Chapter 2

Rigging Information

Section I

The Type V Airdrop Platform

USE

2-1. The type V airdrop platform, as shown in Figure 2-1, serves as the base on which supplies and equipment are restrained. This platform also supports the load during the extraction, parachute deployment, suspension, and recovery phases. The type V airdrop platform is used for low-velocity airdrop. The type V platform can be assembled in 8-, 12-, 16-, 20-, 24-, 28-, and 32-foot lengths. The assembled platform is 108 inches wide. A detailed description of this platform is in TM 10-1670-268-20&P/TO 13C7-52-22. The nose bumper is not required. The type V platform spreads the shock of ground impact. Limitations for the type V platform are listed in Table 2-1.

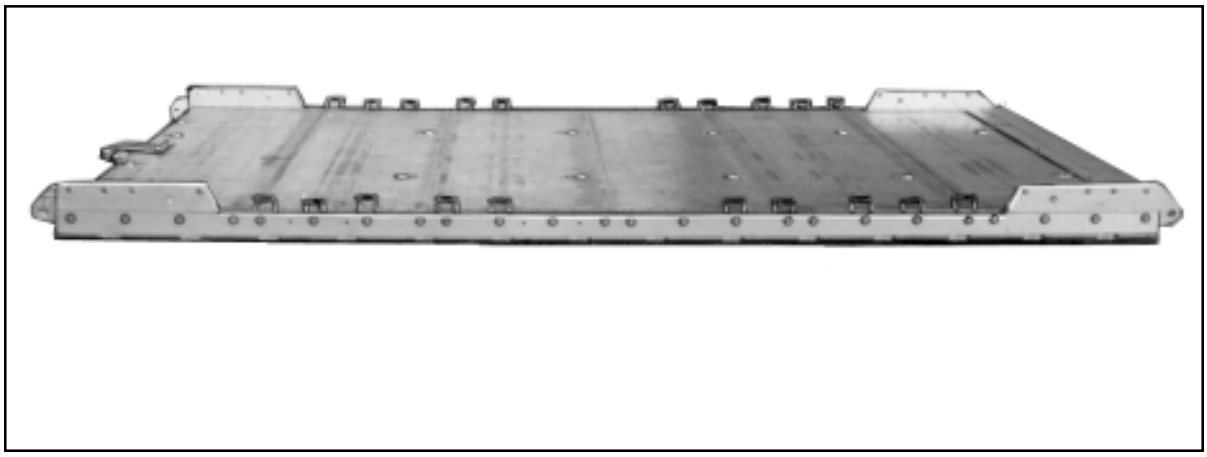


Figure 2-1. Type V Airdrop Platform

Table 2-1. Limitations for Type V Airdrop Platform when Dropping from a C-130, C-141, C-5, and C-17 Aircraft

C-130, C-141, and C-5 Aircraft

Length (Feet)	Width (Inches)	Weight (Pounds)	Platform Surface (Square Feet)	Minimum Rigged Weight (Pounds)	Maximum Rigged Weight (Pounds)
8	108	820	72	2,520	15,000
12	108	1,220	108	3,780	21,000
16	108	1,590	144	5,040	28,000
20	108	1,950	180	6,300	39,000
24	108	2,280	216	7,560	42,000
28	108	2,820	252	8,820	42,000
32	108	3,056	288	10,080	42,000

C-17 Aircraft

Length (Feet)	Width (Inches)	Weight (Pounds)	Platform Surface (Square Feet)	Minimum Rigged Weight (Pounds)	Maximum Rigged Weight (Pounds)
8	108	820	72	2,520	*10,000
12	108	1,220	108	3,780	*18,500
16	108	1,590	144	5,040	*27,700
20	108	1,950	180	6,300	39,000
24	108	2,280	216	7,500	42,000
28	108	2,820	252	8,820	42,000
32	108	3,056	288	10,080	42,000

*** Aircraft restraint rails reduce the weight**

PLATFORM LIMITATIONS FOR AIRCRAFT

2-2. Cargo and transport aircraft are specifically designed to deliver supplies and equipment by airdrop and are employed in airborne operations. Aircraft limitations are described below.

