

UNITED STATES SPECIAL OPERATIONS COMMAND

7701 Tampa Point Boulevard

MacDill Air Force Base, Florida 33621-5323

USSOCOM MANUAL

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Training

**STANDARDS FOR ROTARY WING AND TILTROTOR
INFILTRATION/EXFILTRATION TRAINING**

FOREWORD

1. Purpose. This manual establishes policies and procedures and assigns responsibilities for Rotary Wing (RW)/Tilt Rotor (TR) infiltration (infil)/exfiltration (exfil) training by U.S. Special Operations Command (USSOCOM) and its Major Subordinate Commands. This manual provides guidance for the standardization and conduct of infil/exfil training pursuant to this authority. It ensures establishment and maintenance of capabilities-driven training requirements and establishes policy to support infil/exfil standardization programs in accordance with (IAW) applicable Department of Defense (DOD) and Joint Staff instructions. This manual is not meant to supersede Service guidance, only provide minimum requirements for USSOCOM and its Major Subordinate Commands. Service guidance includes Service regulations and instructions which are applicable to the specific unit missions. Service guidance shall be used with this manual as the basis on which initial Standard Operating Procedures (SOPs) are written.

2. Applicability. This manual is applicable to personnel assigned to Headquarters (HQ) USSOCOM; USSOCOM Components and sub-unified commands, to include USSOCOM; Air Force Special Operations Command (AFSOC); Joint Special Operations Command (JSOC); U.S. Marine Corps Forces Special Operations Command (MARSOC); Naval Special Warfare Command (NAVSPECWARCOM); U.S. Army Special Operations Command (USASOC); Theater Special Operations Commands (TSOC); and National Guard (NG)/Reserve Special Operations Units and Detachments. Policy contained in this manual will remain in effect unless revised by USSOCOM, or superseded by higher authority.

3. Proponent. The proponent for this manual is HQ USSOCOM, Directorate of Operations (J3), Training & Education Division (J3-T&E). Users are invited to send comments and suggested improvements directly to: USSOCOM, ATTN: J3-T&E, 7701 Tampa Point Blvd., MacDill AFB, FL 33621-5323.

(J3-T&E)

*This Manual supersedes M 350-6, 15 September 2011. (See [Summary of Changes](#) on page ii.)

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SUMMARY OF CHANGES

THIS MANUAL CONTAINS SUBSTANTIAL REVISIONS AND SHOULD BE READ IN ITS ENTIRETY.

RECORDS MANAGEMENT NOTICE: ALL RECORDS PERTAINING TO USSOCOM THAT ARE CREATED BASED ON THIS PUBLICATION MUST BE MAINTAINED AND RETAINED IN ACCORDANCE WITH (IAW) THE CHAIRMAN JOINT CHIEFS OF STAFF MANUAL (CJCSM) 5760.01 SERIES, JOINT STAFF AND COMBATANT COMMAND RECORDS MANAGEMENT VOLUME I (PROCEDURES) AND VOLUME II (DISPOSITION); DOD DIRECTIVE (DODD) 5015.2, *DOD RECORDS MANAGEMENT PROGRAM*, AND [USSOCOM D 25-51](#), *RECORDS MANAGEMENT PROGRAM*.

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CHAPTER 1

GENERAL

1-1. General.

a. The mission of USSOCOM is to provide fully capable SOF to plan and conduct Special Operations (SO) in worldwide support of U.S. policy and objectives. To that end, USSOCOM Major Subordinate Commands employ a dynamic, capabilities focused training strategy based upon the CJCS Joint Training System ensuring SOF operators will continue to master the individual and collective war fighting skills that enable operational and tactical success in all combat environments.

b. This manual provides the policy foundation for the development of subordinate doctrine, Tactics, Techniques, and Procedures (TTP), training literature, and the conceptual framework to facilitate interoperability. It describes the core tasks that make up the consolidated minimum qualification and evaluation standards for infil/exfil training for the SOF Enterprise.

c. This manual establishes joint tasks to assist commanders at all levels in preparing SOF for the infil/exfil training process. A systems approach is used to focus on major functional capabilities through individual and collective Courses of Instruction (COI)/Program of Instruction (POI). Each Subordinate Command's curriculum and requirements for infil/exfil training were reviewed for the purpose of creating this manual.

d. For the purpose of this manual, USSOCOM defines SOF RW/TR infil/exfil capability (hereafter referred to as simply "infil/exfil") includes, but is not limited to, those skill sets required to successfully conduct: FRIES, SPIES, Ladder, Helocast, Hoist, Airland, STABO and AIRTEP operations. The terms "helicopter" or "aircraft" refer to both rotary wing and tiltrotor aircraft (See **NOTE** below) and will be used hereafter, as appropriate, to apply to both aircraft types.

NOTE: The V-22 Osprey includes both the CV-22 Osprey (AFSOC version) and MV-22 Osprey (USMC version) tiltrotor aircraft and is considered a helicopter for the purpose of terminal area operations (takeoff, approach, and landing) or when configured ≥ 60 nacelle. The V-22 Osprey will be considered a fixed wing aircraft for other operations.

e. All infil/exfil operations and training conducted under the authority of USSOCOM are conducted IAW this manual and procedures established in the respective Service/USSOCOM Major Subordinate Command publications. All Subordinate Command infil/exfil publications will ensure basic alignment with this manual and applicable joint or Service publications.

f. Acronyms and abbreviations used in this manual are first spelled out, and then used repeatedly throughout this manual.

- (1) "Will" and "Shall" indicate a mandatory requirement.
- (2) "Should" indicates a recommended procedure.
- (3) "May" indicates an acceptable or suggested means of accomplishment.

1-2. Scope. The policies, procedures, and responsibilities established herein provide direction for the USSOCOM staff and all organizations, units, and forces conducting infil/exfil training under the authority of USSOCOM.

1-3. Objectives. Commander USSOCOM (CDRUSSOCOM) directs that SOF must train and fight as part of a joint team which includes Conventional Forces, interagency, and SOF with Partner Nations. To achieve this, CDRUSSOCOM directed authoritative publications be published to establish joint minimum training standards for USSOCOM elements conducting infil/exfil training and operations.

a. Provides CDRUSSOCOM visibility on all Major Force Program-11 (MFP-11) funded infil/exfil training programs and visibility on the collective SOF Enterprise.

b. This manual is the authoritative joint training reference that:

(1) Establishes joint interoperable tasks to address joint/common SOF training requirements, and coordinate SOF efforts by identifying activities and best practices for the conduct of infil/exfil training across the SOF Enterprise under USSOCOM authority.

(2) Establishes a common understanding of SOF activities to facilitate and mature the interoperability of the force.

(3) Provides policy guidance to USSOCOM Major Subordinate Command training programs of record that produce and maintain sufficient numbers of appropriately trained SOF personnel to meet Geographic Combatant Command (GCC) requirements.

(4) Provides USSOCOM guidance for the conduct of training in a safe manner IAW USSOCOM Major Subordinate Commanders Operational Risk Management (ORM) Program.

(5) Establishes the reference document for the periodic JSOT to observe, and provide recommendations and insight on the integration of SOF joint interoperable tasks in Service/USSOCOM Major Subordinate Command infil/exfil training programs.

1-4. Authorities.

a. USSOCOM. USSOCOM derives authorities as the SOF Advocate, from Title 10, U.S. Code (U.S.C.), for all assigned SO core activities and all additional skills and capabilities assigned in [USSOCOM D 10-1](#), *Terms of Reference-Roles, Missions, and Functions of Component Commands*.

As the SOF Advocate, USSOCOM is responsible for the development of strategy, doctrine, and tactics; training of assigned forces; conduct of specialized COIs/POIs; validating and establishing priorities for requirements; ensuring the interoperability of equipment and forces assigned; ensuring the combat readiness of forces assigned; the development and acquisition of Special Operations-Peculiar (SO-P) equipment, material, supplies, and services; and exercising authority, direction, and control over the expenditure of MFP-11 funds.

b. USSOCOM Operations Directorate (J3) Training & Education Division (J3-T&E), Individual Training Branch (J3-T&E-T), relies upon Subordinate Command Subject Matter Experts (SME), through the assignment as Lead Component (LC) or Coordinating Component (CC), to ensure all Title 10 U.S.C. responsibilities are met across joint SOF.

c. Unless otherwise assigned within this directive, CDRUSSOCOM retains approval, validation, and certification authority.

d. USASOC. USSOCOM has designated USASOC as the LC for the infil/exfil Enterprise. As the LC, USASOC serves as the SME on all matters pertaining to the operations, training, doctrine, safety, equipment, and interoperability of assigned USSOCOM forces in the area of infil/exfil training

(1) USASOC shall develop and recommend standardized infil/exfil training qualifications. This includes periodic JSOTs of the infil/exfil training capability produced at USSOCOM infil/exfil training Schools/Courses against the agreed upon Critical Task List (CTL).

(2) USASOC, if required, shall call meetings, establish agendas and Plans of Action and Milestones, and recommend joint interoperable tasks for infil/exfil training capabilities.

(3) USASOC, in coordination with J3-T&E, shall:

(a) Develop, with CCs, the recommend standardized CTL for infil/exfil training.

(b) Conduct periodic JSOTs of the infil/exfil training produced at USSOCOM infil/exfil training Schools/Courses against a CTL for recognition and continuation of training.

(c) Develop, publish, and distribute safety messages, equipment bulletins, and quality deficiency reports across the joint infil/exfil training Enterprise IAW Subordinate Command reporting requirements.

(d) Participate in or maintain oversight on the development, testing, and standardization of infil/exfil training related equipment that affects the joint SOF Enterprise.

(4) It is imperative USASOC view its roles and responsibilities with a joint perspective.

(5) USASOC shall coordinate and staff all recommendations to establish and/or change existing doctrine, requirements, or TTPs that affect the joint infil/exfil Enterprise IAW Change Recommendation (CR) procedures described in this directive and [USSOCOM D 350-1](#), *USSOCOM Military Training – Individual*.

(6) When requested, provide infil/exfil SME support for a J3-T&E led JSOT to review infil/exfil training programs, school houses, and COI's/POI's as needed. JSOTs observe, not assess, the execution of SOF advanced skill sets in an operational environment and provides trip reports with recommendations to the Component(s) and USSOCOM J3.

e. CC. AFSOC, JSOC, MARSOC, NSWC, TSOCs, and the, NG Special Operations Units and Detachments are designated CCs. The CCs shall:

(1) When directed by USSOCOM, assist USASOC with drafting or revising joint policy for infil/exfil training and safety standards, doctrine, Research, Development, Testing & Evaluation, or infil/exfil training equipment.

(2) Additionally, the following Subordinate Command telephone numbers are provided in the event an infil/exfil SME is required:

(a) USSOCOM J3-T&E	DSN: 299-3250	COMM: (813) 826-3250
(b) USASOC G37	DSN: 239-8218	COMM: (910) 432-3084
(c) MARSOC G3	DSN: 758-0852	COMM: (910) 440-0852
(d) AFSOC A3T	DSN: 579-5124/2231	COMM: (850) 844-2234
(e) NSWC N32	DSN: 577-0787	COMM: (619) 437-0787
(f) JSOC J37	DSN: 383-2580	COMM: (910) 243-2580

(3) CCs will coordinate with J3-T&E and the LC on staffing any recommendations that establish and/or change existing doctrine or infil/exfil training requirements that affect the joint SOF Enterprise IAW CR procedures described in [USSOCOM D 350-1](#).

CHAPTER 2

ORGANIZATION AND RESPONSIBILITIES

2-1. General. Infil/exfil training is an advanced skill set within USSOCOM Major Subordinate Commands. It is the responsibility of Subordinate Commands instructing and conducting infil/exfil training to maintain proficiency in established joint processes and procedures necessary for the alignment and professional execution of an infil/exfil training program. A clear understanding of applicable Service/USSOCOM Major Subordinate Command publications supplemented with SO-P infil/exfil training TTPs and best practices are essential to full integration and appropriate standardization of infil/exfil training across the infil/exfil training Enterprise. This chapter delineates specific responsibilities for key personnel/organizations in the planning, preparation, and execution of infil/exfil training by USSOCOM Major Subordinate Commands.

2-2. Specific Responsibilities.

a. **HQ USSOCOM.** IAW Title 10 U.S.C.; §164, CDRs of Combatant Commands: Assignment; Powers and Duties and Title 10 U.S.C. § 167, Unified Combatant Command for SOF; DODD 5100.01, *Functions of the DOD and its Major Components*; CJCS Instruction (CJCSI) 3500.01 Series, *Joint Training Policy for the Armed Forces of the U.S.*; and CJCSM 3500.03 Series, *Joint Training Manual for the Armed Forces of the U.S.*, USSOCOM will:

- (1) Prepare and train assigned forces.
- (2) Provide authoritative direction and oversight to Subordinate CDRs on all aspects of joint SO training.
- (3) Evaluate the effectiveness of joint SO training to ensure SOF and equipment are interoperable and support GCC mission requirements.
- (4) Publish the annual SO Joint Training Plan in the Joint Training Information Management System, the CDRs Training and Education Guidance, and the annual Command Training Assessment Plan.

b. USSOCOM, Directorate of Operations (J3).

- (1) Review mission guidance letters and validate theater infil/exfil training requirements in support of GCC activities.
- (2) Notify USSOCOM J3-T&E of training shortfalls identified during operations.
- (3) Validate and facilitate accomplishment of emergent training required in theater.

c. USSOCOM SOF Acquisition, Technology (SOF AT&L), Directorate of Logistics (SOF AT&L-J4).

(1) Exercises staff supervision over the procurement and distribution of infil/exfil training and other necessary equipment for the conduct of infil/exfil training.

(2) In conjunction with USASOC, coordinate the integration of new infil/exfil training systems throughout the infil/exfil training Enterprise.

(3) Monitors infil/exfil training activities, maintenance, and life cycle replacement.

d. USSOCOM Directorate of Strategy, Plans, and Policy (J5).

(1) Assist USSOCOM Major Subordinate Commands in the process of publishing training responsibilities between them and the Services via [USSOCOM D 10-1](#), *Terms of Reference -- Roles, Missions, and Functions of Component Commands*. Memorandums of Agreements, and Memorandums of Understanding, as well as between other CC via command arrangement agreements.

(2) Leads enterprise-wide Mission Analysis of USSOCOM's designed and assigned missions to determine those essential tasks that J3-T&E will use in development of the Command's Joint Mission Essential Task List (JMETL).

(3) Participates in the Quarterly Training Review Board.

e. USSOCOM J3 Training Division (J3-T&E).

(1) Serve as the Office of Primary Responsibility (OPR) for infil/exfil training tasks and related issues.

(2) Ensure interoperability of SO-P infil/exfil training equipment and assigned infil/exfil customers.

(3) Manage the development and coordination of joint SOF training doctrine, concepts, and policies for infil/exfil training.

(4) Serve as OPR for the development and alignment of infil/exfil training JSOT.

(5) Conduct periodic JSOT reviews of individual and collective infil/exfil training programs to determine:

(a) Implementation and adherence to this manual.

(b) Level of program interoperability IAW this manual.

(c) A baseline for measuring progress in future reviews.

(6) Document GCC joint infil/exfil training requirements derived from the development of command JMETLs and command assessments of the current capability.

(7) Track and maintain all waivers and ETP submitted and approved by USSOCOM Major Subordinate Commands, their authorized Subordinate CDRs, and the USSOCOM Chief of Staff (COS).

(8) Promulgate proposed changes, revise this manual as required, and distribute changes, updates, and re-publication of this manual to USSOCOM Components and Sub-unified Commands.

(9) Be prepared to report to the training enterprise on the status of infil/exfil training programs with reference to J3-T&E responsibilities above at the annual Special Operations Training and Education Conference (SOTEC).

f. USSOCOM Directorate for Force Structure, Requirements, Resources, and Strategic Assessments (J8).

(1) Assist in the establishment of USSOCOM infil/exfil training requirements.

(2) Process infil/exfil training requirement IAW Special Operations Forces Capabilities Integration and Development process.

g. USSOCOM SOF Acquisition, Technology, and Logistics (SOF AT&L).

(1) Ensure this manual is included in procedural requirements for all SO-P infil/exfil training request for proposals and contract solicitations.

(2) Track USSOCOM infil/exfil training Programs of Record (POR) to recommend training improvements and efficiencies, to include mission systems training.

(3) Execute resources for cradle-to-grave acquisitions of infil/exfil training material assets (e.g., simulators, desktop trainers).

(4) Ensure J3-Training Division is a full-time member of Program Integrated Process Teams established under [USSOCOM D 70-1](#), *Acquisition Management System Policy*, for all infil/exfil training PORs.

(5) Update SOF AT&L manuals/SOPs and acquisition strategies to ensure J3-T&E is included the review of infil/exfil training products/POR prior to fielding and deployment release.

h. USSOCOM Special Operations Joint Safety (SOSE).

(1) Serve as the Command Point of Contact (POC) for Safety and ORM issues related to infil/exfil training.

(2) Provide safety guidance and assistance to CDRUSSOCOM, key staff, and USSOCOM Major Subordinate Commands on infil/exfil training as requested.

(3) Publish critical Subordinate Command level safety information related to infil/exfil training and mishaps to CDRUSSOCOM, J-Codes, and USSOCOM Major Subordinate Commands.

(4) Identify and promulgate infil/exfil training mishap/accident trends and provide summaries and analysis related to infil/exfil training to CDRUSSOCOM and the SOF infil/exfil training Enterprise for the purpose of fostering lessons learned, implementing changes to TTPs, policy, equipment, etc.

(5) Leverage Service Class A mishap investigations involving a USSOCOM Major Subordinate Command to include adding a member of that Subordinate command to any infil/exfil training mishap investigation team as required.

(6) Obtain copies and notify J3-T&E of completed Class A infil/exfil training mishap investigations involving a USSOCOM Major Subordinate Command for dissemination of critical information, findings, and recommendations pertaining to all Subordinate Commands conducting infil/exfil training.

i. USASOC LC.

(1) USASOC's LC overall responsibility is defined in Chapter 1. USASOC will make recommendations on training, validation and interoperability to CDRUSSOCOM through USSOCOM J3, J3-T&E.

(2) Specifically, and in coordination with the CCs', USASOC shall:

(a) Conduct a JSOT or a curriculum review board every 24 months to revalidate infil/exfil POI or blocks of training for all USSOCOM Components.

(b) Assess and recommend Critical Task List infil/exfil Training and TTPs for all USSOCOM Components.

(c) Assess and recommend for validation that Service and civilian curriculums or blocks of training for basic and advanced skills meet or exceed the USSOCOM infil/exfil critical task list.

(d) Act as the primary Component interface with appropriate USSOCOM (J3, SOF AT&L) directorates to, coordinate, publish, and distribute all applicable joint publications and periodicals pertaining to infil/exfil operations, TTPs, and authorized equipment.

(e) LC will work with and through CCs to ensure functional interoperability and reduce the multiplicity of equipment currently in use, while testing, evaluating, and recommending, standardized infil/exfil related equipment to the J3 Training Division or SOF AT&L, as appropriate, for approval.

(f) Develop, publish, and distribute applicable safety messages, equipment bulletins, and quality deficiency reports as required.

(g) Coordinate with appropriate Program Executive Office to address infil/exfil training, operations, equipment, and safety issues during the annual training conference hosted by the LC or HQ USSOCOM.

j. CCs (USSOCOM Component and Sub-unified CDRs).

(1) Train, maintain, and report on the combat readiness of assigned forces to conduct the infil/exfil training skill set.

(2) Align and conduct infil/exfil training IAW policies and procedures established in this manual, and the applicable Service/USSOCOM Major Subordinate Command publications.

(3) Ensure each infil/exfil training event is conducted IAW the Subordinate Commanders ORM Program.

(4) Capture and incorporate SO-P infil/exfil training lessons learned in the Joint Lessons Learned Information System.

(5) Issue amplifying guidance and publish regulations, instructions, manuals, and directives to meet unique Subordinate Command infil/exfil training requirements.

(6) Coordinate with other USSOCOM CCs and USSOCOM J3-T&E to evaluate and report on the status of required upgrades to the infil/exfil training base for presentation at the annual SOTEC.

(7) Coordinate with USSOCOM J3-T&E, USSOCOM Major Subordinate Commands, and SOF AT&L, for the development and fielding of simulations, simulators, training devices, and accompanying training solutions to support infil/exfil training programs.

(8) Coordinate with USSOCOM J3-T&E, USASOC, and CCs to develop/contribute to applicable infil/exfil training publications and materials.

(9) Program resources to successfully implement and sustain infil/exfil training programs and forward training requirements to USSOCOM for influencing the budget process.

(10) Assist USSOCOM CC infil/exfil training units with development and conduct of infil/exfil training COIs/POIs.

(11) Endorse SO-P infil/exfil training requirements.

(12) Provide monthly air/afloat and ground/ashore mishap summaries to USSOCOM SOSE on Class A thru Class C mishaps, potentially high interest accidents, and all critical safety issues that might impact other Subordinate Commands, for inclusion in the Monthly Safety Summary, Trends, Analysis, and Recommendation Reports. Regulations, reports, and POCs are located at: <https://sof.hq.socom.smil.mil/sites/socs/Safety/default.aspx>.

k. USSOCOM Major Subordinate Unit/Echelon CDRs.

(1) Operate unit infil/exfil training programs IAW this manual.

(2) Publish unit guidance and/or SOPs.

(3) Develop and maintain unit certification programs and criteria for additional mission duty positions, as required per unit guidance and/or SOPs.

(4) Maintain unit training records for all infil/exfil training.

CHAPTER 3

U.S. SOF BASELINE CRITICAL TASKS FOR INFIL/EXFIL

3-1. General.

a. SOF baseline critical tasks are developed in collaboration with USSOCOM Major Subordinate Commands and is derived from responsibilities assigned to Component CDRs as defined in [USSOCOM D 10-1](#).

b. The jointly developed CTLs ([Table 3-1](#)) describes "what" is to be performed in terms common to joint training. The tactical "how" for the CTLs, is the focus of the Subordinate CDRs and their training SMEs.

3-2. U.S. Special Operations Command (USSOCOM) Infiltration/Exfiltration Operations Capability.

a. The USSOCOM infil/exfil operations capability is built upon the successful completion of USSOCOM Component and Sub-unified Command specific infil/exfil individual training programs that come together in a well-developed, USSOCOM recognized, unit level collective training program(s).

b. USSOCOM Component and Sub-unified infil/exfil operations training programs use the “teach, train, and evaluate” method to advance individuals to a level where they can safely conduct collective infil/exfil operations Full Mission Profile (FMP) exercises. Individual, additional, and associated skills are assessed and graded within each USSOCOM Component and Sub-unified Command training cycle.

c. USSOCOM Component and Sub-unified Command unique infil/exfil operations TTPs are addressed in the following USSOCOM Major Subordinate Command publications:

(1) **AFSOC:** Air Force Tactics, Techniques, and Procedures (AFTTP) 3-3 - *Guardian Angel* and AFTTP 3.3 CV-22 *Combat Aircraft Fundamentals* – CV-22.

(2) **MARSOC:** MCO 3500.42C, Marine Corps Reference Publication (MCRP) 3-01B.1 (Formerly 3-11.4A), *Helicopter Rope Suspension Techniques (HRST) Operations*.

(3) **NSWC:** CDR, Naval Special Warfare Command Instruction (COMNAVSPECWARCOMINST) 3000.2 Series, *Naval Special Warfare Air Operations Instruction*.

(4) **USASOC:** Army Techniques Publication (ATP) 3-18.10, *Special Forces Air Operations*.

NOTE: Ensure any possible discrepancies in TTPs between units and/or personnel participating in the training or operational mission are resolved prior to mission execution (preferably at mission briefing)

d. The following infil/exfil training Courses are recognized by USSOCOM:

- (1) **USAF.** AFSOC unit level Infil/Exfil training.
- (2) **MARSOF.** Heliborne Insertion and Extraction Techniques (MHIET) Course.
- (3) **USN.** NSW Helicopter Rope Suspension Techniques (HRST) Masters Course.
- (4) **USASOC.** USASOC unit level Infil/Exfil training.

e. Personnel who have not completed a Service/USSOCOM recognized infil/exfil training COI/POI will not participate in joint infil/exfil training. Waivers and ETPs shall be administered IAW [Chapter 7](#) of this manual. Training with HN/PN forces and/or equipment is covered in Chapters 6 and 7 of this manual.

3-3. SOF Rotary Wing RW/TR Infil/Exfil Critical Tasks.

a. Infil/exfil fundamentals integrate the physical, mental, and environmental factors necessary to conduct highly disciplined, complex joint operations. An infil/exfil operation is a perishable skill that requires constant training to maintain peak proficiency. SOF personnel are qualified to conduct infil/exfil training and operations after the successful completion of a comprehensive USSOCOM Component/Sub-unified CDR approved and USSOCOM certified/recognized training COI/POI, and/or inter-deployment training cycles; and/or Contractor Owned/Contractor Operated training venues. USSOCOM Component/Sub-unified Command training requirements and standards may be higher in any area to allow for Service/USSOCOM Component/Sub-unified Command Peaks of Excellence (PoE) that may be mission area specific, but at a minimum, will meet infil/exfil requirements.

(1) Collective Standard. A qualified individual will be able to effectively articulate and demonstrate proficiency in the execution of simple to complex tasks associated with helicopter infil/exfil operations. SOF are specifically trained to conduct rapid infil/exfil by exiting or hooking up to an aircraft using various methods in an area that may not provide suitable landing conditions.

(2) To ensure safe infil/exfil operations and training, all participants must remain proficient (proficiency is defined as “skill and knowledge beyond the minimum required for upgrade”). Initial training must be continuously reinforced at the unit/command level in order to maintain proficiency.

(3) USSOCOM Component/Sub-unified Command training will be Mission Essential Task List (METL)-focused to the maximum extent possible. SOF infil/exfil skill set training plans will be unit specific. Training will be progressive to attain/maintain the skills required to conduct operations in support of assigned missions in projected operational environments. Collective training will be integrated with other METL-focused training as much as possible.

b. Upon completion of a Service/USSOCOM certified/recognized infil/exfil COI/POI, the qualified individual will be able to effectively explain and demonstrate the following tasks:

Table 3-1. Infil/Exfil Training Critical Tasks List (CTL).

Infil/Exfil Training	
TASK#	TASKS
1-1.	Conduct Rappel Operations.
1-2.	Conduct FRIES Operations.
1-3.	Conduct SPIES Operations
1-4.	Conduct Ladder Operations
1-5.	Conduct Helocast Operations
1-6.	Conduct Hoist Operations
1-7.	Conduct Airland Operations

NOTE: Ensure any possible discrepancies in TTPs between units and/or personnel participating in the training or operational mission are resolved prior to mission execution (preferably at mission briefing).

c. For training iterations, personnel who have not met the minimum requirements designated herein, as a rule, will not participate in infil/exfil operations with USSOCOM units without a waiver.

3-4. Other Unit Level Qualifications. Subordinate Commands shall train and/or verify individuals are trained in infil/exfil training Critical Tasks listed in Table 3-1 above. Subordinate Commands will designate individuals to perform key positions required to safely perform infil/exfil training evolutions.

3-5. Sustainment/Refresher Training.

a. Safe infil/exfil training requires participants to be proficient and continuously reinforced at the unit/command level annually. Subordinate Command infil/exfil training will be METL focused to the maximum extent possible. Infil/exfil training plans will be unit specific. Training will be progressive to attain and maintain the skill level required to successfully conduct infil/exfil training in support of assigned missions in projected operational environments. The use of realistic field training exercises based on FMPs to train and evaluate the unit's infil/exfil training capability should be the norm rather than the exception.

b. Details outlining re-qualification training schedules and performance standards for infil/exfil training skill sets are determined by and contained in applicable Service/USSOCOM Major Subordinate Command publications referencing COI/POI standards.

c. Sustainment Training. Sustainment training will be conducted within 72 hours prior to training events for Rappel, FRIES, SPIES, STABO, Ladder, and Helocast operations. As a minimum, sustainment training will consist of those areas specified in the following Chapters.

- (1) Rappel Operations, See [Chapter 8](#).
- (2) FRIES Operations, See [Chapter 9](#).
- (3) SPIES Operations, See [Chapter 10](#).
- (4) Ladder Operations, See [Chapter 11](#).
- (5) Helocast Operations, See [Chapter 12](#).
- (6) Hoist Operations, See [Chapter 13](#).
- (7) H-47 Special Vehicle Loads, See [Chapter 14](#).
- (8) Airland Operations, See [Chapter 15](#).
- (9) Other SOF Capabilities.
 - (a) STABO Operations, See [Chapter 16](#), [Section I](#).
 - (b) AIRTEP, See [Chapter 16](#), [Section II](#).

d. Refresher Training. Aircraft Operations Refresher Training:

(1) All personnel assigned or attached to units within USSOCOM must complete refresher training prior to participating in helicopter infil/exfil operations if the individual has not conducted an infil/exfil in the specified skill set within the last 12 months. Refresher training will consist of the following as a minimum:

- (a) Fitting and wearing of any special and individual equipment.
- (b) Actions in the aircraft.
- (c) Actions during the respective infil/exfil operation.
- (d) Safety considerations.
- (e) Emergency procedures.

e. Master Refresher Training.

(1) All RM, FRM, SPM, SM, CM and Helicopter Rope Suspension Technique Master (HRST/M) qualified personnel assigned within USSOCOM units will complete advanced refresher training if they have not performed the duties of RM, FRM, SPM, SM, CM, HRST/M or safety of respective operation on a helicopter operation during the last 12 month period.

(2) Advanced refresher training will be taught by a current RM, FRM, SPM, SM, CM or HRST/M for the respective training to be conducted.

(3) Individual unit lesson plans will be developed to support this requirement.

f. Other Refresher Training. Special training (STABO/AIRTEP) for personnel may be developed and conducted at the discretion of the unit CDR.

3-6. Aircrew. Aircrew are authorized to receive RM, FRM, SPM, SM and CM qualification training and may serve as such during training operations. Aircrew performing these primary duties will not be included in the minimum Aircrew requirements, and are not authorized to perform Aircrew duties while serving as such.

CHAPTER 4

JOINT SPECIAL OPERATIONS FORCES OBSERVATION TEAM (JSOT)

4-1. General.

a. For this particular SOF specialized skill the LC is USASOC. The CC are the USSOCOM Service Components, JSOC and TSOCs.

b. As a Combatant CDR, JSOTs provide CDRUSSOCOM an oversight mechanism to meet training responsibilities IAW Title 10 U.S.C. 167. USSOCOM J3-T&E conducts JSOTs by observing individual SOF advanced skills through the Special Operations Training Assessment Program (SOTAP). Capabilities documented in USSOCOM directives are overseen by JSOTs. J3-T&E will:

(1) Conduct a curriculum training schedule review.

(2) Review tasks from previous Joint Special Operations Force Assessment Teams (JSATs) or JSOTs with positive or adverse issues observed (Service/USSOCOM Component specific or infil/exfil enterprise-wide trends).

(3) Review tasks recommended by USASOC or CCs (justification required; validated by USSOCOM J3-T&E).

(4) Review not less than 50 per cent (%) of all critical tasks assessed per a 2 year cycle. Ensure full CTL compliance over a 4 year period (or two certification cycles). This process minimizes the duration of time spent observing individual tasks beyond the requirement.

(5) A JSOT will spot check or sample USSOCOM Major Subordinate Command unit level training IAW [USSOCOM D 350-1](#) and [USSOCOM D 350-33](#), *Special Operations Training Assessment Program*.

(6) Ensure efficient use of manpower, resources, and impact on infil/exfil courses.

c. J3-T&E will coordinate and schedule observation visits to Service/USSOCOM Component specialized SOF skill courses and unit level individual training conducted in a collective environment. USSOCOM Components will coordinate internally and with their parent Service, as required, to facilitate the observation visits.

4-2. Purpose.

a. JSOTs observe individual SOF advanced skills across the training continuum. Similar to the Joint SOF Assessment Team Program, USSOCOM provides leadership, funding, and oversight for planning, facilitating, and executing JSOTs. Each JSOT leverages component SME support, which consists of designated LC and CC SMEs, who conduct training observations that contribute to the overall analyses of SOF training events. JSOTs observe, not assess, the execution of SOF advanced skill sets in an operational environment and provide trip reports with recommendations to USSOCOM J3. JSOTs also provide data points that contribute to a holistic look at USSOCOM readiness and training programs. JSOTs ensure training programs promote the appropriate level of uniformity across the components, while facilitating component training collaboration. Additionally, JSOT programs provide CDRUSSOCOM a level of confidence that SOF units can properly execute individual advanced skills across the training continuum to joint training standards.

b. Infil/exfil capability is acquired over time. Instruction locations for individual infil/exfil skills are distributed throughout the Service/USSOCOM Components; therefore, the observations of collective infil/exfil operations training can require employing and collating a wide range of techniques to determine whether a Service/USSOCOM Component's infil/exfil operations training program effectively implements and addresses the critical task list.

4-3. JSOT Observations. JSOT observations confirm a specialized SOF school house COIs/POIs are accurate, current, and capture any Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy shortfalls and/or best practices from across the SOF Enterprise. JSOT members not only observe actual training events, they incorporate a review of training reports, after action reviews, lessons learned, readiness reports, and other relevant data sources to determine training effectiveness. Finally, JSOT reports recommend a means to remediate issues related to training standards, effectiveness, and interoperability of SOF, while identifying training efficiencies.

4-4. JSOT Composition. USSOCOM J3-T&E facilitates JSOTs using SMEs from Service/USSOCOM Components. SMEs are highly experienced practitioners with the highest qualifications attainable for the particular SOF advanced skill being observed. SMEs are normally in the grade of E7 or above, or O3 to O5, have current experience in the skill set being observed, and have held numerous positions where they actively planned, executed, and/or instructed the advanced skill set. Lead and CCs provide SMEs to observe training based on a variety of USSOCOM directives covering each SOF advanced skill set.

4-5. Specific JSOT Responsibilities. Refer to [USSOCOM D 350-33](#).

a. USSOCOM J3-T&E will:

(1) Provide leadership and oversight for a JSOT to be conducted.

(2) Fund USSOCOM Component or Service SMEs to attend JSOT unit level collective training events.

(3) Complete the staffing package for the USSOCOM COS tasking message for SME support to the USSOCOM Major Subordinate Commands, the LC and CC training representatives for the respective specialized SOF skill set being observed.

(4) Coordinate with LC and CC training representatives and Service/USSOCOM Major Subordinate Command Financial Management training course personnel to facilitate JSOT unit level collective training visits.

(5) Ensure LC and CC representatives understand their responsibilities IAW [USSOCOM D 350-33](#).

(6) Coordinate directly with JSOT members prior to scheduled visits. Verify the SME's experience in the specialized SOF skill and the plan of action.

(7) Provide a detailed agenda and the observation checklist formats for JSOT event. SOTAP Assessment/Observation Tool is located as tab within [Appendix C](#) of the SOTAP Handbook.

(8) Provide an onsite JSOT Program pre-brief and post-assessment brief to the specialized SOF skill training course staff or unit level leadership conducting of the specialized SOF skill.

(9) Provide direction to facilitate constructive interaction and cross leveling of information between the JSOT Service/Component SMEs.

(10) Resolve all issues and ensure compliance with JSOT findings prior to any certification/observation recommendations to USSOCOM J3 Director.

(11) Request other LC and CC Service/USSOCOM Component SMEs as determined by J3-T&E.

(12) Distribute the USSOCOM signed J3 recommendation memorandum to applicable Service/USSOCOM Component infil/exfil course representatives and staff within 20 working days from JSOT completion.

(13) Maintain copies of all JSOT documentation.

b. The JSOT will be led by the respective LC. The LC will provide the recommendation to endorse or disprove the JSOT recommendation of each Service/Component's specialty skills course. At a minimum, the observation team will consist of one RM, FRM, SPM, SM, CM or HRST/M certified and current SME instructor and/or a course development or doctrine representative.

c. The attending JSOT SMEs are responsible for:

(1) Conducting daily assessments of USSOCOM approved CTL.

(2) Submitting a weekly report via email to the USSOCOM J3-T&E representative on the observations completed and other relevant issues/observations on efficiencies and effectiveness.

(3) Ensure the applicable specialty SOF skills CTL is incorporated into the respective course COI/POI.

(4) Providing a formal recommendation to the USSOCOM J3-T&E no later than (NLT) 10 working days upon completion of the JSAT assessment.

(5) Maintaining JSAT certification documentation.

d. The Service/CC supporting SMEs are responsible for accomplishment of the observation tasks assigned daily by the USSOCOM JSAT Team Leader. Service/CC SMEs will provide a daily brief back to the team leader on observations made. Service/CC daily assessments are based on critical task list in this manual.

e. Coordination between all participants will be required to determine the most beneficial and least intrusive period for conducting the observation.

f. All SMEs are expected to actively participate, observe and analyze the specific infil/exfil operations training program, compare and contrast with their own programs, and provide input to the comprehensive JSAT post-brief provided by the USSOCOM J3-T&E representative on the last day of the training curriculum.

4-6. JSOT Planning Factors. USSOCOM J3-T&E disseminates COS approved messages requesting JSOT support from all components. Annual messages are also sent providing the planned observations for the next fiscal year based on discussions from the annual SOTEC hosted by USSOCOM J3. Messages are followed by quarterly updates, and by exercise specific messages throughout the year. To the maximum extent possible, course dates will be included in the messages to facilitate early planning and maximize flexibility for the tasked components. All dates in the tasking messages are subject to change. Upon assignment to a JSOT, SMEs will receive additional documents required to execute a JSOT and the SOTAP Handbook from USSOCOM J3-T&E.

CHAPTER 5

RAPPEL

5-1. General.

a. CDRs have the inherent responsibility to protect national resources, both human and material, and have the authority and obligation to take action to implement safety measures. Leaders, at all levels, have the responsibility to prevent hazards as they occur while the corresponding safety office assists CDRs in determining corrective actions and provides follow-up support until the hazard is eliminated or appropriate mitigation is in place and approved at the appropriate level. Leaders at all levels, have the responsibility to identify hazards and manage risk appropriate to their level of acceptance authority. The corresponding safety office assists commanders in determining appropriate controls to achieve an acceptable level of risk. Hazard elimination is not always attainable, therefore, it is critical for leaders to understand risk levels and risk approval authorities.

b. Effective safety programs depend on individuals integrating ORM into training evolutions in order to mitigate risk and prevent mishaps at each level. USSOCOM Major Subordinate Commanders must establish specific procedures (e.g., inspections assessments, SOP, TTPs, etc.) and ensure all personnel and activities comply with those standards.

WARNING: Failure to follow established standards is the leading cause of helicopter infil/exfil mishaps, injuries, and deaths. Leaders at all levels must know and enforce standards.

5-2. Guidelines.

a. Infil/exfil training is a challenging and potentially dangerous evolution; however, conducting demanding, realistic training while identifying and mitigating risk is required to successfully maximize realistic training and combat effectiveness. All hands are responsible for immediately identifying and reporting unsafe training situations and/or environments. Reporting responsibilities for infil/exfil training are addressed in Service/USSOCOM Major Subordinate Command publications and Section IV of [USSOCOM D 385-1, Joint Safety Program](#).

b. Safety considerations pertaining to infil/exfil training events, environmental conditions, mission hazards, individual protective equipment, physical and medical considerations, and Subordinate Command requirements are too numerous to address comprehensively in this manual. Specific questions about safety should be addressed by the appropriate unit SOPs or Service/USSOCOM Major Subordinate Command publications, whichever is most restrictive.

c. When operating on a host installation, units will comply with host installation regulations, directives, and policies providing they do not conflict with Subordinate Command or USSOCOM publications. If a conflict does exist between the host installation regulation, directive or policy, and this or other Subordinate Command/USSOCOM doctrine, the affected unit will notify their HQs through the unit's chain-of-command for resolution prior to continuing the particular training evolution in question. DOD issuances relating to safety can be found on the following website: <http://www.esd.whs.mil/DD/DOD-Issuance>.

d. Risk approval will be accomplished IAW published guidance governing the forces conducting the training and/or operation. CDRs must continuously evaluate and manage risk and never become so overconfident on mission accomplishment that risks are ignored. Supporting aviation units will complete a separate aviation risk assessment IAW their unit SOP and Service regulations. Individual USSOCOM Component and Sub-unified CDRs will establish training policy and procedures for use of Night Vision Devices (NVD).

e. Tactical safety considerations pertaining to helicopter infil/exfil operations and training events, environmental conditions, mission hazards, individual protective equipment, physical and medical considerations, and Subordinate Command requirements are too numerous to address comprehensively in this manual. Specific tactical questions about infil/exfil operations safety should be addressed through USASOC, the appropriate Service/USSOCOM Major Subordinate Command publications, or unit SOPs.

f. Water Operations. Personnel participating in training that involves intentional infil/exfil into the water must be current or have successfully completed a swim qualification/test IAW Service regulations. CDRs at all levels will ensure personnel are trained and equipped to accomplish training IAW with this manual. CDRs must make considerations for rescue operations for all training iterations.

5-3. Specific Guidelines.

a. Infil/exfil training conducted under the authority of USSOCOM shall be conducted IAW the safety provisions in the applicable Service/USSOCOM Major Subordinate Command publications, and additional guidance set forth in this manual.

b. Infil/exfil training shall be preceded by an ORM assessment and a thorough briefing attended by all personnel participating in the evolution. If individual(s) are unable to attend the group brief, the infil/exfil training lead shall ensure the individual(s) are briefed separately prior to their participation in the training evolution.

c. Briefs shall address specifics of the plan, environmental conditions, mission hazards, personnel assignments, "Casualty Evacuation (CASEVAC) Procedures" communications and special equipment. Additionally the following emergency information and procedures will be briefed "by the aircrew":

- (1) Entry/Exit of the Aircraft.

(2) Aircraft Emergency Procedures.

(3) Aircraft Emergency Exits.

(4) Aircraft Emergency Equipment.

(5) Depending on mission and environment, other items for consideration for briefing include:

(a) Multiple Emergencies.

(b) Adverse Weather or other unusual conditions that may require modification of these procedures. The nature and severity of the emergency, dictate the response necessary; therefore personnel must use sound judgement in determining the correct action to take.

(c) The infilling ground force and Aircrew develop contingencies for landing or crashing in: Friendly, Neutral or Enemy controlled areas.

d. Units shall establish SOPs and rehearse infil/exfil emergency procedures as an integral part of unit level training.

5-4. Host Nation (HN)/Partner Nation (PN) Training.

a. Subordinate Command publications and unit SOPs will establish unit integrity, operations, range, weapons and safety procedures. If there is conflict between the U.S. and HN/PN policy, safety standards will not be less than the relevant U.S. Subordinate Command safety standards for the evolution being conducted.

b. The safety of U.S. personnel participating in HN/PN training is the responsibility of all participants; however, the senior U.S. SOF representative present is accountable for the overall safety of U.S. personnel involved in the evolution.

5-5. Training Area and Ranges.

a. Foreign Nationals (FN) may train on U.S. training areas and ranges if approved by the Department of State (DOS) and DOD through the Security Assistance process. Service range and training area operating and safety procedures will be adhered to by any FN when operating on any U.S. Service installation.

b. USSOCOM personnel may train on foreign ranges with the permission of the HN when conducting combined or unilateral training or operations. U.S. personnel will use their respective U.S. Service range and safety regulations supplemented by any unique HN operational and safety range procedure requirements.

CHAPTER 6

INTERAGENCY AND FOREIGN TRAINING

6-1. Purpose. The purpose of combined training and operations with foreign military forces is to foster familiarity with procedures, enhance interoperability, and promote goodwill, rapport, and camaraderie through SOF military-to-military relations. If the primary purpose of training is for U.S. forces to develop the capabilities of partner forces through Security Force Assistance, there must be specific statutory authority to conduct such training. This chapter provides guidance for CDRs, when authorized, to safely and legally conduct combined training. USSOCOM personnel are governed by Title 10 U.S.C. Chapter 18, Military Support for Civilian Law Enforcement Agencies. All units involved in joint and combined training are required to be knowledgeable of and responsible for complying with all the relevant regulations contained in this section.

a. Training Restrictions with U.S. Law Enforcement Agencies.

(1) USSOCOM/DOD support to civilian law enforcement agencies is governed by DOD Instruction (DODI) 3025.21, *Defense Support of Civilian Law Enforcement Agencies*.

(2) USSOCOM military and civilian personnel are prohibited from providing advanced military training to civilian law enforcement agencies. DOD policy on providing advanced military training is addressed in DODI 3025.21, *Defense Support of Civilian Law Enforcement Agencies*; Deputy Secretary of Defense Memorandum, *DOD Training Support to U.S. Civilian Law Enforcement Agencies (CLEA)*; and Deputy Secretary of Defense Memorandum, *Request for Exception to Policy*. SOF units conducting infil/exfil training with civilian law enforcement agencies will submit a CLEA packet to USSOCOM J3 for approval.

(a) Advanced military training includes: advanced marksmanship, sniper, Military Operations in Urban Terrain, Close Quarter Battle, Visit, Board, Search, and Seizure, and exercises which incorporate scenario-based events.

(b) Advanced military training does not include basic skills such as: basic marksmanship, patrolling, mission planning, medical, and survival.

(3) ETPs, specific to support civilian law enforcement agencies, are addressed in the Deputy Secretary of Defense Memorandum. An ETP may be requested on a case-by-case basis, and shall be forwarded through the Assistant Secretary of Defense for Homeland Defense and America's Security Affairs.

b. Foreign Disclosure.

(1) CDRUSSOCOM is the DOD proponent for release of Special Operations TTPs. All planned disclosures require coordination with the USSOCOM FDO.

(2) Foreign disclosure planning shall be incorporated into all combined training events. Expect that cross-training will require some level of sharing USSOCOM Major Subordinate Command TTPs. SOF joint TTPs are advanced training, sensitive in nature, and can be disclosed only IAW Subordinate Command and USSOCOM Foreign Disclosure publications and [USSOCOM D 550-2](#), *U.S. Special Operations Command Foreign Disclosure Program and Disclosure of Information to Foreign Nationals*. All briefing slides and text must be approved by FDO prior to presentation to a foreign individual or audience. Commitments shall not be expressed or implied, and no disclosures in support of the evolution shall be made pending the required disclosure decision.

(3) Disclosure authority delegated by [USSOCOM D 550-2](#) pertains only to USSOCOM originated/controlled classified military information that meets the limitations and disclosure criteria stipulated in National Disclosure Policy-1. Disclosure authority resides with designated FDOs.

(4) If operationally deployed, TSOC and JSOC CDR appointed FDOs may authorize disclosure of information IAW National Disclosure Policy, USSOCOM Directives, and Service guidance.

(5) All persons/units are required to be knowledgeable of and responsible for complying with Foreign Disclosure regulations in [USSOCOM D 550-2](#). USSOCOM Major Subordinate Commands will provide training and guidance to personnel with regards to the Foreign Disclosure Program. The HQ POC for foreign disclosure is USSOCOM J2 FDO, SOCOMFDO22@socom.smil.mil.

6-2. Interagency and Foreign Training. The purpose of combined training and operations with foreign military forces is to foster familiarity with procedures, enhance interoperability, and promote goodwill, rapport, and camaraderie through SOF military-to-military relations. If the primary purpose of training is for U.S. forces to develop the capabilities of partner forces through Security Force Assistance, there must be specific statutory authority to conduct such training. This Chapter provides guidance for CDRs, when authorized, to safely and legally conduct combined training. USSOCOM personnel are governed by Title 10 U.S.C. Chapter 18, *Military Support for Civilian Law Enforcement Agencies*. All units involved in joint and combined training are required to be knowledgeable of and responsible for complying with all the relevant regulations contained in this section.

a. **Training Restrictions with Foreign Law Enforcement Agencies.** Title 22 U.S.C., sub-Chapter 3 Part 3, §2420, Police Training Prohibition, restricts the training of foreign police or other law enforcement personnel within the U.S. or abroad. This law, enacted in section 660 of the Foreign Assistance Act (FAA) of 1961 specifically prohibits U.S. forces from providing training or advice, or providing any financial support for police, prisons, or other law enforcement forces for any foreign government. However, Congress has added a number of exceptions to this restriction; therefore, consult with your Staff Judge Advocate and always refer to the most current version of the FAA for guidance if police training is being considered.

b. Foreign Military Forces.

(1) To function effectively, personnel supporting a combined training program must be aware of a variety of guidelines. The training of FNs shall be in compliance with DOD Manual (DODM) 5105.38 Series, *The Security Assistance Management Manual*, Title 10, and Title 22 U.S.C. Under no circumstances will the "Foreign Visits System" be utilized to schedule training for FNs.

(2) Because many military activities take place within the HN, applicable legal guidelines may include those of the HN government and the status of U.S. personnel while in country. These include provisions of applicable Status of Forces Agreements, as well as restrictions on the transfer of equipment, TTPs, and on other types of assistance that may be requested. Accordingly, a country law briefing, cultural orientation, review of the applicable rules of engagement, and review of any international agreements affecting status of forces and foreign disclosure will be included in pre-mission preparation.

(3) Combined training taking place within a HN requires detailed planning and coordination. The USSOCOM unit CDR will, as appropriate, integrate qualified U.S. personnel to assist in planning and conducting the combined evolution. It is incumbent upon the unit CDR to exercise discretion and mature judgment in conducting the evolution(s) to ensure procedures used are in compliance with this manual, and applicable USSOCOM Major Subordinate Command publications, are well coordinated, and clearly understood by both USSOCOM and all foreign personnel participating.

c. Foreign Training Procedures.

(1) Subordinate Command publications and unit SOPs will address questions about unit integrity, operations, range, weapons, and safety procedures. If there is any conflict between the U.S. and HN/PN policies; the standards used during the evolution will be the most restrictive and will not be less than the appropriate level U.S. Subordinate Command standards for the evolution being conducted.

(2) The safety of U.S. personnel participating in HN/PN training is the responsibility of all participants; however, the senior U.S. SOF representative present is accountable for the overall safety of U.S. personnel involved in the evolution.

(3) FN may train on U.S. training areas and ranges if approved by the DOS and DOD through the Security Assistance process. Service range and training area operating and safety procedures will be adhered to by any FN when operating on any U.S. Service installation.

(4) USSOCOM personnel may train on foreign ranges with the permission of the HN when conducting combined or unilateral training or operations. U.S. personnel will use their respective U.S. Service range and safety regulations supplemented by any unique HN operational and safety range procedures or requirements.

d. Specific Equipment Responsibilities.

(1) FNs may use U.S. equipment provided they already possess the requisite capability (i.e., the qualifications and training currency) to use or operate such equipment, according to U.S. baseline standards and the TTPs are authorized for foreign release. If FN's are qualified in the use of similar equipment as that to be used in combined training, but are not familiar with the specific U.S. equipment, the unit CDR will ensure FNs are sufficiently trained in equipment use to conduct safe operations. The unit CDR is the delegated approval authority for foreign military forces utilizing U.S. equipment IAW applicable USSOCOM Major Subordinate Command publications.

(2) U.S. personnel may use foreign equipment provided they are trained in its use and the equipment meets U.S. military safety standards per applicable USSOCOM Major Subordinate Command publications. If they are qualified in the procedure but not familiar with the specific equipment, the unit CDR will ensure his personnel receive sufficient training in the equipment use to conduct a safe operation. The qualified U.S. person will inspect the equipment prior to use. The unit CDR is the delegated authority to approve the use of foreign equipment IAW applicable USSOCOM Major Subordinate Command publications.

CHAPTER 7

ADMINISTRATION PROCESSES AND RESOURCES

7-1. Administration Processes.

a. **Realistic Military Training (RMT).** RMT is defined as DOD training conducted off federal property using private or non-federal public property and infrastructure. Because RMT can develop into a high visibility event, the Secretary of Defense and Joint Staff have issued updated DOD policy guidance that establishes uniform planning and approval procedures for RMT events conducted in civilian settings in the continental U.S., including its territories and possessions. It is the responsibility of individuals planning, approving, and conducting RMT to be thoroughly familiar with the DODI 1322.28, *Realistic Military Training*, off Federal Real Property and [USSOCOM D 350-27](#), *Realistic Military Training*.

b. **USSOCOM Joint Training Policy Change Procedures.** CRs will be processed and staffed IAW: [USSOCOM Regulation \(R\) 25-31](#), *Official Publications*. Additionally, refer to [USSOCOM D 350-1](#) for detailed procedures which ensure CRs are fully staffed across the SOF Enterprise. CRs involving a non-USSOCOM or Service publication referenced by the SOF training program will follow the procedures prescribed in that publication. J3-T&E and the proponent will be notified of the CR in order to determine its effect, if any, on SOF training, and provide comment or endorsement, if required. The HQ USSOCOM POC for CRs is USSOCOM J3-T&E.

