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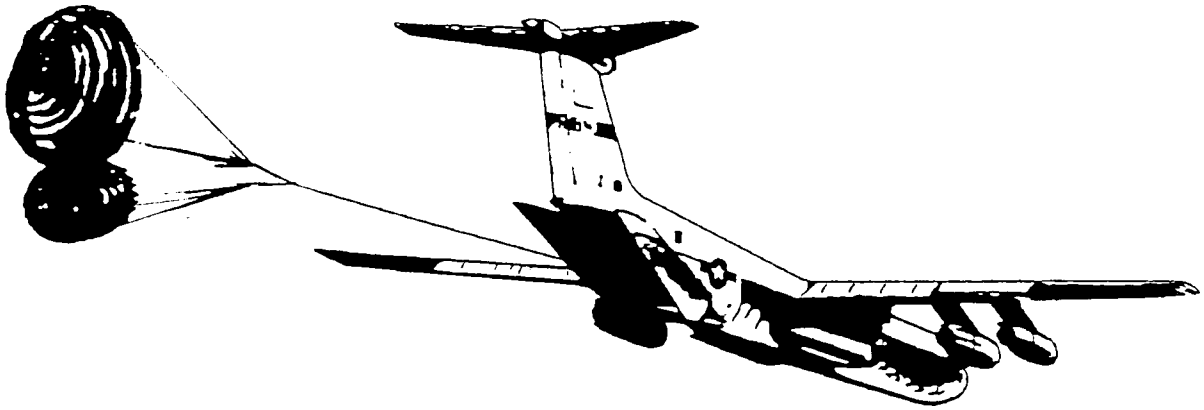

AIRDROP OF SUPPLIES AND EQUIPMENT:
RIGGING FUEL DRUMS

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CHANGE
No. 6

HEADQUARTERS
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DEPARTMENT OF THE AIR FORCE
Washington, DC, 30 January 1998

AIRDROP OF SUPPLIES AND EQUIPMENT
RIGGING FUEL DRUMS

This change adds the procedures for rigging four, five, six or seven fuel drums without the pumping assembly for low-velocity airdrop on a type V platform. Also, this change modifies the procedures for rigging three fuel drums without the pumping assembly on the type V platform for low-velocity airdrop. This change also adds the procedures for rigging three, six, or seven fuel drums with the pumping assembly for low-velocity airdrop on the type V platform. The distribution restriction is also changed. The destruction notice is no longer needed.

FM 10-564/TO 13C7-37-1, 16 April 1979, is changed as follows:

1. New or changed material is identified by a vertical bar (▮) in the margin opposite the changed material.

2. File this transmittal page in front of the publication

3. Remove old pages and insert new pages as indicated below:

Remove pages	**Insert pages**
Cover 1	Cover 1
i through v	i through ix
1-1	1-1
4-15 through 4-30	4-15 through 4-152
Glossary-1	Glossary-1
References-1	References 1 and References 2

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Washington, DC, 16 April 1979

AIRDROP OF SUPPLIES AND EQUIPMENT: RIGGING FUEL DRUMS

TABLE OF CONTENTS

		Paragraph	*Page*
	PREFACE		ix
CHAPTER 1	**INTRODUCTION**		
	Description of Items	1-1	1-1
	Special Considerations	1-2	1-1
CHAPTER 2	**RIGGING DRUMS FOR LOW-VELOCITY AIRDROP ON TYPE II PLATFORM**		
Section I	**RIGGING TWO DRUMS WITH PUMPING ASSEMBLY**		
	[redacted]	2-1	2-1
		2-2	2-1
		2-3	2-1
		2-4	2-2
		2-5	2-2
		2-6	2-2
		2-7	2-2
		2-8	2-2
		2-9	2-2
		2-10	2-2
		2-11	2-2
		2-12	2-3
		2-13	2-3
Section II	**RIGGING ONE DRUM WITH PUMPING ASSEMBLY**		
	[redacted]	2-14	2-16
		2-15	2-16
		2-16	2-16

TYPE II PROCEDURES REMOVED

TYPE II PROCEDURES REMOVED

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*** This manual supersedes FM 10-564/TO 13C7-37-1, 30 May 1975.**