a. Hercules (C-130). Platform loads are generally restricted to a height of 100 inches (measured from the bottom of the platform) and weight of 25,000 pounds for aircraft with an aircraft serial number of 62-1783 or lower. For aircraft with an aircraft serial number of 62-1784 and higher, and for aircraft with a serial number of 61-2358, the weight restriction is 42,000 pounds. MC-130E Combat Talon I and MC-130H Combat Talon II aircraft are restricted to 35,000 pounds. Single and combined platform lengths are restricted to 28 feet for MC-130E Combat Talon I aircraft and 40 feet of available floor space for all other C-130 aircraft. When the towplate is used for Drogue Extraction System (DES) airdrops, the extraction/drogue parachute requirements in Table 2-10 will apply. DES is the primary method of extraction for Combat Talon aircraft.

b. Starlifter (C-141). Platform loads are generally restricted to a height of 100 inches (measured from the bottom of the platform) and a weight of 38,500 pounds. During contingency (wartime) operations, with Air Force approval, the maximum platform weight may be increased to 42,000 pounds. For multiple platforms, up to 70,000 pounds of airdrop load may be airdropped. The aircraft has a total available floor space of 93 feet.

c. Galaxy (C-5). Platforms are generally restricted to a height of 105 inches (measured from the bottom of the platform) and a weight of 60,000 pounds. For multiple platforms, up to 200,000 pounds of airdrop load may be airdropped. All loads certified for low-velocity airdrop from C-130, C-141 and C-17 aircraft may be airdropped from C-5 aircraft. The aircraft has a total available floor space of 121 feet.

d. Globemaster (C-17). Platform loads are generally restricted to a height of 118 inches. Platform loads are generally restricted to a weight of 60,000 pounds. For multiple platforms, up to 110,000 pounds of airdrop load may be airdropped. Loads certified for low-velocity airdrop from C-130, C-141, and C-5 aircraft that meet the limitations in Table 2-1 may be airdropped from the C-17 aircraft. The aircraft has a total available floor space of 64 feet.

Section II

Airdrop Supplies And Equipment

COMMONLY USED ITEMS

2-3. Items commonly used for rigging platform loads are described in this section. Each rigging manual in the FM 4-20.(10-500)/TO 13C7 series contains one or more tables of equipment required. These tables list the NSN, item, and quantity of each item needed to prepare and rig the load covered in the manual. Standard airdrop hardware items are shown in Figure 2-2. Standard airdrop straps and canvas items are shown in Figure 2-3. Some textile, wood, and miscellaneous items are described below.

a. Textile Items. The most common textile items and their uses are as follows:

(1) **Type III nylon cord** is used to make safety ties and to hold items in place. It has a tensile strength of 550 pounds.

(2) **1/2-inch tubular nylon webbing** is used to secure items during airdrop and to tie the deadman's safety tie. It has a tensile strength of 1,000 pounds.

(3) **Type I, 1/4-inch cotton webbing** is used to make many of the needed safety ties used when a platform load is rigged. It has a tensile strength of 80 pounds.

(4) **5/8-inch or 9/16-inch tubular nylon webbing** may be used for the deadman's safety tie and parachute clustering ties in place of 1/2-inch tubular nylon webbing. Five eighths inch tubular nylon webbing has a tensile strength of 2250 pounds and 9/16-inch tubular nylon webbing has a tensile strength of 1500 pounds.

b. Wood Items. Wood items used when platform loads are rigged for specific airdrop are made locally. Details for building these wood items are in the rigging manuals.

Note: Plywood will be grade AC or AD.

c. Miscellaneous Items. Miscellaneous items that may be used when a platform load is rigged are discussed below. The proper use of these items will be covered in detail in this manual or in other FM 4-20 (10-500)/ TO13C7 series manuals.

(1) **Adhesive tape (masking tape), 2 inches wide,** is used to secure folds of excess webbing. It is also used to protect honeycomb from being cut by type III nylon cord and to hold padding in place. It can be used for other tasks also.

(2) **Type IV, cloth-back adhesive tape, 2 inches wide,** is used to protect honeycomb from being cut by type III nylon cord and to hold padding in place. It can be used for other tasks also.

