

MOS: Nonspecific

NO. 101-Q-0001

QM WARRIOR Training Support Package (TSP)

TRAINING SUPPORT PACKAGE

FOR

**SLING LOAD OPERATIONS
TRAIN-THE-TRAINER COURSE**

INSTRUCTIONAL MATERIAL

24 JANUARY 2000

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QUARTERMASTER WARRIOR TRAINING SUPPORT PACKET

24 January 2000

SLING LOAD OPERATIONS
TRAIN-THE-TRAINER COURSE

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PREFACE

This Quartermaster WARRIOR training support package (TSP) provides the training instructor with a program of instruction (POI): Sling Load Operations, Train-the-Trainer Course, applicable for nonresident training to qualify personnel (military and civilian) in performing sling load rigging operations.

This WARRIOR TSP contains course task condition and standards; academic course hours; course motivator statement; TSP goal, terminal learning objective (TLO), supporting enabling learning objectives (ELOs), and associate learning skills (LS), course management plan (CMP); sling load operations Train-the-Trainer lesson plans including viewgraphs, practical exercises and their solutions, examination and solution sheets; soldier progress records; and, course questionnaires.

The proponent for this publication is the U.S. Army Combined Arms Support Command (CASCOM). Send comments and recommendation on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Training Directorate, ATTN: ATCL-AQ (Quartermaster Training Division), 801 Lee Avenue, Fort Lee, VA 23801-1713.

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

QUARTERMASTER WARRIOR TSP
DATA SHEET

TASK: SUPERVISE SLING LOAD OPERATIONS

CONDITIONS:

You are directing sling load operations and you must ensure all loads are properly rigged. Given rigging support personnel and sling load ground crew with helmets, goggles, snap ring pliers, ear-plugs, gloves, flashlight with wand, knife, static discharge probe, sling sets, reach pen-
dants/hardware, and FMs 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Loads), 10-450-4 (Multiservice Helicopter Sling Load: Single-Point Load Rigging Procedures), and 10-450-5 (Multiservice Helicopter Sling Load: Dual-Point Load Rigging Procedures).

STANDARDS:

Select, prepare, and control landing zones and pickup zones and prepare and supervise rigging sling loads of air transported supplies and equipment without error and without causing harm to self, other personnel, environment, and supply and/or equipment loads.

SCOPE:

This task covers all essential performance elements to train selected personnel (Active and Reserve Components) for the Army (including Army National Guard), Navy, Marine, Air Force, and civilian populace, requiring the need to properly prepare and rig supplies and equipment for transport under rotary wing aircraft and select, prepare, and control landing zones (LZ) and pickup zones (PZ).

COURSE IDENTIFICATION	INSTRUCTOR CONTACT HOURS	INSTRUCTIONAL	
		ACADEMIC PEACETIME HOURS/TYPE	ACADEMIC MOBILIZATION HOURS/TYPE
101-Q-0001	95.0 (Peacetime)	5.4 C	5.4 C
QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer	93.0 (Mobilization)	1.1 D 8.5 PE1 1.0 E3	1.1 D 8.5 PE1 NA
	TOTAL	16.0	15.0

QUARTERMASTER WARRIOR TSP TRAINING SUPPORT SHEET

. INTRODUCTION.

Sling load supports the strategic, operational, and tactical levels of logistics doctrine. Sling load operational missions enhance the tactical commander's support and sustainment needs. At the same time, sling load operations must be done without injury or death to those personnel participating in sling load missions and prevention of sling rigged loads from being damaged or destroyed from human and/or mechanical error.

Although the Army's prime focus is fighting war, its role in stability and support operations (SASO) are most critical, too. During peacetime as in war, personnel may be participating in disaster relief and nation assistance missions. Capability of using sling load may be exploited in this arena, as well. The same safety awareness and proper sling load procedural skills apply here.

a. Motivator. As a soldier in the U.S. Army, the possibility of you being exposed to sling load operations is extremely high. Rapid inner theater movement of troops, supplies, and equipment are vital to do the mission. Regardless of your military occupational specialty (MOS), you may be called upon to conduct or support a sling load operation.

b. Goal. The TSP is used to train students in identifying and understanding the capabilities of rotary aircraft used in sling load operations, identifying capabilities of all sling load equipment and hardware, and proper rigging procedures for sling loads in accordance with FMs 10-450-3, 10-450-4, and 10-450-5. The TSP will also be used to familiarize the student with how to precisely execute those duties and responsibilities of the following sling load support requirements/elements: aircraft signalman, sling load hook-up team, and preparation/setup of a PZ and LZ in accordance with FMs 10-450-3 and 57-38 (Pathfinder Operations).

II. GENERAL INFORMATION.

a. TERMINAL LEARNING OBJECTIVE. At the completion of training in the WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course, the student will possess the necessary knowledge to prepare, direct, and perform rigging of sling loads of supplies and equipment; verify proper rigging of sling loads of supplies and equipment for transport by rotary wing aircraft (helicopter) without detrimental impact to lost, damage, and/or injury to self, other personnel, supplies and/or equipment; and, select and direct setup of LZ and PZ for rotary wing aircraft for sling load operations.

b. ENABLING LEARNING OBJECTIVES.

- (1) ELO 1. Define "sling load" in relation to airdrop doctrine.
- (2) ELO 2. Identify rotary aircraft for sling load use.
- (3) ELO 3. Establish LZ and PZ for sling load operational areas.

- (4) ELO 4. Identify sling load rigging equipment and personnel requirements.

- (5) ELO 5. Identify sling load rigging procedures for supplies and equipment.
- (6) ELO 6. Direct rotary wing aircraft for sling load pickup and/or discharge of supplies and/or equipment.

c. LEARNING SKILLS.

- (1) LS 1-1. Specify doctrinal definition of “sling load.”
- (2) LS 2-1. Identify capabilities of rotary aircraft used in sling load operations.
- (3) LS 3-1. Identify appropriate area(s) for sling load landing and pickup operations.
- (4) LS 3-2. Mark sling load landing and pickup zones.
- (5) LS 4-1. Determine sling load equipment requirements.
- (6) LS 4-2. Select ground crew for sling load operations.
- (7) LS 5-1. Direct preparations for rigging sling loads of supplies and equipment.
- (8) LS 5-2. Perform sling load rigging of supplies and equipment for correctness and safety enhancement.
- (9) LS 6-1. Apply hands and arms signals for directing rotary wing aircraft in sling load operations.

III. LEARNING HIERARCHY. All performance measures or skill steps are sequential and performed as they should be performed during wartime and for stability and support employment. Present ELOs in the order listed above.

IV. SEQUENCE. Instructional data are determined by U.S. Army Quartermaster School and Center, Aerial Delivery and Field Services Department (ATTN: ATSM-ABN-FS), Fort Lee, VA 23801-1502. See Appendix B in this QM WARRIOR TSP for information on lesson sequencing.

V. POINTS OF CONSIDERATION.

a. The TSP fortifies the proponenty transfer of External Air Transport (Sling Load) to USAQMC&S, Fort Lee, VA 23801-5000 by authorization letter dated 5 April 1996 from the Department of the Army, Headquarters, U.S. Army Training and Doctrine Command, Fort Monroe, VA 23651-5000 in order to establish “sling load” definition as a separate, but integral component of aerial delivery (airdrop) in which the USAQMC&S, Aerial Delivery and Field Services Department (ADFSD) is the proponent.

b. This TSP is used to establish and maintain standardization of sling load operations (for example, rigging) and pertinent safety applications associated with these operations.

c. This TSP is in alignment with TRADOC Regulation 351-10 (*Institutional Leader Training*), dated 1 May 1995, whereby training standards are required to be observable, measurable, and written to eliminate subjectivity. QM WARRIOR TSP: Sling Load Operations Train-the-Trainer Course implements the following guidelines:

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(1) Specific performance training standards and “written” checklist(s) are based on regulatory guidance.

(2) Performance-oriented training standards will be conducted in a simulated and/or field environment.

(3) Training cadre will evaluate students only after students know the standards; students may require reinforcement training/self-study, as needed, with assistance from training cadre to complete course instruction (skill learning objectives) successfully.

VI. SAFETY AND RISK ASSESSMENT/ENVIRONMENTAL IMPACT: All safety and risk assessment data are identified in training lessons. Environmental impact data associated with safety and risk assessment and/or skill applications are identified in training lessons.

VII. TRAINING GUIDANCE AND STUDENT QUALIFICATIONS/REQUIREMENTS. Training requirements will be IAW identified instructions presented in this QM WARRIOR TSP POI, lesson plans, and CMP. Student qualifications are identified in prerequisites of POI; see Appendix B of this manual. In addition, the following guidance and requirements will be followed.

a. Instructor Duties. The primary instructor is responsible for the following:

(1) Before presentation.

- (a) Arrange for and set up classroom or training area.
- (b) Assemble, brief, and rehearse all assistant instructors.
- (c) Obtain all equipment and material.
- (d) Review lesson plans and course materials.
- (e) Rehearse presentation.

(2) During presentation.

- (a) Orient students to the course.
- (b) Distribute course material.
- (c) Present instruction.
- (d) Monitor and control all PEs and tests.

- (e) Assess individual's and/or team groups' progress.
 - (f) Identify and resolve learning problems (skills).
 - (g) Provide assistance and counseling.
 - (h) Administer, score, and safeguard test material.
- (3) After presentation.
- (a) Grade PEs and tests.
 - (b) Apply remedial training as required.
 - (c) Update Soldier/Team Progress Control Records.
 - (d) Distribute and collect Student Course Evaluation Questionnaires at completion end of course.
 - (e) Complete Instructor Course Evaluation Questionnaire at end of course.

b. Student Qualifications.

(1) Student must be physically qualified as specified in ARs 611-101, 611-112, and 611-201. Civilian students must provide written statement that they are in good health.

(2) Assigned or pending assignment to unit requiring sling load training need. Applicable to civilian student, as well.

c. Student Requirements.

(1) Recommended by student's commander/civilian's supervisor.

(2) Physical demand rating of very heavy (military and civilian).

(3) Physical profile of 222222 (military). Qualifications applicable for civilians.

VIII. RESOURCES.

a. References. In Appendix A of this manual, see QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer, and CMP for identified training support publications.

b. Training Aids. Aids are identified in course POI.

c. Support. Any required support needs will be identified by TSP user/unit training cadre for appropriate action before training commences.

QUARTERMASTER WARRIOR TSP:
SLING LOAD OPERATIONS
TRAIN-THE-TRAINER
COURSE

DEVELOPMENTAL AUTHORIZATION

NAME/SIGNATURE	RANK	POSITION	DATE
_____ CPT DANIEL L. O'NEAL	CPT	Training Developer/ Instructor	_____
_____ MR. JAMIE RODRIGUEZ	GS-9	Training Developer (Instructional Systems Specialist)	_____
_____ MR. DON LYNN	GS-13	C, Sling Load Office, ADFSD	_____
_____ MR. THEODORE J. DLUGOS	GS-14	Dir, ADFSD	_____

APPENDIX A

QM WARRIOR TSP
COURSE MANAGEMENT PLAN:

SLING LOAD OPERATIONS
TRAIN-THE-TRAINER
COURSE

COURSE NO. 101-Q-0001 TSP

24 JANUARY 2000

COURSE MANAGEMENT PLAN

AERIAL DELIVERY & FIELD SERVICES DEPARTMENT

US ARMY QUARTERMASTER CENTER & SCHOOL

QUARTERMASTER
WARRIOR TRAINING SUPPORT PACKAGE:
SLING LOAD OPERATIONS
TRAIN-THE-TRAINER
COURSE

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NOTE

US Army Quartermaster Center and School (USAQMC&S) guidelines for this TSP are within the confines of TRADOC Regulation 350-70 (Training: Training Development Management, Processes, and Products).

This document depicts course management applications for QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course on the following pertinent information: trainer and student management, testing and counseling of students, and course guidelines and specifications prescribed by the Aerial Delivery and Field Services Department, USA QMC&S. The proposed actions contained here are realistic goals set by the Aerial Delivery and Field Services Department for training implementation to the field. This document may change as doctrinal refinements are developed, training procedures are revised, personnel and resources are changed, and the educational philosophy of TRADOC is further defined.

Section I. INTRODUCTION

Purpose. This CMP contains information and procedures for the Quartermaster Sling Load Operations, Train-the-Trainer Course, for WARRIOR TSP. This management plan is intended for use by students and those personnel involved in the administration, management, and instruction of this course.

Applicability. This document is a guide to be used by TSP user for its instructors and students in the course stated above.

Responsibilities. The user of this TSP will be responsible for the conduct and handling of the managerial procedures and guidelines covered in this document as set forth by the Aerial Delivery and Field Services Department, USAQMC&S.

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Section II. COURSE DIRECTOR RESPONSIBILITIES

Director. The Chief of the Sling Load Office in the Aerial Delivery and Field Services Department, USAQMC&S, is responsible for providing guidance to the TSP user in the “how-to” application for managing the instructors and students on training requirements for the QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course. The TSP user is directed to implement the following responsibilities, but not limited to, those listed below:

a. Assign incoming students to appropriate training classes or groups, taking into account the availability of instructors and training facilities; unit requesting the TSP course will identify appropriate training/instructor personnel within their unit and take required administrative procedures to conduct this course.

b. Estimate requirements for maintaining an adequate stockage of course materials to support and sustain operating the TSP course equipment as outlined in the POI.

c. Ensure that instructors are adequately certified for the duties that they are to perform.

d. Perform counseling services for those students with problems and document counseling sessions according to regulatory policy. Personal attention will be given to each student’s career; the TSP course will be under the user company commander’s guidance and orders to include command guidance and direction from higher headquarters.

e. Maintain all course documents within the TSP (per Aerial Delivery and Field Services Department, USAQMC&S). Use these documents to perform frequent internal evaluations of the course materials, instructors, and students. Take corrective actions to solve problems noted in all evaluations.

f. Notify the chain of command of any unresolved problems that may adversely affect the training course.

g. Evaluate, consolidate, and, if necessary, review recommendations from instructors and students to be forwarded to the Director, Aerial Delivery and Field Services Department, USAQMC&S; and, the department will coordinate with the Training Directorate, CASCOM, Quartermaster Training Division, Fort Lee, VA for required course material revision.

Section III. COURSE DESIGN

Course Objective.

QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course. To give personnel the skills and knowledge to prepare and rig supplies and equipment for sling load operational mission; MOS for which trained: NA.

Course Prerequisites.

QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course. Personnel - - Members of the Active and Reserve Components for Army (to include Army National Guard), Navy, Marines, Air Force personnel in all grades, and designated civilian populace, requiring the need. Military personnel must meet minimum weight standards IAW AR 600-9. Civilian personnel should be in good health.

Methods of Instruction. IAW TRADOC Regulation 351-1 (Schools: Training Requirements Analysis System), the following methods of instruction are deemed appropriate to conduct training. These methods may or may not be employed at any one time.

a. **Conference.** A type that employs directed discussion of a topic involving limited group participation that is student-centered but instructor-controlled. Note: Class sizes over 1:25 quickly approach pure lecture mode, however, conference will only be resourced at 1:Class. (C, 1:Class).

b. **Small Group Instruction.** A training method, which places the responsibility for learning on the soldier through participation in small groups, led by small group leaders who serve as role models throughout the course. Small group instruction uses small group processes, and techniques to stimulate learning. [SGI, 1:Group (usually between 12-16)].

c. **Computer-assisted Instruction.** A man-machine interaction accomplished by using interactive courseware and a computer as a delivery method in direct support of a training situation. (CAI, 1:20).

d. **Case Study.** A group situation where the group is presented with a description of a complex, real-life problem and is required to reach solutions. Materials are usually in printed form, but can be presented orally or through role-playing, films, and television. (CS, 1:20)

e. **Demonstration.** The use of an actual situation or a portrayal to show and explain a procedure, technique, or operation; usually combining oral explanation with operation or handling of systems, equipment or materials. (D, 1:Group).

f. **Practical Exercise.** A practical application of the actions specified in the lesson objectives, which is performed by the student under controlled conditions. There are two categories of practical exercise:

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(1) **Hardware Oriented.** This category includes performance-oriented training with Army or Army-associated equipment, to include training devices and simulators. Examples are weapons firing and radio operations. (PE1, 1:6)

(2) **Non-Hardware Oriented.** This category encompasses all student performance exercises not involving practice in the use of specific equipment items. Examples are MAPEX's and paper based exercises. (PE2, 1:20)

g. Examination. The formal evaluation of a student's achievement of specified learning objectives. The categories of formal evaluation, defined in the same manner as the above groupings for practical exercises, are: hardware performance examination (E1, 1:6), non-hardware performance examination (E2, 1:20 to 1:Class), which includes written examinations.

h. Film. The category used when a film is shown for its own sake, not in conjunction with other categories. (F, 1:Class)

i. Television. The category used when television is used for its own sake, not in conjunction with other categories. (TV, 1:Class)

j. Guest Speaker. An individual, other than a member of the staff and faculty, who is invited by the school to lecture students on a specific subject. (GS, 1:Class)

k. Programmed Text. A type of instruction in which learning objectives and elements are sequenced in steps presented in a stimulus and response structure with immediate feedback for reinforcement. The medium of instruction may be either printed, audiovisual, automated, or a combination. (PT, 1:20)

l. Seminar. A tutorial arrangement, involving the instructor and the group, designed to elicit and exchange substantive information for such purposes as reaching new solutions to problems, providing general guidance for a group working on an advanced study or research project, and exchanging information on techniques and approaches being explored by members of a study or research group. (S, 1:20)

m. Field Trip. Method involving actual visit to a place of primary interest to a course of study. May include scheduled tours and/or demonstrations. (FT, 1:Class)

n. Guided Discussion. A student-centered instructional method in which students read extensive reference material and then present opinions and commentary in response to instructor guidance. (GD, 1:Class)

o. Panel Discussion. An instructional method directed by a student discussion leader in which several speakers (either guest speakers, instructors, or a combination) present information and respond to student questions. (PD, 1:Class)

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p. Student Panel. A form of panel discussion in which selected students are panel members. (SP, 1:Class)

q. Independent Student Effort. An ISE is testable material that is not covered in class. The material provided to the student to study is so well written and complete, it is deemed further instruction or discussion is unnecessary. (ISE, 0:Class)

r. Research and Study. Scheduled allocations of time which students are expected to perform RS assignments to prepare for subsequent course requirements. Students may be given specific or general directions for time usage. (RS, 0:Class)

s. Workshop. An instructional method in which students are provided information on an incremental basis to support analysis and intermittent discussions of an expanding problem situation. (WS, 1:Class)

t. Other Types of Instruction. You should not be limited to instructional methodologies listed above, but you may be required to use other specific types of instruction. Examples are special firing range training, video tele-training, and other high cost, limited quantity, hardware-specific training. (Any symbol for a type of instruction not specified in TRADOC Reg. 351-1 should be explained in the training annexes.)

u. Distributed Training Delivery Means. DT will use five categories of delivery means for distributing training to home-stations. Delivery means selected will be based on consideration of the target audience capabilities and motivation, Army lessons learned from previous failures and successes, and cost.

(1) **Print.** Paper based instruction will be retained as a cost effective means for delivery. It is cheaper and usually easier to develop than other means.

(2) **Videotape.** This mode of delivering training is advantageous in terms of standardization. It also provides soldiers and leaders with the opportunity for repetitive viewing to achieve a desired level of performance.

(3) **Computer-Based Training (CBT).**

(a) **Computer-Assisted Instruction (CAI).** CAI is on-line and interactive between students and a computerized training delivery system. The computer assumes a direct instructional role and students are required to respond to the stimulus. Students increase their proficiency through practice.

(b) **Computer-Managed Instruction (CMI).** CMI systems do not usually provide instruction, but offer prescriptive and diagnostic guidance. For example, students are pre-tested and their test performance assessed; CMI then identifies the appropriate media for training. After students complete training on these media, they return to the terminal and take a

post-test. From this, they receive a new diagnosis with a prescriptive plan that is tailored to their previous performance. Since CMI does not provide all instructional materials, it can serve a large number of students with a few terminals.

(4) **Interactive Videodisc (IVD).** Interactive instruction using optical disc technology offers perceptions that students cannot obtain through passive watching or even through traditional CAI methods. It combines the realism of video with the power of the microcomputer to instruct, reinforce skills, and enhance a positive feeling of accomplishment and achievement.

(5) **Video Tele-training.** The Army Distributed Training Network (ADTN) will be capable of worldwide, one-way video (instructor to student) and a two-way teleconferencing. The system product will be of broadcast quality with characteristics similar to network television.

Course Structure. Course consists of the following data :

QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course

	<u>PEACETIME</u>	<u>MOBILIZATION</u>
COURSE LENGTH:	2 Days	2 Days
INSTRUCTOR CONTACT HOURS:	95.0	93.0
CLASS SIZE:		
MAXIMUM	24	24
OPTIMUM	24	24
MINIMUM	10	10
ACADEMIC HOURS		
ACADEMIC TIME:		
Annex A (Basic Operations and Equipment)	6.0	6.0
Annex B (Sling Load Rigging Procedures)	9.0	9.0
Annex C (Sling Load Operations Examination)	1.0	NA
Annex Z (Administrative Processing)	4.0	4.0

Evaluation Standard.

a. Within the TSP POI, each training annex will generally have lessons with a practical exercise to be performed by the student. These exercises will be thoroughly performed to standard(s) and critiqued, as needed, until the student has mastered the skill/task before taking a timed and/or scored test.

b. A “score” of 70 percent is required to pass any test. End-of-unit (annex) performance and/or written test(s) and within individual lesson test(s) measure a student’s comprehension abilities on specified job skills/tasks being trained. In addition, these individual lesson test(s) and/or end-of-unit comprehensive test(s) predict a student’s ability to accomplish selected job tasks as performed in a real-life environment.

Section IV. INSTRUCTOR GUIDE

Student In-Processing.

Each student in the QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course will be assigned to a class or group roster before entry into the program. Student social security numbers will be used to identify each student throughout the course. All assigned students will be given a class number, validated by an instructor or designated representative on the first day of class, in order to maintain group integrity.

Orientation. Students will receive a course introduction to include the course objectives, philosophy, and policies. Emphasis will be placed on quality control and adherence to safety procedures while proceeding through the course. The following standards will apply to all course instruction:

a. Each student class or group will be assigned an adviser (usually senior training instructor) and a student leader. The adviser will meet with students in each phase of instruction to address student academic and personal needs related to course academic achievement. (The adviser must instill respect with the student to display their knowledge for and confidence in airdrop materials and life support equipment, demonstrating to the student their awareness of course training objectives and the course’s safety and hazard training concerns.) The student class or group leader will assume charge (command) of student class or group and coordinate with instructor cadre in any administrative and training action requirements as directed.

b. The training instructor will assist each student as required. The student may be administered GO/NO-GO practical exercises and/or examinations upon completion of training. If the student passes a “GO” on each requirement, he or she will proceed to the next lesson. If the student fails as a “NO-GO,” the training instructor will assign remedial training. The student will only have two re-tests of practical exercises to receive a “GO.” Failure of a second retest on a practical exercise will cause the student to receive a formal counseling statement and relief from the course as being academically disqualified. If student fails any written and/or hands-on

lesson test or end-of-course test below 70 percent, the student will be considered as having failed the course.

Instructor Responsibilities. The specific responsibilities of the training instructor include the following actions:

a. Prepare to administer the training and testing for the course. You are responsible for being technically proficient and certified as a sling load inspector in the subject you teach. It is equally important that you perform your duties in a professional manner. You are expected to be proficient in facilitating the learning activities of the students by administering all training and testing in a professional manner.

b. Monitor the students' practical exercises. Make on-the-spot corrections. Ask the students questions concerning procedures if they are performing a task incorrectly. Conduct appropriate after action report(s) (ARR's).

c. Perform clear and accurate demonstrations. Ensure the students understand the procedure fully.

d. Monitor the slow students closely; provide additional instruction as needed.

e. Be responsive to the needs and problems of the students. You are expected to provide solutions to problems or to be able to direct the student to the proper source for help. The instructor must be more than a facilitator must. You must observe students to ensure that no one remains confused or has problems.

f. Maintain the training facility or field site in a manner that aids effective learning. Ensure that the necessary course materials are on hand and that the training facility is neat, clean, and safe. Ensure discipline is maintained at all times.

g. Maintain course records.

h. Counsel students for disciplinary, academic, or administrative problems. Keep a record of all counseling sessions.

i. Take immediate action to correct or report unsafe conditions in the training facilities.

j. Assist the student in acquiring all lesson materials needed.

k. Select and prescribe appropriate remedial training when a student does not succeed in a lesson.

l. Evaluate course materials and administration. Provide suggestions or recommendations for improving the course.

Qualifications and Training. Instructors teaching the QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course must have attended the resident Sling Load Inspector Certification Course at either Fort Lee, VA or attended the Air Assault School or the Pathfinder Course.

a. **Training.** Additional training courses that the instructor may be able to take are the Criterion Referenced Instruction Workshop, Training Management Workshop, and Instructor Supervisor Development Seminar. These courses are offered at Fort Lee, Virginia.

b. **Counseling.** Counseling is the responsibility of the instructional staff. The student will be given the assistance necessary to complete the training course through class work observations and student conferences. Counseling will be provided when a student is observed to be approaching a dangerous condition or shows a lack of understanding. Use DA Form 4856-R (General Counseling Form) for counseling purposes.

Administrative Actions. Instructors may recommend to the company commander that a student be relieved from the course based on the following actions:

- a. Lack of interest and application on the part of the student.
- b. Lack of necessary leadership abilities.
- c. Academically dysfunctional

(NOTE: Instructors may recommend that a student be recycled for absenteeism or adverse attitude.)

