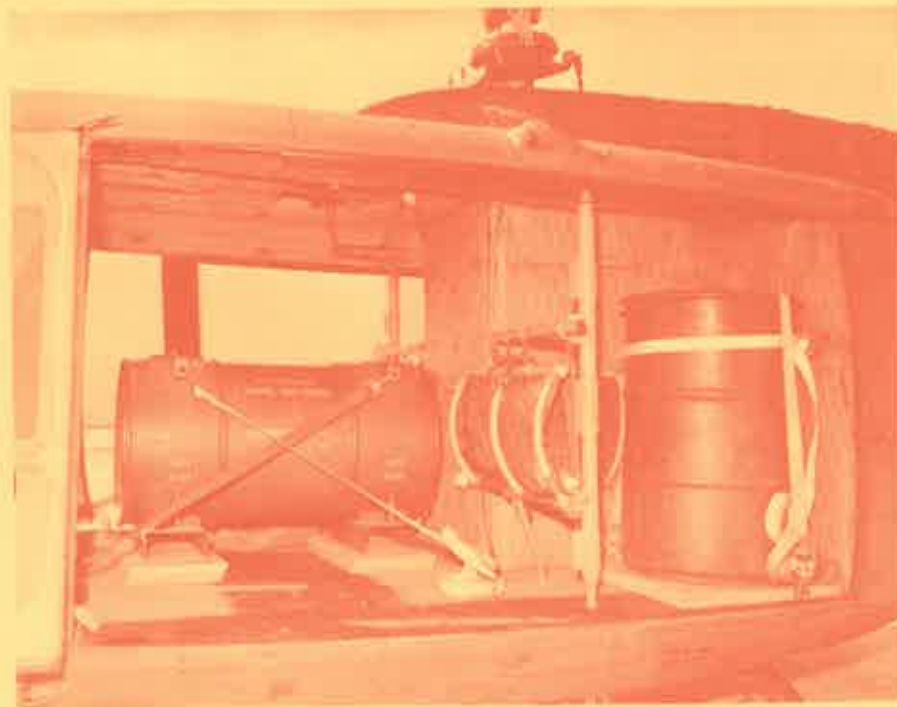


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FIELD MANUAL

**AIR TRANSPORT PROCEDURES**  
**TRANSPORT OF THE W45-3 WARHEAD IN CONTAINER, H815,**  
**FOR MEDIUM ATOMIC DEMOLITION MUNITION (MADM)**  
**BY US ARMY HELICOPTERS**



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\*This manual supersedes FM 55-226, 30 July 1976.

## CHAPTER 1

### INTRODUCTION

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#### 1-1. Purpose and Scope

a. This manual presents Department of the Army approved procedures for transport of the W45-3 warhead in shipping and storage container, H815, by US Army helicopters. The W45-3 warhead in container, H815, is a component of atomic demolition charges (ADC) M167, M172, and M175 for the medium atomic demolition munition (MADM). Materials and qualified personnel needed to prepare, load, tie down, and unload, or to rig and derig, the container are prescribed here. Responsibilities of the consignor, consignee and unit providing transportation are shown in chapter 4, AR 50-5. References are shown in the appendix.

b. The procedures in this manual provide for internal and external transport of one or more containers, H815, with W45-3 warheads, by UH-1-series, CH-47, and CH-54 helicopters.

c. Other internal cargo, including different types of nuclear weapons and/or personnel within helicopter load capacity and restrictions prescribed by AR 50-5 or FM 100-50, whichever is appropriate, and pertinent safety regulations (app), may be transported.

d. This manual also provides for emergency internal and external movement of the container, H815, with W45-3 warhead, by helicopter.

e. Times given to prepare, load, tie down, and unload, or to rig and derig, the loads described in this manual may vary, depending upon existing conditions and the training of personnel involved.

#### 1-2. Reporting of Publication Improvements

Users of this publication are encouraged to recommend changes and give comments for its improvement. Comments should be prepared on DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forwarded to Director, Military Traffic Management Command Transportation Engineering Agency, ATTN: MTT-TRP, PO Box 6276, Newport News, VA 23606 (electrically transmitted messages should be addressed to: DIRMT MCTEA FT EUSTIS VA //MTT-TRP//).

#### 1-3. Warnings, Cautions, and Notes

a. *Warning.* Instructions which, if not followed, could result in injury to or death of personnel.

b. *Caution.* Instructions which, if not strictly observed, could result in damage to, or destruction of, equipment.

c. *Notes.* A brief statement for use as necessary to emphasize a particular operating procedure, condition, and so forth.

## CHAPTER 2

## GENERAL SAFETY AND SECURITY MATTERS

## WARNING

*During* a logistical movement of nuclear weapons by US Army aircraft, jettisoning is not authorized. During emergency movements (external transport by helicopter, chap 5 and 6), the in-flight emergency procedures prescribed by the appropriate aircraft operator's manual will apply (para 4-3i and 4-51, AR 50-5).

**2-1. Warnings.** The following warnings will be observed by personnel performing operations, procedures, and practices that are included or implied in this manual. Disregard for these warnings could result in personal injury or loss of life.

*a.* Before each nuclear cargo mission, the helicopter commander will be familiar with AR 50-5, AR 50-5-1, AR 95-27, and FM 100-50 and insure compliance therewith. Also, the commander will become familiar with the security, safety, and technical peculiarities of the cargo that may affect air transport. Flight plans will include provisions for avoiding built-up and heavily populated areas. When transporting the container, H815, with W45-3 warhead in the universal military pod by CH-54 helicopter, the pod must be secured to the helicopter to prevent jettisoning the pod deliberately or inadvertently. Procedures for securing the pod to prevent jettisoning are prescribed in TM 55-1520-217-10/1 and TM 55-1520-217-10/2.

*b.* To determine compatibility of any other nuclear weapons or other cargo, as authorized by chapter 4, AR 50-5; chapter 1, AR 55-203; and FM 100-50, for transport with the W45-3 warhead, ordnance support channels must be consulted. Information on compatibility is shown in TM 39-45-51C and TM 38-250, which are distributed to major headquarters and to direct support and general support levels. Restrictions listed in TM 39-20-7 will not be exceeded when other types of nuclear weapons are transported along with the warhead.

*c.* A maximum of nine W45-3 warheads in containers, H815, may be transported in a single group without waiver (TM 39-20-7, TM 39-45-51A, and TM 39-45-51C). Existing conditions and the allowable cargo load (ACL) may reduce the quantity.