7-2. Resources.

a. **Authorized Supplements.** Supplementation to this directive is permitted. USSOCOM Major Subordinate Commands are authorized and expected to supplement this Manual to address unique operating environments, and to further refine infil/exfil training TTPs. When USSOCOM and DOD issuances conflict, DOD takes precedence. When Service or USSOCOM Major Subordinate Command publications conflict, USSOCOM publications take precedence. USSOCOM Major Subordinate Commands will not publish directives and supplements less restrictive than this manual.

b. **Decentralized Printing of Publications.** The Publications Control Officers at the USSOCOM Major Subordinate Commands not located at HQ USSOCOM will:

- (1) Secure adequate copies of this publication for distribution to their subordinate elements.
- (2) Maintain a copy of this publication on file for reprints to provide resupply when required.

(3) USSOCOM Publications page is located on the HQ USSOCOM COS, Command Support Portal at: <https://hq.sof.socom.smil.mil/sites/socs/SJS/Pubs/default.aspx>.

c. **Inclusive Publications.** This is not an all-inclusive publication. The information contained in this manual serve as a common baseline for conducting infil/exfil joint interoperable training. It is the responsibility of the individual users to ensure they are using the most current Service/USSOCOM Major Subordinate Command publications with all applicable changes. The list of references used in this manual is located in the [Glossary, Section III--References](#).

d. **Requested Changes.** USSOCOM Major Subordinate Commands are encouraged to provide recommended changes to this manual to: CDRUSSOCOM, ATTN: J3-T&E, 7701 Tampa Point Blvd, MacDill AFB, Florida 33621-5323; and to USASOC Operations Directorate, as the LC: CDRUSASOC ATTN: G37 Special Skills Branch, 2929 Desert Storm Drive, Fort Bragg, North Carolina 28310.

7-3. Proponent. The proponent for this manual is USSOCOM Operations Directorate (J3) Training Division (J3-T&E), Individual Training Branch (J3-T&E-T), Attention (ATTN): Plans and Policy Branch (J3-T&E-TP), 7701 Tampa Point Boulevard (Blvd), MacDill Air Force Base (AFB), Florida 33621-5323.

7-4. Waivers. Training waiver authority is granted to USSOCOM Major Subordinate CDRs. It may be delegated to appropriate subordinate CDRs. Waivers are applicable only to the hazards and exposures specified in the request. Waivers will not be interpreted as applying to other operations, locations, conditions, equipment, or units not specifically mentioned in the initial request, enclosures, and endorsements. Waivers are generally granted for a specific training event such as an exercise, or a short period of time - approximately 30 days, or pending cancellation or correction of the waived condition or equipment. Notification of waivers granted for infil/exfil training will be reported prior to training to CDRUSSOCOM, ATTN: J3-T&E, 7701 Tampa Point Blvd, MacDill Air Force Base AFB, Florida 33621-5323, and to the USASOC Operations Directorate, as the as the LC: CDRUSASOC ATTN: G37 Special Skills Branch, 2929 Desert Storm Drive, Fort Bragg, North Carolina 28310.

7-5. ETP. Training ETP authority is the USSOCOM COS. An ETP permits a long-term departure from safety and operational standards and directives for compelling reasons. Long-term is defined as the length of a deployment, or 6 months or more. ETPs will not be interpreted as applying to other operations, locations, conditions, equipment, or units not specifically mentioned in the initial request, enclosures, and endorsements. ETPs will be reviewed by USSOCOM J3-T&E every 2 years at a minimum. Each ETP request will be forwarded prior to conducting training to the USSOCOM COS, ATTN: J3-T&E, 7701 Tampa Point Blvd., MacDill AFB, Florida 33621-5323, and to the USASOC Operations Directorate, as the LC: CDRUSASOC ATTN: G37 Special Skills Branch, 2929 Desert Storm Drive, Fort Bragg, North Carolina 28310.

7-6. Seats Out/Alternate Loading Procedures.

a. Aircraft seats may be removed IAW Service directives. For airland infil/exfil SOF vertical lift operations with seats removed (alternate loading procedures), must be approved as denoted in [Table 7-1, Seats out Approval Matrix \(Airland Only\)](#).

Refer to [Table 7-1](#), Rules for Seats Out and Alternate Load Procedures, for a comprehensive approval reference for all SOF and Non-SOF scenarios. The following items will be adhered to for seats out missions:

(1) Seats out/alternate loading requests should be initiated during the planning phase of the mission.

(2) During combat operations the waiver authority may authorize seats out/alternate loading for a specific period of time.

b. When seats out/alternate procedures are used:

(1) Aircrew and passengers must be secured by a seatbelt, approved harness, approved aircrew restraint system, or individual alternate restraint.

(2) Door straps should be installed over any open aircraft entry or exit point where passengers could inadvertently fall from the aircraft.

(3) Aircraft chalk leaders will ensure that each passenger is pre-briefed on when to release their restraint and the offload sequence (this is especially critical when mission time constraints prevent aircraft rehearsals).

(4) If airland is the primary method of infil/exfil, passengers will be secured from before takeoff until the aircraft lands and the aircrew signals clear to offload.

(a) Early release of restraints must be mission essential.

(b) During training, early release of restraints must be approved by the O-6 CDR authorizing the alternate loading procedures.

(c) During combat operations, early release of restraints must be approved by the mission briefing authority/risk acceptance authority for the mission.

(d) SOF infil/exfil operations mission passengers will be secured before takeoff.

WARNING: Air operations without the use of seats and seatbelts or adequate alternate restraints increases the probability and severity of injury or death. Operations without seats and seatbelts should be approved for operational/training necessity only, and never for convenience or matter of habit.

WARNING: Individual alternate restraints must be of a length and type that prevents the individual from being ejected from the aircraft during a forced landing or rollover scenario.

Table 7-1. Seats out Approval Matrix (Airland Only).

Passenger	Approval Authority for all U.S. DOD Inventory Aircraft, USASOC aircraft and other aircraft with DOD Airworthiness approval. ¹ (Except U.S. Army Aircraft) ²	Approval Authority for U.S. Army Aircraft. ²	Approval Authority for aircraft without a DOD airworthiness approval. ³
SOF Personnel	IAW Service guidance, typically the first O-6 in passenger chain of command. USSOCOM 350-6, (U) Special Operations Forces Baseline Interoperable--Rotary Wing and Tiltrotor Infiltration/Exfiltration Training (FOUO)	IAW Service guidance, typically the first O-6 in passenger chain of command. AR 95-1, Aviation: Flight Regulations	First GO/FO with operational or tactical control of SOF must approve flight and seats out. AR 95-1/DOD 5030.61/ USSOCOM Msg 161903Z Oct 13 (DODD 5030.61 Guidance)
Non-SOF	First O-6 in passenger chain of command. USSOCOM 350-6	First O-7 in passenger chain of command. AR 95-1	First General Officer (GO)/Flag Officer (FO) in the passenger Chain of Command or supervisory authority must approve the flight and seats out. AR 95-1/DODD 5030.61/ USSOCOM Msg 161903Z Oct 13 (DODD 5030.61 Guidance)
Law Enforcement and Foreign Military Personnel⁴	Passenger's agency or command policy but no lower than O-6 equivalent level. USSOCOM 350-6	Passenger's agency or command policy but no lower than O-7 equivalent level. USSOCOM 350-6, AR 95-1	First GO/FO with operational or tactical control of participating SOF must approve flight. First GO/FO in the passenger operational Chain of Command must approve seats out. CLEA approval: AMT approval CDRUSSOCOM. Bi-lateral USSOCOM Component CDR approval. AR 95-1/DOD 5030.61/ USSOCOM Msg 161903Z Oct 13 (DODD 5030.61 Guidance), USSOCOM D 525-45
Contractors	Seats out operations must be written in the Performance Work Statement or Statement of Work of the current contract, specifically stating risk acceptance authorities for removal of seats and seat belts. Mission Approval authority still resides with first O-6 in chain of command of organization supported by the contract. DOD 4515.13/AR 95-1	Seats out operations must be written in the Performance Work Statement or Statement of Work of the current contract, specifically stating risk acceptance authorities for removal of seats and seat belts. Mission Approval authority still resides with first O-7 in chain of command of organization supported by the contract. DOD 4515.13/AR 95-1	Seats out operations must be written in the Performance Work Statement or Statement of Work of the current contract, specifically stating risk acceptance authorities for removal of seats and seat belts. Mission Approval authority resides with first GO/FO with operational or tactical control of the organization supported by the contract. AR 95-1/DOD 5030.61/USSOCOM Msg 161903Z Oct 13 (DODD 5030.61 Guidance)

1. USASOC aircraft are defined as 160th SOAR (ABN), SOATB SIMO aircraft and UFC aircraft; DOD inventory aircraft are aircraft from a military service other than Army. Other aircraft with DOD airworthiness approval are typically foreign military aircraft approved IAW DODD 5030.61 implementation guidance. For operations in support of contingency operations, this includes U.S. Army UH-60 and CH-47 aircraft assigned, attached, or under the operational control of SOF for combat, combat support, or combat service support missions IAW USASOC Supplement to AR 95-1.

2. Army aircraft are defined as any U.S. Army, Army National Guard, or Army Reserve aircraft. (Does not include USASOC aircraft)

3. (DODD 5030.61) USSOCOM guidance requires an airworthiness appraisal with GO/FO risk acceptance prior to flight in aircraft without a DOD airworthiness approval.

4. SOF interaction with CLEA approval IAW USSOCOM D 525-45, *SOF Interaction with Civilian Law Enforcement Agencies*.

WARNING: Individual alternate restraints must be of a length, type, IAW service directives and secured to an attachment point that prevents the individual from interference/contact with the aircrew for continued operation of the aircraft or being ejected from the aircraft during a forced landing or rollover scenario.

7-7. Coordination.

a. Ensure that all required coordination is completed prior to execution. Aviation operations require extensive coordination between all participants to ensure safety and success.

b. Operations Outside the Continental United States (OCONUS) in support of Deployments for Training (DFT), Mobile Training Teams, Joint Chiefs of Staff sponsored exercises, and Joint Combined Exchange Training have unique coordination requirements:

(1) Theater and Country clearances.

(2) Customs Declarations and clearances (especially, weapons, munitions, and high technology equipment).

(3) Country Team support.

(4) HN support.

(5) HN approval for EZ/LZ/PZ.

(6) Air Worthiness Release (AWR) and/or Flight Clearance (FC) as required.

c. Failure to conduct the required coordination for OCONUS operations can result in strained relations between allies and/or loss of valuable training time.

7-8. Medical Coverage. When conducting training, a qualified and equipped medic (18D/Special Operations Combat Medic equivalent or Emergency Medical Technician/Advanced Tactical Paramedic knowledgeable in Casualty Evacuation procedures will be present with a Service approved aid bag or equivalent, packed IAW unit standards, with litter, cervical collar, backboard or equivalent (buoyant for water operations), traction splint, and other equipment to stabilize the injured. Medics will develop an evacuation plan and coordinate requirements necessary to expedite evacuation and treatment of personnel on and off military installations. The evacuation plan will include, but is not limited to, the following:

a. Transportation. The type of transportation selected will be safe and capable of evacuating the injured in the event of an emergency. The transportation should be covered and large enough to carry an open stretcher. If situation warrants and/or the installation cannot support a medical emergency, any safe means of transportation may be used as a last resort to evacuate the injured.

- b. Medical Facilities – Locations and Capabilities.
- c. Hyperbaric Chamber (if conducting associated Dive operations).
- d. Emergency Telephone Numbers.
- e. Radio Frequencies and Call-Signs (Range Control and Medical Evacuation).
- f. Route(s) to Medical Facilities.
- g. Standard 9-Line MEDEVAC request format.

NOTE: For the conduct of operations, a complete medical plan will be briefed in detail in the Operations Order (OPORD). Planners must consider the worst case scenario in the event of a mass casualty. The absence of a medic, medical equipment, or transportation will terminate the operation.

7-9. Training.

a. **Water Operations.** Personnel participating in infil/exfil training that involves intentional operations overwater will successfully complete drown proofing and a swim qualification/test IAW Service regulations as well as be “current” in their swim qualification. CDRs at all levels will ensure personnel being trained have the appropriate swimming skills to safely accomplish all required training tasks. All personnel aboard aircraft that are operating beyond autorotation glide distance of land will wear a Service-approved flotation device. For swim or dive-related operations, an authorized swimmer/diver flotation device will be worn. Inflation requirements and associated warnings are addressed in applicable Chapters of this manual.

b. **RM Training.** USSOCOM units are authorized to conduct RM training IAW [Chapter 8](#) of this manual. Lesson plans and outlines will be developed and forwarded to the CDR who has risk acceptance authority for approval.

c. **FRM Training.** USSOCOM units are authorized to conduct FRM training IAW [Chapter 9](#) of this manual. Lesson plans and outlines will be developed and forwarded to the CDR who has risk acceptance authority for approval.

d. **SPM Training.** USSOCOM units are authorized to conduct SPM training IAW [Chapter 10](#) of this manual. Lesson plans and outlines will be developed and forwarded to the CDR who has risk acceptance authority for approval.

e. **CM Training.** USSOCOM units are authorized to conduct CM training IAW [Chapter 12](#) of this manual. Lesson plans and outlines will be developed and forwarded to the CDR who has risk acceptance authority for approval.

f. **HRST/M.** USSOCOM HRST/M(s) will comply with this manual for the RM, FRM, SPM, SM, and CM training requirements, duties and currency items published herein. Initial HRST/M training and selection will be IAW USSOCOM Component/Service requirements.

g. **SM Training.** USSOCOM units are authorized to conduct SM training IAW [Chapter 16](#) of this manual. Lesson plans and outlines will be developed and forwarded to the CDR who has risk acceptance authority for approval.

h. **Aircrew.** Aircrew that have received RM, FRM, SPM, SM, and/or CM qualification training IAW USSOCOM M 350-6 may serve in the respective capacity during training operations. Aircrew performing primary duty as RM, FRM, SPM, SM, or CM will NOT be included in minimum aircrew requirements and are NOT authorized to perform aircrew duties while performing any other duties.

CHAPTER 8

RAPPELLING

8-1. General. Vertical lift rappel provides a means of infil, with or without a Landing Zone (LZ), using various rappel methods, equipment, and rigging procedures. Rappel provides a method for inserting SOF personnel in critical areas when the aircraft cannot land.

8-2. Objectives.

- a. To prescribe safety requirements, rappel methods, equipment, and rigging procedures in the conduct of Vertical lift rappel operations.
- b. To prescribe qualification and training requirements for maintaining proficiency in the conduct of Vertical lift rappel operations.
- c. To define the duties, responsibilities, and capabilities of key personnel during Vertical lift rappel operations.

8-3. Safety.

- a. **Briefing.** Before conducting vertical lift rappel training, the RM will give a safety briefing IAW unit component SOPs to all personnel conducting rappel operations.
- b. A detailed risk analysis/assessment will be conducted prior to vertical lift rappel operations.
- c. The following minimum safety briefing requirements for rappel operations:
 - (1) Loose clothing and equipment are secured.
 - (2) Service-approved helmets and eye protection will be worn during all rappel operations.
 - (3) Rappellers will wear gloves, identification tags and earplugs, and roll down their sleeves.
 - (4) Weapons are slung with the muzzle opposite the brake hand.
 - (5) All rappel seats and rappel equipment must be inspected by the RM before rappelling.
 - (6) When approaching or departing the aircraft, approach as directed by the Aircrew and bend forward at the waist to ensure clearance of the rotor blades. At no time will personnel approach or depart the aircraft unless directed by the Aircrew.

(7) Upon boarding the aircraft, the Rappeller sits or kneels down and maintains eye-to-eye contact with the RM.

(8) All personnel will be secured to the aircraft as briefed.

(9) The Rappeller will hook-up, and apply his brake hand to the small of his back, when directed by RM.

(10) The Rappeller ensures he has a belay man (or self belay) on his rope at all times when conducting training.

(a) The belay man should not wear gloves. He keeps both hands on the ropes and his head/eyes on the Rappeller at all times.

(b) Belay man will wear eye protection to protect eyes from rotor downwash during the operation.

(11) During descent, the Rappeller maintains eye-to-ground contact.

(12) If the Rappeller sees his ropes coming off of the ground or sees that his belay man has lost control of his ropes, he immediately brakes and executes a lock-in. He then waits for commands from the RM.

(13) A qualified RM is on each aircraft.

(14) Ropes will be released or recovered as per mission brief and only after they are confirmed clear.

d. Warnings, Cautions and Notes.

WARNING: Sheathed knives if worn will be on opposite side of braking hand.

WARNING: Ropes will never be spliced together, and should not be stepped on, or dragged.

WARNING: Ropes will not be jettisoned until all ropers have exited the aircraft and are clear of the rope(s) or secured in the aircraft.

WARNING: V-22, No untethered personnel, to include RM, are allowed aft of the ramp hinge until the aircraft is at a stabilized hover and given the signal by the Aircrew. Injury or death may occur.

WARNING: Only devices that are Service-approved will be used for lowering personnel, equipment, rucksacks and Multi-Purpose Canines (MPCs).

CAUTION: Use of an individual rope bag (leg bag) presents a risk of a fouled rope. Rappel­ler should ensure the rope is properly stowed and maintain a slow, controlled descent to manage potential twists or knots when descending.

CAUTION: The maximum amount of personnel at any given time on the ramp is three. This total amount includes the Aircrew.

NOTE: Alternate rigging IAW Service-approved AWR and/or FC is authorized.

NOTE: All ropes, carabiners, locking carabiners, rappel rings, and like mountaineering equipment (Union International Des Associations D'Alpinisme (UIAA) Comite Europeen de Normalisation (CEN) certified) used for rappelling must be Service-approved.

NOTE: Personnel should use discretion when wearing a Multiple Integrated Laser Equipment System (MILES) harness during vertical lift infil/exfil training that uses ropes, ladders, cables, hoist, or flotation devices.

NOTE: All personnel will successfully complete the initial rappel training listed below in (1) through (5) under the supervision of a RM before progressing to vertical lift rappel training.

NOTE: If assets are available, and time allows, sustainment training should include rehearsal with actual mission loads and special equipment.

NOTE: Do not tape the door latches or handles. This can interfere with door operations.

NOTE: MH-6 Fast Ropers must lower equipment prior to descending the rope.

8-4. Personnel Qualification Requirements.

NOTE: Only current RMs will instruct initial, sustainment and refresher training.

a. **Initial Qualification Training.** Upon completion of a USSOCOM recognized school/course, rappelling qualified personnel will have met all standards at the appropriate levels. Component training requirements and standards may be higher in any area to allow for Service or Component PoE that may be mission area specific, but at a minimum basic roper requirements for vertical lift rappel qualification are:

- (1) Demonstrate knowledge of and inspect service approved rappel equipment.
- (2) Demonstrate proper wear and fit of service approved rappel equipment.
- (3) Demonstrate knowledge of rappel terms (terminology), commands and rappel actions.

(4) Exhibit satisfactory performance from a tower/platform (minimum 30ft):

(a) Conduct two rappels without equipment to include one off the free (open, no wall) side of the tower/platform.

(b) Conduct two rappels with combat equipment and weapon to include one off the free (open, no wall) side of the tower/platform.

(c) Demonstrate the ability to lock-in and self-recover.

(5) Conduct three (3) rappels satisfactorily from a vertical lift from a height of no less than 60 feet. Two of the three rappels must include combat equipment and weapon.

(6) Dog Handlers (as required): Items 1-5 above and demonstrate the ability to rappel with a MPC. Dog handlers will conduct two (2) rappels with combat equipment, weapon and MPC to include one (1) off the free (open, no wall side of the tower/platform).

b. **Roper Currency.** Roper will perform duties on an aircraft once every 12 months in order to maintain currency.

c. **Roper Refresher Training.** Refresher training is routinely conducted to maintain the acquired skills. Personnel who have not performed an aircraft rappel during the past 12 months will receive refresher training consisting of the following:

(1) Review the construction of a rappel seat, equipment to be used and hook-up procedures.

(2) Conduct two rappels on a tower wall, one without combat equipment and one with combat equipment and weapon.

(3) Conduct two rappels from the free (open, no wall) side of a tower.

(4) Dog Handlers: Items 1-3 above and demonstrate the ability to rappel with a MPC.

8-5. Rappel Master (RM). The RM also has responsibility in ensuring the safety of all Rappellers. The RM is in charge of training on the ground, tower/platform, and in the aircraft. The RM ensures all equipment (installation, unit, and personal property) is serviceable. The RM personally supervises the rappelling operation. Selection of personnel for qualification as a RM should be based on the individual's demonstrated leadership capabilities, maturity (E-4 or above), knowledge and experience of rappel operations.

a. The RM meets the requirements in paragraph 8-4., and successfully completes the following training:

- (1) Responsibilities/safety requirements.
- (2) Rappel capabilities of aircraft used.
- (3) Inspection and maintenance of equipment (to include rappel seat, gloves, ropes, etc.).
- (4) Ground training and hook-ups.
- (5) Proficient on the use and construction of selective knots (i.e., square knot, bowline, middle-of-the-rope bowline, end-of-rope prusik, middle-of-the-rope prusik, figure-eight).
- (6) Instructional techniques (familiar with instructing rappel operations).
- (7) Rigging of the aircraft and tower/platform.
- (8) Conduct of rappelling training iterations from aircraft or tower/platform.
- (9) Rappel rope construction/deployment bags.
- (10) Hung roper recovery drills and rescue rappels.

b. RM Currency. RM will perform duties on an aircraft once every 12 months in order to maintain currency.

8-6. RM Refresher Training. If the RM fails to maintain currency, he will undergo a refresher class consisting of the subjects listed in paragraph 8-5., above. A current RM will teach the refresher class.

8-7. RM Sustainment Training. Personnel will receive formalized training in the procedures to be used during rappel operations within 72 hours prior to the operation. At a minimum, this training will include:

- a. Rigging and inspection of individual equipment.
- b. Rigging/inspection of aircraft and/or tower/platform and accompanying equipment (if applicable).
- c. Hand and arm signals.
- d. Safety requirements and emergency procedures.

8-8. Personnel Duties and Responsibilities. The following personnel duties and responsibilities help to reduce/prevent most of the accidents that can occur when conducting rappel training iterations. They also ensure thorough and effective training. All personnel involved in rappel training will plan and rehearse their tasks.

a. **Unit CDR.** Prior to participation in training, the unit CDR will ensure subordinate CDRs and Mission Commanders (MCs) screen all personnel to ensure they are physically and professionally able to participate in operations.

b. **Air Mission Command (AMC).**

(1) Designated by the employing aviation unit, when required. When not required, the PC will assume responsibility.

(2) Ensure all Aircrew understand their responsibility concerning rappel IAW this manual.

(3) Responsible for ensuring all aircraft infil personnel on the designated objective.

c. **Pilot in Command (PC).**

(1) Ensures Aircrew and non-Aircrew are briefed and understand their responsibilities during rappel training iterations, including aircraft safety and actions in the event of an emergency.

(2) Ensures the rappel equipment has been inspected for completeness and functionality with no visible metal fatigue or other structural weakness, and that ropes are installed properly.

(3) Emphasizes procedural techniques for clearing ropes and/or for the aircraft prematurely departing the objective.

(4) Keeps the aircraft positioned over the objective with corrections from the Aircrew as required.

d. **RM.** RM will be designated for each aircraft and has overall responsibility for the serviceability of the ropes, safety of all ropers during conduct of operations, ensures one RM for each aircraft used and ensuring safety precautions outlined in this directive are adhered to and is responsible for the following:

(1) Coordination of all aspects of troop and unit preparation to include procurement of sufficient rappel equipment for the operation.

(2) Coordination of all support activities.

(3) Proper inspection and preparation of rappel equipment (security and attachment of hardware).

(4) Adherence to the published time schedule and sequence of events of the operation.

(5) The RM assigns qualified personnel to key positions as required by the operation.

(6) Strict adherence to procedures for the planning, preparation, and execution of the operation as outlined in this manual, training circulars, unit SOPs and local directives related to the specific training.

(7) Ensures the mission CDR is briefed on the training being conducted.

(8) Ensures rappel training iterations are conducted over terrain that permits the Aircrews/RMs to have visual contact with the ground, vegetation, or water.

(9) Relays time warnings.

(10) Ensures all personnel understand the techniques and responsibilities for rappel training iterations. The rope should be deployed by the RM after he confirms position unless:

(a) Ropers utilize leg mounted deployment bags, or

(b) RM has delegated rope deployment to the roper, upon command through the RM from aircrew.

(11) Performs safety and serviceability checks on all rappel ropes and rigging equipment.

(12) Ensures the proper seating arrangement for all ropers, to include personnel restraints, and procedures in case of an emergency landing.

(13) Measures each rope to confirm the length and informs the PC and Aircrew.

(14) Verifies the aircraft is at a stabilized hover.

(15) Once signaled by the Aircrew, authorizes the deployment of the rope(s).

(16) Briefs the correct method of deployment.

e. **Aircrew.** The Aircrew members:

(1) Ensure correct attachment to aircraft hard points for rappel ropes and connectors IAW the operator's manual/checklist.

(2) Relay time warnings.

(3) Signal RM to deploy ropes, after receiving command from Pilot and verifying the aircraft is over the objective, at a stabilized hover.

(4) Observe the exit of the ropers.

(5) Ensures the aircraft remains over the objective and advises of aircraft drift.

(6) Verify/ensure the rope and site remains safe throughout the rappel training iteration. If the Aircrew identifies an unsafe condition, the Aircrew will signal ropers using hand and arm signal. Additionally, the Aircrew will keep the pilots informed of the existing situation.

f. Individual Ropers will:

(1) Understand all aspects of rappel training iterations and emergency procedures.

(2) Ensure correct equipment configuration.

(3) Follow all instructions from the RM and be prepared to stop and lock off in case of drift or lift.

(4) Descend the rope controlling speed, breaking two thirds of the distance down to avoid a hard landing.

(5) Maintain eye contact with the ground and the belay man.

(6) Not carry excessive equipment, because of its dimensions bulk, or weight will interfere with the ability to safely execute rappel training iterations. Belay this equipment down in order to prevent injuries to personnel and/or damage to equipment.

8-9. Equipment.

a. Care of Ropes. The rappel rope is the Rappellers' lifeline. Therefore, the RM must ensure it is properly maintained and inspected before use. A rappel rope is unserviceable if it is saturated with petroleum products, mildewed, excessively frayed, or if one strand stands out more than half of its diameter. The life of the rappel rope is directly related to the care the rope receives. Ropes will be maintained IAW manufacturer's instructions, Service TOs, and other Service guidance as applicable.

(1) Remove all knots after use.

(2) Clean and dry the rope after use.

(3) Store the rope in a ventilated area.

(4) Coil neatly before storage.

- (5) Inspect the rope before and after use.
- (6) Keep nylon ropes away from heat source.
- (7) Do not allow smoking near the rope.
- (8) Keep the rope away from grease, oil, gasoline, etc.
- (9) Store a wet rope in a well ventilated area loosely coiled or hung to prevent mildew or rot.
- (10) Clean a dirty rope with a mild soap before storing.

b. Units will maintain a Rope Log IAW Component Safety Directives throughout the service life of the rope. Before and after use, the rope should be carefully inspected for excessive wear, cuts, mildew, or rotten spots (an applicable annotation will be made Service approved, Rope Log (Usage and History) (See [Appendix B](#) as an example). If any of these defects are found, the rope is unserviceable.

c. **Metallic Rappelling Equipment.** Equipment will be inspected before, during, and after use.

- (1) The metal should be checked for cracks, grooves, burrs, rust, and flaws.

(2) If the equipment has an opening/locking gate, it should open and close freely without binding. There should be no lateral movement when the gate is open. The gate spring action should snap shut when released. The locking notch should have a slant or slot so the gate remains shut under the impact of a Rappellers fall. The gate pins should not work their way out of their holes and should not be shorter than their holes. If there is a locking mechanism, it should be inspected to ensure threads are not stripped and the sleeve tightly locks the gate.

(3) If burrs, grooves, or rough areas are identified, the equipment should not be used. Rust should be removed with steel wool and the equipment wiped down with a clean dry cloth to remove all traces of oils or solvents. The spring should be lubricated using a dry graphite-based lubricant since such lubricants do not attract dirt.

d. Any additional equipment not identified above will be maintained IAW manufacturer's instructions, Service TOs, and other Service guidance as applicable.

8-10. Equipment Lowering Devices. Lowering of Equipment, Rucksacks and MPC. During insertions, equipment, rucksacks or MPC may need to be lowered. The approved procedures for this technique is to attach the equipment, rucksacks or MPC to a standard rappelling rope via a slipknot and half loop running the rope through a "rack system". The rack is attached to the aircraft IAW with unit SOPs. (See [Figures 8-1](#) through [Figure 8-4](#)). Units are authorized to utilize Component approved lowering devices IAW with unit SOPs and TTPs.

a. The lowering system will be attached IAW with unit SOP and be lowered by the aircrew, and the using unit will provide the lowering system. The using unit will rig the rucksacks, and the aircrew will assist in positioning the equipment in the aircraft.

b. The aircrew is responsible for ensuring accurate rigging of belay (lowering) equipment to the aircraft and will lower the equipment when pre-briefed. However, in the event door guns are being used, the using unit should be prepared to provide one individual to control the equipment during lowering. Gloves will be used in the lowering process.

c. This equipment lowering system can be used to re-supply items such as ammunition, water, fuel, etc., to ground units where helicopters cannot land. Additionally, this method of re-supply may be configured for deployment on each side of the helicopter.

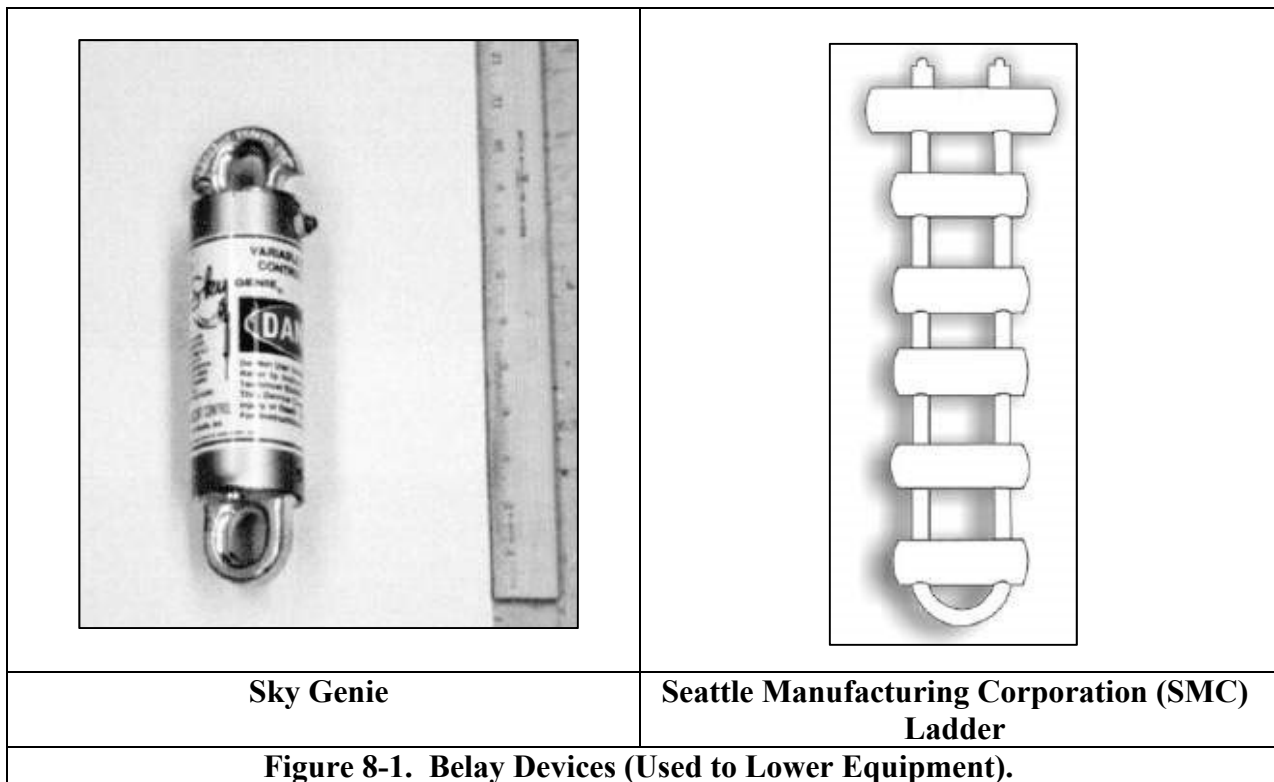




Figure Eight

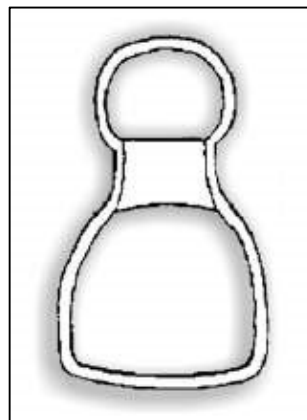


Figure Eight

Figure 8-1. Belay Devices (Used to Lower Equipment).(Cont.)

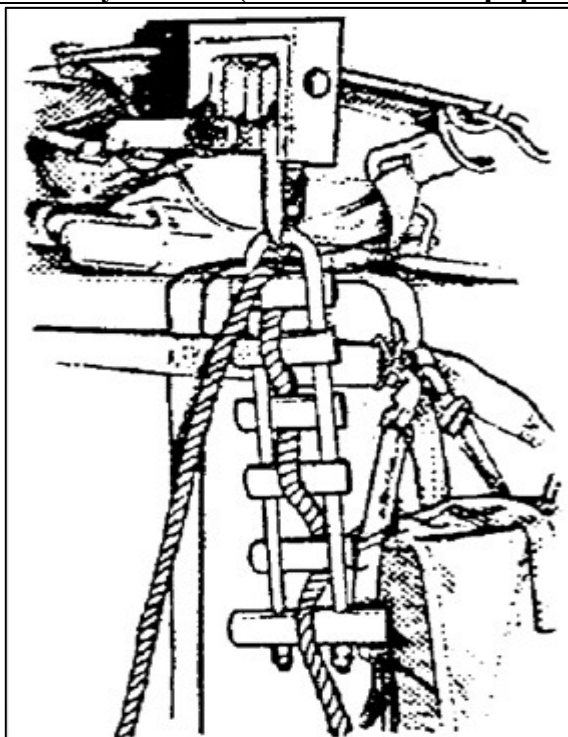


Figure 8-2. Belay Devices -- Seattle Manufacturing Corporation (SMC) Ladder.

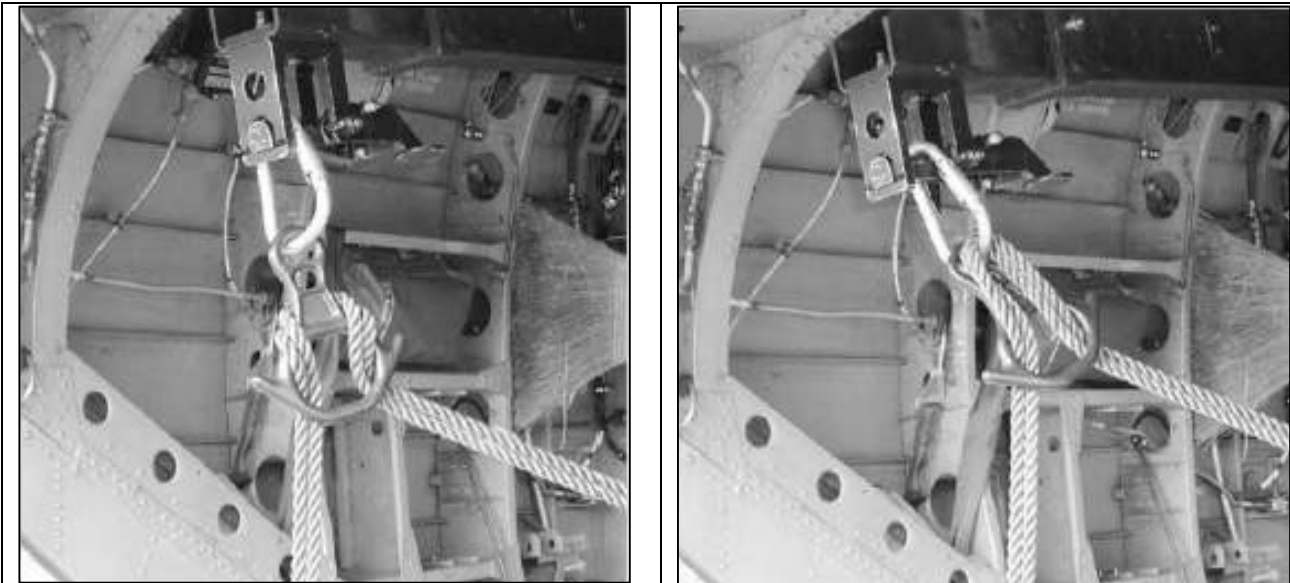


Figure 8-3. Double Lowering Line Routing Using Figure 8 (Either Method Acceptable).

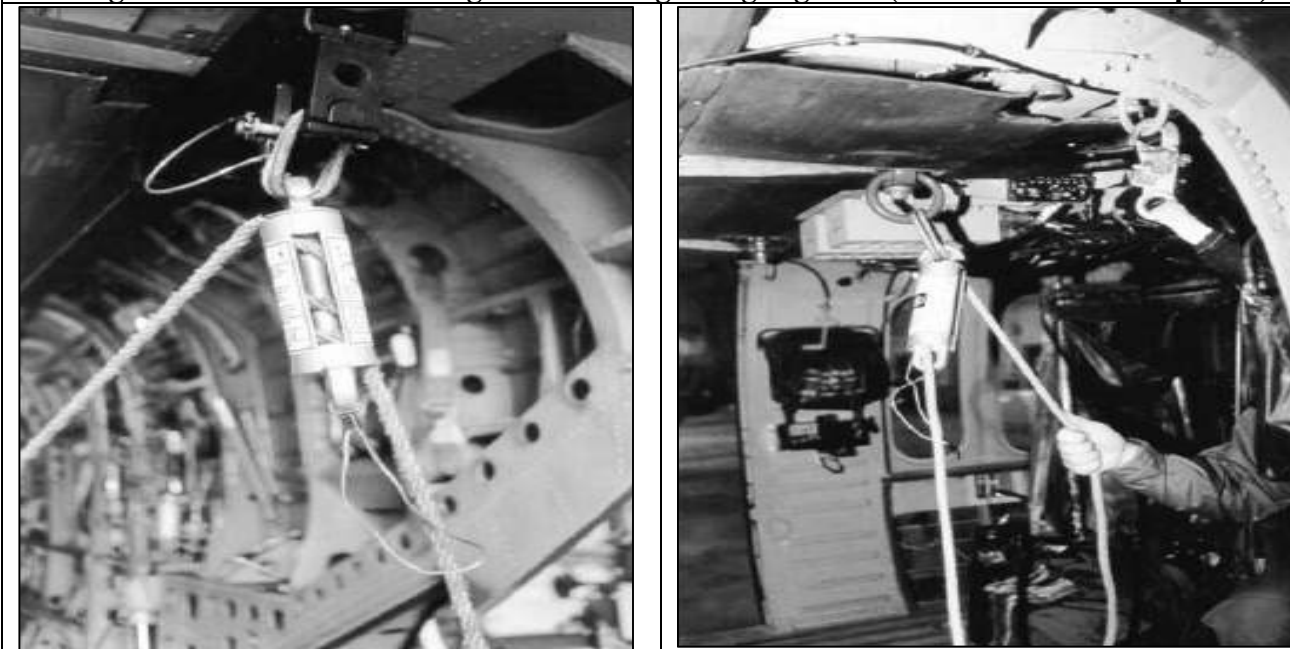


Figure 8-4. Lowering Line Using Sky Genie.



Figure 8-5. Rigging of Descent Devices.

8-11. Live Fly Rappel Training Iterations.

a. **Operational Requirements.** The following section discusses the procedures to follow during unusual conditions (adverse weather conditions and night operations). Personnel must use sound judgment to determine what action to take depending on the nature and severity of the condition.

(1) **Adverse Weather Conditions.** Rappel operations will not be conducted under the following conditions:

(a) Wind chill factors caused by rotor downwash, cruise airspeeds, and duration could cause cold weather injuries through exposure.

(b) Water or ice on the rope inhibiting the ability of the Rappellers to control their descent.

(c) The rope is exposed to the elements for a sufficient length of time to freeze, thereby reducing its tensile strength.

(d) Conditions, to include blowing particles produced by rotor downwash that cause the Aircrew or RM to lose visual contact with the ground.

(2) Night Operation Requirements.

(a) Two chemlights/light sources will be attached at the end of each rope, log coil, or deployment bag.

(b) One chemlight/light source should be secured to the attachment point of the rope.

(c) Individual Component and Sub-unified CDRs will establish training, policy, and procedure for use of NVDs.

b. **Medical Coverage.** See requirements in paragraph 7-8.

c. **Communications Requirements.** Communications between Aircrew and RMs will be maintained throughout the training iterations as pre-briefed.

8-12. Aircraft Rappelling Training Iterations.

a. **Inspection Areas.** The RM and Aircrew conducts a joint inspection of the aircraft to ensure the safety of all personnel and serviceability of equipment and cover critical roping safety considerations.

(1) Ensure seats are configured or removed as briefed.

(2) Cargo doors are locked in the open position or cleared for closing, depending on the mission. If no locks are present, remove doors to include small cargo doors.

(3) All loose objects in the cargo compartment are secured or removed.

(4) Pads and tapes all sharp edges on the floor, door ledge, and all protrusions. All sharp or protruding edges that may come in contact with the ropes are padded or taped.

(5) Tie-down fittings are serviceable.

(6) Ensures primary and secondary anchor points are serviceable and securely attached to the aircraft structure.

(7) If applicable, the headset/helmet and intercommunications (INTERCOM) jack for the RM is secured overhead.

(8) The cabin ceiling tie-downs must have a safety wire installed to ensure they do not come undone or unraveled, and the bolt head must be stamped with an “H” unless the applicable technical manual states otherwise.

(9) Serviceable restraint harness is available for the RM (provided by supported unit).

(10) All rope(s) are retrieved or released before forward movement/descent of vertical lift aircraft.

b. Aircraft Characteristics.

(1) UH-1 Rappelling Operations.

(a) **Characteristics.** The UH-1 is either a single-engine or a twin-engine, medium-speed, single main rotor aircraft that can transport up to eight (8) Rappellers, one RM, plus a 3 to 4-man crew and is equipped with several floor-mounted tie-down fittings, seven of which are used during rappelling operations.

(b) **Rigging.** The RM rigs the UH-1 helicopter IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary--Section III](#) of this manual to include current Air Worthiness Release (AWR)/Flight Clearance (FC) unit SOP.

(c) Inspection/Safety Considerations.

1. Ensure seats are configured or removed as briefed.

2. Locks the doors in the open position. If no locks are present, remove doors to include small cargo doors.

3. All loose objects in the cargo compartment are secured or removed.

4. Pads and tapes all sharp edges on the floor, door ledge, and all protrusions on the skids. Ensures each door ledge has a scuff pad to protect the rope from contacting the metal door ledge.

5. Ensures primary and secondary rappelling anchor points are serviceable and securely attached on separate deck plates to the aircraft structure.

6. If available, the headset/helmet and INTERCOM jack for the RM is secured overhead.
7. Serviceable restraint harness is available for the RM (provided by supported unit).
8. All rope(s) are retrieved or released before forward movement/descent of helicopter.

(d) **Rappelling Procedures.** The RM ensures all personnel adhere to the rappelling procedures IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary--Section III](#) of this manual to ensure the safe and efficient execution of the operation. These procedures will be rehearsed under the supervision of the RM. The pilot issues time warnings at 10-minute, 6-minute, and 1-minute intervals or as pre-briefed by the RM.

c. H-60 Rappelling Operations.

(1) **Characteristics.** The H-60 is a twin-engine, medium-speed, single-main rotor aircraft that can transport up to ten (10) Rappellers, one (1) RM, and a four (4)-man crew when the center rows of troop seats are removed. Additionally, it is equipped with one 4,000-pound (load limit) cabin ceiling red ring per side (secondary anchor points). The H-60s are also equipped with eight 3,500-pound (load limit) cargo restraint net d-rings which may be used as safety line anchor points. Four of the 8 rings are located in the ceiling of the troop/cargo compartment.

(2) **Rigging.** The RM rigs the H-60 helicopter IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary--Section III](#) of this manual to include current AWR/FC/unit SOP.

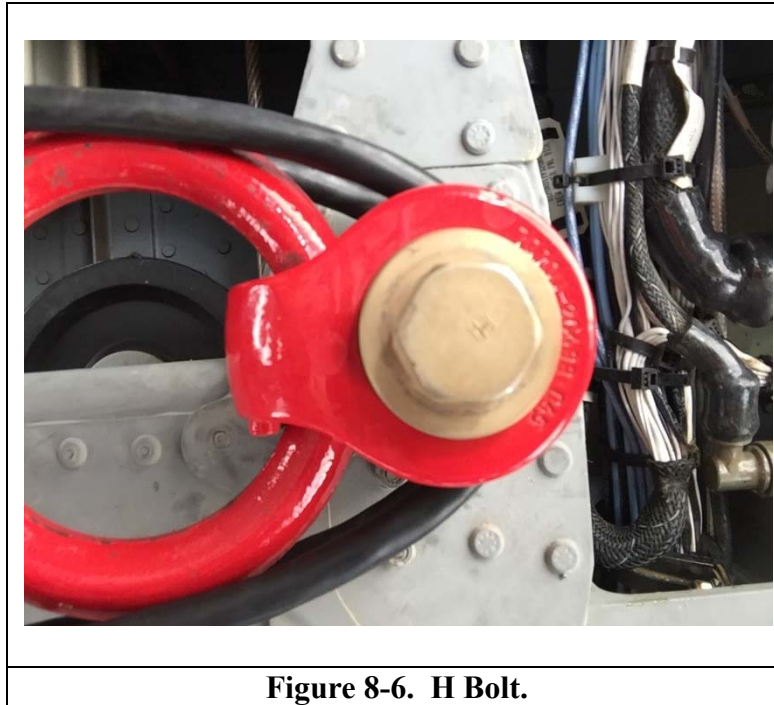
(3) Inspection/Safety Considerations.

- (a) Remove all seats.
- (b) Cargo doors are locked in the open position or cleared for closing, depending on the mission.
- (c) All loose objects in the cargo compartment are removed or secured forward.
- (d) Tape sharp edges or protrusions on the cargo floor and door ledges that may come in contact with the Rappeller or his rappelling rope.
- (e) Primary and secondary rappelling anchor points are serviceable and securely attached to the aircraft structure.

(f) A headset/helmet and INTERCOM jack for the RM should be available and operational, and the INTERCOM extension cord is secured overhead.

(g) Serviceable restraint harness is available for the RM (provided by supported unit).

(h) The cabin ceiling tie-downs must have a safety wire installed to ensure they do not come undone or unraveled, and the bolt head must be stamped with an “H” (See Figure 8-6) unless the applicable technical manual states otherwise.



(i) All rope(s) are retrieved or released before forward movement/descent of helicopter.

(4) **Rappelling Procedures.** The RM ensures all personnel adhere to the rappelling procedures IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary-Section III](#) of this manual to ensure the safe and efficient execution of the operation. These procedures will be rehearsed under the supervision of the RM. The pilot issues time warnings as pre-briefed.

d. H-47 Rappelling Operations.

(1) **Characteristics.** The H-47 is a two engine, twin rotor, heavy-lift helicopter with a crew of six (6). Four (4) Rappellers may be deployed at a time, two (2) from the ramp, one (1) from the center hole, and one (1) from the cabin door. Rappelling only from the ramp is the standard. If the cabin door is used, the right mini-gun is unusable.

(2) **Rigging.** The RM rigs the H-47 helicopter IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary--Section III](#) of this manual to include current AWR/FC/unit SOP.

(3) **Inspection/Safety Considerations.** The RM and pilot (or a designated representative) conducts a joint inspection of the aircraft to ensure the safety of all personnel and serviceability of equipment and cover critical roping safety considerations.

(a) Tie-down fittings and Fast Rope bars, if used, are serviceable.

(b) All sharp or protruding edges that may come in contact with the rappelling ropes are padded or taped.

(c) A headset/helmet and INTERCOM jack for the RM should be available and operational, and the INTERCOM extension cord is secured overhead

(d) All ropes are retrieved or released before forward movement/descent of the aircraft.

(e) Four (4) Rappellers may be deployed at a time, two (2) from the ramp, one (1) from the center hole, and one (1) from the cabin door. Rappelling only from the ramp is the standard. If the cabin door is used, the right mini-gun is unusable.

(4) **Rappelling Procedures.** The RM ensures all personnel adhere to the rappelling procedures IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary--Section III](#) of this manual to ensure the safe and efficient execution of the operation. These procedures will be rehearsed under the supervision of the RM. The pilot issues time warnings as pre-briefed.

e. V-22 Rappelling Operations.

(1) **Characteristics.** The V-22 (includes both CV-22 and MV-22) is a two-engine, tiltrotor, high speed medium-lift aircraft with a crew of four (4) and can be refueled while in flight. The aircraft has a precision navigational and communications package and is fitted with one GAU-21 .50 caliber ramp gun (V-22) or one GAU-16 .50 caliber or one M240 ramp gun (MV-22).

(2) **Rigging.** The RM rigs the V-22 IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary--Section III](#) of this manual to include current AWR/FC/unit SOP.

(3) **Inspection/Safety Considerations.**

(a) Tie-down fittings are serviceable.

(b) All sharp or protruding edges that may come in contact with the rappelling ropes are padded or taped.

(c) All ropes are released before forward movement/descent of the aircraft.

(d) Only one (1) Rappeller may be deployed at a time.

(4) **Seating Arrangements and Loading Techniques.** The V-22 has seats that can accommodate up to 24 troops. However, alternate loading procedures will allow for more than 24 troops to be transported. The left side SL anchor cable will be used as the safety belt/snap link hook in point.

(5) **Rappelling Procedures.** The RM ensures all personnel adhere to the rappelling procedures IAW current Service and Component directives, regulations and manuals as well as the references in the Glossary-Section III of this manual to ensure the safe and efficient execution of the operation. These procedures will be rehearsed under the supervision of the RM. The PC issues time warnings as pre-briefed.

f. **Hand Signals for Directing Aircraft Movement.** Hand signals are in [Appendix A](#).

g. **Deployment of Ropes.** Deployment of ropes from a vertical lift aircraft is a critical task. It can cause a planned rappelling operation to fail, or it can increase the time required to conduct the operation. This is due to the likelihood of the ropes becoming entangled (fouled). To prevent this, ropes must be deployed using a positive control technique. Three of the techniques that may be used are listed below:

(1) Deployment Bag Technique.

(2) Log Coil Technique.

(3) Individual Rope Bag.

8-13. Emergency Procedures. While in flight, Aircrew controls passenger movement in the aircraft and communicates changes to the operation to the personnel. During emergencies, communications is paramount between aircrew and rappel master. Personnel will conduct emergency procedures IAW units SOPs and pre-mission brief. Briefing considerations include but are not limited to the following common emergencies:

a. Fouled/snagged rope.

b. Knotted rope.

c. Hung roper/jumper.

- d. Premature lift off.
- e. Unintended drift.
- f. Unintentional/premature deployment of ropes.
- g. No communications.
- h. Roper in distress.
- i. Fouled cable.
- j. Device entanglement.
- k. Premature exit from aircraft.
- l. Equipment restraint failure.

8-14. Signals and Commands.

- a. All signals and commands between the Aircrew and the supported unit will be coordinated.
- b. Hand signals for directing vertical lift aircraft movement are contained in [Appendix A](#).
- c. Emergency signal from aircraft to personnel on rope(s) will be pre-briefed.

CHAPTER 9

FAST ROPE INSERTION/EXTRACTION SYSTEM (FRIES)

9-1. General. The FRIES is used when a fast infil/exfil into a small or restricted area or an areas where an aircraft cannot land, to include overwater operations, is required. It provides a method for inserting and extracting SOF personnel in critical areas when the aircraft cannot land. When mission requirements include large amounts of equipment, or heavy crew-served weapons, unit SOPs will determine the technique of employment to ensure safety of personnel and equipment.

NOTE: Fast Rope operations are not generally approved for Army-wide use except for SOF, and Department of the Army (DA) schools with approved POI. All other Army ground force units must receive POI approval through, CDRUSASOC U.S. Army aviation units will have an approved mission essential task list or approved USAASCE POI/training support package; further coordinate with Directorate of Evaluation and Standardization (DES) (ATZQ-ES), Fort Rucker, AL 36362-5211 shall be conducted.

9-2. Objectives.

