CHAPTER 11

CERTIFIED DUAL-POINT RIGGING PROCEDURES FOR CONTAINERS

11-1. INTRODUCTION

This chapter contains rigging procedures for dual-point lift of containers that have been certified for sling load. Each rigging procedure is found in a paragraph that includes a description of the load, materials required for rigging, and steps to complete the procedure. An applicability paragraph is also a part of each paragraph and identifies the certified loads. The certified dual-point rigging procedures for containers are in this section. Paragraphs 11-2 through 11-5 give detailed instructions for rigging loads.

NOTE: Reach Pendants may be used on dual point loads. Place a Reach Pendant on each apex fitting. A static discharge person is not required when using a Reach Pendant.

11-2. Full-Up Power Pack (FUPP) Container, M1A1

a. Applicability. The following item in Table 11-1 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 11-1. Full-Up Power Pack (FUPP) Container, M1A1

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Full-Up Power Pack (FUPP) Container, M1A1, Metal or Fiberglass	13,620	25K	3/10	CH-47	120

NOTE: This container is only certified with the M1A1 FUPP and is NOT certified empty.

b. Materials. The following materials are required to rig this load:

(1) Sling set (25,000-pound capacity) with one additional apex fitting.

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

(5) Strap, cargo, tiedown, CGU-1/B (as required).

c. Personnel. Two persons can prepare and rig this load in 15 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Secure all equipment inside the container with tape, Type III nylon cord, or tiedown straps.

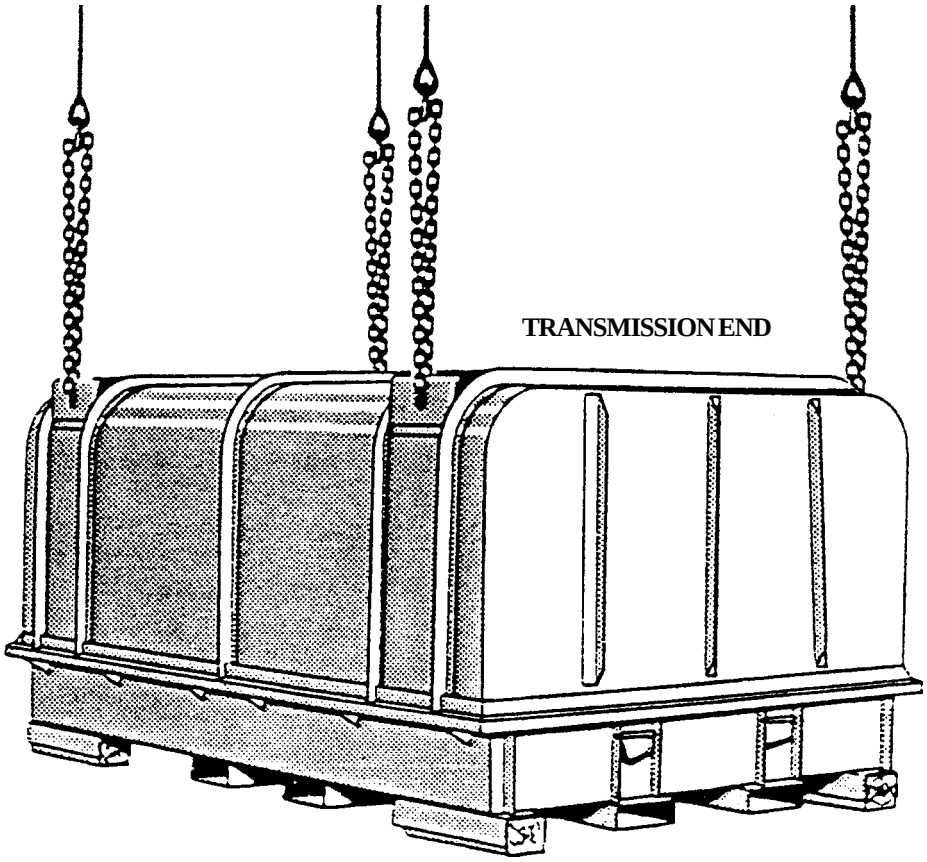
(b) Ensure all container doors and vents are closed and secured with tape or Type III nylon cord.

(2) Rigging. Rig the load according to the steps in Figure 11-1.

