300m of original route and contaminated area

Movement

Operate M114

Vehicle halts in covered/concealed positions

Rate of movement conforms to situation and control measures

Positions selected in advance

Security

Observer dismounted as required

All sectors observed (360°)

Binoculars used for observation

Local security maintained at the halt

Radio traffic kept to a minimum

Radio security maintained

V C	V D	S O

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Establish OPs

Completion of route reconnaissance reported	
Vehicle moves directly to correct OP site as shown on the vehicle commanders overlay	
Security of site established (360°)	
Security search made of OP area	
Individual OP site selected	
Vehicle positioned:	
. In cupola defilade	
. Facilitating withdrawal	
. Antennas do not disclose position	
. Providing overwatch	
M60 machinegun dismounted	
Communications established between positions	

V C	V D	S O

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Both positions/weapons mutually supporting

Positions camouflaged:

. OP

. Vehicle

Terrain and vegetation utilized for cover and concealment

Establishment reported within 100m of location

Operate OPs

Discipline maintained:

. Noise

. Camouflage

. Smoking

Observers rotated every 30 minutes

Binoculars used for observation

Concealed routes used for movement

Positions improved continuously

V C	V D	S O

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Driver performs maintenance checks and services

Situation reports submitted every 30 minutes (or by SOP)

Range cards prepared:

. Commander's weapon

. M60 MG

Visual signals utilized between positions

Radio traffic kept to minimum

Radio security maintained

Withdraw OPs

Withdraw by covered/concealed routes

Security maintained during withdrawal

All equipment withdrawn, site policed

Withdrawal reported

V C	V D	S O

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Route Reconnaissance Overlay
(Refer to raters' predetermined overlay for conditions, accuracy, and symbols)

Overlay prepared			
Overlay accurately depicts actual conditions of route			
Locations on overlay are accurate (within 100 meters)			
Symbols used properly			
Information is complete			

Specific Reconnaissance Order

Given orally by Platoon Leader

"At _____ hours Task Force Bravo will move to the vicinity of Check Point Betty along Axis Yellow. It will be necessary for them to cross at the bridge located at _____. There is no information known about the bridge. I want you to check the site, classify the bridge and submit a report to me by _____ hours so the alternate route can be used if necessary. Aggressor activity was heavy in that area until two days ago when most forces appear to have been withdrawn. Be alert and check closely for mines or any indication that the bridge was prepared for demolition. If the bridge is passable, battalion will send a force to secure it. Any questions?"

MODULE III: SPECIFIC RECONNAISSANCE

PURPOSE

The purposes of Module III are to assess:
1. Individuals' ability to conduct specific reconnaissance.
2. Individuals' ability to reconnoiter an enemy minefield.
3. Individuals' ability to prepare and detonate an explosive charge.
4. Individuals' ability to classify a bridge.
5. Individuals' conduct of security and movement under tactical conditions.

CREW MEMBER ACTIVITIES

The vehicle commander formulates his plan and briefs his crew upon receiving the oral order from the platoon leader. The crew will move to the site of the specific reconnaissance. Reconnaissance at the site will reveal the presence of enemy mines necessitating:
1. Probing for mines.
2. Destruction of one mine.

When the minefield has been breached the crew will classify the bridge and report the results to the platoon leader.

CONDITIONS

This module is to be administered during daylight hours at a bridge site not less that 1 KM from the OP site. The bridge cannot be by-passed. A minefield must be emplaced in a manner to facilitate discovery by visual observation. Only one mine will block the passage lane to the bridge. The mine will contain aggressor markings. The operation is initiated when the platoon leader issues the order at the OP site in Module II.

RATER ACTIVITIES

The platoon leader/rater will issue the order at the OP site in Module II. The platoon leader/rater will respond to all tested vehicle radio traffic and will initiate or respond to radio traffic to insure the test situations and time limitations are being followed. He will specifically respond to the minefield report by requiring that the blocking mine be blown in place by demolition. Raters will follow the tested vehicle in a trail vehicle to the bridge site. Raters

will dismount to observe the demolition and bridge classification activities. Each rater must observe independently each of the operations on the attached checklist. The raters will not question crew members, indicate the ratings that are being given, or prompt crew members in any way other than required realistic interaction between the platoon leader/rater and the vehicle commander. When the vehicle commander reports the results of the bridge classification, the platoon leader/rater will issue the order for Module IV by radio.

RATER EQUIPMENT AND MATERIAL

Evaluation sheets, Module III, attached
Script for Night Mission, attached
Map, 1:50,000
CEOI extract
Binoculars
Bridge classification data & demolition charge required--predetermined
Trail vehicle w/radios
CVC, headset or external speaker

PERFORMANCE ASSESSMENT

Module III must be completed within 2 hours of issue of the order in Module II by the platoon leader.

Using the attached checklist, each rater will independently assign a GO, NO-GO, or NOT PERFORMED to each item. No partial credit will be given for performance. Each item is either "all-go" or it is rated NO-GO.

The following guidelines will be used to judge adequacy of performance of the items on the checklist:

1. When operating the M114A1, the driver must:
   - Operate the vehicle in a manner to enhance the accomplishment of the mission with minimum direction from the vehicle commander.
   - Select his course of movement by viewing and analyzing the terrain prior to movement.
   - Position the vehicle, both moving and at the halt, to take advantage of terrain and vegetation.
   - Evaluate soil condition through color and vegetation to avoid impassable ground.

. Ascend steep slopes in a straight line and without shifting.
. Cross obstacles by accelerating, decelerating and accelerating.
. Maintain steady speed during movement.
. Select the route that offers the least obstacles consistent with the mission.
. Descend steep slopes by braking with the engine.
. Avoid abrupt turns especially on side slopes.
. Perform during operation and at halt maintenance.

2. Mine is inspected for:
   . Type.
   . Markings.
   . Identifying characteristics.

3. Security elements must:
   . Maintain cover and concealment.
   . Cover 360°.
   . Not divert attention to activities at the bridge site.