- a. To prescribe safety requirements, Fast Rope methods, equipment and rigging procedures in the conduct of Fast Rope operations.
- b. To prescribe qualification and training requirements for maintaining proficiency in the conduct of Fast Rope operations.
- c. To define the duties, responsibilities and capabilities of key personnel during Fast Rope operations.

9-3. Safety.

- a. A detailed risk analysis/assessment will be conducted prior to vertical lift FRIES insertion training.
- b. **Briefing.** Before conducting vertical lift FRIES insertion training, the FRM will give a safety briefing IAW unit/component SOPs to all personnel conducting FRIES insertion training. The following minimum safety briefing requirements for FRIES insertion training:
 - (1) Identification of key personnel, their duties, and responsibilities.
 - (2) Area hazards.
 - (3) General tower/aircraft safety/emergency procedures.
 - (4) Equipment associated with FRIES and its characteristics.

(5) FRIES and personal equipment inspection.

(6) Dog handling equipment inspection (if required).

(7) Ropers will wear friction (heat) resistant gloves (at the discretion of the FRM), identification tags and earplugs, and roll down their sleeves.

(8) Service-approved helmets, eye and hearing protection will be worn during all FRIES insertion training.

(9) Weapons are slung.

(10) Loose clothing and equipment are secured.

(11) Methods of infil/exfil to be used.

(a) Personnel.

(b) If applicable, Dog Handler/MPC. The MPC must be restrained and muzzled by the dog handler while in the aircraft and during infil/exfil operations.

(c) Special/extra equipment.

(12) Hand and arm signals/emergency signals.

(13) Medical coverage.

(14) Communications requirements.

(15) Night operation requirements.

(16) Seat configuration/individual restraint criteria.

(17) All personnel will be secured to the aircraft as briefed.

(18) During descent, the ropers maintains eye-to-ground contact.

(19) If the roper sees his ropes coming off of the ground or sees that lower roper has lost control, he immediately halts descent until safe to proceed.

(20) Personnel participating in training that involves intentional infil/exfil into water must be current or have successfully completed swim qualification test IAW Service regulations. CDRs at all levels will ensure personnel being trained have the appropriate swimming qualifications and required equipment to safely accomplish all required training tasks.

c. Warnings, Cautions, and Notes.

WARNING: Rope(s) will not be deployed until the aircraft is at a stabilized hover directly over the designated objective and the signal “ropes” is given by the Aircrew to the FRM. Rope(s) must be fully recovered inside the aircraft or jettisoned prior to the aircraft departing.

WARNING: H-47/V-22, no untethered personnel, to include FRM, are allowed aft of the ramp hinge until the aircraft is at a stabilized hover and signal by the Aircrew. Injury or death may occur.

WARNING: For operations using an MH-60, the FRIES I-Bar has a load-bearing limit of 1,500 pounds per side during infil/exfil operations, provided the loads are symmetrical. During one-rope operations (asymmetrical), load limit must not exceed 1,300 pounds.

WARNING: Injury or death may occur if ropers/personnel fall out of the aircraft during an operation requiring door straps to be removed.

WARNING: Premature removal of personnel safety restraint could result in ropers/personnel falling out of the aircraft resulting in injury or death.

WARNING: Ropes will not be jettisoned until all ropers have exited the aircraft and are clear of the rope(s) or secured in the aircraft.

WARNING: For operations using the H-47, the forward FRIES has a load-bearing limit of 1,500 pounds for infil/exfil. Aft FRIES has a load-bearing limit of 2,250 pounds for infil and 1,500 pounds for exfil.

WARNING: Only Service-approved personnel lowering systems are authorized for use.

WARNING: For operations using the H-47, Fast Rope and belay operations will not occur simultaneously off the ramp.

WARNING: For operations using the H-6, when decelerators are used; careful consideration should be given to avoid sudden braking due to overloading the FRIES and aircraft center of gravity (CG) limits.

WARNING: For operations using the H-6, FRIES has a load bearing limit of 450 pounds at a 15 degree cone from mount to ground per side.

WARNING: For operations using the H-6, ropes over 40 feet pose a hazard due to excess size of the roll and may cause loss of aircraft control following rope release/fly away phase of the operation.

WARNING: When utilizing the Yates FRIES deployment bag, check to ensure the screws on the two snap shackles are tightened and secured with Loctite 222.

WARNING: When FRIES are being conducted with combat equipment, the FRM has an increased risks of being ejected from the aircraft if the individual roper makes contact with the FRM while exiting.

WARNING: Personnel should use discretion when wearing a MILES harness during vertical lift infil/exfil training that uses ropes, ladders, cables, hoist, or flotation devices.

CAUTION: For V-22, the maximum amount of personnel at any given time on the ramp is three. This total amount includes the Aircrew.

CAUTION: For operations using a V-22, Fast Rope use is restricted to standard 90 foot or 120 foot lengths. Shorter or tethered weight ropes will not be used.

CAUTION: The FRM will evaluate the roper's ability to conduct a controlled descent with his mission equipment during FRIES initial, refresher and sustainment training (if tower work is incorporated). If the roper is unable to control descent during training, the FRM will direct the load be decreased until he can descend safely. Equipment that, due to its weight or bulk, cannot be carried by personnel during FRIES operations may be lowered by a lowering system.

CAUTION: The Aircrew and FRM are mutually responsible for ensuring accurate rigging of belay (lowering) equipment and safe deployment from the aircraft.

CAUTION: Ensure the Fast Rope is attached inside the Fast Rope bag to the attaching loop with a locking carabineer.

NOTE: Only current FRMs will instruct initial, sustainment and refresher training.

NOTE: If assets are available, and time allows, sustainment/refresher training should include rehearsal with actual mission loads and special equipment.

NOTE: Do not tape the door latches or handles. This can interfere with door operations.

NOTE: Alternate rigging IAW Service-approved AWR/FC is authorized.

NOTE: FRM will maintain positive communication with Aircrew utilizing aircraft communication when available or prearranged hand and arm signals.

NOTE: Upon receiving the command from the PC/Aircrew, the Master will determine if it is safe to deploy the ropes and then deploy the ropes.

NOTE: Aircrew may prepare and inspect the FRIES system and equipment located on the aircraft if an FRM is not available prior to conducting FRIES operations.

NOTE: The FRM and the Aircrew are mutually responsible for the safe conduct of the FRIES operation. Because there is considerable overlap between the duties and responsibilities of these personnel, they must coordinate closely before the operation to determine who is performing each duty.

NOTE: Aircrew calls (commands) may be different between these rigging procedures and the Aircrew Training Manual (ATM). The ATM will take precedence.

NOTE: Chemlights are optional for day operations.

NOTE: Secure safety chemlights to release handle with a retainer band (See [Figure 9-30](#)).

NOTE: Alternate rigging IAW Service-approved AWR/FC is authorized.

NOTE: Units should conduct FRIES training from an aircraft at the lowest altitude possible. There is no additional training value to higher altitudes, only increased chance of injury.

NOTE: FRM/Aircrew should move aircraft away from coiled rope on the ground when conducting FRIES training at lower altitudes than the rope length. This will reduce risk of injury when ropers land on the coiled rope.

NOTE: Due to the inherent danger involved in the FRIES technique, CDRs will consider initial qualification training to replace refresher training if the individual(s) have either exceeded 24 months or lack proficiency in the task.

NOTE: Additional extractions while performing FRM duties are recommended but not required.

NOTE: For Fast Rope operations using the Rescue Hoist Station see COMNAVSPECWARCOMINST 3000.3C.

NOTE: It is highly recommended for the FRM to wear NVDs when conducting Night Operations.

NOTE: Utilize deployment bag IAW unit SOP.

NOTE: When utilizing an MV-22 refer to NTTP 3-22.3-MV-22, *Air Navy Tactics, Techniques, and Procedures, Combat Aircraft Fundamentals – MV-22*.

NOTE: The training level of Aircrews will be incorporated into the ground CDRs risk assessment.

9-4. Personnel Qualification Requirements.

a. **Initial Qualification Training.** Upon completion of a USSOCOM recognized school/course, FRIES qualified personnel will have met all standards at the appropriate levels. Component/Sub-unified Command training requirements and standards may be higher in any area to allow for Service or Component Peaks of Excellence that maybe mission area specific, below are the minimum requirements for FRIES qualification:

- (1) Demonstrate knowledge of and inspect service approved FRIES equipment.
- (2) Demonstrate proper wear and fit of service approved FRIES equipment.
- (3) Demonstrate knowledge of FRIES terms (terminology), commands and FRIES actions.
- (4) Briefed on the FRIES, its purpose, capabilities, limitations, and emergency procedures.
- (5) Briefed on the duties and responsibilities of the PC, Aircrew members, and FRM.
- (6) Complete hands-on training on FRIES.

b. Insertion.

- (1) During descent, demonstrate the ability to use hands and feet to stop and hold a static position on the rope for five seconds, without difficulty, while wearing all required Combat Equipment.
- (2) Requirements in Chapter 5, paragraph 5-2.e. for water operations.
- (3) Conduct two successful Fast Rope descents from a platform/tower (one without and one with combat equipment and weapon). Recommended platform/tower height is a minimum 30 ft.
- (4) Conduct three aircraft insertions without combat equipment, (two day/one night).
- (5) Conduct two aircraft insertions with combat equipment and weapon, (one day/one night).

c. Extraction.

(1) Demonstrate the proper techniques for donning Service-approved extraction harness with combat equipment, without combat equipment, connecting the extraction harness and equipment to the FRIES.

(2) Ropers should conduct one aircraft extractions without combat equipment.

(3) Ropers should conduct one aircraft extractions with combat equipment.

d. Dog Handlers. Will conduct items 9-4.a. - 9-4.c., above and demonstrate the ability to Fast Rope with a MPC.

e. Roper Currency. Roper will perform duties on an aircraft once every 12 months in order to maintain currency.

f. Roper Sustainment Training. Units will receive formalized training in the procedures to be used during Fast Rope operations within 72 hours prior to the operation. At a minimum, this training will include:

(1) Rigging and inspection of individual equipment.

(2) Rigging/inspection/procedures for the specific aircraft and/or FRIES tower/platform to be used and accompanying equipment.

(3) Hand and arm signals.

(4) Safety requirements and emergency procedures.

(5) Conduct of Troop briefing, example troop briefing in [Appendix C](#).

(6) Dog Handlers. Will conduct items 9-4.f.1. – 9-4.f.5., above and demonstrate the ability to Fast Rope with a MPC.

g. Roper Refresher Training. Qualified personnel who have not participated in FRIES operations during the past 12 months will undergo refresher training under the supervision of a current FRM before being included in a FRIES operation. Refresher training for ropers consists of:

(1) A complete review of the FRIES system, its purpose, capabilities, limitations, emergency procedures.

(2) The execution of at least two FRIES (one without combat equipment, one with combat equipment and weapon) descent from a Fast Rope tower/platform.

(3) The execution of at least one (1) day and one (1) night FRIES (one without combat equipment, one with combat equipment and weapon) descent from an aircraft.

h. Dog Handlers Fast Rope Refresher Training. Will conduct items 9-4.f.1-3., above and demonstrate the ability to Fast Rope with a MPC.

9-5. Fast Rope Master (FRM). The FRM and Aircrew has responsibility in ensuring the safety of all ropers. The FRM is in charge of training on the ground, tower/platform, and in the aircraft. The FRM ensures all equipment (installation, unit, and personal property) is serviceable. The FRM personally supervises FRIES training iterations. Selection of personnel for qualification as a FRM should be based on the individual's demonstrated leadership capabilities, maturity (E-4 or above), knowledge and experience of FRIES training and operations. Personnel are qualified to perform the FRM duties after they have met the requirements in paragraph 9-4.a., 9-4.b., and 9-4.c., as well as the successful completion of the FRM training course while under the supervision/instruction of a current FRM. Training will include the following at a minimum:

a. Receive instructions and demonstrate proficiency on mounting the Fast Rope to the Fast Rope bar, and inspecting and preparing the aircraft for FRIES operations (i.e., tape those items and areas that might be an obstacle or hazard to the ropers exiting the aircraft).

b. Receive instructions and demonstrate proficiency in the performance of the following FRM duties:

- (1) Responsibilities/safety requirements.
- (2) FRIES capabilities of aircraft used.
- (3) Inspection and maintenance of FRIES and personal.
- (4) Troop briefings, example in [Appendix C](#).
- (5) Organization of the stick.
- (6) Time warnings/commands.
- (7) Rigging, deploying and retrieving ropes, to include deployment bag (if applicable).
- (8) Releasing and stopping the stick.
- (9) Hand and arm signals.
- (10) Conduct of FRIES training iterations on aircraft or tower/platform.

(11) Dog Handler. Rigging, inspecting and conduct of FRIES training and operations for MPC handler.

c. During FRM initial qualification training, personnel will demonstrate proficiency in FRM duties and responsibilities for a minimum of six training iterations:

(1) While serving as FRM, participate in three operations from a Fast Rope tower/platform one (1) day without combat equipment, one (1) day and one (1) night with combat equipment and weapon, (two (2) day/one (1) night).

(2) While serving as FRM, participate in three operations from an aircraft, one day without combat equipment, one day and one night with combat equipment and weapon (two (2) day/one (1) night).

d. **FRM Currency.** FRM will perform duties on an aircraft once every 12 months in order to maintain currency.

9-6. Fast Rope Master Refresher Training.

a. **Fast Rope Insertion Refresher.** If FRM has not conducted FRM duties in the last 12 months he must conduct FRM duties under the supervision/instruction of a current FRM.

b. **For FRIES.** Demonstrate knowledge of extraction equipment and procedures to include proper rigging, hooking up, hand and arm signals under supervision/instruction of a current FRM.

c. **Dog Handler.** Demonstrate knowledge on rigging, inspecting and the conduct of FRIES training and operations for MPC handler.

9-7. Fast Rope Master Sustainment Training.

a. Rigging and inspection of individual equipment.

b. Rigging/inspection of aircraft and/or tower/platform and accompanying equipment (if applicable).

c. Hand and arm signals.

d. Safety requirements and emergency procedures.

e. Dog Handler. If applicable, demonstrate knowledge on rigging, inspecting and the conduct of FRIES training and operations for MPC handler.

9-8. Personnel Duties and Responsibilities. The following personnel duties and responsibilities help to reduce/prevent most of the accidents that can occur when conducting FRIES training iterations. They also ensure thorough and effective training. All personnel involved in FRIES training will plan and rehearse their tasks.

a. **Unit CDR.** Prior to participation in training, the unit CDR will ensure subordinate CDRs and MCs screen all personnel to ensure they are physically and professionally able to participate in operations.

b. **AMC.**

(1) Designated by the employing aviation unit, when required. When not required, the PC will assume responsibility.

(2) Ensure all Aircrew understand their responsibility concerning FRIES IAW this manual.

(3) Responsible for ensuring all aircraft infil/exfil personnel on the designated objective.

c. **PC.**

(1) Ensures Aircrew and non-Aircrew are briefed and understand their responsibilities during FRIES training iterations, including aircraft safety and actions in the event of an emergency.

(2) Ensures the FRIES assembly has been inspected for completeness and functionality with no visible metal fatigue or other structural weakness, and that it is installed properly.

(3) Emphasizes procedural techniques for clearing, recovery, and jettison of the Fast Ropes and/or for the aircraft prematurely departing the objective.

(4) Keeps the aircraft positioned over the objective with corrections from the Aircrew as required.

d. **FRM.** FRM will be designated for each aircraft and has overall responsibility for the serviceability of the Fast Rope, safety of all ropers during conduct of operations, ensures one FRM for each rope being used is onboard the aircraft when operating with more than one rope and ensuring safety precautions outlined in this directive are adhered to and is responsible for the following:

(1) Coordination of all aspects of troop and unit preparation to include procurement of sufficient FRIES equipment for the operation.

(2) Coordination of all support activities.

(3) Proper inspection, preparation and rigging of FRIES equipment (security and attachment of hardware).

- (4) Adherence to the published time schedule and sequence of events of the operation.
- (5) The FRM assigns qualified personnel to key positions as required by the operation.
- (6) Strict adherence to procedures for the planning, preparation, and execution of the operation as outlined in this directive, training circulars, unit SOPs and local directives related to the specific training.
- (7) Ensures the mission commander is briefed on the training being conducted.
- (8) Ensures FRIES operations are conducted over terrain that permits the Aircrews/FRMs to have visual contact with the ground, vegetation, or water.
- (9) Relays time warnings.
- (10) The FRM ensures all personnel understand the techniques and responsibilities for FRIES operations. The FRM deploys the ropes, upon receiving command from PC or Aircrew.
- (11) Performs safety and serviceability checks on all FRIES and rigging equipment.
- (12) Ensures the proper seating arrangement for all ropers, to include personnel restraints, and procedures in case of an emergency landing.
- (13) Measures each rope to confirm the length and informs the PC and Aircrew.
- (14) Verifies the aircraft is at a stabilized hover.
- (15) Once signaled by the Aircrew, authorizes the deployment of the rope(s).
- (16) Ensures the rope is free of obstruction and a minimum of 5 feet (chemlights/light sources for night operations) of rope is on the ground. Employment of chemlights IAW unit SOPs.
- (17) Briefs the correct method of deployment.
- (18) FRM should use a restraint device that secures him to the aircraft, and should only be removed when the FRM is exiting the aircraft.

e. **Aircrew.** One individual will be designated for each rope being used. The Aircrew members:

- (1) Conduct pre-operational check (inspection) on FRIES assembly IAW the operator's manual/checklist/AWR/FC.

(2) Relay time warnings.

(3) Signal FRM to deploy ropes, after receiving command from Pilot and verifying the aircraft is over the objective, at a stabilized hover.

(4) Signal FRM after verifying the FRIES attachment loops (or a minimum of five feet of rope) is on the ground (chemlights/light sources for night operations) and clear of obstructions.

(5) Observe the exit of the ropers.

(6) Ensures the aircraft remains over the objective and advises of aircraft drift.

(7) Verify/ensure the rope and site remains safe throughout the Fast Rope operation. If the Aircrew identifies an unsafe condition, the Aircrew will signal ropers using either the stop stick (closed fist) or the fouled rope (closed fist, arms over-lapped forming an X) hand and arm signal. Additionally, the Aircrew will keep the pilots informed of the existing situation.

(8) Will ensure the rope is clear of ropers prior to jettisoning. The Aircrew will not jettison any rope until all ropers have exited the aircraft and cleared the rope(s) or ensure personnel are secured in the aircraft prior to rope release.

f. Individual Ropers will:

(1) Understand all aspects of FRIES and emergency procedures.

(2) Ensure correct equipment configuration.

(3) Maintain an orderly and rapid exit formation.

(4) Grasp rope firmly before exiting (do not jump for the rope).

(5) On exit, rotate body 90 to 180 degrees outboard away from the aircraft. See Warning, Cautions and Notes Section 9-11.

(6) Descend the rope controlling speed, breaking two thirds of the distance down to avoid landing on other ropers.

(7) Upon landing, be prepared to execute a good parachute landing fall if necessary, and move rapidly away from the ropes avoiding the front of the aircraft.

(8) Ropers will not carry equipment. Dimensions, bulk, or weight of equipment will interfere with the ability to safely execute FRIES training. Belay this equipment down in order to prevent injuries to personnel and/or damage to equipment.

(9) Ropers should maintain a safe distance/intervals between other ropers during insertion operations.

(10) In the event of an emergency, ropers will execute a “lock-in” by wrapping one leg around the rope and standing on the rope with the other foot.

9-9. Equipment. All Fast Rope equipment is life-support equipment and must be controlled by a qualified/appointed master. Only service-approved equipment will be used. Proper care and record keeping is essential for safety.

a. System Description. FRIES consist of Fast Ropes, personnel extraction harnesses, and FRIES hardware kits.

(1) **Insertion Fast Rope.** FRIES operations require common individual equipment, specialized equipment, and training areas for training. Each Soldier involved in the training provides the individual equipment. The FRM procures the FRIES equipment. Training areas required include a tower equipped for FRIES training and an LZ or a training area suitable for vertical lift FRIES operations. The Fast Rope is a polyester rope, consisting of three 1 3/4-inch strands, olive drab in color that comes in 20-, 30-, 40-, 60-, 90-, and 120-foot lengths. The top of the main rope has an 8-inch eye splice to allow the rope to be attached to specially equipped helicopters, the eye splice may also have one or two steel rings to aid in rigging the fast rope to the tower or rescue hoist.

(2) **Extraction Rope.** Extraction Fast Rope ([Figure 9-1](#)). The extraction rope is the same as the insertion rope except that at the bottom of the main rope, a 9/16-inch diameter white nylon rope is spliced into the main rope to form three extraction loops. A 9/16-inch diameter black nylon rope is also spliced into the main rope to form three safety loops at the same position as the extraction loops.

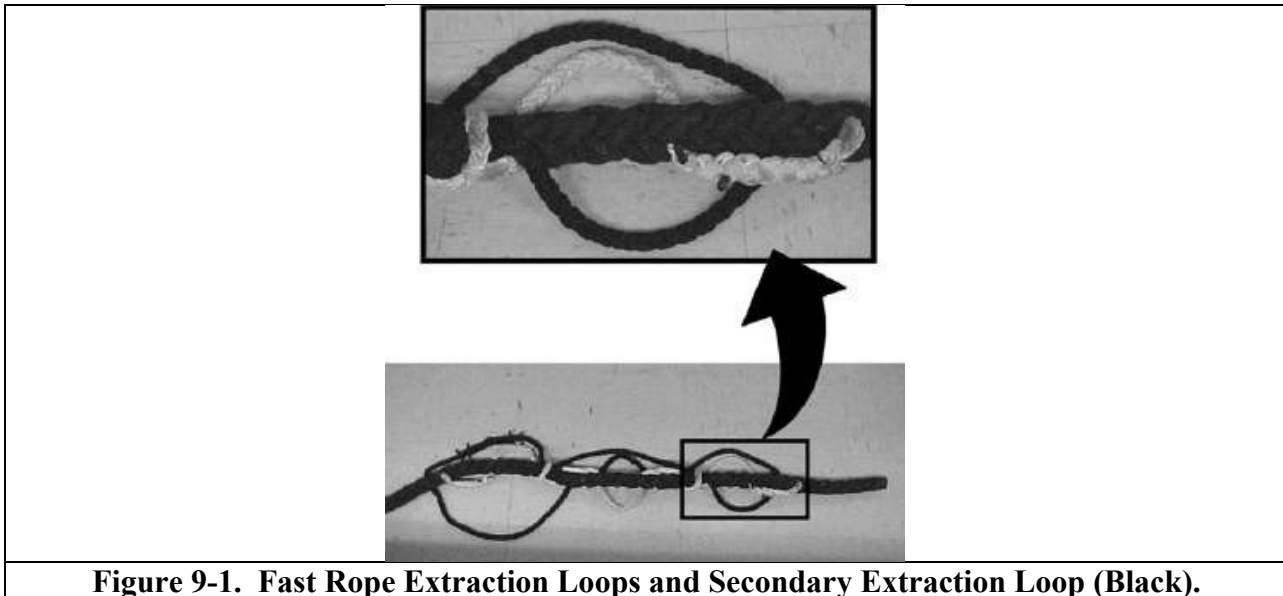


Figure 9-1. Fast Rope Extraction Loops and Secondary Extraction Loop (Black).

(3) **Extraction Harness.** A Service-approved harness and secondary safety line will be used as the extraction harness for FRIES (See [Figures 9-2, 9-3, and 9-4](#)).

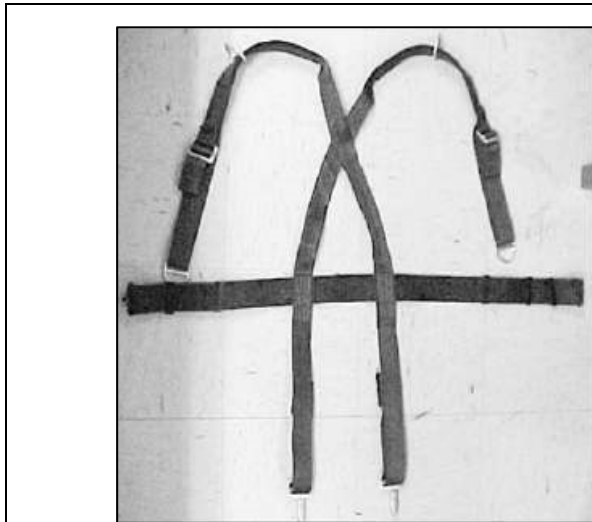


Figure 9-2. STABO Harness.

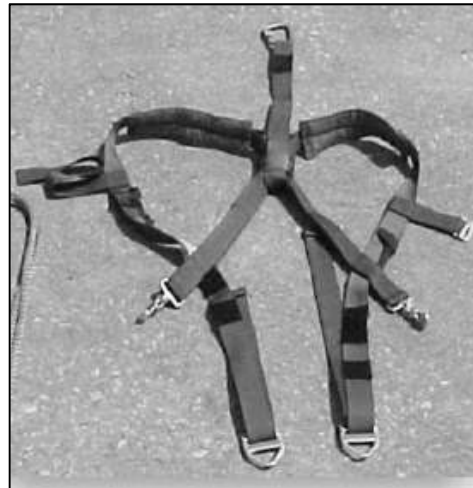


Figure 9-3. SPIES Harness.



Figure 9-4. Four-Person FRIES Hook-Up and Extraction Rope Close-Up.



Figure 9-5. Fast Rope Extraction Loops.

(a) Personnel will ensure their individual harnesses are properly fitted and worn, with minimal slack in the leg straps to prevent the harness from riding up during exfil. The pistol belt waistband on the STABO harness should be adjusted to prevent interference between the harness and load bearing equipment (body armor will not be used with the STABO harness).

(b) Because of continuing changes in load bearing equipment designs and the introduction of protective equipment such as body armor, all equipment must be carefully inspected after rigging to ensure all equipment is compatible with the harness being used and does not create an unforeseen hazard for personnel.

(4) FRIES Hardware Kit.

(a) The H-60 FRIES special mission hardware kit “I” bar is bolted through the helicopter cabin ceiling to the airframe and is designed to support FRIES infil/exfil missions (See [Figures 9-5, 9-6, 9-7, 9-8](#)). The Fast Rope bar slides out to extend beyond each cargo door. The Fast Rope attaches to the bar above each of the two doors.



Figure 9-6. H-60 Fast Rope Bar Attachment Point Extended (Outside Aircraft).



Figure 9-7. H-60 Small Bag Attached to FRIES.



Figure 9-8. H-60 Large Bag Attached to FRIES.

(b) The FRIES hardware kit for the H-47 aircraft consists of two aft FRIES bars and one forward mount. The two aft bars attach to mounts in the ceiling of the aircraft located at the aft cargo ramp (See Figures 9-9, 9-10, 9-11, 9-12, 9-13). A Fast Rope attachment point on each bar slides aft and supports one rope per bar. The forward mount attaches above the right front entrance door and one Fast Rope is supported by the forward mount (Three (3) Fast Ropes can be attached to the H-47). The FRIES hardware kit for the H-47 is designed to support infil/exfil missions.



Figure 9-9. H-47 Air Force Tactics (AFT) Quick Release Pin Inserted.



Figure 9-10. FRIES Bars Assembly (AFT).



Figure 9-11. Fast Rope Attached to H-47 AFT FRIES Bar.



Figure 9-12. FRIES Rope Bag Assembly.

(c) The FRIES hardware kit for the V-22 aircraft consists of two aft FRIES pommel mounts and one forward mount. The two aft bars attach to mounts in the ceiling of the aircraft located at the aft cargo ramp (See [Figures 9-13, 9-14, and 9-15](#)). A Fast Rope attachment point on each pommel bar swings down and supports one rope per bar. The FRIES hardware kit for the V-22 is designed to support infil/exfil missions.

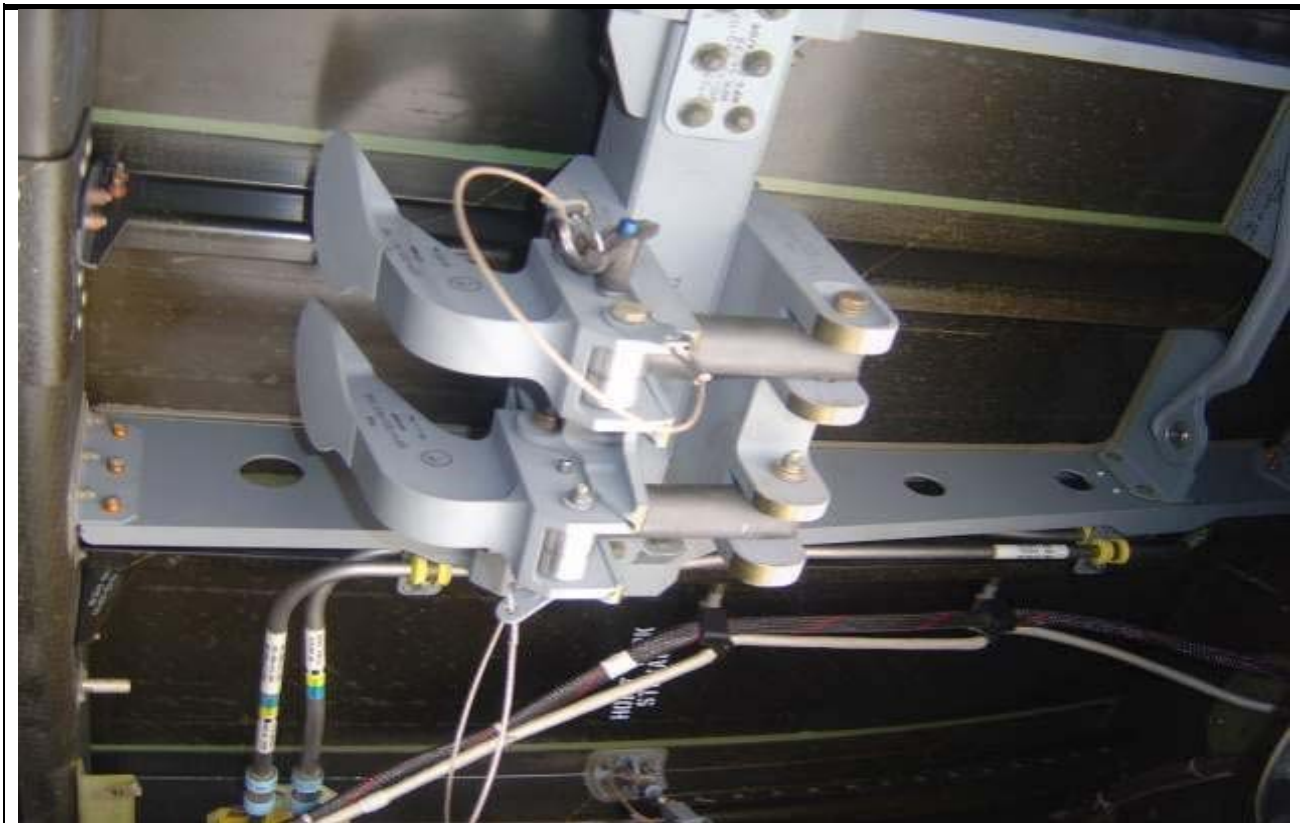


Figure 9-13. Fast Rope Attachment Point without Rope on V-22.



Figure 9-14. Fast Rope Attachment Point with Rope on V-22.



Figure 9-15. Fast Rope Secured on V-22 (STA 602).

d. Equipment Inspection. Before conducting a Fast Rope operation, the equipment must be inspected for serviceability. The FRM performs the following checks and observations:

(1) Rope.

(a) Before conducting a Fast Rope operation, thoroughly inspect the Fast Rope and verify length. Check the eyelets on the end for excessive wear. Check the rope along its entire length for fraying. Snags in the rope from normal use do not weaken the rope. Also, do not use a rope with several frayed strands in one spot. When the Fast Rope becomes wet, S-fold or hang it in a dry, warm area to dry completely before further uses. When the Fast Rope is used in saltwater, wash it in fresh water before drying.

(b) Inspect the rope for contamination of acid, alkaline compounds, salt water, fire extinguishing solutions, or petroleum-based solvents. Although used ropes gradually change color, such changes do not indicate a decrease in strength unless the change is due to contact with strong chemicals. Changes in color caused by chemicals are spotted; changes occurring because of use are uniform throughout the length of the rope.

(c) Measure and tag the rope with the measured length.

(2) Special Mission Hardware Kit, I-Bar. Inspect for security and condition of the Fast Rope bar.

e. Care and Maintenance of FRIES Rope.

(1) Proper care of the Fast Rope is required. A chemically active environment can degrade the strength of the ropes.

(2) The ropes will be stored safe from harmful fumes, heat, chemicals, moisture, sunlight, rodents, and biological attack. The ropes will be stored in a dry place, on grating where air circulates freely.

(3) Ropes will not be stored unless they are clean. Hang the ropes in loops over a bar or beam, and spray with water to remove the dirt. The spray should not be so powerful that it forces the dirt into the fibers. After washing, allow ropes to dry and shake them to remove the rest of the dirt.

9-10. Live Fly Fast Rope Training Considerations.

a. Operational Requirements. The following section discusses the medical and communications requirements, and the procedures to follow during unusual conditions (adverse weather/terrain conditions, night operations). Personnel must use sound judgment to determine what action to take depending on the nature and severity of the condition.

(1) **Adverse Weather Conditions.** FRIES training iterations will not be conducted under the following conditions:

(a) Wind chill factors caused by rotor downwash, cruise airspeeds, and duration could cause cold weather injuries through exposure.

(b) Water or ice on the rope inhibiting the ability of the ropers to control their descent.

(c) The Fast Rope is exposed to the elements for a sufficient length of time to freeze, thereby reducing its tensile strength.

(d) Conditions, to include blowing particles produced by rotor downwash that cause the Aircrew or FRM to lose visual contact with the ground.

(2) **Night Operation Requirements.**

(a) One chemlight/light source will be attached at the bottom end of the rope and a minimum 5 feet higher (or above the extraction loops) to aid in determining the relationship of the Fast Rope to the ground.

(b) One chemlight/light source will be secured to the attachment point of the rope to aid in the identification of the exit point and the location of the Fast Rope.

(c) One chemlight/light source will be attached at each attachment point of the Fast Rope deployment bag (when utilized).

(d) Individual Component and Sub-unified CDRs will establish training, policy and procedure for use of NVDs.

b. **Medical Coverage.** See requirements in paragraph 7-8.

c. **Communications Requirements.** Communications between Aircrew and FRMs will be maintained throughout the training iterations as pre-briefed.

9-11. Aircraft Fast Rope Training Iterations.

a. **Inspection Areas.** The FRM and Aircrew conducts a joint inspection of the aircraft to ensure the safety of all personnel, serviceability of equipment and cover critical roping safety considerations.

(1) Ensure seats are configured or removed as briefed.

(2) Cargo doors are locked in the open position or cleared for closing, depending on the mission. If no locks are present, remove doors to include small cargo doors.

(3) All loose objects in the cargo compartment are secured or removed.

(4) Pads and tapes all sharp edges on the floor, door ledge, and all protrusions. All sharp or protruding edges that may come in contact with the fast ropes are padded or taped.

(5) Tie-down fittings are serviceable.

(6) Ensures primary and secondary anchor points are serviceable and securely attached to the aircraft structure.

(7) If applicable, remove all seats.

(8) If applicable, the headset/helmet and INTERCOM jack for the FRM is secured overhead.

(9) The cabin ceiling tie-downs must have a safety wire installed to ensure they do not come undone or unraveled, and the bolt head must be stamped with an “H” (See Figure 8-6) unless the applicable technical manual states otherwise.

(10) Serviceable restraint device is available for the FRM use and is provided by supported unit.

(11) All rope(s) are retrieved or released before forward movement/descent of vertical lift aircraft.

b. Deployment Bag. The following rigging procedures include instructions for inspecting the Fast Rope bag, Fast Rope, and FRIES bar, rigging procedures for the Fast Rope bag, and Aircrew commands for releasing the Fast Rope bags during day and night operations. Deviations are authorized when using other or expedient deployment bags per service or unit SOPs.



Figure 9-16. Deployment of Ropers V-22.



Figure 9-17. Rotor Downwash Characteristics of the V-22.



Figure 9-18. Large Attaching Ring.



Figure 9-19. Attaching Loop.



Figure 9-20. Fast Rope Attached to the Attaching Loop Inside the Fast Rope Bag.

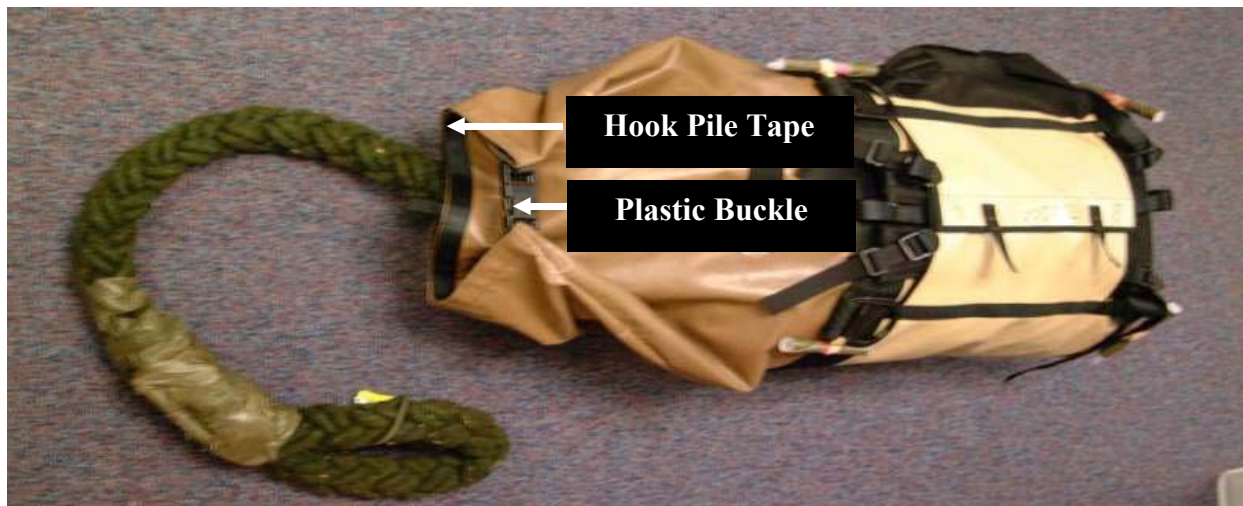


Figure 9-21. Bag secured with Buckle and Hook Pile Tape.

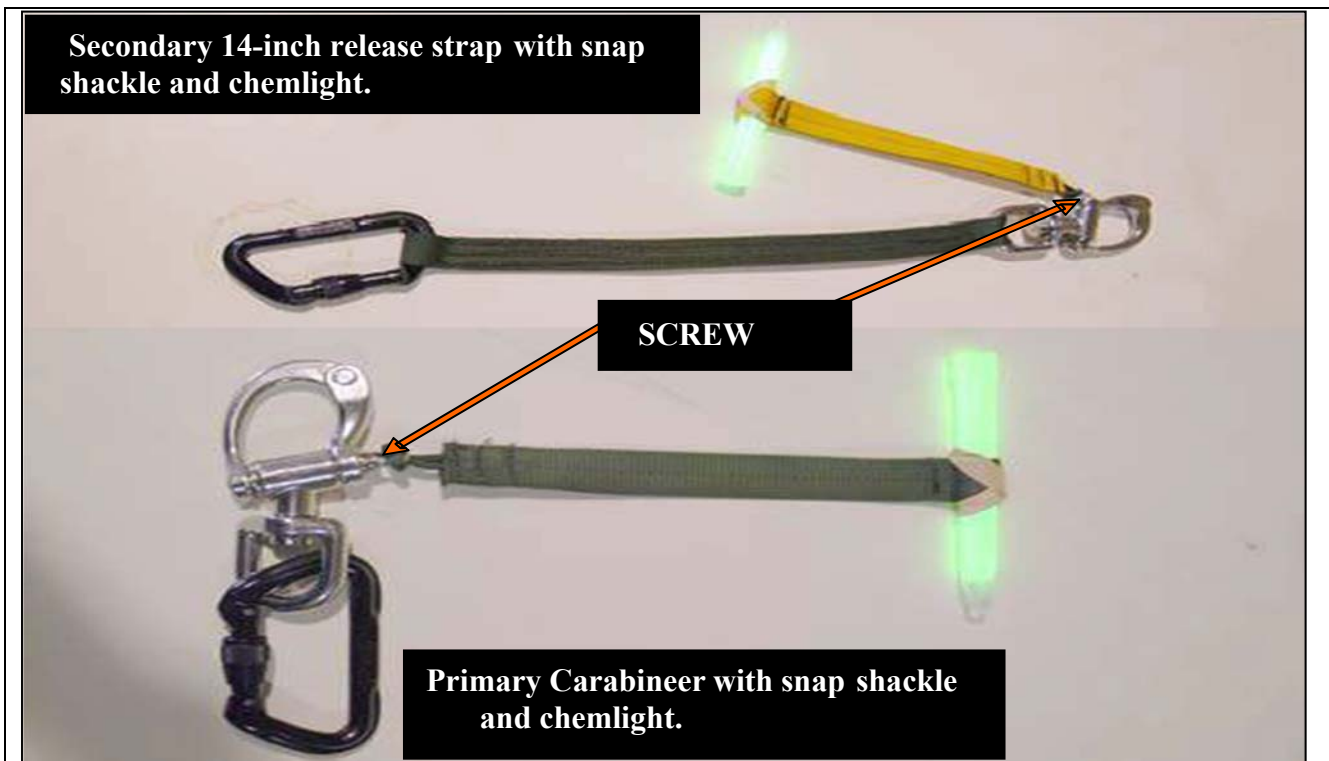


Figure 9-22. Release strap and primary Carabineer.



Figure 9-23. Chemlights Attached to the bottom Attaching loops on the Small Fast Rope Bag.



Figure 9-24. Small Fast Rope Bag Positioned on the Ramp.

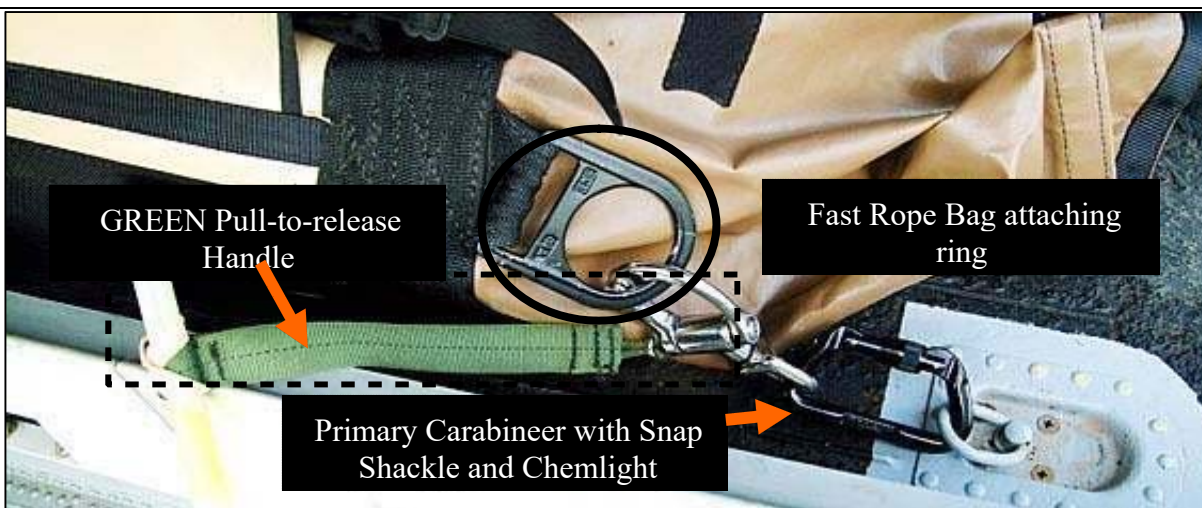


Figure 9-25. Fast Rope Bag Attached to AFT Tiedown Ring.



Figure 9-26. Shoulder Carrying Straps Stowed Behind Protective Cover.

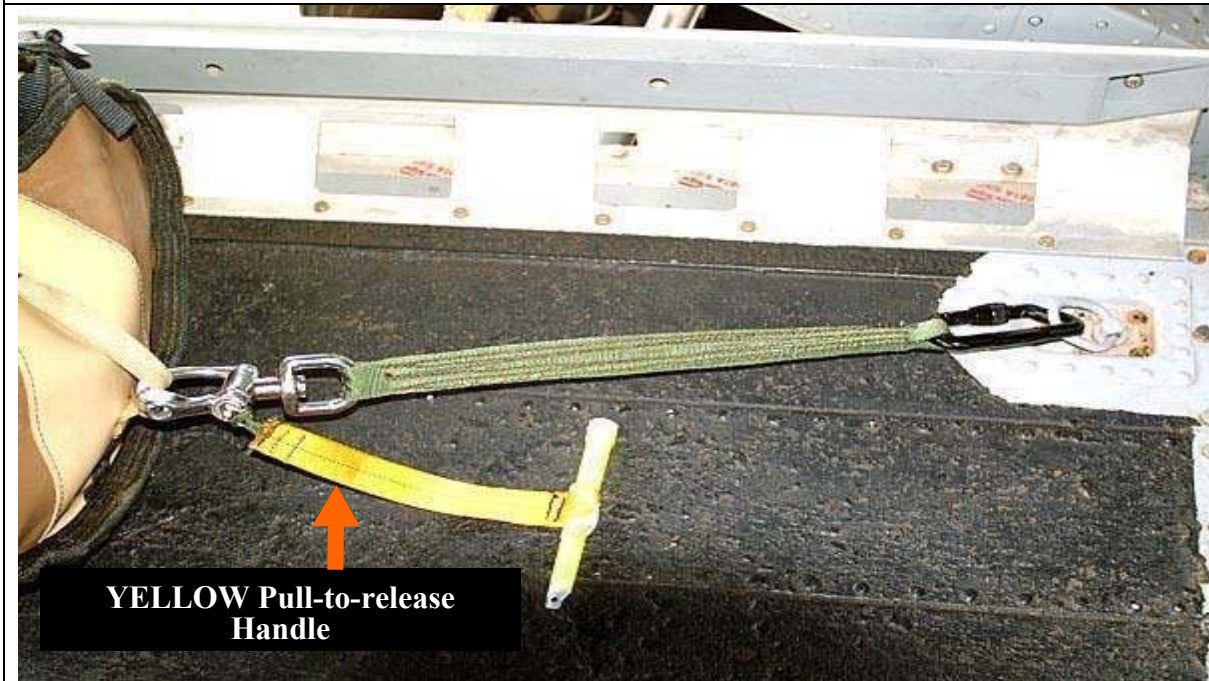


Figure 9-27. Secondary 14-inch Release Strap Snap Shackle.



Figure 9-28. Primary Snap Shackle with Green Pull-to-Release Handle.



Figure 9-29. UH/MH-60 Release Straps with RF6200 and RF6320 Snap Shackles.

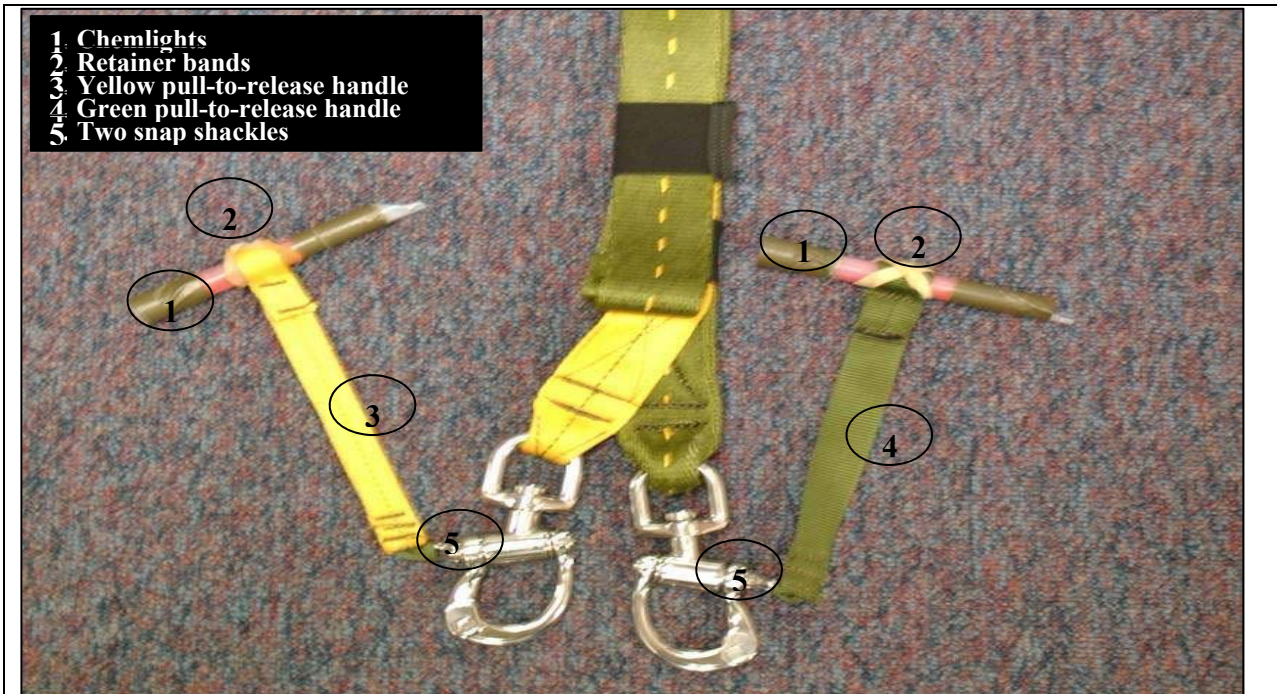


Figure 9-30. Release Strap with RF6320 Snap Shackles and Chemlights Installed.

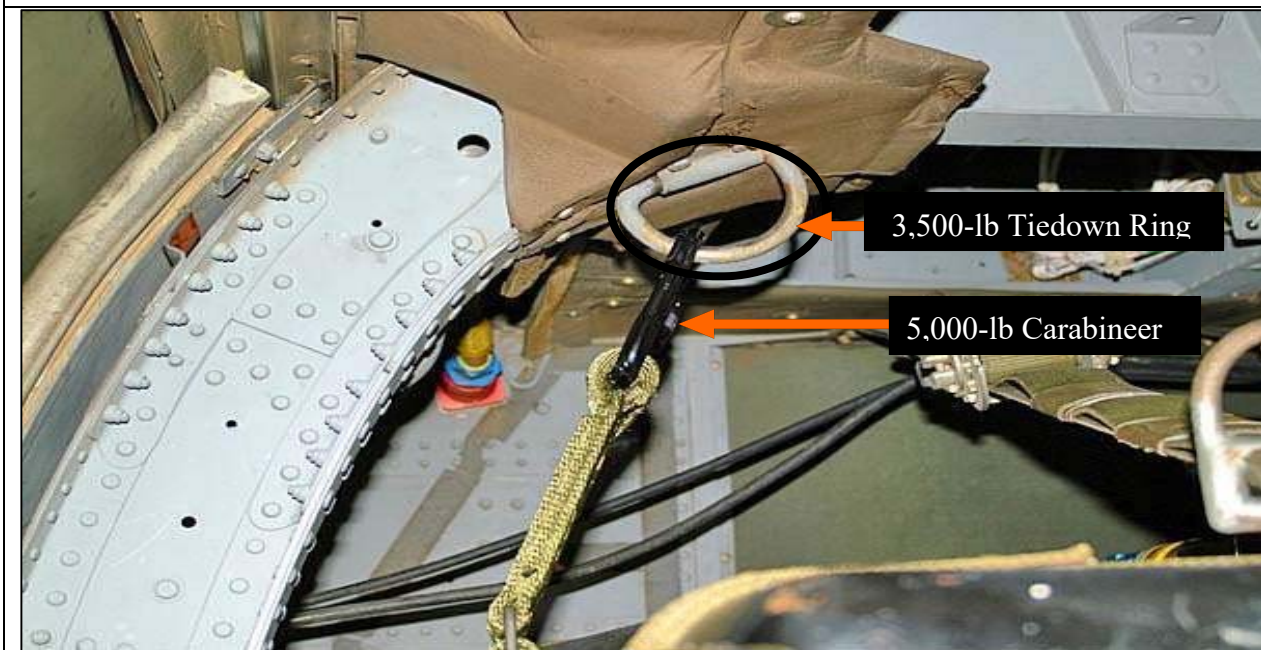


Figure 9-31. Snap Shackle Release Strap Attached to the 3,500-Pound Tiedown Ring.