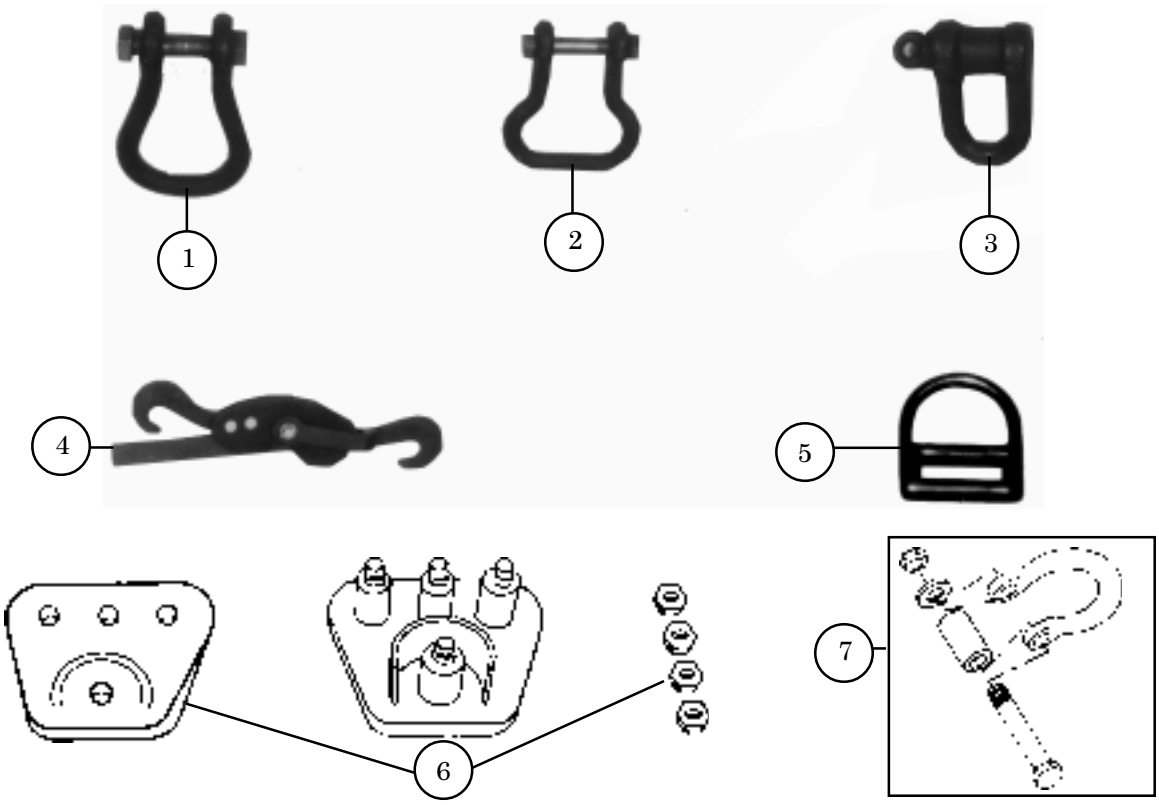
CAUTION
The type IV, cloth-backed adhesive tape, will not be used to secure folds of extraction lines and deployment lines.

(3) **Cellulose wadding and felt sheets** have many uses. They may be used to pad fragile items, to prevent sharp edges from cutting, and to protect slings during airdrop.

(4) **Energy-dissipating pads (honeycomb)** are used to absorb the landing shock. Honeycomb is also used to level, pad, and fill empty spaces.

INSPECTION OF ITEMS

2-4. Canvas, metal, webbing, and wood items are inspected according to TM 10-1670-296-20&P/TO 13C7-49-2.



1 The large clevis is used in forming suspension systems, grouping bridles, and attaching riser extensions to the G-11 cargo parachute. It may be used on the type V platform for suspension. The clevis is used in other places, as indicated in the specific rigging manual.

2 The medium clevis is used to attach riser extensions to the G-12E cargo parachute and emergency aft restraint provisions on the type V platform. Other uses are given in the specific rigging manual.