(3) Hookup. Two hookup teams stand on top of the

container. The static discharge person discharges the static electricity. The forward hookup person (transmission end) places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the container and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 on top of the container (transmission end).

2. Loop the chain end of the left and right sling legs through their respective lift provisions located on the corners. Place the correct link from Table 11-1 in the grab hook.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on top of the container.

4. Loop the chain end of the left and right sling legs through their respective lift provisions located on the corners. Place the correct link from Table 11-1 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 11-1. Full-Up Power Pack (FUPP) Container, M1A1

11-3. Tandem Lift of Two ISU-90 Shipping/Storage Containers

a. Applicability. The following item in Table 11-2 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 11-2. Two ISU-90 Shipping/Storage Containers

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT OUTSIDE/ INSIDE	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Two (2) ISU-90 Shipping / Storage Containers, Tandem	7,500 Each 15,000 Total	25K	20/10	CH-47	90

WARNING
AS THE WEIGHT OF THE CONTAINERS DROP, THE AIRSPEED MUST ALSO DROP.

b. Materials. The following materials are required to rig this load:

(1) Sling set (25,000-pound capacity)(2 each).

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

(5) Lumber, 4-inch x 6-inch x 72-inch (2 each).

(6) Lumber, 1-inch x 3-inch x 24-inch (2 each).

(7) Bolts, 1/2-inch x 6-inch (2 each).

(8) Nuts, 1/2-inch (2 each).

(9) Rope, 5/8-inch x 84-inch (2 each).

(10) Strap, cargo, tie-down, CGU-1/B (as required).

c. Personnel. Two persons can prepare and rig this load in 20 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Secure all cargo inside the container.

(b) Secure all doors in the closed/locked position.

(c) Construct the top wooden separator by bolting the two 1-inch x 3-inch x 24-inch pieces of lumber to a 4-inch x 6-inch x 72-inch piece of lumber. Space the 1-inch x 3-inch x 24-inch pieces of lumber so they will fit in the 45 degree slots on the top of the ISU-90. Drill two additional 3/4-inch holes through the 4-inch x 6-inch x 72-inch piece of lumber 18-inches in from each end. Route one end of a piece of 5/8-inch rope up through through the 3/4-inch hole from bottom to top. Tie an overhand knot in the top running end. Route the running end of the second 5/8-inch rope up through the second 3/4-inch hole from bottom to top and tie an overhand knot in the top running end.

(d) Construct the bottom wooden separator by drilling two 3/4-inch holes in the second 4-inch x 6-inch x 72-inch piece of lumber 18-inches in from each end. Route the other running end of the ropes through the holes in the bottom separator from top to bottom and tie an overhand knot in each bottom running end.

(e) Raise the top wooden separator up to the top of the ISU-90 and slide the unbolted end of the two 1-inch x 3-inch x 24-inch pieces of lumber into the 45 degree slots on the top of the ISU-90.

(f) Move the second container as close as possible to the first container, end to end. Designate the heaviest container as the forward container.

(g) Pass a CGU-1/B through each inboard forklift point of each ISU-90. Connect the two CGU-1/Bs together and tighten.