		Paragraph	*Page*
	TYPE II PROCEDURES REMOVED	2-17	2-16
		2-18	2-16
		2-19	2-16
		2-20	2-16
		2-21	2-17
		2-22	2-17
		2-23	2-17
		2-24	2-17
Section III	**RIGGING TWO DRUMS WITHOUT PUMPING ASSEMBLY**		
	TYPE II PROCEDURES REMOVED	2-25	2-28
		2-26	2-28
		2-27	2-28
		2-28	2-28
		2-29	2-30
		2-30	2-31
		2-31	2-31
		2-32	2-31
		2-33	2-31
		2-34	2-31
		2-35	2-31
Section IV	**RIGGING THREE DRUMS WITHOUT PUMPING ASSEMBLY**		
	TYPE II PROCEDURES REMOVED	2-36	2-36
		2-37	2-36
		2-38	2-37
		2-39	2-38
		2-40	2-38
		2-41	2-40
		2-42	2-41
		2-43	2-44
		2-44	2-44
		2-45	2-44
		2-46	2-44
		2-47	2-44
CHAPTER 3	**RIGGING DRUMS FOR LAPE AIRDROP**		
Section I	**RIGGING TWO DRUMS**		
	REMOVED: 95 MESSAGE TERMINATION OF LAPES	3-1	3-1
		3-2	3-1
		3-3	3-1
		3-4	3-1
		3-5	3-1
		3-6	3-1
		3-7	3-1
		3-8	3-1

		Paragraph	*Page*
Section II	**RIGGING THREE DRUMS**		
	REMOVED: 95 MESSAGE TERMINATION OF LAPES	3-9	3-10
		3-10	3-10
		3-11	3-10
		3-12	3-10
		3-13	3-10
		3-14	3-10
		3-15	3-10
		3-16	3-10
Section III	**RIGGING FOUR DRUMS**		
	REMOVED: 95 MESSAGE TERMINATION OF LAPES	3-17	3-18
		3-18	3-18
		3-19	3-18
		3-20	3-18
		3-21	3-18
		3-22	3-18
		3-23	3-18
		3-24	3-18
Section IV	**RIGGING FIVE DRUMS**		
	REMOVED: 95 MESSAGE TERMINATION OF LAPES	3-25	3-29
		3-26	3-29
		3-27	3-29
		3-28	3-30
		3-29	3-30
		3-30	3-30
		3-31	3-30
		3-32	3-30
Section V	**RIGGING PUMP AND FILTER**		
	REMOVED: 95 MESSAGE TERMINATION OF LAPES	3-33	3-39
		3-34	3-39
		3-35	3-39
		3-36	3-39
		3-37	3-39
		3-38	3-39
CHAPTER 4	**RIGGING DRUMS FOR LOW-VELOCITY AIRDROP ON A TYPE V PLATFORM**		
Section I	**RIGGING TWO DRUMS WITHOUT PUMPING ASSEMBLY ON AN 8-FOOT PLATFORM**		
	Description of Load	4-1	4-1
	Preparing Platform	4-2	4-1
	Preparing and Positioning Honeycomb Stacks	4-3	4-3
	Installing Lifting Slings	4-4	4-4

		Paragraph	*Page*
	Positioning and Lashing Drums	4-5	4-5
	Installing and Safetying Suspension Slings	4-6	4-8
	Installing Cargo Parachutes	4-7	4-9
	Installing Extraction System	4-8	4-10
	Installing Parachute Release	4-9	4-11
	Placing Extraction Parachute	4-10	4-12
	Installing Provisions for Emergency Restraints	4-11	4-12
	Marking Rigged Load	4-12	4-12
	Equipment Required	4-13	4-12
Section II	**RIGGING THREE DRUMS WITHOUT PUMPING ASSEMBLY ON A 12-FOOT PLATFORM**		
	Description of Load	4-14	4-16
	Preparing Platform	4-15	4-16
	Preparing and Positioning Honeycomb Stacks	4-16	4-18
	Installing Lifting Slings and Positioning Drums	4-17	4-19
	Lashing Drums	4-18	4-20
	Installing and Safetying Suspension Slings	4-19	4-22
	Building and Lashing Parachute Stowage Platform	4-20	4-23
	Installing Cargo Parachutes	4-21	4-24
	Installing Parachute Release	4-22	4-25
	Installing Extraction System	4-23	4-26
	Installing Provisions for Emergency Restraints	4-24	4-27
	Placing Extraction Parachute	4-25	4-27
	Marking Rigged Load	4-26	4-27
	Equipment Required	4-27	4-27
Section III	**RIGGING THREE DRUMS WITH PUMPING ASSEMBLY ON A 12-FOOT PLATFORM**		
	Description of Load	4-28	4-31
	Preparing Platform	4-29	4-31
	Preparing and Positioning Honeycomb Stacks	4-30	4-33
	Installing Lifting Slings and Positioning Drums	4-31	4-33
	Lashing Drums	4-32	4-33
	Preparing Pump Assembly	4-33	4-35
	Lashing Pump Assembly to Platform	4-34	4-35
	Installing and Safetying Suspension Slings	4-35	4-38
	Building and Lashing Parachute Stowage Platform	4-36	4-38
	Installing Cargo Parachutes	4-37	4-38
	Installing Parachute Release	4-38	4-38
	Installing Extraction System	4-39	4-38
	Installing Provisions for Emergency Restraints	4-40	4-38
	Placing Extraction Parachute	4-41	4-38
	Marking Rigged Load	4-42	4-38
	Equipment Required	4-43	4-38