3 The screw-pin clevis is used with a sleeve in a manner similar to a large suspension clevis.

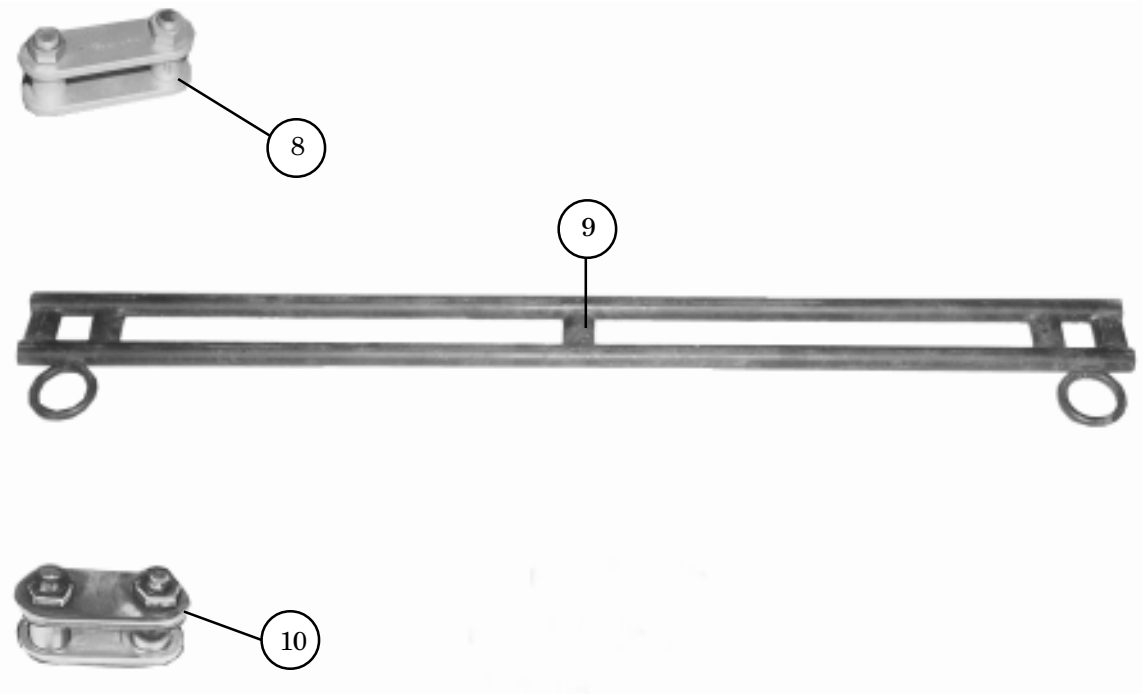
4 The 10,000-pound load binder is used to hook two D-rings together or to hook a D-ring to a platform tiedown clevis on the airdrop platform.

5 The heavy-duty D-ring is used with a 15-foot tiedown strap.

6 The four-point link assembly is used to cluster two 28-foot cargo extraction parachutes on a low-velocity load.

7 The platform clevis is attached to the side rails, tandem links, or suspension links of the type V platform in order to secure the load.