Remedial Training Techniques. The course material and examinations have been validated to ensure their effectiveness. Occasionally, a student will not pass a lesson examination (below 70 percent). When this occurs, the instructor must take corrective action to re-train the student. If the deficiency is minor or if extenuating conditions are present, the student may be directed to re-take the lesson examination immediately. The instructor may tutor the student and then retest soon thereafter. If the student continues to have a problem with the lesson, he may be placed with another class or group of students to receive additional instruction as his class progresses to the next lesson. The student must receive a “GO/ACCOMPLISHED” on the lesson prior to proceeding to the next lesson. (NOTE: Review Instructor Guide, Section III, in this document on trainer orientation for student assistance on practical exercises and tests.)

Section V. STUDENT GUIDE

Course Organization. QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course will provide the student with skills and knowledge to prepare and rig various supplies and equipment for sling load operations; and how to prepare and set up PZ(s) and LZ(s) for sling load operations.

Responsibilities. The responsibilities of each student include the following considerations:

- a. Address every course instructor with respect.
- b. Complete each study assignment.
- c. Complete each practical exercise in every lesson.
- d. Participate in all conference classes.
- e. Pay close attention to every demonstration and conference.
- f. Request instructor aid when confused or whenever help is needed.
- g. Notify the instructor if all necessary resources are not available.
- h. Pass all assigned tests.
- i. Work safely and report all unsafe conditions.
- j. Keep work area neat and clean at all times.
- k. Report to class on time and in the correct uniform.
- l. Follow the directions of the instructor.
- m. Maintain an acceptable standard of military appearance.
- n. Participate in physical training to maintain physical fitness.
- o. Maintain integrity.
- p. Participate in required counseling sessions.
- q. Seek medical assistance as required.

Safety. Safety is everyone's responsibility. Safety procedures include the following actions:

- a. Avoid horseplay, keep your mind on your work.
- b. Keep floors clean and dry.
- c. Keep floors free of any item that someone could trip over.
- d. Read and heed safety signs.
- e. Get first aid promptly if injured.
- f. Smoke only in areas designated as smoking areas.

Testing and Grading. Generally, end-of-unit/annex test is at the completion of each annex of instruction. This test measures your comprehension and ability to do specific job tasks and keep the instructor informed on your progress. If you fail an examination the first time, you will be given remedial training and be re-tested. As a minimum, a score of 70 percent is required to receive a passing grade. Not passing an End-of-Course test (examination) with a minimum score of 70 percent is considered not passing the course.

Administrative Procedures. Students in the TSP course will in-process and out-process according to procedures and directions established by the command using this TSP. Using the TSP, the command will identify these elements/procedures to students prior to the training start date.

(NOTE: If required, unit commander will allow soldiers sufficient time to complete all in-/out-processing procedures. The signature of the unit commander or his/her designated representative on DA Form 137 or similar documentation will verify that the soldier is cleared for departure from the training base.)

Graduation Procedures. QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course will graduate those students in sling load operations IAW test grades and instructor evaluation assessment data sheets. TSP user will issue documentation showing that the student has satisfactorily completed the QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course, for entry into their personnel record.

Facilities. Recommended facilities used for the QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course.

a. Sling Load teaching laboratory is a 200- by 200-foot building. It has 40,000 square feet with areas equipped for presenting airdrop instruction. The laboratory has 16- and 35-millimeter projectors with screen, chalkboards, and training aids available for use by any class member.

b. Special subjects are taught in a 15- by 15-foot general-purpose classroom. It consists of 225 square feet with tables and chairs. Chalkboards and training aids are available for use by class members.

c. Sling Load LZ(s) is a designated land mass serving as an observation post, landing zone, pickup zone, and drop zone. Area is required for sling load operations, using rotary wing aircraft.

(NOTE: QM WARRIOR TSP: Sling Load Operations, Train-the-Trainer Course facilities will be identified by the using unit; training facilities will be identified in TSP POI.)

Appendix B. REFERENCES

Army Regulations

- 59-4 Joint Airdrop Inspection Records, Malfunction Investigations and Activity Reporting
- 600-200 Enlisted Personnel Management System
- 611-101 Personnel Selection and Classification, Commissioned Officer Classification System
- 611-201 Enlisted Career Management Fields and Military Occupational Specialties

Field Manuals

- 10-450-3 Multiservice Helicopter Sling Load: Basic Operations and Equipment
- 10-500 Airdrop of Supplies and Equipment: Rigging Airdrop Platforms
- 10-501 Airdrop of Supplies and Equipment: Rigging Containers
- 55-9 Unit Air Movement Planning
- 55-10 Movement Control in a Theater of Operations
- 55-15 Transportation Reference Data
- 10-450-4 Multiservice Helicopter Sling Load: Single-Point Loading Rigging Procedures
- 10-450-5 Multiservice Helicopter Sling Load: Dual-Point Load Rigging Procedures
- 57-38 Pathfinder Operations
- 100-27 US Army/US Air Force Doctrine for Joint Airborne and Tactical Airlift Operations
- 101-10-1 Staff Officers' Field Manual: Organizational, Technical, and Logistical Data Planning Factors

Technical Manuals

10-500-7	Airdrop of Supplies and Equipment, Airdrop Recovery Procedures
10-1670-201-23	Organizational and Direct Support Maintenance Manual for General Maintenance of Parachutes and Other Airdrop Equipment
10-1670-298-20&P	Miscellaneous Airdrop Canvas, Webbing, Metal, and Wood Items
10-8110-201-14&P	Operators, Organizational, Direct Support and General Support Maintenance Manual

DA Forms

17	Requisition for Publications and Blank Forms
31	Request Authority for Leave
137	Installation Clearance Record
3903	Training--Audiovisual Work Order
4856-R	General Counseling Form
7382-R	Sling Load Inspection Record

DD Form

843	Requisition for Printing and Binding Service
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QMFL Forms

24	Class Attendance Report
173	Lesson Requirement Sheet
174	Master Scheduling Form
199	Instructor Evaluation Report
580	Request for Motor Transportation

Appendix C. DEFINITIONS AND CODES

Definitions

Recycle - Student changes to another class in session in the same course.

Relief - Student attendance in a class and course is terminated.

Early Graduate - A student who successfully completes a course prior to scheduled graduation day (other than self-pacing).

Academic Attrition Codes

A - Comprehension - Lack of ability to comprehend course material as written and perform as designated by course objectives.

B - Physical - Lack of stamina and physical ability needed to perform the tasks required by the course of instruction.

C - Motivational - Deliberate lack of interest and application on the part of the student.

D - Leadership skills - Lack of necessary leadership skills.

E - English language comprehension - Lack of necessary English language comprehension.

Administrative Attrition Codes

J - Medical - Student withdrawal from a course because of medical reason(s); does not require hospitalization, but prevents completion of the course. (Not to be confused with attrition B, physical).

K - Disciplinary - Student withdrawal from a course because of confinement, conviction, or punishment for offenses not related to academic standing.

L - Compassionate - Student withdrawal from a course because factors involving the health, welfare, and security of the individual or family are so compelling that the best interests of the individual require termination of student status.

M - Security - Student withdrawal from a course because of factors which deny the individual required security clearance. Any student who fails a course while his security clearance is being processed will be counted as academic attrition, not as administrative attrition.

N - Recall by control agency/parent organization - Student withdrawal from a course due to a request by the parent organization that the student be returned home or transferred to another station for compelling reasons not related to the student's academic achievement.

O - Erroneous enrollment - Student withdrawal from a course because of administrative error in enrollment (student placed in course by mistake). The lack of prerequisites is not a factor.

P - Hospitalization - Student withdrawal from a course because of hospitalization for any given period of time which will prevent the individual from achieving the objectives of the course.

Q - Withdrawal in good academic standing - Student withdrawal in good academic standing. Student is to be enrolled in another course or reassigned based on more essential requirements of the service.

R - Other - Student withdrawal from a course because of death, separation, AWOL, desertion, or other reasons not stated above and not related to the student's achievement of course objectives.

Instructional Terms

Annex - Largest division of a course indicated by a letter (A,B, etc.).

Course Manager - Individual responsible for student and instructor management, usually the ranking NCO or officer.

Criterion-Referenced Test (CRT) - A performance test given upon completion of a unit of study.

End-of-Course Comprehensive Test (EOCCT) - A test given to measure a student's performance at the end of a course of instruction. The EOCCT measures the student's ability to accomplish selected job tasks he will be required to perform in a regular unit.

Instructor - The person responsible for helping students achieve the objectives of the course.

Job Training Aid - A guide used to direct performance when training on the job.

Learning Performance Guide (LPG) - A document explaining exactly what a student is expected to accomplish.

Lesson - Instruction, which addresses one or more enabling objectives, required to perform part of a job task. One or more lessons make up a module.

Module - That element of a course that is designed to develop in a soldier the ability to perform a specified job task. One or more lessons are contained in a module of training.

Objective - A statement which indicates the desired training performance.

Performance Objectives - A statement of conditions under which the action is to be performed and the standard to which the action needs to be performed.

APPENDIX B

QM WARRIOR TSP
PROGRAM OF INSTRUCTION:

SLING LOAD OPERATIONS
TRAIN-THE-TRAINER
COURSE

PROGRAM OF INSTRUCTION

COURSE: 101-Q-0001 TSP PHASE: VER:

COURSE TITLE: SLING LOAD OPNS TRAIN-THE-TRAINER COURSE

PEACETIME COURSE LENGTH: 000 WKS & 02 DAYS

MOBILIZATION COURSE LENGTH: 000 WKS & 02 DAYS

APPROVAL DATE: 1996/09/03

APPROVAL AUTHORITY: COMMANDER

US ARMY QUARTERMASTER CENTER AND SCHOOL
FORT LEE, VIRGINIA 23801-5000

SUPERSESSION INFO:

PREFACE PAGE

PREPARATION DATE: 1996/10/01

COURSE: 101-Q-0001 TSP PHASE: VER:
COURSE TITLE: SLING LOAD OPNS TRAIN-THE-TRAINER COURSE

TRAINING LOCATION: US ARMY QUARTERMASTER CENTER AND SCHOOL
FORT LEE, VA 23801-5000

SPECIALTY: SLING LOAD: TRAINING SUPPORT PACKET (TSP)

SUPPORTING ITP: NA

PURPOSE: To train selected personnel (active and reserve components) for Army (including Army National Guard), Navy, Marine, Air Force, and designated civilian populace, requiring the need to properly prepare and rig supplies and equipment for sling load under rotary wing aircraft.

SCOPE: To provide instruction on procedures for selecting, preparing, and controlling pickup zones and landing zones; and preparing and rigging sling load transported supplies and equipment. Security required: None.

PREREQUISITES: NONE

SPECIAL INFORMATION: None

SECURITY CLEARANCE: NONE

DATA:	PEACETIME	MOBILIZATION
	-----	-----
COURSE LENGTH:	000 WK 02 DAY	000 WK 02 DAY
AJUSTED COURSE ICH:	95.0	93.0
CLASS SIZES: - MAXIMUM:	24	24
OPTIMUM:	24	24
MINIMUM:	10	10
ACADEMIC HOURS: - COURSE UNIQUE:	16.0	15.0
SHARED:	0	
TOTAL:	16.0	
HOURS DEVELOPED BY OTHERS: - DEVELOPED:	0	
CONDUCTED:	0	

COURSE TYPE CODE: 05 ENLISTED FUNCTIONAL

ITRO CODE: Q QUOTA COURSE/NON-ITRO

COURSE: 101-Q-0001 TSP PHASE: VER:

CONTRACT CODE: N NOT A CONTRACT COURSE

TRAINING START DATE: 1997/01/06

TD PROPONENT:

DESIGN AND

DEVELOPMENT: USACASCOM, TNG DIR, FORT LEE, VA 23801-1713

INSTRUCTOR PROVIDED

SUPPORT: US ARMY QUARTERMASTER CENTER AND SCHOOL,FORT LEE, VA 23801-5000

ARMY COURSE

PROPONENT: US ARMY QUARTERMASTER CENTER AND SCHOOL,FORT LEE, VA 23801-5000

TRAINING EVALUATION

PROPONENT: USACASCOM, TNG DIR, FORT LEE, VA 23801-1713

REMARKS:

COURSE SUMMARY

COURSE: 101-Q-0001 TSP PHASE: VER:
 PREPARATION DATE: 1996/09/03
 COURSE TITLE: SLING LOAD OPNS TRAIN-THE-TRAINER COURSE

ACADEMIC TIME	PEACETIME	MOBILIZATION
ANNEX: A BASIC OPERATIONS AND EQUIPMENT	6.0	6.0
ANNEX: B SLING LOAD RIGGING PROCEDURES	9.0	9.0
ANNEX: C SLING LOAD OPERATIONS EXAMINATION	1.0	0.0
MANDATORY ANNEX:	0.0	0.0
	TOTAL: 16.0	15.0

ADMINISTRATIVE TIME

ADMINISTRATIVE ANNEX: Z ADMINISTRATIVE TIME	4.0	4.0
	GRAND TOTAL: 20.0	19.0

ACADEMIC HOURS BY SECURITY CLASSIFICATION	PEACETIME	MOBILIZATION
UNCLASSIFIED:	16.0	15.0

TRAINING ANNEX(S)

COURSE: 101-Q-0001 TSP PHASE: VER:
PREPARATION DATE: 1996/09/03
COURSE TITLE: SLING LOAD OPNS TRAIN-THE-TRAINER COURSE

TRAINING ANNEX: A
TITLE: BASIC OPERATIONS AND EQUIPMENT

PURPOSE: TO ACQUAINT THE STUDENT TO SLING LOAD AS BEING A SEPARATE BUT INTEGRAL PART OF AERIAL DELIVERY AND TO GIVE THE STUDENT THE NECESSARY KNOWLEDGE AND SKILLS TO IDENTIFY APPROPRIATE SLING LOAD EQUIPMENT TO BE USED IN THESE OPERATIONS; CAPABILITIES AND LIMITATIONS OF ROTARY WING AIRCRAFT USED FOR SLING LOAD TRANSPORT; AND SLING LOAD DATA INSPECTION FORM (SLING LOAD INSPECTION RECORD) USED IN SLING LOAD OPERATIONS; THE ABILITY AND MASTERY OF PERFORMING SLING LOAD HOOKUP OPERATION; AND, SELECTING, PREPARING SETUP, AND CONTROLLING SLING LOAD PICKUP ZONE AND LANDING ZONE.

PEACETIME ACADEMIC HOURS: 6.0
MOBILIZATION ACADEMIC HOURS: 6.0

*** ACADEMIC HOURS ***			
PEACETIME		MOBILIZATION	
HOURS	TYPE	HOURS	TYPE
0.5	C	0.5	C

PFN NO: A-01
CLEARANCE: UNCLASSIFIED
TITLE: TYPES OF HELICOPTERS AND LIMITATIONS
TLO: In a conference presentation, the student will be made aware that sling load is a separate but integral part of the aerial delivery system. The student will be acquainted with the types of rotary aircraft (helicopters) and their capabilities and limitations for use in sling load operations. Instructional information will be IAW FM 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment).

COURSE: 101-Q-0001 TSP PHASE: VER:

*** ACADEMIC HOURS ***			
PEACETIME		MOBILIZATION	
HOURS	TYPE	HOURS	TYPE
-----	-----	-----	-----
0.5	C	0.5	C

PFN NO: A-02
 CLEARANCE: UNCLASSIFIED
 TITLE: CARGO CARRYING DEVICES (A-22/NETS)
 TLO: In a conference presentation, the student will be familiarized on cargo carrying devices used in sling load operations. Information will be IAW FMs 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment), 55-450-4 (Multiservice Helicopter External Air Transport: Single-Point Load Rigging Procedures), and 55-450-5 (Multiservice Helicopter External Air Transport: Dual-Point Load Rigging Procedures).

0.5	C	0.5	C
-----	---	-----	---

PFN NO: A-03
 CLEARANCE: UNCLASSIFIED
 TITLE: MULTI-LEG SLING SETS (10K/25K)
 TLO: In a conference presentation, the student will be familiarized on equipment items used on multi-leg sling sets: 10K/25K. Information will be IAW FMs 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment), 55-450-4 (Multiservice Helicopter External Air Transport: Single-Point Load Rigging Procedures), and 55-450-5 (Multiservice Helicopter External Air Transport: Dual-Point Load Rigging Procedures).

0.5	C	0.5	C
-----	---	-----	---

PFN NO: A-04
 CLEARANCE: UNCLASSIFIED
 TITLE: REACH PENDANTS/HARDWARE
 TLO: In a conference presentation, the student will be familiarized on reach pendants/hardware equipment items used on sling sets. Information will be IAW FMs 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment), 55-450-4 (Multiservice Helicopter External Air Transport: Single-Point Load Rigging Procedures), and 55-450-5 (Multiservice Helicopter External Air Transport: Dual-Point Load Rigging Procedures).

COURSE: 101-Q-0001 TSP

PHASE: VER:

*** ACADEMIC HOURS ***

PEACETIME		MOBILIZATION	
HOURS	TYPE	HOURS	TYPE
0.5	C	0.5	C

PFN NO: A-05

CLEARANCE: UNCLASSIFIED

TITLE: SLING LOAD INSPECTION RECORD

TLO: In a conference presentation, the student will be familiarized on the application requirements for using the "Sling Load Inspection Record" in accordance with FM 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment).

PFN NO: A-06

CLEARANCE: UNCLASSIFIED

TITLE: SIGNALMAN DUTIES AND RESPONSIBILITIES

TLO: Following a conference and demonstration, students will be divided into groups to practice the appropriate hand and arm signals to guide rotary aircraft into pickup and landing zone for sling load operations IAW FMs 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment), 55-450-4 (Multiservice Helicopter External Air Transport: Single-Point Load Rigging Procedures), and 55-450-5 (Multiservice Helicopter External Air Transport: Dual-Point Load and Rigging Procedures). Practical exercise will be assessed using a GO/NO-GO checklist for appropriate actions/skills requirement, identified within lesson content.

0.3	C	0.3	C
0.2	D	0.2	D
1.0	PE1	1.0	PE1

COURSE: 101-Q-0001 TSP

PHASE: VER:

*** ACADEMIC HOURS ***

PEACETIME		MOBILIZATION	
HOURS	TYPE	HOURS	TYPE
0.5	C	0.5	C

PFN NO: A-07

CLEARANCE: UNCLASSIFIED

TITLE: HOOK UP TEAM DUTIES AND RESPONSIBILITIES

TLO: In a conference presentation, the students will be familiarized with the duties and responsibilities required of hook up team for sling load operations: hook up personnel/hook up man, and static probe (wand) man. Safety considerations to be employed for hook up will be identified. Presentation will be IAW FMs 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment), 55-450-4 (Multiservice Helicopter External Air Transport: Single-Point Load Rigging Procedures), and 55-450-5 (Multiservice Helicopter External Air Transport: Dual-Point Load Rigging Procedures).

PFN NO: A-08

CLEARANCE: UNCLASSIFIED

TITLE: SAFETY EQUIPMENT

TLO: In a conference presentation, the student will be familiarized with all protective equipment used for sling load operations (such as static prob (static electricity awareness), Kevlar helmet, gloves, ear plugs, goggles, wear of clothing, flashlight w/wand, smoke grenades, and rotor wash) IAW FMs 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment), 55-450-4 (Multiservice Helicopter External Air Transport: Single-Point Load Rigging Procedures), and 55-450-5 (Multiservice Helicopter External Air Transport: Dual-Point Load and Rigging Procedures).

0.5 C 0.5 C

COURSE: 101-Q-0001 TSP

PHASE: VER:

*** ACADEMIC HOURS ***

PEACETIME		MOBILIZATION	
HOURS	TYPE	HOURS	TYPE
1.0	C	1.0	C

PFN NO: A-09

CLEARANCE: UNCLASSIFIED

TITLE: PREPARATION AND SET UP OF PICKUP ZONE
(PZ)/LANDING ZONE (LZ)

TLO: In a conference presentation, the student will be familiarized on the requirements for preparing and setting up of PZ/LZ for required rotary aircraft for day sling load operations; students will be informed on requirements for selecting appropriate PZ/LZ regarding aircraft and formations being flown, number of aircraft in the operation; ground/air communication requirements; environmental concerns such as landscape surface conditions, atmospheric conditions; and, physical requirements in setting up the LZ/PZ. All instruction data will be IAW FM 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment).

REMARKS:

TRAINING ANNEX: B
 TITLE: SLING LOAD RIGGING PROCEDURES

PURPOSE: TO GIVE THE NECESSARY KNOWLEDGE AND SKILLS TO THE STUDENT IN
 PERFORMING REQUIRED SLING LOAD RIGGING PROCEDURES.

PEACETIME ACADEMIC HOURS: 9.0
 MOBILIZATION ACADEMIC HOURS: 9.0

	*** ACADEMIC HOURS ***			
	PEACETIME HOURS	TYPE	MOBILIZATION HOURS	TYPE
PFN NO: B-01	0.2	C	0.2	C
CLEARANCE: UNCLASSIFIED	0.3	D	0.3	D
TITLE: RIGGING A-22 CARGO BAG (CONTAINERS)/NETS	1.5	PE1	1.5	PE1
TLO: Following a conference and demonstration, the student will practice preparing and rigging A-22 cargo bag(s) (containers) for sling load operation IAW FMs 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment), 55-450-4 (Multiservice Helicopter Sling Load: Single-Point Load Rigging Procedures), and 55-450-5 (Multiservice Helicopter Sling Load: Dual-Point Load Rigging Procedures); and, Soldier Training Publications (STPs) 10-77F15-SM-TG (Soldier's Manual and Trainer's Guide: Petroleum Supply Specialist, Skill Levels 1, 2, 3, 4, and 5); 10-92Y24-SM-TG (Soldier's Manual and Trainer's Guide: Unit Supply Specialist, Skill Levels 2, 3, and 4), and other cited references stated within these publications. Students will complete a practical exercise.				

COURSE: 101-Q-0001 TSP

PHASE: VER:

*** ACADEMIC HOURS ***

	PEACETIME		MOBILIZATION	
	HOURS	TYPE	HOURS	TYPE
PFN NO: B-02	0.2	C	0.2	C
CLEARANCE: UNCLASSIFIED	0.3	D	0.3	D
TITLE: RIGGING FUEL BLIVETS	1.5	PE1	1.5	PE1

TLO: Following a conference and demonstration, the student will practice preparing and rigging fuel blivets for sling load. Instructional data for sling load operation will be IAW FMs 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment), 55-450-4 (Multiservice Helicopter Sling Load: Single-Point Load Rigging Procedures), and 55-450-5 (Multiservice Helicopter Sling Load: Dual-Point Load Rigging Procedures); and, Soldier Training Publications (STPs) 10-77F15-SM-TG (Soldier's Manual and Trainer's Guide: Petroleum Supply Specialist, Skill Levels 1, 2, 3, 4, and 5), 10-92Y24-SM-TG (Soldier's Manual and Trainer's Guide, Skill Levels 2, 3, and 4), and other cited references in these publications. Students will complete a practical exercise.

PFN NO: B-03	0.2	C	0.2	C
CLEARANCE: UNCLASSIFIED	0.3	D	0.3	D
TITLE: RIGGING HMMWV	1.5	PE1	1.5	PE1

TLO: Following a conference and demonstration, the student will practice preparing and rigging HMMWV for sling load. Instructional data for sling load operation will be IAW FMs 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment), 55-450-4 (Multiservice Helicopter Sling Load: Single-Point Load Rigging Procedures), and 55-450-5 (Multiservice Helicopter Sling Load: Dual-Point Load Rigging Procedures). Students will complete a practical exercise.

COURSE: 101-Q-0001 TSP

PHASE: VER:

*** ACADEMIC HOURS ***

PEACETIME		MOBILIZATION	
HOURS	TYPE	HOURS	TYPE
3.0	PE1	3.0	PE1

PFN NO: B-04

CLEARANCE: UNCLASSIFIED

TITLE: SLING LOAD EXERCISE

TLO: The student, working in a designated team and/or individually, will demonstrate his knowledge and skill on establishing and setting up LZ/PZ areas for sling load operations; preparing and rigging various supplies and equipment for sling load operational mission; and directing rotary aircraft for sling load pickup and landing. Sling load rigging teams or individual personnel will be monitored according to a checklist data sheet or the "Sling Load Inspection Record" on rigging supplies and equipment for sling load operations; establishing and setting up PZ/LZ area(s); and directing aircraft to these areas will be IAW information in FM 10-450-3 (Multiservice Helicopter Sling Load; Basic Operations and Equipment), all instructional/ technical information for this exercise is IAW FMs 10-450-3 (Multiservice Helicopter Sling Load: Basic Operations and Equipment), 55-450-4 (Multiservice Helicopter Sling Load: Single-Point Load Rigging Procedures), and 55-450-5 (Multiservice Helicopter Sling Load: Dual-Point Load Rigging Procedures); and, Soldier's Training Publications (STPs) 10-77F15-SM-TG (Soldier's Manual and Trainer's Guide: Petroleum Supply Specialist, Skill Levels 1, 2, 3, 4, and 5), 10-92Y24-SM-TG (Soldier's Manual and Trainer's Guide: Unit Supply Specialist, Skill Levels 2, 3, and 4), and other cited references within these publications. (NOTE: This exercise will have as a minimum at all times the following support personnel on the PZ/LZ: 1 PZCO, 1 RTO, 1 Medic, and ambulance with driver.)