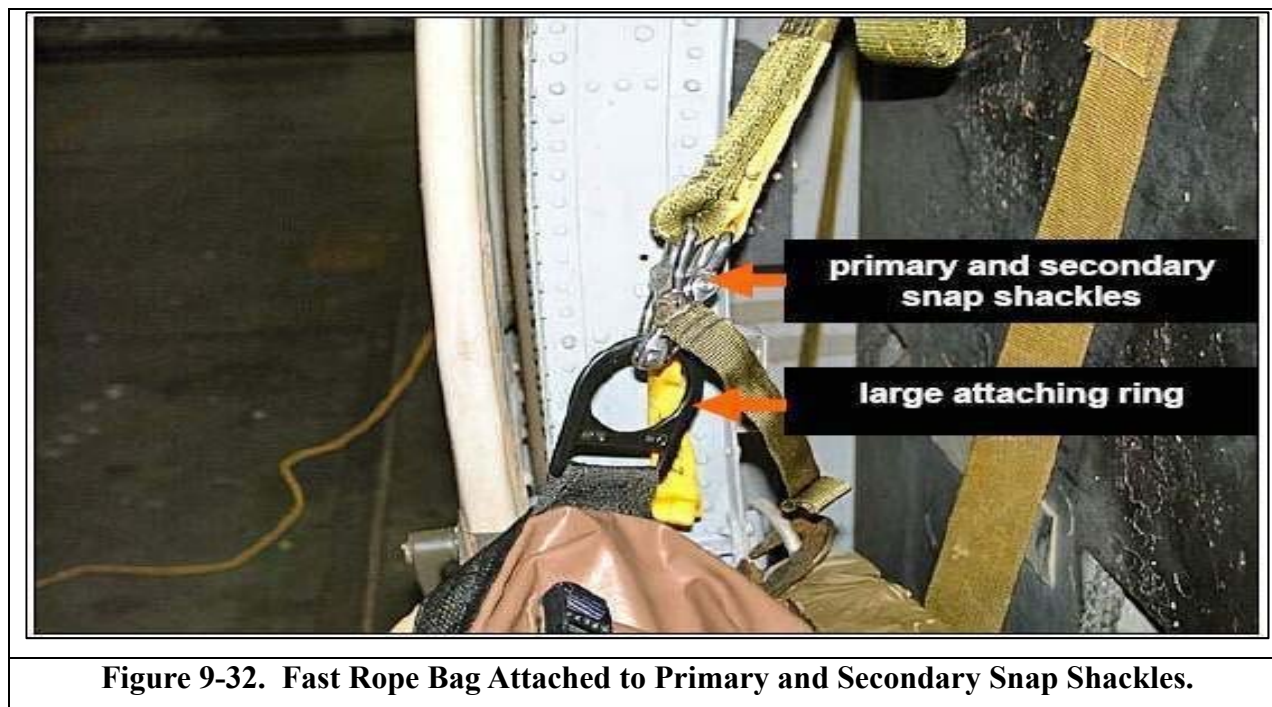


Figure 9-32. Fast Rope Bag Attached to Primary and Secondary Snap Shackles.

c. Aircraft Characteristics.

(1) **UH-1 Characteristics.** The UH-1 is either a single-engine or a twin-engine, medium-speed, single main rotor aircraft that can transport up to eight (8) Rappellers, one (1) FRM, plus a three to four (3-4)-man crew. The FRM/Aircrew rigs the UH-1 helicopter IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary--Section III](#) of this manual to include current AWR/FC/unit SOP.

(2) **H-60 Characteristics.** The H-60 is a twin-engine, medium-speed, single-main rotor aircraft that can transport up to ten ropers, one FRM, and a four-man crew when the center rows of troop seats are removed. The FRIES allows for rapid insertion and extraction of personnel in areas that preclude aircraft from landing.

(a) Rigging. The FRM rigs the H-60 helicopter IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary--Section III](#) of this manual to include current AWR/FC/unit SOP.

1. Lock both cargo doors in the open position.
2. Configure cabin as necessary.

3. Fully extend the FRIES bar and insert the quick release position pin for infil. The quick release pin at the Fast Rope attachment point (safety pin) is not required for infil operations. For FRIES exfil, extend FRIES bar to the mid position and insert the quick release position pin. Insert the quick release safety pin or safety bolt assembly at the Fast Rope attachment point for all exfils.

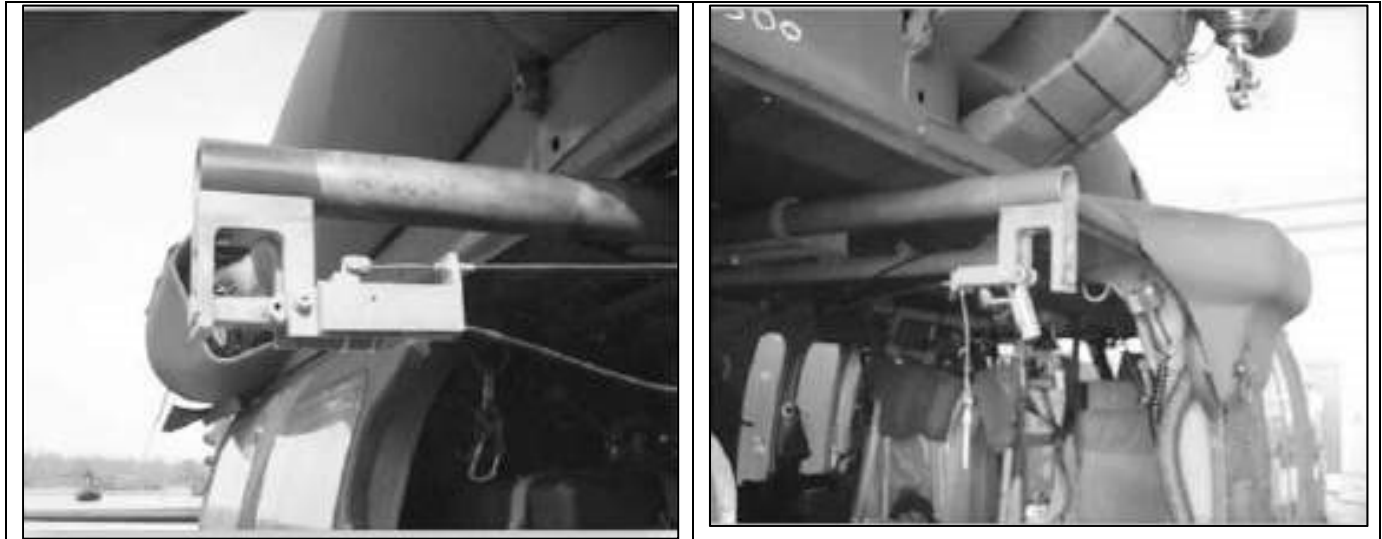


Figure 9-33. H-60 Fast Rope Attachment Point Extended (Outside Aircraft).

4. Inspect the FRIES hardware for cracks, corrosion, and security hardware IAW the operator's manual/checklist/AWR/FC.

(b) Rig the Fast Rope for the fast rope bar as follows:

1. Remove the release mechanism handle from retaining clip. Apply down and backward pressure to release handle and open the FRIES attachment point release gate.

2. If no deployment bag is used.

a. Back coil Fast Rope and ensure it is secure.

b. Support the rope and insert the gate into the receptacle. Apply a download pressure to cabin wall mounted release handle while pushing the gate out until the gate is fully seated in the receptacle (locking position).

c. With Fast Rope properly coiled, insert the Fast Rope retention strap through the coil. Secure quick release mechanism to an aircraft tie-down fitting and insert safety pin into the mechanism or the Fast Rope will be secured by the FRM or individual. (See [Figure 9-36](#)).



Figure 9-34. Fast Rope Attached to H-60 FRIES Bar and Fast Rope Restraint Strap Attached to Aft, Upper Tie-down Fitting.

3. Install safety pin or safety bolt (IAW current aircraft AWR/FC) in the Fast Rope release mechanism for exfil and all mid-position operations. This safety pin or safety bolt is not required for infil operations.

(3) **H-6 Characteristics.** The MH-6M is a light assault helicopter. It is a single-engine, light utility helicopter modified to transport up to 6 combat troops, two crew members, and their equipment externally and can deploy two ropes. The primary mission of the MH-6M helicopter is to conduct overt and covert infiltration, exfiltration, and combat assaults over a wide variety of terrain and environmental conditions that is capable of mounting two FRIES, one per side.

(a) **Rigging a Fast Rope to an H-6.** The H-6 Fast Rope System consists of two (2) Fast Rope bars, two (2) cables and two (2) handles. The Fast Rope bars mount on both sides of the aircraft. The cables are routed through the cargo compartment from the Fast Rope bars to the release handles mounted on the upper center console in the cockpit. The handles are pulled down by the pilot(s) to jettison the ropes. 20 foot ropes are typically used with 40 foot being the maximum length. They are attached to the release mechanism, coiled up, and placed on the cargo compartment floor, until ready for deployment.



Figure 9-35. Fast Rope Rigged on an MH-6.



Figure 9-36. MH-6 Fast Rope Rigging

1. Inspect the FRIES hardware for cracks, corrosion, and security of nuts bolts release pins and cables IAW the AWR (See [Figure 9-39](#)).



Figure 9-37. Mount for External Fast Rope System on MH-6.

2. Remove the release pin from the release bar assembly. Lift the release handles (located in the cockpit) to the full up position.

3. Insert the woven end loop of the Fast Rope through the release bar. Support the rope and insert the release pin through the receptacle. Ensure the pin is snapped into the release bar assembly and is fully seated.

iv. If not utilizing a deployment bag, coil the rope and place in the cargo compartment. Ensure the rope will not prematurely deploy (fall out) during flight (See [Figure 9-37](#) above).

(4) **H-47 Characteristics.** The MH-47G (Chinook) is a twin-engine, tandem-rotor, heavy assault helicopter specifically designed and built for the special operations aviation mission. Three FRIES can be installed, 2 AFT and one forward cabin door. FRIES is used for insertion and extraction of personnel. Applied loads for FRIES:

(a) At the rear ramp for insertions cannot exceed nine (9) persons per rope at the same time.

(b) At the rear ramp for extractions cannot exceed six (6) persons per rope at the same time.

(c) At the forward cabin door for insertion and extraction cannot exceed six (6) persons at the same time.

(d) Rigging. The FRM/Aircrew rigs the H-47 helicopter IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary—Section III](#) of this manual to include current AWR/FC/unit SOP.

1. Ensure floor area is free of all oil/fluids/trip hazards.
2. Inspect the forward and aft FRIES system for cracks, corrosion, and security IAW the AWR. The edge of the ramp should be taped. Extend the aft FRIES bars to the pre-briefed length. Remove the release pin from the release bar assembly and apply upward pressure to release handle.
3. Insert woven loop of the Fast Rope through the gate, securing the gate into the receptacle. Install the quick release pin into the release bar assembly. (See [Figures 9-37, 9-38, 9-39](#))



Figure 9-38. Fast Rope Attached to the FRIES Bar on the H-47 Helicopter.



Figure 9-39. H-47 Aft Fast Rope Attachment Point Opened.



Figure 9-40. H-47 Fast Rope Attached and AFT Release Bar Seated.



Figure 9-41. H-47 Rigged with Two AFT Fast Ropes.

4. If not utilizing a deployment bag, coil the rope and place in the cargo compartment. Ensure the rope will not prematurely deploy (fall out) during flight.



Figure 9-42. Fast Rope Attached to H-47 Aft FRIES Bar.

(5) **V-22 Characteristics.** The V-22 is a multi-engine, dual-piloted, self-deployable, medium-lift, advanced vertical and/or short takeoff and landing multi-mission aircraft operated with a crew of four.

(a) **Rigging.** The FRM/Aircrew rigs the V-22 IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary—Section III](#) of this manual to include current AWR/FC/unit SOP. The primary anchor point will be a directional figure 8 configured on the double pommel assembly (Fast Rope Attachment Point). The secondary anchor point is secured on the port or starboard side ramp wall attachment point at RSTA 51. The right side will be used whenever possible. The ramp will be padded and/or ropes protected from being cut. Additionally, the edges on the side of the ramp must be padded and taped. Personnel rappelling from the ramp rope station must ensure they exit straight back from the ramp and not at an angle.

(b) The V-22 has the ability to deploy troops using a Fast Rope from the cargo ramp Fast Rope attachment point (See [Figures 9-13 and 9-14](#)). The rope may be attached to the quick release before takeoff or any time during the flight, as the mission dictates. If not utilizing a deployment bag, the Fast Rope will be coiled and secured with a cargo tie-down strap or seat belt next to the deployment location (STA 602) on the right ramp side wall (See [Figure 9-15](#)).

1. Ensure floor area is free of all oil/fluids/trip hazards.
2. Inspect the forward and aft double pommel assembly system for cracks, corrosion, and security.
3. Rig the Fast Rope to the double pommel bar assembly as follows:
4. Insert woven loop of the Fast Rope through the gate, securing the gate into the receptacle.
5. Install the quick release pin into the release bar assembly.
6. If not utilizing a deployment bag, coil the rope and place in the cargo compartment. Ensure the rope will not prematurely deploy (fall out) during flight.

(6) **Rigging a Fast Rope on Other Aircraft.** Units may use other DOD, Non-DOD or HN aircraft not listed in this manual provided the following guidelines are followed.

(a) **DOD Aircraft.** The aircraft must be rigged and equipped IAW current parent Service directives/manuals/instructions. The Aircrews must be trained in FRIES equipment and procedures.

(b) **Non-DOD Aircraft.** The aircraft must have an Airworthiness Directive and the Aircrews must be trained in FRIES equipment and procedures.

(c) **HN Aircraft.** A competent U.S. authority should evaluate the airworthiness and safety of all FRIES equipment and procedures prior to commencing training with a HN. At a minimum, the FRIES equipment will be inspected by a current FRM and approved by the senior person on site.

d. **Water Fast Rope Operations.** Deploy the Fast Rope upon entering the infil zone. A two to four knot forward drift will assist in deployment of teams and prevent them from landing on each other and possible injuries. Requirements in [Chapter 5, paragraph 5-2.e.](#) for water operations.

9-12. Equipment Lowering Devices. Lowering of Equipment, Rucksacks and MPC. During insertions, equipment, rucksacks or MPC may need to be lowered. The approved procedures for this technique is to attach the equipment, rucksacks or MPC to a standard rappelling rope via a slipknot and half loop running the rope through a “rack system”. The rack is attached to the aircraft IAW with unit SOPs. (See [Figures 8-1](#) through [Figure 8-4](#)).

a. The lowering system will be attached IAW with unit SOP and be lowered by the aircrew, and the using unit will provide the lowering system. The using unit will rig the rucksacks, and the aircrew will assist in positioning the equipment in the aircraft.

b. The aircrew is responsible for ensuring accurate rigging of belay (lowering) equipment to the aircraft and will lower the equipment when pre-briefed. However, in the event door guns are being used, the using unit should be prepared to provide one individual to control the equipment during lowering. Gloves will be used in the lowering process.

c. This equipment lowering system can be used to re-supply items such as ammunition, water, fuel, etc. to ground units where helicopters cannot land. Additionally, this method of re-supply may be configured for deployment on each side of the helicopter.

9-13. Emergency Procedures. While in flight, Aircrew controls passenger movement in the aircraft and communicates changes to the operation to the personnel. During emergencies, communications is paramount between Aircrew and FRM. Personnel will conduct emergency procedures IAW units SOPs and pre-mission brief. Briefing consideration include but are not limited to the following common emergencies:

- a. Fouled/snagged rope.
- b. Knotted rope.
- c. Hung roper/jumper.
- d. Premature lift off.
- e. Unintended drift.
- f. Unintentional/premature deployment of ropes.
- g. No communications.
- h. Roper in distress.
- i. Fouled cable.
- j. Device entanglement.
- k. Premature exit of aircraft.
- l. Equipment restraint failure.

9-14. Signals and Commands.

- a. All signals and commands between the Aircrew and the supported unit will be coordinated.
- b. Hand signals for directing helicopter movement are contained in [Appendix A](#).
- c. Emergency signals from Aircrews to supported unit will be briefed for operations.

CHAPTER 10

SPECIAL PATROL INSERTION/EXTRACTION SYSTEM (SPIES)

10-1. General. SPIES was developed to rapidly insert or extract personnel from an area where landing is not possible. SPIES procedures can be used for rough terrain as well as water exfil (wet-SPIES) operations. The SPIES rope assembly is approximately 120 feet in length and consists of a double tapered eye splice at each end. The top tapered eye is encapsulated in polyurethane to protect it from abrasions. D-rings are located in pairs on opposite sides of each other, spaced one foot apart and seven feet from the center of one set to the center of the next set. Four additional d-rings can be added to the rope (by a qualified Parachute Rigger), if needed, to provide a total carrying capacity of 14 personnel. The rope assembly has a tensile strength (dry) of 24,000 pounds and a recommended maximum load of 5,000 pounds.

10-2. Objectives.

- a. To prescribe qualification and training requirements for maintaining proficiency in the conduct of SPIES training iterations.
- b. To prescribe safety requirements, SPIES methods, equipment, and rigging procedures in the conduct of SPIES training iterations.
- c. To define the duties and responsibilities of key personnel during SPIES training iterations.

10-3. Safety.

- a. A detailed risk analysis/assessment will be conducted prior to vertical lift SPIES insertion training.
- b. Briefing. Before conducting vertical lift SPIES training, the SPM will give a safety briefing IAW unit/component SOPs to all personnel conducting SPIES insertion training. The following minimum safety briefing requirements for SPIES training:
 - (1) Identification of key personnel, their duties, and responsibilities.
 - (2) Area hazards.
 - (3) General aircraft safety/emergency procedures.
 - (4) Equipment associated with SPIES and its characteristics.
 - (5) SPIES and personal equipment inspection.

(6) Dog handling equipment inspection (if required).

(7) Ropers will wear friction (heat) resistant gloves (at the discretion of the SPM), identification tags and earplugs, and roll down their sleeves.

(8) Service-approved helmets, eye and hearing protection will be worn during all SPIES training.

(9) Weapons are slung.

(10) Loose clothing and equipment are secured.

(11) Methods of infil/exfil to be used.

(a) Personnel.

(b) If applicable, Dog Handler/MPC. The MPC must be restrained and muzzled by the dog handler while in the aircraft and during infil/exfil operations.

(c) Special/extra equipment.

(12) Hand and arm signals/emergency signals.

(13) Medical coverage.

(14) Communications requirements.

(15) Night operation requirements.

(16) Seat configuration/individual restraint criteria.

(17) All personnel will be secured to the aircraft as briefed.

(18) Personnel participating training that involves intentional infil/exfil into the water will successfully complete and be current in a swim qualification/test IAW Service regulations. CDRs at all levels will ensure personnel being trained have the appropriate swimming qualifications and required equipment to safely accomplish all required training tasks.

c. Safety Procedures.

(1) Should an emergency occur during an exfil, personnel will apply the distress, help or pick me up hand and arm signal by waving one hand overhead (See [Figure A-6](#)) to inform the Aircrew. The pilot should lower the member to the ground or water safely.

(2) Airspeeds shall not exceed 70 Knots Indicated Air Speed (KIAS) under normal conditions or 50 KIAS during cold weather and water operations.

(3) During training, maximum flight time with personnel on the rope is 20 minutes.

(4) At least one operable radar altimeter is required to maintain obstacle clearance between ropers and the ground.

(5) The V-blade knife or similar cutting device must be readily available in the event the SPIES rope straps need to be cut due to an emergency or the rope becomes entangled.

(6) A safety line will be secured around personnel utilizing a bowline or similar type knot.

d. Warnings, Cautions and Notes.

WARNING: The wearing of body armor during SPIES infil/exfil operations can result in life-threatening situations due to the harness causing the body armor to ride up and cause choking and/or reduce the flow of blood to the brain. If body armor is required, body armor with a cut away section below the neck should be used for SPIES operations. If other types of body armor are used, extreme care will be taken to monitor personnel for signs of choking/unconsciousness during SPIES operations.

WARNING: Personnel will not wear a MILES harness during any vertical lift infil/exfil operation that uses ropes, ladders, hoist, or flotation devices.

WARNING: Rope will not be deployed until the aircraft is at a stabilized hover directly over the designated objective, exfil only.

WARNING: Personnel should allow the rope to contact the ground/water before touching the rope to allow discharge of any static electricity prior to attempting to hook-up to the SPIES rope d-rings.

WARNING: The aft cargo hook hatch is open during V-22 SPIES operations (See [Figure 10-15](#)). Therefore, extreme care must be taken when working around this opening, especially during night operations. Personnel should be made well aware of this hazard during training and/or “dry run” iterations.

WARNING: Non-locking carabiners are required for over/in water operations to provide quicker disconnect in case of emergencies.

WARNING: For the V-22, personnel should be aware of the significant water spray created by aircraft downwash. This is significant in that it may reduce swimmer awareness and breathing ability. This is particularly important while personnel are attaching themselves to the SPIES line.

NOTE: For wet-SPIES training, a rehearsal should be conducted in a pool to familiarize personnel with procedures for working with the SPIES line. Training should include: 1) attaching themselves to the line and 2) emergency procedures should they become fouled in the line while in the water.

NOTE: Because of continuing changes in load bearing equipment designs and the introduction of protective equipment such as body armor, all equipment must be carefully inspected after rigging to ensure all equipment is compatible with the harness being used and does not create an unforeseen hazard for each member.

NOTE: Training iterations can be live with an aircraft or ground based training consisting of donning and hooking up with a simulated extraction.

NOTE: If assets are available, and time allows, sustainment training should include rehearsal with actual mission loads and special equipment.

NOTE: The SPM and the Aircrew are responsible for the safe conduct of the SPIES operation. Because there is considerable overlap between the duties and responsibilities of these personnel, they must coordinate closely before the operation to determine who is performing which duty.

NOTE: In the absence of a SPM the Aircrew will assume SPM duties.

NOTE: The Aircrew will rig the aircraft if a SPM is not available and secures all loose equipment to ensure nothing falls from the aircraft.

NOTE: SPM will maintain positive communication with Aircrew utilizing aircraft communication when available or prearranged hand and arm signals.

NOTE: On the H-47, the Aircrew may deploy the rope when directed by the PC.

NOTE: Alternate rigging IAW Service-approved AWR/FC is authorized.

NOTE: If the aircraft does not have cargo hook, use four nine or 11-foot, three or four loop slings.

NOTE: If installed, the SPIES rope may be directly attached to the FRIES system. FRIES bar limitations must not be exceeded, and FRIES bar must be configured for exfil operations (See [Chapter 9](#)).

NOTE: A safety line will be used and secured to FRIES gate only and not around the FRIES bar.

NOTE: Use locally procured padding around the edge of the cargo hook hole to protect slings from damage. An old fire hose usually works well for this purpose.

NOTE: A landing can be made with the SPIES rope attached to the helicopter. Personnel, once unhooked, keep the rope taut by walking it out to the three or nine o'clock position (as briefed) as the helicopter makes a slow descent.

NOTE: Alternate rigging IAW Service approved AWR/FC is authorized.

10-4. Personnel Qualification Requirements.

a. **Initial Qualification Training.** Upon completion of a USSOCOM recognized school/course, SPIES qualified personnel will have met all standards at the appropriate levels. Component/Sub-unified Command training requirements and standards may be higher in any area to allow for Service or Component Peaks of Excellence that maybe mission area specific, below are the minimum requirements for SPIES qualification:

- (1) Must be authorized by an O-5 level CDR to conduct SPIES training.
- (2) Demonstrate knowledge of and inspect service approved SPIES equipment. (See [Figure 10-1, 10-2](#))
- (3) Demonstrate proper wear and fit of service approved SPIES equipment.
- (4) Demonstrate knowledge of SPIES terms (terminology), commands and SPIES actions.
- (5) Briefed on the SPIES, its purpose, capabilities, limitations, and emergency procedures.
- (6) Briefed on the duties and responsibilities of the PC, Aircrew members, and SPM.
- (7) Requirements in [Chapter 7](#), for water operations.
- (8) Complete hands-on training on SPIES.

b. **SOF Standards for SPIES Qualification.** Upon completion of a USSOCOM recognized school/course, SPIES qualified personnel will have met all standards at the appropriate levels. Component training requirements and standards may be higher in any area to allow for Service or Component PoE that may be mission area specific, but at a minimum the requirements for SPIES qualification are:

- (1) Demonstrate proper techniques for donning an approved harness with and without combat equipment and connecting the harness and equipment to the SPIES (personnel will ensure their individual harnesses are properly fitted and worn, with minimal slack in the leg straps to prevent the harness from riding up during infil/exfil).

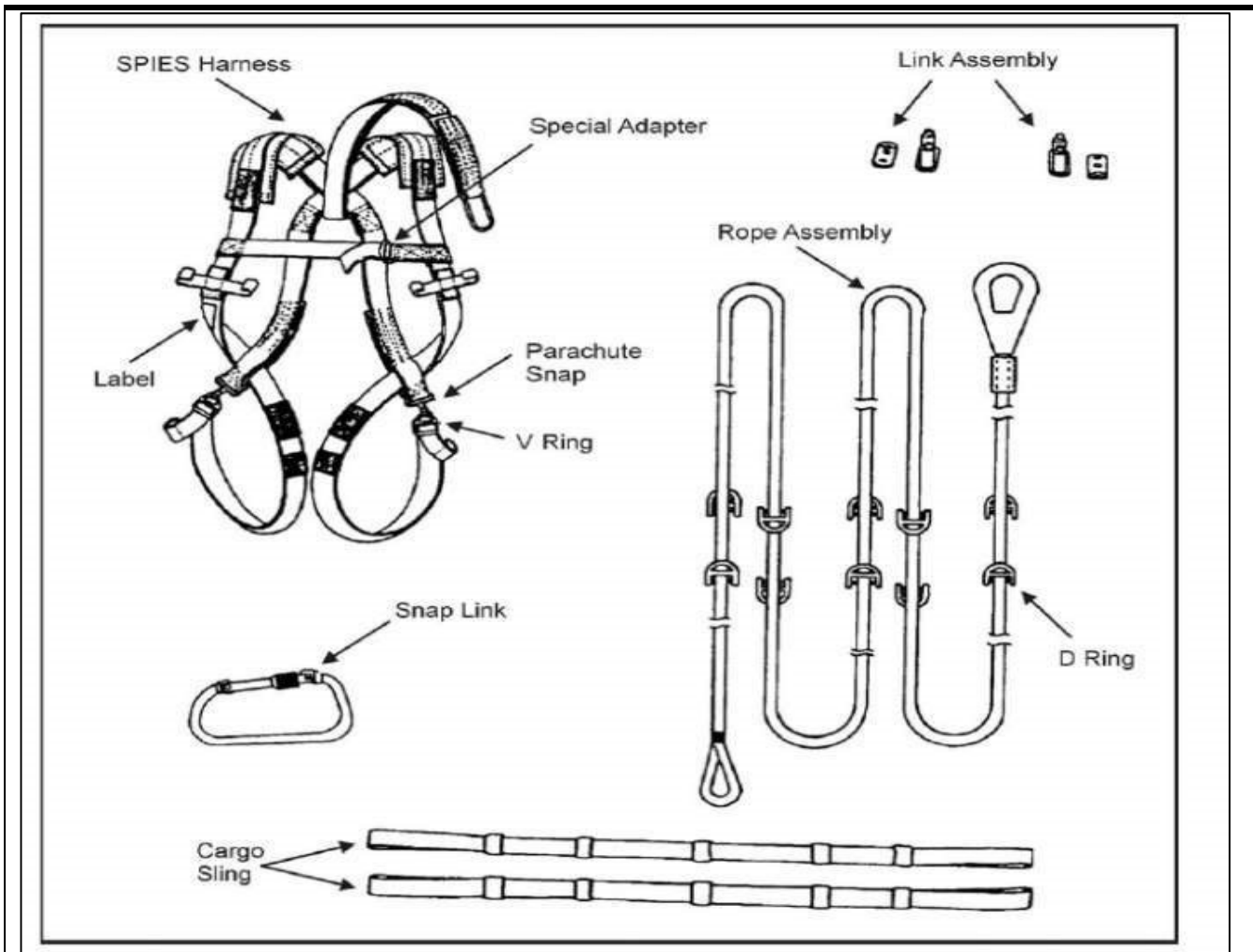


Figure 10-1. SPIES Equipment.

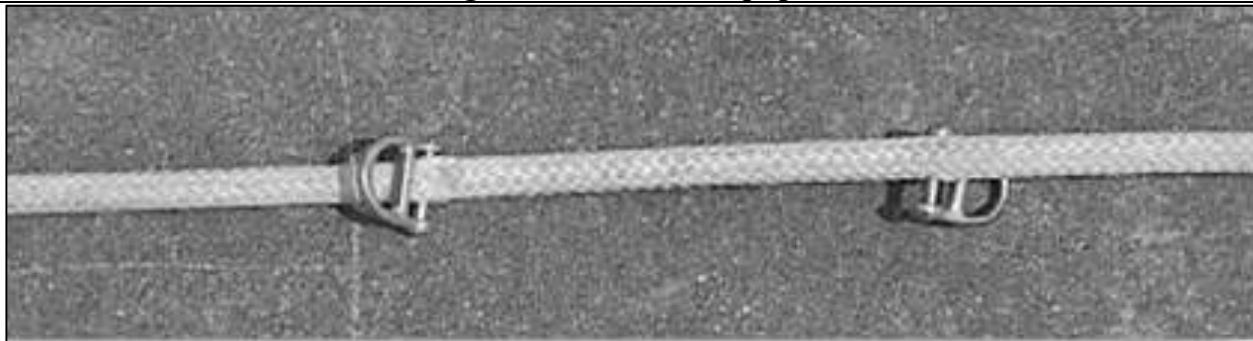


Figure 10-2. D-Rings Attached to the SPIES Rope.

(2) Should conduct two SPIES training iterations without equipment, (one (1) day/one (1) night).

(3) Should conduct two SPIES training iterations with combat equipment and weapon, (one (1) day/one (1) night).

c. **SPIES Sustainment Training.** Prior to conducting SPIES training, personnel will receive formalized training in the procedures to be used during SPIES operations within 72 hours prior to the operation. At a minimum, this training will include:

(1) Rigging and inspection of individual equipment. (See [Figure 10-3, 10-4](#))

(2) Rigging/inspection of aircraft and accompanying equipment (if applicable). (See Paragraph 10-11 for rigging configuration.)

(3) Hand and arm signals. (See [Appendix A](#))

(4) Safety requirements and emergency procedures.

d. **Dog Handlers.** Will conduct items 10-4.a., and 10-4.b., above and demonstrate the ability to conduct SPIES with a MPC.

e. **SPIES Refresher Training.** Refresher training is routinely conducted to maintain the acquired skills. Personnel who have not participated in SPIES operations during the past 12 months will undergo refresher training before being included in an operation. Refresher training for SPIES consists of:

(1) A complete review of the SPIES system, its purpose, capabilities, limitations, and emergency procedures.

(2) The execution of at least one day and one night SPIES operation.

(3) Aircrews will conduct refresher training IAW the appropriate Aircrew training manual and aviation unit SOPs.

10-5. SPIES Master (SPM). The SPM and Aircrew has responsibility in ensuring the safety of all ropers. The SPM is in charge of training on the ground, and while connected to the aircraft. The SPM ensures all equipment (installation, unit, and personal property) is serviceable. The SPM personally supervises SPIES training iterations. Selection of personnel for qualification as a SPM should be based on the individual's demonstrated leadership capabilities, maturity (E-4 or above), knowledge and experience of SPIES training and operations. Personnel are qualified to perform the SPM duties after they have met the requirements in paragraph 10-4.a., and 10-4.c., as well as the successful completion of the SPM training course while under the supervision/instruction of a current SPM. Training will include the following at a minimum:



Figure 10-3. SPIES Safety Line (Back and Front View).



Figure 10-4. SPIES Harness with Safety Line (Front and Back Views).

- a. Receive instructions and demonstrate proficiency on preparing the aircraft for SPIES operations.
- b. Receive instructions and demonstrate proficiency in the following SPM duties:
 - (1) Coordination procedures and responsibilities.
 - (2) Troop briefings.
 - (3) Throwing and retrieving ropes.
 - (4) Hand and arm signals.
 - (5) Emergency procedures.
- c. Personnel undergoing initial SPM qualification training will serve as SPM on at least one (1) day operation and one night operation from an aircraft. One of the two should be in combat equipment. One of which may be simulated.

10-6. SPIES Master Refresher Training. SPM refresher training is conducted IAW paragraph 10-4.e., and includes the execution of at least one SPM operation under the observation of a current SPM.

10-7. SPIES Master Sustainment Training.

- a. Rigging and inspection of individual equipment.
- b. Rigging/inspection of aircraft and/or tower/platform and accompanying equipment (if applicable).
- c. Hand and arm signals.
- d. Safety requirements and emergency procedures.
- e. Dog handler. If applicable, demonstrate knowledge on rigging, inspecting and the conduct of SPIES training and operations for MPC handler.

10-8. Personnel Duties and Responsibilities. The following personnel duties and responsibilities help to reduce/prevent accidents that occur when conducting SPIES operations. They also ensure thorough and effective training. All personnel involved in SPIES operations will plan and rehearse their tasks.

- a. **Unit CDR.** Prior to participation in training, the unit CDR will ensure subordinate CDRs and MCs screen all personnel to ensure they are physically and professionally able to participate in operations.

b. **AMC.** When more than one helicopter is involved in the operation, the employing aviation unit designates the AMC and their responsibilities include:

- (1) Ensuring all aircraft and Aircrews are at the appropriate locations for training, rehearsals and the operation.
- (2) Ensuring all Aircrew understand their responsibility concerning SPIES IAW this manual.
- (3) Ensuring all aircraft infil personnel on the designated objective.

c. **PC.**

- (1) The PC assumes the duties of the AMC on single ship missions.
- (2) Ensures the Aircrew and all non-Aircrew personnel are briefed and understand their responsibilities during SPIES operations, including aircraft safety and actions in the event of an emergency.
- (3) Ensures the SPIES equipment rigging is inspected for completeness and functionality with no visible metal fatigue or other structural weakness, and that it is installed properly.
- (4) Keeps the aircraft positioned over the objective with corrections from the crew as required.
- (5) Emphasizes procedural techniques for clearing, recovery, jettison of the SPIES and/or aircraft premature departure from the objective area.

d. **SPM.** A SPM will be designated for each aircraft and has overall responsibility for the safety of all personnel conducting SPIES operations, ensuring adherence to safety precautions outlined in this manual. The SPM is responsible for the following:

(1) **Preflight/Infil Duties.**

- (a) SPM coordination of all aspects of troop and unit preparation to include procurement of sufficient SPIES equipment for the operation.
- (b) SPM coordination of all support activities.
- (c) SPM proper preparation of SPIES equipment.
- (d) SPM briefs the pilot and other concerned personnel about details of the operation, especially the exfil and dismounting procedures.

(e) SPM makes requests through the Aircrew to keep the pilot informed throughout the operation and maintains communications with the Aircrew/SPM. SPM assignment of qualified personnel to the duties of SPM and other key positions as required by the operation.

(f) SPM strict adherence to procedures for the planning, preparation and execution of the operation as outlined IAW current Service and Component directives, regulations and manuals as well as the references in the [Glossary--Section III](#) of this manual to include current AWR/FC/unit SOP and local directives related to the specific training.

(g) SPM ensures the AMC or PC is briefed on the training being conducted.

(h) SPM ensures SPIES operations are conducted over terrain that permits the Aircrews/SPMs to have visual contact with the ground or vegetation.

(i) SPM will coordinate with Aircrew to ensure a headset is available for use.

(j) SPM will use a restraint device during the operation.

(k) SPM will rig or supervise the rigging of the aircraft and attaches the SPIES rope to the helicopter IAW the guidance in this Chapter.

(l) SPM/Aircrew checks the location of the emergency cutting device. Places the device where readily available, yet secure enough so as not to endanger personnel on the SPIES rope.

(m) SPM ensures that all personnel understand the techniques and responsibilities for SPIES operations.

(n) SPM/Aircrew performs safety and serviceability checks on all SPIES and rigging equipment.

(2) Extraction Duties.

(a) SPM, on arrival at the unit estimated position, assists the Aircrew member in determining the exact location of all personnel.

(b) When instructed by the pilot, the Aircrew will signal the SPM to deploy the SPIES rope when the aircraft is hovering above the unit.

(c) SPM deploys the rope, taking care to avoid striking personnel on the ground.

(d) Aircrew notifies the pilot when the rope is on the ground, and reports all altitude corrections needed to ensure personnel reach all SPIES system attachment points.

(e) Aircrew watches for the “thumbs-up” signal from all personnel.

(f) Aircrew, on receipt of the “thumbs-up” signal, advises the pilot the unit is ready for exfil and requests a vertical liftoff.

(g) Aircrew advises the pilot of the unit position, the location of any potential obstacles, and the avoidance of horizontal movement (reword all to clarify SPM and CM duties).

(h) If a member becomes entangled with an obstacle during exfil, the Aircrew notifies the pilot and requests the vertical lift be stopped. If the situation is critical, SPM prepares to cut the SPIES rope (the anchor point or cargo straps) after the personnel are secured to the obstacle or on the ground. On the H-47, only the Aircrew will perform this function.

(i) When positive all obstructions are clear, the Aircrew advises the pilot to obtain a safe altitude that provides at least 100 foot clearance between SPIES personnel and known obstacles for training.

(j) At frequent intervals during the flight, Aircrew advises the pilot on the safety status of all personnel. Maintains a constant visual cross-check with personnel, SPM, and airspace surveillance. SPM maintains a constant watch on the team and frequently checks security of the SPIES system attachments.

(3) Dismounting Duties.

(a) On arrival at the dismounting area, Aircrew informs the PC as to the approximate distance of the rope from the ground.

(b) Once the PC starts the vertical descent, Aircrew continually informs him as to the approximate distance of the rope from the ground.

(c) Aircrew informs the PC of any horizontal drift that occurs and any obstructions near the SPIES rope. Also informs the pilot of any oscillation that may occur.

(d) Aircrew informs the PC when the rope is about 25 feet above the ground and again when it is 10 feet above the ground. Ensures the rate of descent is slow enough to enable personnel to touch down and get out from under other personnel safely.

(e) Aircrew reports when the first man initially touches down, when the last individual begins to move away from under the helicopter, and when all personnel are disconnected.

(f) Aircrew or SPM, on order of the pilot, either retrieves the SPIES rope into the aircraft or disconnects the SPIES rope and drops it to the ground.

(4) When using the UH-1/H-60 aircraft, the only way to retrieve the SPIES rope while in the air is by having a pre-attached recovery rope with a 16-foot sling rope. In some cases, the SPM joins two 12-foot-long sling ropes to haul the SPIES rope aboard and attaches the rope five to six feet below the cargo hook or cargo strap hook-up point.

(5) The type of knot used to connect the sling (or recovery) rope to the SPIES rope is self-tightening in nature (for example, the prusik knot). The SPM fastens the standing end of the sling rope to the deck tie-down or uses a snap link.

(6) Although it is important to keep the line out of the way, the primary consideration is its length. The retrieval rope must be long enough to account for any oscillation in the SPIES rope during flight.

e. **Safety Officer.** The SO is responsible for safe and efficient exfil missions. His duties are as follows:

(1) Ensures radio or visual signal communication with the SPM or Aircrew. Radio communication is required for training.

(2) Ensures all personnel have properly hooked up to the extraction rope, and verifies hook-up of the personnel safety sling.

(3) Ensures personnel and ropes are clear from all obstacles.

(4) Signals the SPM that personnel are ready for exfil.

(5) Assists personnel as they land at the let-down area.

f. **Individuals.**

(1) Understand all aspects of the SPIES system and emergency procedures. See **WARNINGS**, **CAUTIONS** and **NOTES** in Section 10-9.

(2) Ensure correct equipment configuration.

(3) Ensure carried equipment's dimension or bulk will not interfere with the ability to safely execute SPIES operations.

10-9. Equipment.

a. **Repair and Cleaning of Equipment.** Ropes are washed with a mild detergent, such as liquid dish soap, and cold water followed by a rise in clean, fresh water. Ropes are dried at a temperature not to exceed 140 degrees Fahrenheit. Oil, grease, hydraulic fluid, and other petroleum stains can be removed with the cleaning agent xylene (Grade A or B, TT-X 916).

b. **Storage of Equipment.** To avoid ultraviolet deterioration, the nylon materials should be protected from direct sunlight. The SPIES rope is stowed in an aviator's kit bag for protection when not in use. Bins or similar facilities are used for storage of SPIES equipment. Areas used for storage should be well ventilated and free of oil, acid, cleaning compounds, and other contaminants. Equipment must not be stored above or near hot water pipes or heating appliances.

10-10. Live Fly SPIES Training Considerations.

a. **Operational Requirements.** The following section discusses the medical and communications requirements, and the procedures to follow during unusual conditions (adverse weather/terrain conditions, night operations). Personnel must use sound judgment to determine what action to take depending on the nature and severity of the condition.

(1) **Adverse Weather Conditions.** Rappel operations will not be conducted under the following conditions:

(a) Wind chill factors caused by rotor downwash, cruise airspeeds, and duration could cause cold weather injuries through exposure.

(b) The rope is exposed to the elements for a sufficient length of time to freeze, thereby reducing its tensile strength.

(c) Conditions, to include blowing particles produced by rotor downwash that cause the Aircrew or SPM to lose visual contact with the ground.

(2) Night Operation Requirements.

(a) Two chemlights/light sources will be attached at the bottom end of the rope, one five feet higher and one at ten feet above the closest D-ring to the aircraft to aid in determining the relationship of the SPIES rope to the ground. The SPM should use the chemlight ten feet above the D-ring closest to the aircraft to monitor proper altitude for hookup).

(b) Individual Component and sub-unified CDRs will establish training, policy and procedure for use of NVDs.

(c) **Medical Coverage.** See requirements in paragraph 7-8.

(d) **Communications Requirements.** Communications between Aircrew and SPM will be maintained throughout the training iterations as pre-briefed.

10-11. Aircraft SPIES Training Iterations.

a. SPIES Operating Procedures.

(1) **Land.** The SPIES system is used only when the unit requires immediate extraction or is unable to move to a clear (open) position suitable for helicopter landing.

(a) Once the aircraft is established in a stabilized hover at an altitude to put a sufficient amount of rope on the ground, the pilot will call for the rope to be deployed. The SPM/Aircrew will deploy the rope, monitor the unit, and keep the pilot advised of the unit's progress.

(b) Personnel will hook into the d-rings using their primary (harness) and their secondary (safety line) hook-up points and turn to face the direction the rope is headed. Personnel will pass a "thumbs up" to the unit leader. When all members are secure and ready, the unit leader will give the Aircrew member a "thumbs up." At night, prearranged light signals may be used. If possible, the unit radio operator will hook-up close to the bottom of the rope and maintain radio contact with the helicopter in order to provide a verbal backup for the extraction, the clearing of obstacles, and the descent into the LZ.

(c) The SPM/Aircrew will clear the pilot for vertical ascent using standard voice commands and notify the pilot as each member clears the ground. When the last member is airborne, the pilot should make specific note of the radar altimeter reading to determine obstacle clearance and to assist during the infil process. Aircrew advises the pilot to obtain a safe altitude which provides at least 100 foot clearance between SPIES personnel and known obstacles for training. PC will determine safe altitude for combat operations based on terrain, obstacles, and enemy situation. Once the SPIES rope is clear of all obstacles, the pilot will slowly accelerate (do not exceed 70 KIAS under normal conditions or 50 KIAS during cold weather and water operations) and proceed to a secure area.

(d) Upon reaching a safe area, the pilot will transition to a high hover and descend vertically as the Aircrew member relays distance to ground information. Aircraft rate of descent should be less than 300 feet per minute. As each individual reaches the ground, they will immediately move out from under the man or men above them and unhook themselves as rapidly as possible. The SPM/Aircrew member will retrieve the rope prior to the aircraft departing the area or landing in the LZ.

(2) Water Extraction.

(a) The SPIES is also suitable for the exfil of swimmers from the water (wet-SPIES). For this procedure, tie life preserver unit bladders or any type of flotation device to the SPIES rope to provide buoyancy for the rope while in the water. Attach a flotation device at each d-ring attachment point area and one additional flotation device at the top of attachment point area to provide buoyancy for the rope while in the water. SPIES harness should not hinder activation or inflation of Service approved floatation devices.

(b) After the pilot has established a stable hover over the swimmer's location, the Aircrew member will deploy the rope with flotation devices attached. When all personnel have completed their hook-up, the team leader will signal the Aircrew member with a "thumbs up" to commence the liftoff.

(c) The pilot will initiate a vertical climb until all personnel are clear of the water. Personnel should know that during initial lift off they will be dragged through the water, and should be prepared to roll on their backs until clear of the water.

b. Inspection Areas. The SPM and Aircrew conducts a joint inspection of the aircraft to ensure the safety of all personnel and serviceability of equipment and cover critical roping safety considerations.

(1) Ensure seats are configured or removed as briefed.

(2) Cargo doors are locked in the open position or cleared for closing, depending on the mission. If no locks are present, remove doors to include small cargo doors.

(3) All loose objects in the cargo compartment are secured or removed.

(4) Tie-down fittings are serviceable.

(5) Ensures primary and secondary anchor points are serviceable and securely attached to the aircraft structure.

(6) If applicable, remove all seats.

(7) If applicable, the headset/helmet and INTERCOM jack for the SPM is secured overhead.

(8) Serviceable restraint harness is available for the SPM (provided by supported unit).

(9) All rope(s) are retrieved or released before forward movement/descent of vertical lift aircraft.

(10) Personnel, each wearing a harness with an attached snap link, hook into the SPIES rope d-ring. A second safety rope and snap link is used and connected to the upper or lower d-ring of the rope but not the same d-ring as the primary attaching point. The aircraft lifts vertically until the personnel and the rope are clear of all obstructions and then transitions to forward flight. Airspeeds, altitudes, and oscillations must be closely monitored.

c. Aircraft Rigging.

(1) **UH-1.**

(a) **Equipment.**

1. One 120-foot SPIES rope with deployment bags.

2. Two 11-foot, three or four loop cargo slings or two nine-foot, three or four loop cargo slings.
3. Two Type IV connector links (four links if the aircraft does not have cargo hooks).
4. Heavy duty tape (100 mph).
5. One 12-foot sling rope or similar.
6. Five oval snap links (nine if the aircraft does not have cargo hooks).
7. Padding for slings.
8. Optional: 4 X 4 wood shoring for emergency cutting of slings without damaging aircraft.
9. Cutting device (axe).

(b) Installation.

1. The primary attachment point for the SPIES rope is the cargo hook. The end of the SPIES rope has a polyurethane encapsulated eye that is attached to the cargo hook. The two nine or 11-foot cargo suspension slings are joined to form one continuous sling using a Type IV link. The sling is stretched out on the aircraft floor. One end is taken under the aircraft and through the eye of the SPIES rope. It is then connected on the other end of the sling using a Type IV link assembly. The sling must pass between the aircraft skids and the fuselage. Padding is used around the edge of the cargo hatch to protect the sling from damage.

2. Once the SPIES rope and cargo straps are in place, the straps running across the deck of the aircraft are secured in place by at least four and as many as eight snap links. The snap links are spaced evenly across the floor and alternated from one side of the strap to the other and top to bottom. Thus, the first snap link can be to the rear of the strap, wrapping around the bottom two straps. The next snap link is in the front of the cargo strap and around the top two sections of the strap. This process continues until at least four points are established.

3. If eight snap links are available, each tie down has two snap links connecting the same spot, and the swing gates are reversed. If no hook is available or not working properly, the SPIES system can be used safely by doubling the cargo slings and Type IV links. Two cargo straps are side by side with a total of four slings and four Type IV links. Padding is used around the edge of the cargo hatch to protect the sling from damage. Optional 4 X 4 wooden shoring may be used to allow emergency cutting of slings without damage to aircraft.

(2) H-60.

(a) Equipment.

1. One 120-foot SPIES rope with deployment bag.

2. Two 11-foot, three or four-loop cargo slings or two nine-foot, three or four-loop cargo slings.
3. Two Type IV connector links (four if aircraft does not have cargo hook).
4. Heavy duty tape (100 mph). Use to secure chemlights/light sources to rope and excess straps as required.
5. One 12-foot sling rope.
6. Five oval snap hooks (nine if the aircraft does not have cargo hook).
7. Optional: 4 X 4 wooden shoring to allow emergency cutting of slings without damage to aircraft.
8. Cutting device (axe).

(b) Installation.

1. The primary attachment point for the SPIES rope is the cargo hook (See [Figures 10-6](#)). The end of the SPIES rope has a polyurethane encapsulated eye attached to the cargo hook (See [Figure 10-6](#), [10-7](#)). The two nine or 11 foot cargo suspension slings are joined to form one continuous sling using a Type IV link. The sling is stretched out on the helicopter deck. (See [Figure 10-8](#)) One end is taken under the helicopter and through the eye of the SPIES rope. It is then connected on the other end of the sling using a Type IV (See [Figure 10-9](#)) link assembly.



Figure 10-5. H-60 Suspension Slings Connected by Type IV Links.



Figure 10-6. H-60 SPIES Rope Connected to H-60 Cargo Hook and Sling.



Figure 10-7. H-60 SPIES Rope Connected to H-60 Cargo Hook and Sling (close up view).



Figure 10-8. H-60 Placement of Wood Block.



Figure 10-9. H-60 Placement of Type IV Link.

2. Once the SPIES rope and cargo straps are in place, the straps running across the deck of the helicopter are secured in place by at least four and as many as eight snap links (See [Figure 10-10](#)). The snap links are spaced evenly across the deck and alternated from one side of the strap to the other and top to bottom. Thus, the first snap link can be to the rear of the strap, wrapping around the bottom two straps.

The next snap link is in the front of the cargo strap and around the top two sections of the strap. This process continues until at least four points are established.



Figure 10-10. H-60 Placement of Four Pairs of Snap Links.

3. If eight snap links are available, each tie down has two snap links connecting the same spot, and the swing gates are reversed. (See [Figure 10-11](#)) If no hook is available or not working properly, the SPIES system can be used safely by doubling the cargo slings and Type IV links. (See [Figure 10-12](#)) Two cargo straps are side by side with a total of four slings and four Type IV links.



Figure 10-11. H-60 Snap Links Connected to Sling and Ring, Gates Reversed.



Figure 10-12. H-60. Snap Links Alternating on Strap.

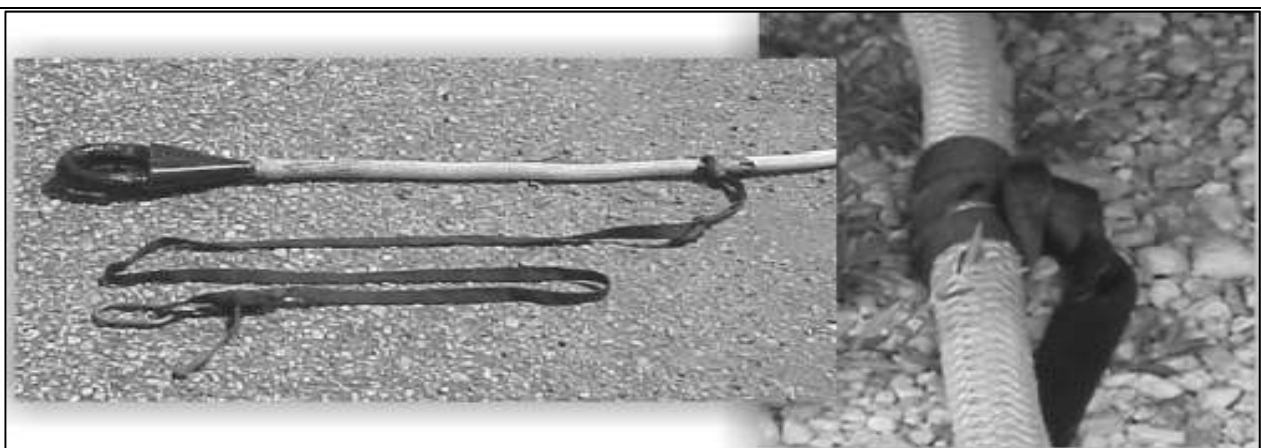


Figure 10-13. Recovery Rope Tied to SPIES Rope.



Figure 10-14. H-60. Recovery Rope Connected to SPIES Rope and Aircraft.



Figure 10-15. H-60. Rigging Complete.

4. Optional: 4 X 4 wooden shoring to allow emergency cutting of slings without damage to aircraft.

(3) **H-47.**

(a) **Equipment.**

1. Two 11-foot, three loop slings.
2. Two nine-foot, three loop cargo slings.
3. Four Type IV connectors.
4. One 13-foot sling rope or similar.
5. Heavy duty tape (100 mph).
6. Padding as required.
7. Optional: 4 X 4 wooden shoring to allow emergency cutting of slings without damage to aircraft.
8. Cutting device (axe).

