

UNITED STATES MARINE CORPS  
Logistics Operations School  
Marine Corps Combat Service Support School  
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LS 301

**STUDENT OUTLINE**

**SECURE CARGO ONTO A 463L PALLET**

**LEARNING OBJECTIVES**

1. Terminal Learning Objective: Given the requirement to construct a load onto a 463L pallet and necessary equipment, ensure shipment and acceptance for transport and secure cargo onto a 463L pallet in accordance with FM 55-9. (0481.01.03)
2. Enabling Learning Objective: Given the requirement and necessary equipment to construct a load on a 463L pallet, in accordance with FM-55-9:
  - a. Identify, inspect, and state capabilities of a 463L pallet. (0481.01.03a)
  - b. Identify equipment needed, construct the pallet, and place pallet bag over the cargo. (0481.01.03b)
  - c. Secure cargo using appropriate restraining devices. (0481.01.03c)
  - d. Annotate weight on a pallet identifier and attach pallet identifier to the pallet. (0481.01.03d)

**OUTLINE**

1. **463L PALLET.**

a. Description. The 463L pallet is made of corrosion resistant aluminum. It has a balsa wood core and is framed on all sides by aluminum rails. These rails have 22 steel tie-down rings that are spaced so that there are six rings on each long side and five rings on each short side. The rails also have indents (notches) which are made to accept "rail locks" when the pallet is put on an aircraft.

b. Characteristics.

(1) Dimensions - 108" wide x 88" long X 2¼" thick

(2) Usable dimensions - 104" X 84". By allowing four inches around the pallet we leave space to affix the straps, nets, chains, etc.

(3) Empty weight - 300 lbs.

(4) Capacity - 10,000 lbs.

(5) Height - Max height for 10,000 lbs of cargo is 96". Cargo that exceeds 96" but is less than 100" has a maximum weight restriction of 8,000 lbs.

**2. Pallet Construction.**

a. Place pallet on dunnage on a hard flat surface. (Dunnage is a minimum piece of 4"x4"x88" wood used to keep the pallet off the deck.) Three pieces of dunnage must be used to keep the pallet from warping.

b. Inspect the pallet to ensure that there are 22 tie-down rings, making sure these rings are facing upward. Check for rips, holes, metal skin peeling, missing or damaged rings, warping. If it has any of the above, **DO NOT MOVE.**

c. Loading Pallet.

(1) Check cargo manifest for the pallet's position. Check for height and weight restrictions.

(2) Load all heavy boxes or standard warehouse pallet cargo first. Large and heavy items should be distributed evenly from the center out in order to prevent the pallet from becoming "heavy sided" and tipping over.

(3) Light or crushable objects should be stacked on the top of the pallet.

(4) Cargo must be stacked within the usable dimensions.

(5) All hazardous materials should be identified and easily accessible.

(6) The load should be built in a square or pyramid shape. This makes the load stable, easy to handle, and easier to secure the cargo on the pallet. As you build the pallet load use a measuring stick to ensure that the height limitations are not exceeded.

(7) Plastic pallet covers are optional, and are provided by the deploying unit. They are used for water sensitive cargo.

**3. EQUIPMENT NEEDED TO CONSTRUCT A PALLET.**

a. Net assembly. This consists of high strength nylon webbing. A net assembly includes two side nets (green) and a top net (yellow). Cargo that does not exceed 45" or 2500 lbs requires only a top net to secure the load.

b. CGU-1/B TIE-DOWN DEVICE. This is a 22-ft nylon web strap with two metal hooks. One hook is stationary at the end of the strap, while the other hook has a ratchet to tighten the device. It is rated at 5,000 lbs.

**4. ATTACH PLACARD TO THE PALLET.** A pallet identifier is used to identify a pallet's cargo. Annotate the weight on the pallet identifier (AF form 2279) and place it on one 88" side and one

**REFERENCE:**

1. FM 55-9.