*d.* Emergency destruction procedures for the W45-3 warhead are shown in TM 39-50-8. Normally, emergency-destruct materials will not be carried on the same helicopter with nuclear weapons. However, the operational commander may authorize transport of emergency-destruct materials (including blasting

caps) in the load-carrying helicopter. Such materials will be in packagings authorized for transportation, isolated from weapons as far as possible, and tied down to prevent movement. Only the number of destruct charges and blasting caps necessary to destroy the warhead will be carried aboard. Blasting caps in their container (recommend use of M2 and M19-series ammunition boxes) will be tied down separately and surrounded by a restrained sandbag barrier. Transport of electric blasting caps in helicopters is governed by paragraph C-26, TM 9-1300-206.

*e.* Containers, H815, with W45-3 warheads will be loaded and tied down in accordance with the procedures in this manual except that they may be repositioned for helicopter operational reasons, or when loading other nuclear weapons or other cargo and/or personnel. Mandatory requirements for minimum spacing, numerical limits, and type of array for transport of the warhead are prescribed by TM 39-20-7 and TM 39-45-51A. If a location other than that shown in the respective tiedown diagram is used, the helicopter commander must insure that:

(1) The number and load capacity of the tiedown devices are as prescribed in this manual.

(2) Tiedown devices restraining the container, H815, with W45-3 warhead are secured to tiedown fittings in the same location relative to the container as those fittings used in the pertinent tiedown diagram. Required restraint will be provided when the depicted tiedown pattern is maintained.

(3) The requirements prescribed by TM 39-20-7 and TM 39-45-51A are fulfilled.

**2-2. Operational Precautions.** The following operational precautions apply during loading, rigging, tie down, transport, and unloading of the container, H815, with W45-3 warhead.

*a.* Web strap tiedown assemblies used to secure the items described in this manual are limited to a maximum time of usage (useful life) of 36 months. The time of usage will start at the time the tiedowns are unpackaged for use by the using organization. At that time, they will be marked, using stencil ink TT-I-1795 (any contrasting color), with the unpackaged date (month and year) in at least ½-inch-high letters near the hook end of the strap. At end of the 36-month useful life, the tiedowns will be marked with a 2-inch-wide band on both sides of the strap, near the previously marked date, using

yellow number 33538 stencil ink TT-I-1795 or enamel TT-E-516.

*b.* Before each use, tiedowns and cargo slings will be inspected for burns, tears, punctures, or cuts. Also, metal items will be inspected for improper operation, corrosion, cracks, or distortion. If any of these conditions are present, the tiedowns or slings must be replaced. No strength testing of tiedowns or slings will be made. Other storage, inspection, and maintenance criteria for tiedowns and slings are prescribed by 55-450-series technical manuals (app).

*c.* Serviceable web strap tiedown assemblies in use more than 36 months may be used to transport nuclear weapon trainers and training devices and other cargo (para 4-3h, AR 50-5). However, when the helicopter or pod is transporting the W45-3 warhead or other nuclear weapon or component, all tie downs, to include those used to secure weapon trainers, training devices, and other cargo, must meet the 36-month useful life criterion.

*d.* Inspect the nylon cargo nets to insure their serviceability. Cargo nets in questionable condition will not be used and will be appropriately marked.

*e.* When attaching tiedown devices to cargo and to tiedown fittings, about equal tension must be kept throughout tiedown arrangements. Tighten the tiedowns to prevent movement of cargo, and secure loose ends of straps. Tiedowns must be checked during flight and tightened as necessary.

*f.* Security and safety measures relative to guards, fire, or emergency destruction procedures, as established by pertinent publications (app), apply during all phases of air transport. All operations described here will be in strict compliance with AR 50-5, AR 50-5-1, AR 50-106, TM 9-1300-206, TM 9-1100-226-20, and FM 100-50.

*g.* The high noise level of helicopter engines and helicopter auxiliary power unit can cause permanent damage to hearing. All personnel working in the vicinity will wear hearing protectors and avoid entering engine noise danger area. Also, external cargo hookup personnel will wear goggles and protective headgear (hard hat, steel helmet, or flight helmet), and will use static electricity discharge probe, NSN 1670-00-574-8044, or a locally made probe.

*h.* Passenger seats must be available for the minimum essential security personnel (courier officer and guard).

*i.* The W45-3 warhead must not be exposed to a temperature of less than  $-65^{\circ}\text{F}$  ( $-54^{\circ}\text{C}$ ).

*j.* Helicopters and universal military pod will be searched and inspected for unauthorized personnel and equipment and for any possible sabotage. Entry controls will be set up by the courier officer to maintain security integrity until completion of the nuclear mission.

## CHAPTER 3

## AIR TRANSPORTABILITY AND HANDLING DATA

**3-1. General**

*a.* This chapter identifies the container, H815 (fig 3-1), for the W45-3 warhead and the limitations for its internal and external transport by helicopter.

*b.* Approximate dimensions and weight of the container, H815, with W45-3 warhead, are as follows:

| Length              | Dimensions           |                      | Weight             |
|---------------------|----------------------|----------------------|--------------------|
|                     | Width                | Height               |                    |
| 42.0 in<br>(1.07 m) | 24.0 in.<br>(0.61 m) | 28.0 in.<br>(0.71 m) | 391 lb<br>(177 kg) |

*c.* Personnel dosimetry (film badge) or special radiological handling procedures are not required, unless otherwise specified, for any personnel (including aircrew) engaged in operations described in this manual.

*d.* The container, H815, may be air transported with its cover end facing forward, aft, right, or left in the cargo compartment. (Tiedown diagrams in

this manual show the cover end facing aft). The container center of balance is about 24 inches (0.61 m) from the cover end.

*e.* Insure that cover on container, H815, is secure and that lead seal is present.

*f.* The helicopter center of balance must be computed for all loads, to include number and location of nuclear weapon security personnel (two-man concept).

**3-2. Air Transport Limitations**

*a.* The container, H815, with W45-3 warhead will normally be transported as an internal load (chap 4). However, under emergency conditions, it can also be transported as an external load (chap 5). The determination that external transport is justifiable will be approved by the commander authorizing the emergency evacuation.

*b.* Transport of the warhead in a single group when exceeding the limitations shown in paragraph 2-1c must be accomplished by waiver under the provisions of TM 39-45-51A and TM 39-20-7.



*Figure 3-1. Container, H816, for W45-3 warhead.*

## CHAPTER 4

### INTERNAL TRANSPORT BY HELICOPTER

#### WARNING

Insure that the universal military pod is secured to the CH-54 helicopter to prevent jettisoning the pod either deliberately or inadvertently (para 2-1a).

#### NOTE

Materials, procedures, and times for transport of one container, H815, follow and are to be adjusted when transporting multiple containers.

#### 4-1. Materials and Procedures for Transport of Container, H815, With W45-3 Warhead (Handcarry Method)

#### NOTE

Handcarry method is the primary method for all helicopters and for the CH-54 helicopter universal military pod.

a. *Materials.* Parking shoring. Plywood, one piece 48- by 32- by 3/4-inch. (may be used but is not required).