(b) **Installation.**

1. The SPIES rope is attached using two nine or 11-foot cargo suspension slings and four Type IV links. The cargo slings are passed through the encapsulated eye of the SPIES rope and attached to the outboard cargo tie-down rings on the aircraft floor. Two tie-down rings are used for each sling. Padding is used around the edge of the cargo doors to protect slings from damage.

2. When possible, the cargo straps are placed to form two U shapes. One strap is placed forward of the cargo hole in the center of the aircraft floor and one AFT or toward the rear of the helicopter. Installed properly, the cargo straps hold the SPIES rope comfortably in the center of and slightly below the opening of the cargo hatch.

3. The use of snap links attached close to all four tie-down points not only ensures a backup in case of a faulty tie-down ring, but also reduces the amount of movement in the cargo suspension straps. A total of eight snap links are used for added security, two at each point with the swing gates reversed.

5. Optional: 4 X 4 wooden shoring to allow emergency cutting of slings without damage to aircraft.

(c) SPIES Preparation.

1. Remove the three ramp extensions.

2. Insure floor area is free of any oil.

3. Remove the forward door/step and install probe cover (MH-47).

4. If water extraction is expected, attach a flotation device at each d-ring attachment point area and one additional flotation device at the top of attachment point area to provide buoyancy for the rope while in the water.

5. Inspect the forward and aft FRIES system for cracks, corrosion, and security IAW the AWR. Tape the edge of the ramp and all sharp objects. Extend the aft FRIES bars to the pre-briefed length. Remove the quick release pin from the release bar assembly and apply upward pressure to release handle.

6. Rig the SPIES rope to the FRIES bar by inserting the woven loop of the SPIES rope through the gate and securing the gate into the receptacle. Install the quick release pin into the release bar assembly.

(4) V-22.

(a) Use two nine foot cargo suspension slings and four Type IV connectors to attach the SPIES rope to the aircraft.

(b) Pass the nine foot cargo slings through the encapsulated eye of the SPIES rope below the cargo hook (if present) (See [Figure 10-16](#)) and attach the Type IV connector to the following cargo tie down rings located at the appropriate stations;

1. Ring 1 location – LBL 8.9B/ STA 396.46 to ring 3 locations LBL 34A/ STA 464.50.

2. Ring 2 locations – RBL 8.9C/ STA 396.46 to ring 4 locations RBL 34D/ STA 464.50.

(5) **MV-22.** The MV-22 aircraft is rigged for SPIES operations IAW Air NTTP 3-22.3.



Figure 10-16. V-22 AFT Cargo Hook Hatch Opened for SPIES Operations.

10-12. Emergency Procedures. While in flight, Aircrew controls passenger movement in the aircraft and communicates changes to the operation to the personnel. During emergencies, communications is paramount between Aircrew and SPM. Personnel will conduct emergency procedures IAW units SOPs and pre-mission brief. Briefing considerations include but are not limited to the following common emergencies:

- a. Fouled/snagged rope.
- b. Knotted rope.
- c. Premature lift off.
- d. Unintended drift.
- e. Unintentional/premature deployment of ropes.
- f. No communications.

- g. Roper in distress.
- h. Hoist failure.
- i. Fouled cable.
- j. Device entanglement.
- k. Premature exit of aircraft.
- l. Equipment restraint failure.

10-13. Signals and Commands.

- a. All signals and commands between the Aircrew and the supported unit will be coordinated.
- b. Hand signals for directing helicopter movement are contained in [Appendix A](#).
- c. Emergency signals from Aircrews to supported unit will be briefed for operations.

CHAPTER 11

LADDER

11-1. General. Ladder operations are used to provide a means of infil/exfil of personnel by helicopter from areas which prohibit helicopter landings.

11-2. Objectives.

- a. To prescribe qualification and training requirements for maintaining proficiency in the conduct of ladder operations.
- b. To prescribe safety requirements, ladder methods, equipment, and rigging procedures in the conduct of ladder operations.
- c. To define the duties and responsibilities of key personnel during ladder operations.

11-3. Safety.

- a. A detailed risk analysis/assessment will be conducted prior to vertical lift ladder insertion training.
- b. **Briefing.** Before conducting vertical lift ladder training, a safety briefing will be conducted IAW unit/component SOPs to all personnel conducting ladder training. The following minimum safety briefing requirements for ladder training:

- (1) Identification of key personnel, their duties, and responsibilities.
- (2) Area hazards.
- (3) General aircraft safety.
- (4) Ground operations and loading.
- (5) Safety warnings/commands.
- (6) Ladder and personal equipment inspection.
- (7) Spreading/lowering of ladders.
- (8) Movement within the aircraft.

(9) Sea State/s (if applicable) will be considered as part of the risk assessment. For training, water operations will not be conducted if Sea State is in excess of state 3' (3 foot chop, 4 foot swell).

(10) Emergency procedures.

(11) Equipment associated with ladder training and its characteristics.

(12) Dog handling equipment inspection (if required).

(13) Service-approved helmets, eye and hearing protection will be worn during all ladder training.

(14) Weapons are slung.

(15) Loose clothing and equipment are secured.

(16) Hand and arm signals/emergency signals.

(17) Medical coverage.

(18) Communications requirements.

(19) Night operation requirements.

(20) Personnel participating training that involves intentional infil/exfil into the water will successfully complete and be current in a swim qualification/test IAW Service regulations. CDRs at all levels will ensure personnel being trained have the appropriate swimming qualifications and required equipment to safely accomplish all required training tasks.

c. Guidance.

(1) Personnel on the surface should steady the ladder for ascending/descending personnel whenever possible.

(2) A Service-approved helmet and eye protection are mandatory for ground operations.

(3) During water operations training, safety boats will be deployed IAW with Service guidance and/or unit SOPs. All boat crew personnel will wear Service approved floatation devices. Safety boats must be of a type and capacity to effect recovery of personnel. During water operations training, safety boats (one boat per 20 swimmers is recommended) with motors running must be present prior to conducting overwater operations. The boat operators will be trained to operate the equipment they are using.

All boat crew personnel will wear PFDs. Multiple aircraft operations conducting simultaneous training operations require one safety boat per aircraft. During water operations training, safety boats will move parallel and a minimum of 50 meters, not to exceed 100 meters, left or right of the aircraft flight path. Safety boats must be of a type and capacity to effect recovery of personnel.

(4) A minimum of one safety swimmer will be aboard each safety boat. IAW service requirements, the swimmer will be a graduate of the Combat Diver Qualification Course, a USSOCOM-approved waterborne infil course, scout swimmer course, or a current Red Cross lifesaver or water safety instructor course. The safety swimmer must have swim fins, a face mask, and a Service-approved Service approved flotation devices to help personnel, as needed. The swimmer cannot be the boat driver.

(5) A Service-approved Service approved flotation devices is required during water operations.

(6) Attach a chemlight/light source to themselves during overwater/night operations.

(7) During suspended ladder operations, personnel will be secured to a tension bearing portion of the ladder prior to the aircraft departing into forward flight.

(8) Maximum load will not exceed ladder/aircraft limits.

(9) Aircraft should keep well clear of ground obstacles.

(10) Ladders must be recovered and secured prior to forward flight when no equipment or personnel are attached.

d. Warnings, Caution, and Notes.

WARNING: Personnel will not wear a MILES harness during any helicopter infil/exfil operation that uses ropes, ladders, hoist, or flotation devices.

WARNING: For intentional overwater ladder operations, flotation devices may be inflated to 1/3 of their total capacity (or as pre-briefed). Personnel must understand this could hinder their egress during an aircraft accident/ditching sequence.

WARNING: Ladders will discharge static electricity generated by the aircraft. Do not permit personnel to make contact with the ladder until after it has contacted the surface.

WARNING: For emergency exfil, when personnel are secured to the ladder, aircraft must keep clear of ground obstacles, power lines, trees, and/or buildings. Aircraft must not exceed pre-briefed airspeed and banking turns, based on aircraft restrictions.

WARNING: Excessive airspeed with ladder loads may damage ladder aircraft anchors, potentially causing personnel injury/death and/or damage to aircraft systems.

WARNING: Do not deploy the ladder when personnel are directly below the aircraft as injury is possible from being struck by the ladder.

WARNING: Service approved floatation devices, if inflated prior to exiting the aircraft, may hinder emergency egress from downed, underwater aircraft.

WARNING: For V-22 operations, personnel should be aware of the significant water spray created by aircraft downwash. This is significant in that it may reduce swimmer awareness and breathing ability.

NOTE: If assets are available, and time allows, sustainment training should include rehearsal with actual mission loads and special equipment.

11-4. Personnel Qualification Requirements.

a. **Initial Training.** All personnel will successfully complete the initial ladder training listed below before beginning ladder qualification training in paragraph 12-4.c.:

- (1) Personnel will be briefed on ladder equipment and purpose, capabilities, limitations, and emergency procedures.
- (2) Personnel will be briefed on the duties and responsibilities of the PC and Aircrew members.
- (3) Requirements in [Chapter 7](#), for water operations.

b. **SOF Standard for Ladder Qualification.** Upon completion of a USSOCOM recognized school/course, Ladder-qualified personnel will have met all standards at the appropriate levels. Component training requirements and standards may be higher in any area to allow for Service or Component PoE that maybe mission area specific. At a minimum, requirements for Ladder qualifications are:

- (1) Demonstrate use of all required ladder equipment.
- (2) Demonstrate donning of harness, rappel seat and/or safety line to include ladder hook-up.
- (3) Define and identify unsafe attachments or equipment related to ladder training.
- (4) Define terms used in ladder operations.
- (5) Demonstrate knowledge of all ladder commands.

(6) Conduct one ladder training iteration.

c. **Ladder Sustainment Training.** 72 hours prior to conducting ladder training, units will receive formalized training in the procedures to be used during ladder operations. At a minimum, this training will include:

(1) Rigging and inspection of individual equipment.

(2) Rigging/inspection of aircraft and accompanying equipment. See [Figures 11-1 through Figure 11-12](#).

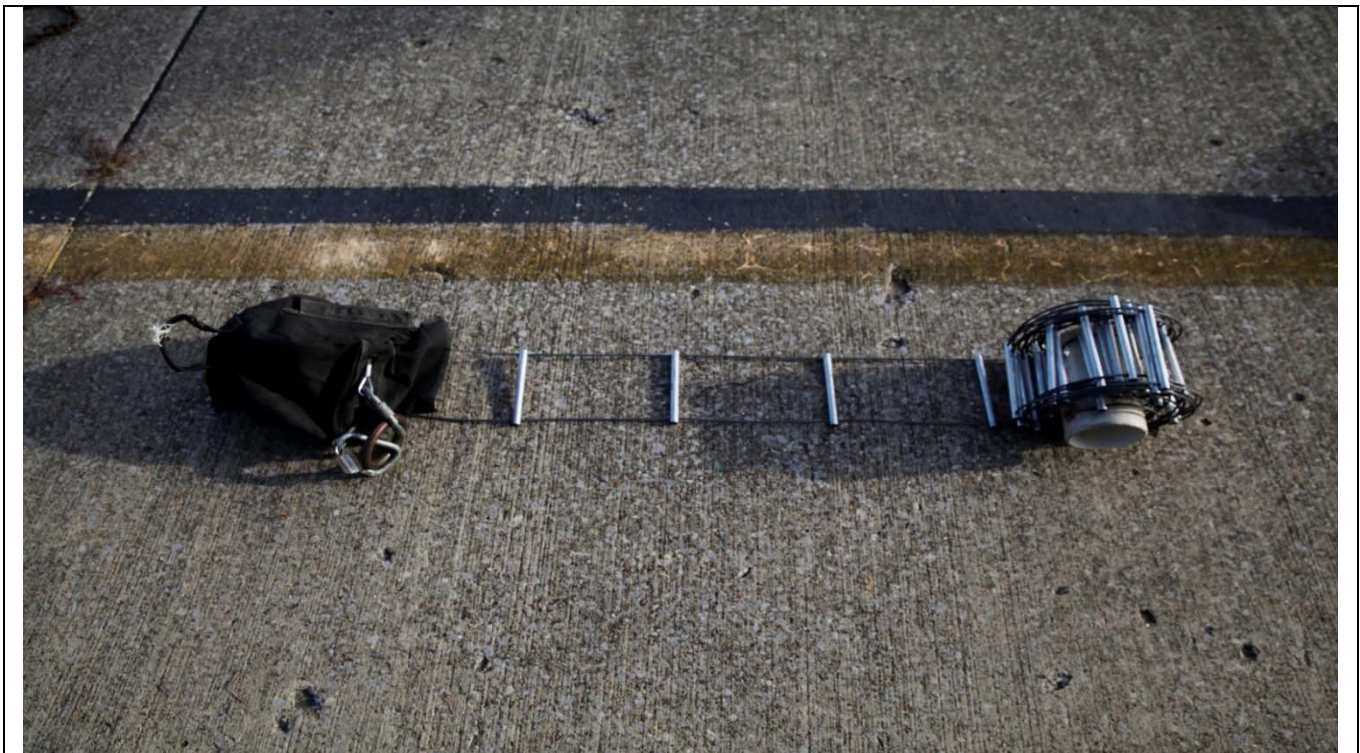


Figure 11-1. Caving Ladder

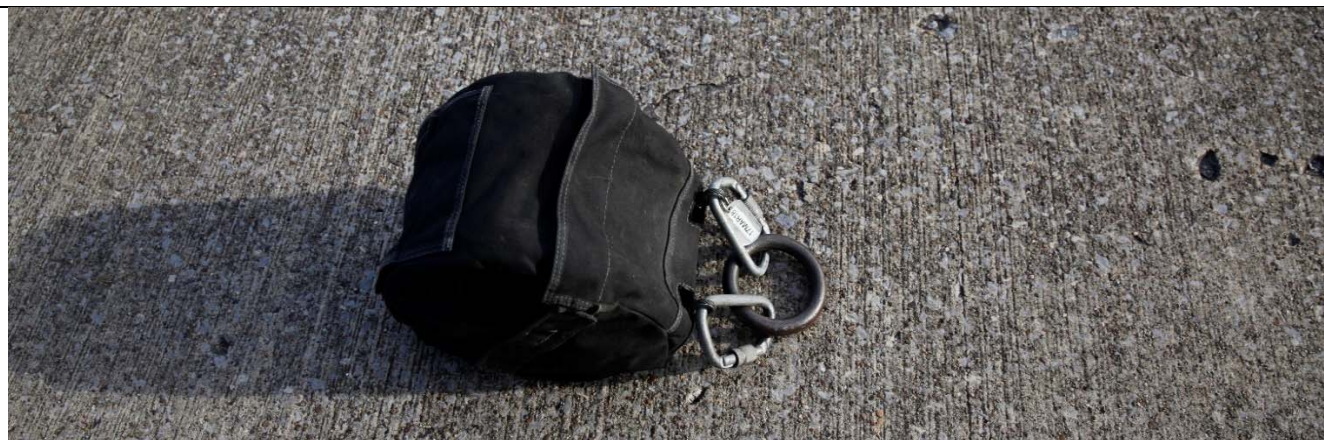


Figure 11-2. Caving Ladder Stowed.

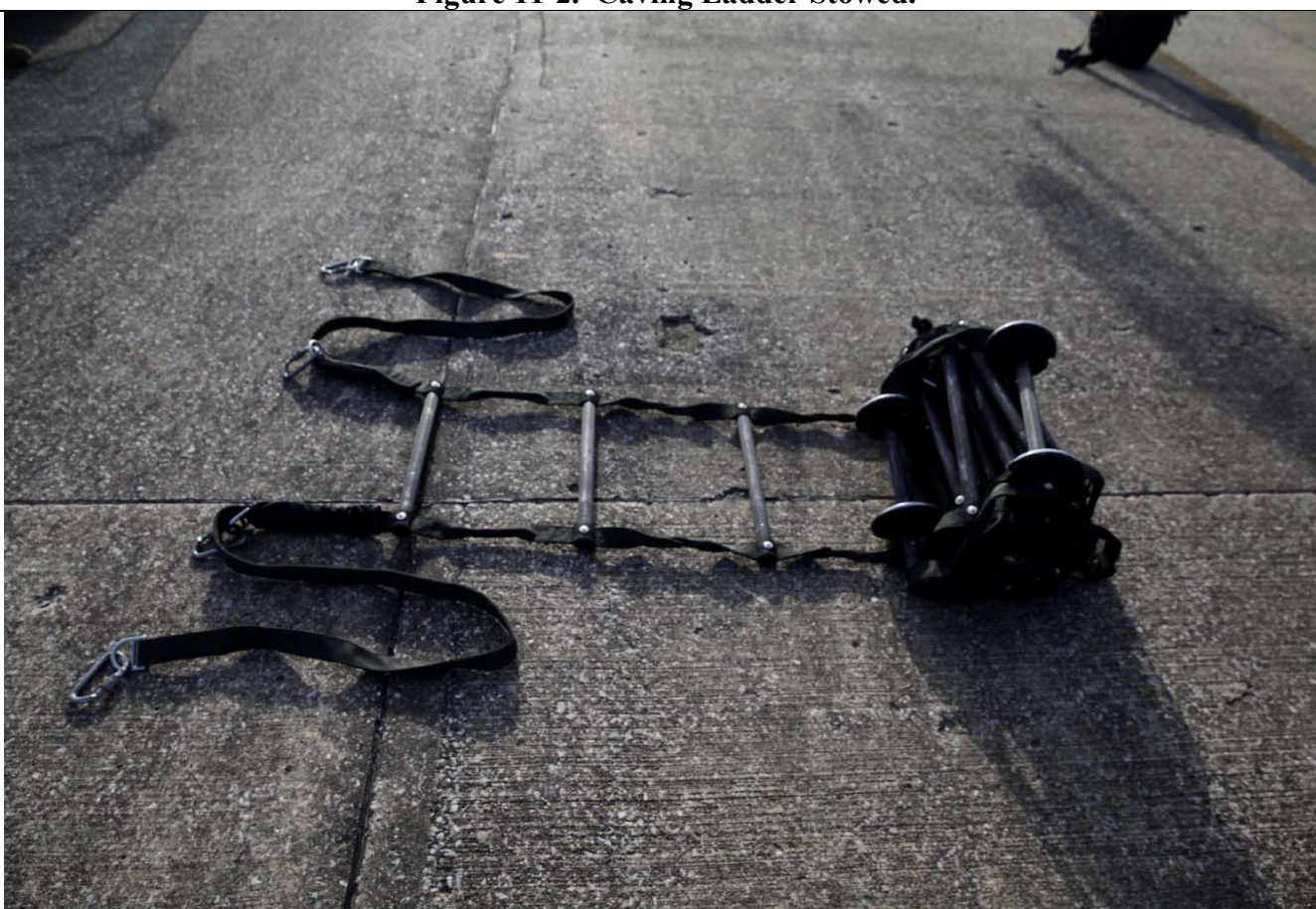


Figure 11-3. ELD800PD (SPECOPS Ladder)

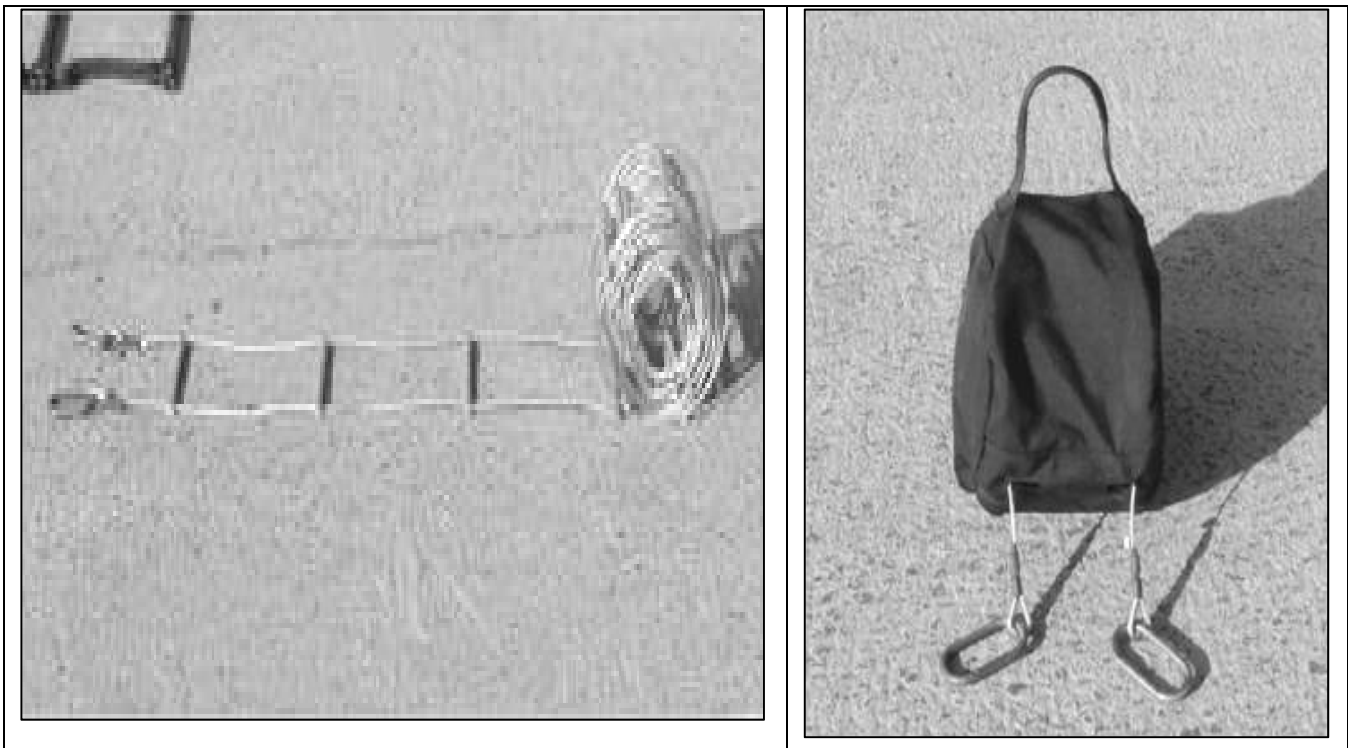


Figure 11-4. Caving Ladder.

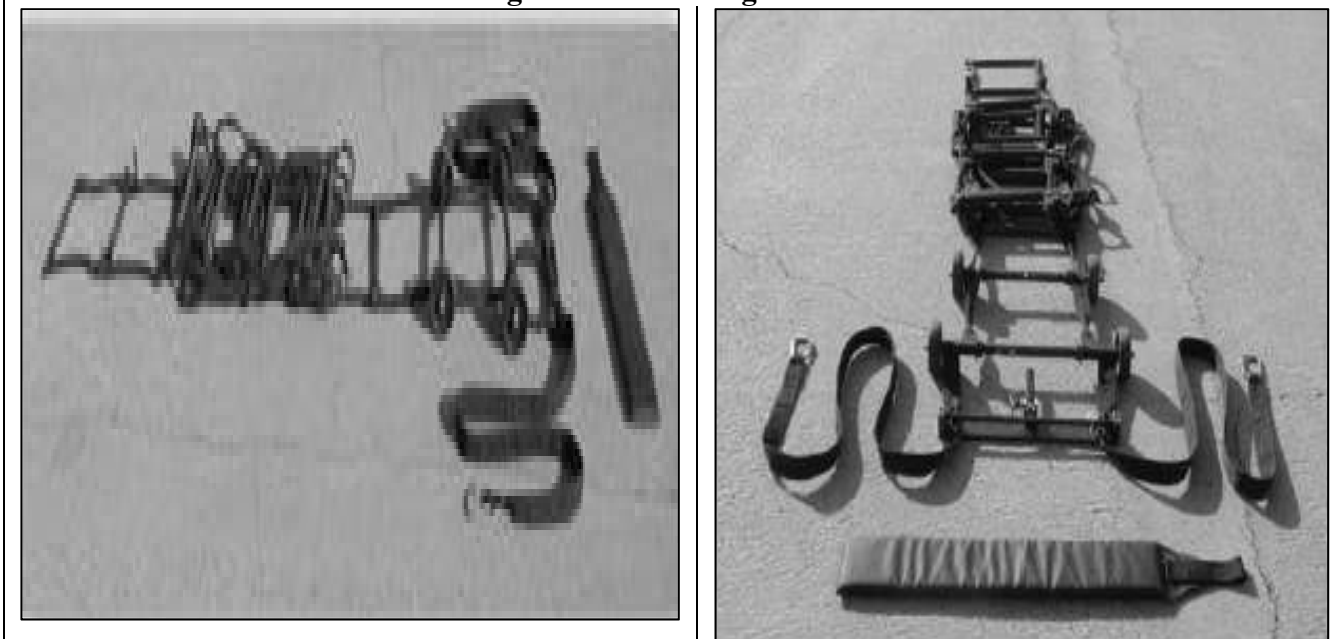


Figure 11-5. Nylon Ladder Attached to the H-60 and H-47 Versions.



Figure 11-6. Caving Ladder Attached to FRIES Bar (H-60).

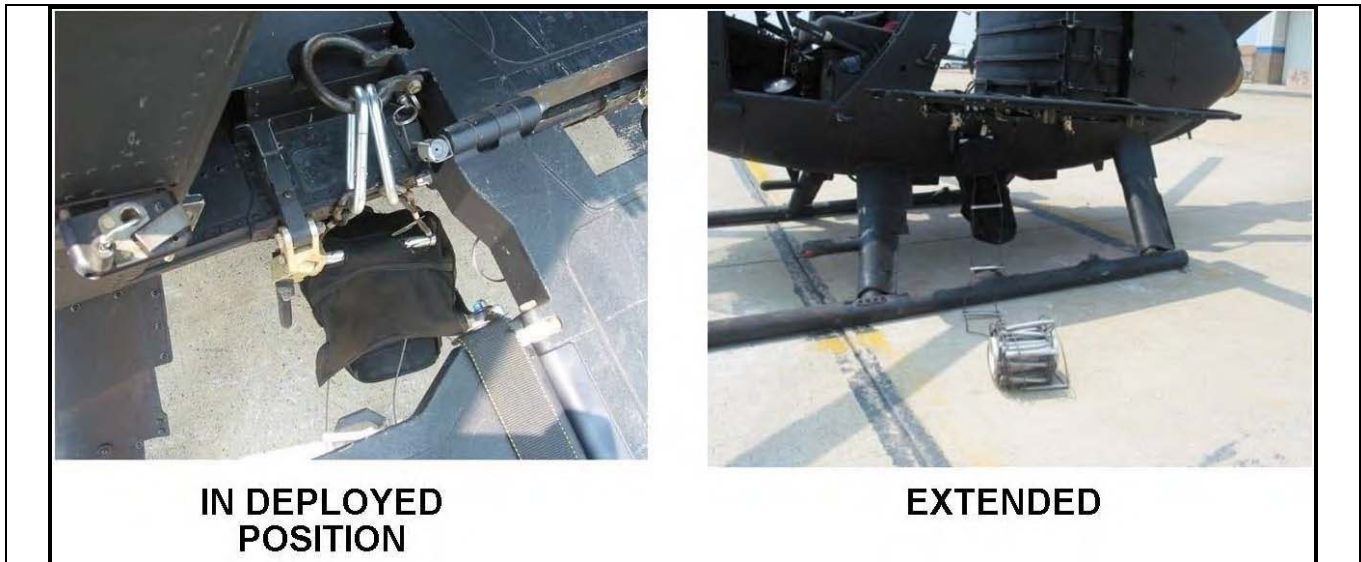


Figure 11-7. Caving Ladder Attached to MH-6.



Figure 11-8. Caving and Jacob's Ladder Attached to the FRIES Bar of an H-60.



Figure 11-9. Nylon Ladder attached to FRIES Bar.

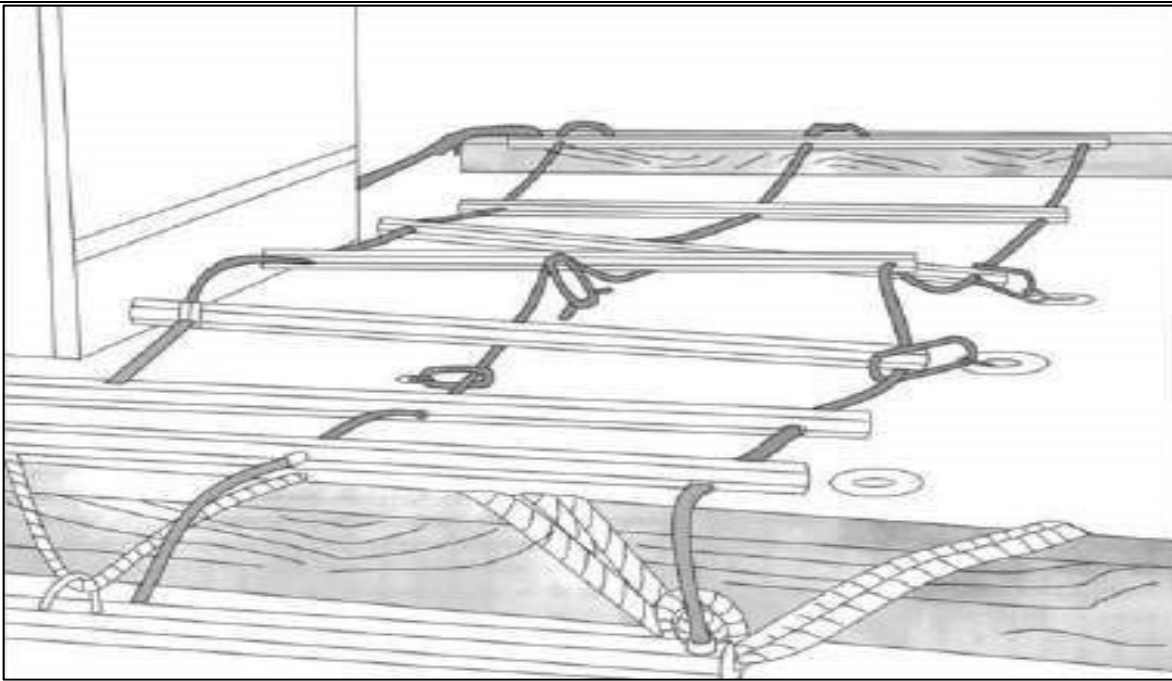


Figure 11-10. Installation of Ladder in an UH-1.



Figure 11-11. Nylon Ladder Connected to 5,000 and 10,000-Pound Cargo Tie-Downs of the H-47.



Figure 11-12. Jacobs Ladder Attached to H-60 Tie-Downs.

- (3) Hand and arm signals.
- (4) Safety requirements and emergency procedures.
- (5) Rehearsals.

e. **Refresher Training.** Refresher training is routinely conducted to maintain the acquired skills. Personnel who have not participated in ladder operations during the past 12 months will undergo initial training.

11-5. Personnel Duties and Responsibilities.

a. **Unit CDR.** Prior to participation in training, the unit CDR will ensure subordinate CDRs and MCs screen all personnel to ensure they are physically and professionally able to participate in operations.

b. **SO.** The SO will be assigned to each team of personnel conducting ladder operations and he will be located on the ground at the exfil point during training operations. The SO is responsible for the safe conduct of ladder operations and his duties are as follows:

- (1) During operations, ensures all required safety equipment is present. Refer to specific Chapters under Medical Coverage when inspecting medical equipment and plan.
- (2) Conforms to time schedule as close as practicable.

(3) Ensures a complete safety and operations briefing is provided to all participating personnel.

(4) Ensures positive communication with the Aircrew has been established.

(5) Ensures each individual has properly hooked up to the ladders and Soldiers/ladders are clear of all obstacles.

(6) Ceases ladder operations if any unsafe condition is apparent.

c. AMC.

(1) Designated by the employing aviation unit, when required. When not required, the PC will assume responsibility.

(2) Will ensure all Aircrew understand their responsibility concerning ladder operations IAW this manual and the aviation unit SOP.

(3) Is responsible for ensuring all aircraft deploy the ladder systems at the designated objective area.

d. PC/Aircrew.

(1) Ensures a thorough brief is given to all participants on the conduct of the operation, aircraft safety, and emergency procedures.

(2) Supervise or complete all aircraft preparation prior to the ladder operation.

(3) Ensure air to ground communications is functional before commencing ladder training.

(4) Abort the training if any unsafe condition is apparent.

(5) Issue the order to jettison the ladders during an actual aircraft emergency.

(6) Inspect ladders:

(a) Cables/ropes checked for frays.

(b) Rungs checked for security and cracks.

(c) Rigging checked for security.

(d) Rolled ladders checked to ensure they are secure to prohibit premature deployment.

(7) Ensure the aircraft is properly rigged with the ladder system.

(8) Direct the Pilot to maneuver the aircraft, clear of all obstacles, into position for deploying, recovering, or jettison of the ladders.

(9) Receive/relay hand and arm signals to the personnel being extracted on the ladders, and inform the Pilot when the hook-up is complete.

(10) Direct the aircraft out of the extraction zone, keeping the ladders clear of all obstacles.

(11) Continually observe personnel on the ladders, monitor aircraft altitude above obstacles, and immediately inform the PC of any unsafe conditions.

(12) Keep the PC informed as to the condition of the operation, giving corrections as required to ensure safety.

(13) Disconnect the ladder system when required.

(14) Mark ladders with chemlights/light sources during night operations at the point where:

(a) The ladder enters the aircraft.

(b) The bottom of the ladder.

(c) Three to five feet from the bottom rung.

e. Ladder Personnel.

(1) Understand all ladder operation procedures and equipment.

(2) Adhere to all commands from the Aircrew.

(3) Bring to the attention of the Aircrew or SO any unsafe condition during the training.

11-6. Equipment.

a. Ladders. All service-approved ladders are authorized for use.

b. Snap links/carabineers (will conform to the standards in [Chapter 5](#)).

c. Restraint harness for Aircrew.

- d. Headsets.
- e. Heavy duty duct tape (100 mph).
- f. Knife.
- g. 4" X 4" block of wood as required (Mark's block).
- h. Service-approved flotation device for all personnel (for water ladder operations).
- i. Bolt cutters or alternate equipment to perform emergency jettison/cutaway procedures.
- j. Light source (required for personnel conducting overwater operations) and for ladder markings.

11-7. Ladder Training Considerations.

a. **Operational Requirements.** The following section discusses the medical and communications requirements, and the procedures to follow during unusual conditions (adverse weather/terrain conditions, night operations). Personnel must use sound judgment to determine what action to take depending on the nature and severity of the condition.

(1) **Adverse Weather/Terrain Conditions.** Ladder operations will not be conducted under the following conditions:

(a) Wind chill factors caused by rotor downwash, cruise airspeeds, and duration that could cause cold weather injuries through exposure. Airspeeds shall not exceed 80 KIAS under normal conditions or 50 KIAS during cold weather operations.

(b) Ice on the ladders inhibiting the ability of the climbers to control their ascent/descent.

(c) The ladder is exposed to the elements for a sufficient length of time to freeze, thereby reducing its tensile strength.

(d) Conditions, to include blowing particles or water spray produced by rotor downwash, that cause the Aircrew to lose visual contact with the ground.

(e) Training operations will not be conducted if sea is in excess of state 3 (3 foot chop, 4 foot swell).

(2) Night Operation Requirements.

(a) Ladders will be marked with chemlights/light sources during night operations at the point where the ladder enters the aircraft, the bottom of the ladder, and three to five feet from the bottom rung.

(b) Individual Component and Sub-unified CDRs will establish training, policy and procedure for use of NVDs.

b. Medical Coverage. See requirements in paragraph 7-8.

c. Communications Requirements. While onboard the aircraft, the ranking (or designated) individual or will maintain positive communication with the Aircrew. When used, a ground party at the training site will maintain communications with the Aircrew to relay pertinent information. Hand Signals for Directing Helicopter Movement. Hand signals are contained in [Appendix A](#).

d. Aircraft Preparation.

(1) Secure aircraft doors in the open position. During cold weather operations, the doors may remain closed until time for ladder deployment.

(2) Remove or secure non-essential seats and equipment.

(3) Tape any sharp edges or protrusions that may come in contact with the ladders or personnel.

(4) If available, extend INTERCOM cords to desired locations and tape to prevent entanglements.

(5) Connect ladders to aircraft anchoring points IAW Service-approved procedures.

11-8. Aircraft Ladder Training Iterations.

a. Conduct.

(1) For exfils, personnel climb into the aircraft when possible. When personnel cannot climb into the aircraft, they will climb up one or two rungs, stand on a rung, and hook into one of the ladder strands, using a harness, rappel seat or safety line and snap link. Rucksacks are attached to a cable with a snap link, near the bottom rung.

(2) After entering the aircraft, all equipment will be properly secured.

(3) All Service-approved ladders are authorized for use. Ladder operations must follow the manufacturer's written limitations and restrictions for each type of ladder. Care must be taken not to exceed the attachment point limitations/capabilities.

b. Emergency Actions.

(1) Should an emergency occur during an exfil, personnel will secure themselves to the ladder and execute the distress, help, or pick me up hand and arm signal, by waving one hand overhead (See [Figure A-6](#)) to inform the Aircrew. The pilot should lower the member to the ground or water safely.

(2) In the event of an actual aircraft emergency, the PC will be the final authority as to the solution of the emergency and the action taken.

(3) When a suspended individual or ladder has become ensnared and an ascent is not possible, immediate steps will be taken to lower the aircraft until the personnel can unhook.

11-9. Safety Procedures.

a. Airspeeds shall not exceed 80 KIAS. During cold/wet weather operations airspeed should not exceed 50 KIAS due to wind chill factors.

b. During training, maximum flight time with personnel on the ladder is 20 minutes.

c. At least one operable radar altimeter is required to maintain obstacle clearance between ropers and the ground.

11-10. Signals and Commands.

a. All signals and commands both routine and emergencies between the Aircrew and the supported unit will be coordinated and briefed for the operations.

b. Hand signals for directing aircraft movement are contained in [Appendix A](#).

CHAPTER 12

HELOCAST

12-1. General. Helocast is an effective means of inserting combat swimmers/divers and maritime mobility craft (MMC) such as the CRRC into a waterborne environment and may involve the use of a SO Combat Expendable Platform.

12-2. Objectives.

- a. To prescribe qualification and training requirements for maintaining proficiency in the conduct of Helocast operations.
- b. To prescribe safety requirements, Helocast methods, equipment, and rigging procedures in the conduct of Helocast operations.
- c. To define the duties and responsibilities of key personnel during Helocast operations.

12-3. Safety.

a. **Briefing.** Before conducting vertical lift rappel training, the CM will give a safety briefing IAW unit /component SOPs to all personnel conducting rappel operations. (See [Appendix E](#)). The following minimum safety briefing requirements for FRIES insertion training:

- (1) Area hazards.
- (2) General aircraft safety/emergency procedures.
- (3) Equipment associated with the Helocast operation and its characteristics.
- (4) Equipment inspection.
- (5) Method of Helocast and/or recovery operation to be used.
- (6) Hand and arm signals/emergency signals.
- (7) Location of safety boats and how they are marked.
- (8) Medical coverage.
- (9) Communications requirements.

(10) Night operation requirements.

(11) Training will not be conducted if the sea state is in excess of 3 (three foot chop, four foot swells).

b. **Guidance.** Due to the hazards involved with Helocast, all aspects of planning and execution will emphasize safety and adherence to the following listed considerations:

(1) Immediately prior to a Helocast training operation, the cast area will be physically reconnoitered to verify water depth (minimum depth requirement of ten feet) and the absence of obstacles and debris. Marking the cast area will be accomplished by positioning the support craft or anchored floats to indicate the safe area.

(2) During water operations training, safety boats will be deployed IAW with Service guidance and/or unit SOPs. All boat crew personnel will wear Service approved floatation devices. Safety boats must be of a type and capacity to effect recovery of personnel.

(3) During training, radio communications must be established between the safety boats and the aircraft. Lack of air-to-ground radio communications constitutes a cancellation of the operation.

(4) The CM should maintain positive communications with the Aircrew members.

(5) Helocast altitude should not exceed 10 feet above the surface of the water.

(6) Helocast speed will not exceed 10 knots groundspeed (KGS).

(7) Casting operations should be done into the wind. In rivers or strong currents, cast into the current regardless of the wind conditions.

(8) Ensure recovery speed does not exceed 10 KGS.

(9) In the event of an injured swimmer, the Helocast operation will cease until the cause and extent of the injuries are determined.

(10) During training, a Service-qualified medic will be located in one of the safety boats.

c. **Warnings, Cautions and Notes.**

WARNING: Personnel will exit the aircraft only when directed by the CM.

WARNING: Aircraft must maintain forward movement, not allowing lateral or rearward drift during the operation.

WARNING: During casting operations, at the direction of the CM, personnel will utilize Service approved floatation devices and operate them IAW with unit SOPs. Personnel must understand this could hinder their egress during an aircraft accident or ditching sequence.

WARNING: Failure to ensure adequate weight distribution of the MMC equipment/motor may result in an aft CG causing the craft to flip or become airborne after deployment. This could result in severe damage to the aircraft or boat and possible severe injury to personnel.

WARNING: No swimmers will exit the aircraft until the MMC is in the water and directed by the CM.

WARNING: Transporting the CRRC without the floor installed could cause the CRRC to fold up and possibly contact the rotor blades.

WARNING: During training, the CRRC will not be deployed if any personnel or safety boats are in the immediate vicinity of the deployment area.

CAUTION: If the load becomes unstable during flight, a smooth reduction of airspeed may be required. If the load is unmanageable, it may be necessary to land or for the PC to order an emergency release of the CRRC.

CAUTION: The knife will not be placed in the vicinity of the restraining strap until the “CUT” command is given (if K-Duck is rigged to the cargo hook, knife is not used).

CAUTION: Do not store more than fifty pounds in the bow of the CRRC when utilizing the K-duck harness.

NOTE: During training, the absence of any safety equipment or personnel constitutes a termination of the Helocast operation.

NOTE: V-22 operations will require many boat types to be partially deflated and strapped to fit within the cabin width. Compressed air may be configured to completely inflate the boat after deployment.

NOTE: If assets are available, and time allows, sustainment training should include rehearsal with actual mission loads and special equipment.

NOTE: Eye protection is recommended for the boat operator of MMC operations.

NOTE: Ensure a system is installed and accessible to fully inflate CRRC once rigging is complete.

NOTE: The unit may exit the aircraft from either the door or ramp or both. If both are used, execute the ramp delivery first. These measures will reduce adverse pitch oscillations during deployment.

12-4. Personnel Qualification Requirements.

a. **Initial Qualification Training.** All personnel will successfully complete the initial Helocast training listed below prior to beginning Helocast qualification training:

(1) Requirements in [Chapter 7](#), for water operations.

(2) Personnel will be thoroughly briefed IAW the CM briefing listed in [Appendix E](#) prior to participating in Helocast training and operations.

(3) Personnel will be thoroughly briefed on the duties and responsibilities of the PC, Aircrew, CM, safety boat personnel and safety swimmers.

b. **Initial Helocast Qualification.** Upon completion of an approved unit-level training program, Helocast qualified personnel will have met all standards at the appropriate levels. Component training requirements and standards may be higher in any area to allow for Service or Component PoE that maybe mission area specific, but at a minimum the requirements for Helocast qualification are:

(1) Demonstrate confidence and proficiency in the procedures, techniques, and equipment necessary to conduct Helocast operations.

(2) Conduct a minimum of one Helocast operation without combat equipment.

(3) Conduct a minimum of one Helocast operation with combat equipment and weapon. In addition, individuals conducting training with MMC (i.e., CRRC) will accomplish the following:

(a) Demonstrate loading, rigging, and inspecting accompanying equipment in the MMC.

(b) Demonstrate loading and rigging of the MMC on the aircraft.

(c) If applicable, demonstrate loading, rigging, and inspecting accompanying MPC.

c. **Cast Master.** Selection of personnel for qualification as a CM should be based on the individual's demonstrated leadership capabilities, maturity (E-4 or above), knowledge and experience of Helocast operations and must have participated in a Helocast operation within the past year. Personnel are qualified to perform the duties of CM after they have met the requirements in paragraph 12-4.a., 12-4.b., and 12-4.d., as well as the successful completion of the following training under the supervision of a current qualified CM:

(1) Receive instructions and demonstrate proficiency on rigging various maritime equipment configurations, inspecting/preparing equipment to be used in the Helocast operation, and in the conduct of the operation.

(2) Receive instructions and demonstrate proficiency in the performance of the following CM duties:

(a) Coordination responsibilities.

(b) Personnel/Aircrew briefings.

(c) Organization of the personnel involved in the operation.

(d) Emergency procedures.

(e) Hand and arm signals.

(f) While in a CM capacity, conduct one successful helocast under the supervision/instruction of a current CM.

d. Sustainment Training. Prior to conducting Helocast operations, units will receive formalized training in the procedures to be used during Helocast operations within 72 hours prior to the operation. At a minimum, this training will include:

(1) Rigging and inspection of individual equipment.

(2) Rigging and inspection of accompanying equipment in the MMC (if applicable).

(3) Hand and arm signals/emergency signals.

(4) Water entries (pool training when available).

(5) Conduct dry land rehearsal.

e. Refresher Training. Refresher training is routinely conducted to maintain the acquired skills. Personnel who have not participated in Helocast operations during the past 12 months will accomplish all requirements in 12-4.d., and undergo refresher training under the supervision/instruction of a current CM before being included in an operation. Refresher training for Helocast operations consists of conducting at least one Helocast operation.

f. CM Refresher Training. CM refresher training is conducted IAW paragraph 12-4.f. and includes the execution of at least one CM operation under the observation of a current CM.

12-5. Personnel Duties and Responsibilities.

a. **Unit CDR.** Prior to the execution of Helocast training, the unit CDR will ensure all personnel are screened to ensure the following minimum standards are met:

(1) Are free of any injury or physical condition that would cause a potential safety hazard during Helocast operations.

(2) May terminate the CRRC operation at any time due to an unsafe condition, safety requirement, weather, or lack of required training.

(3) Personnel participating Helocast training will successfully complete and be current in a swim qualification/test IAW Service regulations. CDRs at all levels will ensure personnel being trained have the appropriate swimming qualifications and required equipment to safely accomplish all required training tasks.

(4) Follow all applicable safety requirements.

b. **AMC.** The AMC ensures all Aircrew members are trained to perform their duties during the CRRC operation.

(1) Designated by the employing aviation unit, when required. When not required, the PC will assume responsibility.

(2) Will ensure all Aircrew understand their responsibility concerning Helocast operations IAW this manual and unit SOP.

(3) Is responsible for ensuring all aircraft conduct the Helocast at the designated objective area.

c. **PC.**

(1) Ensures the CRRC, aircraft, and other required equipment has been inspected and properly prepared for CRRC operations by the Aircrew or CM as appropriate.

(2) Ensures all aircraft requirements have been met, i.e., weight and balance, flight planning, fuel requirements, etc.

(3) May terminate the CRRC operation at any time due to any unsafe condition, safety requirement, weather, or lack of required training.

- (4) May order the emergency release of the CRRC.
- (5) Ensures the CRRC is deployed on the designated objective.

d. Aircrew.

- (1) Thoroughly brief all participants on the conduct of the operation, aircraft safety, and emergency procedures.
- (2) Supervise or complete all aircraft preparation prior to the Helocast operation.
- (3) Ensure radio communications is functional before commencing training.
- (4) Abort the training if any unsafe condition is apparent.
- (5) Direct/maneuver the aircraft, clear of all obstacles, into position for deploying personnel.
- (6) Continually observe the personnel and immediately inform the PC of any unsafe conditions.
- (7) Aircrew Keep the pilots informed as to the conduct of the operation, giving corrections as required to ensure safety.
- (8) When directed by the pilot, the Aircrew will signal the CM with the appropriate hand and arm signal. The CM then will verify the aircraft profile and deploy his personnel.

e. Aircrew (CRRC).

- (1) Will ensure aircraft and other required equipment is inspected and prepared for CRRC operations IAW the AWR/FC and unit SOP.
- (2) Aircrew will ensure the CM is briefed on the use of all hand and arm and light signals prior to aircraft operations.
- (3) Oversees the attaching of the raft to the aircraft and ensures compliance with the AWR/FC.
- (4) Observes the status/security of the CRRC from the pick-up point through release, keeping the PC advised of the status of the passengers and the load.
- (5) Will pass the time calls to the CM as directed by the PC and will make the proper calls to the PC IAW the ATMs and unit SOP.
- (6) Directs the PC to maneuver the aircraft into proper position for CRRC hook-up and deployment.

f. **CM.**

- (1) Conform to the time schedule in compliance with safety standards and conditions existing at the time of the operation.
- (2) Ensure a complete briefing is provided to all participating personnel.
- (3) Ensure all safety and equipment requirements are met prior to initiating the Helocast operation.
- (4) Ceases Helocast operations if any unsafe condition arises.
- (5) Conduct a reconnaissance (with possible assistance from the SO) of the Helocast site, verifying a minimum water depth of ten, and an obstacle-free environment.
- (6) Conducts the CM briefing IAW [Appendix E](#).
- (7) Conducts a visual safety check of the aircraft to ensure the proper rigging of all equipment.
- (8) Conducts a safety inspection and equipment check of all swimmers verifying their equipment is properly worn/positioned and functional IAW Service publications. Ensures Service approved floatation devices have a current inspection.
- (9) Briefs the Aircrew on all aspects of the Helocast operation to include hand and arm signals to be used to direct the aircraft into the exfil position for the operation, and no-drop conditions and situations.
- (10) Ensure communications are functional between all elements of the Helocast operation.
- (11) Assign swimmer buddy teams and ensure all swimmers are seated in stick order. Verify all swimmers understand their assigned duties and follow commands. Swimmers will exit the aircraft only on the command of the CM.
- (12) Cast the swimmers only if the aircraft is correctly aligned and safely within the limits of speed and altitude, and the safety boats are operational and offset parallel at a minimum of 50 meters and a maximum of 100 meters. When the swimmers surface, they will signal their buddy and the safety boat that all is “OK” or they need assistance.
- (13) Abort the Helocast operation if any unsafe condition exists.
- (14) Ensures swimmers wear Service approved floatation devices and operates IAW unit SOP. Mission requirements will dictate the amount and type of flotation required.

g. **CM (CRRC).**

(1) Before the CRRC operation the CM will:

(a) Ensure the aircraft is properly rigged.

(b) Conduct a visual inspection of the CRRC system: “I” bar (FRIES), cargo hook, or Service approved system.

(c) Confirm the removal of required aircraft antennas.

(2) Brief all personnel on the operation.

(3) Conducts an inspection of personnel and equipment prior to boarding the aircraft.

(4) Assist the Aircrew with loading the CRRC into or attaching the CRRC to the aircraft and ensure the CRRC is in compliance with the AWR/FC.

(5) Assists the Aircrew with observing the status/security of the CRRC during hook-up or loading through release. Keeps the Aircrew advised of changes in the stability of the load.

(6) Directs the Aircrew to pass drop area maneuver request information to the PC.

(7) Deploys the CRRC when in the drop area and cleared by the aircraft PC, and signaled by the Aircrew.

f. **Safety Swimmers.** The safety swimmers are required to:

(1) Perform duties and follow commands as directed by the Safety Boat Supervisor, and follow prescribed safety procedures.

(2) Assist in recovering equipment, aid injured or weak individuals in the water, and remain with the individual until the safety boat or help arrives.

12-6. Equipment. Operational units will determine equipment requirements necessary to accomplish their mission IAW the units SOP. However, all personnel involved in water operations will wear a Service approved floatation devices.

12-7. Helocast Training Iterations.

a. **Helocast Preparation Considerations.** When planning for the number of personnel per type of aircraft, use the standard troop loading/planning figures. Adjust these figures depending on aircraft configuration, type of equipment, and casting/recovery procedures. Coordinate these items in advance with the Aircrew.

(1) Rehearse the operation with all swimmers, the actual Aircrew, accompanying equipment, and support personnel. Emphasize proper body exit position, exit timing, commands, and water entry positions during live casting rehearsals.

(2) Attach surface swim equipment to the swimmer IAW unit SOP. Ensure all swimmers wear a Service-approved Service approved floatation devices.

(3) If using side doors for casting secure the doors in the open position.

(4) With an H-47 type aircraft, ensure the “ramp” is secured in the open or casting position. The ramp should be slightly below level.

b. **Medical Coverage.** See requirements in paragraph 7-8.

c. **Helocast Operations.** Aircraft will pass the pre-briefed time warnings to the CM. Aircrew will signal the CM when the aircraft is in the proper profile and in the designated objective area. CM controls personnel movement and personnel/equipment deployment after being signaled by the Aircrew. Aircrew will signal the CM IAW with Service guidance and/or Unit SOPs.

d. **Kangaroo-Duck (K-Duck) Training Iterations.** The K-duck was developed as a rapid insertion method for use from H-60 helicopters hovering low (10 feet or less) over the water. An inflated CRRC is attached flush against the underbelly of the helicopter. At the insertion point, the Aircrew releases the CRRC and the swimmers are then cast out the door.