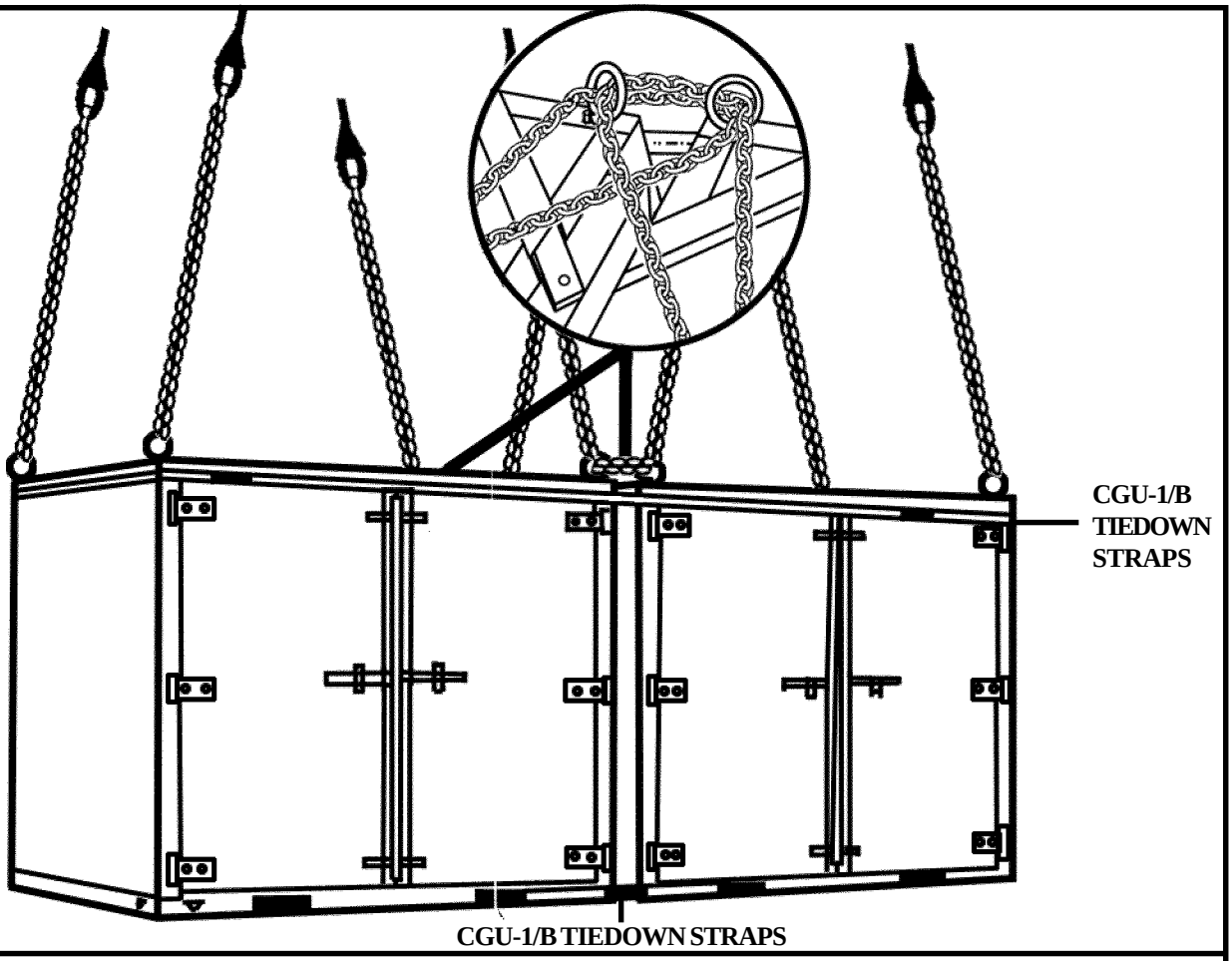
(h) Encircle the top of the two ISU-90s by connecting the CGU-1Bs together. Tighten the CGU-1Bs.

CAUTION
THE CONTAINERS SHOULD BE AS CLOSE AS POSSIBLE IN WEIGHT. IF THE WEIGHT VARIES BY 500 POUNDS OR MORE, PLACE THE HEAVIER CONTAINER IN THE FORWARD POSITION. ENSURE THE WEIGHT INSIDE THE CONTAINERS IS EVENLY DISTRIBUTED.

(2) Rigging. Rig the load according to the steps in Figure 11-2.

(3) Hookup. Two hookup teams are used for this load. The static wand person discharges the static electricity with the static wand. The forward hookup person stands on top of the forward load and places apex fitting 1 onto the forward cargo hook. The aft hookup person stands on top of the rear load and places apex fitting 2 onto the aft cargo hook. The hookup team then carefully dismounts the load and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits the area underneath the helicopter to the designated rendezvous point.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Position sling set one on top of the forward container.

2. Route outer sling legs 1 and 2 to the forward end of the forward container and inner legs 3 and 4 to the rear. Loop the chain end of sling legs 1 and 2 through their respective lift provisions located on the forward end of the container. Place the correct link from Table 11-2 in the grab hook. Loop the chain end of sling legs 3 and 4 through the lift provisions on the rear of the forward container and the front of the rear container. Place the correct link from Table 11-2 in the grab hook.