#### b. *Loading.*

(1) Handcarry container into helicopter or universal military pod and position at tiedown location (on parking shoring if used). Four persons can prepare, load, and tie down the container in about 5 minutes.

(2) Tiedown the container in the respective helicopter or pod in accordance with the following figures and tables:

| Helicopter                     | Figure no. | Table no. |
|--------------------------------|------------|-----------|
| CH-47                          | 4-1        | 4-1       |
| UH-1C/M*                       | 4-2        | 4-2       |
| UH-1D/H                        | 4-3        | 4-3       |
| CH-54 (universal military pod) | 4-4        | 4-4       |

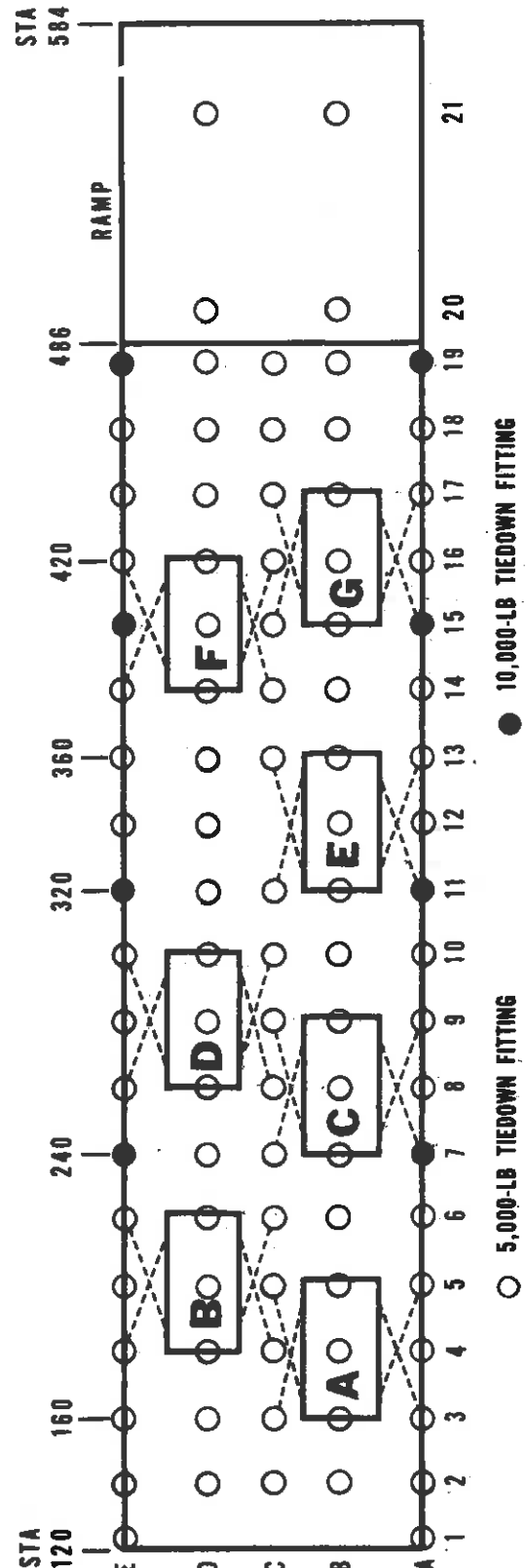
\* Cargo floor-fitting pattern in the UH-1B helicopter is similar to the fitting pattern for the UH-1C/M helicopters. Strength of floor fittings in the UH-1B/C/M helicopters is the same.

Table 4-1. Tiedown Data for Container, H815, With W45-3 Warhead, in CH-47 Helicopter

| Item | Tiedown fitting |                      | Tiedown device* |                      | Attach to item             |
|------|-----------------|----------------------|-----------------|----------------------|----------------------------|
|      | Designation     | Capacity in 1,000 lb | Type            | Capacity in 1,000 lb |                            |
| A    | A3              | 5                    | CGU-1/B         | 5                    | Left rear tiedown clevis   |
|      | C3              | 5                    | CGU-1/B         | 5                    | Right rear tiedown clevis  |
|      | A5              | 5                    | CGU-1/B         | 5                    | Left front tiedown clevis  |
|      | C5              | 5                    | CGU-1/B         | 5                    | Right front tiedown clevis |

B through G—Restrain each item in position shown in figure 4-1 and in manner prescribed for item A above.

\*MC-1 tiedown device may be used.



NOTE: UTILITY HATCH DOOR IS LOCATED IN THE CENTER OF THE FLOOR BETWEEN STATIONS 320 AND 360.

Figure 4-1. Tiedown diagram for container, H815, with W45-3 warhead, in CH-47 helicopter.



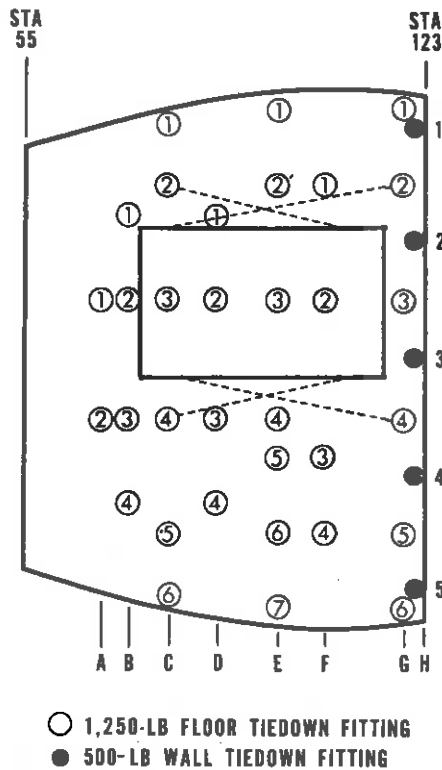


Figure 4-2. Tiedown diagram for container, H815, with W45-3 warhead, in UH-1C/M helicopters.

Table 4-2. Tiedown Data for Container, H815, With W45-3 Warhead, in UH-1C/M Helicopters

| Tiedown fitting<br>Designation | Capacity<br>in 1,000 lb | Tiedown device* |                         | Attach to item             |
|--------------------------------|-------------------------|-----------------|-------------------------|----------------------------|
|                                |                         | Type            | Capacity<br>in 1,000 lb |                            |
| C2.....                        | 1.25                    | CGU-1/B         | 5                       | Right rear tiedown clevis  |
| C4.....                        | 1.25                    | CGU-1/B         | 5                       | Left rear tiedown clevis   |
| G2.....                        | 1.25                    | CGU-1/B         | 5                       | Right front tiedown clevis |
| G4.....                        | 1.25                    | CGU-1/B         | 5                       | Left front tiedown clevis  |

\*MC-1 tiedown device may be used.

c. *Unloading.* Four persons can handcarry the container from any of the helicopters or the pod in about 3 minutes.