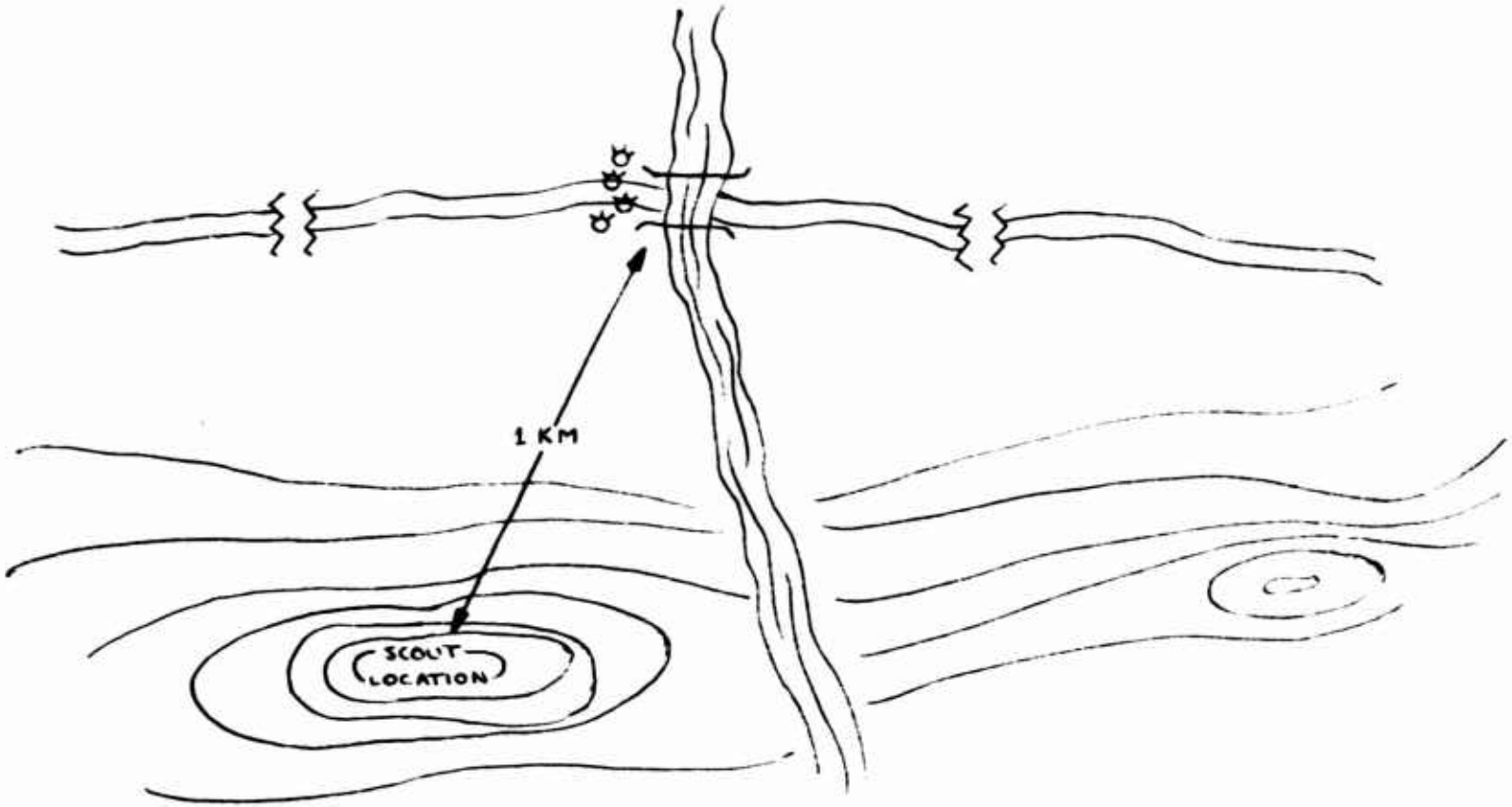
4. Demolition safety precautions include:
   . No smoking around explosive and detonating cord.
   . Responsibility for work must not be divided.
   . All personnel are prone behind solid cover.
   . All personnel wear helmets.
   . Minimum distance of covered personnel from blast is 300 feet.

5. Minimize radio traffic:
   . Reports not required by SOP or immediately by the situation are not submitted by radio.
   . Reports required are submitted by:
      - SOP format or,
      - Who.
      - What.
      - Where.
      - When.
      - Activity.

6. Maintain radio security:
   . Friendly information not sent in the clear.
   . Correct radio-telephone procedure used.
   . Codes and clear text not interchanged.

ATTACHMENTS

Schematic diagram, Module III
Evaluation sheets, Module III, Specific Reconnaissance Order for Night Operation


1 KM
SCOUT
LOCATION

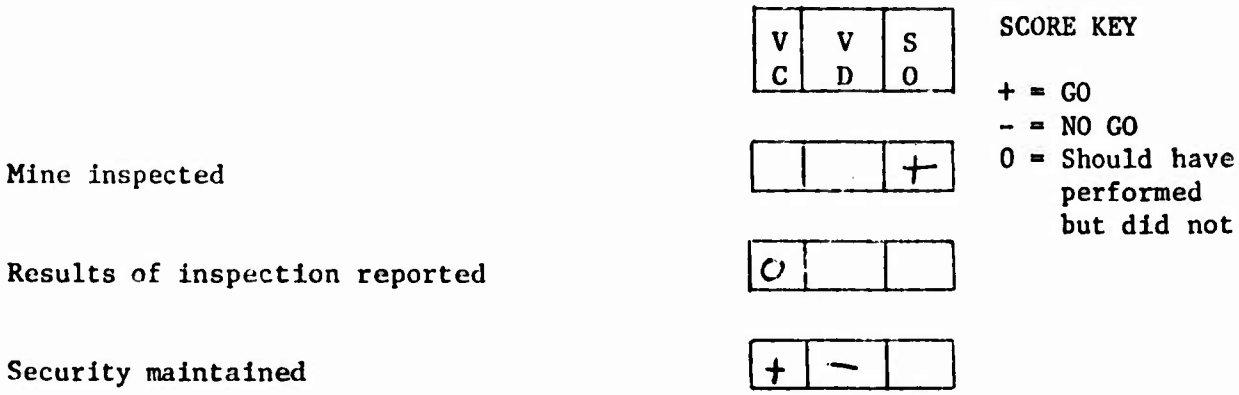
INSTRUCTIONS FOR COMPLETING RATING SHEET

If the vehicle commander (VC), vehicle driver (VD) or scout observer (SO) performs the listed task correctly enter the GO symbol (+) in the box under the duty position. If the task is performed incorrectly or incompletely enter the NO GO symbol (-) under the duty position. In all situations rate the individual who actually performed the task.

If the task is not performed by any crew member, enter the "Should have performed but did not" symbol (0) under the duty position for the crew member who should have performed the task at that time.

If you did not observe the task, do not enter a rating. Determine ratings on what you observe; not on what you think occured. Do not ask other raters what they observed.