		Paragraph	*Page*
Section IV	**RIGGING FOUR DRUMS WITHOUT PUMPING ASSEMBLY ON A 20-FOOT PLATFORM**		
	Description of Load	4-44	4-42
	Preparing Platform	4-45	4-42
	Preparing and Positioning Honeycomb Stacks	4-46	4-44
	Installing Lifting Slings and Positioning Drums	4-47	4-45
	Lashing Drums	4-48	4-45
	Installing and Safetying Suspension Slings	4-49	4-47
	Building and Lashing Parachute Stowage Platform	4-50	4-48
	Installing Cargo Parachutes	4-51	4-49
	Installing Parachute Release	4-52	4-50
	Installing Extraction System	4-53	4-51
	Installing Provisions for Emergency Restraints	4-54	4-52
	Placing Extraction Parachute	4-55	4-52
	Marking Rigged Load	4-56	4-52
	Equipment Required	4-57	4-52
Section V	**RIGGING FIVE DRUMS WITHOUT PUMPING ASSEMBLY ON A 20-FOOT PLATFORM**		
	Description of Load	4-58	4-56
	Preparing Platform	4-59	4-56
	Preparing and Positioning Honeycomb Stacks	4-60	4-58
	Installing Lifting Slings and Positioning Drums	4-61	4-59
	Lashing Drums	4-62	4-60
	Installing and Safetying Suspension Slings	4-63	4-63
	Building and Lashing Parachute Stowage Platform	4-64	4-65
	Installing Cargo Parachutes	4-65	4-67
	Installing Parachute Release	4-66	4-68
	Installing Extraction System	4-67	4-69
	Installing Provisions for Emergency Restraints	4-68	4-70
	Placing Extraction Parachute	4-69	4-70
	Marking Rigged Load	4-70	4-70
	Equipment Required	4-71	4-70
Section VI	**RIGGING SIX DRUMS WITHOUT PUMPING ASSEMBLY ON A 24-FOOT PLATFORM**		
	Description of Load	4-72	4-75
	Preparing Platform	4-73	4-75
	Preparing and Positioning Honeycomb Stacks	4-74	4-77
	Installing Lifting Slings and Positioning Drums	4-75	4-78
	Lashing Drums	4-76	4-79
	Installing and Safetying Suspension Slings	4-77	4-82
	Building and Lashing Parachute Stowage Platform	4-78	4-85