4-2. Materials and Procedures for Transport of Container, H815, With W45-3 Warhead (Roller Conveyor Method)

NOTE

Roller conveyor method is the alternate method for the CH-47 helicopter and for the CH-54 helicopter universal military pod.

a. *Materials.*

(1) Parking shoring. Plywood, one piece, 48- by 32- by 3/4-inch.

Table 4-3. Tiedown Data for Container, H815, With W45-3 Warhead, in UH-1D/H Helicopters

| Item   | Tiedown fitting |                         | Tiedown device* |                         | Attach to item             |
|--------|-----------------|-------------------------|-----------------|-------------------------|----------------------------|
|        | Designation     | Capacity<br>in 1,000 lb | Type            | Capacity<br>in 1,000 lb |                            |
| A..... | B4              | 1.25                    | CGU-1/B         | 5                       | Left rear tiedown clevis   |
|        | D1              | 1.25                    | CGU-1/B         | 5                       | Right rear tiedown clevis  |
|        | J1              | 1.25                    | CGU-1/B         | 5                       | Right front tiedown clevis |
| B..... | J4              | 1.25                    | CGU-1/B         | 5                       | Left front tiedown clevis  |
|        | B3              | 1.25                    | CGU-1/B         | 5                       | Right rear tiedown clevis  |
|        | D6              | 1.25                    | CGU-1/B         | 5                       | Left rear tiedown clevis   |
|        | J3              | 1.25                    | CGU-1/B         | 5                       | Right front tiedown clevis |
|        | J6              | 1.25                    | CGU-1/B         | 5                       | Left front tiedown clevis  |

\*MC-1 tiedown device may be used.

Table 4-4. Tiedown Data for Container, H815, With W45-3 Warhead, in CH-54 Helicopter Universal Military Pod

| Item   | Tiedown fitting |                         | Tiedown device* |                         | Attach to item             |
|--------|-----------------|-------------------------|-----------------|-------------------------|----------------------------|
|        | Designation     | Capacity<br>in 1,000 lb | Type            | Capacity<br>in 1,000 lb |                            |
| A..... | A2              | 5                       | CGU-1/B         | 5                       | Left rear tiedown clevis   |
|        | C2              | 5                       | CGU-1/B         | 5                       | Right rear tiedown clevis  |
|        | A4              | 5                       | CGU-1/B         | 5                       | Left front tiedown clevis  |
|        | C4              | 5                       | CGU-1/B         | 5                       | Right front tiedown clevis |

B through I—Restrain each item in position shown in figure 4-4 and in manner prescribed for item A above.

\*MC-1 tiedown device may be used.

(2) Bridge shoring. Plywood, one piece, 48- by 32- by 3/4-inch (may be used but is not required).

(3) Rolling shoring. Plywood or lumber as required.

(4) Wheeled or roller conveyor. Two sections, 4-foot (NSN 3910-00-926-1054), or equivalent.

(5) Blocking shoring as required.

b. *Loading.*

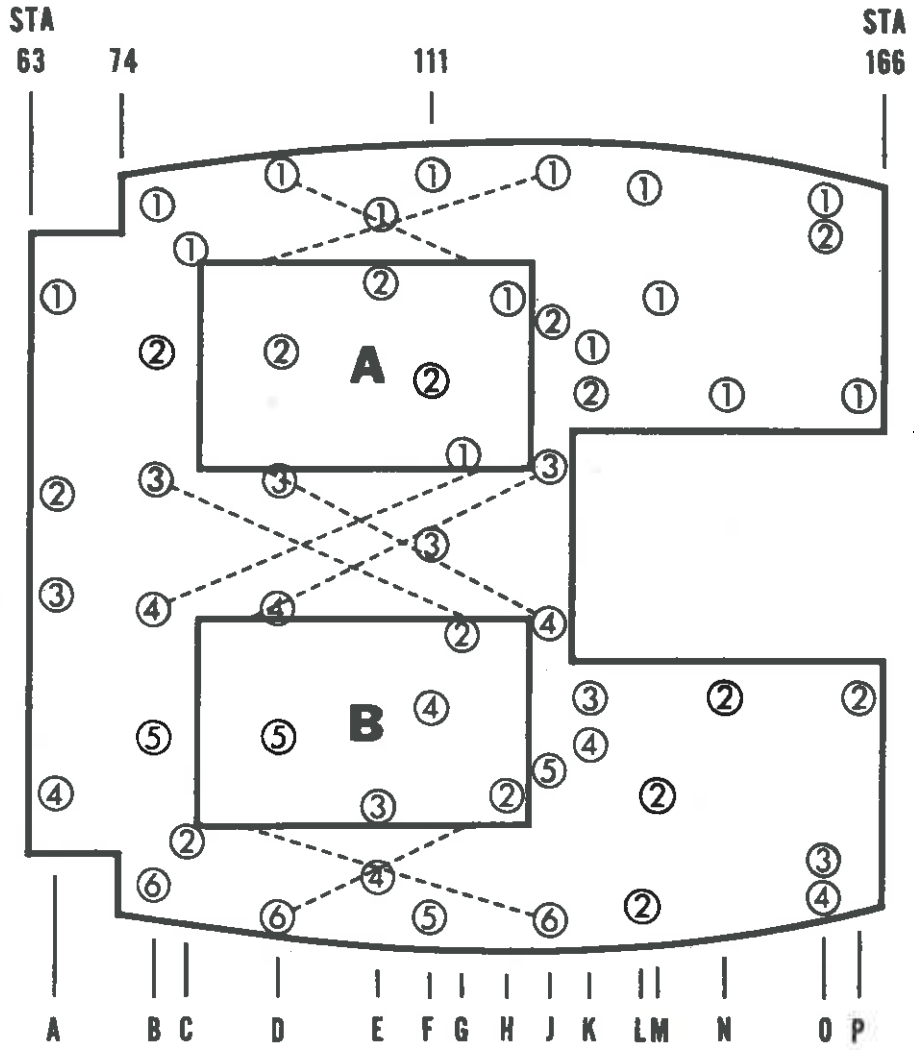
(1) Position rolling shoring and two auxiliary loading ramps (CH-47) to align with skids of container. Four persons can prepare, load, and tie down the container in about 5 minutes.

(2) Position parking shoring at container tiedown location, and extend rolling shoring from ground level into the cargo compartment to provide surface for conveyors.