(1) CRRC Preparation. Units will prepare CRRC IAW Service and Components guidance, directives, regulations, manuals, and/or Units SOPs.

(2) Helicopter Preparation/Attaching/Passage/Arrival and deployment K-Duck to Aircraft. The aircraft is rigged IAW with AWR/FCs, ATMs and appropriate Service technical manuals. New equipment/rigging procedures may be utilized once approved by the Service Component.

e. **Emergency Actions.** In the event of an emergency, the PC will take the appropriate action and will make the decision to jettison the CRRC. If the decision to jettison is made, the Aircrew or CM will jettison the CRRC, only on command of the PC.

f. **Conduct of Soft Duck Training Iterations (H-47/V-22).** The Soft Duck is a method of deploying a CRRC from a helicopter ramp. If the CRRC is partially deflated, it is referred to as a “Soft Duck”. Components and Units will conduct Soft Duck training iterations IAW with Service guidance and unit SOPs.

g. **Recovery Operations.**

(1) When using a single rotor aircraft, lower an extraction device to the swimmers who are on-line or in a group as briefed in the casting/recovery area. At night each swimmer attaches a light source to the upper portion of his uniform or equipment that will be visible from above the water.

(2) Hoist equipped aircraft may be used to recover and deploy personnel.

12-8. Safety Procedures.

a. Should a swimmer develop an emergency while in the water, the swimmer will signal the safety boat as briefed.

b. Safety boat crews will remain alert for emergency signal from swimmers. Safety boat crews will observe all swimmers for signs of distress.

c. Personnel participating in Helocast training will successfully complete drown proofing and a swim qualification/test IAW Service regulations as well as be “current” in their swim qualification. CDRs at all levels will ensure personnel being trained have the appropriate swimming skills to safely accomplish all required training tasks.

d. Swimmers will utilize Service approved floatation devices and operate them IAW with unit SOPs. Mission requirements will dictate the amount and type of flotation required.

12-9. Signals and Commands.

a. All signals and commands between the Aircrew and the supported unit will be coordinated.

b. Hand signals for directing aircraft movement are contained in [Appendix A](#).

NOTE: Due to the evolving nature of helocast operations, Components, TSOCs and SOF units should conduct helocast and rigging procedures IAW with all applicable Service manuals, publications and SOPs. The figures listed below are intended to serve as a reference for techniques on how to prepare CRRC and K-Duck for operations.

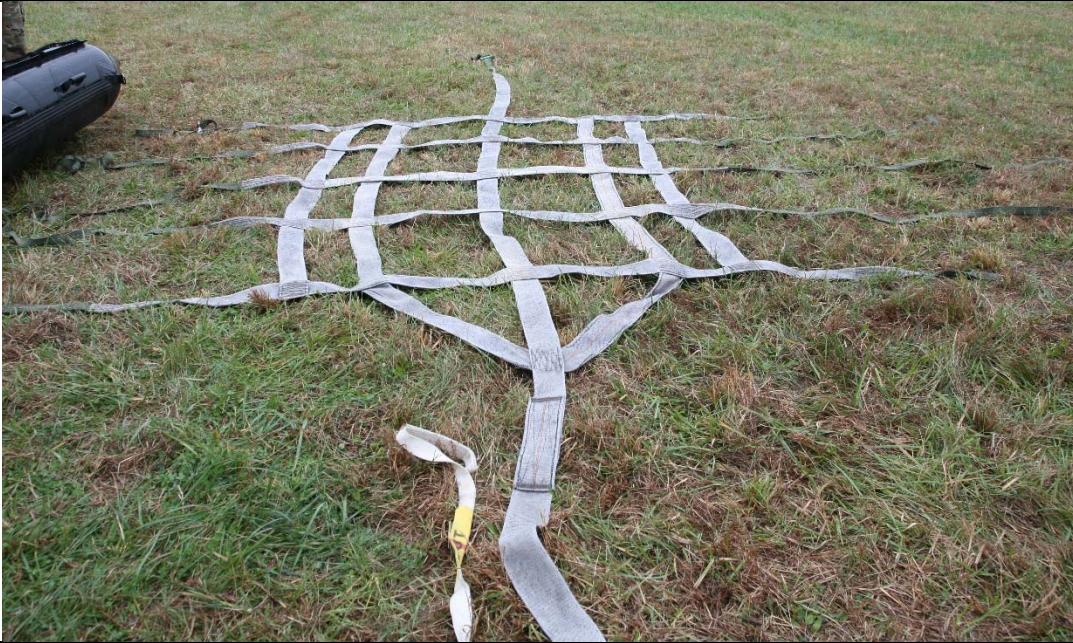


Figure 12-1. K-Duck Cradle Assembly Readied to Receive Combat Rubber Raiding Craft CRRC (Bow View).



Figure 12-2. Crow's Foot Assembly Separated from Cradle.



Figure 12-3. CRRC with Engine Removed from Transom (Aerial View).



Figure 12-4. CRRC with Engine Removed from Transom (Bow View).



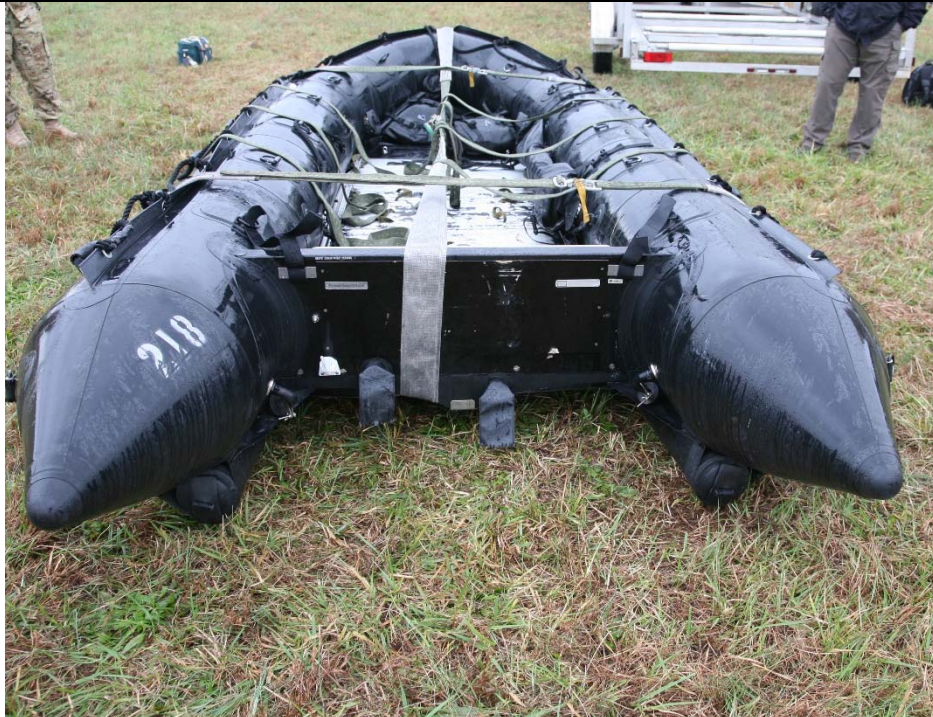
Figure 12-5. Front Cradle/CRRC Securing Strap Installed.



**Figure 12-6. K-Duck Cradle Installed on CRRC with Restraining Straps
Folded into Boat. (Bow View)**



**Figure 12-7. K-Duck Cradle Installed on CRRC with Restraining Straps Folded into Boat.
(Port/Bow View)**



**Figure 12-8. K-Duck Cradle Installed on CRRC with Restraining Straps Folded into Boat.
(Stern View)**



Figure 12-9. K-Duck Cradle Installed on CRRC with Restraining Straps Folded into Boat. (Starboard View)



Figure 12-10. K-Duck Cradle Installed on CRRC with Restraining Straps Folded into Boat. Close-Up of Restraining Straps Routed Through CRRC handles. (Starboard View)



Figure 12-11. K-Duck Cradle Installed on CRRC with Restraining Straps Folded into Boat. (Starboard/Bow View)



Figure 12-12. Cut Strap and Crow's Foot Assemblies Prepared for Attachment to Cradle.



Figure 12-13. H-60. Close up of Cut Strap Routed Through FRIES H Bar. Alternate Rigging with Supplied Medium Airdrop Clevis (PS70087-2) When H Bar Ring is not Present.



Figure 12-14. Cut Strap and Crow's Foot Assemblies Prepared for Attachment to Cradle. (Left Side)



Figure 12-15. Attaching Restraint Slings from Cradle to Crow's Foot Assembly.

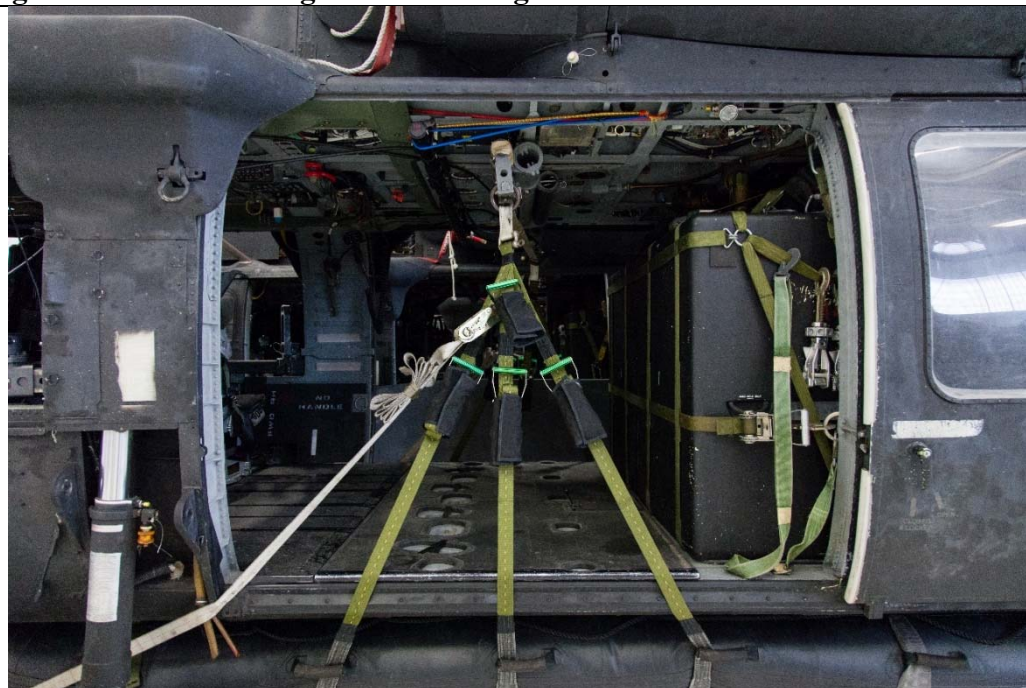


Figure 12-16. Final Installation of Crow's Foot Tensioning Assembly Showing Harness.



Figure 12-17. Close up of Cut Strap Routed Through FRIES H Bar. Alternate Rigging with Supplied Medium Airdrop Clevis (PS70087-2) When H Bar Ring is not Present.



Figure 12-18. Close up of Final Assembly of Crow's Foot Tensioning Assembly.



Figure 12-19. Complete K-Duck Harness with CRRC Installation.



Figure 12-20. Final Installation of Crow's Foot Tensioning Assembly Showing Harness Leg Routing.



Figure 12-21. Final Installation of Crow's Foot Tensioning Assembly Showing Harness Leg Routing.



Figure 12-22. Close up of Final Assembly of Crow's Foot Tensioning Assembly Showing Routing of Cut Strap. (Front Angle)



Figure 12-23. Close up of Final Assembly of Crow's Foot Tensioning Assembly Showing Routing of Cut Strap. (Rear Angle)



Figure 12-24. Final Installation of Crow's Foot Tensioning Assembly Cut Strap. (Internal View)

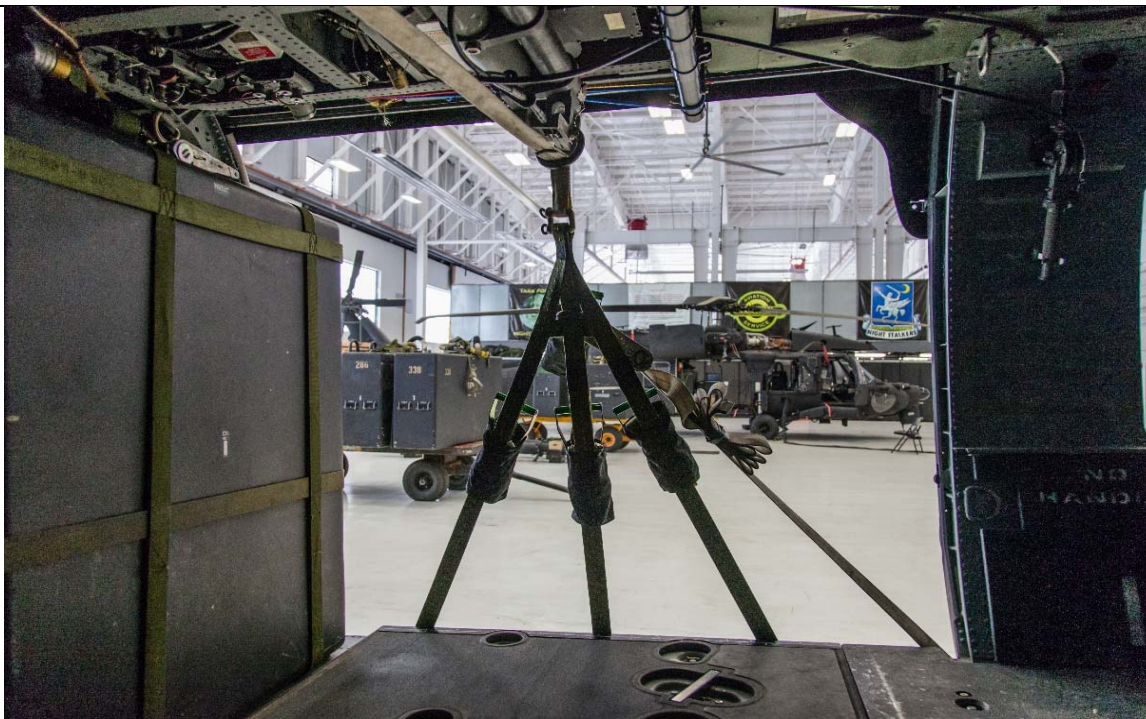


Figure 12-25. Final Installation of Crow's Foot Tensioning Assembly Cut Strap. (Internal View)

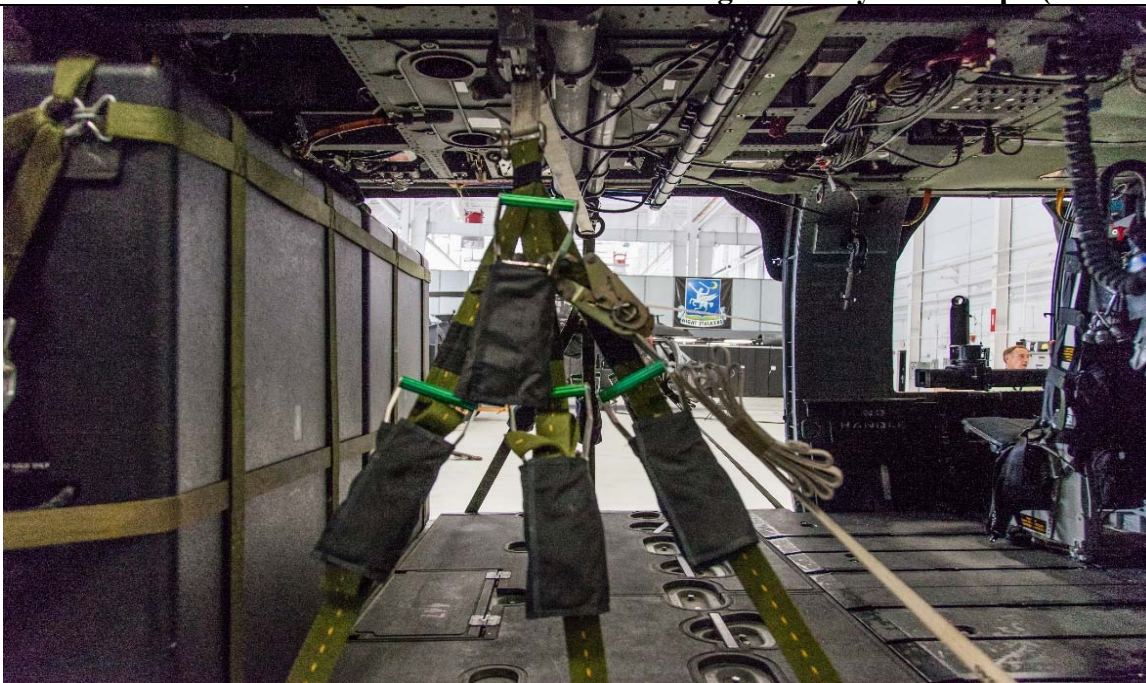


Figure 12-26. Close up of Final Crow's Foot Assembly.



Figure 12-27. Final Installation of both Crow's Foot Tensioning Assemblies and Cut Strap. (Internal View)



Figure 12-28. Final Installation of Crow's Foot Tensioning Assembly Cut Strap. (Internal View)



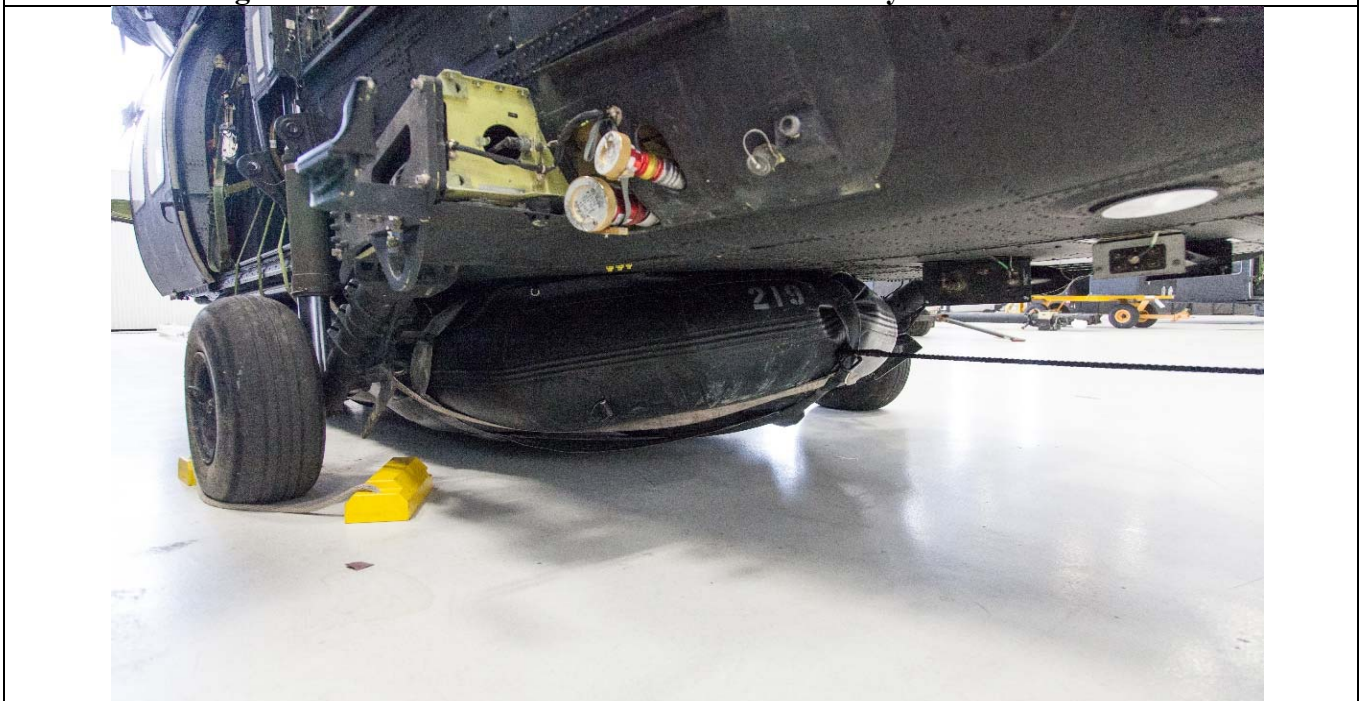
Figure 12-29. Final Installation of Crow's Foot Tensioning Assembly Highlighting Bow Strap Free End Stowage.



**Figure 12-30. Final Installation of Crow's Foot Tensioning Assembly
Showing Harness Leg Routing.**



Figure 12-31. Final Installation of CRRC to “Belly” of H-60 Aircraft.



**Figure 12-32. Final Installation of CRRC to “Belly” of H-60 Aircraft.
(Including Open Cargo Door)**



Figure 12-33. Final Installation. (Left/Front View)



**Figure 12-34. Final Installation of Crow's Foot Tensioning Assembly
Showing Cradle Leg Routing.**

CHAPTER 13

HOIST

13-1. General. Hoisting is an effective means of extracting personnel, injured personnel, and equipment from the water or a confined area. Additionally, the hoist can be used to infil personnel and equipment.

13-2. Objectives.

- a. To prescribe qualification and training requirements for maintaining proficiency in the conduct of hoist operations.
- b. To prescribe safety requirements, hoist methods, equipment, and rigging procedures in the conduct of hoist operations.
- c. To define the duties and responsibilities of key personnel during hoist operations.

13-3. Safety.

a. **Briefing.** Before conducting vertical lift hoist training, the Hoist Master (HM) will give a safety briefing IAW unit/Component SOPs to all personnel conducting hoist training. The following minimum safety briefing requirements for hoist insertion training:

- (1) Identification of key personnel, their duties, and responsibilities.
- (2) Area hazards.
- (3) General aircraft safety to include emergency procedures.
- (4) Equipment associated with the hoisting operation and its characteristics.
- (5) Equipment inspection.
- (6) Method of hoist recovery operation to be used.
- (7) Hand-and-arm signals/emergency signals.
- (8) Medical coverage.
- (9) Communications requirements.

(10) Night operation requirements.

b. Guidance.

(1) Service-approved individual equipment is required for all hoist training operations. The following is a recommended list of items each unit CDR should require individuals to use for hoist training operations.

- (a) Extraction device/harness.
- (b) Eye protection. (When applicable).
- (c) ID tags.
- (d) Sleeves down. (When applicable).
- (e) Hearing protection.
- (f) Helmet (over-land operations).

(2) During water operations training, safety boats (one boat per 20 swimmers is recommended) with motors running must be present prior to conducting overwater operations. The boat operators will be trained to operate the equipment they are using. All boat crew personnel will wear flotation devices.

(3) A minimum of one safety swimmer will be aboard each safety boat. The swimmer will be a graduate of the Combat Diver Qualification Course or a USSOCOM-approved waterborne infil course, scout swimmer course, or current Red Cross lifesaver or water safety instructor course. The safety swimmer must have swim fins, a face mask, and a Service-approved personal flotation device to help personnel, as needed. The swimmer cannot be the boat driver.

c. Warnings, Cautions and Notes.

WARNING: Excessive slack in the hoist cable can be extremely dangerous. If excessive cable slack becomes unmanageable, the survivor/rescuer should abandon the rescue device, move to a safe distance, and signal to have the excessive cable slack removed before re-attempting the extraction.

WARNING: (V-22) Personnel should be aware of the significant water spray created by aircraft downwash. This is significant in that it may reduce swimmer awareness and breathing ability.

NOTE: The hoist operator (Aircrew) may elect to pull the individual into the aircraft without assistance from the other Aircrew member.

NOTE: Aircrew should consider closing the L/H cargo door during hoist operations to aid with personnel control and security in the aircraft.

NOTE: Optimal hover height for water hoist recoveries is 150ft AWL.

NOTE: For tandem hoist operations a tag-line is recommended but not required.

13-4. Personnel Qualification Requirements.

a. **Initial Qualification Training.** All personnel will successfully complete the initial hoist training listed below before beginning hoist qualification training in paragraph 7-4.b:

- (1) Be thoroughly briefed on the hoist system(s), purpose, capabilities, limitations, hand and arm signals and emergency procedures.
- (2) Be thoroughly briefed on the duties and responsibilities of the individual, PC and Aircrew.
- (3) Requirements in [Chapter 7](#), for water operations.
- (4) Aircrews will be qualified to perform their duties IAW an approved Aircrew training program.

b. **SOF Standards for Hoist Qualification.** Upon completion of a USSOCOM recognized school/course, hoist qualified personnel will have met all standards at the appropriate levels. Component training requirements and standards may be higher in any area to allow for Service or Component PoE that maybe mission area specific, but at a minimum the requirements for hoist qualification are:

- (1) Demonstrate knowledge of the hoist system, its purpose, capabilities and limitations.
- (2) Demonstrate proper hand and arm signals and emergency procedures.

13-5. Personnel Duties and Responsibilities. The following personnel duties and responsibilities help to reduce/prevent most of the accidents that can occur when conducting hoist operations. They also ensure thorough and effective training. All personnel involved in hoist operations will plan and rehearse their tasks.

a. **Unit CDR.** Prior to participation in hoist training, the unit CDR will ensure that all personnel are screened to ensure that the following minimum standards are met: Free of any injury or physical condition that would cause a potential safety hazard during hoist operations.

b. AMC.

(1) Designated by the employing aviation unit, when required. When not required, the PC will assume responsibility.

(2) Ensures that all Aircrew understand their duties and responsibilities during hoist operations.

(3) Responsible for ensuring all aircraft insertion/extraction personnel are on the designated objective.

c. PC.

(1) Ensures Aircrew and non-Aircrew personnel are briefed and understand their duties and responsibilities during hoist operations, including aircraft safety and actions in the event of an emergency.

(2) Ensures the hoist assembly is inspected (pre-operational check) for completeness and functionality with no visible metal fatigue or other structural weakness prior to use.

(3) Emphasizes procedural techniques for clearing, recovery, and jettison of the hoist cable, and premature aircraft departure from the objective.

(4) Keeps the aircraft positioned over the objective with corrections from the Aircrew members.

d. Aircrew:

(1) Conduct pre-operational check (inspection) on hoist assembly IAW the operator's manual/AWR/FC/Unit checklist.

(2) Inspect extraction device.

(3) Gives position corrections to the pilot to maintain aircraft positioned over the extraction site.

(4) Deploys applicable rescue device, inserts, recovers personnel, and secures them in aircraft, if required IAW unit SOP.

(5) Know hoist hand and arm signals.

e. Individuals conducting hoist should:

(1) Know hoist hand and arm signals.

- (2) Understand hoist emergency procedures.
- (3) Signal for litter extraction, if needed.
- (4) Hook-up to rescue device and signal aircraft when ready for exfil.
- (5) Signal if an emergency occurs.

13-6. Equipment. Operational units will determine equipment requirements necessary to accomplish their mission IAW the units SOP. Only Service-approved equipment is authorized for use during hoist operations. Personnel involved in overwater hoist training operations will wear a service-approved flotation device.

13-7. Aircraft Hoist Training Iterations.

a. **Hoisting Preparation Considerations.** When planning for the number of personnel per type of aircraft, use the standard troop loading/planning figures, found in unit Mission Planning Guide (MPG). Adjust these figures depending on aircraft configuration, type of equipment, and hoisting procedures. Coordinate these items in advance with the aviation unit.

b. **Medical Coverage.** See requirements in paragraph 7-8.

c. **H-47.**

- (1) The maximum weight allowed for hoisting is 600 lbs.
- (2) Four (4) Aircrew members are required to perform hoist operations. Two (2) aircrew members are required to operate the hoist while two (2) additional aircrew members conduct airspace surveillance from the aft of the aircraft.
- (3) Hoist operations will be accomplished per unit SOPs.
- (4) The hoist operator in the cabin door will direct the pilot over the survivor while maintaining airspace surveillance. He deploys the proper rescue device based on mission requirements.
- (5) The hoist operator will ensure the rescue hook/device contacts the ground/water prior to contact with the survivor.
- (6) The aft Aircrew maintains airspace surveillance while keeping visual contact with the survivors.

(7) Once the hoist operator receives the “ready to hoist”, which is the “thumbs up” signal from the survivor, he will hoist in slowly until survivor is off the ground or out of the water. Once the survivor is clear of obstacles, the operator will increase speed as appropriate.

(8) Once the survivor reaches the cabin door, the hoist assistant will turn the survivor to face away from helicopter. The operator will reel out the hoist cable and the assistant will pull the survivor into the aircraft.

(9) Once the survivor(s) are secured, the aircraft can continue the mission or reposition as necessary.

e. H-60.

(1) The maximum allowed hoisting weight is 600 lbs.

(2) Hoist operations may be conducted with one Aircrew member. The use of two crew members will maximize hoist operations and safety.

(3) Hoist operations will be accomplished per aviation unit SOPs.

(4) The hoist operator in the cabin door will direct the pilot over the survivor maintaining airspace surveillance, while keeping visual contact with the survivor. He deploys the hoist with the proper rescue device based on mission requirements.

(5) The hoist operator will ensure the rescue hook/device contacts the ground/water prior to contact with the survivor.

(6) Once the survivor reaches the cabin door, the hoist assistant will turn the survivor to face away from aircraft. The operator will reel the out hoist cable and the assistant will pull the survivor into the aircraft.

(7) Once the survivor(s) are secured, the aircraft can continue the mission or reposition as necessary.

f. V-22.

(1) The maximum weight allowed for hoisting is 600 lbs. The hoist is capable of raising/lowering personnel at rates up to 300+ fpm.

(2) Hoist operations will be accomplished per aviation units SOPs.

(3) The hoist operator ramp will direct the pilot over the survivor while maintaining airspace surveillance. He deploys the proper rescue device based on mission requirements.

(4) The hoist operator will ensure the rescue hook/device contacts the ground/water prior to contact with survivor.

(5) Once the hoist operator receives the “ready to hoist” signal from the survivor, he will hoist in slowly until survivor is off the ground or out of the water. Once the survivor is clear of obstacles, the operator will increase speed as appropriate.

(6) Once the survivor(s) are secured, the aircraft can continue the mission or reposition as necessary.

g. Night Operations Requirements. A light source will be attached to hoist equipment according to Service-approved procedures.

13-8. Safety Procedures.

a. Live body hoist operations are, at a minimum, medium/moderate risk.

b. Should an emergency occur during an extraction, personnel will apply the distress, help or pick me up hand and arm signal by waving one hand overhead (See [Figure A-6](#)) to inform the Aircrew. The pilot should lower the member to the ground or water safely.

c. Safety personnel/Aircrews will remain alert for emergency signals from personnel.

d. Tag line is required for Stokes/Stretcher. The line prevents pendulum or spinning motion.

13-9. Signals and Commands.

a. All signals and commands between the Aircrew and the supported unit will be coordinated.

b. Hand signals for directing helicopter movement are contained in [Appendix A](#).

CHAPTER 14

H-47 VEHICLE LOADS

14-1. General. Internal Loading of special vehicles is considered the safest and most efficient means for delivering vehicles for Special Operations Units.

14-2. Objectives.

- a. To prescribe qualification and training requirements for the internal loading of special vehicles.
- b. To prescribe safety requirements, preparation and equipment used in the internal loading of special vehicles.
- c. To define the duties and responsibilities of key personnel during the internal loading of special vehicles.

14-3. Safety.

a. **Briefing.** Before proceeding with H-47 internal loading operations a safety briefing IAW unit/component SOPs to all personnel conducting H-47 loading operations. The following minimum safety briefing requirements for FRIES insertion training:

- (1) Area hazards.
- (2) General aircraft safety/emergency procedures.
- (3) Equipment associated with the internal loading of special vehicles.
- (4) Hand-and-arm signals/emergency signals.
- (5) Communications requirements.
- (6) Night operation requirements.

b. **Guidance.** A detailed risk assessment will be conducted prior to special vehicles operations. The additional following requirements will apply:

- (1) Vehicle drivers will know all hand and arm signals.
- (2) The driver will have a primary and secondary means of escape once loaded into aircraft.

(3) Vehicles dimensions will not exceed 76” tall X 86” wide X 210” long. The 210” length is based on an installed aircraft fuel tank (internal tank) and the vehicle tie down criteria. If the internal tank is removed, the 210” length is not critical.

- (4) All vehicles should be weighed before loading for infil.
- (5) Vehicle height is measured with normal operating tire pressure.
- (6) Static load rehearsals should be completed prior to loading.
- (7) Drivers should use NVDs for night operations.
- (8) All personnel should use hearing and eye protection.
- (9) The Aircrew secures the vehicle IAW unit SOP.

c. Warnings, Cautions and Notes.

NOTE: Drivers will be qualified, IAW service requirements, to drive the specific vehicle being used.

14-4. Personnel Qualification Requirements.

a. Requirements. Before participating in internal loading of special vehicles, personnel must meet the following requirements:

- (1) Aircrews will be qualified IAW unit Aircrew training program.
- (2) Drivers must be familiar with the hand and arm signals used during internal loading of special vehicles.

b. Initial Qualification Training. Prior to participating in internal loading of Special Vehicles, personnel will be thoroughly briefed on:

- (1) The operation, its purpose, capabilities, and limitations.
- (2) Hand and arm signals and emergency procedures.
- (3) Duties and responsibilities of the PC, Aircrew members, drivers, and team personnel.

14-5. Personnel Duties and Responsibilities. The personnel duties and responsibilities listed herein help to prevent most of the accidents that can occur during vehicle loading. They also ensure thorough and effective training. All personnel involved in internal loading of Special Vehicles will plan and rehearse their tasks.

a. **Unit CDR.** Prior to participation in training, the unit commander will ensure subordinate CDRs and mission CDRs screen all individuals to ensure they are physically and professionally able to participate in operations.

b. **AMC.**

(1) Designated by the employing aviation unit, when required. When not required, the PC will assume responsibility.

(2) Will ensure that all Aircrew understand their responsibility concerning internal loading of Special Vehicles IAW this publication, unit SOP, and aircraft AWR/FC.

(3) Will be responsible for ensuring all aircraft insert/extract personnel and vehicle on the designated objective.

c. **PC.**

(1) Ensures that the Aircrew and all non-Aircrew personnel are briefed and understand their responsibilities during internal loading of special vehicles, including aircraft safety and actions in the event of an emergency.

(2) Ensures that the aircraft, tie down rings, and restraint devices are inspected and are serviceable.

d. **Aircrew.**

(1) Inspect tie down devices.

(2) Will know all hand and arm signals.

(3) Will guide, load, unload, and restrain vehicle.

e. **Driver and Team Personnel.**

(1) Will know all hand and arm signals before conducting any vehicle operations.

(2) Should perform static load training prior to conducting internal loading operations.

(3) Remove or secure all antennas.

(4) If spare tire is mounted on high mobility multipurpose wheeled vehicle (HMMWV) hatch, ensure tie-down clevis is not positioned on top of tire. Clearance must be maintained.

(5) Fold mirrors inward.

(6) Rucksack rails removed from outside of all vehicles.

(7) Any equipment that is attached, hung from the sides, strapped to the front or back or top must be secured, and provide enough clearance to load the vehicle.

(8) If installed, ensure that the collapsible crane is secured to the vehicle to prevent damaging the aircraft.

(9) If ATVs, mini-bikes, trailers or any additional equipment is loaded, all items must be secured.

(10) All weapons that interfere with loading must be removed or collapsed. Weapons must be removed on HMMWV.

(11) Transmission/Transfer case in 4-wheel drive low range.

(12) Know the following definitions.

(a) **Administrative On Load** – Vehicle is backed onto aircraft and set up for infil (Tactical Off Load).

(b) **Administrative Off Load** – Vehicle is driven onto aircraft and backed off for down load.

(c) **Tactical On Load** – Vehicle is driven onto aircraft for an exfil.

(d) **Tactical Off Load** – Vehicle is driven off aircraft for infil.

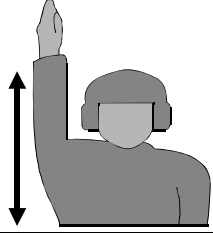
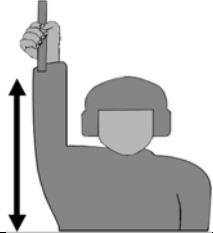
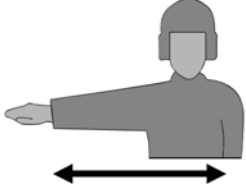
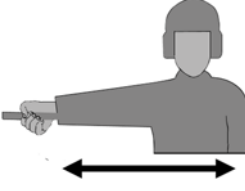


14-6. Equipment. Operational units will determine equipment requirements necessary to accomplish the mission.


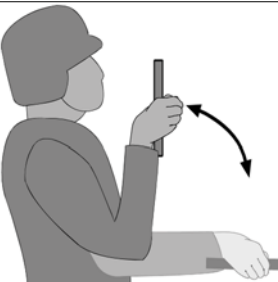

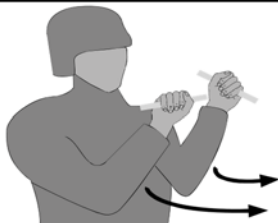
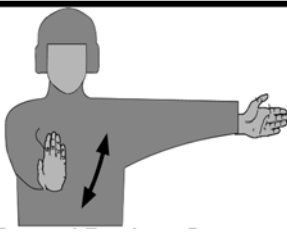
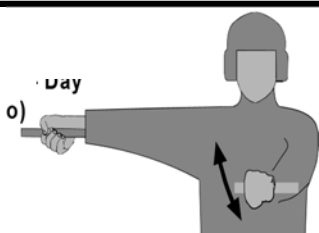
14-7. H-47 Training Iterations. Personnel conducting Internal Loading and Off Loading of Special Vehicles will be accomplished per unit SOP and aircraft AWR/FC.


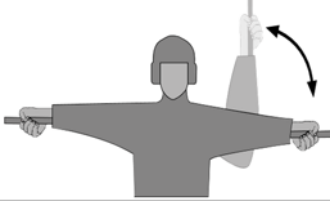

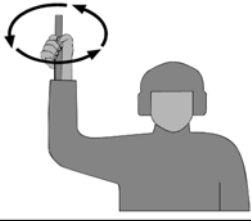
14-8. H-47 Special Vehicle Loading Hand and Arm Signals. See [Figures 14-1](#) through [14-9](#) for vehicle loading and unloading hand and arm signals.

14-9. Signals and Commands.

- a. All signals and commands between the Aircrew and the supported unit will be coordinated.
- b. Hand signals for directing helicopter movement are contained in [Appendix A](#).

	
Ready to Load - Day	Ready to Load - Night
	
Not Ready to Load - Day	Not Ready to Load - Night
Figure 14-1. Ready to Load Signal. The extended arm during the day and chemlight at night will be moved in a horizontal motion to signal. “READY TO LOAD”	Figure 14-2. Not Ready to Load Signal. The extended arm during the day and chemlight at night will be moved in a vertical motion to signal “NOT READY TO LOAD”
	
Stop Signal - Day	Stop Signal Night
Figure 14-3. Stop Load Signal. Arms crossed in the day and chemlights At night for the “STOP” signal.	

	
Forward Movement Signal - Day	Forward Movement Signal - Day
Figure 14-4. Forward Movement Signal.	
Palms at chest level facing crew member during the day and Chemlight at night, held vertically with a back and forth movement.	
	
Reversing - Day	Reversing - Night
Figure 14-5. Reversing Signal. – Day/Night	
Fist at chest level during the day and chemlights in fist pointing at each other at night. This signal is given with a pumping action to signal reversing.	
	
Figure 14-6. Forward Turning – Day (On the Go)	Figure 14-7. Reverse Turning – Night (On the Go)
This signal is given to a moving vehicle. The signal fist at chest level during the day and in the day and horizontal chemlight in fist chemlights in fist pointing at each other at night is held at chest level and performs a night. This signal is given with a pumping motion for “ Reverse on the Go ” action to signal reversing. The “ Forward on the Go ” signal uses a palm facing the crew member during the day and a vertical chemlight at night in a pumping motion. A horizontal arm or chemlight will point in direction of turn.	

	
<p>Turning From Stop – Day</p>	<p>Turning From Stop – Night</p>
<p>Figure 14-8. Stop Turn Signal.</p>	
<p>The signal arm will be held in the vertical position during the day and chemlight at night moved in a pumping motion. The other arm/chemlight will be pointed in the direction the tires need to be turned. This signal is given to a stopped vehicle.</p>	
	
<p>Engine Start Signal – Day</p>	<p>Engine Start Signal - Night</p>
<p>Figure 14-9. Engine Start Signal.</p>	
<p>Hand or chemlight at head level moved in a circular motion signals “START ENGINE”.</p>	

CHAPTER 15

AIRLAND OPERATIONS

15-1. General. Airland is defined as movement by air and disembark, or unload, after the aircraft has landed or while an aircraft is hovering. An airland operation includes infiltration/exfiltration techniques which do not require additional special equipment for either the aircraft or the passenger including, but not limited to, parachutes, ladders, hoists, SPIES/FRIES, and amphibious operations. Airland is the most commonly used method of infil/exfil of SOF and is always considered the primary means of infil/exfil for the ground force.

15-2. Objectives.

- a. To prescribe safety requirements and procedures in the conduct of airland operations.
- b. To define the duties and responsibilities of key personnel during airland operations.

15-3. Safety.

a. **Briefing.** Before conducting vertical lift Airland training iterations, a safety briefing will be given in IAW unit/component SOPs to all personnel conducting Airland training. The following minimum safety briefing requirements for Airland insertion training:

- (1) Identification of key personal, their duties and responsibilities.
- (2) Area hazards.
- (3) General aircraft safety to include emergency procedures.
- (4) Equipment inspection.
- (5) Hand-and-arm signals/emergency signals.
- (6) Medical coverage.
- (7) Communications requirements.
- (8) Night operation requirements.

b. **Minimum Equipment List.** Service-approved individual equipment is required for all airland operations. The following is a recommended list of items each unit commander should require individuals to use during airland operations:

- (1) Approved alternate restraint device, (seats out).
- (2) Eye protection. (When applicable).
- (3) ID tags.
- (4) Sleeves down. (When applicable).
- (5) Hearing protection.
- (6) Helmet.

c. Warnings, Cautions and Notes.

WARNING: When exiting the aircraft be aware of possible up-sloping terrain. Main rotor clearance from departing personnel may be limited and contact with the main rotors may occur.

WARNING: Team members performing airland operations must be secured to the aircraft with a Service approved restraint device when conducting seats out operations. Personnel will adhere to the procedures outlined in [Chapter 3](#) of this manual.

WARNING: (H-47) Avoid approaching from 10 to 2 o'clock position. Forward rotor is hazardous and can cause serious injury or death.

WARNING: (MH-6/UH-1/H-60), avoid the area between the 5 and 7 o'clock position. Engine exhaust and tail rotor Components can cause serious injury or death.

WARNING: (V-22) Avoid the areas between the 2 to 4 o'clock and between the 8 to 10 o'clock positions. Engine exhaust can cause serious injury or death.

WARNING: (H-60) Avoid the areas between the 10 to 2 o'clock. Rotor can dip as low as 4 feet above the ground.

WARNING: Be aware of weapons systems installed on the aircraft. Avoid the weapons primary field of fire during infil/exfil operations.

CAUTION: Four (4) emergency escape hatch release handles are located in the cabin (2 on the left side, 1 on the right side, and 1 overhead near the ramp position). These are armed with explosives and will not be used for personnel restraint, or securing equipment.

15-4. Personnel Duties and Responsibilities. The following personnel duties and responsibilities help to reduce/prevent most of the accidents that can occur when conducting airland operations. They also ensure thorough and effective training. All personnel involved in airland operations will plan and rehearse their tasks.

a. **Unit CDR.** Prior to participation in training, the unit CDR will ensure subordinate CDRs and mission CDRs screen all individuals to ensure they are physically and professionally able to participate in operations.

b. **Officer in Charge (OIC)/Non-Commissioned Officer in Charge (NCOIC).** The OIC/NCOIC will ensure that all personnel are screened to ensure that the individual is capable of performing the tasks required by the Aircrew and mission.

c. **Chalk Leader/Team Leader.** The chalk leader/team leader is responsible for the accountability and actions for offload and on load of supported ground personnel. Signal to aircraft crew when all personnel and equipment is loaded and ready for departure.

d. **AMC.**

(1) Designated by the employing aviation unit, when required. When not required, the PC will assume responsibility.

(2) Ensures that all Aircrew understand their duties and responsibilities during the operations.

(3) Responsible for ensuring all aircraft insertion/extraction personnel are on the designated objective.

e. **PC.** Ensures Aircrew and non-Aircrew personnel are briefed and understand their duties and responsibilities during airland operations, including aircraft safety and actions in the event of an emergency.

f. **Aircrew.**

(1) Conduct pre-operational check (inspection) of all required equipment IAW the operator's manual/AWR/FC/Unit checklist.

(2) Relay necessary time warnings to the passengers, and signal when key aircraft events will occur.

(3) Signal when it is safe to depart and load the aircraft.

15-5. Airland Training Iterations.

a. **Airland Preparation Considerations.** When planning for the number of personnel per type of aircraft, use the standard troop loading/planning figures, found in unit MPG. Adjust these figures depending on aircraft configuration, type of equipment. Coordinate these items in advance with the aviation unit.

b. **Medical Coverage.** See requirements in paragraph 7-8.

c. **MH-6.**

(1) Once the aircraft has landed, approach at a 45 degree angle from to the front of the aircraft in a crouched form. This ensures visual contact between the passengers and the pilot. Remain aware of the effects of sloping terrain and main rotor clearance. Additionally, avoid the tail-rotor area due to limited clearance. Ensure the alternate restraint device is securely attached to an approved tie-down point on the aircraft prior to departure.

(2) Just prior to aircraft touchdown in the LZ, passengers seated on the external passenger system (EPS), will lift their feet so that their legs are parallel with the ground. Do not unhook until the aircraft touches down and the Aircrew signals to exit. Be cautious of upward sloping terrain when departing the aircraft, and avoid the tail rotor area of the aircraft.

d. **H-60.**

(1) Once the aircraft has landed, approach from a 45 degree angle in a crouched form from either side or load via the cargo doors. Avoid the area directly in front of the aircraft due to the forward cant of the main rotor blades.

(2) Once aboard maintain weapons with the muzzle pointed down and immediately don seatbelts or attach alternate restraint device to the aircraft. Ensure all seatbelts or restraint devices are securely fastened or attached to the appropriate anchor point. [Figure 15-1](#) shows retaining strap configuration for MH-60 with seats out; personnel attach lanyards to D-Ring on strap. [Figure 15-2](#) shows a detailed schematic of the MH-60 Improved Restraint System.



Figure 15-1. H-60 Improved Restraint System.

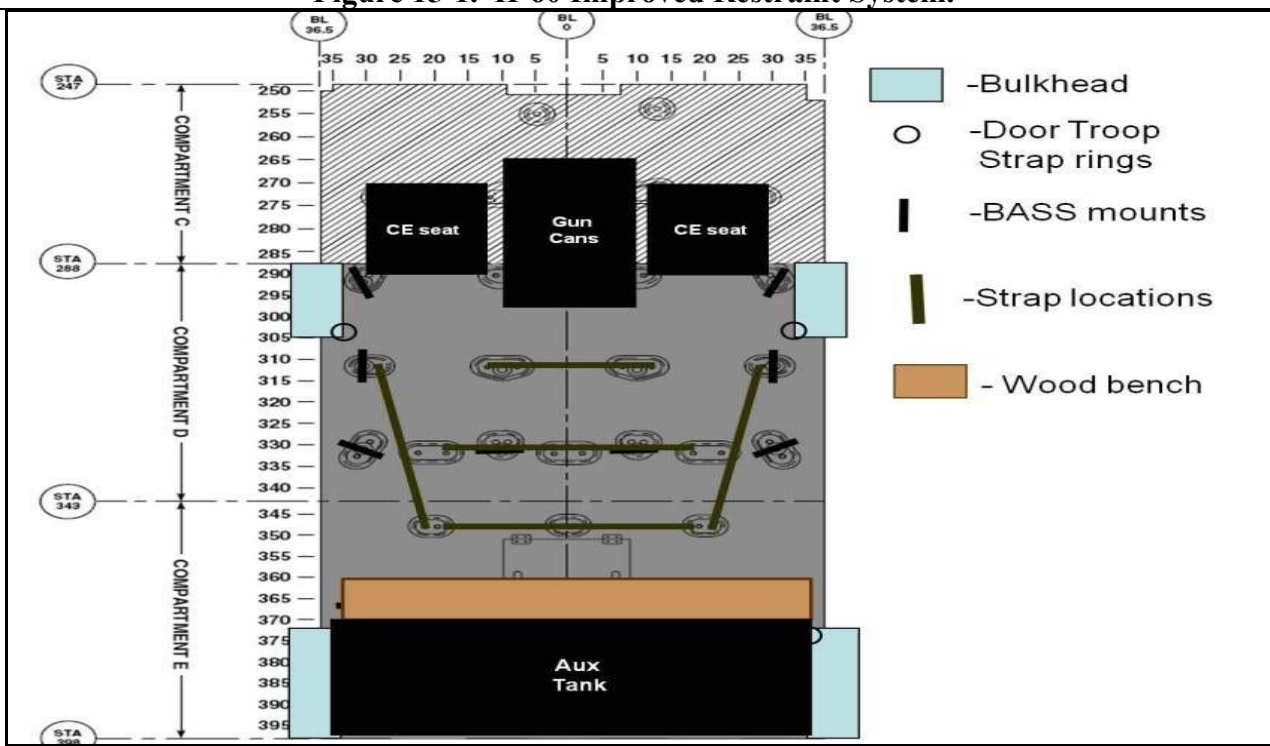


Figure 15-2. MH-60 Improved Restraint System Schematic.

(3) Prior to departure, ensure the cargo doors are closed, or the troop safety strap is connected both front and back across the opening of the cargo area.

(4) Complete tasks per time warnings IAW unit SOP/brief.

(5) When the mission dictates a rapid off load and the aircraft has slowed to safe speed, the cargo door may be opened and secured to the rear. At the “one minute” call the passengers seated in the door may remove the door strap from the forward attachment point and secure to the rear doorway bulkhead. When the door strap is removed, the passengers located in the center of the cabin will assist with the security of the passengers seated in the doorway by holding on to the uniforms/equipment of those passengers.

(6) At the “one minute” call personnel will locate the seat belt buckle or restraint harness anchor point and prepare to release/disengage. Do not release early unless authorized per [Chapter 3](#) of this manual. Just prior to aircraft touchdown in the LZ, passengers seated in the door will lift their feet so that their legs are parallel with the ground.

(7) Once the aircraft has landed, the Aircrew will give the pre briefed hand and arm signal to depart the aircraft. Passengers will release their seatbelts or restraint devices and exit per the chalk/team leaders brief.

(8) When exiting the aircraft, move directly out to the sides a safe distance away and prepare for the aircraft to depart. Avoid the tail and nose area when exiting due to main and tail rotor systems. Blowing dust will obscure visibility for a period of time during aircraft landing and departure.

e. H-47.

(1) When signaled by the Aircrew; approach the aircraft from the rear or sides and load at the ramp. A weapon may be installed at the ramp, use extreme caution. Hazards include the forward rotor blades that can be as low as five feet above the ground, and the aerial refuel probe that extends from the front of the aircraft.

(2) Once inside the aircraft, maintain weapons with the muzzle pointed down and immediately don seatbelts or attach alternate restraint device to the aircraft. Ensure all seatbelts or restraint devices are securely fastened or attached to the appropriate anchor point.

(3) Complete tasks per time warnings IAW unit SOP/brief.

(4) At the “one minute” time warning, all personnel will locate the seat belt buckle or restraint harness anchor point and prepare to release/disengage. Do not release early unless authorized per [Chapter 3](#) of this manual.

(5) Once the aircraft has landed, the Aircrew will lower the ramp and give the pre briefed hand and arm signal to depart. Passengers will release their seatbelts or restraint devices and exit per the chalk/team leaders brief.

(6) When exiting the aircraft, both left and right side personnel can exit at the same time. Once clear of the aircraft ramp, move to a position away from the aircraft, the recommended distance is 25 meters. Blowing dust will obscure visibility for a period of time during aircraft landing and departure.

f. V-22.

(1) When signaled by the Aircrew; approach the aircraft from the rear and load at the ramp. A weapon may be installed on either side of the ramp, use extreme caution.

(2) Once aboard maintain weapons with the muzzle pointed down and immediately don seatbelts or attach alternate restraint device to the aircraft. Ensure all seatbelts or restraint devices are securely fastened or attached to the appropriate anchor point.

(3) Complete tasks per time warnings IAW unit SOP/brief.

(4) At the “one minute” call personnel will locate the seat belt buckle or restraint harness anchor point and prepare to release/disengage. Do not release early unless authorized per [Chapter 3](#) of this manual.

(5) Once the aircraft has landed, the Aircrew will lower the aft ramp and give the pre briefed hand and arm signal to depart the aircraft. Passengers will release their seatbelts or restraint devices and exit per the chalk/team leaders brief.