		Paragraph	*Page*
	Installing Cargo Parachutes	4-79	4-87
	Installing Parachute Release	4-80	4-88
	Installing Extraction System	4-81	4-89
	Installing Provisions for Emergency Restraints	4-82	4-90
	Placing Extraction Parachute	4-83	4-90
	Marking Rigged Load	4-84	4-90
	Equipment Required	4-85	4-90
Section VII	**RIGGING SIX DRUMS WITH PUMPING ASSEMBLY ON A 24-FOOT PLATFORM**		
	Description of Load	4-86	4-95
	Preparing Platform	4-87	4-95
	Preparing and Positioning Honeycomb Stacks	4-88	4-97
	Installing Lifting Slings and Positioning Drums	4-89	4-97
	Lashing Drums	4-90	4-97
	Preparing Pump Assembly	4-91	4-101
	Lashing Pump Assembly to Platform	4-92	4-101
	Installing and Safetying Suspension Slings	4-93	4-104
	Building and Lashing Parachute Stowage Platform	4-94	4-104
	Installing Cargo Parachutes	4-95	4-106
	Installing Parachute Release	4-96	4-107
	Installing Extraction System	4-97	4-108
	Installing Provisions for Emergency Restraints	4-98	4-108
	Placing Extraction Parachute	4-99	4-108
	Marking Rigged Load	4-100	4-108
	Equipment Required	4-101	4-108
Section VIII	**RIGGING SEVEN DRUMS WITHOUT PUMPING ASSEMBLY ON A 28-FOOT PLATFORM**		
	Description of Load	4-102	4-113
	Preparing Platform	4-103	4-113
	Preparing and Positioning Honeycomb Stacks	4-104	4-115
	Installing Lifting Slings and Positioning Drums	4-105	4-116
	Lashing Drums	4-106	4-117
	Installing and Safetying Suspension Slings	4-107	4-120
	Building and Lashing Parachute Stowage Platform	4-108	4-122
	Installing Cargo Parachutes	4-109	4-124
	Installing Parachute Release	4-110	4-125
	Installing Extraction System	4-111	4-126
	Installing Provisions for Emergency Restraints	4-112	4-127
	Placing Extraction Parachute	4-113	4-127
	Marking Rigged Load	4-114	4-127
	Equipment Required	4-115	4-127

.

		Paragraph	*Page*
Section IX	**RIGGING SEVEN DRUMS WITH PUMPING ASSEMBLY ON A 28-FOOT PLATFORM**		
	Description of Load	4-116	4-132
	Preparing Platform	4-117	4-132
	Preparing and Positioning Honeycomb Stacks	4-118	4-134
	Installing Lifting Slings and Positioning Drums	4-119	4-135
	Lashing Drums	4-120	4-136
	Preparing Pump Assembly	4-121	4-139
	Lashing Pump Assembly to Platform	4-122	4-139
	Installing and Safetying Suspension Slings	4-123	4-142
	Building and Lashing Parachute Stowage Platform	4-124	4-145
	Installing Cargo Parachutes	4-125	4-146
	Installing Parachute Release	4-126	4-147
	Installing Extraction System	4-127	4-148
	Installing Provisions for Emergency Restraints	4-128	4-148
	Placing Extraction Parachute	4-129	4-148
	Marking Rigged Load	4-130	4-148
	Equipment Required	4-131	4-148
CHAPTER 5	**RIGGING DRUMS FOR LAPE AIRDROP ON A TYPE V PLATFORM**		
Section I	**RIGGING TWO DRUMS ON A 12-FOOT PLATFORM**		
	[redacted]	5-1	5-1
		5-2	5-2
		5-3	5-3
		5-4	5-5
		5-5	5-6
		5-6	5-6
		5-7	5-11
		5-8	5-13
		5-9	5-15
		5-10	5-17
		5-11	5-17
		5-12	5-18
Section II	**RIGGING THREE DRUMS ON A 16-FOOT PLATFORM**		
	[redacted]	5-13	5-20
		5-14	5-20
		5-15	5-22
		5-16	5-23
		5-17	5-24
		5-18	5-24

REMOVED: 95 MESSAGE TERMINATION OF LAPES

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		Paragraph	*Page*
	REMOVED: 95 MESSAGE TERMINATION OF LAPES	5-19	5-27
		5-20	5-33
		5-21	5-36
		5-22	5-39
		5-23	5-39
		5-24	5-39
Section III	**RIGGING FOUR DRUMS ON A 20-FOOT PLATFORM**		
	REMOVED: 95 MESSAGE TERMINATION OF LAPES	5-25	5-41
		5-26	5-41
		5-27	5-43
		5-28	5-59
		5-29	5-62
		5-30	5-64
		5-31	5-64
		5-32	5-65
Section IV	**RIGGING FIVE DRUMS ON A 24-FOOT PLATFORM**		
	REMOVED: 95 MESSAGE TERMINATION OF LAPES	5-33	5-66
		5-34	5-66
		5-35	5-68
		5-36	5-89
		5-37	5-92
		5-38	5-94
		5-39	5-94
		5-40	5-95