(3) Place blocking shoring under loading ramps to decrease angle of entry.

(4) Position conveyors (wheels down) on rolling shoring and place bridge shoring (may be used but is not required) on conveyors.

(5) Position container on bridge shoring (if used) or on conveyors.



○ 1,250-LB TIEDOWN FITTING

Figure 4-3. Tiedown diagram for container, H815, with W45-3 warhead, in UH-1D/H helicopters.

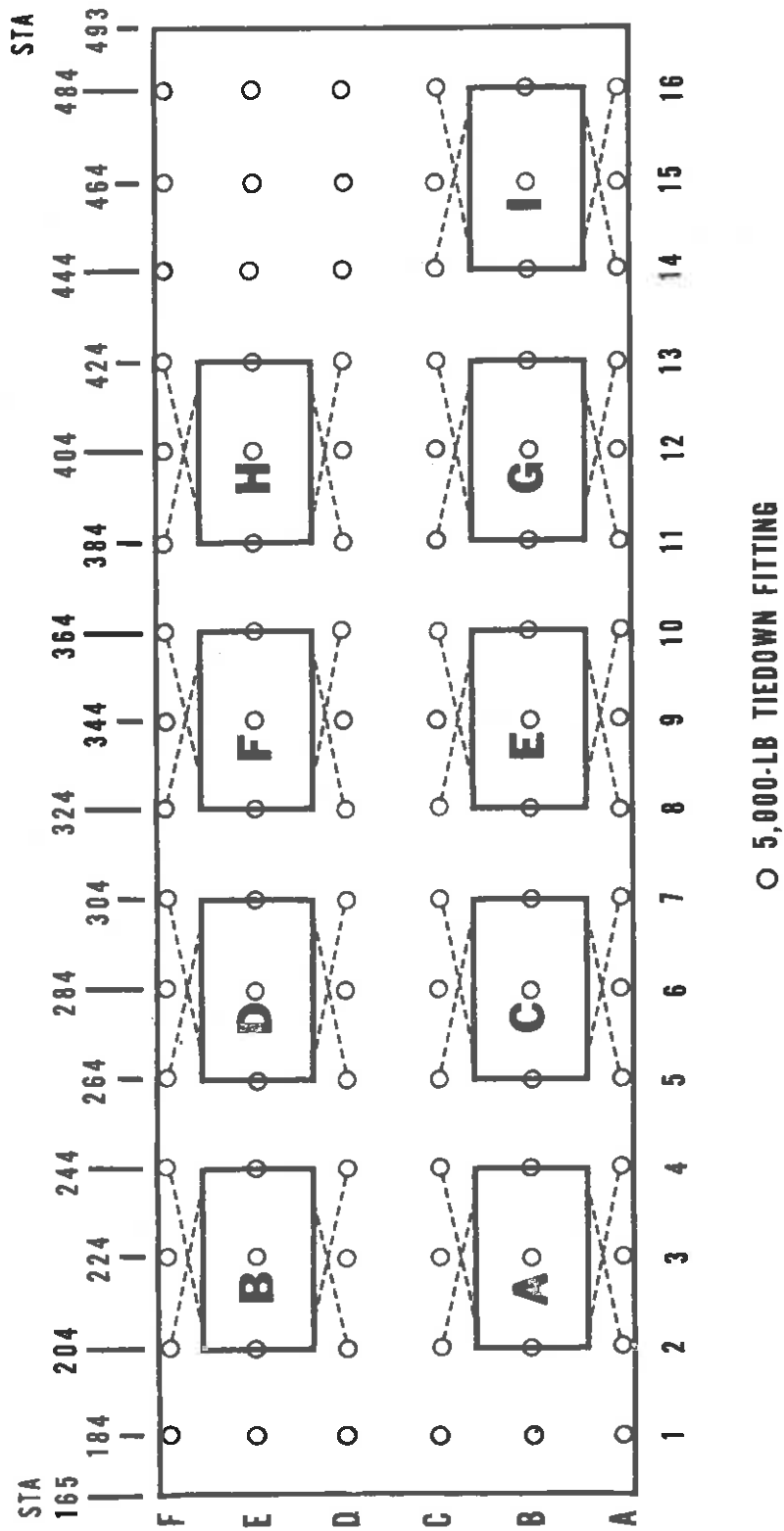


Figure 4-4. Tiedown diagram for container, H815, with W45-3 warhead, in CH-54 helicopter universal military pod.

(6) Push container on conveyors into cargo compartment to tiedown position, and apply temporary restraint to prevent movement. Leapfrog shoring to decrease material requirements.

(7) Tie down the container (on the conveyors) in accordance with paragraph 4-1b(2).

(8) Reposition materials required during un-

loading, and tie down as directed by the helicopter commander.

*c. Unloading.* Unloading procedures are essentially the reverse of loading procedures. Use care when container center of balance passes over ramp hinge. Four persons can unload the container from the helicopter or the pod in about 3 minutes.

## CHAPTER 5

## EXTERNAL TRANSPORT BY HELICOPTER (Emergency Procedure)

**5-1. General.** This chapter prescribes procedures for external transport of the container, H815, with W45-3 warhead, using cargo slings and cargo nets. Information pertaining to the container is shown in chapter 3.

**WARNING**

*The contents of chapter 5 are for information and training purposes only and are not to be construed as authority for external transport by helicopter of the container, H815, with W45-3 warhead. Only dummy loads may be used for practice and/or training exercises. Nuclear weapons will not be moved by external helicopter transport except in emergency conditions (such as emergency evacuation ordered to maintain US custody or to prevent loss because of fire or flood) and only when the situation does not allow time to prepare and move the nuclear weapons by internal transport (chap 4).*

**WARNING**

Always assume that a charge of static electricity is present on the helicopter. It is necessary to use some type of discharge apparatus (static probe) (see fig 2-3, FM 55-413) to ground the hook and discharge electricity to prevent shock when the hook is touched. After discharge of electricity, the hook is grasped quickly and firmly and held, if possible, until the hookup is completed. If contact with the hook is lost after initial grounding, the hook must be grounded again before it is touched. Do not use the load as a ground contact. After air delivery and before handling, ground the load again to discharge any accumulated/retained static electricity.

**CAUTION**

When performing external air transport by CH-54 helicopter, use a metal apex fitting or a large metal clevis to attach the load to the cargo hook because a nylon sling ring will tend to adhere to the cargo hook beam and prevent release of the load.

**CAUTION**

Multiple containers, H815, within limitations (para 2-1c), may be transported in either the 5,000- or 8,930-pound-capacity nylon cargo net. The 10,000-pound-capacity nylon cargo net may also be used. However, the containers

must be positioned so as not to exceed the array restrictions imposed by TM 39-20-7 and TM 39-45-51A.