EXAMPLE



In the above example the mine was inspected correctly by the scout observer. However, the vehicle commander did not submit a report to the platoon leader and he was given a rating for "Should have performed but did not." Both the vehicle commander and the vehicle driver were maintaining security. The vehicle commander was performing correctly but the vehicle driver, while performing the task, was not doing it correctly or completely.

MODULE III
SPECIFIC RECONNAISSANCE

V C	V D	S O

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Crew Briefing

Vehicle commander marks bridge location on map

Vehicle commander briefs crew on:

. Mission

. Situation

. Route to objective

. Time of departure

Movement

Operate M114

Vehicle travels by most direct covered and concealed route

Bridge approached from covered/ concealed direction

Bridge Site

Local security established

Bridge visually reconnoitered from covered/concealed position

VC	VD	SO

SCORE KEY
+ = GO
- = NO GO
0 = Should have performed but did not

Minefield reported

Mounted overwatch maintained

Minefield approached on foot

Probe for mine:

. One individual designated to probe

. Prober removes rings, watch helmet, LBE

. Prober rolls up sleeves

. Prober checks for tripwires and pressure prongs

. Prober uses brass spike probe

. Prober covers front not exceeding 1 meter

. Probe inserted every 2" at less than 45° angle

Destruction of Mine

Mine inspected

V	V	S
	D	O

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Results of inspection reported	
Security maintained	
Proper explosive charge selected (1 lb)	
Charge is placed on top of mine	
Fuze is tested for burning rate	
Explosive charge primed and fuzed	
Charge detonated	
Safety precautions maintained:	
. Before demolition	
. During demolition	
Destruction reported	
Mission continued (within 2 minutes after destruction)	

Bridge Classification

Security maintained	

	V C	V D	S O
Condition of bridge determined by inspection			
Roadway width determined			
Vertical clearance determined			
Span length determined			
Type, size and number of stringers determined			
Type and thickness of decking determined			
Lateral braces determined			
Final bridge classification correctly determined			
Classification report submitted			
Radio traffic kept to a minimum			
Radio security maintained			

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Night Operation Order

(By Platoon Leader)
(By radio - encoded or secure)

"Move to _____ and establish an LP. Orient your post facing _____ degrees, (or covering area specified by coordinates). Be prepared to occupy the post until _____ hours tonight. Report when position is established."

MODULE IV: NIGHT OPERATIONS

PURPOSE

The purposes of Module IV are to assess:
1. Individuals' ability to establish and operate an LP.
2. Individual conduct of movement and security during darkness.
3. Individuals' ability to acquire targets during darkness.

CREW MEMBER ACTIVITIES

The vehicle commander briefs his crew on the mission upon receiving the oral order from the platoon leader and the crew moves to the LP site. The crew will:
1. Establish an LP.
2. Occupy an LP.
3. Withdraw from an LP.

The crew will report any enemy activity observed during occupation of the LP.

CONDITIONS

This module is to be administered after sunset with movement and LP site selection by the crew occuring before the end of EENT. The LP area will be located on high ground at least 1 KM from the bridge site (Module III). Enemy activity in front of the LP will consist of vehicle movement, personnel movement, flares and sounds. The operation is initiated when the platoon leader issues the order by radio at the bridge site in Module III. The order for Module V will be issued by radio upon completion of occupation of the LP.

RATER ACTIVITIES

The platoon leader/rater will issue the order over the radio at the bridge site (Module III). The platoon leader/rater will respond to all tested vehicle radio traffic and will initiate or respond to radio traffic to insure the test situations and time limitations are being followed. Raters will follow the tested crew in

a trail vehicle during the movement phase. Raters will dismount and position themselves to observe LP establishment. Raters will utilize passive night vision devices during the occupation of the LP to check the viewing techniques of the tested individuals. Enemy activity, consisting of personnel moving in the open, a wheeled vehicle being started and moved, flares and sounds, will be initiated by radio by the platoon leader/rater. Each rater must observe independently each of the operations on the attached checklist. The raters will not question crew members, indicate the ratings that are being given or prompt crew members in any way other than required by the realistic interaction between the platoon leader/rater and the vehicle commander. When the LP has been occupied for a minimum of one hour the platoon leader/rater will issue the order by radio for Module V.

RATER EQUIPMENT AND MATERIAL

Evaluation sheets, Module IV, attached
Script for return mission order, attached
Map 1:50,000
CEOI extract
Binoculars
Night vision devices
Radio, PRC 77
Enemy locations, predetermined by distance, direction and activity
Trail vehicle w/radios
CVC, headset or external speaker

PERFORMANCE ASSESSMENT

Module IV must be completed within 2 hours of issue of the order in Module III by the platoon leader.

Using the attached checklist, each rater will independently assign a GO, NO-GO, or NOT PERFORMED to each item. No partial credit will be given for performance. Each item is either "all-go" or it is rated NO-GO.

The following guidelines will be used to judge adequacy of performance of the items on the checklist:

1. When operating the M114, the driver must:
   . Operate the vehicle in a manner to enhance the accomplishment of the mission with minimum direction from the vehicle commander.

- Select his course of movement by viewing and analyzing the terrain prior to movement.
- Position the vehicle, both moving and at the halt, to take advantage of terrain and vegetation.
- Evaluate soil condition through color and vegetation to avoid impassable ground.
- Ascend steep slopes in a straight line and without shifting.
- Cross obstacles by accelerating, decelerating and accelerating.
- Maintain steady speed during movement.
- Select the route that offers the least obstacles consistent with the mission.
- Descend steep slopes by braking with the engine.
- Avoid abrupt turns especially on side slopes.
- Perform during operation and at halt maintenance.

2. Vehicle position at the LP must:
   - Provide support for the dismounted LP.
   - Provide protection for the vehicle.
   - Allow rapid exit.

3. LP site selected must:
   - Take advantage of cover and concealment.
   - Allow field of view in both width and depth.
   - Avoid landmarks.
   - Cover likely avenues of approach.
   - Provide easy access and exit at night.
   - Provide fields of fire.

4. Use night vision devices: (must not be used continuously)
   - By scanning the area at intervals.
   - By passive viewing to detect enemy active devices.
   - To check out suspected activities.