REMARKS:

TRAINING ANNEX: C
 TITLE: SLING LOAD OPERATIONS EXAMINATION

PURPOSE: TO REINFORCE THE STUDENT'S KNOWLEDGE BY TESTING ON SPECIFIC TASKS IN CONDUCTING SLING LOAD OPERATIONS: PREPARING AND RIGGING SUPPLIES AND EQUIPMENT FOR SLING LOAD OPERATIONAL MISSION; PREPARING AND SETTING UP OF PICKUP AND LANDING ZONE(S) FOR ROTARY WING AIRCRAFT TO CONDUCT SLING LOAD OPERATION; AND DUTIES AND REQUIREMENTS FOR SLING LOAD SIGNALMAN AND SLING LOAD HOOKUP TEAM.

PEACETIME ACADEMIC HOURS: 1.0
 MOBILIZATION ACADEMIC HOURS: 0.0

*** ACADEMIC HOURS ***			
PEACETIME		MOBILIZATION	
HOURS	TYPE	HOURS	TYPE
-----	-----	-----	-----
1.0	E3	0.0	E3

PFN NO: C-01
 CLEARANCE: UNCLASSIFIED
 TITLE: SLING LOAD EXAMINATION
 TLO: The student will take a written, closed book examination, emphasizing those essential skills and data for sling load operations: requirements for establishing and setting up PZ/LZ, procedures for preparing and rigging sling loads of various supplies and equipment, requirements and duties of sling load signalman and requirements and duties of sling load hookup team. Examination is based on lesson instructions and applicable referenced training publications received in Annexes A and B. As a minimum, the standard for passing the examination is a score of 70 percent. Following the written examination, the instructor will review the examination questions with the students to reinforce the terminal learning objectives and points of interest studied in Annexes A and B. (Review may occur after the normal training day activities.)

REMARKS:

MANDATORY TRAINING ANNEX

COURSE: 101-Q-0001 TSP PHASE: VER:
PREPARATION DATE: 1996/10/01
COURSE TITLE: SLING LOAD OPNS TRAIN-THE-TRAINER COURSE
*** THERE ARE NO ENTRIES ***

EXAMINATION ANNEX

COURSE: 101-Q-0001 TSP PHASE: VER:
 PREPARATION DATE: 1996/10/01
 COURSE TITLE: SLING LOAD OPNS TRAIN-THE-TRAINER COURSE

PEACETIME ACADEMIC HOURS: 1.0
 MOBILIZATION ACADEMIC HOURS: 0.0

*** EXAMINATION HOURS ***			
PEACETIME		MOBILIZATION	
HOURS	TYPE	HOURS	TYPE
-----	-----	-----	-----
1.0	E3	0.0	E3

ANNEX: C PFN NO: C-01
 CLEARANCE: UNCLASSIFIED
 TITLE: SLING LOAD EXAMINATION
 TLO: The student will take a written, closed book examination, emphasizing those essential skills and data for sling load operations: requirements for establishing and setting up PZ/LZ, procedures for preparing and rigging sling loads of various supplies and equipment, requirements and duties of sling load signalman and requirements and duties of sling load hookup team. Examination is based on lesson instructions and applicable referenced training publications received in Annexes A and B. As a minimum, the standard for passing the examination is a score of 70 percent. Following the written examination, the instructor will review the examination questions with the students to reinforce the terminal learning objectives and points of interest studied in Annexes A and B. (Review may occur after the normal training day activities.)

ADMINISTRATIVE ANNEX

COURSE: 101-Q-0001 TSP PHASE: VER:
 PREPARATION DATE: 1996/10/01
 COURSE TITLE: SLING LOAD OPNS TRAIN-THE-TRAINER COURSE

ADMINISTRATIVE ANNEX: Z
 TITLE: ADMINISTRATIVE TIME

PURPOSE:

PEACETIME ACADEMIC HOURS: 4.0
 MOBILIZATION ACADEMIC HOURS: 4.0

ADMINISTRATIVE HOURS			
PEACETIME		MOBILIZATION	
HOURS	TYPE	HOURS	TYPE
-----	-----	-----	-----
2.0	OTH	2.0	OTH

PFN NO: Z-1
 CLEARANCE: UNCLASSIFIED
 TITLE: INPROCESSING
 TLO: A list of student names, rank, and MOS will be established by parent unit and presented to sling load mobile training team (MTT) or TSP using unit commander for accountability and related administrative requirements as needed.

2.0	OTH	2.0	OTH
-----	-----	-----	-----

PFN NO: Z-2
 CLEARANCE: UNCLASSIFIED
 TITLE: OUTPROCESSING
 TLO: MTT or TSP using company will award Training Certificates to participants who successfully complete course training requirements.

REMARKS:OTHER TIME: Consists of 4 hours conducted outside the normal duty day and includes the following: soldierization training, physical readiness training, and the annual physical fitness test (APFT) and equal opportunity/sexual harrassment (EO/SH). This training may or may not occur based on the determination and other circumstances deemed necessary by the company commander.

SKILL, KNOWLEDGE AND TASK SUMMARY

COURSE: 101-Q-0001 TSP PHASE: VER:
PREPARATION DATE: 1996/10/01
COURSE TITLE: SLING LOAD OPNS TRAIN-THE-TRAINER COURSE

PROPONENT APPROVED SKILLS, KNOWLEDGES AND TASKS

TASK NO	ANNEX	PFN NO	TRAINED TO STANDARD:	PEACE	MOBILIZATION
*** THERE ARE NO ENTRIES ***					

OTHER SKILLS, KNOWLEDGES AND TASKS

TASK NO	ANNEX	PFN NO	TRAINED TO STANDARD:	PEACE	MOBILIZATION
*** THERE ARE NO ENTRIES ***					

AMMUNITION SUMMARY

COURSE: 101-Q-0001 TSP PHASE: VER:
 PREPARATION DATE: 1996/10/01
 COURSE TITLE: SLING LOAD OPNS TRAIN-THE-TRAINER COURSE

LIVE AMMUNITION

DODIC	ANNEX	PFN NO	AMMUNITION REQUIREMENT			
			PEACETIME FOR		MOBILIZATION FOR	
			STUDENTS	OTHER	STUDENTS	OTHER
G930	A	A-08	0	1	0	1
NOMENCLATURE: GRENADE HAND SMOKE HC AN MB W/FUZE M201A1						
G940	A	A-08	0	1	0	1
NOMENCLATURE: GRENADE HAND M18 GREEN SMOKE W/FUZE M201A1						
G945	A	A-08	0	1	0	1
NOMENCLATURE: GRENADE HAND M18 YELLOW SMOKE W/FUZE M201A1						
G950	A	A-08	0	1	0	1
NOMENCLATURE: GRENADE HAND M18 RED SMOKE W/FUZE M201A1						
G955	A	A-08	0	1	0	1
NOMENCLATURE: GRENADE HAND M18 VIOLET SMOKE W/FUZE M201A1						
G930	B	B-04	0	2	0	2
NOMENCLATURE: GRENADE HAND SMOKE HC AN MB W/FUZE M201A1						
G940	B	B-04	0	2	0	2
NOMENCLATURE: GRENADE HAND M18 GREEN SMOKE W/FUZE M201A1						
G945	B	B-04	0	2	0	2
NOMENCLATURE: GRENADE HAND M18 YELLOW SMOKE W/FUZE M201A1						
G950	B	B-04	0	2	0	2
NOMENCLATURE: GRENADE HAND M18 RED SMOKE W/FUZE M201A1						
G955	B	B-04	0	2	0	2
NOMENCLATURE: GRENADE HAND M18 VIOLET SMOKE W/FUZE M201A1						

DUMMY OR INERT AMMUNITION

DODIC	ANNEX	PFN NO	AMMUNITION REQUIREMENT			
			PEACETIME FOR		MOBILIZATION FOR	
			STUDENTS	OTHER	STUDENTS	OTHER
*** THERE ARE NO ENTRIES ***						

EQUIPMENT SUMMARY

COURSE: 101-Q-0001 TSP PHASE: VER:
 PREPARATION DATE: 1996/10/01
 COURSE TITLE: SLING LOAD OPNS TRAIN-THE-TRAINER COURSE

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	O P T E M P O H R S / M I L
			PEACE	MOBIL	PEACE	MOBIL		
1520-00-087-7637	B	B-04	1	1	1:24	1:24	Y	0.0
NOMENCLATURE: HELICOPTER, UTILITY, UH-1H								
REMARKS: LIN K31795								
1670-00-360-0340	A	A-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: QUICK-FIT STRAP FASTNER								
REMARKS:								
1670-00-360-0340	A	A-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: QUICK-FIT STRAP FASTNER								
REMARKS:								
1670-00-360-0340	A	A-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: QUICK-FIT STRAP FASTNER								
REMARKS:								
1670-00-360-0340	A	A-09	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: QUICK-FIT STRAP FASTNER								
REMARKS:								
1670-00-360-0340	B	B-01	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: QUICK-FIT STRAP FASTNER								
REMARKS:								
1670-00-360-0340	B	B-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: QUICK-FIT STRAP FASTNER								
REMARKS:								
1670-00-360-0340	B	B-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: QUICK-FIT STRAP FASTNER								
REMARKS:								
1670-00-360-0340	B	B-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: QUICK-FIT STRAP FASTNER								
REMARKS:								
1670-00-587-3421	A	A-02	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: A-22 CARGO CONTAINER								
REMARKS: LINB14181								
1670-00-587-3421	B	B-04	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: A-22 CARGO CONTAINER								
REMARKS: LIN B14181								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	O P T E M P O H R S / M I L
			PEACE	MOBIL	EQUIP TO STUDENT	PEACE		
1670-00-725-1437	A	A-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIEDOWN, STRAP, CGU-1B								
REMARKS:								
1670-00-725-1437	A	A-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIEDOWN, STRAP, CGU-1B								
REMARKS:								
1670-00-725-1437	A	A-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIEDOWN, STRAP, CGU-1B								
REMARKS:								
1670-00-725-1437	A	A-09	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIEDOWN, STRAP, CGU-1B								
REMARKS:								
1670-00-725-1437	B	B-01	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIEDOWN, STRAP, CGU-1B								
REMARKS:								
1670-00-725-1437	B	B-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIEDOWN, STRAP, CGU-1B								
REMARKS:								
1670-00-725-1437	B	B-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIEDOWN, STRAP, CGU-1B								
REMARKS:								
1670-00-725-1437	B	B-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIEDOWN, STRAP, CGU-1B								
REMARKS:								
1670-00-783-5988	A	A-04	2	2	1:12	1:12	Y	0.0
NOMENCLATURE: LINK ASSEMBLY, TYPE IV MB-1 CHAIN ASSM, 10,000-LB								
REMARKS:								
1670-00-783-5988	B	B-04	2	2	1:12	1:12	Y	0.0
NOMENCLATURE: LINK ASSEMBLY, TYPE IV MB-1 CHAIN ASSM, 10,000-LB								
REMARKS:								
1670-00-937-0271	A	A-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIE-DOWN STRAP, WEB NYLON, 10,000-LB CAPACITY								
REMARKS:								
1670-00-937-0271	A	A-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIE-DOWN STRAP, WEB NYLON, 10,000-LB CAPACITY								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	O P T E M P O H R S / M I L
			PEACE	MOBIL	PEACE	MOBIL		
1670-00-937-0271	A	A-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIE-DOWN STRAP, WEB NYLON, 10,000-LB CAPACITY								
REMARKS:								
1670-00-937-0271	A	A-09	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIE-DOWN STRAP, WEB NYLON, 10,000-LB CAPACITY								
REMARKS:								
1670-00-937-0271	B	B-01	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIE-DOWN STRAP, WEB NYLON, 10,000-LB CAPACITY								
REMARKS:								
1670-00-937-0271	B	B-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIE-DOWN STRAP, WEB NYLON, 10,000-LB CAPACITY								
REMARKS:								
1670-00-937-0271	B	B-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIE-DOWN STRAP, WEB NYLON, 10,000-LB CAPACITY								
REMARKS:								
1670-00-937-0271	B	B-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: TIE-DOWN STRAP, WEB NYLON, 10,000-LB CAPACITY								
REMARKS:								
1670-00-937-0272	A	A-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: LOAD BINDER ASSEMBLY								
REMARKS:								
1670-00-937-0272	A	A-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: LOAD BINDER ASSEMBLY								
REMARKS:								
1670-00-937-0272	A	A-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: LOAD BINDER ASSEMBLY								
REMARKS:								
1670-00-937-0272	A	A-09	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: LOAD BINDER ASSEMBLY								
REMARKS:								
1670-00-937-0272	B	B-01	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: LOAD BINDER ASSEMBLY								
REMARKS:								
1670-00-937-0272	B	B-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: LOAD BINDER ASSEMBLY								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	O P T E M P O H R S / M I L
			PEACE	MOBIL	EQUIP TO PEACE	STUDENT MOBIL		
1670-00-937-0272	B	B-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: LOAD BINDER ASSEMBLY								
REMARKS:								
1670-00-937-0272	B	B-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: LOAD BINDER ASSEMBLY								
REMARKS:								
1670-01-027-2900	A	A-03	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: 25K SLING SET ASSEMBLY								
REMARKS: LIN T79009								
1670-01-027-2900	B	B-01	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: 25K SLING SET ASSEMBLY								
REMARKS: LIN T79009								
1670-01-027-2900	B	B-03	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: 25K SLING SET ASSEMBLY								
REMARKS: LIN T79009								
1670-01-027-2900	B	B-04	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: 25K SLING SET ASSEMBLY								
REMARKS: LIN T79009								
1670-01-027-2902	A	A-02	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 10K SLING SET ASSEMBLY								
REMARKS: LIN T79003								
1670-01-027-2902	A	A-03	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 10K SLING SET ASSEMBLY								
REMARKS: LIN T79003								
1670-01-027-2902	B	B-01	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 10K SLING SET ASSEMBLY								
REMARKS: T79003								
1670-01-027-2902	B	B-02	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 10K SLING SET ASSEMBLY								
REMARKS: LIN T79003								
1670-01-027-2902	B	B-03	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 10K SLING SET ASSEMBLY								
REMARKS: LIN T79003								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	OPTEMPO HRS/MIL
			PEACE	MOBIL	EQUIP TO STUDENT PEACE	MOBIL		
1670-01-027-2902	B	B-04	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 10K SLING SET ASSEMBLY								
REMARKS: LIN T79003								
1670-01-058-3810	A	A-02	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: NET, 10,000-LB (LIN N02708, TAMCN J3120)								
REMARKS: LIN N02708								
1670-01-058-3811	A	A-02	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: NET, 5,000-POUND CAPACITY								
REMARKS: LIN N02776								
1670-01-058-3811	B	B-01	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: NET, 5,000-POUND CAPACITY								
REMARKS: LIN B14181								
1670-01-058-3811	B	B-04	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: NET, 5,000-POUND CAPACITY								
REMARKS: LIN N02776								
1670-01-062-6306	A	A-04	2	2	1:12	1:12	Y	0.0
NOMENCLATURE: SLING, 3-FT X 4-LOOPS, TYPE XXVI								
REMARKS:								
2020-01-365-3115	A	A-03	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 11K REACH PENDANT								
REMARKS:								
2020-01-365-3115	A	A-04	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 11K REACH PENDANT								
REMARKS:								
2020-01-365-3115	A	A-07	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 11K REACH PENDANT								
REMARKS:								
2020-01-365-3115	B	B-01	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 11K REACH PENDANT								
REMARKS:								
2020-01-365-3115	B	B-02	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 11K REACH PENDANT								
REMARKS:								
2020-01-365-3115	B	B-03	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 11K REACH PENDANT								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	O P T E M P O H R S / M I L
			PEACE	MOBIL	EQUIP TO STUDENT	PEACE		
2020-01-365-3115	B	B-04	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: 11K REACH PENDANT								
REMARKS:								
2320-00-880-4612	A	A-09	1	1	1:24	1:24	Y	0.0
NOMENCLATURE: DROP SIDE, CRGO TRK, 5 TON								
REMARKS: LIN X40931								
2320-00-880-4612	B	B-04	1	1	1:24	1:24	Y	0.0
NOMENCLATURE: DROP SIDE, CRGO TRK, 5 TON								
REMARKS: LIN X40931								
2320-01-107-7156	A	A-09	1	1	1:24	1:24	Y	0.0
NOMENCLATURE: TRK, UTL, CGO/TOOL CARRIER, 5/4 TON, 4X4 (HMMWV)								
REMARKS: LIN T61562								
2320-01-107-7156	B	B-03	1	1	1:24	1:24	Y	0.0
NOMENCLATURE: TRK, UTL, CGO/TOOL CARRIER, 5/4 TON, 4X4 (HMMWV)								
REMARKS: LIN T61562								
2320-01-107-7156	B	B-04	1	1	1:24	1:24	Y	0.0
NOMENCLATURE: TRK, UTL, CGO/TOOL CARRIER, 5/4 TON, 4X4 (HMMWV)								
REMARKS: LIN T61562								
3930-01-054-3833	A	A-09	1	1	1:24	1:24	Y	0.0
NOMENCLATURE: 10 RT FRK LFT								
REMARKS: LIN T49119								
3930-01-054-3833	B	B-04	1	1	1:24	1:24	Y	0.0
NOMENCLATURE: 10 RT FRK LFT								
REMARKS: LIN T49119								
4020-00-240-2146	A	A-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: CORD, NYLON, TYPE III, 5550-POUND BREAKING STRENGT								
REMARKS:								
4020-00-240-2146	A	A-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: CORD, NYLON, TYPE III, 5550-POUND BREAKING STRENGT								
REMARKS:								
4020-00-240-2146	A	A-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: CORD, NYLON, TYPE III, 5550-POUND BREAKING STRENGT								
REMARKS:								
4020-00-240-2146	B	B-01	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: CORD, NYLON, TYPE III, 5550-POUND BREAKING STRENGT								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	O P T E M P O H R S / M I L
			PEACE	MOBIL	EQUIP TO	STUDENT		
4020-00-240-2146	B	B-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: CORD, NYLON, TYPE III, 5550-POUND BREAKING STRENGT								
REMARKS:								
4020-00-240-2146	B	B-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: CORD, NYLON, TYPE III, 5550-POUND BREAKING STRENGT								
REMARKS:								
4020-00-240-2146	B	B-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: CORD, NYLON, TYPE III, 5550-POUND BREAKING STRENGT								
REMARKS:								
4020-01-337-3185	A	A-03	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: 25K REACH PENDANT								
REMARKS:								
4020-01-337-3185	A	A-04	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: 25K REACH PENDANT								
REMARKS:								
4020-01-337-3185	A	A-07	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: 25K REACH PENDANT								
REMARKS:								
4020-01-337-3185	B	B-01	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: 25K REACH PENDANT								
REMARKS:								
4020-01-337-3185	B	B-02	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: 25K REACH PENDANT								
REMARKS:								
4020-01-337-3185	B	B-03	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: 25K REACH PENDANT								
REMARKS:								
4020-01-337-3185	B	B-04	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: 25K REACH PENDANT								
REMARKS:								
4030-00-090-5354	A	A-04	2	2	1:12	1:12	Y	0.0
NOMENCLATURE: CLEVIS ASSEMBLY, LARGE, MS 70087-3								
REMARKS:								
4030-00-090-5354	B	B-04	2	2	1:12	1:12	Y	0.0
NOMENCLATURE: CLEVIS ASSEMBLY, LARGE, MS 70087-3								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	OPTEMPO HRS/MIL
			PEACE	MOBIL	EQUIP TO STUDENT PEACE	MOBIL		
4030-00-360-0304	A	A-04	2	2	1:12	1:12	Y	0.0
NOMENCLATURE: CLEVIS ASSEMBLY, SMALL, MS 70087-1								
REMARKS:								
4030-00-360-0304	B	B-04	2	2	1:12	1:12	Y	0.0
NOMENCLATURE: CLEVIS ASSEMBLY, SMALL, MS 70087-1								
REMARKS:								
4030-00-678-8562	A	A-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: CLEVIS ASSEMBLY, MEDIUM, MS 70087-2								
REMARKS:								
4030-00-678-8562	A	A-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: CLEVIS ASSEMBLY, MEDIUM, MS 70087-2								
REMARKS:								
4030-00-678-8562	B	B-01	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: CLEVIS ASSEMBLY, MEDIUM, MS 70087-2								
REMARKS:								
4030-00-678-8562	B	B-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: CLEVIS ASSEMBLY, MEDIUM, MS 70087-2								
REMARKS:								
5365-00-937-0147	A	A-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: D-RING, AERIAL DELIVERY								
REMARKS:								
5365-00-937-0147	A	A-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: D-RING, AERIAL DELIVERY								
REMARKS:								
5365-00-937-0147	A	A-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: D-RING, AERIAL DELIVERY								
REMARKS:								
5365-00-937-0147	A	A-09	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: D-RING, AERIAL DELIVERY								
REMARKS:								
5365-00-937-0147	B	B-01	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: D-RING, AERIAL DELIVERY								
REMARKS:								
5365-00-937-0147	B	B-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: D-RING, AERIAL DELIVERY								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	OPTEMPO HRS/MIL
			PEACE	MOBIL	EQUIP TO STUDENT PEACE	MOBIL		
5365-00-937-0147	B	B-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: D-RING, AERIAL DELIVERY								
REMARKS:								
5365-00-937-0147	B	B-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: D-RING, AERIAL DELIVERY								
REMARKS:								
5820-00-930-3724	B	B-04	4	4	1:6	1:6	Y	0.0
NOMENCLATURE: RADIO SET, AN/PRC 77 OR R55268 PRC 119								
REMARKS: LIN Q38299								
5825-00-917-3738	A	A-09	12	12	1:4	1:4	Y	0.0
NOMENCLATURE: LIGHT, BEACON, BEANBAG								
REMARKS:								
5825-00-917-3738	B	B-04	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: LIGHT, BEACON, BEANBAG								
REMARKS:								
6260-01-074-4229	A	A-09	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: LIGHT, CHEMICAL WAND, 12-HR GLOW TIME								
REMARKS:								
6260-01-074-4229	B	B-04	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: LIGHT, CHEMICAL WAND, 12-HR GLOW TIME								
REMARKS:								
6515-00-137-6345	A	A-07	24	24	1:2	1:2	Y	0.0
NOMENCLATURE: EAR PLUGS								
REMARKS:								
6515-00-137-6345	A	A-08	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: EAR PLUGS								
REMARKS:								
6515-00-137-6345	B	B-04	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: EAR PLUGS								
REMARKS:								
7510-00-266-5016	A	A-02	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: TAPE, ADHESIVE, PRESSURE-SENSITIVE, 2-IN WIDE/GREN								
REMARKS:								
7510-00-266-5016	A	A-03	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: TAPE, ADHESIVE, PRESSURE-SENSITIVE, 2-IN WIDE/GREN								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	OPTEMPO HRS/MIL
			PEACE	MOBIL	PEACE	MOBIL		
7510-00-266-5016	A	A-04	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: TAPE, ADHESIVE, PRESSURE-SENSITIVE, 2-IN WIDE/GREN								
REMARKS:								
7510-00-266-5016	B	B-01	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: TAPE, ADHESIVE, PRESSURE-SENSITIVE, 2-IN WIDE/GREN								
REMARKS:								
7510-00-266-5016	B	B-02	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: TAPE, ADHESIVE, PRESSURE-SENSITIVE, 2-IN WIDE/GREN								
REMARKS:								
7510-00-266-5016	B	B-03	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: TAPE, ADHESIVE, PRESSURE-SENSITIVE, 2-IN WIDE/GREN								
REMARKS:								
7510-00-266-5016	B	B-04	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: TAPE, ADHESIVE, PRESSURE-SENSITIVE, 2-IN WIDE/GREN								
REMARKS:								
8110-00-965-2313	B	B-02	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: DRUM, COLLAPSIBLE, 500-GAL								
REMARKS: LIN G68961								
8110-00-965-2313	B	B-04	3	3	1:8	1:8	Y	0.0
NOMENCLATURE: DRUM, COLLAPSIBLE, 500-GAL								
REMARKS: LIN G68961								
8135-00-808-6446	A	A-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: PADDING, CELLULOSE								
REMARKS:								
8135-00-808-6446	A	A-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: PADDING, CELLULOSE								
REMARKS:								
8135-00-808-6446	A	A-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: PADDING, CELLULOSE								
REMARKS:								
8135-00-808-6446	B	B-01	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: PADDING, CELLULOSE								
REMARKS:								
8135-00-808-6446	B	B-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: PADDING, CELLULOSE								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	OPTEMPO HRS/MIL
			PEACE	MOBIL	EQUIP TO STUDENT	PEACE		
8135-00-808-6446	B	B-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: PADDING, CELLULOSE								
REMARKS:								
8135-00-808-6446	B	B-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: PADDING, CELLULOSE								
REMARKS:								
8305-00-082-5752	A	A-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, NYLON, TUBULAR, 1/2-IN, 1,000-LB BREAK PT								
REMARKS:								
8305-00-082-5752	A	A-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, NYLON, TUBULAR, 1/2-IN, 1,000-LB BREAK PT								
REMARKS:								
8305-00-082-5752	A	A-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, NYLON, TUBULAR, 1/2-IN, 1,000-LB BREAK PT								
REMARKS:								
8305-00-082-5752	B	B-01	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, NYLON, TUBULAR, 1/2-IN, 1,000-LB BREAK PT								
REMARKS:								
8305-00-082-5752	B	B-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, NYLON, TUBULAR, 1/2-IN, 1,000-LB BREAK PT								
REMARKS:								
8305-00-082-5752	B	B-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, NYLON, TUBULAR, 1/2-IN, 1,000-LB BREAK PT								
REMARKS:								
8305-00-082-5752	B	B-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, NYLON, TUBULAR, 1/2-IN, 1,000-LB BREAK PT								
REMARKS:								
8305-00-191-1101	A	A-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: FELT SHEETING, 1/2-IN THICK, 60-IN WIDE								
REMARKS:								
8305-00-191-1101	A	A-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: FELT SHEETING, 1/2-IN THICK, 60-IN WIDE								
REMARKS:								
8305-00-191-1101	A	A-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: FELT SHEETING, 1/2-IN THICK, 60-IN WIDE								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	O P T E M P O H R S / M I L
			PEACE	MOBIL	PEACE	MOBIL		
8305-00-191-1101	B	B-01	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: FELT SHEETING, 1/2-IN THICK, 60-IN WIDE								
REMARKS:								
8305-00-191-1101	B	B-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: FELT SHEETING, 1/2-IN THICK, 60-IN WIDE								
REMARKS:								
8305-00-191-1101	B	B-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: FELT SHEETING, 1/2-IN THICK, 60-IN WIDE								
REMARKS:								
8305-00-191-1101	B	B-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: FELT SHEETING, 1/2-IN THICK, 60-IN WIDE								
REMARKS:								
8305-00-268-2411	A	A-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, COTTON, 1/4-IN, 80-LB BREAK PT								
REMARKS:								
8305-00-268-2411	A	A-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, COTTON, 1/4-IN, 80-LB BREAK PT								
REMARKS:								
8305-00-268-2411	A	A-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, COTTON, 1/4-IN, 80-LB BREAK PT								
REMARKS:								
8305-00-268-2411	B	B-01	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, COTTON, 1/4-IN, 80-LB BREAK PT								
REMARKS:								
8305-00-268-2411	B	B-02	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, COTTON, 1/4-IN, 80-LB BREAK PT								
REMARKS:								
8305-00-268-2411	B	B-03	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, COTTON, 1/4-IN, 80-LB BREAK PT								
REMARKS:								
8305-00-268-2411	B	B-04	6	6	1:4	1:4	Y	0.0
NOMENCLATURE: WEBBING, COTTON, 1/4-IN, 80-LB BREAK PT								
REMARKS:								
8345-00-174-6865	A	A-09	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: PANEL MARKER, VS-17, AERIAL LIAISON								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	O P T E M P O H R S / M I L
			PEACE	MOBIL	EQUIP TO PEACE	STUDENT MOBIL		
8345-00-174-6865	B	B-04	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: PANEL MARKER, VS-17, AERIAL LIAISON								
REMARKS:								
8415-00-177-4974	A	A-07	8	8	1:3	1:3	Y	0.0
NOMENCLATURE: VEST, SAFETY REFLEC ORANGE RV-1								
REMARKS:								
8415-00-177-4974	A	A-08	8	8	1:3	1:3	Y	0.0
NOMENCLATURE: VEST, SAFETY REFLEC ORANGE RV-1								
REMARKS:								
8415-00-177-4974	B	B-04	8	8	1:3	1:3	Y	0.0
NOMENCLATURE: VEST, SAFETY REFLEC ORANGE RV-1								
REMARKS:								
8415-01-158-9448	A	A-07	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: GLOVES, ELEC WORKER, 5,000-VOLT SHOCKPROOF								
REMARKS:								
8415-01-158-9448	A	A-08	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: GLOVES, ELEC WORKER, 5,000-VOLT SHOCKPROOF								
REMARKS:								
8415-01-158-9448	B	B-04	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: GLOVES, ELEC WORKER, 5,000-VOLT SHOCKPROOF								
REMARKS:								
8460-00-606-8366	A	A-02	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: KIT BAG, FLYERS, COTTON DUCK GRN								
REMARKS:								
8460-00-606-8366	A	A-03	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: KIT BAG, FLYERS, COTTON DUCK GRN								
REMARKS:								
8460-00-606-8366	A	A-04	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: KIT BAG, FLYERS, COTTON DUCK GRN								
REMARKS:								
8460-00-606-8366	B	B-01	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: KIT BAG, FLYERS, COTTON DUCK GRN								
REMARKS:								
8460-00-606-8366	B	B-02	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: KIT BAG, FLYERS, COTTON DUCK GRN								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE: VER:

LIN/NSN	ANNEX	PFN NO	QTY REQ FOR		AVERAGE RATIO		C R I	OPTEMPO HRS/MIL
			PEACE	MOBIL	EQUIP TO STUDENT	PEACE		
8460-00-606-8366	B	B-03	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: KIT BAG, FLYERS, COTTON DUCK GRN								
REMARKS:								
8460-00-606-8366	B	B-04	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: KIT BAG, FLYERS, COTTON DUCK GRN								
REMARKS:								
8465-00-161-4068	A	A-07	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: GOGGLES, SUN/WIND/DUST								
REMARKS: Item may be substituted with NSN 4240-00-052-3776: Goggle, Eye.								
8465-00-161-4068	A	A-08	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: GOGGLES, SUN/WIND/DUST								
REMARKS: Item may be substituted by NSN 4240-00-052-3776: Goggle, Eye.								
8465-00-161-4068	B	B-04	12	12	1:2	1:2	Y	0.0
NOMENCLATURE: GOGGLES, SUN/WIND/DUST								
REMARKS: Item may be substituted with NSN 4240-00-052-3776: Goggle, Eye.								
8470-01-092-7526	A	A-07	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: HELMET, KEVLAR								
REMARKS:								
8470-01-092-7526	A	A-08	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: HELMET, KEVLAR								
REMARKS:								
8470-01-092-7526	B	B-04	24	24	1:1	1:1	Y	0.0
NOMENCLATURE: HELMET, KEVLAR								
REMARKS:								

COURSE: 101-Q-0001 TSP

PHASE:

VER:

CATEGORY CODE	ANNEX	PFN NO	UNIT OF MEASURE CODE	FACILITY HOURS PEACE	MOBIL
171.30A	Z	Z-2	SF	1.0	1.0
NOMENCLATURE: AIRDROP TEACHING LABORATORY					
179.87	A	A-06	AC	1.2	0.0
NOMENCLATURE: TRAINING AREA					

COURSE: 101-Q-0001 TSP

PHASE: VER:

SUBSTITUTE NOMEN NSN/LIN/DEV NO	ANNEX	PFN NO	QTY REQ FOR SINGLE COURSE ITERATION	EQUIP REPLACED NOMEN NSN/LIN
AVPRJ-SCN-WCM NOMENCLATURE: SCREEN, PROJECTION, WALL/CEILING	A	A-03	1	AVPRJ-SCN-WCM
AVPRJ-SCN-WCM NOMENCLATURE: SCREEN, PROJECTION, WALL/CEILING	A	A-04	1	AVPRJ-SCN-WCM
AVPRJ-SCN-WCM NOMENCLATURE: SCREEN, PROJECTION, WALL/CEILING	A	A-05	1	AVPRJ-SCN-WCM
AVPRJ-SCN-WCM NOMENCLATURE: SCREEN, PROJECTION, WALL/CEILING	A	A-06	1	AVPRJ-SCN-WCM
AVPRJ-SCN-WCM NOMENCLATURE: SCREEN, PROJECTION, WALL/CEILING	A	A-07	1	AVPRJ-SCN-WCM
AVPRJ-SCN-WCM NOMENCLATURE: SCREEN, PROJECTION, WALL/CEILING	A	A-08	1	AVPRJ-SCN-WCM
AVPRJ-SCN-WCM NOMENCLATURE: SCREEN, PROJECTION, WALL/CEILING	A	A-09	1	AVPRJ-SCN-WCM
AVPRJ-SCN-WCM NOMENCLATURE: SCREEN, PROJECTION, WALL/CEILING	B	B-01	1	AVPRJ-SCN-WCM
AVPRJ-SCN-WCM NOMENCLATURE: SCREEN, PROJECTION, WALL/CEILING	B	B-02	1	AVPRJ-SCN-WCM
AVPRJ-SCN-WCM NOMENCLATURE: SCREEN, PROJECTION, WALL/CEILING	B	B-03	1	AVPRJ-SCN-WCM

COURSE:101-Q-0001 TSP PHASE: VER:
COURSE TITLE: SLING LOAD OPNS TRAIN-THE-TRAINER COURSE

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APPENDIX C

QM WARRIOR TSP
LESSON PLANS
(POI ANNEXES A - C)

SLING LOAD OPERATIONS
TRAIN-THE-TRAINER
COURSE

U.S. ARMY QUARTERMASTER CENTER AND SCHOOL

LESSON PLAN

COURSE: Sling Load Operations

LESSON TITLE: Types of Helicopters and Limitations

PROPONENT DEPARTMENT: Aerial Delivery and Field Services
Department

January 2000

Written by: _____

Reviewed by: _____

Approved by: _____

Branch Safety Manager: _____

1st Year Review by _____	Date _____	Revised _____
		No Change _____
2d Year Review by _____	Date _____	Revised _____
		No Change _____
3d Year Review by _____	Date _____	Revised _____
		No Change _____
4th Year Review by _____	Date _____	Revised _____
		No Change _____

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24 January 2000

LESSON TITLE: Types of Helicopters and Limitations

COURSE NUMBER (S)

COURSE TITLE

101-Q-0001

Sling Load Operations
Train-The-Trainer Course

SECTION I - ADMINISTRATIVE DATA

TASK(S) TAUGHT OR SUPPORTED:

TASK NUMBER

TASK TITLE

NA

NA

TASK(S) REINFORCED:

TASK NUMBER

TASK TITLE

NA

NA

ACADEMIC HOURS:

PEACETIME
HOURS/TYPE

MOBILIZATION
HOURS/TYPE

TEST

0.5/C
0/0

0.5/C
0/0

TEST REVIEW

0/0

0/0

TOTAL HOURS

0.5

0.5

TEST AND TEST REVIEW HOURS AND LESSON NUMBERS:

HOURS

LESSON NUMBER

TESTING:

NA

NA

REVIEW OF TEST RESULTS:

NA

NA

PREREQUISITE LESSON(S): None

CLEARANCE AND ACCESS: Unclassified - Foreign students may attend.

REFERENCES:

<u>NUMBER</u>	<u>TITLE</u>	<u>PAGES</u>	<u>ADDITIONAL INFORMATION</u>
FM 10-450-3	Basic Operations and Equipment	All	NA
FM 10-450-4	Single - Point Load Rigging Procedures	All	NA
FM 10-450-5	Dual - Point Load Rigging Procedures	All	NA

STUDENT STUDY ASSIGNMENTS: None

INSTRUCTOR REQUIREMENTS: One instructor

ADDITIONAL SUPPORT PERSONNEL REQUIREMENTS: None

EQUIPMENT REQUIRED FOR THE INSTRUCTION: None

MATERIALS REQUIRED FOR THE INSTRUCTION:

INSTRUCTOR MATERIALS: None

STUDENT MATERIALS: None

CLASSROOM, TRAINING AREA, AND RANGE REQUIREMENTS One 24-person standard classroom

AMMUNITION REQUIREMENTS: None

INSTRUCTIONAL GUIDANCE: As needed

PROPONENT LESSON PLAN APPROVAL AUTHORITY:

<u>NAME</u>	<u>RANK</u>	<u>POSITION</u>	<u>DATE</u>
Theodore J. Dlugos	GS-14	Dir, ADFSD	24 Jan 00

SECTION II - INTRODUCTION

WARRIOR TSP: TRAIN THE TRAINER A01.7

NOTE: Show slide A01.7-1

MOTIVATOR: Helicopters can rapidly move troops and equipment inside or suspended from the cargo hook. Sling load and airdrop are separate but integral components of aerial delivery. As sling load specialist, you must know the capabilities, limitations, and characteristics of the utility and cargo helicopters that are capable of sling load operations.

TERMINAL LEARNING OBJECTIVE (STATEMENT OF OBJECTIVE):

NOTE: Show slide A01.7-2

NOTE: Read the following terminal learning objective to the students.

At the completion of this lesson, you (the student) will:

ACTION: Be able to correctly identify all characteristics and limitations of all helicopters involved in sling load operations.

CONDITIONS: You will be given the necessary information, equipment and materials.

STANDARDS: You will complete this action IAW FM 10-450-3, FM 10-450-4, and FM 10-450-5.

SAFETY REQUIREMENTS: Safety will be discussed throughout this lesson unit.

RISK ASSESSMENT LEVEL: The class is assigned a risk level of low.

ENVIRONMENTAL CONSIDERATION: None

EVALUATION: None

INSTRUCTIONAL LEAD-IN: None

SECTION III - PRESENTATION

Learning Activity

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .4 hours.

Media: Overhead projector / Lite-PRO / Computer

NOTE: It is always dangerous when working around aircraft during day or night sling load operations. You must keep safety foremost in your mind and always follow the instructions given by your instructors. Always wear safety glasses to protect your eyes from flying debris.

WARNING: All loads must be within the lifting capabilities of the desired aircraft model and limitations for safety purposes. All loads must be rigged in accordance with the certified rigging procedures and the maximum stable airspeed limitation.

NOTE: Show slide A01.7-3

a. UH-1 Iroquois (Huey) Helicopter.

(1) Specifications.

(a) Airspeed: Maximum - 124 Knots; tactical - 70/90 knots.

(b) Allowable cargo load: 8 combat - equipped; maximum litter capacity 6.

(c) Hook capacity: Maximum - 4,000 pounds.

(d) Maximum gross weight: 9,500 pounds.

(e) Flight time: 2 hours 20 minutes.

(f) Crew of three: Pilot; co-pilot; and crew chief.

(g) Missions:

1. Command and control
2. Aeromedevac
3. Rappelling
4. Sling load operations

(2) This aircraft is a single-engine, single main rotor helicopter. The UH-1N is a twin-engine version. It is a general-purpose aircraft that has a limited cargo carrying capability. It is used for transporting troops, cargo, and injured personnel.

(3) The cargo hook maximum capacity is 4,000 pounds, and 5,000 pounds on the UH-1N. The cargo hook is suspended in a well in the belly of the aircraft directly below the main rotor system. It does not have an opening in the cabin floor for the crewman; therefore, he cannot monitor the hook-up operations.

WARNING: Hook-up team must pay close attention during hook-up operations because the cargo hook and skids of the aircraft are close together and can restrict the movement of the ground crew.

NOTE: Show slide A01.7-4

(4) The aircrew normally opens the hook electrically or manually. The manual release lever is located on the left side of the cargo hook. In case of an emergency, the ground crew can move the lever and open the cargo hook. Due to the unique shear pin design of the

cargo hook, a nylon donut/web ring or the 11K-reach pendant must be used when transporting sling loads.

WARNING: DO NOT attach the sling set metal apex fitting directly to the cargo hook.

NOTE: Show slide A01.7-5

b. CH-46A/D/E Sea Knight.

(1) Specifications.

- (a) Airspeed: 60/100 knots.
- (b) Allowable cargo load: 33 combat - equipped troops.
- (c) Lift capacity: Maximum - 10,000 pounds.
- (d) Cargo hook capacity: 10,000 pounds.
- (e) Flight time: 2 hours 30 minutes.

(2) This aircraft is a twin-engine, tandem rotor helicopter. Its primary mission is to rapidly transport combat troops, support equipment, and supplies and perform vertical replenishment.

(3) The cargo hook maximum capacity is 10,000 pounds.

NOTE: Show slide A01.7-6

(4) The aircrew normally opens the cargo hook electrically or manually. The manual release cable is mounted on top of the cargo hook and is only accessible to the aircrew.

NOTE: Show slide A01.7-7

c. CH-53E Super Sea Stallion.

(1) Specifications.

- (a) Airspeed: Maximum - 170 knots; cruise speed 150 knots.
- (b) Allowable cargo load: 55 combat - equipped troops.
- (c) Lift capacity: Maximum - 32,000 pounds.
- (d) Cargo hook capacity:

1 Center hook - 32,000 pounds (greater than lift capacity of helicopter).

2 Forward and aft hook - 32,000 pounds (combined).

- (e) Flight time: 2 hours 30 minutes.

(f) Crew of three: Pilot, co-pilot, crew chief.

(g) Missions:

1 Transport.

2 Mobility.

3 Mine countermeasures.

(2) This aircraft is a triple-engine, single main rotor helicopter. Its primary mission is: vertical onboard delivery, airborne mine countermeasures, and transportation of supplies and equipment.

NOTE: Show slide A01.7-8

(3) The center cargo hook is suspended on the end of pendant below the fuselage near centerline, and is used for single-point loads. Even though the hook capacity is greater, the maximum lift capacity is 32,000 pounds. The aircrew can open the cargo hook manually or electrically. A manual release knob is located on a side of the top part of the hook. In a emergency, a ground crewman can open the cargo hook by rotating the knob clockwise.

NOTE: Show slide A01.7-9

(4) A dual-point suspension system, similar to the CH-47D, uses a forward and aft cargo hook. These two cargo hooks, located 10 feet apart must be used for a dual-point loads. The aircraft maximum capacity when carrying a dual-point load is 32,000 pounds with a maximum of 60 percent of the external load on either the forward or aft hook. A specifically designed reach pendant is used on the H53 for dual-point operations. The aircrew can open the forward or aft hook manually or electrically. A manual release knob is located on the left side of the cargo hook. In a emergency, a ground crewman can open the hook by moving the manual release up.

NOTE: Show slide A01.7-10

d. CH-47D Chinook.

(1) Specifications.

(a) Airspeed: Maximum - 170 knots. Internal load - 80/120 knots. Tactical airspeed with external load - 60/100 knots.

(b) Allowable cargo load: 33 combat - equipped troops; maximum litter capacity - 24.

(c) Lift capacity: Maximum - 26,000 pounds.

(d) Cargo hook capacity:

WARRIOR TSP: TRAIN THE TRAINER A01.7

- 1 Front hook - 17,000 pounds.
- 2 Rear hook - 17,000 pounds.
- 3 Center hook - 26,000 pounds.
- 4 Tandem hookup - 25,000 pounds.
- 5 Maximum gross weight - 50,000 pounds.

(e) Flight time: 2 hours 30 minutes.

(f) Crew of four: Pilot, co-pilot, crew chief, and flight engineer.

(g) Missions:

- 1 Transport
- 2 Mobility
- 3 Recovery
- 4 Aeromedevac Operations.

(2) This aircraft is a twin engine, tandem rotor helicopter. Its primary mission is to transport personnel, supplies, and equipment. The new power plant and power train system allows for greater lift capabilities than the CH-46 models. It has a modified center cargo hook and two additional cargo hooks. This increases the sling load capacity and stability.

NOTE: Show slide A01.7-11

(3) The two additional hooks are called the forward and aft cargo hooks. They are bolted to the bottom of the aircraft about 6 1/2 feet fore and aft of the center cargo hook.

NOTE: Show slide A01.7-12

(4) The center cargo hook maximum capacity is 26,000 pounds and is attached to an improved I-beam mounted in an opening in the floor. The cargo hook housing rolls from side to side while swinging fore and aft to assist in steadying the load while in flight. The aircrew can open it electrically or manually from inside the aircraft. The manual release is not accessible to the ground crew; however, if the ground crew needs to remove the apex fitting from the cargo hook, they can manually depress the spring-loaded keeper and lift the apex fitting out of the hook.

NOTE: Show slide A01.7-13

(5) The forward and aft cargo hooks maximum capacity when used to carry individual single-point loads is 17,000 pounds; however, loads that weigh over 7,000 to 10,000 pounds are normally carried on the

center cargo hook. Normally, the two hooks are used together to carry a dual-point load unless the approved rigging procedures specifically state to connect one of the apex fittings to the center cargo hook. The aircrew can open the forward or aft cargo hook electrically or manually from inside the aircraft. A manual release knob is located on the right hand side of either cargo hook in an emergency; the ground crew can rotate the manual release knob counterclockwise to open the cargo hook. The additional cargo hooks were added to increase load stability during flight when large bulky cargo were being transported. However, you can use all three hooks to carry individual loads such as cargo nets, fuel drums, or A-22 cargo bags. The heaviest load should be connected to the center cargo hook, the next heaviest connected to the forward cargo hook, and the lightest to the aft cargo hook. If you use just the forward and aft cargo hooks you should connect the heavy load to the front and the light load to the aft. These guidelines keep the aircraft center of balance within allowable limits.

NOTE: The aircrew has final authority on which load is connected to which hook.

NOTE: During night operations be sure the correct hook is engaged because it is easy to engage the wrong hook.

NOTE: Show slide A01.7-14

e. UH-60, UH-60A Black Hawk.

(1) Specifications.

(a) Airspeed: Maximum - 193 knots; tactical airspeed - 120 knots.

(b) Allowable cargo load: 11 combat - equipped troops with seats; 21 without seats. Maximum litter capacity - 7.

(c) Lift capacity: Maximum - 8,000 pounds.

(d) Maximum gross weight - 20,250 pounds.

(e) Flight time: 2 hours 20 minutes.

(f) Crew of three: Pilot, co-pilot, crew chief.

(g) Missions:

1 Combat assault

2 Aeromedavac

3 Rappelling

4 Sling load operations

WARRIOR TSP: TRAIN THE TRAINER A01.7

NOTE: UH-60L Model has a maximum gross weight of 22,000 pounds.

(2) The aircraft is a twin-engine, single main rotor helicopter. Its primary mission is to transport personnel, supplies, and equipment or perform antisubmarine warfare duties and evacuation of injured personnel.

(3) The cargo hook maximum load capacity is 9,000 pounds. It is mounted in an opening in the floor of the aircraft just aft of the main rotor.

NOTE: Show slide A01.7-15

(4) The aircrew can open the hook from the inside electrically or manually. A manual release knob is located on the right side of the hook. In an emergency, the ground crew can open it by rotating it counterclockwise and open the hook.

(5) The apex fitting must have a spacer when transporting loads with the 10,000-pound sling set; otherwise the load may oscillate or fly off center. If using the 25,000-pound sling set, the spacer must be removed.

NOTE: Show slide A01.7-16

- (6) Rules for Apex fittings.
- a. UH-1H/N - No Metal Apex
 - b. UH-60A/L - No Nylon Lop Apex, 10K Sling - Spacer on, 25K Sling - Spacer off
 - c. CH-47 - 25K Sling - Spacer optional
 - d. Cargo Hook Reach Pendant/Sling leg Eye - Any Aircraft

NOTE: DO NOT use a nylon donut to connect load to the UH-60. The donut can twist up on the load beam of the hook and prevent jettison of the load in case of emergency.

CHECK ON LEARNING.

Question 1: Why is it so important to be cautious when working under the UH-1 helicopter?

(Answer: Because the cargo hook and skids of the aircraft are too close together and can restrict the movement of the ground crew.)

Question 2: Can you attach a metal apex fitting directly to the UH-1 cargo hook?

(Answer: No. A nylon donut web ring must be used.)

Question 3: When using a UH-60 helicopter and a 10,000 - pound sling set, what must the apex have on it?

(Answer: A hourglass spacer.)

Question 4: Why can't a nylon donut web ring be used with the UH-60 aircraft?

(Answer: Because the donut can twist up on the load beam and prevent it from jettisoning in case of an emergency.)

SECTION IV - SUMMARY

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .1 hours.

Media: Overhead projector / Lite-Pro / Computer

REVIEW/SUMMARIZE

NOTE: Show slide A01.7-17

- a. UH-1 Iroquois (Huey) helicopters.
- b. CH-46A/D/E Sea Knights.
- c. H-53/A/B/C/D Sea Stallion.
- d. CH-47D Chinook.
- e. UH-60, UH-60A Black Hawk.

CHECK ON LEARNING

- a. Solicit student questions and explanations.
- b. Questions and answers:

Question 1: What is the hook capacity of the UH-1 helicopter?

(Answer: 4,000 pounds.)

Question 2: How far from the center cargo hook is the fore and aft cargo hooks on the CH-47?

(Answer: 6 1/2 feet from the center cargo hook.)

- c. Correct student misunderstandings.

SECTION V - STUDENT EVALUATION

TESTING REQUIREMENTS:

- a. Performance examination: None.
- b. Written examination: None.

FEEDBACK REQUIREMENTS:

NOTE: Provide remedial training as needed.

WARRIOR TSP: TRAIN THE TRAINER A02.7

U.S. ARMY QUARTERMASTER CENTER AND SCHOOL

LESSON PLAN

COURSE: Sling Load Operations

LESSON TITLE: Cargo Carrying Devices (A-22 Bag/Cargo Nets)

PROPONENT DEPARTMENT: Aerial Delivery and Field Services
Department

January 2000

Written by: _____

Reviewed by: _____

Approved by: _____

Branch Safety Manager: _____

1st Year Review by _____	Date _____	Revised _____
		No Change _____
2d Year Review by _____	Date _____	Revised _____
		No Change _____
3d Year Review by _____	Date _____	Revised _____
		No Change _____
4th Year Review by _____	Date _____	Revised _____
		No Change _____

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WARRIOR TSP: TRAIN THE TRAINER A02.7

24 January 2000

LESSON TITLE: Cargo Carrying Devices (A-22 Bag/Cargo Nets)

COURSE NUMBER (S)

COURSE TITLE

101-Q-0001

Sling Load Operations
Train-The-Trainer Course

SECTION I - ADMINISTRATIVE DATA

TASK(S) TAUGHT OR SUPPORTED:

TASK NUMBER

TASK TITLE

NA

NA

TASK(S) REINFORCED:

TASK NUMBER

TASK TITLE

NA

NA

ACADEMIC HOURS:

PEACETIME
HOURS/TYPE

MOBILIZATION
HOURS/TYPE

.5/C

.5/C

TEST

0/0

0/0

TEST REVIEW

0/0

0/0

TOTAL HOURS

.5

.5

TEST AND TEST REVIEW HOURS AND LESSON NUMBERS:

HOURS

LESSON NUMBER

TESTING:

NA

NA

REVIEW OF TEST RESULTS:

NA

NA

PREREQUISITE LESSON(S): None

CLEARANCE AND ACCESS: Unclassified - Foreign students may attend.