**5-2. Materials and Procedures for Transport of Container, H815; With W45-3 Warhead, Using Air Delivery Cargo Slings**

*a. Materials.*

(1) Four 8-foot, two-loop, air delivery cargo slings (NSN 1670-00-753-3789) (each has rated capacity of 6,500 pounds).

(2) One 3-foot, three-loop, air delivery cargo sling ring (NSN 1670-00-753-3788) (has rated capacity of 10,000 pounds), with link assembly, type IV (NSN 1670-00-783-5988).

(3) Tape, adhesive, 2-inch wide (NSN 7510-00-266-5016), or equivalent.

(4) One large clevis assembly, air delivery, type I (NSN 1670-00-090-5354), for use with CH-54 helicopter.

*b. Preparation and Rigging.*

(1) Choker-hitch one 8-foot sling to each shackle fitted in the lifting brackets on top of the container. Four persons can rig the container for external transport in about 10 minutes.

(2) Twist each sling leg one turn for each 3 feet of sling.

(3) Combine the free ends of the sling legs to form a single loop, and attach loop to the 3-foot sling. Connect the free ends of the 3-foot sling with the link assembly. The 3-foot sling forms the apex for attachment to the helicopter cargo hook.

(4) Cluster and tape sling legs (breakaway technique) to prevent fouling during lift-off.

(5) Attach apex to the helicopter cargo hook. Helicopter must be centered over load before tension is placed on the slings.

*c. Derigging.* Four persons can derig the container in about 5 minutes.

**5-3. Materials and Procedures for Transport of Container, H815, With W45-3 Warhead, Using Nylon and Chain, Four-Leg Sling**

*a. Materials.*

(1) One 23-foot, nylon and chain, four-leg sling (NSN 1670-00-902-3080) (has rated capacity of 15,000 pounds).

(2) Items shown in 5-2a(3) and 5-2a(4) above.

*b. Preparation and Rigging.*

## NOTE

Each leg of the nylon and chain, four-leg sling is constructed of a 15-foot nylon web sling with a metal grab link on its lower end. The grab link is about 10 inches long and is equipped with a spring-loaded keeper. Attached to the lower or small end of the grab link is a hammer lock, which connects the chain leg to the grab link. The chain leg is about 6 feet long and has 64 links. The link at the free end is referred to as link number 1.

(1) Pass one sling chain leg through each shackle fitted in the lifting brackets on top of the container. Four persons can rig the container for external transport in about 10 minutes.

(2) Form a hitch at each shackle by passing the chain through the upper part of the grab link that attaches the chain to the nylon sling. Adjust chain length by forcing the selected link past the spring keeper into the lower part of the grab link to complete hitch.

(3) Cluster and tape sling legs (breakaway technique) to prevent fouling during lift-off.

(4) Attach 12-inch ring of the sling (sling apex) to the helicopter cargo hook. Helicopter must be centered over load before tension is placed on the sling.

*c. Derigging.* Four persons can derig the container in about 5 minutes:

5-4. Materials and Procedures for Transport of Container, H815, With W45-3 Warhead, Using Sling, Helicopter, Cargo Carrying External, Four-Leg

*a. Materials.*

(1) One sling, helicopter, cargo carrying external, four-leg, either NSN 1670-01-027-2902 (has rated capacity of 10,000 pounds), or NSN 1670-01-027-2900 (has rated capacity of 25,000 pounds).

(2) Tape, adhesive, 2-inch wide (NSN 7510-00-266-5016), or equivalent.

*b. Preparation and Rigging.*

## NOTE

Each leg of the sling, helicopter, cargo carrying external, four-leg, either 10,000- or 25,000-pound capacity, is constructed of a 12-foot antiabrasive nylon braided rope and an 8-foot chain. The rope and chain are connected by a grab hook that is equipped with a spring-loaded keeper. The chain leg of the 10,000-pound-capacity sling consists of about 111 links. The chain leg of the 25,000-pound-capacity sling consists of about 88 links. On each sling, the link at the free end of the chain is referred to as link number 1.

(1) Pass one sling chain leg through each shackle fitted in the lifting brackets on top of the container. Four persons can rig the container for external transport in about 10 minutes.

(2) Form a hitch at each shackle by inserting link number 3 of each chain into the grab hook.

(3) Cluster and tape sling legs (breakaway technique) to prevent fouling during lift off.

(4) Attach metal clevis of the sling (sling apex) to the helicopter cargo hook. Helicopter must be centered over load before tension is placed on the sling.

*c. Derigging.* Four persons can derig the container in about 5 minutes.

5-5. Materials and Procedures for Transport of Container, H815, With W45-3 Warhead, Using the 5,000-Pound-Capacity Nylon Cargo Net

*a. Materials.*

(1) Net, cargo, nylon, 5,000-pound-capacity (NSN 1670-01-058-3811).

(2) Cord, nylon, 1/16-inch nominal diameter, 330-pound breaking strength (NSN 4020-00-903-8594), or equivalent.

*b. Preparation and Rigging.*

(1) Spread cargo net and center container(s) on net inside area marked by gold cord. Four persons can prepare the container and rig the net for external transport in about 10 minutes.

(2) Draw the net up around the load, and secure the four corner hooks in net apex stirrup.

(3) Lace nylon cord through the net above the load.

(4) Attach the cargo net apex stirrup to the helicopter cargo hook. Helicopter must be centered over load before tension is placed on the net.

*c. Derigging.* Four persons can derig the container in about 5 minutes.

5-6. Materials and Procedures for Transport of Container, H815, With W45-3 Warhead, Using the 8,930-Pound-Capacity Nylon Cargo Net

*a. Materials.*

(1) Sling, cargo net, nylon, 8,930-pound-capacity (NSN 3940-00-892-4374) (for use in combination with slings described below in either (2), (4), (5), or (6)).

(2) Two 16-foot, two-loop, air delivery cargo slings (NSN 1670-00-753-3793) (each has rated capacity of 6,500 pounds).

(3) One 3-foot, three-loop, air delivery cargo sling ring (NSN 1670-00-753-3788) (has rated capacity of 10,000 pounds), with link assembly, type IV (NSN 1670-00-783-5988).

(4) One 23-foot, nylon and chain, four-leg sling (NSN 1670-00-902-3080) (has rated capacity of 15,000 pounds).

(5) One sling, helicopter, cargo carrying external, four-leg (NSN 1670-01-027-2902) (has rated capacity of 10,000 pounds).

(6) One sling, helicopter, cargo carrying external, four-leg (NSN 1670-01-027-2900) (has rated capacity of 25,000 pounds).

(7) Cord, nylon, 1/16-inch nominal diameter, 330-pound breaking strength (NSN 4020-00-903-8594), or equivalent.