Figure 2-2. Hardware Items Used for Rigging Platform Loads

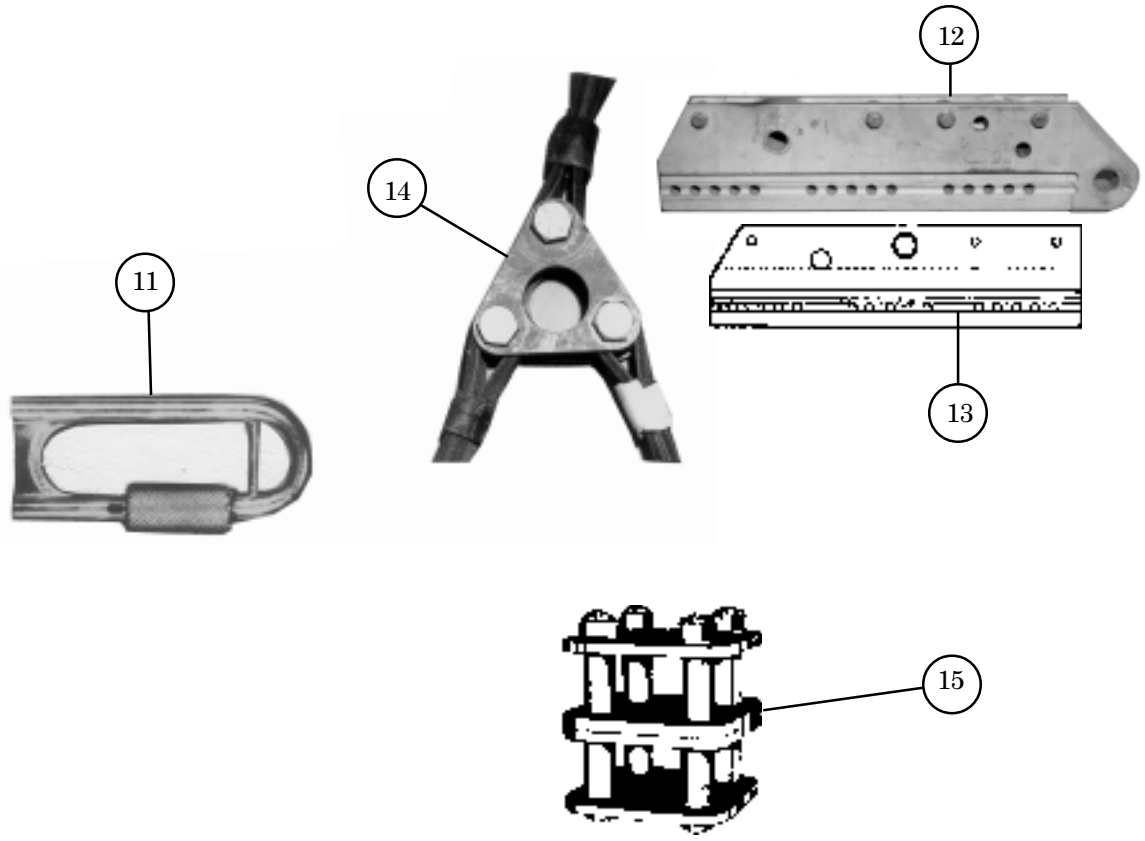


8 The 5 1/2-inch, two-point link assembly is used to join suspension slings and extraction lines and to attach an extraction line to a cargo extraction parachute.

9 The Attitude Control Bar (ACB) is used as an alternate spreader bar on some loads that approach the height of 100 inches. An example of this is the HMMWV ambulance.

10 The 3 3/4-inch, two-point link assembly is used to join suspension slings and to attach an extraction line to a cargo extraction parachute.

Figure 2-2. Hardware Items Used for Rigging Platform Loads (continued)



11 The guillotine-type knife is used on parachute release straps and in other places as directed in the specific rigging manual.

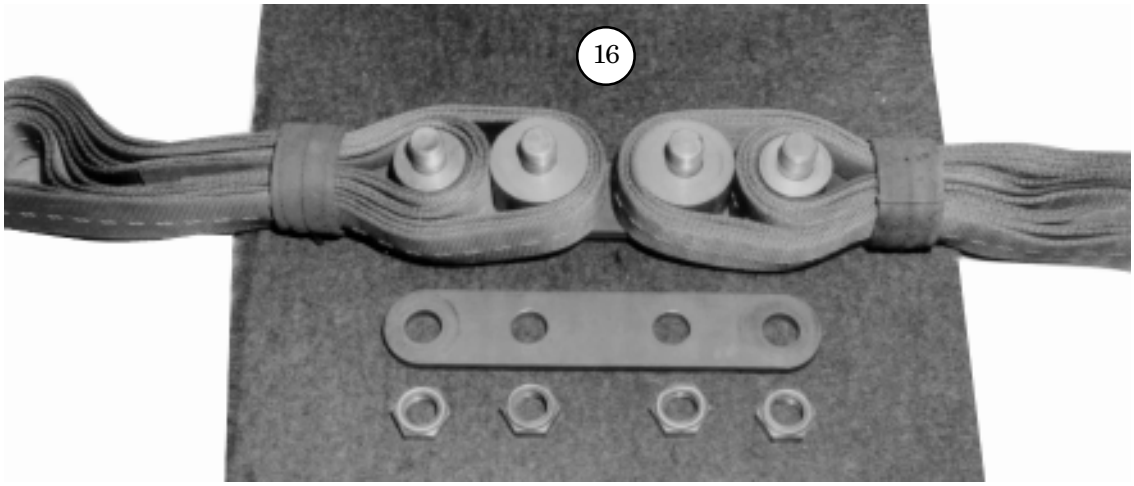
12 The tandem link is used on the type V platform for low-velocity airdrop for platform suspension and emergency aft restraint.

13 The suspension bracket assembly is used for platform suspension.

14 The three-point link may be used to connect suspension slings and is part of the extraction force transfer coupling.

15 The 8-spool load coupler maybe utilized with the Automatic Cargo Parachute Release.

Figure 2-2. Hardware Items Used for Rigging Platform Loads (continued)



16 The EFTC 11-inch extraction coupler assembly (modified) is used to join six-loop extraction lines in the C-5 aircraft.

17 The EFTC actuator arm extension pin is used in the C-5 aircraft. The pin rides on top of the left rail.

Figure 2-2. Hardware Items Used for Rigging Platform Loads (continued)