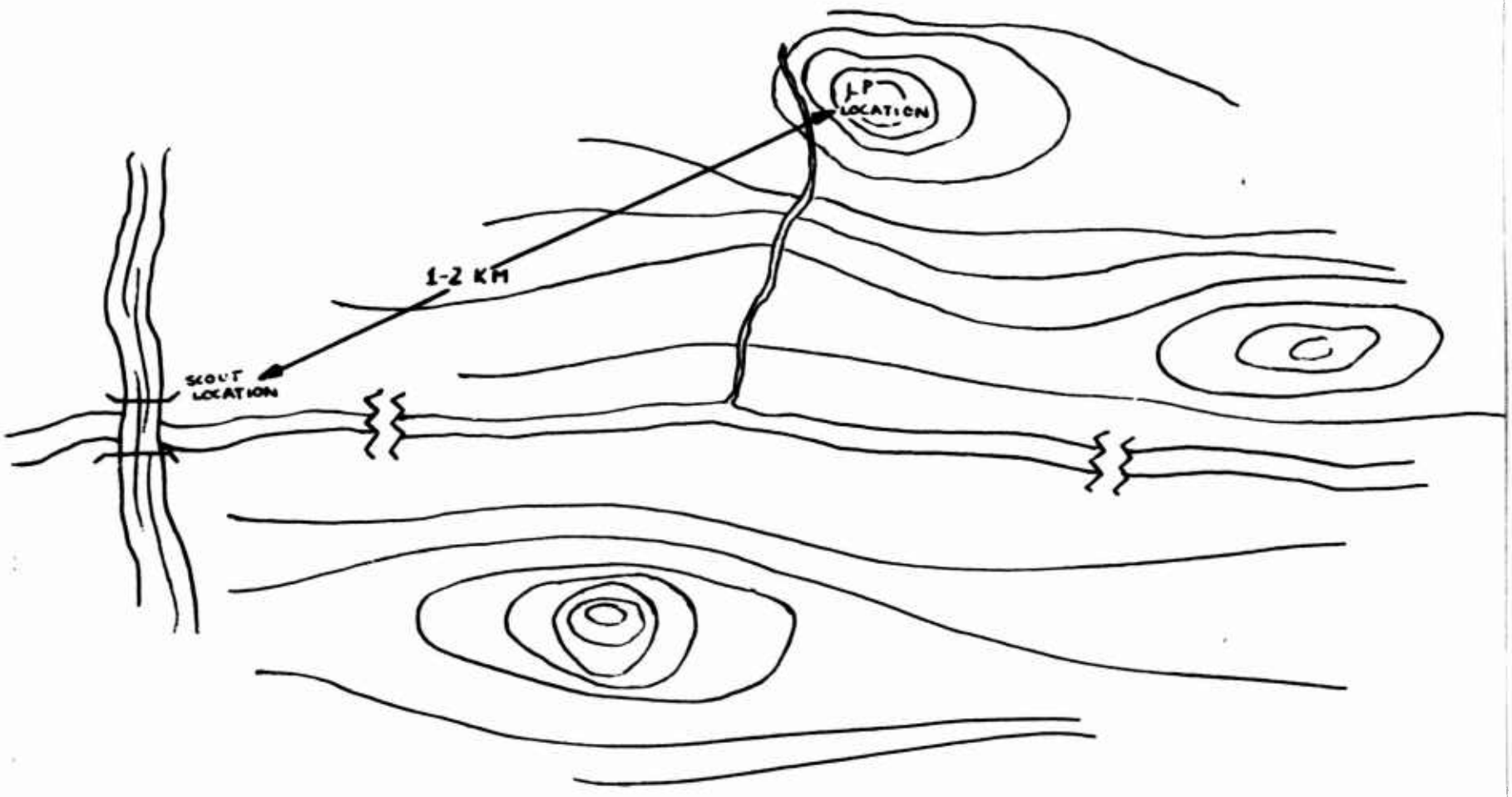
5. Reaction to illumination includes:
   - Taking cover immediately when flare pops.
   - Not moving during illumination.
   - Closing one eye and observing sector.

6. Minimize radio traffic:
   - Reports not required by SOP or immediately by the situation are not submitted by radio.
   - Reports required are submitted by:
     - SOP format or,
     - Who.
     - What.
     - Where.
     - When.
     - Activity.

7. Maintain radio security:
   . Friendly information not sent in the clear.
   . Correct radio-telephone procedure used.
   . Codes and clear text not interchanged.

ATTACHMENTS

Schematic Diagram Module IV
Evaluation Sheets Module IV, Night Mission
Order for return mission


LP
LOCATION
1-2 KM
SCOUT
LOCATION

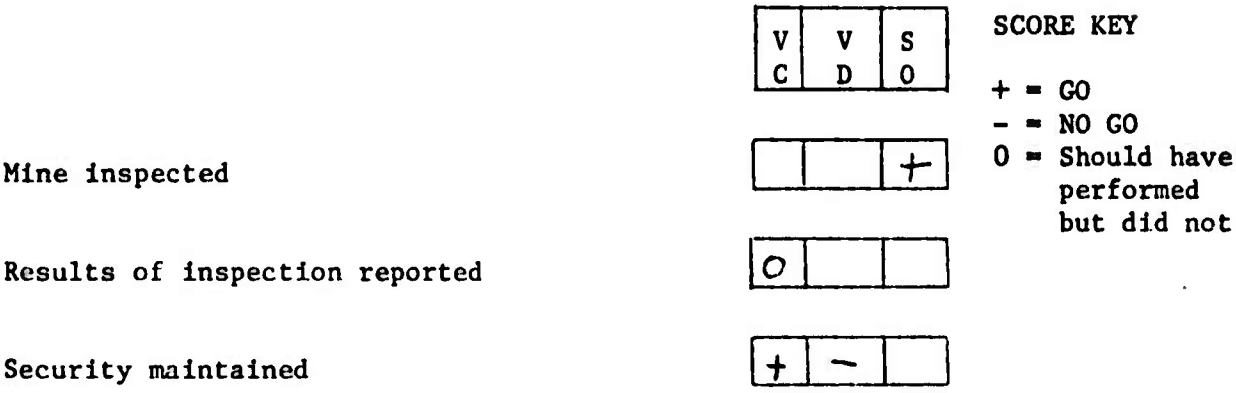
INSTRUCTIONS FOR COMPLETING RATING SHEET

If the vehicle commander (VC), vehicle driver (VD) or scout observer (SO) performs the listed task correctly enter the GO symbol (+) in the box under the duty position. If the task is performed incorrectly or incompletely enter the NO GO symbol (-) under the duty position. In all situations rate the individual who actually performed the task.

If the task is not performed by any crew member, enter the "Should have performed but did not" symbol (0) under the duty position for the crew member who should have performed the task at that time.

If you did not observe the task, do not enter a rating. Determine ratings on what you observe; not on what you think occured. Do not ask other raters what they observed.