(8) Tape, adhesive, 2-inch wide (NSN 7510-00-266-5016), or equivalent.

*b. Preparation and rigging when using two, 16-foot air delivery cargo slings to rig nylon cargo net.*

(1) Spread cargo net and center container(s) on net. Four persons can prepare the container and rig the net for external transport in about 10 minutes.

(2) Pass the first cargo sling end through two adjoining hoist links on cargo net. Pass the second cargo sling end through the other two hoist links on cargo net.

(3) Combine the four ends of the cargo slings to form a single loop, and attach loop to the 3-foot sling. Connect free ends of the 3-foot sling with the link assembly. The 3-foot sling forms the apex for attachment to the helicopter cargo hook.

(4) Lace nylon cord through the cargo net above the load.

(5) Cluster and tape or tie sling legs (break-away technique) to prevent fouling during lift-off.

(6) Attach apex to the helicopter cargo hook. Helicopter must be centered over load before tension is placed on the net.

*c. Preparation and rigging when using the 23-foot, nylon and chain, four-leg sling; or the sling, helicopter, cargo carrying external, four-leg (either the 10,000- or 25,000-pound-capacity sling), to rig nylon cargo net.*

(1) Spread cargo net and center container(s) on net. Four persons can prepare the container and rig the net for external transport in about 10 minutes.

(2) Pass each of the sling chain legs through a single hoist link on cargo net, then insert link number 3 of each chain into the grab link or hook to form hitch.

(3) The 12-inch ring of the nylon and chain, four-leg sling forms the apex for attachment to the helicopter cargo hook.

(4) The metal clevis of the sling, helicopter, cargo carrying external, four-leg, forms the apex for attachment to the helicopter cargo hook.

(5) Observe procedures in b(4) through b(6) above.

*d. Derigging.* Four persons can derig the cargo net in about 5 minutes.

CHAPTER 6

EMERGENCY MOVEMENT BY HELICOPTER

6-1. General

a. This chapter provides for emergency logistic movement (para 2-11, TM 39-45-51C) of the container, H815, with W45-3 warhead (para 3-1b), for military contingency or logistic supply during periods of tension. It also provides for emergency evacuation under political or military conditions of such nature that noncompliance with portions of the nuclear and flight safety regulations is the only alternative to destruction of weapons.

b. Exercise of emergency movement authority is restricted to situations wherein the security of nuclear assets is endangered or when emergency logistic movement is dictated by a pending regional or world crisis. The determination that emergency movement is justifiable will be approved by the theater commander.

c. Minimum spacing and numerical limits for nuclear weapons and class II nuclear components are necessary to prevent the possibility of nuclear material interaction and to minimize sympathetic detonation of high explosive components in the event of an accident. The minimum spacing requirements between nuclear weapons and/or class II nuclear components, provided in section 4, TM 39-45-51A, must be scrupulously observed to prevent the possibility of nuclear material interaction.

d. If emergency logistic movement is directed, there may be an operational necessity to airlift dangerous items that should not be mixed, as indicated in table 2-1, TM 39-45-51C. Should this occur, the commander who ordered the emergency movement may waive the requirements of table 2-1.

NOTE

Table and tiedown diagrams have not been developed for mixed loads of nuclear weapons or class II nuclear components. This, however, does not prevent the shipment of mixed loads if the limitations specified in TM 39-45-51A and TM 39-20-7 are adhered to.

6-2. Emergency Movement of Container, H815, With W45-3 Warhead, as Helicopter Internal Loads

a. Materials and procedures for transport of the container, H815, are prescribed by paragraphs 4-1 and 4-2.

b. A waiver is required (TM 39-20-7 and TM 39-45-51A) before more than nine containers, H815, with W45-3 warheads, may be transported in a single group.

c. Tie down the container, H815, in the respective helicopter or pod in accordance with the following figures and tables:

| Helicopter                          | Figure no. | Table no. |
|-------------------------------------|------------|-----------|
| UH-1D/H.....                        | 4-3        | 4-3       |
| CH-47.....                          | 6-1        | 6-1       |
| CH-54 (universal military pod)..... | 6-2        | 6-2       |

Table 6-1. Tiedown Data for Maximum Load of 11 Containers, H815, With W45-3 Warheads, in CH-47 Helicopter

| Item   | Tiedown fitting |                      | Tiedown device* |                      | Attach to item             |
|--------|-----------------|----------------------|-----------------|----------------------|----------------------------|
|        | Designation     | Capacity in 1,000 lb | Type            | Capacity in 1,000 lb |                            |
| A..... | C2              | 5                    | CGU-1/B         | 5                    | Left rear tiedown clevis   |
|        | E2              | 5                    | CGU-1/B         | 5                    | Right rear tiedown clevis  |
|        | C4              | 5                    | CGU-1/B         | 5                    | Left front tiedown clevis  |
|        | E4              | 5                    | CGU-1/B         | 5                    | Right front tiedown clevis |

B through K—Restrain each item in position shown in figure 6-1 and in manner prescribed for item A above.

\*MC-1 tiedown device may be used.

Table 6-2. Tiedown Data for Maximum Load of 10 Containers, H815, With W45-3 Warheads, in CH-54 Helicopter Universal Military Pod

| Item   | Tiedown fitting |                      | Tiedown device* |                      | Attach to item             |
|--------|-----------------|----------------------|-----------------|----------------------|----------------------------|
|        | Designation     | Capacity in 1,000 lb | Type            | Capacity in 1,000 lb |                            |
| A..... | A1              | 5                    | CGU-1/B         | 5                    | Left rear tiedown clevis   |
|        | C1              | 5                    | CGU-1/B         | 5                    | Right rear tiedown clevis  |
|        | A3              | 5                    | CGU-1/B         | 5                    | Left front tiedown clevis  |
|        | C3              | 5                    | CGU-1/B         | 5                    | Right front tiedown clevis |

B through J—Restrain each item in position shown in figure 6-2 and in manner prescribed for item A above.

\*MC-1 tiedown clevis may be used.