(6) When exiting the aircraft, both left and right side personnel can exit at the same time. Be aware that a weapon may be located on either side of the ramp which could hinder deployment. Once clear of the aircraft ramp, move to a position away from the aircraft, the recommended distance is approximately 50 meters. Blowing dust will obscure visibility for a period of time during aircraft landing and departure.

15-6. Safety Procedures.

a. Earplugs or Service-approved hearing protection should be worn at all times while on aircraft.

b. All passengers should wear eye protection to protect against flying debris.

c. During night operations, passengers seated in the doorway/EPS should consider using NVDs to maintain situational awareness of aircraft flight/landing state.

- d. Ensure that all portable radio antennas are stowed prior to loading aircraft.
- e. Weapon muzzles will be pointed down while inside the aircraft.
- f. Exit and enter the aircraft once signaled by the Aircrew.

15-7. Signals and Commands.

- a. All signals and commands between the Aircrew and the supported unit will be coordinated.
- b. Hand signals for directing aircraft movement are contained in [Appendix A](#).

CHAPTER 16

OTHER CAPABILITIES: STABILIZED BODY OPERATIONS (STABO) AND AIRBORNE TACTICAL EXTRACTION PLATFORM (AIRTEP)

SECTION I - STABO

16-1. General. STABO systems are used to provide a means of rapid deployment and pickup of personnel by helicopter from areas that prohibit helicopter landings. STABO permits a maximum of four system units that may be connected and dropped simultaneously, which will allow the rappel or recovery of four (4) individuals on one (1) flight. On exfil, the helicopter will lift the individual(s) from the area with the personnel suspended beneath the aircraft, and move to an area where a safe landing can be made. The helicopter then lowers the personnel to the ground, lands, and allows the personnel to board the aircraft.

16-2. Objectives.

- a. To prescribe qualification and training requirements for maintaining proficiency in the conduct of STABO.
- b. To prescribe safety requirements, STABO methods, equipment, and rigging procedures in the conduct of STABO.
- c. To define the duties and responsibilities of key personnel during STABO.

16-3. Safety.

- a. A detailed risk analysis/assessment will be conducted prior to vertical lift FRIES insertion training.
- b. **Briefing.** Before conducting STABO training, a safety briefing must precede operations using the STABO system IAW unit/component SOPs to all personnel conducting STABO training. The briefing should consist of, but not limited to, a review of the following:
 - (1) Identification of key personnel, their duties, and responsibilities.
 - (2) Area hazards.
 - (3) General tower/aircraft safety/emergency procedures.

(4) Equipment associated with STABO and its characteristics.

(5) Equipment inspection/proper donning of the harness.

(6) Dog handling equipment inspection (if required).

(7) Service-approved helmets, eye and hearing protection will be worn during all STABO training iterations.

(8) Weapons are slung.

(9) Loose clothing and equipment are secured.

(10) Methods of extraction to be used.

(a) Personnel.

(b) If applicable, Dog Handler/MPC. The MPC must be restrained and muzzled by the dog handler while in the aircraft and during infil/exfil operations.

(c) Special/extra equipment.

(11) Hand and arm signals/emergency signals.

(12) Medical coverage.

(13) Communications requirements.

(14) Night operation requirements.

(15) Seat configuration/individual restraint criteria.

(16) Area hazards.

(17) General aircraft safety and emergency procedures.

c. Warnings, Cautions and Notes.

WARNING: The wearing of body armor during STABO can result in life-threatening situations due to the harness causing the body armor to ride up and cause choking and/or reduce the flow of blood to the brain.

The use of Interceptor, Body Armor Load Carrying System (BALCS), and BALCS-Releasable (BALCS-R) body armor is prohibited for STABO training. If other types of body armor are used, extreme care will be taken to monitor personnel for signs of choking/unconsciousness during extraction training.

WARNING: Personnel will not wear a MILES harness during any helicopter infil/exfil operation that uses ropes, ladders, hoist, or flotation devices.

WARNING: When jettisoning suspended personnel at ground level, no attempt will be made to cut a taut suspension rope near or by the extracted personnel, as a stretched rope that is cut could spring upward and entangle in the rotor blades of the aircraft.

NOTE: If assets are available, and time allows, sustainment training should include rehearsal with actual mission loads and special equipment.

NOTE: Due to the variety of helmets and extraction harnesses and the possibility of interoperability problems, CDRs with risk acceptance authority may waive the requirement for helmets during exfil operations.

NOTE: Alternate rigging IAW Service-approved AWR/FC is authorized.

NOTE: When the harness is used on patrol, the leg straps may be disconnected, folded, and secured to a suitable point on the harness.

NOTE: The H-47 is capable of multi-station STABO.

NOTE: If rappel ropes are used in the conduct of STABO, identical ropes should be used (i.e., age, usage history, pre-stretched, etc.).

16-4. Personnel Qualification Requirements.

a. **STABO Initial Training.** All personnel will successfully complete the initial STABO training listed below before beginning STABO qualification training in paragraph 16-4.c.:

(1) Personnel will be thoroughly briefed on the STABO system, its purpose, capabilities, limitations, and emergency procedures.

(2) Personnel will be thoroughly briefed on the duties and responsibilities of the PC, Aircrew, SM and SO.

b. **SM.** Selection of personnel for qualification as a SM should be based on the individual's demonstrated leadership capabilities, maturity (E-4 or above), knowledge and experience of STABO. Personnel are qualified to perform the duties of SM after they have met the requirements in paragraph 16-4.a. and 16-4.d., as well as the successful completion of the SM training course. SM training will include the following:

(1) Receive instructions and demonstrate proficiency on rigging the helicopter, inspecting/preparing the STABO system, and donning of the STABO harness.

(2) Receive instructions and demonstrate proficiency in the performance of the following SM duties:

- (a) Coordination responsibilities.
- (b) Troop/Aircrew briefings.
- (c) Organization of the personnel to be extracted.
- (d) Deploying the STABO system.
- (e) Hand and arm signals.
- (f) Emergency procedures.

c. **STABO Qualification.** STABO qualified personnel will have met all standards at the appropriate levels. Component training requirements and standards may be higher in any area to allow for Service or Component PoE that maybe mission area specific, but at a minimum requirements for STABO qualification are:

(1) Describe/demonstrate the procedures, techniques, and equipment necessary to conduct STABO extractions.

(2) Conduct a minimum of three satisfactory STABO extractions to include one with combat equipment and weapon.

d. **STABO Sustainment Training.** Prior to conducting STABO training, units will receive formalized training in the procedures to be used during STABO within 72 hours prior to the operation. At a minimum, this training will include:

- (1) Rigging and inspection of individual equipment.
- (2) Rigging/inspection of the aircraft and accompanying equipment (if applicable).

- (3) Hand and arm signals.
- (4) Safety requirements and emergency procedures.
- (5) Rehearsals.

e. **STABO Refresher Training.** Refresher training is routinely conducted to maintain the acquired skills. Personnel who have not participated in STABO during the past 12 months will undergo refresher training before being included in an operation. Refresher training for STABO consists of conducting at least one STABO under the observation of a current SM. Aircrews will conduct refresher training IAW the appropriate Aircrew training manual and unit SOPs.

f. **SM Refresher Training.** SM refresher training is conducted IAW paragraph 16-4.f., and includes the execution of at least one SM operation under the observation of a current SM.

16-5. Personnel Duties and Responsibilities.

a. **STABO Unit CDR.** Prior to participation in training, the unit CDR will ensure subordinate CDRs and MCs screen all personnel to ensure they are physically and professionally able to participate in operations.

b. **STABO SM.** The SM will be aboard each extraction aircraft. SM will wear a restraint device while performing SM duties in flight. He communicates with the pilot and Aircrew through the aircraft INTERCOM system, if available, or uses pre-determined hand and arm signals. He listens to communications between the pilot and the ground. The SM is responsible for safe and efficient extraction missions. The Aircrew will assist the SM, and keep the pilot informed about the status of the operation. The SM duties are as follows:

(1) Ensures the helicopter is properly rigged; conducts a thorough inspection of the STABO system, anchor system, and aircraft tie-downs; and ensures the Aircrew is properly briefed.

(2) Verifies the aircraft is in the proper position for deployment of the STABO system.

(3) Prepares and deploys the STABO system (when signaled by the Aircrew manually to ensure the system lands in the proper location; recovers and redeploys the system if the desired area is missed or if the mission is aborted. On the H-47, only the Aircrew performs this task.

(4) Observes extracted personnel from the extraction site to a safe letdown area, and monitors aircraft speed. During flight the SM monitors the personnel for stability, obstacle/terrain clearance, unanticipated problems, and aircraft location in relation to the ground. Aircrew will assist with monitoring the personnel on the rope.

(5) Collects equipment after the aircraft lands, and repacks equipment after completing the maintenance checks.

(6) May abort any portion of the operation due to any potentially unsafe condition.

c. **STABO SO.** The SO is responsible for safe and efficient extraction missions and acts as the SM on the ground with the extracted unit. The SO duties are as follows:

(1) Ensures all personnel have properly donned the harness.

(2) Ensures radio communication with the SM/Aircrew has been established during training operations.

(3) Ensures all personnel have properly hooked up to the extraction ropes, and verifies use/hook-up of personnel safety sling.

(4) Ensures personnel/ropes are clear from all obstacles.

(5) Signals the SM that personnel are ready for extraction.

(6) When present, assists personnel as they land at the letdown area.

d. **STABO AMC.**

(1) Designated by the employing aviation unit, when required. When not required, the Pilot in Command (PC) will assume responsibility.

(2) Will ensure all Aircrew understand their responsibility concerning STABO IAW this directive and AV unit SOP.

(3) Is responsible for ensuring all aircraft deploy the STABO system at the designated objective area.

e. **STABO PC.**

(1) Ensures the Aircrew and non-Aircrew personnel are briefed and understand their responsibilities during STABO, including aircraft safety and actions in the event of an emergency.

(2) Ensures inspection of the anchoring device assembly for overall condition and security prior to use.

(3) Emphasizes procedural techniques for clearing, recovery, and jettison of personnel at ground level being extracted, as well as, procedures for the aircraft prematurely departing the EZ/PZ.

(4) Keeps the aircraft positioned over the EZ/PZ with corrections from the SM/Aircrew as required.

16-6. Equipment.

a. **Suspension Equipment.** The STABO suspension equipment consists of the harness, bridle, 45 meter suspension rope, and deployment bag, donut ring anchoring device, safety sling and appropriate snap links. A preflight inspection of the equipment to be used is required.

b. Maintenance Check of STABO Deployment Bag.

- (1) Replace broken or missing rubber retaining bands.
- (2) Replace broken stitching.
- (3) Replace broken or damaged stow loops.
- (4) Repair holes or tears in the deployment bag.
- (5) Clean dirt, grease, and foreign material from the system.

c. Maintenance Check of Suspension and Safety Ropes. All ropes will be checked for serviceability.

- (1) Check for cuts, abrasions, melting, or fusing.
- (2) Check for bent, broken, rusted, or missing snap links.

d. **Packing Procedures.** Packing the STABO extraction system requires the layout and stowing of the suspension ropes, bridle, and scuff pad, and the closing of the deployment bag. During packing, the deployment bag must be secured to the suspension rope to prevent loss of the deployment bag when the system is used. Proper packing of the deployment bag reduces the chance of entanglement and eases handling of the suspension rope.

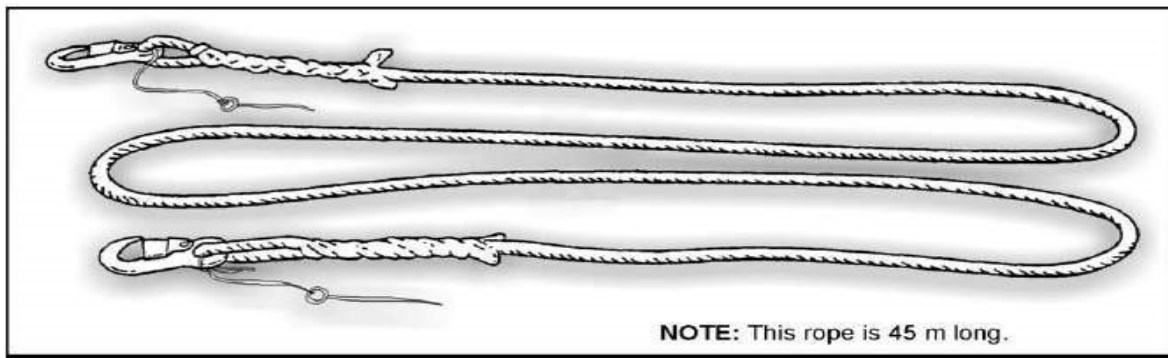


Figure 16-1. Suspension Rope.

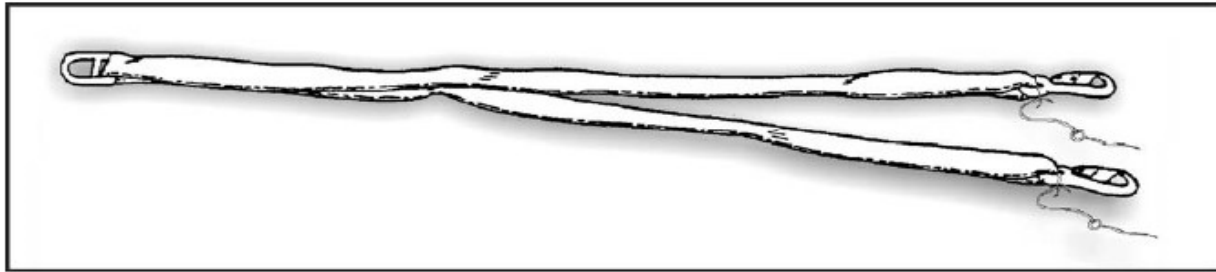


Figure 16-2. Bridle.

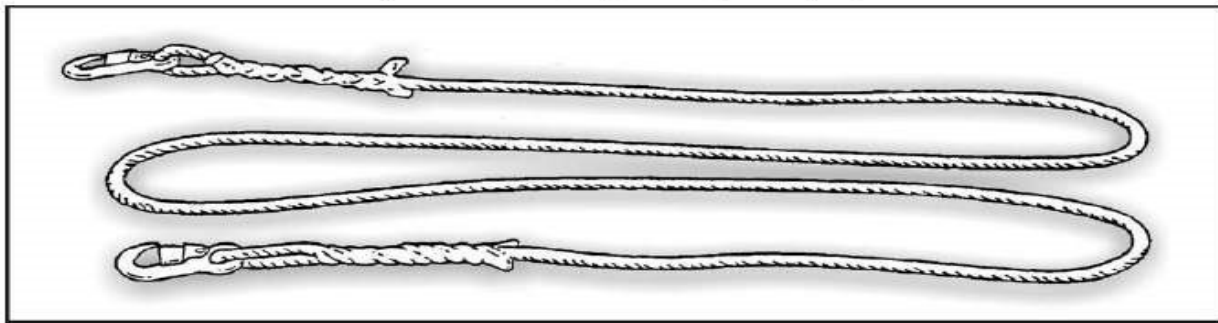


Figure 16-3. Safety Rope.

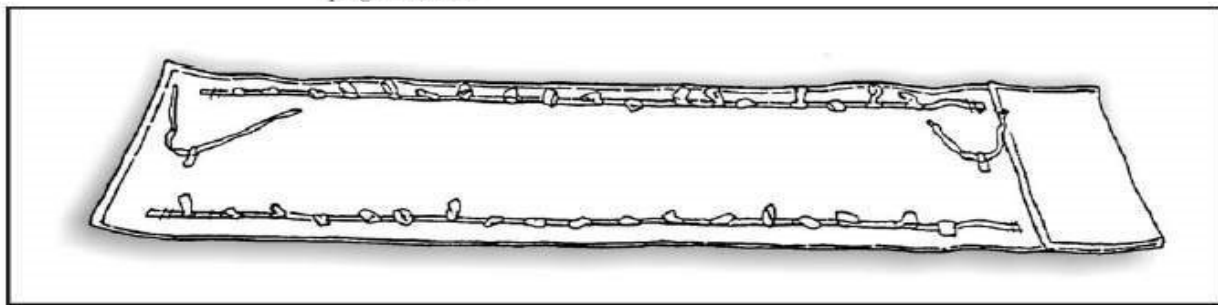


Figure 16-4. Suspension Rope Retainer Ties Attached to the Retainer Web Loops.

(1) Extend the suspension rope running end toward the second stow loop located at the bottom left of the deployment bag body. To form the rope stows, make three or four accordion folds in the rope across the width of the deployment bag to a point $\frac{1}{2}$ -inch from each edge of the deployment bag and complete the last fold on the bottom right of the deployment bag. Secure each formed stow with the retainer or rubber bands attached to the stow loops.

(2) S-fold the bridge on the bottom of the deployment bag in a manner that will preclude the bridge from extending beyond the sides of the deployment bag.

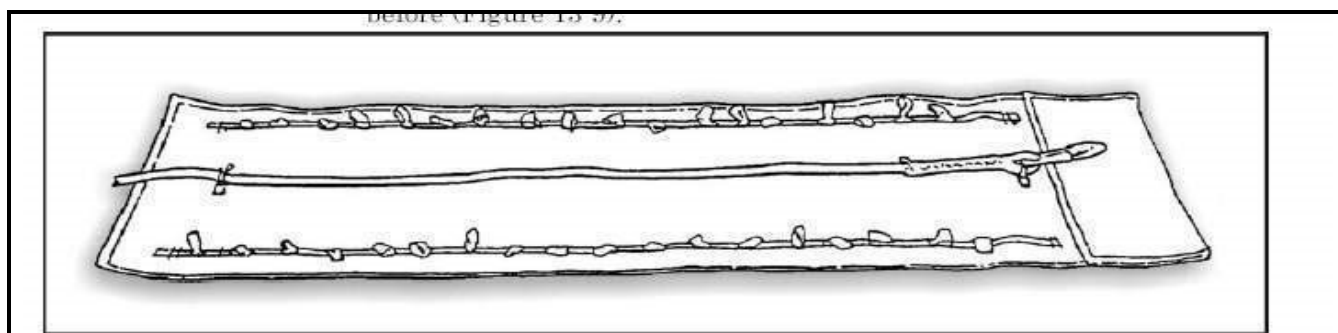


Figure 16-5. Suspension Rope Retainer Ties Completed.

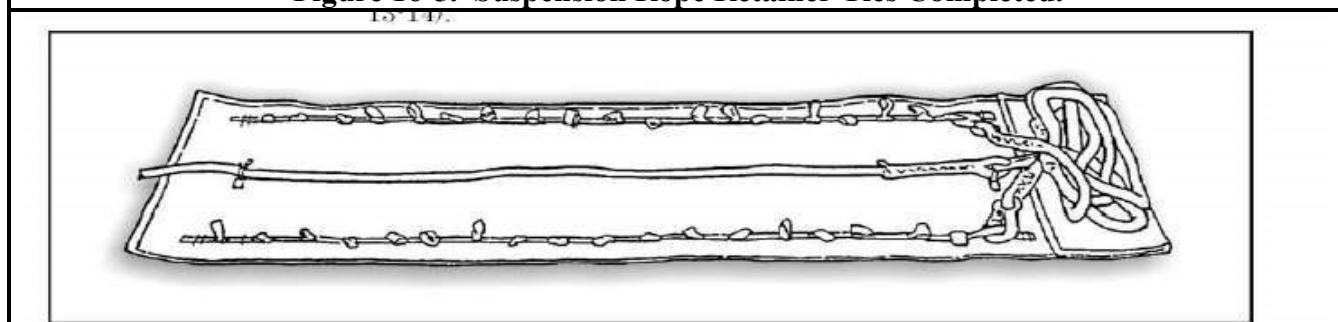


Figure 16-6. Attaching the Safety Rope to the Deployment Bag.

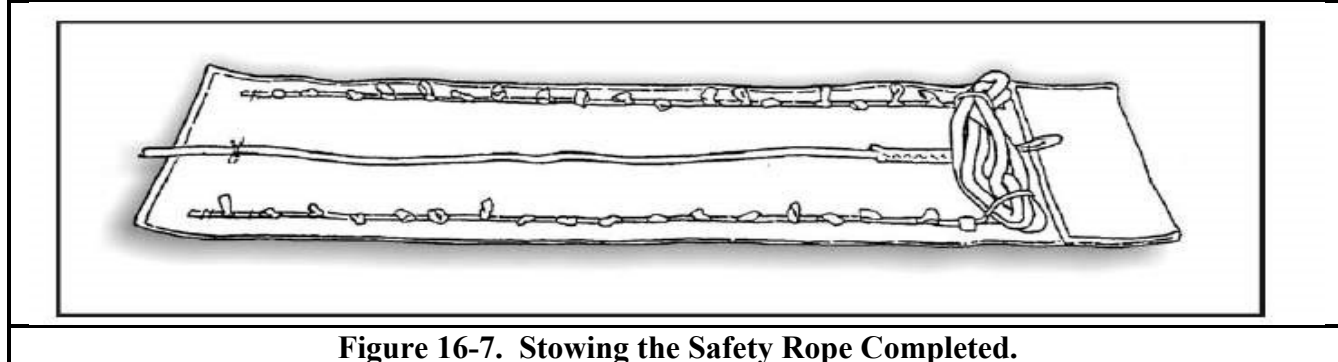


Figure 16-7. Stowing the Safety Rope Completed.

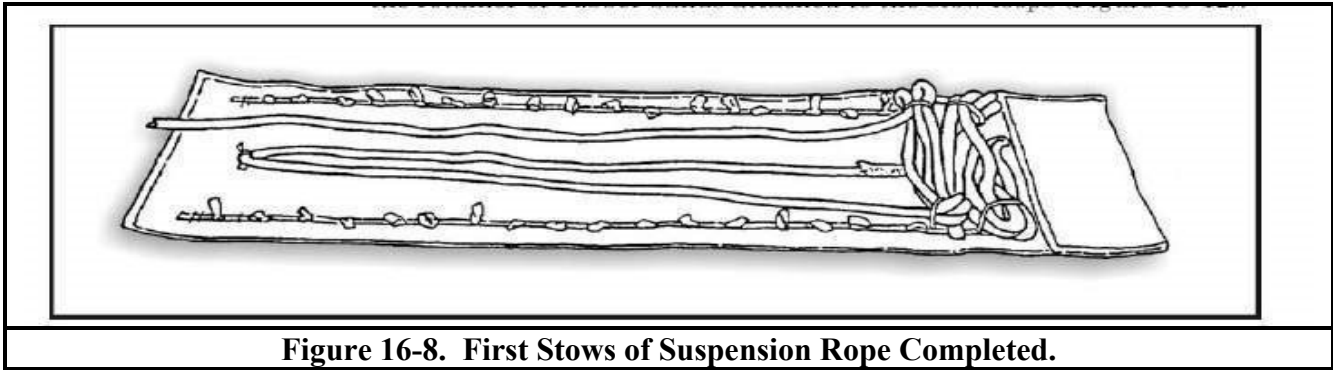


Figure 16-8. First Stows of Suspension Rope Completed.

(3) Beginning at the bottom end of the deployment bag, close the deployment bag by rolling the deployment bag toward the top. Secure each end of the closed deployment bag with one turn, Type I, ¼-inch-wide cotton webbing, using a surgeon's knot and a locking knot. Trim the tie ends to two inches. Large retainer bands may also be used.

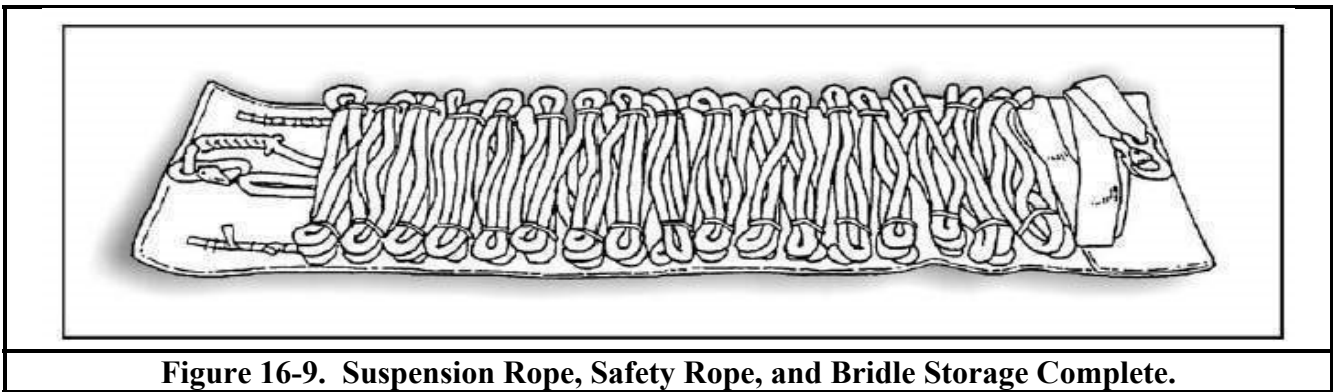


Figure 16-9. Suspension Rope, Safety Rope, and Bridle Storage Complete.

e. Equipment.

- (1) Service-approved helmet.
- (2) Eye Protection.
- (3) Safety restraint harness to secure the SM to the aircraft during operations.

16-7. STABO Training Iterations.

a. **Operational Requirements.** The following section discusses the medical and communications requirements, and the procedures to follow during unusual conditions (adverse weather/terrain conditions, night operations). Personnel must use sound judgment to determine what action to take depending on the nature and severity of the condition (same wording as others).

(1) **Medical Coverage.** See requirements in paragraph 7-8.

(2) **Communications Requirements.** During STABO training, the SM and SO will maintain positive communication with the aircraft/Aircrew. Communications are required prior to commencing STABO. Additionally, the SM will inform the aircraft to stop operations if an unsafe condition develops. Precise hand and arm signals will be established in case of radio failure or poor communications due to static or noise overriding the audio output of the radio. During night operations, if radio communications are hampered, special procedures will be used along with hand and light signals.

(3) **Adverse Weather/Terrain Conditions.** STABO training and operations will not be conducted under the following conditions:

(a) Wind chill factors caused by rotor downwash, cruise airspeeds, and duration that could cause cold weather injuries through exposure. Airspeeds shall not exceed 80 KIAS under normal conditions or 50 KIAS during cold weather and water operations.

(b) Water or ice on the STABO system.

(c) The STABO system is exposed to the elements for a sufficient length of time to freeze, thereby reducing its tensile strength.

(d) Conditions, to include blowing particles produced by rotor downwash that cause the Aircrew or SM to lose visual contact with the ground.

(4) **Night Operation Requirements.**

(a) One light source will be attached to the STABO deployment bag, and one light source will be attached to the harness of each person being extracted.

(b) The SM and the Aircrew will wear appropriate NVDs during night operations. Individual Component and Sub-unified CDRs will establish training, policy, and procedure for use of NVDs.

(c) Altimeter. At least one operable radar altimeter is required to maintain obstacle clearance between roppers and the ground.

b. **Donning of the STABO Harness.** Personnel don their STABO harnesses and adjust them to fit properly. If the extraction is conducted in conjunction with a patrol, they don their harnesses before departing on the mission. Personnel don their harnesses as follows:

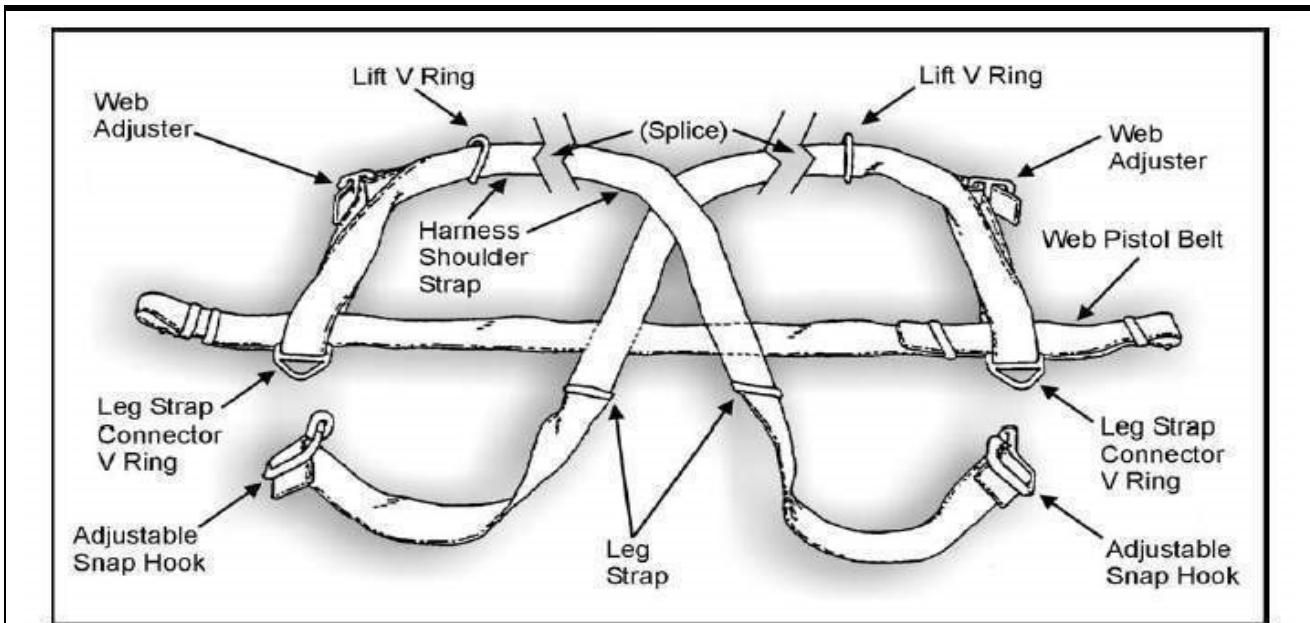


Figure 16-10. STABO Harness Components.



Figure 16-11. Pistol Belt Passed Through Harness Loops and Connected.



Figure 16-12. STABO Harness with Bridle.

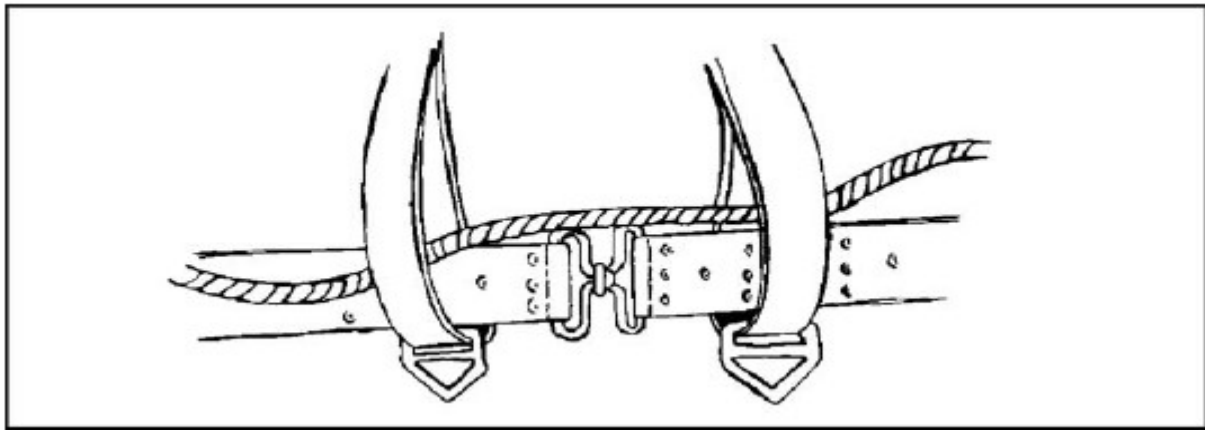


Figure 16-13. Safety Line Connected to Personnel in the Middle of the Line.

- (1) Determine the size of the assigned harness (small, medium, large) to ensure the proper fit.
- (2) Adjust the two harness web adjusters to allow maximum extension of the harness straps. Adjust the adjustable snap hook on each leg strap to provide the maximum extended length possible on each leg strap.

- (3) Insert the left (loose) end of the pistol belt through the left harness strap (formed directly above the left leg strap connector V-ring).
- (4) Repeat the above procedure on the right side of the harness, using the right end of the pistol belt.
- (5) Position the two left V-rings toward the front of the harness adjacent to the equipment attaching rings.
- (6) Place each arm into the respective shoulder strap and don the harness.
- (7) Connect the pistol belt ends and position the belt near the midsection of the body.
- (8) Adjust each side of the harness by grasping and pulling each harness strap (loose) end through the web adjuster. Adjustment may be needed if the pistol belt is situated below the beltline.
- (9) Extend the leg straps between the legs and connect each leg strap hook to the connector V-ring (below the pistol belt). Adjust each strap by pulling the strap (loose) end until the strap fits snugly.
- (10) Because of continuing changes in load bearing equipment designs and the introduction of protective equipment such as body armor, all equipment must be carefully inspected after rigging to ensure all equipment is compatible with the harness being used and does not create an unforeseen hazard for personnel.
- (11) Safety lines will be attached between two individuals on same side of the aircraft. They must join at a point on the harness to provide a means for individuals to return together if separated during flight.



Figure 16-14. Safety Line Connected to Personnel Located on the Outside.

c. Deploying the STABO System.

(1) Prior to the aircraft attaining the hover position for an extraction, the SM opens the extraction deployment bag (See [Figure 16-6](#)) by removing the two bag closing ties. The SM removes the two suspension rope snap links, located just inside of the deployment bag top end, and attaches the snap links to the anchor point (refer to specific aircraft requirements).

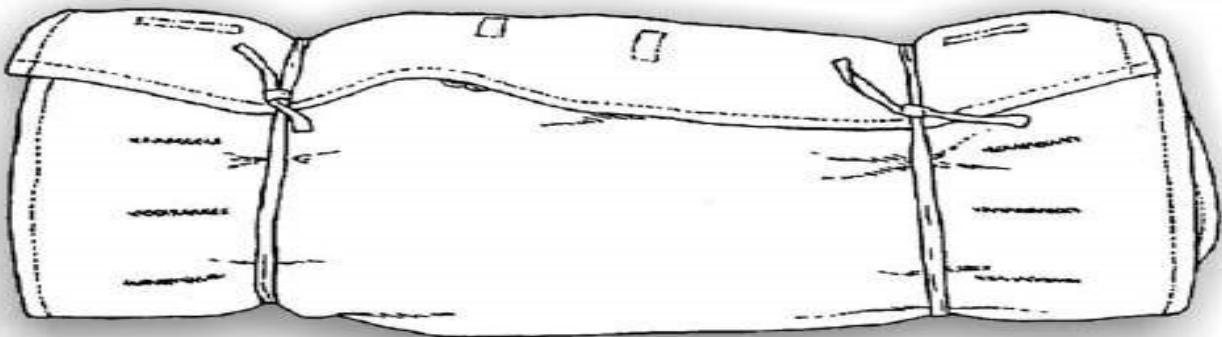


Figure 16-15. Deployment-Bag.

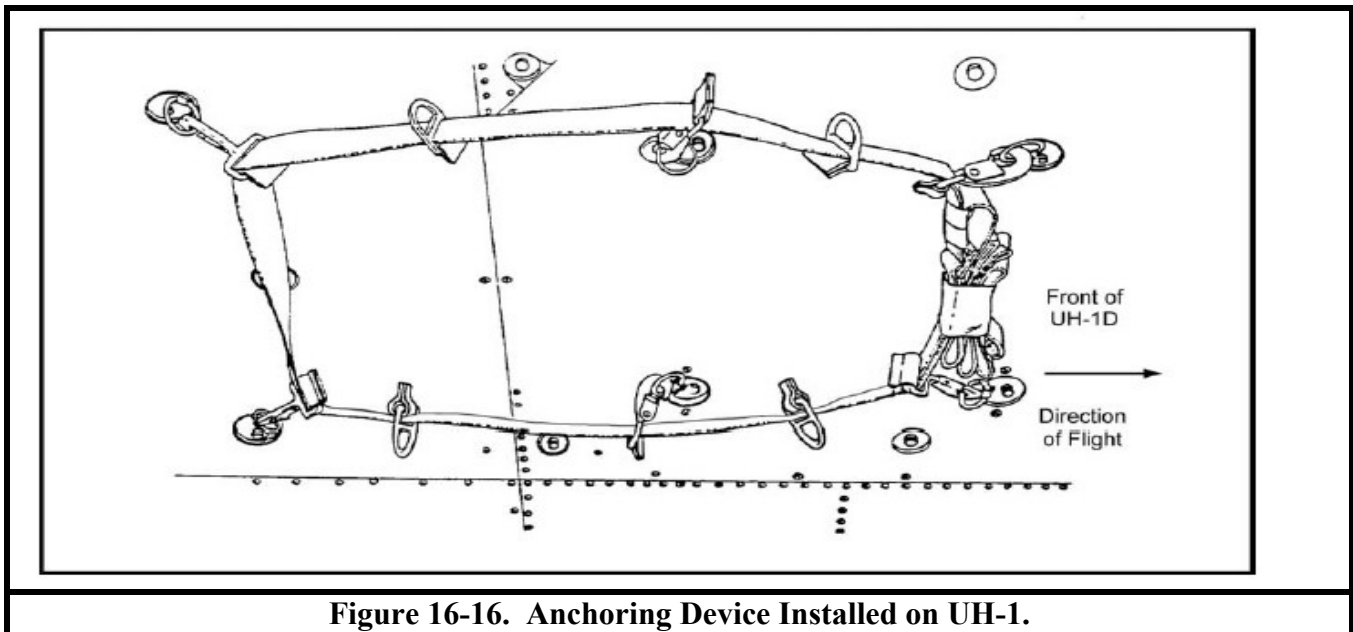


Figure 16-16. Anchoring Device Installed on UH-1.

(2) The PC advises the Aircrew, who will advise the SM when the aircraft is in the hover position and stable; then the SM manually drops a deployment bag. On the H-47, only the Aircrew will deploy the deployment bag. A separate STABO extraction deployment bag is used for each individual extracted, and only two devices may be connected to each side of the aircraft.

d. Conduct of STABO Operations.

(1) **Personnel Extraction Procedures.** The SO and/or the senior member on the ground ensures that personnel have completed the hook-up procedures and are ready for lift-out before the signal is given to the SM. Prior to connecting the bridle snap links to the harness, the member ensure that the harness leg straps are in place, connected, and drawn tight.

(a) After the deployment bag has been deployed to the full length of the suspension rope, the member to be extracted connects two snap links to the bridle and to the two lift V-rings on the personnel harness.

(b) If more than one member is to be extracted, a 6-foot safety rope is formed from a 12-foot sling rope. This is done by tying one end of the rope to form a bowline knot (in the running ends) and a figure-eight knot on the bight. One snap link is attached to one side of the STABO harness, through the harness strap loop formed above the pistol belt, and to the outside of the loop. The snap link is engaged to the safety rope.

1. If two personnel are to be extracted, the opposite end of the safety rope is attached.

2. If three (3) personnel are to be extracted, the procedures for one (1) individual are repeated: pass the safety rope free end through each of the two harness strap loops on the second individual's harness, and connect the rope to the third member. When properly rigged, the middle person should be free to move along the length of the safety rope between the other two personnel.

(c) Upon ensuring that all preparations for extraction have been completed, the SO or senior member signals the SM in the helicopter by radio or hand signals to commence extraction.

(d) Both the ground party and Aircrew should monitor extracted personnel for any signs of distress or trouble. The Aircrew should lower the extracted personnel immediately if there are indications of a problem.

(2) **Four-Person Extraction.** A total of four personnel may be extracted by the STABO system during one lift. The helicopter hovers over the EZ/PZ at altitudes up to 150 feet above ground, and a crewmember/SM drops the suspension ropes in deployment bags. The helicopter then lowers its hover until all four ropes are on the ground.

(a) Four extraction system units may be connected and dropped by the Aircrew, which allows the extraction of four personnel on one lift. As the deployment bag descends, the suspension rope deploys until the deployment bag reaches the ground. The personnel to be extracted attach two bridle snap links to the lift V-rings on the extraction harness and ensure the leg straps are connected and tight.

(b) The SO and/or the senior member notify the SM by radio or by hand signals when liftoff may begin. The aircraft lifts them from the area and moves with the personnel suspended beneath the aircraft to an area where a safe landing can be made. The aircraft then lowers the personnel to the ground, lands, and allows them to board the aircraft.

(3) **Lift-Out Procedures.** To ensure a safe and successful lift-out, the Aircrew, SM, and STABO personnel must rehearse their activities on the ground. Every element must know the others' actions during this procedure. STABO personnel do the following:

(a) Ensures the rope does not become entangled on the ground.

(b) Moves directly under the aircraft if possible.

(c) Uses hand and arm signals or communicates by radio (preferred method) to the SM when ready to be extracted.

(d) If two or more personnel are being extracted, link arms and legs together to prevent twisting while in flight.

(e) If three (3) or more personnel are being extracted, spread and interlock legs; outside men extend arms. One person should be designated to control stability while in the air.

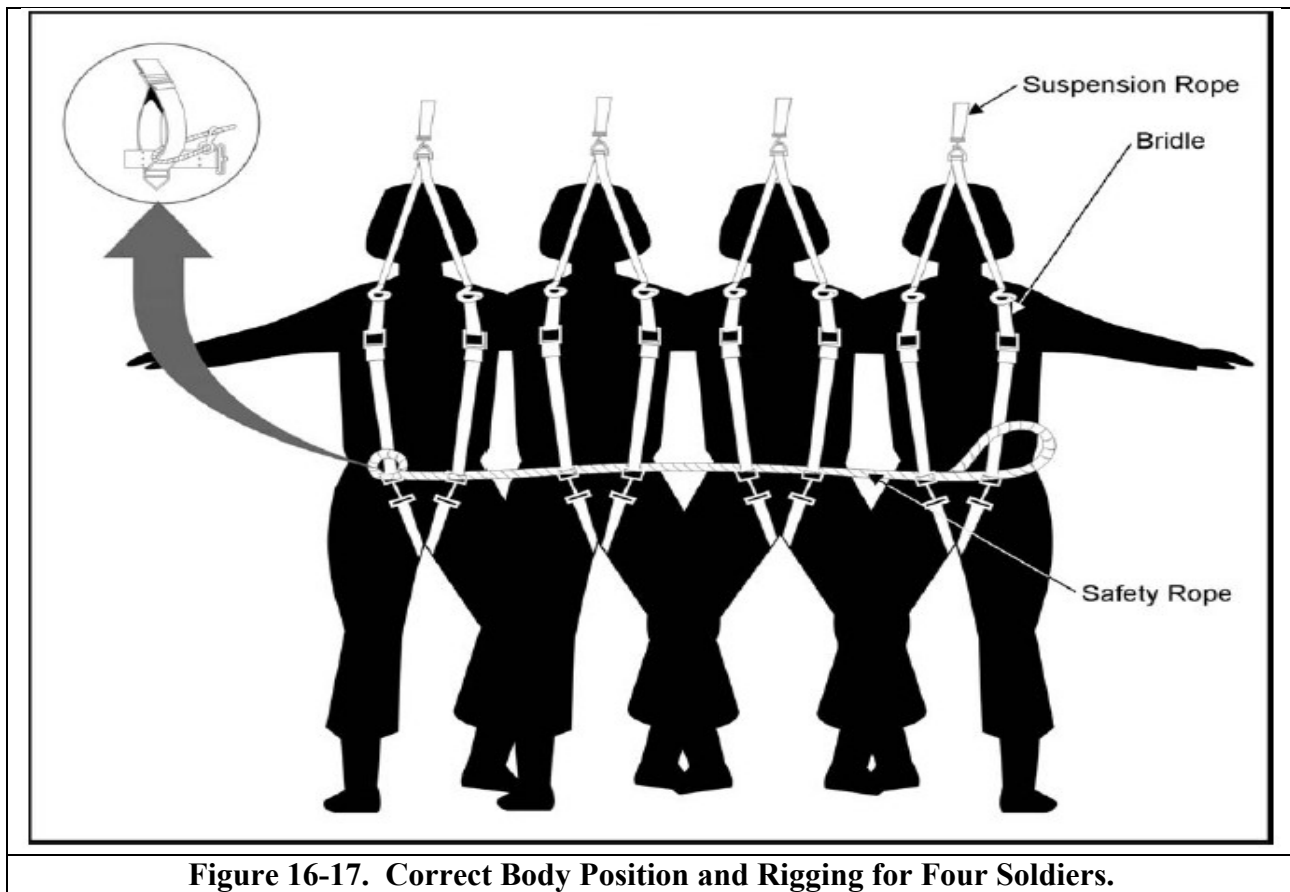


Figure 16-17. Correct Body Position and Rigging for Four Soldiers.

(f) If personnel are not riding at same height, hold onto whatever can be reached to avoid oscillation and twisting.

(g) Should an emergency occur during an extraction, personnel will apply the distress, help or pick me up hand and arm signal by waving one hand overhead (See [Figure A-6](#)) to inform the crew. The pilot should lower the member to the ground or water safely.

(4) Aircrew Duties during Flight.

(a) Inform PC of the distance between the ropes and the ground, giving corrections as necessary.

(b) Inform PC when ropes are taut and when the personnel are off the ground and clear of obstacles (before forward flight).

(c) Monitors the personnel during flight for stability, obstacle/terrain clearance, unanticipated problems, and aircraft location in relation to the ground.

(d) Informs pilot of suspended personnel's progress during landing to ensure clearance of obstacles and if the landing is at the intended touchdown area.

(5) Hand Signals for Directing Helicopter Movement. Hand and arm signals are contained in [Appendix A](#).

(6) Aircraft Flight Speeds and Banking Maneuvers. Extended aircraft flights with personnel suspended below the aircraft must not exceed pre-briefed airspeed and banking turns, based on aircraft restrictions.

e. STABO Emergency Procedures.

(1) When a suspended individual becomes ensnared and liftoff is not possible, the pilot lowers the aircraft so that the individual can untangle or unhook from the rope at ground level.

(2) If after liftoff, suspended/entangled personnel are unable to free themselves, personnel are jettisoned at ground level by the SM on the pilot's command. Only the Aircrew will do this on the H-47. Procedures are as follows:

(a) If the anchoring device assembly has sufficient slack, unsnap the extraction system suspension rope(s) and let it fall away from the aircraft to the ground.

(b) Should the extraction system suspension rope be under tension, cut the rope at the anchor point?

(3) If there is an engine failure, and the aircraft is unable to maintain altitude, the SM (Aircrew) jettison the suspended personnel free at ground level. Aircraft hydraulic and anti-torque problems may require the pilot to have a suspended individual jettisoned at ground level. Personnel will be briefed on emergency procedures prior to performing STABO training.

16-8. Safety Procedures.

a. Should an emergency occur during an exfil, personnel will apply the distress, help or pick me up hand and arm signal by waving one hand overhead (See [Figure A-6](#)) to inform the crew. The pilot should lower the roper to the ground or water safely.

b. Airspeeds shall not exceed 80 KIAS under normal conditions or 50 KIAS during cold weather and water operations.

- c. During training, maximum flight time with ropers on the rope is 20 minutes.
- d. At least one operable radar altimeter is required to maintain obstacle clearance between ropers and the ground.
- e. The V-blade knife or similar tool must be readily available in the event the rope needs to be cut due to an emergency or the rope becomes entangled.

16-9. Signals and Commands.

- a. All signals and commands between the Aircrew and the supported unit will be coordinated.
- b. Hand signals for directing helicopter movement are contained in [Appendix A](#).
- c. Emergency signals from aircraft crews to supported unit will be briefed for operations.

SECTION II – AIRTEP, NSN: 1670-12-405-8908.

16-10. General.

a. **AIRTEP.** AIRTEP is a newly developed capability that was developed to rapidly extract service members from an area where landing is not possible. AIRTEP procedures can be used for rough terrain as well as water operations. Service members can hook into the Safety Belts (primary tether) or using the Service members safety harness (secondary tether). The helicopter lifts vertically until the rope and AIRTEP is clear of all obstructions and then transitions to forward flight. Airspeeds, altitudes, and oscillations must be closely monitored. AIRTEP is authorized for use during training iterations for SOF elements only. Conventional Forces are not authorized to use AIRTEP for training unless their service has approved the use of this platform and has applicable service guidance.

b. **Description.** The AIRTEP assembly consists of the platform, rope (82 ft.) and descent device. It can carry up to ten soldiers, up to 3300 pounds. Five (5) triangular nets and five (5) articulated arms which form a pentagon when opened. In the opened position the platform has a diameter of 9 ½ feet and 75 square feet of surface.

16-11. Objectives.

- a. To prescribe qualifications and training requirements for maintaining proficiency in the conduct of AIRTEP operations.
- b. To prescribe safety and administrative procedures.
- c. To define the responsibilities of CDRs and individuals selected for key positions and duties.

16-12. Safety.

a. **Briefing.** A safety briefing will be conducted prior to all helicopter training/operations utilizing AIRTEP. The briefing will consist of, but not be limited to, a review of the following:

- (1) Identification of key personnel and their duties and responsibilities.
- (2) Area hazards.
- (3) General aircraft safety/emergency procedures.
- (4) Equipment associated with AIRTEP and its characteristics.
- (5) Personal equipment inspection.

- (6) Method of insertion/extraction to be used.
- (7) Hand and arm signals/emergency signals.
- (8) Medical coverage.
- (9) Communications requirements.
- (10) Night operation requirements.

b. **Guidance.** A detailed Risk Analysis/Assessment will be conducted prior to AIRTEP operations.

(1) The following equipment is required for all AIRTEP training/operations.

- (a) Service-approved helmet.
- (b) Eye protection.
- (c) Sleeves down.
- (d) Hearing protection (when applicable).
- (e) 1 red and 1 green Chemlight required for each individual (for night operations).

(3) AIRTEP operations will not be conducted in densely wooded areas unless there are clear areas large enough to support the operation.

(4) All night AIRTEP operations will be regarded as medium risk, at a minimum.

(5) The AIRTEP site must be selected so as to permit the personnel to clear the platform upon touching the ground.

c. **Warnings, Cautions, and Notes.**

WARNING: AIRTEP will not be deployed until the aircraft is at a stabilized hover directly over the designated target.

WARNING: Personnel on the ground or in the water should allow the AIRTEP platform to contact the ground or water to discharge any static electricity prior to opening or climbing on the platform.

WARNING: Non-locking carabineers are required for over/in water operations to provide quicker disconnect in case of emergencies.

WARNING: Swimmers should allow the AIRTEP platform to contact the water to discharge any static electricity prior to attempting to climb on the platform.

NOTE: Alternate rigging IAW service approved AWR is authorized.

NOTE: A landing can be made with the AIRTEP still attached to the aircraft. The Service members, once unhooked keep weight on the platform while the aircrew directs the pilot to hover off to the side and lower the aircraft to the opposite side (3 or 9 o'clock position) that the Service members and platform are on.

16-13. Personnel Duties and Responsibilities. The following personnel duties and responsibilities help to reduce/prevent most of the accidents that can occur when conducting AIRTEP operations. They also ensure thorough and effective training. All personnel involved in AIRTEP operations will plan and rehearse their tasks.

a. **Unit CDR.** Prior to participation in training, the unit CDR will ensure subordinate CDRs and mission CDRs screen all Service members to insure they are physically and professionally able to participate in operations.

b. **AMC.** When more than one helicopter is involved in the operation, the employing aviation unit designates the AMC. His responsibilities include:

(1) Ensuring all aircraft and Aircrews are at the appropriate locations for training, rehearsals and the operation.

(2) Ensuring that all Aircrew members understand their responsibility concerning AIRTEP IAW this manual.

(3) Ensuring that all aircraft extract personnel from the designated target.

c. **PC.**

(1) The PC assumes the duties of the AMC on single ship missions.

(2) Ensures that the Aircrew and all non-Aircrew personnel are briefed and understand their responsibilities during AIRTEP operation, including aircraft safety and actions in the event of an emergency.

(3) Ensures that the AIRTEP rigging have been inspected for completeness and functionality with no visible metal fatigue or other structural weakness, and that it is installed properly.

(4) Keeps the aircraft positioned over the target with corrections from the Aircrew as required.

(5) Emphasizes procedural techniques for clearing, recovery, jettison of the AIRTEP and/or aircraft premature departure from the target area.

(6) Extraction Duties.

(a) When instructed by the pilot, the Aircrew will deploy the AIRTEP when the aircraft is hovering above the unit taking care to avoid striking service members on the ground.

(b) Aircrew notifies the pilot when the rope is on the ground, and reports all altitude corrections needed to ensure Service members reach the AIRTEP.

(c) Aircrew watches for the “thumbs-up” signal from all the Service members.

(d) Aircrew on receipt of the “thumbs-up” signal, advises the pilot that the unit is ready for extraction and request a vertical lift-off.

(e) Aircrew advises the pilot of the unit position, the location of any potential obstacles, and the avoidance of horizontal movement.