EXAMPLE



In the above example the mine was inspected correctly by the scout observer. However, the vehicle commander did not submit a report to the platoon leader and he was given a rating for "Should have performed but did not." Both the vehicle commander and the vehicle driver were maintaining security. The vehicle commander was performing correctly but the vehicle driver, while performing the task, was not doing it correctly or completely.

MODULE IV
NIGHT OPERATION

VC	VD	SO

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Crew Briefing

Vehicle commander locates LP site on map

Vehicle commander briefs crew on:

. Mission

. Location of LP site

. Departure time

. Route to LP site

Movement

Operate M114

All sectors observed (360°)

Vehicle moves to LP site by most direct covered/concealed route

Correct LP site located (as designated in LP order)

Establish LP

Security search made of LP site

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

	VC	VD	SO
Security of site established			
Individual LP site selected			
Vehicle positioned			
M60 machinegun dismounted			
Vehicle position allows fire support of LP			
Range cards prepared:			
. M60			
. Commander's weapon			
Terrain and vegetation utilized for cover and concealment			
LP site reported when established (within 100m)			
Communications established			
Trip flares installed			
Discipline maintained:			
. Noise			
. Light			

VC	VD	SO

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Operate LP

Observer rotated every 20 minutes			
Night vision devices utilized			
Observations reported:			
. Personnel			
. Vehicle			
. Noises			
Discipline maintained :			
. Noise			
. Light			
React to illuminating flares			
Fire discipline maintained			
Radio security maintained			
Radio traffic kept to a minimum			

VC	VD	SO

SCORE KEY

+ = GO
- = NO GO
O = Should have performed but did not

Withdraw LPs

All equipment withdrawn

Security maintained

Discipline maintained:

. Noise

. Light

Return Order

(By platoon leader)

(By radio - encoded or secure)

"You are to withdraw the LP at _____ hours. Return to night assembly area vicinity _____. Maintain blackout during movement. Establish contact with elements of Company C at coordinates _____."

MODULE V: POST OPERATIONS

PURPOSE

The purposes of Module V are to assess:
1. Individuals' conduct of night mounted movement.
2. Individuals' ability to establish contact with friendly forces at night.
3. Crew members' ability to conduct after operation maintenance checks and services on the vehicle, weapons and equipment.

CREW MEMBER ACTIVITIES

The crew will move blackout to the contact point/dismount point. At the assembly area the crew will perform after-operation maintenance checks and services on the vehicle, clean and service weapons and clean and turn in equipment used on the test.

CONDITIONS

This module is administered during darkness over an established route not less than 3 KM. Friendly personnel will man the contact point and will direct the crew to move to the assembly area under blackout. The assembly area will be lighted with maintenance support available. Operations will be initiated by radio order from the platoon leader.

RATER ACTIVITIES

The platoon leader/rater will issue the order by radio while the crew is at the LP in Module IV. The platoon leader/rater will respond to all tested vehicle radio traffic and will initiate or respond to radio traffic to insure the test situations, control measures and time limitations are being followed. Raters will follow the tested vehicle in a trail vehicle during movement. At the contact point, raters will dismount and position themselves to observe the actions at the location. Raters will move dismounted to the assembly area to observe the actions of the ground guide and driver. Each rater must observe independently each of the operations on the attached checklist. The raters will not question crew members, indicate the ratings being given or prompt crew members in any way other than required by realistic interaction between the platoon leader/rater and the vehicle commander.

RATER EQUIPMENT AND MATERIAL

Evaluation sheets, Module V, attached
Map, 1:50,000
CEOI extract
Trail vehicle w/radios
CVC, headset or external speaker
TM 9-2320-224-10

PERFORMANCE ASSESSMENT

Module V must be completed within one hour and 30 minutes of issue of the order in Module IV by the platoon leader.

Using the attached checklist, each rater will independently assign a GO, NO-GO, or NOT PERFORMED to each item. No partial credit will be given for performance. Each item is either "all-go" or it is rated NO-GO.

The following guidelines will be used to judge adequacy of performance of the items on the checklist:

1. Minimize radio traffic:
   . Reports not required by SOP or immediately by the situation are not submitted by radio.
   . Reports required are submitted by:
     - SOP format or,
     - Who.
     - What.
     - Where.
     - When.
     - Activity.

2. Maintain radio security:
   . Friendly information not sent in the clear.
   . Correct radio-telephone procedure used.
   . Codes and clear text not interchanged.

3. Dismounted individual at the contact point must maintain cover and concealment until identities are established.

4. Ground guide must:
   . Use filtered flashlight.
   . Relay signals to position the vehicle in the required direction.
   . Be followed by the vehicle driver.