6-3. Emergency Movement of Container, H815, With W45-3 Warhead, as Helicopter External Loads

NOTE

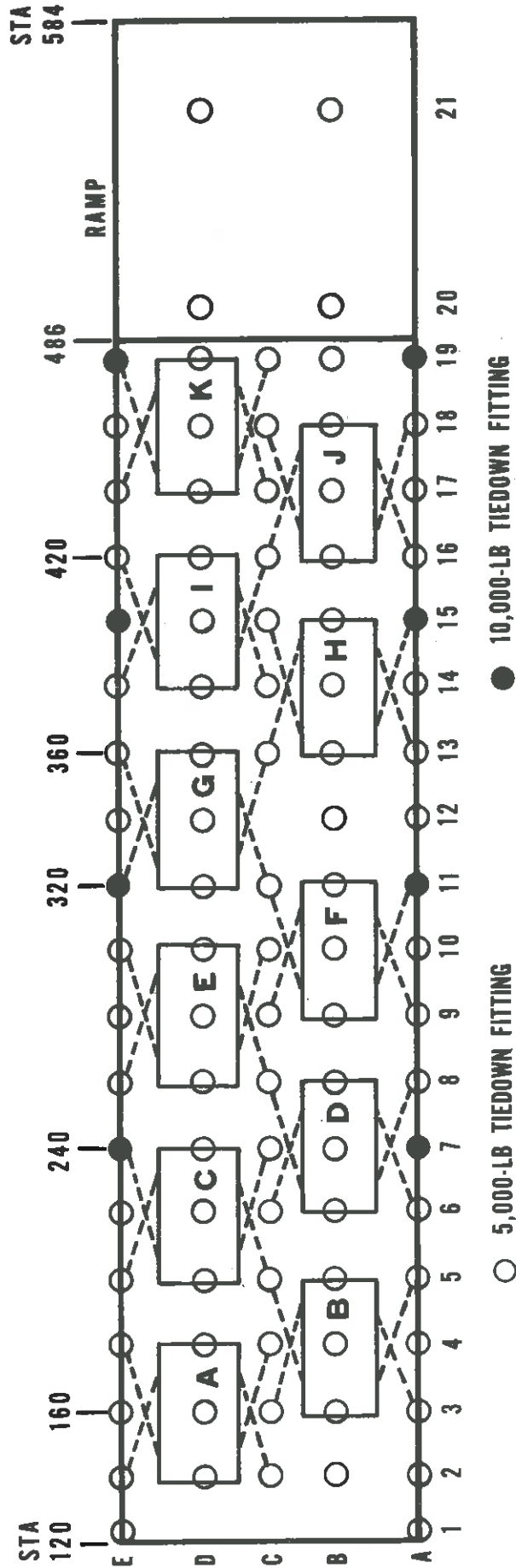
External loads have not been developed for maximum loads of individual or mixed nuclear weapons or class II nuclear components. This, however, does not prevent such external loads if the limitations specified in TM 39-45-51A and TM 39-20-7 are adhered to and if the loads are justifiable and directed. Also applicable are the limitations for external transport by helicopter (chap 5).

a. Materials and procedures for transport of the container, H815, are prescribed by paragraphs 5-2 through 5-6.

b. External loads of the container, H815, must not exceed the rigging materials capacities shown in chapter 5 or the helicopter capability.

c. A waiver is required (TM 39-20-7 and TM 39-45-51A) before more than nine containers, H815, with W45-3 warheads, may be transported in a single group.





NOTE: UTILITY HATCH DOOR IS LOCATED IN THE CENTER OF THE FLOOR BETWEEN STATIONS 320 AND 360.

Figure 6-1. Tiedown diagram for maximum load of 11 containers, H815, with W45-3 warheads, in CH-47 helicopter.

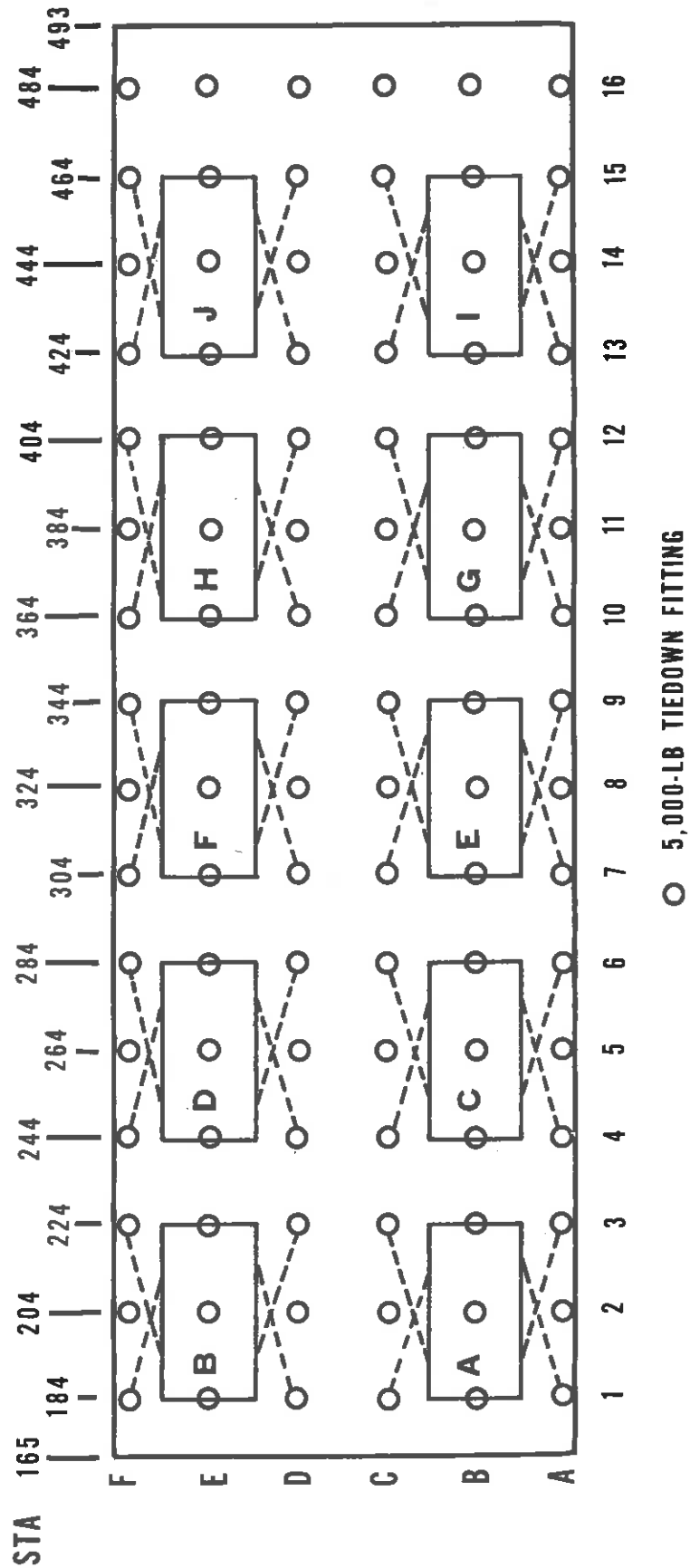


Figure 6-2. Tiedown diagram for maximum load of 10 containers, H815, with W45-3 warheads, in CH-54 helicopter universal military pod.

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