REFERENCES:

WARRIOR TSP: TRAIN THE TRAINER A02.7

<u>NUMBER</u> <u>INFORMATION</u>	<u>TITLE</u>	<u>PAGES</u>	<u>ADDITIONAL</u>
FM 10-450-3	Basic Operations and Equipment	All	NA
FM 10-450-4	Single Point Load Rigging Procedures	All	NA
FM 10-450-5	Dual Point Load Rigging Procedures	All	NA

STUDENT STUDY ASSIGNMENTS: None

INSTRUCTOR REQUIREMENTS: One instructor

ADDITIONAL SUPPORT PERSONNEL REQUIREMENTS: None

EQUIPMENT REQUIRED FOR THE INSTRUCTION: None

MATERIALS REQUIRED FOR THE INSTRUCTION:

INSTRUCTOR MATERIALS: None

STUDENT MATERIALS: None

CLASSROOM, TRAINING AREA, AND RANGE REQUIREMENTS One 24-person
standard classroom

AMMUNITION REQUIREMENTS: None

INSTRUCTIONAL GUIDANCE: As needed

PROPONENT LESSON PLAN APPROVAL AUTHORITY:

<u>NAME</u>	<u>RANK</u>	<u>POSITION</u>	<u>DATE</u>
Theodore J. Dlugos	GS-14	Dir, ADFSD	24 Jan 00

WARRIOR TSP: TRAIN THE TRAINER A02.7

NOTE: Show slide A02.7-1

MOTIVATOR: In order to safely conduct sling load operations, each individual must be familiar with all the equipment he will utilize such as cargo devices.

TERMINAL LEARNING OBJECTIVE (STATEMENT OF OBJECTIVE):

NOTE: Show slide A02.7-2

NOTE: Read the following terminal learning objective to the students.

At the completion of this lesson, you (the student) will:

ACTION: Be able to correctly identify all cargo devices used in sling load operations and how to identify deficiencies.

CONDITIONS: You will be given the necessary information, equipment, and materials.

STANDARDS: You will complete this action IAW FM 10-450-3, FM 10-450-4, and FM 10-450-5.

SAFETY REQUIREMENTS: Safety will be discussed throughout this lesson unit.

RISK ASSESSMENT LEVEL: The class is assigned a risk level of low.

ENVIRONMENTAL CONSIDERATION: None

EVALUATION: None

INSTRUCTIONAL LEAD-IN: None

WARRIOR TSP: TRAIN THE TRAINER A02.7

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .4 hours.

Media: Overhead projector / Lite-Pro / Computer

NOTE: The first two items we will discuss are stand - alone items. In other words, they can be connected directly to the cargo hook.

NOTE: Show slide A02.7-3

a. The 5,000 and 10,000 pound Capacity Knot-less Nylon Cord Cargo Nets.

(1) Specifications.

- (a) Octagon - shaped.
- (b) Constructed from interwoven nylon cord.
- (c) Each set has four lifting legs with a hook that attaches to the apex fitting.
- (d) Apex fitting is attached with a tether cord by the identification tag.

NOTE: The apex fitting has a 10,000 - pound capacity and is used in both cargo nets. It forms the link between the helicopter cargo hook and the four sets of lifting legs.

(e) A square-shaped load zone area is marked by a yellow cord interlaced with the net mesh. This zone marks the center loading area of the net.

(f) The olive drab body identifying the 5,000 - pound cargo net is 15 feet wide. The mesh size is 6 inches and weighs 58 pound. with a volume capacity of 125 cubic feet.

(g) The black body identifying the 10,000 - pound cargo net is constructed from a heavy weave nylon braid cord with 7 1/2 inches between mesh and weighs 96 pounds. It has a volume capacity of 380 cubic feet.

(2) Inspection of nets.

C-19

(a) Hooks. Inspect for burrs, cracks, and distortions. Smooth out any burrs with a file. The net must be replaced if a hook is missing or badly damaged.

WARRIOR TSP: TRAIN THE TRAINER A02.7

(b) Metal apex fitting. Inspect the fitting for burrs, cracks, and distortions. File any burrs and replace it if there is any bent or cracks.

NOTE: Show slide A02.7-4

(c) Lifting legs. Inspect the lifting legs before each operation. The user is responsible for the net's condition including the cargo traveling inside the net. Inspect the outside strap and then the inside strap where they are looped and sewn to the border cord. Check the stitching for damage or unraveling. Inspect the lifting leg by running your hand along the length of the webbing (thumb on one side, index and middle fingers on the other side). The lifting strap must be replaced if any cuts are 1/2 - inch or more in length in any direction.

(d) Border cord. Inspect the border cord on the outside of the net. It is designed to provide an even distribution of weight when the net is under the stress of a load. Inspect the entire border cord for cuts or severely abraded areas. The stress points may be slightly out of shape but that will not affect the strength of the net. If the outer cord is cut or abraded 1/2 - inch or more in any direction, it must be repaired before the net can be used.

NOTE: Your Direct Support Unit (Airdrop Equipment Repair and Supply Company) can repair the cargo net.

NOTE: Show slide A02.7-5

b. A-22 Cargo Bag.

(1) Specifications.

(a) The bag is made of adjustable cotton duck cloth/nylon and nylon webbing container consisting of a sling assembly, cover, and four suspension webs.

(b) It is used to transport palletized loads, loose cargo, ammunition, drums, and other general cargo.

(c) The maximum weight capacity is 2,200 pounds.

(d) The weight of the A-22 bag is 58 pounds.

(e) Cargo can be rigged with or without the cover.

C-20

(2) Item description: (Inventory)

(a) Sling: The sling consists of a network of webbing attached to a rectangular scuff pad. The lateral straps are secured around the load by friction adapters. Two tie - down straps extend across the top of the load. The four "D" rings on

WARRIOR TSP: TRAIN THE TRAINER A02.7

the support webs provide points of attachment for the suspension webs.

NOTE: Show slide A02.7-6

(b) Cover and cover - lacing cord: The crossed - shaped cover consists of two rectangular cotton duck cloth or nylon panels, sewn together around the overlapped area. Sixteen lacing loops are stitched to the cover and four lacing cords are passed through the cover - lacing loop to secure the cover at each corner.

(c) Suspension: Four 24 - inch nylon webbing suspension webs having a D ring at one end and a connector snap at the other end are used to attach the sling assembly D rings.

(3) Serviceability of the A-22 cargo bag. Physically check each item individually.

(a) Sling assembly: Loose or broken stitches, frayed, worn or cut. Webbing: holes, tears. Friction bar adapter: rust, corrosion, bends or breaks.

(b). Cover: loose or broken stitches; holes, tears, or cut material. Ensure cover lacing-loops are present and serviceable.

(c). Suspension webs: loose or broken stitching; frayed, worn or cut webbing; holes; and tears. Check the functioning of the connector snaps and ensure they have no rust or corrosion.

NOTE: Keep it clean: Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Clean as you work and as needed.

CHECK ON LEARNING.

Question 1: What color is the 5,000 - pound cargo net?
(Answer: Olive drab.)

Question 2: What is the weight of the 10,000 - pound cargo net?
(Answer: 96 pounds.)

C-21

Question 3: Can the 10,000 - pound apex fitting be used with both cargo nets?
(Answer: Yes.)

SECTION IV - SUMMARY

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .1 hours.

Media: Overhead projector / Lite-Pro / Computer

REVIEW/SUMMARIZE

NOTE: Show slide A02.7-7

- a. 5,000-pound and 10,000-pound capacity knot's nylon cord cargo nets.
- b. A-22 cargo bag.

CHECK ON LEARNING

- a. Solicit student questions and explanations.
- b. Questions and answers:

Question 1: For what is the A-22 cargo bag used?

(Answer: To transport loads, loose cargo, ammunition, drums, and other general cargo.)

Question 2: What is the maximum weight capacity of the A-22 cargo bag?

(Answer: 2,200 pounds.)

Question 3: What is the link count for the sling leg in the A-22 cargo bag?

(Answer: 3 - link count.)

SECTION V - STUDENT EVALUATION

TESTING REQUIREMENTS:

- a. Performance examination: None.
- b. Written examination: None.

FEEDBACK REQUIREMENTS:

NOTE: Provide remedial training as needed.

WARRIOR TSP: TRAIN THE TRAINER A03.7

U.S. ARMY QUARTERMASTER CENTER AND SCHOOL

LESSON PLAN

COURSE: Sling Load Operations

LESSON TITLE: Multi-Leg Sling Sets 10,000 and 25,000 Lbs.

PROPONENT DEPARTMENT: Aerial Delivery and Field Services
Department

January 2000

Written by: _____

Reviewed by: _____

Approved by: _____

Branch Safety Manager: _____

1st Year Review by _____	Date _____	Revised _____
		No Change _____
2d Year Review by _____	Date _____	Revised _____
		No Change _____
3d Year Review by _____	Date _____	Revised _____
		No Change _____
4th Year Review by _____	Date _____	Revised _____
		No Change _____

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WARRIOR TSP: TRAIN THE TRAINER A03.7

24 JANUARY 2000

LESSON TITLE: Multi-Leg Sling Sets (10,000 and 25,000 Pounds)

COURSE NUMBER (S)

COURSE TITLE

101-Q-0001

Sling Load Operations
Train-The-Trainer Course

SECTION I - ADMINISTRATIVE DATA

TASK (S) TAUGHT OR SUPPORTED:

TASK NUMBER

TASK TITLE

NA

NA

TASK(S) REINFORCED:

TASK NUMBER

TASK TITLE

NA

NA

ACADEMIC HOURS:

PEACETIME
HOURS/TYPE

MOBILIZATION
HOURS/TYPE

0.5/C

0.5/C

TEST

0/0

0/0

TEST REVIEW

0/0

0/0

TOTAL HOURS

0.5

0.5

TEST AND TEST REVIEW HOURS AND LESSON NUMBERS:

HOURS

LESSON NUMBER

TESTING:

NA

NA

REVIEW OF TEST RESULTS:

NA

NA

PREREQUISITE LESSON(S): None

CLEARANCE AND ACCESS: Unclassified - Foreign students may attend.

REFERENCES:

WARRIOR TSP: TRAIN THE TRAINER A03.7

<u>NUMBER</u> <u>INFORMATION</u>	<u>TITLE</u>	<u>PAGES</u>	ADDITIONAL
FM 10-450-3	Basic Operations and Equipment	All	NA
FM 10-450-4	Single-Point Load Rigging Procedures	All	NA
FM 10-450-5	Dual Point Load Rigging Procedures	All	NA

STUDENT STUDY ASSIGNMENTS: None

INSTRUCTOR REQUIREMENTS: One instructor

ADDITIONAL SUPPORT PERSONNEL REQUIREMENTS: None

EQUIPMENT REQUIRED FOR THE INSTRUCTION: None

MATERIALS REQUIRED FOR THE INSTRUCTION:

INSTRUCTOR MATERIALS: None

STUDENT MATERIALS: None

CLASSROOM, TRAINING AREA, AND RANGE REQUIREMENTS One 24-person
standard classroom

AMMUNITION REQUIREMENTS: None

INSTRUCTIONAL GUIDANCE: As needed

PROPONENT LESSON PLAN APPROVAL AUTHORITY:

<u>NAME</u>	<u>RANK</u>	<u>POSITION</u>	<u>DATE</u>
Theodore J. Dlugos	GS-14	Dir, ADFSD	24 Jan 00

NOTE: Show slide A03.7-1

MOTIVATOR: In order to safely conduct sling load operations, each individual must be aware of the similarity of the 10,000- and 25,000-pound sling sets. All parts are clearly marked. Take care not to mix up the sets. They are used to rig equipment for sling load operations.

NOTE: Show slide A03.7-2

TERMINAL LEARNING OBJECTIVE (STATEMENT OF OBJECTIVE):

NOTE: Read the following terminal learning objective to the students.

At the completion of this lesson, you (the student) will:

ACTION: Be able to correctly identify all safety, maintenance, and inspection of the 10,000- and 25,000-pound sling sets.

CONDITIONS: You will be given the necessary information, equipment, and materials.

STANDARDS: You will complete this action IAW FM 10-450-3, FM 10-450-4, and FM 10-450-5.

SAFETY REQUIREMENTS: Safety will be discussed throughout this lesson unit.

RISK ASSESSMENT LEVEL: The class is assigned a risk level of low.

ENVIRONMENTAL CONSIDERATION: None

EVALUATION: None

INSTRUCTIONAL LEAD-IN: None

WARRIOR TSP: TRAIN THE TRAINER A03.7

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .4 hours.

Media: Overhead projector / Lite-Pro / Computer

NOTE: It is always dangerous when working around aircraft during day or night sling load operations. You must keep safety foremost in your mind and always follow the instructions given by your instructors. Always wear safety glasses to protect your eyes from flying debris.

WARNING: Components of different capacity sling sets are not interchangeable. Sling or load failure may result if components of different capacity sling sets are intermixed.

NOTE: Show slide A03.7-3

a. Identifying Characteristics.

(1) 10,000 pounds.

- (a) Sling leg material - Nylon rope.
- (b) Leg color - Olive drab.
- (c) Diameter/width - 7/8 inch.
- (d) Leg length - 12 feet.
- (e) Apex fitting material - Aluminum.
- (f) Apex spacer - Aluminum.
- (g) Length adjuster - Grab hook.
- (h) Chain links - 110-115.
- (i) Chain length - 8 feet.
- (j) Weight pounds - 52 pounds.

C-29

(2) 25,000 pounds.

- (a) Sling leg material - Nylon rope.

- (b) Leg color - Black.
- (c) Diameter/Width - 1 1/4 inches.
- (d) Leg length - 12 feet.
- (e) Apex fitting material - Steel.
- (f) Apex spacer - Aluminum.
- (g) Length adjuster - Grab hook.
- (h) Chain links - 86-88.
- (i) Chain length - 8 feet.
- (j) Weight pounds - 114 pounds.

(3) The nylon rope is made from double-braided nylon rope with an eye splice at each end. The outer braid is covered with a liquid nylon which, when dry, provides protection against scuffing and shields the rope against ultraviolet rays.

(4) The rope may shrink during long periods of storage. This condition is temporary and the specified length should be restored with use. To ensure proper load distribution, the variation in length of the rope legs used in a sling assembly should not exceed 6 inches.

(5) One of the ways to determine the 10,000-pound sling set from the 25,000 - pound sling set is that the rope legs on the 10,000-pound sling set are olive drab and the legs on the 25,000-pound sling set are black.

NOTE: Show slide A03.7-4

b. Apex Fitting.

NOTE: The use of any sling load equipment not listed in the FM's is NOT AUTHORIZED.

(1) The fitting gathers the sling legs and attaches the sling set to the helicopter cargo hook. It consists of a clevis, pin, spacer, and bolt with castellated nut and cotter pin.

C-30

(2) The 10,000-pound capacity clevis is made of aluminum and uses a 1 1/8 - inch diameter pin. The 25,000 - pound apex is made of alloy steel and is fitted with a 1 1/2 - inch diameter pin.

WARRIOR TSP: TRAIN THE TRAINER A03.7

(3) The pin in the apex fitting is secured with a 3/8 - inch bolt and pin dome-shaped locknut or the replacement part, a castellated nut and cotter pin.

NOTE: The castellated nut, and a cotter pin are a more positive means of securing the bolt since the cotter pin is easily visible.

(4) The apex-fitting pin is placed directly onto the cargo hook, except for the UH-1H, which requires a 3-foot nylon aerial delivery sling or 10-inch nylon donut due to the design on the cargo hook.

(5) All sling sets are furnished with an improved apex fitting assembly, which includes an aluminum spacer. This spacer is required on the 10,000-pound capacity apex fitting when the load is lifted by a UH-60. If you are using the 25,000-pound sling set, the spacer must be removed. The capacity is the total capacity of the complete sling set - 10,000 or 25,000 pounds. The capacity is marked on the apex fitting.

c. Capabilities.

(1) Each sling set has four legs and each leg carries one quarter of the total capacity. Each leg from a 10,000-pound sling set will carry 2,500 pounds ($10,000\text{-pounds}/4 = 2,500$ pounds). Each leg from a 25,000-pound sling set will carry 6,250-pounds ($25,000\text{ pounds}/4 = 6,250$ pounds). The capacity is marked on the side of the V-shaped portion of the eye splice.

(2) The only item you can use from one sling set on another sling set is the apex fitting, providing the load weight is less than the capacity of the sling legs and the apex fitting.

NOTE: Show slide A03.7-5

d. Grab Hook Assembly.

(1) This assembly is attached to the lower eye of the nylon rope and attaches the nylon rope assembly to the chain. It is used to adjust the chain length.

(2) The yoke in the upper part of the grab hook has a pin and a spacer that are used to attach the nylon rope to the grab hook. A snap ring holds the pin in place. The spacer provides a large diameter surface for the eye of the nylon rope.

C-31

(3) The grab hook has at the bottom part an eye to connect the coupling link and the chain to the grab hook.

(4) At the other side, there is a hook into which any selected chain link can be inserted to vary the length of the chain and secure it. A spring-loaded keeper keeps the chain in the grab hook.

(5) The grab hooks in both sling sets look the same; however, the grab hooks are different in size and should not be interchanged. The assembly part number and capacity are embossed on the side of the grab hook.

NOTE: Show slide A03.7-6

e. Chains.

NOTE: Do not use a 10,000-pound capacity sling set when a 25,000- pound capacity sling set is required.

NOTE: Nylon cord or pressure-sensitive tape should be used to secure the excess chain. This will help to keep the chain in the slot and secure it to the grab hook and prevent the chain from snagging the load being lifted.

(1) The welded steel-alloy chains for both sling sets are 8 feet long. Since the chain is used as a loop, this length allows for adjustments from 0 to 4 feet. The links in the 25,000-pound set are larger than the ones in the 10,000-pound set. Every tenth link is painted olive drab to help when you count the links.

(2) Always count the chain links from the free-running end. If an additional chain length is required by the rigging procedures, use a coupling link to add it to the existing chain.

NOTE: Show slide A03.7-7

f. Sling Set.

(1) A complete sling set comes with four legs. Some loads may have more than four lifting provisions and others may have less. The overall capacity of the sling set changes as sling legs are added or subtracted. If you add legs to a sling set, the capacity of the clevis does not change.

C-32

(2) If you have loads that only have two lift points, use only two sling legs as long as you do not exceed the weight capacity of the sling legs. Use one or more sling legs depending on the weight of the load and the lift points available.

WARRIOR TSP: TRAIN THE TRAINER A03.7

NOTE: Show slide A03.7-8

g. Sling Leg Numbering Sequence.

NOTE: The pin or bolt always goes up and attaches onto the aircraft cargo hook.

(1) Four nylon rope legs are usually attached to the apex fitting. Six rope legs can be attached to one apex fitting if the load requires it.

(2) In order to keep the sling legs from becoming tangled, sling legs are numbered in the following sequence:

(a) Four sling legs, The #1 and #2 legs are the outer sling legs; the #3 and #4 legs are the inner sling legs.

(b) Six sling legs, The #1 and #2 legs are the outer sling legs; the #3 and #4 legs are the inner sling legs; the #5 and #6 legs are the innermost sling legs.

CHECK ON LEARNING.

Question 1: What is the color of the 10,000-pound sling set?

(Answer: Olive drab.)

Question 2: What is the color of the 25,000-pound sling set?

(Answer: Black.)

Question 3: How many chain links are there in the 25,000-pound sling set?

(Answer: 86-88 links.)

Question 4: What material is the apex fitting made of in the 10,000-pound sling set?

(Answer: Aluminum.)

Question 5: What material is the apex fitting made of in the 25,000-pound sling set?

(Answer: Steel.)

C-33

Question 6: What is the weight of the 10,000 and 25,000-pound sling set in pounds?

(Answer: 10,000 is 52 pounds and the 25,000 is 114 pounds)

NOTE: Show slide A03.7-9

SECTION IV - SUMMARY

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .1 hours.

Media: Overhead projector / Lite-Pro / Computer

REVIEW/SUMMARIZE

- a Identifying characteristics.
- b Apex fittings.
- c Sling leg numbering sequence.
- d Capabilities.
- e Grab hook assembly.
- f Chains.
- g Making the sling legs fit the load.

CHECK ON LEARNING.

- a. Solicit student questions and explanations.
- b. Questions and answers:

Question 1: What is the sequence of the sling legs when connected to the apex using four sling legs?

(Answer: #1 and #2 legs are the outer sling legs, #3 and #4 legs are the inner sling legs.)

Question 2: How is the link count marked in the chains?

(Answer: Starting at the free end, every tenth link will be painted olive drab.)

C-34

Question 3: You have three legs from a 10,000-pound sling set and a load weighing 8,000-pound. Is this load safe to lift?

(Answer: No. The 8,000-pound load overloads the three sling legs total capacity of 7,500 pounds.)

WARRIOR TSP: TRAIN THE TRAINER A03.7

Question 4: You have a six legged olive drab sling set and a 13,000-pound load. Is the load safe to lift?

(Answer: No. Even though the capacity of the sling legs is 15,000 pounds, the capacity of the apex fitting is 10,000 pounds. The 13,000 pounds would overload the apex fitting.)

c Correct student misunderstandings.

SECTION V - STUDENT EVALUATION

TESTING REQUIREMENTS

- a. Performance examination: None.
- b. Written examination: None.

FEEDBACK REQUIREMENTS:

NOTE: Provide remedial training as needed.

U.S. ARMY QUARTERMASTER CENTER AND SCHOOL

LESSON PLAN

COURSE: Sling Load Operations

LESSON TITLE: Reach Pendants and Hardware

PROPONENT DEPARTMENT: Aerial Delivery and Field Services
Department

January 2000

Written by _____

Reviewed by _____

Approved by _____

Branch Safety Manager _____

1st Year Review by _____	Date _____	No change _____	Revised _____
2d Year Review by _____	Date _____	No change _____	Revised _____
3d Year Review by _____	Date _____	No change _____	Revised _____
4th Year Review by _____	Date _____	No change _____	Revised _____

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24 JANUARY 2000

LESSON TITLE: Reach Pendants and Hardware

COURSE NUMBER(S)

COURSE TITLE

101-Q-0001

Sling Load Operations
Train-The-Trainer Course

SECTION I - ADMINISTRATIVE DATA

TASK(S) TAUGHT OR SUPPORTED:

TASK NUMBER

TASK TITLE

NA

NA

TASK(S) REINFORCED:

TASK NUMBER

TASK TITLE

NA

NA

ACADEMIC HOURS:

PEACETIME
HOURS/TYPE
0.5/C

MOBILIZATION
HOURS/TYPE
0.5/C

TEST

0/0

0/0

TEST REVIEW

0/0

0/0

TOTAL HOURS

0.5

0.5

TEST AND TEST REVIEW HOURS AND LESSON NUMBERS:

HOURS

LESSON NUMBER

TESTING:

NA

NA

REVIEW OF TEST RESULTS:

NA

NA

PREREQUISITE LESSON(S): None

CLEARANCE AND ACCESS: Unclassified - Foreign students may attend.

REFERENCES:

ADDITIONAL

WARRIOR TSP: TRAIN THE TRAINER A04.7

<u>NUMBER</u>	<u>TITLE</u>	<u>PAGES</u>	<u>INFORMATION</u>
FM 10-450-3	Basic Operations and Equipment	All	NA
FM 10-450-4	Single Point Load Rigging Procedures	All	NA
FM 10-450-5	Dual Point Load Rigging Procedures	All	NA

STUDENT STUDY ASSIGNMENTS: None

INSTRUCTOR REQUIREMENTS: One instructor

ADDITIONAL SUPPORT PERSONNEL REQUIREMENTS: None

EQUIPMENT REQUIRED FOR THE INSTRUCTION: Equipment board

MATERIALS REQUIRED FOR THE INSTRUCTION:

INSTRUCTOR MATERIALS: None

STUDENT MATERIALS: None

CLASSROOM, TRAINING AREA, AND RANGE REQUIREMENTS One 24-person
standard classroom

AMMUNITION REQUIREMENTS: None

INSTRUCTIONAL GUIDANCE: As needed

PROPONENT LESSON PLAN APPROVAL AUTHORITY:

<u>NAME</u>	<u>RANK</u>	<u>POSITION</u>	<u>DATE</u>
Theodore J. Dlugos	GS-14	Dir, AFSD	24 Jan 00

SECTION II - INTRODUCTION

NOTE: Show slide A04.7-1

MOTIVATOR: As a member of your unit qualified to perform the duties of sling load operations, it is important that you are able to identify the various types of hardware and reach pendants. Not only must you be able to identify these items but also, you must be aware of their strength capabilities. Failure to perform this task could result in equipment loss or damage to include injury to personnel.

TERMINAL LEARNING OBJECTIVE (STATEMENT OF OBJECTIVE):

NOTE: Read the following terminal learning objective to the students.

NOTE: Show slide A04.7-2

At the completion of this lesson, you (the student) will:

ACTION: Correctly identify the various types of hardware and reach pendants and their strength capabilities. This will enable you to safely sling load equipment.

CONDITIONS: You will be given the necessary information, equipment, and materials.

STANDARDS: You will complete this action IAW FM 10-450-3, FM 10-450-4, and FM 10-450-5.

SAFETY REQUIREMENTS: Safety will be discussed throughout this lesson unit.

RISK ASSESSMENT LEVEL: The class is assigned a risk level of low.

ENVIRONMENTAL CONSIDERATION: None

EVALUATION: None

INSTRUCTIONAL LEAD-IN: None

SECTION III - PRESENTATION

Learning Activity

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .4 hours.