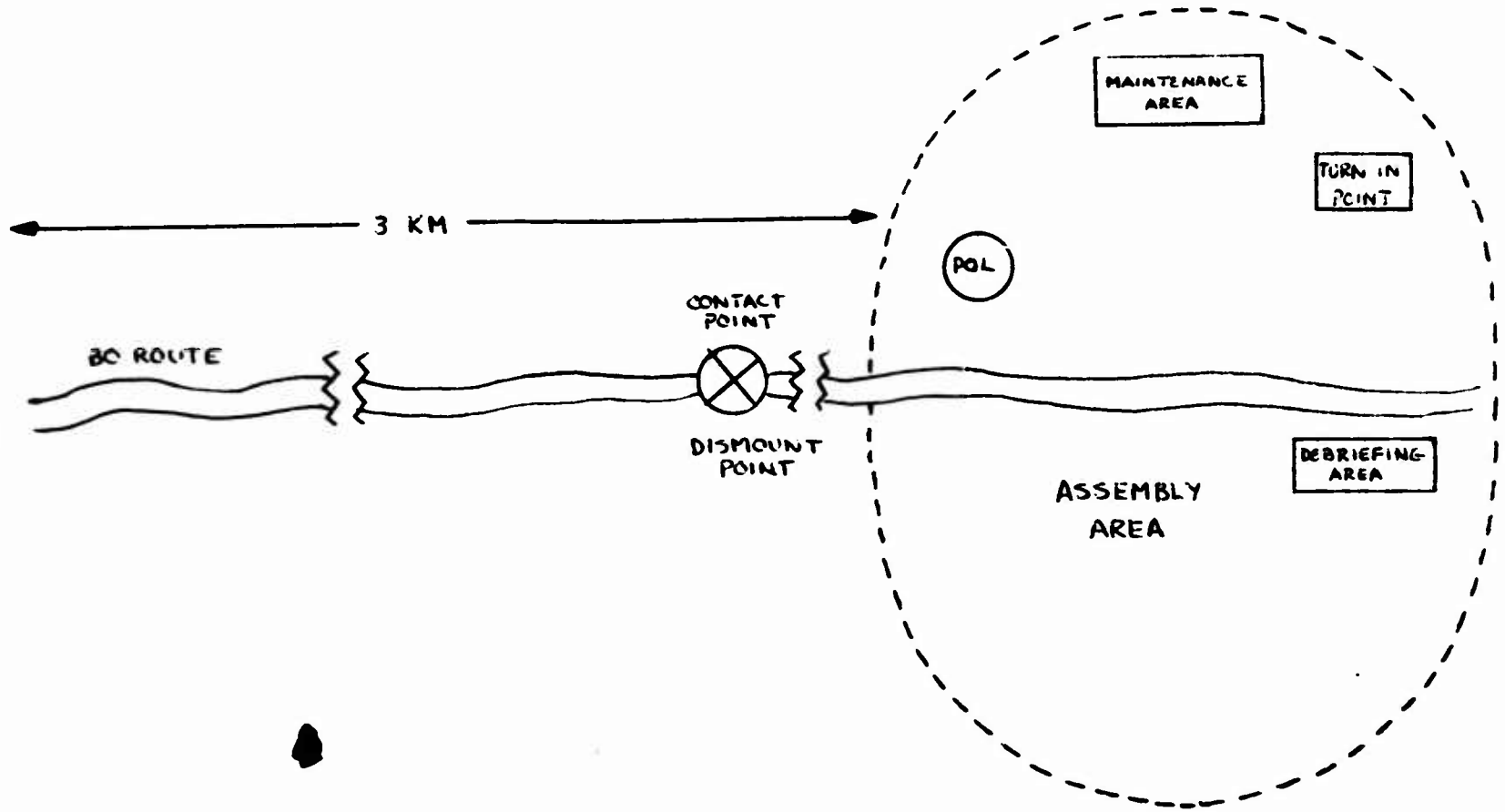
5. The TM must be followed when performing post operation checks and services. Maintenance support and parts must be requested if they are needed.

6. Logbook must reflect:
   . Miles driven.
   . Fuel added.
   . Oil added.
   . Parts on request.

ATTACHMENTS

Schematic diagram, Module V
Evaluation sheets, Module V, Post Operations

MODULE V


MAINTENANCE AREA
TURN IN POINT
3 KM
POL
CONTACT POINT
BC ROUTE
DISMOUNT POINT
DEBRIEFING AREA
ASSEMBLY AREA

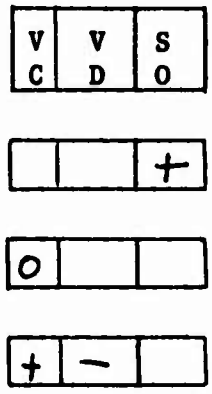
INSTRUCTIONS FOR COMPLETING RATING SHEET

If the vehicle commander (VC), vehicle driver (VD) or scout observer (SO) performs the listed task correctly enter the GO symbol (+) in the box under the duty position. If the task is performed incorrectly or incompletely enter the NO GO symbol (-) under the duty position. In all situations rate the individual who actually performed the task.

If the task is not performed by any crew member, enter the "Should have performed but did not" symbol (0) under the duty position for the crew member who should have performed the task at that time.

If you did not observe the task, do not enter a rating. Determine ratings on what you observe; not on what you think occured. Do not ask other raters what they observed.

EXAMPLE



Mine inspected

Results of inspection reported

Security maintained

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

In the above example the mine was inspected correctly by the scout observer. However, the vehicle commander did not submit a report to the platoon leader and he was given a rating for "Should have performed but did not." Both the vehicle commander and the vehicle driver were maintaining security. The vehicle commander was performing correctly but the vehicle driver, while performing the task, was not doing it correctly or completely.

MODULE V
POST OPERATIONS

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

	VC	VD	SO
Crew Briefing			
Vehicle commander marks location of assembly area and contact point on map			
Vehicle commander briefs crew on:			
. Mission			
. Route of movement			
. Contact point			
. Departure time			
›vement			
Operate M114 blackout:			
. Use blackout drive			
. Reduce vehicle speed			
. Follow roadway			
. Avoid obstacles			
Light discipline maintained			
Radio security maintained			
Radio traffic kept to a minimum			

V C	V D	S O

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

Contact Point

Locate contact point on the ground (within 100m as specified in order)			
Dismount individual			
Maintain mounted overwatch and security			
Establish contact			
Maintain security dismounted			
Utilize sign/countersign			
Clear weapons:			
. M60			
. Individual			
Maintain light discipline			
Ground guide vehicle during darkness			
Follow ground guide during darkness			

Post Operations

Perform after operation maintenance checks and services on M114A1:

	V C	V D	S O
. Tracks			
. Suspension			
. Engine oil			
. Transmission oil			
. Geared steering unit oil			
. Fuel			
Disassemble and clean:			
· Individual weapons			
. M60			
. Commander's weapon			
Close out logbook			
Clean and turn in special equipment			