APPENDIX A Deleted in Change 4

APPENDIX B **EQUIPMENT REQUIRED**.....B-1

GLOSSARY.....Glossary-1

REFERENCES.....References-1

PREFACE

SCOPE

This manual tells and shows how to rig 500-gallon-capacity collapsible fabric drums (model 5-14-191-1) with or without a 50-gallon-per-minute pumping assembly or a liquid fuel filter/ separator (filter) for low-velocity airdrop on type II and type V platforms. Fuel drums are low-velocity airdropped from C-130, C-141, C-5, and C-17 aircraft. This manual also tells and shows how to rig fuel drums for LAPE airdrop on metric and type V platforms from C-130 aircraft.

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CHAPTER 1

INTRODUCTION

1-1. Description of Items

The 500-gallon-capacity collapsible fabric fuel drums can be dropped with or without the 50-gallon-per-minute pumping assembly or liquid fuel filter/separator (filter) in the following configurations:

a. One or two drums with a pumping assembly on a type II airdrop platform for low-velocity airdrop from a C-130 or C-141 aircraft.

b. Two or three drums without a pumping assembly on a type II airdrop platform for low-velocity airdrop from C-130 and C-141 aircraft. Two to seven drums without a pumping assembly are rigged on a type V airdrop platform for low-velocity airdrop from C-130, C-141, C-5, and C-17 aircraft.

c. Three, six, or seven drums with a pumping assembly on a type V airdrop platform for low-velocity airdrop from C-130, C-141, C-5, and C-17 aircraft.

d. Two to five drums with or without a pumping assembly or a liquid fuel separator (filter) on a LAPES airdrop platform for LAPE airdrop from a C-130 aircraft.

e. Two to five drums without a pumping assembly on a type V airdrop platform for LAPE airdrop from a C-130 aircraft.

1-2. Special Considerations

CAUTION
There must be no more than 432 gallons of liquid in each drum when the drum is rigged for low-velocity and LAPE airdrops.

a. These loads may contain hazardous materials- gasoline, JP-4 fuel, or diesel fuel. Hazardous materials in these loads must be packaged, marked, and labeled in compliance with AFJMAN 24-204/TM 38-250.

b. Gasoline, JP-4 fuel, or diesel fuel may be airdropped using these procedures. Each drum must be weighed to learn its exact weight. For computing liquid weight per US gallon, use 6 pounds for gasoline, 6.6 pounds for JP-4 fuel, and 6.68 pounds for diesel fuel.

c. The drum is flexible, and will rebound on impact. The lashings may break and cause the drum to roll off the platform and create a possible hazard in the area.

d. A copy of this manual must be available to the joint airdrop inspectors during the before- and after- loading inspections.

WARNING
Do not add air to drums. Changes in pressurization can cause leaking or bursting. Failure to comply endangers mission, aircraft,

Table 4-1. Equipment required for rigging two drums without pumping assembly on an 8-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
7510-00-266-5016	Tape, adhesive, 2-in.	As required
1670-00-937-0271	Tiedown assembly, 15-ft.	18
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I.	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-in, 1,000-lb, natural.	As required
8305-00-263-3591	Type VIII, 3,600-lb.	As required

Section II

RIGGING THREE DRUMS WITHOUT PUMPING ASSEMBLY ON A 12-FOOT PLATFORM

4-14. Description of Load

Three drums are rigged on a 12-foot, type V platform. Filled with 432 gallons of gasoline, each drum weighs 2,842 pounds and is 62 inches long and 53 inches in diameter. An empty drum weighs 250 pounds.