3. Position sling set two on top of the rear container.

4. Route outer sling legs 1 and 2 to the forward end of the rear container and inner legs 3 and 4 to the rear. Loop the chain end of sling legs 1 and 2 through the lift provisions on the front of the rear container and the rear of the front container. Place the correct link from Table 11-2 in the grab hook. Loop the chain end of sling legs 3 and 4 through their respective lift provisions located on the rear end of the rear container. Place the correct link from Table 11-2 in the grab hook.

5. Secure all excess chain with tape or Type III nylon cord.

6. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the containers to prevent entanglement during hookup and lift-off.

Figure 11-2. Two ISU-90 Shipping/Storage Containers

11-4. Army Tactical Missile Systems Enclosure Launch Pods, Two Containers

a. Applicability. The following items in Table 11-3 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 11-3. Army Tactical Missile Systems Enclosure Launch Pods, Two Containers

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Multiple Launch Rocket System with Two Rocket Pods/Containers, (with Six Rockets)	10,010	10K	3/3	CH-47	110
Two Enclosure Assembly Launch Pods, Guided Missile Launch Assembly	10,142	10K	3/3	CH-47	110

b. Materials. The following materials are required to rig this load:

(1) Sling set (25,000-pound capacity) with one additional apex fitting.

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

(5) Strap, cargo, tiedown, CGU-1/B (as required).

(6) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

c. Personnel. Two persons can prepare and rig this load in 30 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Prepare MLRS RP/Cs for travel in accordance with standard procedures.

CAUTION
Do not mix the MLRS and the GMLA in the same load.

(b) Stack the RP/Cs one on top of the other ensuring both RP/Cs are facing the same direction.

(c) Lash the stacks of RP/Cs together using the CGU-1/B tiedown straps. Two of the straps should run through both sets of lifting provisions on each end of the RP/Cs, to keep them aligned during flight. Evenly space the remaining two straps between the lifting provisions, running them around the RP/Cs. **DO NOT ROUTE THE STRAPS OVER THE ROCKET TUBES.** Pad all straps in the area where they contact the edges of the RP/Cs.

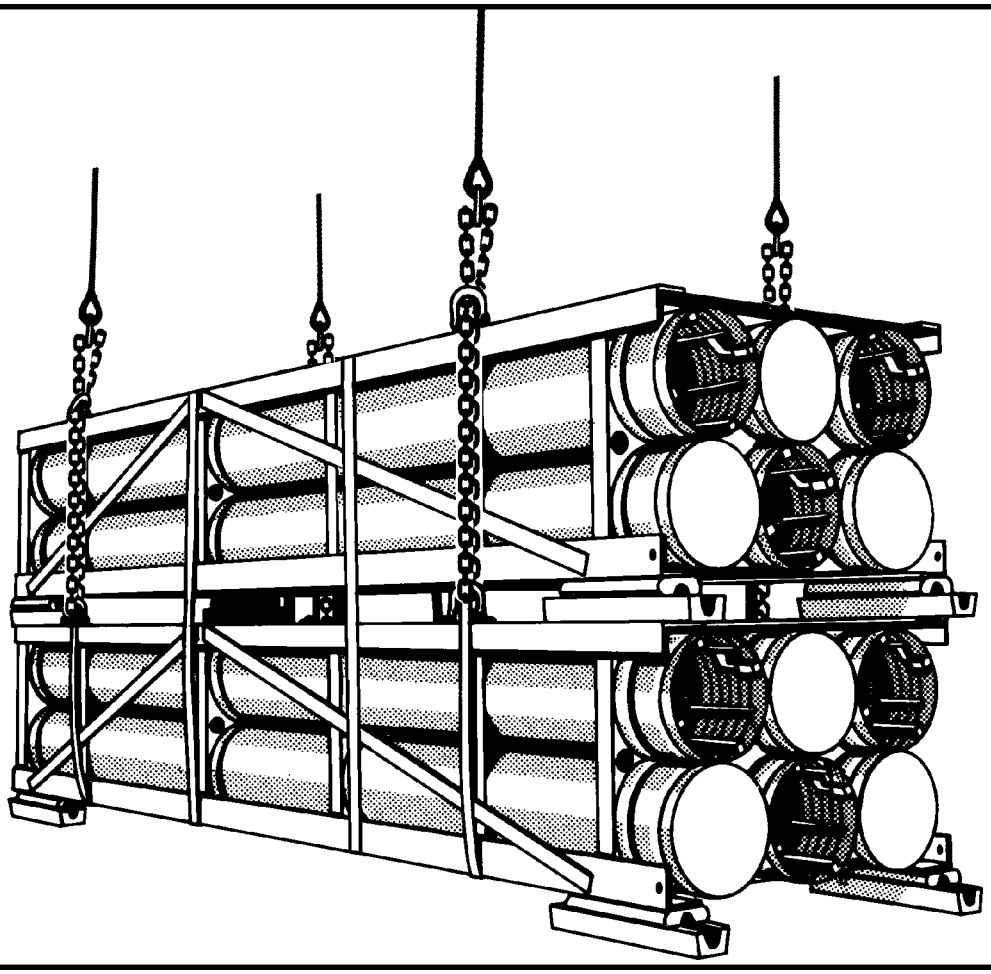
(2) Rigging. Rig the load according to the steps in Figure 11-3.