Media: Overhead projector / Lite-Pro / Computer

NOTE: It is always dangerous when working around aircraft during day or night sling load operations. You must keep safety foremost in your mind and always follow the instructions given by your instructors. Always wear safety glasses to protect your eyes from flying debris.

Hardware Nomenclature and Weight Capacities.

NOTE: Show slide A04.7-3

(1) **Large Clevis.** The large clevis can be used to lift loads up to 12,500 pounds if it has only one attachment point. If the load has four attachment points and a large clevis is used at each lifting point, the maximum load weight that can be lifted is 31,500 pounds. For two attachment points, the maximum weight is 15,750 pounds. For three attachment points, the maximum weight is 23,625 pounds.

NOTE: Show slide A04.7-4

(2) **Medium clevis.** This clevis can lift single lift points up to a maximum weight of 6,250 pounds. It can also be used to attach sling legs of a four-legged sling set to a load weighing up to 15,000 pounds. For two attachment points, the maximum weight is 7,500 pounds. For three attachment points, the maximum weight is 11,250 pounds.

NOTE: Show slide A04.7-5

(3) **Small clevis.** This clevis can lift single points up to a maximum weight of 6,250 pounds. For two attachment points, the maximum weight is 7,500 pounds. For three attachment points, the maximum weight is 11,250 pounds. The maximum load weight that can be lifted using a small clevis at the ends of a four-legged sling set is 15,000 pounds. WARNING: THIS CLEVIS SHOULD NOT BE CONFUSED WITH A G-13 OR G-14 CLEVIS. The NSN on this clevis is 4030-00-360-0304; P\N MS70087-1, and it is identified with a 5/8-inch bolt and nut.

NOTE: Show the difference between the G-14 clevis and the small cargo clevis.

NOTE: Show slide A04.7-6

(4) **Anchor Shackle.** Must have a nut, bolt, and a cotter-pin. Turn-in old type of anchor shackles except for the one on a fuel drum, as they are a part of the fuel drum. Below is a chart for the various safe working load capacities.

PART NUMBER	SHACKLE DIAMETER	1 ATTACH POINT	2 ATTACH POINTS	3 ATTACH POINTS	4 ATTACH POINTS
G-2130-3/8in	00-378-4842	2000 LBS	2570 LBS.	3850 LBS	5100 LBS
G-2130-1/2in	00-804-2307	4000 LBS	5100 LBS	7700 LBS	10300 LBS
G-2130-5/8in	00-804-2308	6500 LBS	8300 LBS	12500 LBS	16700 LBS
G-2130-3/4in	00-343-5433	9500 LBS	12200 LBS	18300 LBS	24400 LBS
G-2130-7/8in	00-373-1123	13000 LBS	16700 LBS	25000 LBS	33400 LBS
G-2130-8-1/2TON	01-282-3470	17000 LBS	21800 LBS	32700 LBS	43600 LBS

NOTE: Show slide A04.7-7

(5) **Type IV connector link.** Use this link to construct a 3-foot apex ring. It has a rated capacity of 12,500 pounds. The component parts are a base plate, two aluminum spacers, and one locking plate.

NOTE: Show slide A04.7-8

(6) **Two-point link assembly.** Also used to construct the 3-foot apex ring with more than 4 loops of type XXVI nylon. It has a rated capacity of 25,000 pounds. The component parts are two base plates, two aluminum spacers, two bolts, and two nuts.

NOTE: Show slide A04.7-9

(7) **15-foot dacron lashing (tie-down strap).** These lashings are used to secure cargo in vehicles and trailers. They are used in conjunction with the load binder. It has a rated capacity of 10,000 pounds. It is made of type X nylon.

NOTE: Show slide A04.7-10

(8) **Load binder.** Load binders are a locking device used to tighten the 15-foot Dacron lashings. Load binders come in two rated capacities; Black-10,000 pounds and Silver-5,000 pounds.

NOTE: Show slide A04.7-11

(9) **CGU-1B.** This wand is used to secure cargo in vehicles and trailers. It has a rated capacity of 5,000 pounds.

NOTE: Show slide A04.7-12

(10) **Static discharge wand.** This wand is used to protect the hook-up person from static electricity during sling load operations. FM 10-450-3, Appendix D, provides instructions needed to fabricate a field expedient static discharge wand.

NOTE: Show slide A04.7-13

(11) **Cargo hook reach pendant (CHRP).** The large looped end is attached to the apex and the small looped end is placed into the cargo hook of the aircraft. The CHRP reduces hook-up time, gives the hook-up team more flexibility and, when used, a static probe person is not needed. The pendant adapter assembly, Part No. 1670 EG 093-1, is approximately 5 feet long with a 25,000-pound safe working load capacity.

NOTE: Show slide A04.7-14

(12) **Two-inch tape.** This tape is used to shatterproof glass and plastic surfaces and for padding material.

NOTE: Show slide A04.7-15

(13) **Type III nylon cord.** It is used to secure portions of different loads. The rated capacity is 550 pounds.

NOTE: Show slide A04.7-16

(14) **Type I, 1/4-inch cotton webbing.** It is used as breakaway material on various loads. Breakaway material prevents sling legs and chains from becoming misrouted or tangled during sling load operations. The rated capacity is 80 pounds.

NOTE: Show slide A04.7-17

(15) **Cellulose wadding.** It is used to protect breakable or sensitive items of equipment during sling load operations.

NOTE: Show slide A04.7-18

(16) **The 3-foot type XXVI nylon cord.** It is used to make the basket hitch, also used to create the nylon doughnut ring.

(17) **Aluminum hourglass spacer.** It is used on the 10K and 25K sling sets to keep the apex from catching on the hook and to help prevent oscillation.

(18) **The 10,000-pound cargo net apex.** It is used to hook the lifting legs of the 5k and 10k cargo net to either a sling set or the cargo hook.

(19) **The 25,000-pound sling set apex.** It is used on the 25,000 pound sling set, rated capacity 25,000 pounds. Apex is made of steel alloy.

(20) **The 10,000-pound sling set apex.** It is used on the 10,000 pound sling set, rated capacity 10,000 pounds. Apex is made of aluminum.

CHECK ON LEARNING

Question 1: What is the difference between a small cargo clevis and a G-14 clevis?

(Answer: A small cargo clevis has a higher weight capacity and is identified by a 5/8-inch bolt and nut. A G-14 clevis has a lower weight capacity and a steel pin with cotter pin.)

Question 2: What is the static probe used for in a sling load operation?

(Answer: To ground the aircraft so that the hook-up man does not get electrically charged.)

SECTION IV - SUMMARY

NOTE: Show slide A04.7-19

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .1 hours.

Media: Overhead projector / Lite-Pro / Computer

REVIEW/SUMMARIZE

Hardware nomenclature and weight capacities.

CHECK ON LEARNING

WARRIOR TSP: TRAIN THE TRAINER A04.7

- a. Solicit student questions and explanations.
- b. Questions and answers:

Question 1: Is a static discharge wand necessary when using a reach pendent?

(Answer: No.)

Question 2: What is the rated capacity for a type IV connector link?

(Answer: 12,500 pounds.)

- c. Correct student misunderstandings.

SECTION V - STUDENT EVALUATION

TESTING REQUIREMENTS:

- a. Performance examination: None.
- b. Written examination: None.

FEEDBACK REQUIREMENTS:

NOTE: Provide remedial training as needed.

U.S. ARMY QUARTERMASTER CENTER AND SCHOOL

LESSON PLAN

COURSE: Sling Load Operations

LESSON TITLE: Inspection Form

PROPONENT DEPARTMENT: Aerial Delivery and Field Services
Department

January 2000

Written by _____

Reviewed by _____

Approved by _____

Branch Safety Manager _____

1st Year Review by _____	Date_____	No change_____
		Revised_____
2d Year Review by_____	Date_____	No change_____
		Revised_____
3d Year Review by_____	Date_____	No change_____
		Revised_____
4th Year Review by_____	Date_____	No change_____
		Revised_____

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24 JANUARY 2000

LESSON TITLE: Inspection Form

THIS LESSON IS USED IN THE FOLLOWING COURSES:

<u>COURSE NUMBER</u>	<u>COURSE TITLE</u>
101-Q-0001	Sling Load Operations Train-The-Trainer Course

SECTION I - ADMINISTRATIVE DATA

TASK TAUGHT OR SUPPORTED:

<u>TASK NUMBER</u>	<u>TASK TITLE</u>
NA	NA

TASK REINFORCED:

<u>TASK NUMBER</u>	<u>TASK TITLE</u>
NA	NA

ACADEMIC HOURS:

	<u>PEACETIME HOURS/TYPE</u>	<u>MOBILIZATION HOURS/TYPE</u>
	.5/C	.5/C
TEST	.0/0	.0/0
TEST REVIEW	.0/0	.0/0
TOTAL HOURS	0.5	0.5

TEST AND TEST REVIEW HOURS AND LESSON NUMBERS:

	<u>HOURS</u>	<u>LESSON NUMBER</u>
TESTING:	NA	NA
REVIEW OF TEST RESULTS:	NA	NA

PREREQUISITE LESSON (S): None

CLEARANCE AND ACCESS: Unclassified - Foreign students may attend.

WARRIOR TSP: TRAIN THE TRAINER A05.7

REFERENCES:

<u>NUMBER</u>	<u>TITLE</u>	<u>PAGES</u>	<u>ADDITIONAL INFORMATION</u>
FM 10-450-3	Basic Operations and Equipment	All	NA
FM 10-450-4	Single Point Load Rigging Procedures	All	NA
FM 10-450-5	Dual Point Load Rigging Procedures	All	NA

STUDENT STUDY ASSIGNMENTS: None

INSTRUCTOR REQUIREMENTS: One instructor

ADDITIONAL SUPPORT PERSONNEL REQUIREMENTS: None

EQUIPMENT REQUIRED FOR THE INSTRUCTION: Overhead projector, screen, and 35-mm slides

MATERIALS REQUIRED FOR THE INSTRUCTION:

INSTRUCTOR MATERIALS: Lesson plans, 35mm slides, and DA FORM 7382-R handout

STUDENT MATERIALS: Note paper, pen, or pencil

CLASSROOM, TRAINING AREA, AND RANGE REQUIREMENTS One 24-person standard classroom

AMMUNITION REQUIREMENTS: None

INSTRUCTIONAL GUIDANCE: None

PROPONENT LESSON PLAN APPROVAL AUTHORITY:

<u>NAME</u>	<u>RANK</u>	<u>POSITION</u>	<u>DATE</u>
Theodore J. Dlugos	GS-14	Dir, ADFSD	24 Jan 2000

SECTION II - INTRODUCTION

NOTE: Show slide A05.7-1

MOTIVATOR: In the continuing effort to increase the effectiveness of teamwork to reduce the probability of error during a sling load operation, an inspection will be conducted by all units and organizations that participate in sling load operations. The purpose of an inspection is to determine that items or procedures being inspected are correct and meet the required standards.

TERMINAL LEARNING OBJECTIVE (STATEMENT OF OBJECTIVE):

NOTE: Show slide A05.7-2

NOTE: Read the following terminal learning objective to the students.

At the completion of this lesson, you (the student) will:

ACTION: Complete the DA Form 7382-R for a sling load operation.

CONDITIONS: You will be given all the necessary references and forms.

STANDARDS: You must complete this action without error.

SAFETY REQUIREMENTS: Brief the students on a plan of evacuating the building if necessary.

RISK ASSESSMENT LEVEL: The class is assigned a risk level of low.

ENVIRONMENTAL CONSIDERATIONS: None

EVALUATION: None

INSTRUCTIONAL LEAD-IN: None

SECTION III - PRESENTATION

Learning Activity

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: 0.4 hours.

Media: Overhead projector / Lite-Pro / Computer

NOTE: Show slide A05.7-3

NOTE: When conducting rigging or inspections, make sure you have the -3 and the corresponding manual for that particular load.

NOTE: Show slides A05.7-4, and A05.7-5

- 1) Certified load-means that Natick Laboratories have conducted static lifts, stress tests, and flight test.

NOTE: Show slides A05.7-6, and A05.7-7

- 2) Suitable loads-means it has been flown for years and has demonstrated stable flight characteristics and is safe.

NOTE: Show slides A05.7-8, and A05.7-9

3) Unique load - it is explained in your FM 10-450-4 and FM 10-450-5.

NOTE: Show slide A05.7-10 and distribute handout number 1

a. General.

NOTE: If section does not apply, then "X" out the entire block.

- (1) Block 1 - Complete address of unit being transported.
- (2) Block 2 - Item description and serial/bumper number.
- (3) Block 3 - Item weight.
- (4) Block 4 - Aviation support unit.
- (5) Block 5 - Type aircraft.
- (6) Block 6 - Rigged IAW FM number.

NOTE: INITIAL only items applicable to your specific load.

NOTE: Applies to fuel blivets and unique loads.

NOTE: Show slide A05.7-11

- (7) Block 7 - Vehicle or load:
 - (a) Correctly positioned.
 - (b) Emergency brake serviceable and set.
 - (c) Fuel level not exceeding 3/4 of a tank.
 - (d) Prepared and padded IAW the appropriate FM.

NOTE: Show slide A05.7-12

- (8) Block 8 - sling set:
 - (a) Correct number and size (10K or 25K)
 - (b) Inspected for serviceability IAW FM 10-450-3.
 - (c) Sling legs properly routed and attached to lift points.
 - (d) Correct link count front and rear.
 - (e) Chain secured in grab link.
 - (f) Excess chain tied or taped (10 links or more).
 - (g) Breakaway ties installed.
 - (h) Apex attached.
 - (i) Apex spacer installed if required.
 - (j) Reach pendant installed if required.

NOTE: Show slide A05.7-13

- (9) Block 9 - A-22 cargo Bag:
 - (a) Inspected for serviceability IAW FM 10-450-3.
 - (b) Rigged IAW FM 10-450-3

WARRIOR TSP: TRAIN THE TRAINER A05.7

- (c) Suspension webs attached to container and taped.
- (d) Clevis bolt routed through suspension web D-rings (4 each).
- (e) Correct sling leg attached.
- (f) Apex attached (Correct type).
- (g) Apex spacer installed if required.

NOTE: Show slide A05.7-14

- (10) Block 10 - cargo nets:
 - (a) Correct size (5K or 10K).
 - (b) Inspected for serviceability IAW FM 10-450-3.
 - (c) Load correctly positioned.
 - (d) Legs properly connected to apex fitting.
 - (e) Hooks taped.
 - (f) Lifting legs taped or tied (breakaway).
 - (g) Correct number and size sling legs.

NOTE: Show slide A05.7-15

(11) Remarks Column - Annotate any deficiencies found with appropriate block and letter.

NOTE: Show slides A05.7-16 and A05.7-17

- (12) Blocks 11 and 12 - Supported unit:
 - Ensure these blocks are legible and signed with payroll signature. They must be filled out completely.

b. Analysis.

- (1) Sling Load Inspection Record (DA Form 7382-R).
- (2) Use X's (cross out).

NOTE: Show slide A05.7-18

C-53

c. Distribution.

- (1) One copy to the supporting aviation unit.
- (2) One copy to load.
- (3) One copy to the supported unit.

CHECK ON LEARNING.

Question 1: What information is contained in block 1?

(Answer: Complete address of unit being sling loaded.)

Question 2: How do you indicate if item has been inspected or not?

(Answer: Initial specific areas of inspection. A diagonal mark indicates areas not inspected.)

SECTION IV - SUMMARY

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .1 hours.

REVIEW/SUMMARIZE

NOTE: Show slide A05.7-19

- a. Types of Loads.
- b. Inspection Record Form
- c. Distribution.

CHECK ON LEARNING

- a. Solicit student questions and explanations.
- b. Questions and answers.

Question 1: What is the distribution process?

(Answer: One copy to the aircraft, one copy to the inspector, and one copy to the load.)

C-54

Question 2: What information is contained in block 3?

WARRIOR TSP: TRAIN THE TRAINER A05.7

(Answer: Item weight.)

c. Correct student misunderstandings.

SECTION V - STUDENT EVALUATION

TESTING REQUIREMENTS:

a. Performance examination: None.

b. Written examination: None.

FEEDBACK REQUIREMENTS:

NOTE: Provide remedial training as needed.

U.S. ARMY QUARTERMASTER CENTER AND SCHOOL

LESSON PLAN

COURSE: Sling Load Operations

LESSON TITLE: Signaller Duties and Responsibilities

PROPOSER DEPARTMENT: Aerial Delivery and Field Services
Department

JANUARY 1997

Written by: _____

Reviewed by: _____

Approved by: _____

Branch Safety Manager: _____

1st Year Review by _____	Date _____	Revised _____
		No Change _____
2d Year Review by _____	Date _____	Revised _____
		No Change _____
3d Year Review by _____	Date _____	Revised _____
		No Change _____
4th Year Review by _____	Date _____	Revised _____
		No Change _____

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24 JANUARY 2000

LESSON TITLE: Signaller Duties and Responsibilities

COURSE NUMBER (S)

COURSE TITLE

NA
101-Q-0001

Sling Load Operations
Train-The-Trainer Course

SECTION I - ADMINISTRATIVE DATA

TASK(S) TAUGHT OR SUPPORTED:

TASK NUMBER

TASK TITLE

NA

NA

TASK(S) REINFORCED:

TASK NUMBER

TASK TITLE

NA

NA

ACADEMIC HOURS:

PEACETIME
HOURS/TYPE

MOBILIZATION
HOURS/TYPE

0.3/C

0.3/C

0.2/D

0.2/D

1.0/PE1

1.0/PE1

TEST

0/0

0/0

TEST REVIEW

0/0

0/0

TOTAL HOURS

1.5

1.5

LIST THE LESSON NUMBER IN WHICH THE TERMINAL LEARNING OBJECTIVE IS TESTED AND TEST RESULTS ARE REVIEWED:

HOURS

LESSON NUMBER

TESTING:

NA

NA

REVIEW OF TEST RESULTS:

PREREQUISITE LESSON(S): None

CLEARANCE AND ACCESS: Unclassified - Foreign students may attend.

WARRIOR TSP: TRAIN THE TRAINER A06.7

REFERENCES:

<u>NUMBER</u> <u>TION</u>	<u>TITLE</u>	<u>PAGES</u>	<u>ADDITIONAL</u> <u>INFORMA-</u>
FM 10-450-3	Basic Operations And Equipment	All	NA
FM 10-450-4	Single-Point Load Rigging Procedures	All	NA
FM 10-450-5	Dual-Point Load Rigging Procedures	All	NA

STUDENT STUDY ASSIGNMENTS: None

INSTRUCTOR REQUIREMENTS: One instructor

ADDITIONAL SUPPORT PERSONNEL REQUIREMENTS: None

EQUIPMENT REQUIRED FOR THE INSTRUCTION: None

MATERIALS REQUIRED FOR THE INSTRUCTION:

INSTRUCTOR MATERIALS: None

STUDENT MATERIALS: None

CLASSROOM, TRAINING AREA, AND RANGE REQUIREMENTS One 24-person
standard classroom

AMMUNITION REQUIREMENTS: None

INSTRUCTIONAL GUIDANCE: As needed

PROPONENT LESSON PLAN APPROVAL AUTHORITY:

<u>NAME</u>	<u>RANK</u>	<u>POSITION</u>	<u>DATE</u>
Theodore J. Dlugos	GS-14	Dir, AFSD	24 Jan 2000

SECTION II - INTRODUCTION

NOTE: Show slide A06.7-1

MOTIVATOR: As the only member of your unit qualified to perform the duties of sling load, it is important that you know your duties, responsibilities, and how to properly communicate with the aircraft from the ground through visual means by use of 16 hand and arm signals.

TERMINAL LEARNING OBJECTIVE (STATEMENT OF OBJECTIVE):

NOTE: Show slide A06.7-2

NOTE: Read the following terminal learning objective to the students.

At the completion of this lesson, you (the student) will:

ACTION: Correctly communicate with aircraft to properly perform sling load of equipment.

CONDITIONS: You will be given the necessary information, equipment, and materials.

STANDARDS: You will complete this action IAW the applicable FM 10-450-3, FM 10-450-4, and FM 10-450-5.

SAFETY REQUIREMENTS: Safety will be discussed throughout this lesson unit.

RISK ASSESSMENT LEVEL: This lesson has a risk assessment of low.

ENVIRONMENTAL CONSIDERATION: None

EVALUATION: None

INSTRUCTIONAL LEAD IN: None

WARRIOR TSP: TRAIN THE TRAINER A06.7

SECTION III - PRESENTATION

Learning Activity 1

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .4 hours.

MEDIA: Overhead projector / Lite-Pro / Computer

NOTE: It is always dangerous when working around aircraft during day or night sling load operations. You must keep safety ~~for~~ most in your mind and always follow the instructions given by your instructors. Always wear safety glasses to protect your eyes from flying debris.

NOTE: Show slide A06.7-3

a. Signalman duties and responsibilities:

(1) The signalman initially identifies the load to be lifted, supervises the inspection of the load for proper routing of the slings, makes proper preparation, and provides hand-and-arm signals to the pilot to position the aircraft over the load. The signalman moves to a position approximately 45 degrees off the nose of the aircraft, and stations himself 30 to 50 feet in front of the load.

(2) The signalman moves with the aircraft to make sure the pilot can see the signals. The signals must be precisely given to prevent any misunderstanding between the signalman and the pilot. The signalman clears the aircraft for departure once the load is off the ground. He maintains a continuous watch for other aircraft entering the landing site area or vehicles that may affect the safety of the operation.

(3) The signalman must also observe the cargo hook and apex fitting. Once hookup has been accomplished, he must hold the aircraft at a hover until the hookup team is clear of the load and visually inspected. The sling legs will be inspected to make sure they are not fouled on the load. If after this inspection is done there is any problem, the signalman will motion the pilot downward then instruct him to cut away the load and the procedure will be repeated until the load is good to fly. Once the load is good to fly the signalman will signal the aircraft to depart, then he will move quickly aside to clear the helicopter's path.

NOTE: Show slide A06.7-4

NOTE: At no time will the signalman or any other member of the sling load team allow a suspended load to pass over his head!

b. Hand and arm signals:

NOTE: Smoke can be used to identify the landing site and also indicate the wind direction.

NOTE: Flashlights with wands are used during night operations.

NOTE: Show slide A06.7-5

(1) Assume guidance - To assume guidance, feet are placed shoulder width apart, arms extended overhead, elbows locked, fingers extended and joined, and palms facing toward the aircraft. Keep head and eyes on the aircraft.

NOTE: Show slide A06.7-6

(2) Wave off - Feet spread shoulder width apart, arms extended overhead so that the wrist cross-repeatedly, elbows locked, fingers extended and joined, and palms facing outward. Keep head and eyes on the aircraft.

NOTE: Show slide A06.7-7

(3) Hover - To assume the position, feet are spread shoulder width apart, arms raised horizontal to the ground and to your side, elbows locked, fingers extended and joined, and palms faced downward. Keep head and eyes on the aircraft.

NOTE: Show slide A06.7-8

(4) Stop - To assume guidance, feet are placed shoulder width apart, arms extended overhead, elbows locked, fingers extended, palms facing outward, arms held crossed overhead, and do not move.

NOTE: Show slide A06.7-9

(5) Move aircraft forward - Spread feet shoulder width apart, arms extended to your front, elbows locked, fingers extended and joined, palms facing upward, arms should be shoulder width apart, bending at the elbows bring the hands toward the face and then extending them back to the front horizontal to the ground. Do this repeatedly. Keep head and eyes on the aircraft.

NOTE: Show slide A06.7-10

WARRIOR TSP: TRAIN THE TRAINER A06.7

(6) Move aircraft backward - Spread feet shoulder width apart, arms by your side, elbows locked, fingers extended and joined, palms facing forward, swing arms forward and upward to shoulder level, then return to the starting position. Do this repeatedly. Keep head and eyes on the aircraft.

NOTE: Show slide A06.7-11

(7) Move aircraft left - Feet spread shoulder width apart, extend both arms to the horizontal position, rotate both palms skyward, breaking at the shoulder, bring the left arm over toward your headgear and return to start position. Do this repeatedly. Keep head and eyes on the aircraft.

NOTE: Show slide A06.7-12

(8) Move aircraft right - Feet spread shoulder width apart, extend both arms to the horizontal position, rotate both palms skyward, breaking at the shoulder, bring the right arm to the vertical position and return to start position. Do this repeatedly. Keep head and eyes on the aircraft.

NOTE: Show slide A06.7-13

(9) Move aircraft upward - To assume this position, spread feet shoulder width apart, arms extended to the sides, horizontal to the ground, elbows locked, fingers extended and joined, palms facing upward, and raising arms to an overhead position, elbows locked, touch fingertip. Do this repeatedly. Keep head and eyes on the aircraft.

NOTE: Show slide A06.7-14

(10) Move aircraft downward - Spread your feet shoulder width apart, arms extended to the sides, horizontal to the ground, elbows locked, fingers extended and joined, palms facing downward, lower arms down to your sides, palms touching legs, Keep head and eyes on the aircraft. This is done in a repeated motion.

NOTE: Show slide A06.7-15

(11) Hook-up complete - Spread feet a comfortable distance apart, place the right hand with a closed fist on top of the head, elbow back. Raise hands alternately above the head in a "rope climbing" motion to take up the slack, repeat the motion for a few seconds. Keep head and eyes on the aircraft.

NOTE: Show slide A06.7-16

WARRIOR TSP: TRAIN THE TRAINER A06.7

(12) Affirmative signal - Right hand closed fist extend thumb upward.

NOTE: Show slide A06.7-17

(13) Negative signal - Right hand closed fist extend thumb downward.