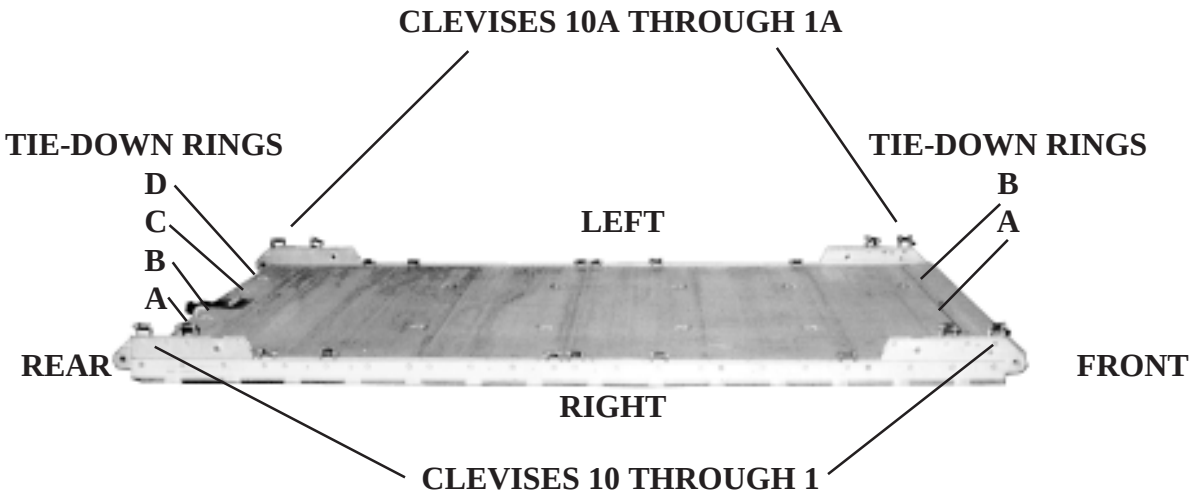
Note: Fill drums with no more than 432 gallons of fuel. If the drums are filled with a fuel other than gasoline, the drum weight must be computed.

4-15. Preparing Platform

Prepare a 12-foot, type V airdrop platform using four tandem links and 20 clevises as shown in Figure 4-11.

Notes:
1. **The nose bumper may or may not be installed.**
2. **Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.**

WARNING
Do not add air to drums. Pressurization changes will cause leaking or bursting.



Step:

1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/ TO 13C7-52-22.

2. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3. Install a tandem link on the rear of each platform side rail using holes 22, 23, and 24.

3. Bolt a clevis on bushings 1 and 3 of each front tandem link, and on bushings 2 and 4 of each rear tandem link.

4. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 5, 10, 12, 13, 19 and 21.

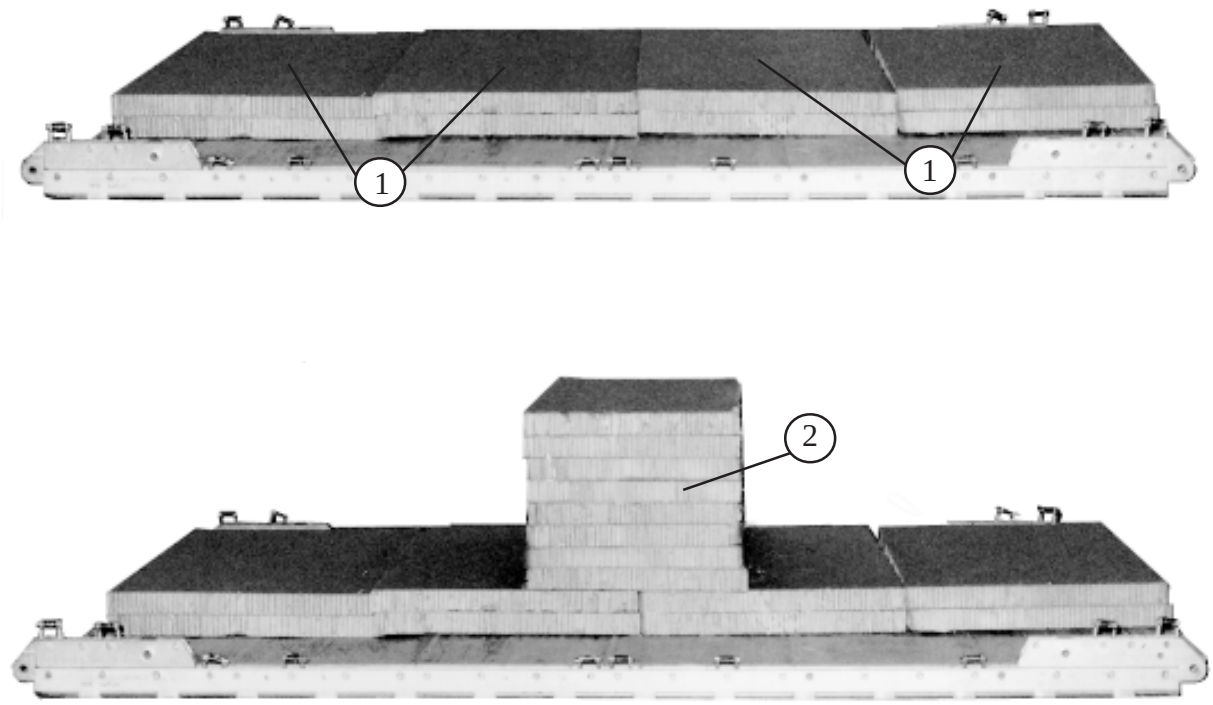
5. Starting at the front of the platform, number the clevises bolted to the right side 1 through 10, and those bolted to the left side 1A through 10A.