NOTE: The firing end is considered to be the front of the load.

(3) Hookup. Two hookup teams stand on top of the container. The static discharge person discharges the static electricity. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the container and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured,

the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 on top of the forward end of the MLRS RP/C.

2. Loop the chain end of the left and right sling legs through their respective top front lift provisions of the RP/C, through the front lifting provision on the bottom RP/C, and back through the front top lift provision on the top RP/C. Place the correct link from Table 11-3 in the grab hook.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 1 on top of the aft end of the MLRS RP/C.

4. Loop the chain end of the left and right sling legs through their respective top rear lift provisions of the RP/C, through the rear lifting provision on the bottom RP/C, and back through the rear top lift provision on the top RP/C. Place the correct link from Table 11-3 in the grab hook.

5. Raise the apex fittings above the shelter. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 11-3. Army Tactical Missile Systems Enclosure Launch Pods, Two Containers

11-5. Army Tactical Missile Systems Enclosure Assembly Launch Pods (EALP), Four Containers

a. Applicability. The following items in Table 11-4 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 11-4. Army Tactical Missile Systems Enclosure Launch Pods, Four Containers

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT OUTER/ INNER	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Multiple Launch Rocket System (MLRS) Four Enclosure Assembly Launch Pods	20,020	25K	3/14	CH-47	120
Guided Missile Launch Assembly (GMLA), Four Enclosure Assembly Launch Pods	20,284	25K	3/14	CH-47	120

b. Materials. The following materials are required to rig this load:

(1) Sling set (25,000-pound capacity) (2 each).

(2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(3) Cord, nylon, Type III, 550-pound breaking strength.

(4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

(5) Strap, cargo, tiedown, CGU-1/B (16 each).

(6) Lumber, 2 X 4 X 65-inches (4 each).

(7) Nails, eightpenny (as required).

(8) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

(9) Crane or forklift (15,000-poound capacity or larger).

c. Personnel. Four persons can prepare and rig this load in 30 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

(a) Prepare the EALPs for sling loading in accordance with standard procedures.

(b) Prepare two pieces of dunnage to protect the EALPs by nailing two pieces of 2 X 4 X 65-inch lumber together, wide side to wide side.

(c) Make two stacks of EALPs. Use the crane or forklift to stack one EALP on top of the other with the projectiles facing the same direction. Label the stacks #1 and #2.

CAUTION
Do not mix the MLRS and the GMLA in the same load.

(d) Lash stack #1 together using four tiedown straps. Route a tiedown strap through both sets of lifting provisions on each end of the EALP. Evenly space the remaining two tiedown straps between the lifting provisions, routing the straps around the EALP. **DO NOT ROUTE THE STRAPS OVER THE ROCKET TUBES.** Pad the straps where they contact the edges of the EALP.

(e) Lash stack #2 using the above procedures for stack #1.

(f) Position the two pieces of dunnage near the lifting provisions on each end of the EALP. Secure the dunnage to the EALP with Type III nylon cord.

(g) Position stack #1 against stack #2 using the crane or forklift. Ensure the dunnage is between the loads.

(h) Lash the top two EALPs together on each end. Connect two tiedown straps together to form each lashing.

(i) Lash the bottom two EALPs together on each end. Connect two tiedown straps together to form each lashing.