SCORE KEY

+ = GO
- = NO GO
0 = Should have performed but did not

ARI Distribution List

4 OASD (M&RA)
2 HQDA (DAMI-CSZ)
1 HQDA (DAPE-PBR
1 HQDA (DAMA-AR)
1 HQDA (DAPE-HRE-PO)
1 HQDA (SGRD-ID)
1 HQDA (DAMI-DOT-C)
1 HQDA (DAPC-PMZ-A)
1 HQDA (DACH-PPZ-A)
1 HQDA (DAPE-HRE)
1 HQDA (DAPE-MPO-C)
1 HQDA (DAPE-DW)
1 HQDA (DAPE-HRL)
1 HQDA (DAPE-CPS)
1 HQDA (DAFD-MFA)
1 HQDA (DARD-ARS-P)
1 HQDA (DAPC-PAS-A)
1 HQDA (DUSA-OR)
1 HQDA (DAMO-RQR)
1 HQDA (DASG)
1 HQDA (DA10-PI)
1 Chief, Consult Div (DA-OTSG), Adelphi, MD
1 Mil Asst. Hum Res, ODDR&E, OAD (E&LS)
1 HQ USARAL, APO Seattle, ATTN: ARAGP-R
1 HQ First Army, ATTN: AFKA-OI-TI
2 HQ Fifth Army, Ft Sam Houston
1 Dir, Army Stf Studies Ofc, ATTN: OAVCSA (DSP)
1 Ofc Chief of Stf, Studies Ofc
1 DCSPER, ATTN: CPS/OCP
1 The Army Lib, Pentagon, ATTN: RSB Chief
1 The Army Lib, Pentagon, ATTN: ANRAL
1 Ofc, Asst Sect of the Army (R&D)
1 Tech Support Ofc, OJCS
1 USASA, Arlington, ATTN: IARD-T
1 USA Rsch Ofc, Durham, ATTN: Life Sciences Dir
2 USARIEM, Natick, ATTN: SGRD-UE-CA
1 USATTC, Ft Clayton, ATTN: STETC-MO-A
1 USAIMA, Ft Bragg, ATTN: ATSU-CTD-OM
1 USAIMA, Ft Bragg, ATTN: Marquat Lib
1 US WAC Ctr & Sch, Ft McClellan, ATTN: Lib
1 US WAC Ctr & Sch, Ft McClellan, ATTN: Tng Dir
1 USA Quartermaster Sch, Ft Lee, ATTN: ATSM-TE
1 Intelligence Material Dev Ofc, EWL, Ft Holabird
1 USA SE Signal Sch, Ft Gordon, ATTN: ATSO-EA
1 USA Chaplain Ctr & Sch, Ft Hamilton, ATTN: ATSC-TE-RD
1 USATSCH, Ft Eustis, ATTN: Educ Advisor
1 USA War College, Carlisle Barracks, ATTN: Lib
2 WRAIR, Neuropsychiatry Div
1 DLI, SDA, Monterey
1 USA Concept Anal Agcy, Bethesda, ATTN: MOCA-WGC
1 USA Concept Anal Agcy, Bethesda, ATTN: MOCA-MR
1 USA Concept Anal Agcy, Bethesda, ATTN: MOCA-JF
1 USA Artic Test Ctr, APO Seattle, ATTN: STEAC-MO-ASL
1 USA Artic Test Ctr, APO Seattle, ATTN: AMSTE-PL-TS
1 USA Armament Cmd, Redstone Arsenal, ATTN: ATSK-TEM
1 USA Armament Cmd, Rock Island, ATTN: AMSAR-TDC
1 FAA-NAFEC, Atlantic City, ATTN: Library
1 FAA-NAFEC, Atlantic City, ATTN: Hum Engr Br
1 FAA Aeronautical Ctr, Oklahoma City, ATTN: AAC-44D
2 USA Fld Arty Sch, Ft Sill, ATTN: Library
1 USA Armor Sch, Ft Knox, ATTN: Library
1 USA Armor Sch, Ft Knox, ATTN: ATSB-DI-E
1 USA Armor Sch, Ft Knox, ATTN: ATSB-DT-TP
1 USA Armor Sch, Ft Knox, ATTN: ATSB-CD-AD
2 HQUSACDEC, Ft Ord, ATTN: Library
1 HQUSACDEC, Ft Ord, ATTN: ATEC-EX-E-Hum Factors
2 USAEEC, Ft Benjamin Harrison, ATTN: Library
1 USAPACDC, Ft Benjamin Harrison, ATTN: ATCP-HR
1 USA Comm-Elect Sch, Ft Monmouth, ATTN: ATSN-EA
1 USAEC, Ft Monmouth, ATTN: AMSEL-CT-HDP
1 USAEC, Ft Monmouth, ATTN: AMSEL-PA-P
1 USAEC, Ft Monmouth, ATTN: AMSEL-SI-CB
1 USAEC, Ft Monmouth, ATTN: C, Facl Dev Br
1 USA Materials Sys Anal Agcy, Aberdeen, ATTN: AMXSY-P
1 Edgewood Arsenal, Aberdeen, ATTN: SAREA-BL-H
1 USA Ord Ctr & Sch, Aberdeen, ATTN: ATSL-TEM-C
2 USA Hum Engr Lab, Aberdeen, ATTN: Library/Dir
1 USA Combat Arms Tng Bd, Ft Benning, ATTN: Ad Supervisor
1 USA Infantry Hum Rsch Unit, Ft Benning, ATTN: Chief
1 USA Infantry Bd, Ft Benning, ATTN: STEBC-TE-T
1 USASMA, Ft Bliss, ATTN: ATSS-LRC
1 USA Air Def Sch, Ft Bliss, ATTN: ATSA-CTD-ME
1 USA Air Def Sch, Ft Bliss, ATTN: Tech Lib
1 USA Air Def Bd, Ft Bliss, ATTN: FILES
1 USA Air Def Bd, Ft Bliss, ATTN: STEBD-PO
1 USA Cmd & General Stf College, Ft Leavenworth, ATTN: Lib
1 USA Cmd & General Stf College, Ft Leavenworth, ATTN: ATSW-SE-L
1 USA Cmd & General Stf College, Ft Leavenworth, ATTN: Ed Advisor
1 USA Combined Arms Cmbt Dev Act, Ft Leavenworth, ATTN: DepCdr
1 USA Combined Arms Cmbt Dev Act, Ft Leavenworth, ATTN: CCS
1 USA Combined Arms Cmbt Dev Act, Ft Leavenworth, ATTN: ATCASA
1 USA Combined Arms Cmbt Dev Act, Ft Leavenworth, ATTN: ATCACO-E
1 USA Combined Arms Cmbt Dev Act, Ft Leavenworth, ATTN: ATCACC-CI
1 USAECOM, Night Visinn Lab, Ft Belvoir, ATTN: AMSEL-NV-SD
3 USA Computer Sys Cmd, Ft Belvoir, ATTN: Tech Library
1 USAMERDC, Ft Belvoir, ATTN: STSFB-DQ
1 USA Eng Sch, Ft Belvoir, ATTN: Library
1 USA Topographic Lab, Ft Belvoir, ATTN: ETL-TD-S
1 USA Topographic Lab, Ft Belvoir, ATTN: STINFO Center
1 USA Topographic Lab, Ft Belvoir, ATTN: ETL-GSL
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: CTD-MS
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATS-CTD-MS
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-TE
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-TEX-GS
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-CTS-OR
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-CTD-DT
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-CTD-CS
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: DAS/SRD
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-TEM
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: Library
1 CDR, HQ Ft Huachuca, ATTN: Tech Ref Div
2 CDR, USA Electronic Prvg Grd, ATTN: STEEP-MT-S
1 CDR, Project MASSTER, ATTN: Tech Info Center
1 Hq MASSTER, USATRADOC, LNO
1 Research Institute, HQ MASSTER, Ft Hood
1 USA Recruiting Cmd, Ft Sherdian, ATTN: USARCPM-P
1 Senior Army Adv., USAFAGOD/TAC, Elgin AF Aux Fld No. 9
1 HQ USARPAC, DCSPER, APO SF 96558, ATTN: GPPE-SE
1 Stimson Lib, Academy of Health Sciences, Ft Sam Houston
1 Marine Corps Inst., ATTN: Dean-MCI
1 HQUSMC, Commandant, ATTN: Code MTMT 51
1 HQUSMC, Commandant, ATTN: Code MPI-20
2 USCG Academy, New London, ATTN: Admission
2 USCG Academy, New London, ATTN: Library
1 USCG Training Ctr, NY, ATTN: CO
1 USCG Training Ctr, NY, ATTN: Educ Svc Ofc
1 USCG, Psychol Res Br, DC, ATTN: GP 1/62
1 HQ Mid-Range Br, MC Det, Quantico, ATTN: P&S Div