NOTE: Show slide A06.7-18

(14) Cut sling load - Feet spread shoulder width apart, step off with the left foot approximately 18 inches and at the same time extend the left arm, elbow locked, fist closed, toward the aircraft. The right arm is extended, fingers extended and joined, palm downward and with a slicing motion, bring the right hand under the left arm (armpit). Keep head and eyes on the aircraft.

NOTE: Show slide A06.7-19

(15) Take off - Feet spread shoulder width apart, left arm remaining at your side, raise your right arm vertically overhead, rotate your arm in a circular motion, and thrust your arm in the direction you desire the aircraft to take off.

NOTE: Show slide A06.7-20

(16) Land - Feet spread shoulder width apart, bend at the waist, cross the right wrist over the left in front of you with fingers extended and joined, and palms facing the ground. Maintain eye-to-eye contact with the aircraft.

CHECK ON LEARNING

Question 1: Where is the signalman located?

(Answer: Is always positioned outside the rotor disc diameter of an aircraft and pre-coordinated with the aviation unit.)

Question 2: What must the signalman ensure that he does constantly?

(Answer: Keep eye-to-eye contact with the pilot at all times.)

Learning Activity 2

Type of instruction: PE1 Instructor to student ratio is 1:24.

Time of instruction: .9 hours.

WARRIOR TSP: TRAIN THE TRAINER A06.7

Media: Overhead projector / Lite-Pro / Computer

a. Directions to Instructor.

Check student's performance and assist students when necessary to ensure the task is completed to standard.

b. Directions to Students.

Properly execute hand signals in accordance with prior learning activity.

CHECK ON LEARNING

Question 1: From what position are most of the signals executed?

(Answer: From the hover position.)

Question 2: When should the signalman direct the aircraft to take off?

(Answer: Only after the hook-up team has reached the pre-designated area.)

SECTION IV - SUMMARY

Learning Activity 3

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .2 hours.

Media: None

REVIEW/SUMMARY

NOTE: Show slide A06.7-21

a. For the past 50 minutes you have learned the 16 hand and arm signals, which are used to communicate with the pilot of the aircraft through visual means during sling load operations.

CHECK ON LEARNING

a. Solicit student questions and explanations.

b. Questions and answers:

Question 1: What safety equipment must you have when performing signalman duties?

(Answer: Eye protection, ear plugs, flashlights for night operation, helmet, leather gloves, etc.)

c. Correct student's misunderstandings.

SECTION V - STUDENT EVALUATION

TESTING REQUIREMENTS

a. Performance examination: None.

b. Written examination: None.

FEEDBACK REQUIREMENTS:

NOTE: Provide remedial training as needed.

WARRIOR TSP: TRAIN THE TRAINER A07.7

U.S. ARMY QUARTERMASTER CENTER AND SCHOOL

LESSON PLAN

COURSE: Sling Load Operations

LESSON TITLE: Hook-Up Team Duties and Responsibilities

PROPONENT DEPARTMENT: Aerial Delivery and Field Services
Department

January 2000

Written by: _____

Reviewed by: _____

Approved by: _____

Branch Safety Manager: _____

1st Year Review by _____	Date _____	Revised _____
		No Change _____
2d Year Review by _____	Date _____	Revised _____
		No Change _____
3d Year Review by _____	Date _____	Revised _____
		No Change _____
4th Year Review by _____	Date _____	Revised _____
		No Change _____

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WARRIOR TSP: TRAIN THE TRAINER A07.7

24 JANUARY 2000

LESSON TITLE: Hookup Team Duties and Responsibilities.

COURSE NUMBER (S)

COURSE TITLE

101-Q-0001

Sling Load Operations
Train-The-Trainer Course

SECTION I - ADMINISTRATIVE DATA

TASK(S) TAUGHT OR SUPPORTED:

TASK NUMBER

TASK TITLE

N/A

N/A

TASK(S) REINFORCED:

TASK NUMBER

TASK TITLE

N/A

N/A

ACADEMIC HOURS:

PEACETIME
HOURS/TYPE

MOBILIZATION
HOURS/TYPE

TEST

0.5/C
0/0

0.5/C
0/0

TEST REVIEW

0/0

0/0

TOTAL HOURS

0.5

0.5

LIST THE LESSON NUMBER IN WHICH THE TERMINAL LEARNING OBJECTIVE IS TESTED AND TEST RESULTS ARE REVIEWED:

HOURS

LESSON NUMBER

TESTING:

N/A

REVIEW OF TEST RESULTS:

N/A

PREREQUISITE LESSON(S): None

CLEARANCE AND ACCESS: Unclassified - Foreign students may attend.

WARRIOR TSP: TRAIN THE TRAINER A07.7

REFERENCES:

<u>NUMBER</u> <u>INFORMATION</u>	<u>TITLE</u>	<u>PAGES</u>	<u>ADDITIONAL</u>
FM 10-450-3	Basic Operations And Equipment	All	N/A
FM 10-450-4	Single Point Load Rigging Procedures	All	N/A
FM 10-450-5	Dual Point Load Rigging Procedures	All	N/A

STUDENT STUDY ASSIGNMENTS: None

INSTRUCTOR REQUIREMENTS: One instructor

ADDITIONAL SUPPORT PERSONNEL REQUIREMENTS: None

EQUIPMENT REQUIRED FOR THE INSTRUCTION: Lite-pro and Power-Point Slideshow

MATERIALS REQUIRED FOR THE INSTRUCTION:

INSTRUCTOR MATERIALS: None

STUDENT MATERIALS: None

CLASSROOM, TRAINING AREA, AND RANGE REQUIREMENTS: One 24 - person standard classroom

AMMUNITION REQUIREMENTS: None

INSTRUCTIONAL GUIDANCE: As needed

PROPONENT LESSON PLAN APPROVAL AUTHORITY:

<u>NAME</u>	<u>RANK</u>	<u>POSITION</u>	<u>DATE</u>
Theodore J. Dlugos	GS-14	Dir, AFSD	24 Jan 2000

SECTION II - INTRODUCTION

NOTE: Show slide A07.7-1

MOTIVATOR: Ground crew teamwork and proficiency are very important to the success of a sling load operation. How well ground personnel are trained and how familiar they are with their mission may determine the final outcome. The implementation of a ground crew training program is a command responsibility.

TERMINAL LEARNING OBJECTIVE (STATEMENT OF OBJECTIVE):

NOTE: Show slide A07.7-2

NOTE: Read the following terminal learning objective to the students.

At the completion of this lesson, you (the student) will:

ACTION: Be able to correctly identify all safety, duties and responsibilities of the hookup team.

CONDITIONS: You will be given the necessary information, equipment and materials.

STANDARDS: You will complete this action IAW FM 10-450-3, FM 10-450-4, and FM 10-450-5.

SAFETY REQUIREMENTS: Safety will be discussed throughout this lesson unit.

RISK ASSESSMENT LEVEL: The class is assigned a risk level of low.

ENVIRONMENTAL CONSIDERATION: None.

EVALUATION: None.

INSTRUCTIONAL LEAD-IN: None.

SECTION III - PRESENTATION

Learning Activity

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .4 hours.

WARRIOR TSP: TRAIN THE TRAINER A07.7

Media: Overhead projector / Lite-Pro / Computer

NOTE: It is always dangerous when working around aircraft during day or night sling load operations. You must keep safety foremost in you mind and always follow the instructions given by your instructors. Always wear safety glasses to protect your eyes from flying debris.

a. Safety Considerations.

NOTE: Hookup teams must be careful and alert at all times while working near aircraft because the hazards found in operating under a hovering helicopter are not always apparent. Only trained crews should be used to rig loads and hook them to aircraft. The following safety precautions should be taken into consideration to minimize the chance of injury during hookup.

NOTE: Show slide A07.7-3

- (1) Avoid flying debris and foreign object damage.
- (2) Avoid cargo sling leg entanglement.
- (3) Avoid sharp objects protruding from loads or aircraft.
- (4) Avoid top-heavy or unbalanced loads.
- (5) Avoid being caught between the load and the aircraft.
- (6) Always watch the aircraft and be ready to quickly move out of the way in the event that the helicopter has an emergency.
- (7) Avoid moving and protruding parts of the aircraft such as main rotor blades, tail rotor blades, landing gear, and cargo hooks. Stay clear of swinging cargo hooks and cargo.

NOTE: Show slide A07.7-4

- (9) Avoid tripping over static discharge wand grounding cable.
- (10) Be alert for vehicles without brakes, with faulty brakes, or brakes not engaged.
- (11) Be alert for loads with damaged lifting provisions.

WARRIOR TSP: TRAIN THE TRAINER A07.7

(12) Take special care on slippery and wet surfaces, pitching decks, and in high winds.

(13) Wear required safety equipment at all times.

NOTE: Show slide A07.7-5

(14) Keep an eye on your fellow team members; their safety is important.

(15) Double check the load for proper rigging and sling attachment.

(16) Do not allow horseplay.

(17) Know your position in relation to the helicopter(s) at all times, especially during shipboard operations.

NOTE: Show slide A07.7-6

(21) Watch movement of the aircraft and signals from the aircrew in case of an emergency. Remember, you will be under it!

(22) Follow established emergency procedures. Be alert for signals from the signalman in case of an emergency.

(23) Make sure brakes or chock blocks are engaged or installed as required.

(24) Keep the area clear of loose equipment which could damage the aircraft or injure personnel.

(25) Remain clear of the hookup area unless you are participating.

(26) Know where the rendezvous point is in case of an emergency.

NOTE: Show slide A07.7-7

b. Hookup Personnel Duties.

(1) Clearing the landing site.

(2) Rigging and de-rigging the loads.

(3) Directing the aircraft over the load for hookup and landing point for load release.

WARRIOR TSP: TRAIN THE TRAINER A07.7

NOTE: Show slide A07.7-8

c. Hookup Man Responsibilities.

The hookup man positions himself on or near the load in a stable position and attaches the sling or net apex fitting to the cargo hook. If required, he performs the manual release of the cargo hook.

NOTE: Show slide A07.7-9

d. Hookup Man Duties.

(1) He will be positioned on top of the load with apex in hands in an upward position.

(2) The hookup man is the first to depart the load; therefore, he should be on the side of the load closest to the rendezvous point/exit path.

(3) If the load is difficult or unsafe to stand on, he may be stationed on the ground along the side of the load.

(4) The hookup man maintains visual contact with the static wand person and does not attempt hookup until the hook is grounded.

(5) He places the apex fitting/web ring on the cargo hook as soon as he can reach it after the hook is grounded.

NOTE: Show slide A07.7-10

(6) Make sure that the apex fitting/web ring is connected in the proper orientation, and make sure the hook is locked by giving a sharp pull on the sling legs.

(7) After completing the hookup, get off the load, wait for static probe man and move forward of the aircraft's 3 o'clock position to the rendezvous point (about 50 feet from the load).

(8) From this location, he will assist and conduct a visual inspection of the load. If the load is correct, he will give the affirmative signal to the signalman.

NOTE: Show slide A07.7-11

e. Static Probe Man Responsibilities.

The static wand person must be thoroughly familiar with the effects of static electricity. He provides the primary protection against severe electrical shock for the hookup man by touching the static discharge wand to the cargo hook and maintaining contact until the hookup man clears the load.

NOTE: Show slide A07.7-12

f. Static Probe Man Duties.

(1) He drives the grounding rod into the ground on the side of the load opposite the rendezvous point.

(2) He positions himself on top of the load to the right side of the hookup man.

(3) The static probe man is the last to depart the load, so he should be on the opposite side of the load. He will then wrap his left arm around the waist of the hookup man to provide stability and ground contact before connecting the apex to the hook.

(4) Next, he will ground the cargo hook and maintain constant contact with the hook. He will maintain this contact until hookup is completed.

(5) After the completion of the hookup, he breaks contact with the cargo hook and then drops the static probe next to the grounding rod in the ground so no one will trip over the wire while dismounting the load.

(6) He will then collect the static probe from the ground and along with the hookup man will move to the rendezvous point. There he will perform a visual inspection of the load to make sure it will fly with no problems. Then along with the hookup man, he will give the affirmative signal to the signal man.

NOTE: Show slide A07.7-13

g. Visual location of hook-up team on the load.

CHECK ON LEARNING.

Question 1: Where is the hookup man located?

(Answer: He is always positioned closest to the rendezvous point on top of the load.)

WARRIOR TSP: TRAIN THE TRAINER A07.7

Question 2: What must the static probe man always ensure?

(Answer: That constant contact is kept with the static probe and the cargo hook at all times during hookup.)

SECTION IV - SUMMARY

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .1 hours.

Media: Overhead projector / Lite-Pro / Computer

NOTE: Show slide fifteen

REVIEW/SUMMARIZE

NOTE: Show slide A07.7-14

- a. Hookup personnel duties.
- b. Hookup man duties and responsibilities.
- c. Static probe man duties and responsibilities.

CHECK ON LEARNING.

- a. Solicit student questions and explanations.
- b. Questions and answers:

Question 1: What safety equipment must you have on when performing hookup man and static probe man duties?

(Answer: Eye protection, ear plugs, helmet, leather gloves, static probe.)

Question 2: Who is qualified to inspect loads and what are the prerequisites?

(Answer: Graduates from the following schools: Air Assault, Pathfinder, or QMS Inspector Certification Course (Sling Load). Must be an E-4 or above.)

- c. Correct student misunderstandings.

TESTING REQUIREMENTS:

- a. Performance examination: None.
- b. Written examination: None.

FEEDBACK REQUIREMENTS:

NOTE: Provide remedial training as needed.

U.S. ARMY QUARTERMASTER CENTER AND SCHOOL

LESSON PLAN

COURSE: Sling Load Operations

LESSON TITLE: Safety Equipment.

PROPONENT DEPARTMENT: Aerial Delivery and Field Services
Department

January 2000

Written by: _____

Reviewed by: _____

Approved by: _____

Branch Safety Manager: _____

1st Year Review by _____	Date _____	Revised _____
		No Change _____
2d Year Review by _____	Date _____	Revised _____
		No Change _____
3d Year Review by _____	Date _____	Revised _____
		No Change _____
4th Year Review by _____	Date _____	Revised _____
		No Change _____

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WARRIOR TSP: TRAIN THE TRAINER A07.7

24 JANUARY 2000

LESSON TITLE: Hookup Team Duties and Responsibilities.

COURSE NUMBER (S)

COURSE TITLE

101-Q-0001

Sling Load Operations
Train-The-Trainer Course

SECTION I - ADMINISTRATIVE DATA

TASK(S) TAUGHT OR SUPPORTED:

TASK NUMBER

TASK TITLE

N/A

N/A

TASK(S) REINFORCED:

TASK NUMBER

TASK TITLE

N/A

N/A

ACADEMIC HOURS:

PEACETIME
HOURS/TYPE

MOBILIZATION
HOURS/TYPE

TEST

0.5/C
0/0

0.5/C
0/0

TEST REVIEW

0/0

0/0

TOTAL HOURS

0.5

0.5

LIST THE LESSON NUMBER IN WHICH THE TERMINAL LEARNING OBJECTIVE IS TESTED AND TEST RESULTS ARE REVIEWED:

HOURS

LESSON NUMBER

TESTING:
REVIEW OF TEST RESULTS:

N/A
N/A

PREREQUISITE LESSON(S): None

CLEARANCE AND ACCESS: Unclassified - Foreign students may attend.

WARRIOR TSP: TRAIN THE TRAINER A07.7

REFERENCES:

<u>NUMBER</u> <u>INFORMATION</u>	<u>TITLE</u>	<u>PAGES</u>	<u>ADDITIONAL</u>
FM 10-450-3	Basic Operations And Equipment	All	N/A
FM 10-450-4	Single Point Load Rigging Procedures	All	N/A
FM 10-450-5	Dual Point Load Rigging Procedures	All	N/A

STUDENT STUDY ASSIGNMENTS: None

INSTRUCTOR REQUIREMENTS: One instructor

ADDITIONAL SUPPORT PERSONNEL REQUIREMENTS: None

EQUIPMENT REQUIRED FOR THE INSTRUCTION: Lite-pro and Power-Point Slideshow

MATERIALS REQUIRED FOR THE INSTRUCTION:

INSTRUCTOR MATERIALS: None

STUDENT MATERIALS: None

CLASSROOM, TRAINING AREA, AND RANGE REQUIREMENTS: One 24 - person standard classroom

AMMUNITION REQUIREMENTS: None

INSTRUCTIONAL GUIDANCE: As needed

PROPONENT LESSON PLAN APPROVAL AUTHORITY:

<u>NAME</u>	<u>RANK</u>	<u>POSITION</u>	<u>DATE</u>
Theodore J. Dlugos	GS-14	Dir, AFSD	24 Jan 2000

SECTION II - INTRODUCTION

NOTE: Show slide A07.7-1

MOTIVATOR: Ground crew teamwork and proficiency are very important to the success of a sling load operation. How well ground personnel are trained and how familiar they are with their mission may determine the final outcome. The implementation of a ground crew training program is a command responsibility.

TERMINAL LEARNING OBJECTIVE (STATEMENT OF OBJECTIVE):

NOTE: Show slide A07.7-2

NOTE: Read the following terminal learning objective to the students.

At the completion of this lesson, you (the student) will:

ACTION: Be able to correctly identify all safety, duties and responsibilities of the hookup team.

CONDITIONS: You will be given the necessary information, equipment and materials.

STANDARDS: You will complete this action IAW FM 10-450-3, FM 10-450-4, and FM 10-450-5.

SAFETY REQUIREMENTS: Safety will be discussed throughout this lesson unit.

RISK ASSESSMENT LEVEL: The class is assigned a risk level of low.

ENVIRONMENTAL CONSIDERATION: None.

EVALUATION: None.

INSTRUCTIONAL LEAD-IN: None.

SECTION III - PRESENTATION

Learning Activity

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .4 hours.

WARRIOR TSP: TRAIN THE TRAINER A07.7

Media: Overhead projector / Lite-Pro / Computer

NOTE: It is always dangerous when working around aircraft during day or night sling load operations. You must keep safety foremost in you mind and always follow the instructions given by your instructors. Always wear safety glasses to protect your eyes from flying debris.

a. Safety Considerations.

NOTE: Hookup teams must be careful and alert at all times while working near aircraft because the hazards found in operating under a hovering helicopter are not always apparent. Only trained crews should be used to rig loads and hook them to aircraft. The following safety precautions should be taken into consideration to minimize the chance of injury during hookup.

NOTE: Show slide A07.7-3

- (1) Avoid flying debris and foreign object damage.
- (2) Avoid cargo sling leg entanglement.
- (3) Avoid sharp objects protruding from loads or aircraft.
- (4) Avoid top-heavy or unbalanced loads.
- (5) Avoid being caught between the load and the aircraft.
- (6) Always watch the aircraft and be ready to quickly move out of the way in the event that the helicopter has an emergency.
- (7) Avoid moving and protruding parts of the aircraft such as main rotor blades, tail rotor blades, landing gear, and cargo hooks. Stay clear of swinging cargo hooks and cargo.

NOTE: Show slide A07.7-4

- (9) Avoid tripping over static discharge wand grounding cable.
- (10) Be alert for vehicles without brakes, with faulty brakes, or brakes not engaged.
- (11) Be alert for loads with damaged lifting provisions.

WARRIOR TSP: TRAIN THE TRAINER A07.7

(12) Take special care on slippery and wet surfaces, pitching decks, and in high winds.

(13) Wear required safety equipment at all times.

NOTE: Show slide A07.7-5

(14) Keep an eye on your fellow team members; their safety is important.

(15) Double check the load for proper rigging and sling attachment.

(16) Do not allow horseplay.

(17) Know your position in relation to the helicopter(s) at all times, especially during shipboard operations.

NOTE: Show slide A07.7-6

(21) Watch movement of the aircraft and signals from the aircrew in case of an emergency. Remember, you will be under it!

(22) Follow established emergency procedures. Be alert for signals from the signalman in case of an emergency.

(23) Make sure brakes or chock blocks are engaged or installed as required.

(24) Keep the area clear of loose equipment which could damage the aircraft or injure personnel.

(25) Remain clear of the hookup area unless you are participating.

(26) Know where the rendezvous point is in case of an emergency.

NOTE: Show slide A07.7-7

b. Hookup Personnel Duties.

(1) Clearing the landing site.

(2) Rigging and de-rigging the loads.

(3) Directing the aircraft over the load for hookup and landing point for load release.

WARRIOR TSP: TRAIN THE TRAINER A07.7

NOTE: Show slide A07.7-8

c. Hookup Man Responsibilities.

The hookup man positions himself on or near the load in a stable position and attaches the sling or net apex fitting to the cargo hook. If required, he performs the manual release of the cargo hook.

NOTE: Show slide A07.7-9

d. Hookup Man Duties.

(1) He will be positioned on top of the load with apex in hands in an upward position.

(2) The hookup man is the first to depart the load; therefore, he should be on the side of the load closest to the rendezvous point/exit path.

(3) If the load is difficult or unsafe to stand on, he may be stationed on the ground along the side of the load.

(4) The hookup man maintains visual contact with the static wand person and does not attempt hookup until the hook is grounded.

(5) He places the apex fitting/web ring on the cargo hook as soon as he can reach it after the hook is grounded.

NOTE: Show slide A07.7-10

(6) Make sure that the apex fitting/web ring is connected in the proper orientation, and make sure the hook is locked by giving a sharp pull on the sling legs.

(7) After completing the hookup, get off the load, wait for static probe man and move forward of the aircraft's 3 o'clock position to the rendezvous point (about 50 feet from the load).

(8) From this location, he will assist and conduct a visual inspection of the load. If the load is correct, he will give the affirmative signal to the signalman.

NOTE: Show slide A07.7-11

e. Static Probe Man Responsibilities.

The static wand person must be thoroughly familiar with the effects of static electricity. He provides the primary protection against severe electrical shock for the hookup man by touching the static discharge wand to the cargo hook and maintaining contact until the hookup man clears the load.

NOTE: Show slide A07.7-12

f. Static Probe Man Duties.

(1) He drives the grounding rod into the ground on the side of the load opposite the rendezvous point.

(2) He positions himself on top of the load to the right side of the hookup man.

(3) The static probe man is the last to depart the load, so he should be on the opposite side of the load. He will then wrap his left arm around the waist of the hookup man to provide stability and ground contact before connecting the apex to the hook.

(4) Next, he will ground the cargo hook and maintain constant contact with the hook. He will maintain this contact until hookup is completed.

(5) After the completion of the hookup, he breaks contact with the cargo hook and then drops the static probe next to the grounding rod in the ground so no one will trip over the wire while dismounting the load.

(6) He will then collect the static probe from the ground and along with the hookup man will move to the rendezvous point. There he will perform a visual inspection of the load to make sure it will fly with no problems. Then along with the hookup man, he will give the affirmative signal to the signal man.

NOTE: Show slide A07.7-13

g. Visual location of hook-up team on the load.

CHECK ON LEARNING.

Question 1: Where is the hookup man located?

(Answer: He is always positioned closest to the rendezvous point on top of the load.)

WARRIOR TSP: TRAIN THE TRAINER A07.7

Question 2: What must the static probe man always ensure?

(Answer: That constant contact is kept with the static probe and the cargo hook at all times during hookup.)

SECTION IV - SUMMARY

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .1 hours.

Media: Overhead projector / Lite-Pro / Computer

NOTE: Show slide fifteen

REVIEW/SUMMARIZE

NOTE: Show slide A07.7-14

- a. Hookup personnel duties.
- b. Hookup man duties and responsibilities.
- c. Static probe man duties and responsibilities.

CHECK ON LEARNING.

- a. Solicit student questions and explanations.
- b. Questions and answers:

Question 1: What safety equipment must you have on when performing hookup man and static probe man duties?

(Answer: Eye protection, ear plugs, helmet, leather gloves, static probe.)

Question 2: Who is qualified to inspect loads and what are the prerequisites?

(Answer: Graduates from the following schools: Air Assault, Pathfinder, or QMS Inspector Certification Course (Sling Load). Must be an E-4 or above.)

- c. Correct student misunderstandings.

TESTING REQUIREMENTS:

- a. Performance examination: None.
- b. Written examination: None.

FEEDBACK REQUIREMENTS:

NOTE: Provide remedial training as needed.

WARRIOR TSP: TRAIN THE TRAINER A08.7

U.S. ARMY QUARTERMASTER CENTER AND SCHOOL

LESSON PLAN

COURSE: Sling Load Operations

LESSON TITLE: Safety Equipment.

PROPONENT DEPARTMENT: Aerial Delivery and Field Services
Department

January 2000

Written by: _____

Reviewed by: _____

Approved by: _____

Branch Safety Manager: _____

1st Year Review by _____	Date _____	Revised _____
		No Change _____
2d Year Review by _____	Date _____	Revised _____
		No Change _____
3d Year Review by _____	Date _____	Revised _____
		No Change _____
4th Year Review by _____	Date _____	Revised _____
		No Change _____

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24 JANUARY 2000

LESSON TITLE: Preparation and Setup of PZ/LZ

THIS LESSON IS USED IN THE FOLLOWING COURSES:

<u>COURSE NUMBER</u>	<u>COURSE TITLE</u>
101-Q-0001	Sling Load Operations Train-The-Trainer Course

SECTION I - ADMINISTRATIVE DATA

TASK TAUGHT OR SUPPORTED:

<u>TASK NUMBER</u>	<u>TASK TITLE</u>
NA	NA

TASK(S) REINFORCED:

<u>TASK NUMBER</u>	<u>TASK TITLE</u>
NA	NA

ACADEMIC HOURS:	<u>PEACETIME HOURS/TYPE</u>	<u>MOBILIZATION HOURS/TYPE</u>
	1.0/C	1.0/C
TEST	0/0	0/0
TEST REVIEW	0/0	0/0
TOTAL HOURS	1.0	1.0

TEST AND TEST REVIEW HOURS AND LESSON NUMBERS:

	<u>HOURS</u>	<u>LESSON NO.</u>
TESTING:	NA	NA
REVIEW OF TEST RESULTS:	NA	NA

PREREQUISITE LESSON(S): None

CLEARANCE AND ACCESS: Unclassified - Foreign students may attend.