(f) If the AIRTEP platform or a Service member becomes entangled with an obstacle during extraction, the Aircrew notifies the pilot to stop the aircraft’s movement. The Aircrew will relay to the pilot directions to move the aircraft to attempt to disentangle the AIRTEP from the obstacle. If the situation is critical, the AM will attempt to secure all Service members to the obstacle or on the ground before the Aircrew attempt to cut the AIRTEP away to free the helicopter.

(g) When positive that all obstructions are clear, the Aircrew advises the pilot to obtain a safe altitude that provides at least 100 foot clearance between the AIRTEP platform and known obstacles for training. PC will determine safe altitude for combat operations based on terrain, obstacles, and enemy situation.

(h) At frequent intervals during the flight, Aircrew advises the pilot on the safety status of all Service members. Maintains a constant visual cross-check with service members, AM, and airspace surveillance. AM maintains a constant watch on the team and frequently checks security of the safety belts or secondary restraint.

(7) Dismounting Duties.

(a) On arrival at the dismounting area, Aircrew informs the pilot as to the approximate distance of the rope from the ground.

(b) Once the pilot starts the vertical descent, Aircrew continually informs him as to the approximate distance of the platform from the ground.

(c) Aircrew informs the pilot of any horizontal drift that occurs and any obstructions near the AIRTEP platform. Also informs the pilot of any oscillation that may occur.

(d) Aircrew informs the pilot when the AIRTEP platform is about 25 feet above the ground and again when it is 10 feet above the ground. Ensures that the rate of descent is slow enough to enable AIRTEP platform to land soft enough not to injure the Service members on the platform.

(e) Aircrew reports when the AIRTEP is on that ground and that there is slack in the rope. He also informs when all personnel are out of the AIRTEP and safely away from the area.

(f) Aircrew on order of the pilot, either directs the pilot to the side of the AIRTEP and guides the pilot to the ground or releases the secondary strap (belly strap) and then releases the cargo hook to release the main rope.

(g) When using an H-47 aircraft, the cargo hook is not used. At least one end of each cargo sling leg would need to be disconnected from its respective Type IV connector in order to release the system from the helicopter.

f. Individuals.

(1) Understand all aspects of the AIRTEP and emergency procedures.

(2) Ensure correct equipment configuration.

(3) Ensures carried equipment's dimension or bulk will not interfere with Service member's ability to execute AIRTEP operations safely.

16-14. Equipment.

a. Repair and Cleaning of Equipment. After use in salt water rinse in fresh water thoroughly. Dry in a ventilated area away from sunlight.

b. Storage of Equipment. To avoid ultraviolet deterioration, of the polymer fiber should be protected from the direct sunlight. The AIRTEP system is stowed in a hard case for protection when not in use. Areas used for storage should be well ventilated and free of oil, acid, cleaning compounds and other contaminants. Equipment must not be stored above or near hot water pipes or heating appliances.

16-15. Rigging of Aircraft.

a. Rigging of AIRTEP.

(1) MH-60.

(a) Equipment.



Figure 16-18. Min AIRTEP for Army Aircraft.

1. One 82-foot AIRTEP rope with deployment bag.
2. AIRTEP platform.
3. AIRTEP descent device (dual bollard system).



Figure 16-19. H60 AIRTEP deployment hand brake.

4. Shackle.
5. Two 11-foot, two or three-loop cargo slings or two 9-foot, two or three-loop cargo slings.
6. Two type IV connector links.
7. Heavy duty tape (100 mile tape). Use to secure Chemlight sources to rope and excess straps as required.
8. Five oval snap hooks.
9. 4X4 wooden shoring to allow emergency cutting of slings without damage to the aircraft.
10. Cutting device (axe).

(b) Installation.

1. The primary attachment point for the AIRTEP rope is the cargo hook. Each end of the rope has a metallic shield to protect the loop. Either end of the rope can be connected to the aircraft. The other end will be connected to the AIRTEP platform using the shackle. The rope will then be threaded thru the braking device place on the FRIES bar in the mid position. The remainder of the rope and the AIRTEP will then be placed in the cabin until ready for use.



Figure 16-20. AIRTEP H-60 Cargo Hook Attachment Point.

2. The secondary strap is assembled by the two 9 or 11-foot cargo suspension slings and joining them to form one continuous sling using a Type IV link assembly. The sling is stretched out on the helicopter deck. One end is taken under the helicopter and through the eye of the AIRTEP rope attached to the cargo hook. It is then connected on the other end of the sling using a Type IV link assembly.

3. Once the AIRTEP rope and cargo straps are in place, the straps running across the deck on the helicopter are secured in place by at least four (4) and as many as eight (8) snap links. The snap links are spaced evenly across the deck and alternated from one side of the strap to the other and top to bottom. Thus, the first snap link can be to the rear of the strap, wrapping around the bottom two straps. The next snap link is in the front of the cargo strap and around the top two sections of the strap. This process continues until at least four points are established.

4. If eight (8) snap links are available, each tie down has two snap links connection the same spot, and the swing gates are reversed.

5. 4X4 wooden shoring to allow emergency cutting of slings without damage to aircraft.

(2) H-47.

(a) Equipment.

1. One 82-foot AIRTEP rope.

2. AIRTEP platform.
3. AIRTEP descent device (dual bollard system).
4. Aerial delivery sling leg covers (improvised padding may be used).
5. Two, 11-foot, two or three-loop airdrop slings.
6. Four type IV connector links.
7. Heavy duty tape (100 mile tape). Use to secure Chemlight sources to rope and excess straps as required.
8. Four Type V clevis', or 10,000 pound capacity snap links.
9. Wooden shoring to allow emergency cutting of slings without damage to the aircraft. Dimensions/quantity shall allow the ability to cut both sling legs.
10. Cutting device (axe).

(b) Installation.

1. The AIRTEP rope is attached using two (2) 11-foot airdrop slings and four (4) Type IV connector links over the center cargo hook access hole. The airdrop slings serve as both primary and secondary support. The four loose ends of the slings are connected to 10,000 pound capacity cargo rings with the Type IV links. The slings pass from the forward right ring (Sta. 320, BL 44R) to the aft left ring (Sta. 400, BL 44L) and from the forward left ring (Sta. 320, BL 44L) to the aft right ring (Sta. 400, BL 44R). The slings are arranged so that the cross point is positioned above the cargo hook access hole, with the upper rope eye positioned on the crossing point (both airdrop sling legs are routed through the upper rope eye).
2. Once the AIRTEP rope and airdrop slings are rigged and in place, four Type V clevis' (or snap links) are used as guides to prevent the sling legs from moving. The sling legs run through the clevis'. One each clevis will be installed on a 5,000 pound capacity cargo ring (four locations) at Sta. 340 and Sta. 360 located on the perimeter of the center cargo hook access hole.
3. Airdrop sling leg covers (or improvised padding) are wrapped around the sling legs at the four points where each leg hangs over the edge of the center cargo hook access hole.

4. Install the Dual Bollard Descent Device centered on the aft edge of the center cargo hook access hole. Use the two provided straps (or organic 5,000 pound straps) to secure the descent device to the floor. One strap will run from the aft left tie down on the descent device to the 5,000 pound cargo ring on the aircraft floor at Sta. 420, BL 20L. Another strap will run from the aft right tie down on the descent device to the 5,000 pound cargo ring on the aircraft floor at Sta. 420, BL 20R. An additional 5,000 pound capacity strap will be left to right with the hook end located at the 5,000 pound cargo ring at Sta. 360, BL 20L, run over the top of the forward end of the descent device just aft of the rope guide, and secured to the aircraft floor with the ratchet end of the strap located at the 5,000 pound cargo ring at Sta. 360, BL 44R (ensure strap runs under all other equipment between the descent device and the outboard cargo ring).

5. Rig the AIRTEP rope to the descent device for deployment. The AIRTEP device is secured to the aircraft floor on top of the center cargo hook access hole door (with door in open position) with the top end of the AIRTEP oriented to the left side of the aircraft. The AIRTEP rope is connected the top end of the AIRTEP and routed aft, underneath the airdrop sling legs and back up to the descent device. At the descent device, the rope is routed through the rope guide on the front edge of the descent device and is fed to the right and guided around the front right bollard post, over to and around the front left bollard post, routed back towards and around the aft right bollard post, over to and around the aft left bollard post, and over to and wrapped around the aft right bollard post. For in-flight security, the rope should be double wrapped or hitched to more the one bollard post. The excess rope should be S-folded or coiled on the aircraft floor, aft and right of the center cargo hook access hole.

6. Wooden shoring is secured to the aircraft floor underneath both airdrop sling legs to allow for emergency cutting of the slings without damage to aircraft.

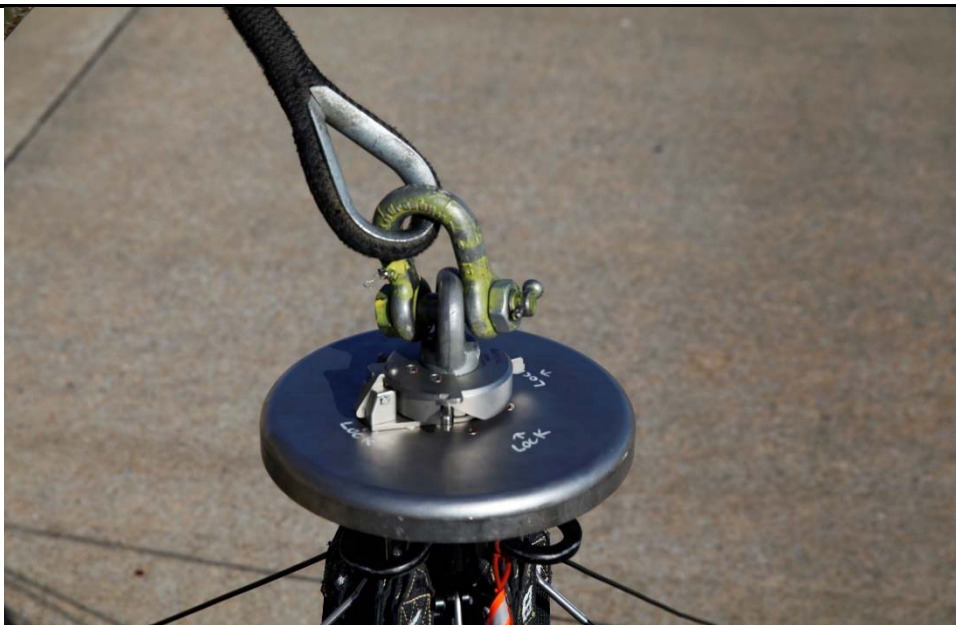


Figure 16-21. AIRTEP attached to Extended Sling.



Figure 16-22. AIRTEP lower Platform Lock Disengaged.



Figure 16-23. AIRTEP Lower Platform Lock Engaged.



Figure 16-24. AIRTEP Rope Connected to Cargo Hook and Sling.

16-16. AIRTEP Training Iterations.

a. **Medical Coverage.** See requirements in paragraph 7-8.

b. **Communications Requirements.** During AIRTEP training, the AM/SO will maintain positive communication with the Aircrew utilizing aircraft communication when available or prearranged hand and arm signals/light signals. Additionally, the AM/SO will inform the PC to stop operations if an unsafe condition develops. During extractions, the SO will inform the PC that all personnel are ready for extraction. During tactical missions, prearranged signals should be used to communicate between the mission and Aircrew personnel (i.e., flashing light or Chemlight source signals).

c. **Night Operation Requirements.** Two Chemlight sources will be attached at the bottom of the AirTEP platform and one to the clevis on the top of the platform.

d. **Over Land.** The AIRTEP is used only when the unit requires immediate extraction or is unable to move to a clear (open) position suitable for helicopter landing.

(1) Once the helicopter is established in a stabilized hover at an altitude to put a sufficient amount of rope on the ground, the pilot will call for the AIRTEP to be deployed. The Aircrew will deploy the AIRTEP, monitor the unit, and keep the pilot advised of the unit's progress. Once the AIRTEP is on the ground the aircrew will instruct the pilot to lower the aircraft in order to remove the rope from the descent device.

(2) The Service members will board the AIRTEP and attach themselves to either the Safety Belts (primary tether) or using the Service members safety harness (secondary tether). Each Service member will pass a "thumbs up" to the unit leader. When all members are secure and ready, the unit leader will give the crewmember a "thumbs up". At night, prearranged light signals may be used. If possible, the unit radio operator will hook in to the AIRTEP close to the team leader and maintain radio contact with the helicopter in order to provide a verbal backup for the extraction, the clearing of obstacles, and the descent into the LZ.

(3) The Aircrew will clear the pilot for vertical ascent using standard voice commands and notify the pilot as the AIRTEP platform clears the ground. When the AIRTEP is airborne, the pilot should make specific note of the radar altimeter reading to determine obstacle clearance and to assist during the insertion process. Aircrew advises the pilot to obtain a safe altitude which provides at least 100 foot clearance between the AIRTEP and known obstacles, for training. PC will determine safe altitude for combat operations based on terrain, obstacles, and enemy situation. Once the AIRTEP platform is clear of all obstacles, the pilot will slowly accelerate [do not exceed 80 KIAS (60 KIAS for H-47) under normal conditions or 50 KIAS in cold/wet weather] and proceed to a secure area.

(4) Upon reaching a safe area, the pilot will transition to a high hover and descend vertically as the crewmember relays distance to ground information. Aircraft descent should be less than 300 feet per minute.

As the AIRTEP platform reaches the ground, the pilot will lower the aircraft enough to put slack in the rope allowing the Service members to exit the AIRTEP to either the 3 or 9 o'clock as briefed. Once the Service members are clear of the area the CE, on direction of the pilot, may disconnect the airdrop sling(s) at the Type IV connector(s) and/or release the AIRTEP rope from the cargo hook (H-60 only).

e. Over Water.

(1) AIRTEP is also suitable for the extraction of swimmers from the water. For this procedure, an optional flotation device may be used.

(2) After the pilot has established a stable hover over the swimmer's location, the crewmember will deploy the AIRTEP platform. Once the AIRTEP is in the water, the Aircrew will instruct the pilot to lower the aircraft in order to remove the rope from the descent device. Once The AIRTEP is in the water the Service members will approach the device and open it. When the Service members have completed their hookup, the team leader will signal the crewmember with a "thumbs up" to commence the lift-off.

(3) The pilot will initiate a vertical climb until the AIRTEP is clear of the water. Service members should know that during initial lift off they may be dragged through the water, and should be prepared to roll on their backs until clear of the water. After takeoff, flight speeds, altitudes and insertion procedures are the same as for over land cold/wet weather operations.

16-17. Safety Procedures.

a. Should a Service member develop an emergency during an extraction, the Service member will apply the distress or help or pick me up hand and arm signal by waving one hand overhead to inform the Aircrew. The pilot will lower the AIRTEP to the ground or water as safely as possible (See [Figure A-6](#)).

b. Airspeeds shall not exceed 80 KIAS (60 KIAS for H-47). During cold/wet weather operations airspeed should not exceed 50 KIAS due to wind chill factors. The aircraft will have an operational radar altimeter to maintain obstacle clearance between the AIRTEP platform and the ground.

c. A V-blade knife, axe or similar cutting device must be readily available in the event the airdrop sling leg(s) needs to be cut due to an emergency or the AIRTEP platform becomes entangled.

16-18. Signals and Commands.

a. All signals and commands between the Aircrew and the supported unit will be coordinated.

b. Hand signals for directing helicopter movement are contained in [Appendix A](#).

c. Emergency signals from aircraft crews to supported unit will be briefed for operation.

CHAPTER 17

CONDUCTING OPERATIONS AND TRAINING WITH FOREIGN FORCES

17-1. General.

a. The purpose of combined operations with foreign military forces is to foster familiarity with procedures, enhance interoperability, and promote goodwill, rapport and camaraderie through SOF military to military relations. This chapter provides guidance for Component CDRs to safely conduct combined infil/exfil operations and training.

b. To function effectively, personnel supporting a combined training program must be aware of a variety of guidelines. These include provisions of applicable Status of Forces Agreements (SOFAs) as well as restrictions on the transfer of equipment, TTPs, and on other types of assistance that may be requested. Because many military activities take place within the HN, applicable legal guidelines may include those of the HN government and the status of U.S. personnel while in country. Accordingly, a country law briefing, cultural orientation, and review of any international agreements affecting status of forces and foreign disclosure should be included in pre-mission preparation.

c. Combined training and operations taking place within a HN require detailed planning and coordination. The USSOCOM unit CDR will, as appropriate, integrate qualified U.S. personnel to assist in planning and conducting the evolution. It is incumbent upon the unit CDR to exercise discretion and mature judgment in conducting the evolution(s) to ensure that procedures used are in compliance with this manual and Component regulations and are well coordinated and understood by both USSOCOM and all foreign personnel participating. Whether using U.S. or HN SOPs, equipment or ranges, the crawl, walk, run approach to rehearsals will ensure all personnel know and understand the procedures.

d. Combined operations are often hampered by language barriers. English or the HN language may be used during combined training or operations. If necessary a translator will be assigned. All personnel must be able to communicate with the person in charge of the evolution. Key commands and hand signals must be briefed and understood by all participants regardless of language. All personnel involved must be able to communicate in the event of an emergency. Emergency procedures must be well coordinated and understood by both USSOCOM and foreign personnel.

e. Prior to foreign participation in combined operations in the U.S., the hosting unit will ensure the individual(s) are cleared with documentation by their country to participate in such operations. Documentation includes orders, letter from home unit or USSOCOM JCET, their embassy, or the local liaison.

f. Prior to U.S. participation in combined operations in the HN, the unit CDR will request waivers as appropriate.

g. Theater CDRs will have the final approval authority for combined operations within their respective area of operations.

17-2. Specific Responsibilities.

a. Equipment.

(1) Foreign nationals may use U.S. equipment provided they are trained in its use according to U.S. or their country standards. If they are qualified in the procedure but are not familiar with the specific equipment, the unit CDR will ensure the foreign personnel are sufficiently trained in equipment use to conduct safe operations. The unit CDR will be the delegated approval authority for foreign military forces utilizing U.S. equipment.

(2) U.S. personnel may use foreign equipment, provided they are trained in its use and the equipment meets U.S. military safety standards per Component regulations. If they are qualified in the procedure but not familiar with the specific equipment, the unit CDR will ensure his personnel receive sufficient training in the equipment use to conduct a safe operation. The qualified U.S. person will inspect the equipment prior to use. The unit CDR will be the delegated approval authority for the use of foreign equipment.

b. Training Areas and Ranges.

(1) Foreign nationals may train on U.S. training areas and ranges when conducting combined training or operations, using U.S. procedures. Unilateral foreign operations may be conducted on U.S. ranges with all deviations from U.S. procedures coordinated and approved by the U.S. host unit.

(2) USSOCOM personnel may train on foreign ranges when conducting combined or unilateral training or operations. U.S. personnel will utilize the foreign range procedures, if safe and practical, when using foreign ranges. Deviations from HN range procedures will be coordinated and approved by the appropriate HN authorities and the U.S. SOF CDR on site.

17-3. Safety during Combined Training.

a. Component publications and unit SOPs will address questions about unit integrity, weapons handling and safety, range and target set-up and procedures, breaching equipment, special ordnance handling and procedures, and personnel handling procedures. If there is conflict between the U.S. and HN policy, at a minimum combined training safety standards will not be less than the relevant U.S. Component safety standard for the evolution being conducted.

b. The safety of U.S. personnel participating in combined training is the responsibility of the senior USSOCOM representative present. If the USSOCOM unit CDR or senior representative believes the coordination and understanding of the operation are inadequate or doubts the safety of the operation, he has the responsibility to prevent his unit from participating.

17-4. Foreign Disclosure.

a. CDRUSSOCOM is the DOD proponent for release of SO TTPs. All planned disclosures require coordination with the USSOCOM FDO.

b. Foreign disclosure planning shall be incorporated into all combined infil/exfil training events. Expect that cross-training will require sharing some level of Component TTPs. SOF infil/exfil joint tactics, techniques, and procedures are advanced training, sensitive in nature, and can be disclosed only IAW Component and USSOCOM Foreign Disclosure regulations and [USSOCOM D 350-27](#). All briefing slides and text must be approved by your Foreign Disclosure Representative (FDR) prior to presentation to a foreign individual or audience. Commitments shall not be expressed or implied, and no disclosures in support of the evolution shall be made pending the required disclosure decision.

c. Disclosure authority delegated by [USSOCOM D 550-2](#) pertains only to USSOCOM originated/controlled Classified Military Information that meets the limitations and disclosure criteria stipulated in National Disclosure Policy-1. Disclosure authority resides with designated FDOs.

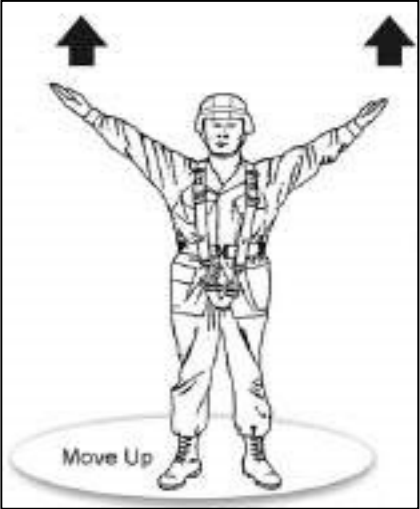
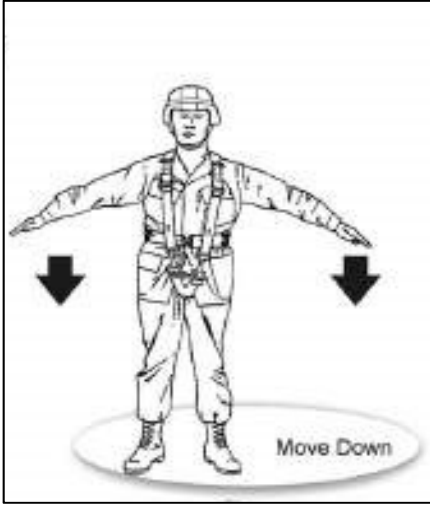

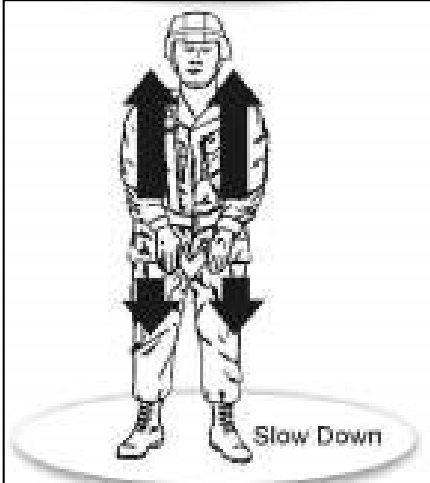
d. If operationally deployed, TSOC and JSOC CDR-appointed FDOs may authorize disclosure of information IAW National Disclosure Policy, USSOCOM Directives, and Service guidance.

e. All persons/units are required to be knowledgeable of and responsible for complying with Foreign Disclosure regulations in [USSOCOM D 550-2](#). Components/units will provide training and guidance to personnel with regards to the foreign disclosure program. Address all questions to: USSOCOM OPR – FDO: SCSO J34-IP. DSN: 299-2151/3313.

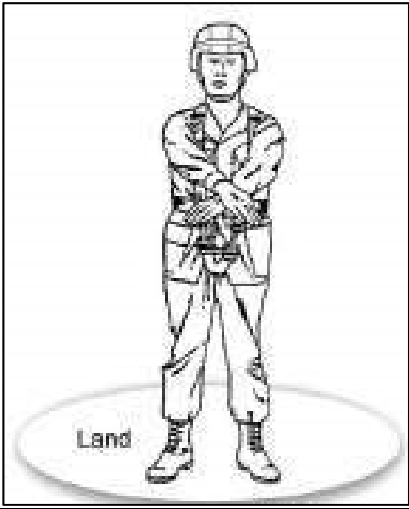
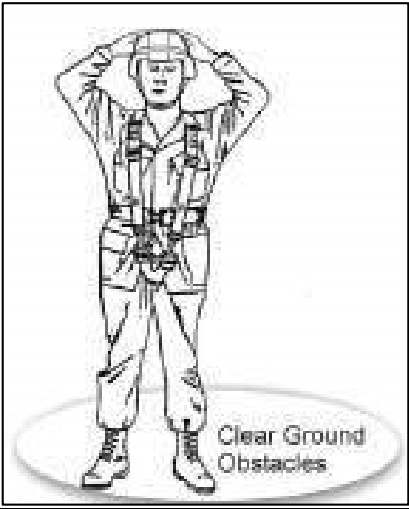
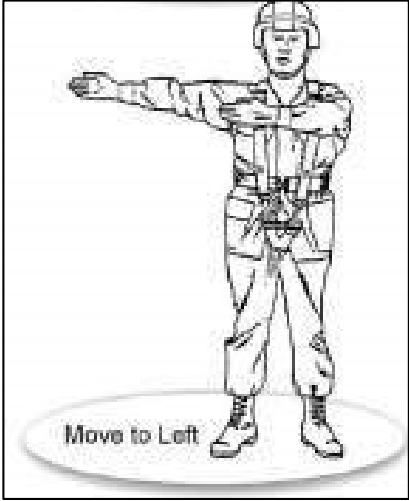
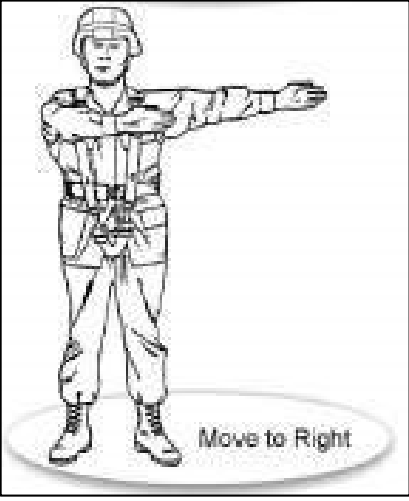
APPENDIX A

HAND AND ARM SIGNALS

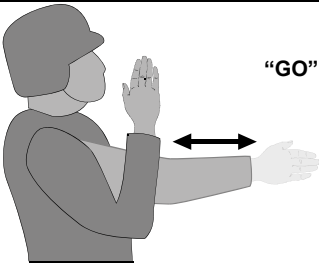
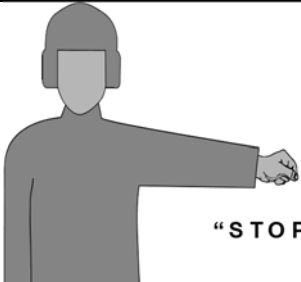
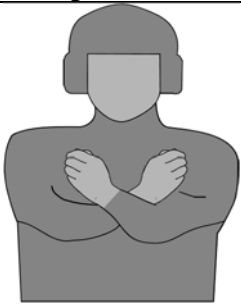

A-1. General. Hand and arm signals for helicopter operations require standardization to the fullest extent possible to avoid confusion. The hand and arm signals contained in this Appendix will be used whenever possible. Any deviation must be thoroughly briefed to all personnel participating in the operation.

	
Move Up	Move Down
	
Hover	Slow Down
Figure A-1. Hand Signals for Directing Aircraft Movement.	

HAND AND ARM SIGNALS (Cont.)

	
<p>Land</p>	<p>Clear Ground Obstacles</p>
	
<p>Move to the Left</p>	<p>Move to the Right</p>
<p>Figure A-2. Hand Signals for Directing Aircraft Movement (Cont.).</p>	

HAND AND ARM SIGNALS (Cont.)

	
<p>The hand will be extended from the chest toward aircraft opening to indicate “GO” for all roping & casting operations.</p>	<p>The arm and fist will be extended out to block exit for all roping and casting operations.</p>
<p>Figure A-3. Rope and Cast Go Signal.</p>	<p>Figure A-4. Stop Stick Signal.</p>
	
<p>The arms will be crossed at chest level to indicate fouled rope or area.</p>	<p>DISTRESS or HELP or PICK ME UP. Hand waving overhead</p>
<p>Figure A-5. Fouled Rope Area Signal.</p>	<p>Figure A-6. Emergency Signal.</p>

APPENDIX B

ROPE LOG

ROPE LOG (USAGE AND HISTORY)				UNIT ID MARKING	
For use of this form, see TC 90-8-1 the proponent agency is TRADOC				D-11-86-5	
NSN 8455-73560366	DOCUMENT NUMBER WJ330SV 61090007	SERIAL NUMBER 6-6-6933	MFR LOT NUMBER G620135115103		
DATE OF MFR 08 Feb 87	ISSUE DATE 01 Oct 87	DATE IN SERVICE 17 Nov 87	LENGTH 45M (150 FT)		
DIAMETER 11mm (7/16 inch)	FIBER TYPE 6-6 NYLON	COLOR OD GREEN	CONSTRUCTION DYNAMIC KERMANTLE		
INSPECT ROPE FOR DAMAGE OR EXCESSIVE WEAR EACH TIME IT IS DEPLOYED AND AGAIN AFTER EACH USE. IMMEDIATELY RETIRE ALL SUSPECT ROPES.					
DATE USED	LOCATION	TYPE OF USE	ROPE EXPOSURE	INSPECTOR'S INITIAL/DATE	ROPE CONDITION AND COMMENTS
20 Nov 87	Yonah Mt GA	Direct And Climb 5.7 A2	65°F clear dry Smooth Granite	ACE 20 Nov 87	
21 Nov 87	Yonah Mt GA	Top Rope Belayed Balance Climb	68°F clear dry Smooth Granite	ACE 21 Nov 87	
15-18 Jan 88	Gulcania Alaska	ROPED GLACIER Travel	2°F snow storm	DEL 15-18 Jan 88	
27 Jan 88	Smuggler's North VT	Front Point Ice Climb	35°F Cloudy No Precip wet rope Dull to ice than	ATS 27 Jan 88	SUSTAINED FALL 15 FT LEADER FALL
28 Jan 88	Smuggler's North VT	Front Point Ice Climb	20°F cloudy & snowy	JHL 28 Jan 88	
8 Feb 88	Mt Shasta CAL	FIAT FOOT ICE Climb	80°F lightly snowing	ACE 8 Feb 88	Approx one inch of stretch slippage on end of rope
22-24 Feb 88	DECOY Mtn N/M	TWO MAN PARTY Rock climb 5.74	45°F clear dry GRANITE	DEL 22 Feb 88	
10-22 Jun 88	Mt McKinley ALASKA	ROPED PARTY Climb CLASS VI	20-53°F one day of rain	JHL 10-22 Jun 88	ABRASION TO ROPE AT POINTS OF TIE-IN (Ends & Middle)

DA FORM 5752-R, MAY 89

FIGURE B-1. Example of Completed Rope Log.

APPENDIX C

FAST ROPE TROOP BRIEFING

C-1. General. This recommended briefing covers detailed instructions concerning every aspect of the operation including the aircraft to be used, training area characteristics, uniform, equipment, and emergency procedures. All participants must attend the entire briefing.

C-2. Briefing Area.

- a. Manifest check.
- b. Operations time sequence, radio call signs and frequencies, actions if radio fails, and visual signals/markings.
- c. Location, identification, and marking of:
 - (1) LZ/PZ (day and night).
 - (2) Infil/exfil site (day and night).
- d. Ground operations and loading.
- e. Heading, route, flight time, and predicted weather conditions.
- f. Altitude.
- g. Time warnings.
- h. Hand and arm signals/light signals.
- i. Emergencies.
 - (1) LZ/PZ.
 - (2) Fast Rope personnel on ropes.

C-3. Rehearsal of Actions in Aircraft.

- a. Seating order.
- b. Exit order.
- c. Wearing of seatbelts/improvised restraints.

FAST ROPE TROOP BRIEFING (Cont.)

- d. Securing of equipment.
- e. Hand and arm signals/emergency signals/light signals for day and/or night operations.
- f. Movement as directed.

C-4. Fast Roping.

- a. Releasing of seatbelts/restraints.
- b. Hand and arm signals.
- c. Movement as directed.
- d. Positioning of equipment.
- e. Exiting of aircraft.
- f. Accountability of personnel and/or equipment.

C-5. Emergencies. The following procedures will be adhered to in an emergency. Personnel use sound judgment to determine the correct action to take.

a. Aircraft Emergency.

- (1) "STOP STICK" (cease FRIES operation and await further instructions from the Aircrew/FRM).
- (2) Ensure ropers are clear.
- (3) Take appropriate action.

(4) "FOULED ROPE/AREA" (unsafe condition exists on a specified rope or an unsafe condition exists on the objective area-cease FRIES operation and await further instructions from the Aircrew/FRM).

b. Unsafe Drift or Premature Liftoff.

- (1) Lock-in.
- (2) "STOP STICK".

FAST ROPE TROOP BRIEFING (Cont.)

(3) Get back on objective.

(4) Continue operations.

c. Hung Rope/Roper.

(1) FRM will re-direct personnel movement and deployment as required.

(2) Aircraft will descend, if possible.

(3) Aircrew/FRM will ensure ropers are clear.

(4) Roper will descend (if possible).

(5) Aircrew will release rope when ropers are clear.

d. No Communications.

(1) The signal for “STOP STICK” is a clenched fist directed at the individual closest to the exit. If given by the Aircrew, Aircrew will ensure the FRM is aware of the situation.

(2) The signal for “ROPERS” is pointing an open palm toward the exit.

(3) The signal for “AIRCRAFT MOVEMENT” is an open palm moving and facing in the direction required, given by the FRM.

(4) The signal for “STOP AIRCRAFT” is a clenched fist given by the FRM to the Aircrew/pilots.

(5) The signal for "FOULED ROPE/AREA" is clenched fists, arms overlapped, forming an "X" indicating an unsafe condition (unsafe condition exists on the objective area-cease FRIES operation and await further instructions from the Aircrew).

APPENDIX D

OPERATIONS CHECKLIST

D-1. General. The sequence of actions, time warnings and duties presented here are recommended. However, they may be modified based on unit procedures, mission, and type of aircraft.

D-2. Pre-mission Actions.

- a. Conduct risk assessment.
- b. Conduct pilot/crew brief.
- c. Conduct aircraft inspection/rigging.
- d. Conduct safety brief/operations brief.
- e. Conduct static load rehearsal. Ensure emergency procedures and hand and arm signals are covered.
- f. Inspection of personnel and equipment.

D-3. Load Aircraft.

- a. Position equipment/personnel.
- b. Ensure personnel are strapped/secured into the aircraft.

D-4. Actions In Flight.

- a. Monitor command net.
- b. Monitor aircrew net.
- c. Monitor flight route.

D-5. Actions at 10-Minute Warning.

- a. Issue 10-minute time warning.
- b. Check equipment.
- c. Check ropes, platform, and hook-up (for rope operations).

OPERATIONS CHECKLIST (Cont.)

D-6. Actions at 6-Minute Warning.

- a. Issue time warning.
- b. Position personnel and equipment.

D-7. Actions at 1-Minute Warning.

- a. Issue time warning.
- b. Release personnel restraints (if applicable).
- c. Break chemlights, turn on light source (night operations).

D-8. GO. Accountability of personnel and equipment upon completion of the operation.

APPENDIX E

CAST MASTER (CM) BRIEFING

E-1. Aircraft cast and recovery operations begin with the CM briefing. This briefing covers detailed instructions concerning every aspect of the operation, to include a description of the aircraft to be used, casting area characteristics, uniform and equipment, and emergency procedures. All swimmers (and Aircrew, if available) must attend the briefing. Recommended briefing format:

E-2. Briefing Area.

- a. Manifest check.
- b. Time sequence for the operation, to include radio call signs and frequencies, action for radio failure, and smoke codes/visual signals.
- c. Flight routes, checkpoints, flight time.
- d. Location and identification of cast area.
 - (1) Markings, day or night.
 - (2) Obstacle markings, day or night.
- e. Cast altitude and speed (Maximum altitude is 10 feet, maximum speed is 10 KGS).
- f. Type of aircraft, number, and formation.
- g. Number of sticks, load order, seating arrangement, exit order.
- h. Number of passes.
- i. Water depth and obstacles.
- j. Sea States will be considered as part of the risk assessment. For training, operations will not be conducted in excess of Sea State is in excess of state 3' (3 foot chop, 4 foot swell).
- k. Location and marking of safety boats.
- l. Conduct of overall operation.

CAST MASTER (CM) BRIEFING (Cont.)

- m. Cast and recovery rehearsal, if applicable.
- n. Abort procedures/signals.
- o. Pilot and CM briefing.
- p. Positioning of equipment.
- q. Review of jump commands, hand and arm signals, and signals for swimmers to use once in the water.
- r. Movement in aircraft, when permitted.
- s. CM inspection of personnel and equipment prior to boarding the aircraft.

E-3. In the Aircraft.

- a. Secure seat belts or safety straps and equipment.
- b. Watch for CM signals.
- c. Move as directed.

E-4. Cast.

- a. Release seat belt or safety strap.
- b. Position equipment.
- c. Receive CM signals.
- d. Exit aircraft.

E-5. After Exiting Helicopter.

- a. Assume proper body position for water entry.
- b. Signal that you are "OK".

CAST MASTER (CM) BRIEFING (Cont.)

- c. Don swimming gear.
- d. Secure equipment/accountability of personnel and equipment.
- e. Execute remainder of operation.

E-6. Recovery.

- a. Assume correct swimmer alignment.
- b. Follow procedures or techniques for recovery system used.
- c. If a rope ladder is used, snare ladder with arm and stabilize ladder, or follow ascending procedures for the recovery system used.
- d. Board aircraft.
- e. Secure seat belts or safety straps.
- f. Accountability of personnel and equipment.

APPENDIX F

CM CHECKLIST

F-1. General. The sequence of actions and duties of individuals presented here are recommended. This checklist may be modified by the CM based on unit procedures, mission, and type of aircraft.

F-2. Pre-mission Actions.

- a. Conduct risk assessment.
- b. Determine tidal and current data.
- c. Determine water depth and forecasted Sea State.
- d. Recon cast zone.
- e. Prep equipment for cast operations
- f. Conduct safety brief/operations brief.
- g. Conduct static load rehearsal.
- h. Verify Safety boat with required personnel on site.
- i. Verify medical coverage on site.
- j. Conduct inspection of personnel and equipment (CM).
- k. Ensure communication between Safety boat/shore/aircraft

F-3. Load Aircraft.

- a. Load/attach MMC.
- b. Position equipment/personnel.
- c. Secure seat belts or safety straps and equipment.
- d. Inspect rigging of MMC.

CM CHECKLIST (Cont.)

F-4. Actions in Flight.

- a. Monitor aircrew net.
- b. Monitor flight route.
- c. Monitor MMC.

F-5. Actions at 10-Minute Warning.

- a. Issue 10-minute warning.
- b. Inflate flotation devices to 1/3 capacity (or as pre-briefed by the CM).
- c. Check swimmer equipment.
- d. Check MMC and cutting device.

F-6. Actions at 6-Minute (5-Minute for Air Force Aircraft) Warning.

- a. Issue time warning.
- b. Don swim fins.
- c. Verify downward ramp tilt (10 degrees) or open AC doors, if required.

F-7. Actions at 3-Minute Warning.

- a. Verify removal of MMC rear restraint strap by Aircrew.
- b. Remove personnel restraint at the pre-determined release point/time.
- c. Break chemlights, turn on light source.

F-8. Actions at 1-Minute Warning.

- a. Issue time warning.
- b. Stand by for aircrew directed release of MMC.

F-9. Casting Actiona. Release MMC when directed by Aircrew.

- a. CM verify altitude.
- b. CM issues order for personnel to cast.

CM CHECKLIST (Cont.)

F-10. Actions in the water.

- a. Give OK signal.
- b. Account for personnel.
- c. Move to and load MMC.
- d. Secure equipment.
- e. Execute remainder of operation.

APPENDIX G

TASK, CONDITIONS AND STANDARDS

Table G-1. Tasks Conditions and Standards.

Rotary Wing and Tiltrotor Infiltration/Exfiltration Task, Conditions and Standards		
TASK	CONDITION	STANDARD
1.0. Conduct Rappel Operations.	Given a SOF mission, helicopter platform, specific terrain, in day/night/periods of low visibility in hostile, denied or politically sensitive environments, with combat equipment, and with specific helicopter rappel equipment.	The individual will be proficient in rappel operations in order to exit an aircraft in an area that may not provide suitable landing conditions.
2.0. Conduct FRIES Operations.	Given a SOF mission, helicopter platform, specific terrain, in day/night/periods of low visibility in hostile, denied or politically sensitive environments, with combat equipment, and with specific FRIES equipment.	The individual will be proficient in FRIES operations in order to exit or hook-up to an aircraft in an area that may not provide suitable landing conditions.
3.0. Conduct SPIES Operations.	Given a SOF mission, helicopter platform, specific terrain, in day/night/periods of low visibility in hostile, denied or politically sensitive environments, with combat equipment, and with specific SPIES equipment.	The individual will be proficient in SPIES operations in order to exit or hook-up to an aircraft in an area that may not provide suitable landing conditions.
4.0. Conduct STABO Operations.	Given a SOF mission, helicopter platform, specific terrain, in day/night/periods of low visibility in hostile, denied or politically sensitive environments, with combat equipment, and with specific STABO equipment.	The individual will be proficient in STABO operations in order to exit or hook-up to an aircraft in an area that may not provide suitable landing conditions.
5.0. Conduct Ladder Operations.	Given a SOF mission, helicopter platform, specific terrain, in day/night/periods of low visibility in hostile, denied or politically sensitive environments, with combat equipment, and with specific ladder equipment.	The individual will be proficient in ladder operations in order to exit or hook-up to an aircraft in an area that may not provide suitable landing conditions.
6.0. Conduct Helocast Operations.	Given a SOF mission, helicopter platform, specific terrain, in day/night/periods of low visibility in hostile, denied or politically sensitive environments, with combat equipment, and with specific Helocast equipment.	The individual will be proficient in Helocast operations in order to exit an aircraft in an area that may not provide suitable landing conditions.
7.0. Conduct Hoist Operations.	Given a SOF mission, helicopter platform, specific terrain, in day/night/periods of low visibility in hostile, denied or politically sensitive environments, with combat equipment, and with specific hoist equipment.	The individual will be proficient in hoist operations in order to exit or hook-up to an aircraft in an area that may not provide suitable landing conditions.
8.0. Conduct Airland Operations.	Given a SOF mission, helicopter platform, specific terrain, in day/night/periods of low visibility in hostile, denied or politically sensitive environments, with combat equipment, and with specific airland equipment.	The individual will be proficient in airland operations in order to board or exit an aircraft in an area with suitable landing conditions.

APPENDIX H

**PROCEDURES FOR INSPECTING THE FAST ROPE BAG
AND COMPONENTS TO DETERMINE SERVICEABILITY H-47**

Table H-1. Procedures for Inspecting the Fast Rope Bag and Components to Determine Serviceability H-47.

INTERVAL	ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
Before	Fast Rope Bag	Inspect for broken or missing stitching; frayed, worn, or cut webbing and material; bent, broken, rusted, or missing hardware.	Components are damaged or missing.
After	Fast Rope Bag	Inspect for broken or missing stitching; frayed, worn, or cut webbing and material; bent, broken, rusted, or missing hardware.	Components are damaged or missing.
Before	Release Straps with Snap Shackles	Inspect for broken or missing stitching; frayed, worn, or cut webbing and material; bent, broken, rusted, or missing hardware.	Components are damaged or missing.
After	Release Straps with Snap Shackles	Inspect for broken or missing stitching; frayed, worn, or cut webbing and material; bent, broken, rusted, or missing hardware.	Components are damaged or missing.
Before	Snap Shackles	Inspect for bent, broken, rusted, or missing hardware.	Components are damaged or missing.
After	Snap Shackles	Inspect for bent, broken, rusted, or missing hardware.	Components are damaged or missing.
Before	Locking Carabineer	Inspect for bent, broken, rusted, or missing hardware.	Components are damaged or missing.
After	Locking Carabineer	Inspect for bent, broken, rusted, or missing hardware.	Components are damaged or missing.
Before	Fast Rope Bag	IAW TM 10-1670-26212&P (Table 2-1)	Components are damaged or missing.
After	Fast Rope Bag	IAW TM 10-1670-26212&P (Table 2-1)	Components are damaged or missing.

GLOSSARY

SECTION I--ABBREVIATIONS AND ACRONYMS

AFI	Air Force Instruction
AFSOC	Air Force Special Operations Command
AFTTP	Air Force Tactics, Techniques, and Procedures
AIRTEP	Airborne Tactical Extraction Platform
AMC	Air Mission Commander
AR	Army Regulation
ARSOA	Army Special Operations Aviation
ATM	Aircrew Training Manual
ATP	Army Techniques Publication
AWR	Air Worthiness Release
BALCS	Body Armor Load Carrying System
BALCS-R	Body Armor Load Carrying System, Releasable
CC	Coordinating Component
CDR	Commander
CG	Center of Gravity
CHEMLIGHT	Chemical Light
CJCS	Chairman Joint Chiefs of Staff
CJCSI	Chairman Joint Chiefs of Staff Instruction
CJCSM	Chairman Joint Chiefs of Staff Manual
CLEA	Civilian Law Enforcement Agencies
CM	Cast Master
COI	Course of Instruction
COMNAVSPEC	
WARCOMINST	Commander, Naval Special Warfare Command Instruction
CR	Change Recommendation
CRRC	Combat Rubber Raiding Craft
COS	Chief of Staff
CTL	Critical Task List
DOD	Department of Defense
DODD	Department of Defense Directive
DODI	Department of Defense Instruction
DODM	Department of Defense Manual
EPS	External Passenger System
ETP	Exceptions to Policy
EXFIL	Exfiltration
EZ	Extraction

SECTION I--ABBREVIATIONS AND ACRONYMS (Cont.)

FAA	Foreign Assistance Act
FC	Flight Clearance
FDO	Foreign Disclosure Office
FM	Field Manual
FMP	Full Mission Profile
FN	Foreign National
FRIES	Fast Rope Insertion/Extraction System
FRM	Fast Rope Master
FOIA	Freedom of Information Act
GCC	Geographic Combatant Command
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HM	Hoist Master
HN	Host Nation
HQ	Headquarters
IAW	In Accordance With
INFIL	Infiltration
INTERCOM	Intercommunications
JCS	Joint Chiefs of Staff
JMETL	Joint Mission Essential Task List
JSAT	Joint Special Operations Force Assessment Team
JSOC	Joint Special Operations Command
JSOT	Joint Special Operations Force Observation Team
K-DUCK	Kangaroo Duck KGS Knots Ground Speed
KGS	Knots Groundspeed
KIAS	Knots Indicated Air Speed
LZ	Landing Zone
LC	Lead Component
MARSOC	Marine Corps Forces Special Operations Command
MC	Mission Commander
MCO	Marine Corps Order

SECTION I--ABBREVIATIONS AND ACRONYMS (Cont.)

MCRP	Marine Corps Reference Publication
METL	Mission Essential Task List
MFP	Major Force Program
MILES	Multiple Integrated Laser Equipment System
MMC	Maritime Mobility Craft
MPC	Multi-purpose Canine
MPG	Mission Planning Guide
NAVAIR	Naval Air Systems Command
NAVSPECWAR	
COM	Naval Special Warfare Command
NCOIC	Non-Commissioned Officer in Charge
NSWC	Naval Special Warfare Command
NTTP	Navy Tactics, Techniques, and Procedures
NVD	Night Vision Device
OCONUS	Outside Continental United States
OIC	Officer In Charge
OPORD	Operations Order
OPR	Office of Primary Responsibility
ORM	Operational Risk Management
PC	Pilot in Command
PoE	Peaks of Excellence
PN	Partner Nation
POC	Point of Contact
POI	Program of Instruction
PZ	Pickup Zone
RDT&E	Research, Development, Testing, and Evaluation
RM	Rappel Master
RMT	Realistic Military Training
RW	Rotary Wing
SIE	SOF Information Environment
SM	STABO Master
SME	Subject Matter Expert
SO	Safety Officer
SO	Special Operations

SECTION I--ABBREVIATIONS AND ACRONYMS (Cont.)

SOF	Special Operations Forces
SOF AT&L	Special Operations Forces Acquisition, Technology, and Logistics
SOTAP	Special Operations Training Assessment Program
SOFBIS	Special Operations Forces Baseline Interoperable Standards
SO-P	SOF Peculiar
SOP	Standard Operating Procedures
SOTEC	Special Operations Training and Education Conference
SPIES	Special Patrol Insertion and Extraction
SPM	SPIES Master
STABO	Stabilized Body Operations
TC	Training Circular
T-DUCK	Tethered Duck
TR	Tilt Rotor
TSOC	Theater Special Operations Command
TTP	Tactics, Techniques, and Procedures
U.S.	United States
USAF	U.S. Air Force
USASOC	U.S. Army Special Operations Command
U.S.C	U.S. Code
USMC	U.S. Marine Corps
USSOCOM	U.S. Special Operations Command

SECTION II -- DEFINITIONS

1. Lead Component (LC).

a. LC is a term used to indicate a delegation of authority by a principal to a subordinate to act on the principal's behalf. Designated responsibilities are defined in [USSOCOM D 10-1](#). The exact nature and scope of the authority delegated will be detailed in Manual/Directive 350-X series training publications. A LC may be limited to providing only administrative and support or coordinating common functions; or, it may be delegated authority, direction, and control over specified resources for specified purposes (formerly referenced as: Executive Agent (EA)). This modifies a term defined in JP 1-02, *Dictionary of Military and Associated Words*, and is a local USSOCOM definition that has not been approved for DOD-wide use.

b. A LC serves as senior advisor to the CDRUSSOCOM on all matters pertaining to operations, training, doctrine, safety, equipment, and interoperability for USSOCOM active and reserve forces. The LC will recommend SOF baseline interoperable standards and qualifications for all Components in the designated task, skill, or capability. This includes evaluation of the skill levels produced at all USSOCOM Component schools and training facilities, to include Contractor Owned/Contractor Operated training venues, against SOF baseline qualification requirements. The LC is required to coordinate with all Components for any proposed establishment/change recommendations.

2. Coordinating Component (CC). Component having equity in a subject (skill, capability, project, activity) for the drafting or revision of policy for training standards, safety standards, doctrine, Research, Development, Testing, and Evaluation (RDT&E), or equipment that apply to multiple USSOCOM Components. CCs have the authority to call meetings, establish agendas, establish Plan of Action and Milestones, establish tasks, conditions, and standards for project deliverables.

3. Proficiency. Proficiency is a thorough competency derived from knowledge, training, and currency.

4. Peaks of Excellence (PoE). Advanced capabilities that exceed an established Special Operations Forces Baseline Interoperable Standards (SOFBIS) that are developed because of Component unique requirements for a specific SOF skill set.

5. USSOCOM Certified Course. A USSOCOM COI/POI or curriculum that has been and maintains certification by USSOCOM J3-T&E. This course is available for SOF attendance and instructs on and meets the standards established in the SOFBIS CTL.

6. USSOCOM Recognized Course. A Service common COI/POI or curriculum that has been and maintains certification by the respective Service's training command. This course is available for SOF attendance.

SECTION II – DEFINITIONS (Cont.)

However, the USSOCOM Major Subordinate Command is responsible for any additional training that is not covered in the Service School but is needed to ensure compliance with SOFBIS.

7. **WARNING**. Refers to a procedure or practice that, if not correctly followed, could result in injury, long term health hazards, or death.
8. **CAUTION**. Refers to a procedure or practice that, if not correctly observed, could result in damage to or destruction of equipment.
9. **NOTE**. Refers to a procedure or condition that requires emphasis.

SECTION III--REFERENCES

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AFTTP 3-3.CV-22, *Combat Aircraft Fundamentals-CV-22*.

AFTTP 3-3.HH-60G, *Combat Aircraft Fundamentals-HH-60G*.

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MCO 1510.87B, *Individual Training Standards (ITS) for Marine Corps Special Skills Volume 1.*

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TC 1-210-1, *U.S. Army Special Operations Aviation Aircrew Training Program.*

TC 3-04.35, *Aircrew Training Manual, Utility Helicopter, MI-17 Series.*

TC 21-24, *Rappelling.*

TM 10-1670-262-12&P, *Technical Manual, Operator and Unit Maintenance Manual, STABO & FRIES.*

USASOC Regulation (R) 350-1, *Training.*

SECTION III—REFERENCES (Cont.)

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USSOCOM D 1-10, *Oversight of Command Activities*.

USSOCOM D 10-1, *Terms of Reference--Roles, Missions, and Functions of Component Commands*.

USSOCOM D 350-1, *USSOCOM Military Training--Individual*.

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USSOCOM D 385-1, *Joint Safety Program*.

USSOCOM D 550-2, *U.S. Special Operations Command Foreign Disclosure Program and Disclosure of Information to Foreign Nationals*.

USSOCOM D 525-45, *Special Operations Forces (SOF) Interaction with Civilian Law Enforcement Agencies*.