1 US Marine Corps Liaision Ofc, AMC, Alexandria, ATTN: AMCGS-F
1 USATRADOC, Ft Monroe, ATTN: ATRO-ED
6 USATRADOC, Ft Monroe, ATTN: ATPR-AD
1 USATRADOC, Ft Monroe, ATTN: ATTS-EA
1 USA Forces Cmd, Ft McPherson, ATTN: Library
2 USA Aviation Test Bd, Ft Rucker, ATTN: STEBG-PO
1 USA Agcy for Aviation Safety, Ft Rucker, ATTN: Library
1 USA Agcy for Aviation Safety, Ft Rucker, ATTN: Educ Advisor
1 USA Aviation Sch, Ft Rucker, ATTN: PO Drawer O
1 HQUSA Aviation Sys Cmd, St Louis, ATTN: AMSAV-ZDR
2 USA Aviation Sys Test Act., Edwards AFB, ATTN: SAVTE-T
1 USA Air Def Sch, Ft Bliss, ATTN: ATSA TEM
1 USA Air Mobility Rsch & Dev Lab, Moffett Fld, ATTN: SAVDL-AS
1 USA Aviation Sch, Res Tng Mgt, Ft Rucker, ATTN: ATST-T-RTM
1 USA Aviation Sch, CO, Ft Rucker, ATTN: ATST-D-A
1 HQ, USAMC, Alexandria, ATTN: AMXCD-TL
1 HQ, USAMC, Alexandria, ATTN: CDR
1 US Military Academy, West Point, ATTN: Serials Unit
1 US Military Academy, West Point, ATTN: Ofc of Milt Ldrshp
1 US Military Academy, West Point, ATTN: MAOR
1 USA Standardization Gp, UK, FPO NY, ATTN: MASE-GC
1 Ofc of Naval Rsch, Arlington, ATTN: Code 452
3 Ofc of Naval Rsch, Arlington, ATTN: Code 458
1 Ofc of Naval Rsch, Arlington, ATTN: Code 450
1 Ofc of Naval Rsch, Arlington, ATTN: Code 441
1 Naval Aerospc Med Res Lab, Pensacola, ATTN: Acous Sch Div
1 Naval Aerospc Med Res Lab, Pensacola, ATTN: Code L51
1 Naval Aerospc Med Res Lab, Pensacola, ATTN: Code L5
1 Chief of NavPers, ATTN: Pers-OR
1 NAVAIRSTA, Norfolk, ATTN: Safety Ctr
1 Nav Oceanographic, DC, ATTN: Code 6251, Charts & Tech
1 Center of Naval Anal, ATTN: Doc Ctr
1 NavAirSysCom, ATTN: AIR-5313C
1 Nav BuMed, ATTN: 713
1 NavHelicopterSubSqua 2, FPO SF 96601
1 AFHRL (FT) William AFB
1 AFHRL (TT) Lowry AFB
1 AFHRL (AS) WPAFB, OH
2 AFHRL (DOJZ) Brooks AFB
1 AFHRL (DOJN) Lackland AFB
1 HQUSAF (INYSD)
1 HQUSAF (DPXXA)
1 AFVTG (RD) Randolph AFB
3 AMRL (HE) WPAFB, OH
2 AF Inst of Tech, WPAFB, OH, ATTN: ENE/SL
1 ATC (XPTD) Randolph AFB
1 USAF AeroMed Lib, Brooks AFB (SUL-4), ATTN: DOC SEC
1 AFOSR (NL), Arlington
1 AF Log Cmd, McClellan AFB, ATTN: ALC/DPCRB
1 Air Force Academy, CO, ATTN: Dept of Bel Scn
5 NavPers & Dev Ctr, San Diego
2 Navy Med Neuropsychiatric Rsch Unit, San Diego
1 Nav Electronic Lab, San Diego, ATTN: Res Lab
1 Nav TrngCen, San Diego, ATTN: Code 9000-Lib
1 NavPostGraSch, Monterey, ATTN: Code 55Aa
1 NavPostGraSch, Monterey, ATTN: Code 2124
1 NavTrngEquipCtr, Orlando, ATTN: Tech Lib
1 US Dept of Labor, DC, ATTN: Manpower Admin
1 US Dept of Justice, DC, ATTN: Drug Enforce Admin
1 Nat Bur of Standards, DC, ATTN: Computer Info Section
1 Nat Clearing House for MH-Info, Rockville
1 Denver Federal Ctr, Lakewood, ATTN: BLM
12 Defense Documentation Center
4 Dir Psych, Army Hq, Russell Ofcs, Canberra
1 Scientific Advsr, Mil Bd, Army Hq, Russell Ofcs, Canberra
1 Mil and Air Attache, Austrian Embassy
1 Centre de Recherche Des Facteurs, Humaine de la Defense Nationale, Brussels
2 Canadian Joint Staff Washington
1 C/Air Staff, Royal Canadian AF, ATTN: Pers Std Anal Br
3 Chief, Canadian Def Rsch Staff, ATTN: C/CRDS(W)
4 British Def Staff, British Embassy, Washington
1 Def & Civil Inst of Enviro Medicine, Canada
1 AIR CRESS, Kensington, ATTN: Info Sys Br
1 Militaerpsykologisk Tjeneste, Copehagen
1 Military Attache, French Embassy, ATTN: Doc Sec
1 Medecin Chef, C.E.R.P.A.-Arsenal, Toulon/Naval France
1 Prin Scientific Off, Appl Hum Engr Rsch Div, Ministry of Defense, New Delhi
1 Pers Rsch Ofc Library, AKA, Israel Defense Forces
1 Ministeris van Defensie, DOOP/KL Afd Sociaal Psychologische Zaken, The Hague, Netherlands