REFERENCE :

<u>NUMBER</u>	<u>TITLE</u>	<u>PAGES</u>	<u>ADDITIONAL INFORMATION</u>
FM 10-450-3	Basic Operations and Equipment	4-1 thru 4-13	NA

STUDENT STUDY ASSIGNMENTS: Read Chapter 4 in FM 10-450-3

INSTRUCTOR REQUIREMENTS: One instructor and one assistant instructor

ADDITIONAL SUPPORT PERSONNEL REQUIREMENTS: None

EQUIPMENT REQUIRED FOR THE INSTRUCTION: FM 10-450-3, screen, 35mm slides, viewgraphs, charts, light beacon, light markers, obstruction light (bean bag), and VS-17 panel.

INSTRUCTOR MATERIALS: Viewgraphs

STUDENT MATERIALS: Pen or pencil and paper

CLASSROOM, TRAINING AREA, AND RANGE REQUIREMENTS: One 24 - person standard classroom

AMMUNITION REQUIREMENTS: None

INSTRUCTIONAL GUIDANCE: As needed

PROPONENT LESSON PLAN APPROVAL AUTHORITY:

<u>NAME</u>	<u>RANK</u>	<u>POSITION</u>	<u>DATE</u>
Theodore J. Dlugos	GS-14	Director, ADFSD	24 Jan 2000

SECTION II - INTRODUCTION

NOTE: Show slide A09.7-1

MOTIVATOR: Preparation and the setup of landing zones are an intricate part of the sling load operation. Failure to identify and mark specific areas could result in the loss of a load or the crash of a helicopter. Nevertheless, it is imperative that you pay close attention to this block of instruction.

TERMINAL LEARNING OBJECTIVE (STATEMENT OF OBJECTIVE):

NOTE: Show slide A09.7-2

NOTE: Read the following terminal learning objective to the students.

At the completion of this lesson, you (the student) will:

ACTION: Prepare and setup a PZ/LZ for sling load operation.

CONDITIONS: You will be given the necessary information, equipment, and materials.

STANDARDS: You will complete this action IAW FM 10-450-3, FM 10-450-4, and FM 10-450-5.

SAFETY REQUIREMENTS: Point out fire exits and potential hazards within the classroom, such as extension cords. etc

RISK ASSESSMENT LEVEL: The class has been assigned a risk level of low.

ENVIRONMENTAL CONSIDERATIONS: None

EVALUATION: Upon completion of this lesson, you will be required to correctly prepare and set up a PZ/LZ for a sling load operation phase. A practical exercise will be conducted during the sling load operation.

INSTRUCTIONAL LEAD-IN: During your previous classes on aircraft familiarization, you were introduced to the different types of aircraft and their capabilities. Now you will learn how to properly and safely set up landing zones for each of these aircraft for a daytime operation.

SECTION III - PRESENTATION

Learning Activity

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .9 hours.

Media: Overhead projector / Lite-Pro / Computer

NOTE: Show slide A09.7-3

a. Three Phases of LZ/PZ Operations.

NOTE: Show slide A09.7-4

(1) The selection phase. The size of a landing zone will be determined by the aircraft and formations that are being flown. The size of the landing point will be determined by the aviation commander based on pilot and unit proficiency, size of the aircraft, atmospheric conditions, and whether the operation will take place during the day or night.

NOTE: Show slide A09.7-5

(2) Marking phase. This is based on the number of aircraft being used. This is a tactical and technical consideration.

NOTE: Show slide A09.7-6

(3) Controlling phase. In a landing formation, there are nine types of formations. They are as follows:

NOTE: Show slide A09.7-7

- (a) Trail formation.
- (b) Echelon right.
- (c) Echelon left.
- (d) Heavy right.
- (e) Heavy left.
- (f) Stagger trail right.
- (g) Stagger trail left.

(h) Vee formation.

(I) Diamond formation.

NOTE: Show slide A09.7-8

b. LZ/PZ setup considerations.

(1) Surface conditions. The site should be firm enough to support the weight of the aircraft and free of loose sand, snow, or debris (brown-out or white-out conditions).

(2) Ground slope. Never land an aircraft on a down slope, because the tail rotor will strike the ground. Ground slope is considered an obstacle if the slope exceeds 7 degrees. With a slope exceeding 7 degrees, observation and utility aircraft (UH-1H, AH-1) **WILL NOT BE ABLE TO LAND!** Cargo and large utility (UH-60) aircraft will be issued an advisory. If the slope exceeds 15 degrees, **NO AIRCRAFT ARE ALLOWED TO LAND!** They will be advised to terminate their mission at a hover.

NOTE: Show slides A09.7-9 and A09.7-10

NOTE: Explain ground slope formula on chalkboard. High elevation on the HLZ minus the low elevation = vertical distance (VD).

NOTE: Show slide A09.7-11

(3) Approach and departure routes. Ideally, approach and departure routes are made along the long axis of the HLZ over the lowest obstacle and into the wind.

(4) Prevailing winds. Wind direction of within 45 degrees to the left or right of land heading is considered a head wind. Always attempt to land an aircraft into a head wind. Aircraft will not be able to land in a tail wind that exceeds 5 knots. Also, aircraft will not be able to land in a crosswind that exceeds 9 knots.

NOTE: The situation will dictate approach and landings. EXPLAIN!

NOTE: Considerations such as no fly zones will affect the landing and approach on the HLZ.

NOTE: Maximum winds for flying:

Observation helicopters (OH)- 30 knots
Utility helicopter (UH)- 40 knots
Cargo helicopters (CH)- 60 knots

NOTE: Cutoff for sling load operations will be determined by the aircraft commander.

NOTE: Show slide A09.7-12

(5) Density altitude. Atmospheric conditions affect the aircraft allowable cargo load (ACL) for any given situation. It is comprised of three factors:

- (a) Temperature
- (b) Humidity
- (c) Altitude above sea level (mean sea level)
- (d) Wind

NOTE: As any of these factors increase, the performance capability of the aircraft decreases and the ACL is reduced. Optimum aircraft performance is obtained during a cool day, with humidity relatively low and with the field elevation as close to sea level as possible.

NOTE: Show slide A09.7-13

c. Steps in Setting Up LZ/PZ.

(1) First consideration is to establish your GTA (ground to air) communications site. Monitor aviation units' frequency and provide them with any navigational assistance and update conditions. Equipment needed at this site are PRC-77 with external speaker, wind meter, and some type of identification device; smoke, mirror, VS-17 panel or strobe light.

(2) After setting up your GTA, you must determine your approach route and your departure route. It is preferred that you use the long axis of your HLZ which allows you more area in which to land the aircraft. Once this is completed, pace off the width and length of the HLZ.

NOTE: Show slides A09.7-14 and A09.7-15

(3) There is only so much of the long axis on your HLZ that you can safely use to land aircraft. In short, this is due to high obstacles that cannot be removed such as buildings, trees, power lines, and poles. This is called determining the UNUSABLE. We will use the 10:1 ratio rule. To determine the unusable area

of the HLZ, you multiply the height of your approach obstacle by 10. Once you have the solution, start at the base of the obstacle and walk in toward the HLZ the distance of the solution

NOTE: EXAMPLE: The obstacle is 10 feet. Multiply 10 by 10 equaling 100 meters, that is the number of paces you should take towards the HLZ. That 100 meters is determined to be the unusable area to land aircraft. Continue this method on the approach, departure, right, and left sides of the HLZ. This will determine the usable portion of the HLZ.

NOTE: Show slide A09.7-16

(4) Now you are ready to contend with the obstacles on the HLZ. Obstacles are defined as anything that is 18 inches high, wide, or deep. When you identify an obstacle on the HLZ, first, try to remove it or reduce it. If this cannot be accomplished, it must be marked in red and an advisory must be issued to the aircraft using the HLZ.

(5) Now we begin to mark and identify the HLZ. For daytime markings, we will use VS-17 panels and smoke. For night operations you would need baton lights, strobe lights, open flame, chemical lights, or vehicle lights.

NOTE: Show slide A09.7-17

(6) When you are establishing landing zone, considerations must be taken to determine the landing points within the zone. Landing points are categorized by size one through five. They are as follows:

(a) Size one-25 meters in diameter of cleared obstacles can accommodate one OH-58 Kiowa.

(b) Size two-35 meters in diameter of cleared obstacles can accommodate one UH-1H or AH-1.

(c) Size three-50 meters in diameter of cleared obstacles can accommodate one UH-60 or AH-64.

(d) Size four-80 meters in diameter of cleared obstacles can accommodate one CH-47D.

(e) Size five-100 meters in diameter of cleared obstacles will accommodate one sling load aircraft regardless of type.

NOTE: For the landing point, we will use a size 4; length-80 meters, width-80 meters.

NOTE: Show slide A09.7-18

(7) At this point, you are ready to emplace your first helicopter landing point or touch-down point. This point will be placed on the departure end of your HLZ on the edge of the usable area or the line of the unusable.

NOTE: Minimum length and width of a sling load area will be a size 5; length-100 meters, width-100 meters.

NOTE: Use VS-17 panels to form an X in the middle of each landing area. Also use a "T" to indicate wind heading. The signalman will be located 40 meters in the front and from the center of the LP and 10 meters to the pilot's right.

NOTE: Show slide A09.7-19

(8) The sling load area will be placed at the approach end of the HLZ. The sling load area will have a 100-by 100-meter area in which to conduct the operation. The signalman will be located 40 meters in front of the load and 10 meters to the pilots right.

NOTE: Quickly review LZ/PZ setup for night time operations, use FM 10-450-3, Chapter 4 to illustrate set-up procedures.

CHECK ON LEARNING.

Question 1: What is considered an obstacle on a HLZ?

(Answer: Anything 18 inches high, deep, or wide.)

Question 2: How would you determine the unusable or usable area on a HLZ?

(Answer: By using the 10:1 ratio rule, go to the highest obstacle on the HLZ and estimate the height and multiply by 10. Then walk the solution inward toward the HLZ in meters and mark. Continue this process on all ends and sides of the HLZ.)

SECTION IV - SUMMARY

Type of instruction: C Instructor to student ratio is 1:24.

Time of instruction: .1 hours.

Media: Overhead projector / Lite-Pro / Computer

REVIEW/SUMMARIZE

NOTE: Show slide A09.7-20

- a. Three phases of LZ/PZ operations.
- b. LZ/PZ set-up considerations.
- c. Steps in setting up LZ/PZ.

CHECK ON LEARNING

- a. Solicit student questions and explanations.
- b. Questions and answers:

Question 1: How many different sizes of touch-down points are there and what is the cleared area requirement?

(Answer: Five. Size 1, 25 meters; size two, 35 meters; size three, 50 meters; size four, 80 meters; size five, 100 meters.)

Question 2: What are the crosswind maximums and tail wind maximums?

(Answer: Crosswind-9 knots; Tail winds-5 knots.)

- c. Correct student misunderstandings.

SECTION V - STUDENT EVALUATION

TESTING REQUIREMENTS:

- a. Performance examination: None.
- b. Written examination: None.

FEEDBACK REQUIREMENTS:

NOTE: Provide remedial training as needed.

U.S. ARMY QUARTERMASTER CENTER AND SCHOOL

LESSON PLAN

COURSE: Sling Load Operations

LESSON TITLE: Rigging Cargo Nets/A-22 Cargo Bag

PROPONENT DEPARTMENT: Aerial Delivery and Field Services
Department

January 2000

Written by _____

Reviewed by _____

Approved by _____

Branch Safety Manager _____

1st Year Review by _____	Date _____	No change _____
		Revised _____
2d Year Review by _____	Date _____	No change _____
		Revised _____
3d Year Review by _____	Date _____	No change _____
		Revised _____
4th Year Review by _____	Date _____	No change _____
		Revised _____

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24 JANUARY 2000

LESSON TITLE: Rigging Cargo Nets/A-22 Cargo Bags

THIS LESSON IS USED IN THE FOLLOWING COURSES:

<u>COURSE NUMBER</u>	<u>COURSE TITLE</u>
101-Q-0001	Sling Load Operations Train-The-Trainer Course

SECTION I - ADMINISTRATIVE DATA

TASK TAUGHT OR SUPPORTED:

<u>TASK NUMBER</u>	<u>TASK TITLE</u>
NA	NA

TASK(S) REINFORCED:

<u>TASK NUMBER</u>	<u>TASK TITLE</u>
NA	NA

<u>ACADEMIC HOURS:</u>	<u>PEACETIME HOURS/TYPE</u>	<u>MOBILIZATION HOURS/TYPE</u>
	0.2/C	0.2/C
	0.3/D	0.3/D
	1.5/PE1	1.5/PE1
TEST	0/0	0/0
TEST REVIEW	0/0	0/0
TOTAL HOURS	<hr/> 2.0	<hr/> 2.0

TEST AND TEST REVIEW HOURS AND LESSON NUMBERS:

	<u>HOURS</u>	<u>LESSON NO.</u>
TESTING:	NA	NA
REVIEW OF TEST RESULTS:	NA	NA

PREREQUISITE LESSON(S): None

CLEARANCE AND ACCESS: Unclassified - Foreign students may attend.

WARRIOR TSP: TRAIN THE TRAINER B-1.7

REFERENCES:

<u>NUMBER</u>	<u>TITLE</u>	<u>PAGES</u>	<u>ADDITIONAL INFORMATION</u>
FM 10-450-3	Basic Operations And Equipment	All	NA
FM 10-450-4	Single Point Load Rigging Procedures	All	NA
FM 10-450-5	Dual Point Load Rigging Procedures	All	NA

STUDENT STUDY ASSIGNMENTS: None

INSTRUCTOR REQUIREMENTS: One instructor and one assistant instructor

ADDITIONAL SUPPORT PERSONNEL REQUIREMENTS: None

EQUIPMENT REQUIRED FOR THE INSTRUCTION: Cargo nets, 15-by 15-foot., 18-by 18-foot; and a A-22 Cargo Bag; 10,000 - pound slingset complete; 1/4 - inch cotton webbing; 2 - inch nylon tape; medium clevis; type III nylon cord; knife; 2 - inch masking tape; and 7/16 - nylon rope; 12 - to 18 - foot long; ammo boxes or something to configure a load.

INSTRUCTOR MATERIALS: None

STUDENT MATERIALS: None

CLASSROOM, TRAINING AREA, AND RANGE REQUIREMENTS One 24-person standard classroom

AMMUNITION REQUIREMENTS: None

INSTRUCTIONAL GUIDANCE: As needed

PROPONENT LESSON PLAN APPROVAL AUTHORITY:

<u>NAME</u>	<u>RANK</u>	<u>POSITION</u>	<u>DATE</u>
Theodore J. Dlugos 2000	GS-14	Director, ADFSD	24 Jan

C-101

SECTION II - INTRODUCTION

MOTIVATOR: The cargo net/A-22 Cargo Bag is a versatile piece of equipment. It is used to sling load rations, ammunition, medical supplies, and various other types of equipment to support the current mission. At sometime during your military career you may be tasked to support a sling load mission. It is important that the inspection and rigging are done with precise and accurate measures.

TERMINAL LEARNING OBJECTIVE (STATEMENT OF OBJECTIVE):

NOTE: Read the following terminal learning objective to the students.

At the completion of this lesson, you (the student) will:

ACTION: Rig a 15- by 15- foot. or 18- by 18- foot cargo net and a A-22 cargo bag for sling load in its entirety.

CONDITIONS: You will be given the necessary information, equipment, and materials.

STANDARDS: You will complete this action IAW the applicable FM 10-450-3, FM 10-450-4, and FM 10-450-5.

SAFETY REQUIREMENTS: Ensure when using a knife to cut away from other personnel and when equipment is being loaded into container, a minimum of two personnel will be used to perform this task.

RISK ASSESSMENT LEVEL: The class has been assigned a risk level of low. Potential risks involved are improper use of a knife and improper loading procedures of equipment.

ENVIRONMENTAL CONSIDERATIONS: None

EVALUATION: Upon completion of this lesson, you will be required to correctly inspect for completeness and rig for a sling load operation.

INSTRUCTIONAL LEAD-IN: During this block of instruction, you will learn the nomenclature, inspection for completeness, proper rigging procedure for a 15- by 15- foot. or 18- by 18- foot cargo net/A-22 cargo bag. You will receive a practical exercise to conduct these procedures.

C-102

SECTION III - PRESENTATION

Learning Activity 1

Type of instruction: C/D Instructor to student ratio is 2:6.

Time of instruction: .2 hours.

Media: None

a. Inspection and Capabilities.

(1) The maximum for the 15- by 15- foot is 5,000 pounds., and for the 18- by 18- foot is 10,000 pounds.

(2) Inspection of all its component parts for serviceability and accountability.

NOTE: If cuts or frays are found to exceed 1/2- inch or 1/2- inch in diameter, the item will be replaced or repaired.

b. Rigging Procedure.

(1) Lay the cargo net out flat on the ground. Then place your cargo in the net so that 75 percent or more of the cargo is inside of the yellow border cord.

(2) Pull the net up around the sides of the load ensuring all slack is pulled tight. Now thread the 7/16-inch nylon rope through the web portion of the net. When routing the rope through the net, ensure that you do not skip more than three squares. Tighten rope and secure it with a surgeon knot and locking knot. Roll and tape excess rope with 2- inch nylon tape.

(3) Now connect the hooks to the manufactured apex. The hook sequence is as follows: 1,3,4,2 or 1,3,2,4. Remember, the number 1 hook will have the manufactured apex tied to it with a piece of type III nylon cord. Place the number 1 hook on the apex. Next place the number 3 hook on the apex. Then move to either the left or right side of the load and connect the number 2 or number 4 hooks on the apex. Tape all hooks with 2- inch nylon tape.

(4) Using the appropriate number of sling legs, route the free running end of the chain through the manufactured apex and secure a link count of 3 (by dropping the third link into the keeper of the grab hook assembly).

NOTE: One sling leg has the rated capacity of 2,500 pounds.

C-103

(5) Now tie the three mandatory breakaway ties. Using three pieces of 1/4- inch cotton webbing, secure the ties around the lifting legs on the cargo net approximately 3 feet apart.

(6) Rig the apex of the sling leg for the type of aircraft that will be picking up the load.

NOTE: UH-60 Blackhawk must have an aluminum spacer on the apex.

NOTE: UH-1H must have an apex ring or a basket hitch.

NOTE: CH-47 does not require any additional items on the apex.

(7) Check the apex. It must have a castellated nut, and a cotter pin.

NOTE: Personnel authorized to inspect a sling load are as follows: E-4 or above, must be a graduate from one of the following schools: Pathfinder, Air Assault School, or Sling Load Inspector Certification Course.

NOTE: Ensure students correctly identify deficiencies and annotate. Identify to the students what type aircraft that will be used.

CHECK ON LEARNING

Question 1: What is the maximum weight required for the 15- by 15- foot cargo net?

(Answer: Maximum 5000 pounds.)

Question 2: What is the link count on the 15- by 15- foot cargo net?

(Answer: Three)

Learning Activity 2

Type of instruction: C/D Instructor to student ratio is 1:24.

Time of instruction: .2 hours.

Media: None

C-104

a. Description and Capabilities.

(1) The maximum sling load weight for the A-22 bag is 2,200 pounds.

(2) Inspection of all its component parts for serviceability and completeness.

NOTE: If holes are found to exceed 1 inch in diameter, item will be replaced and sent to repair activity.

b. Rigging Procedure.

(1) Place the scuff pad on the ground with the oversewn portion facing down.

(2) Place the canvas cover on top of the scuff pad assembly. Match the rectangular portions.

(3) Center the load on the rectangular portion of the canvas.

(4) Pull a canvas flap over the load, and then the opposite flap. Do the same thing to the two remaining flaps.

(5) Secure the corners with type III nylon cord. To do this, you will form an hourglass by routing from the bottom two lacing loops. Form an "X" and route the free running ends through the top two lacing loops. You will secure the type III nylon cord with a bow knot and tape the excess with masking tape.

NOTE: Ensure a free running end is exposed approximately 2 inches.

(6) Secure the 188- inch straps across the load so that they form a cross. Then locate the friction bar adapter opposite of each strap. Route the 188- inch strap through the friction bar adapter and tighten it. Roll the excess and secure it with type I cotton webbing.

(7) Next secure your lateral straps to their friction bar adapters loosely. To tighten requires two personnel. Starting from the bottom, on opposite sides pull straps until tight. Repeat this process until all side straps are tightened. Secure excess with 1/4- inch cotton webbing and bow knot.

(8) Connect the suspension web straps to the suspension web D-rings ensuring that the snap hooks face inward and are taped.

C-105

(9) In a clockwise manner, pick up each suspension web with D-rings flat together ensuring no more than a half twist.

(10) Place the D-rings in the open portion of the medium clevis. Carefully route the bolt through the clevis and through all D-rings and secure it with nut. Tape both ends of bolt with nylon tape.

(11) Using the 10,000- pound sling leg, route the free running end of the chain through the medium clevis. Place a chain link count of 3 in the keeper portion of the grab hook assembly.

(12) Rig the apex of the sling leg for the type of aircraft that will be picking up the load.

NOTE: UH-60 Blackhawk must have an aluminum spacer on the apex.

NOTE: UH-1H must have an apex ring or a basket hitch.

NOTE: CH-47 does not require any additional items on the apex.

(13) Check the apex. It must have a castellated nut, and a cotter pin.

CHECK ON LEARNING

Question 1: When initial inspection of container is conducted, what are you looking for?

(Answer: Completeness, no tears larger than one inch, rust, nylon webbing tears more than half way through etc...)

Question 2: How are the snap hooks properly attached to the D-rings?

(Answer: Facing inward and taped.)

Learning Activity 3

Type of instruction: PE1 Instructor to student ratio is 2:6.

Time of instruction: 1.5 hours.

Media: None

C-106

a. Directions to Instructor.

Check student's performance, and assist students when necessary to ensure the task is completed to standard.

b. Directions to Students.

(1) Inspect 15- by 15- foot or the 18- by 18- foot cargo net and the A-22 cargo bag for serviceability and completeness.

(2) Properly rig the cargo net/A-22 cargo bag in accordance with prior learning activities.

CHECK ON LEARNING

Question 1: When initial inspection of container is conducted, what are you looking for?

(Answer: Completeness, no cuts or frays larger than 1/2-inch, rust, dents.)

Question 2: What is the maximum weight capacities for the 18- by 18- foot cargo net?

(Answer: Maximum is 10,000 pounds.)

SECTION IV - SUMMARY

Learning Activity 4

Type of instruction: C Instructor to student ratio is 2:6

Time of instruction: .1 hours

Media: None

REVIEW/SUMMARY

- a. Description and capabilities.
- b. Initial inspection and nomenclature.
- c. Rigging procedures.

CHECK ON LEARNING

- a. Solicit student questions and explanations.

C-107

b. Questions and answers:

Question 1: What must be used on the apex when sling loading with a UH-60 Blackhawk?

(Answer: Aluminum spacer.)

Question 2: Who are qualified to inspect loads and what are the prerequisites?

(Answer: Graduates from one of the following schools: Air Assault, Pathfinder, Sling load Inspector Certification Course. Must be an E-4 or above.)

c. Correct student's misunderstandings.

SECTION V - STUDENT EVALUATION

TESTING REQUIREMENTS:

- a. Performance examination: None.
- b. Written examination: None.

FEEDBACK REQUIREMENTS:

NOTE: Provide remedial training as needed.

C-108
EQUIPMENT REQUIRED FOR RIGGING CARGO NETS/A-22 BAGS

CARGO NETS:

5000 LB cap 15 x 15 ft	1670-01-058-3811	1 EA
10,000 LB cap 18 x 18 ft	1670-01-058-3810	1 EA
10,000 LB Sling set complete	1670-01-027-2902	1 set
Type I, 1/4- inch cotton webbing	8305-00-268-2411	1 RL
Duct tape, 2- inch	7510-00-290-2026	1 RL
Clevis assembly, medium	4030-00-678-8562	2 EA
Type III nylon cord	4020-00-240-2146	1 RL
Rope, fibrous 1/2- inch	4020-00-968-1357	2 EA

A-22 CARGO BAG:

A-22 cargo bag complete	1670-00-587-3421	1 EA
2- inch duct tape 10,000 LB Sling set complete	1670-01-027-2902	1 set
Type I, 1/4- inch cotton webbing	8305-00-268-2411	1 RL
Duct tape, 2- inch	7510-00-290-2026	1 RL
Clevis assembly, medium	4030-00-678-8562	2 EA
Type III nylon cord	4020-00-240-2146	1 RL

WARRIOR TSP: TRAIN THE TRAINER B-2.7

U.S. ARMY QUARTERMASTER CENTER AND SCHOOL

LESSON PLAN

COURSE: Sling Load Inspector Certification

LESSON TITLE: Rigging of One, Two, Three, and Four, 500-Gallon Fuel Drums With a 25K Sling Set

PROPONENT DEPARTMENT: Aerial Delivery and Field Services Department

January 2000

Written by: _____

Reviewed by: _____

Approved by: _____

Branch Safety Manager: _____

1st Year Review by _____	Date _____	Revised _____
		No Change _____
2d Year Review by _____	Date _____	Revised _____
		No Change _____
3d Year Review by _____	Date _____	Revised _____
		No Change _____
4th Year Review by _____	Date _____	Revised _____
		No Change _____

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