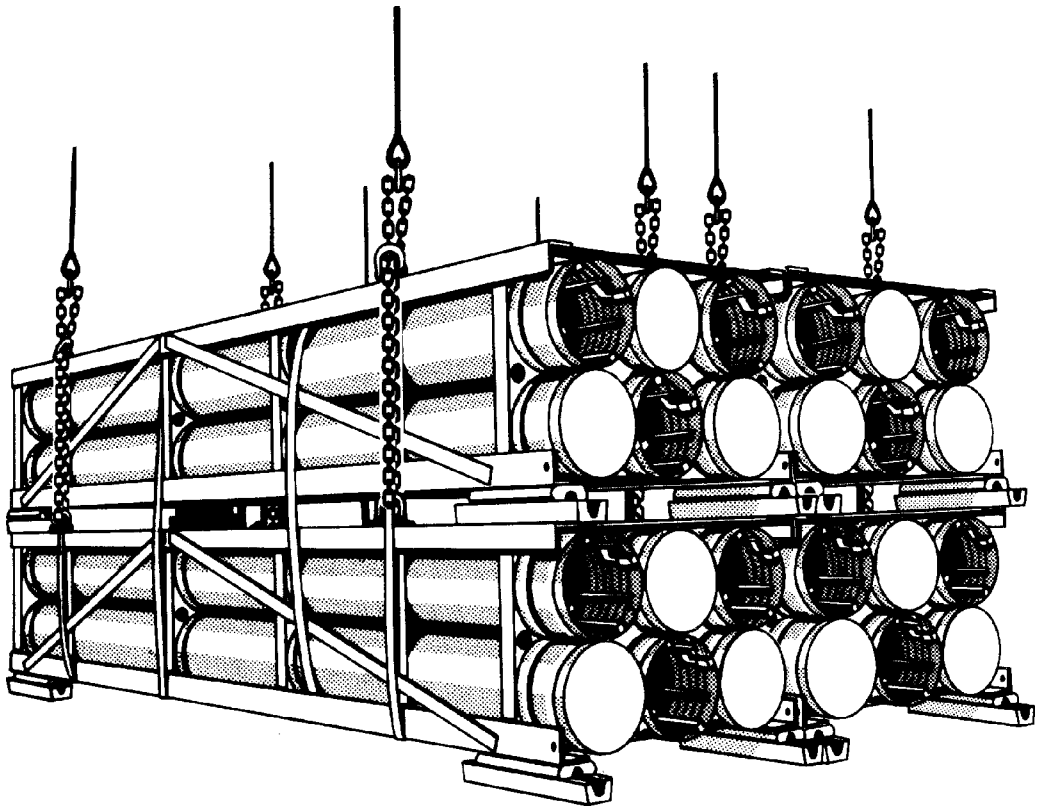
(j) Pad the straps where they contact the edges of the EALP.

(2) Rigging. Rig the load according to the steps in Figure 11-4.

NOTE: The firing end is considered to be the front of the load.

(3) Hookup. Two hookup teams stand on top of the container. The static discharge person discharges the static electricity. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the container and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

(4) Derigging. Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).



RIGGING STEPS

1. Position sling set number 1 on top of the forward end of the EALPs.

2. Loop the chain end of outer sling legs 1 and 2 through their respective top front lift provisions of the top EALPs, through the front lifting provision on the bottom EALPs, and back through the front top lift provision on the top EALPs. Place the correct link from Table 11-4 in the grab hook.

3. Loop the chain end of inner sling legs 3 and 4 through their respective top front lift provisions of the top EALPs, through the front lifting provision on the bottom EALPs, and back through the front top lift provision on the top EALPs. Place the correct link from Table 11-4 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

4. Position sling set number 2 on top of the aft end of the EALPs.

5. Loop the chain end of outer sling legs 1 and 2 through their respective top rear lift provisions of the top EALPs, through the rear lifting provision on the bottom EALPs, and back through the rear top lift provision on the top EALPs. Place the correct link from Table 11-4 in the grab hook.

6. Loop the chain end of inner sling legs 3 and 4 through their respective top rear lift provisions of the top EALPs, through the rear lifting provision on the bottom EALPs, and back through the rear top lift provision on the top EALPs. Place the correct link from Table 11-4 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

7. Raise the apex fittings above the container. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 11-4. Army Tactical Missile Systems Enclosure Launch Pods, Four Containers