6. Label the tiedown rings according to FM 10-500-2/TO 13C7-1-5.

Figure 4-11. Platform prepared

4-16. Preparing and Positioning Honeycomb Stacks

Prepare and position the honeycomb stacks as shown in Figure 4-12.



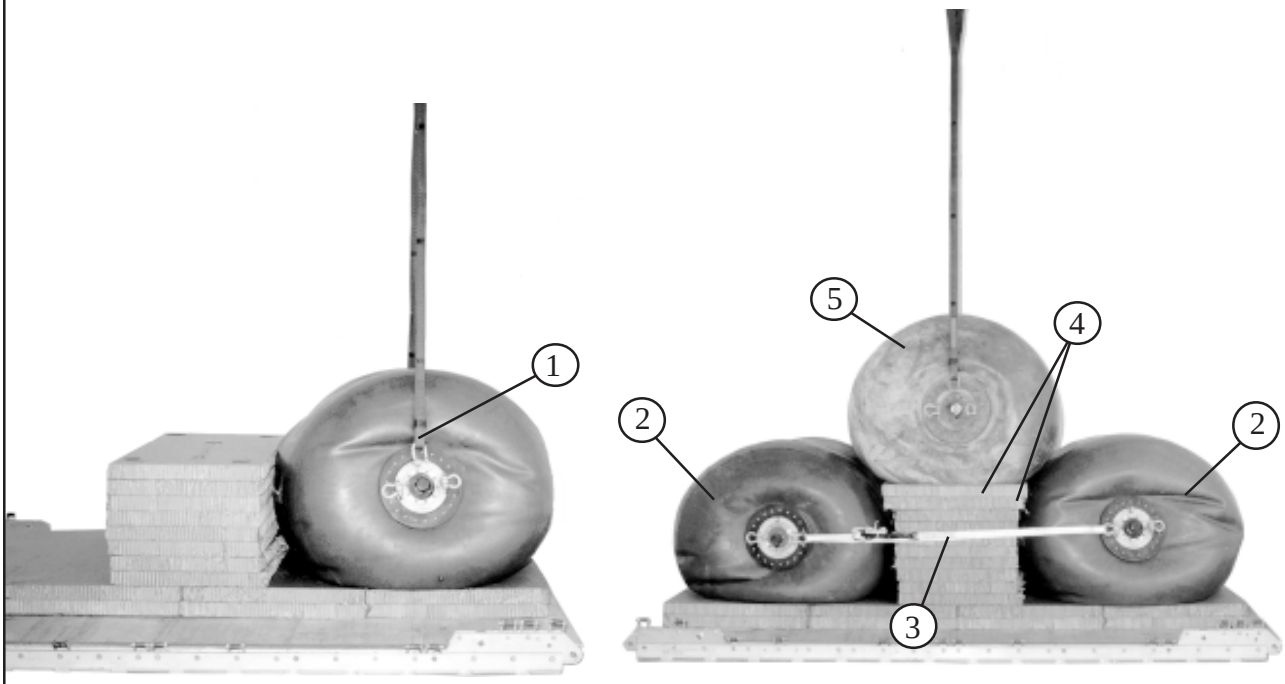
(1) Use eight 36- by 60-inch pieces of honeycomb to make a two-layer stack 60- by 144 inches. Center the stack on the platform.

(2) Glue eight 60- by 30-inch pieces of honeycomb flush together. Center this stack on the base layer.

Figure 4-12. Honeycomb stacks positioned

4-17. Installing Lifting Slings and Positioning Drums

Lift the drums and position them on the honeycomb as shown in Figure 4-13.

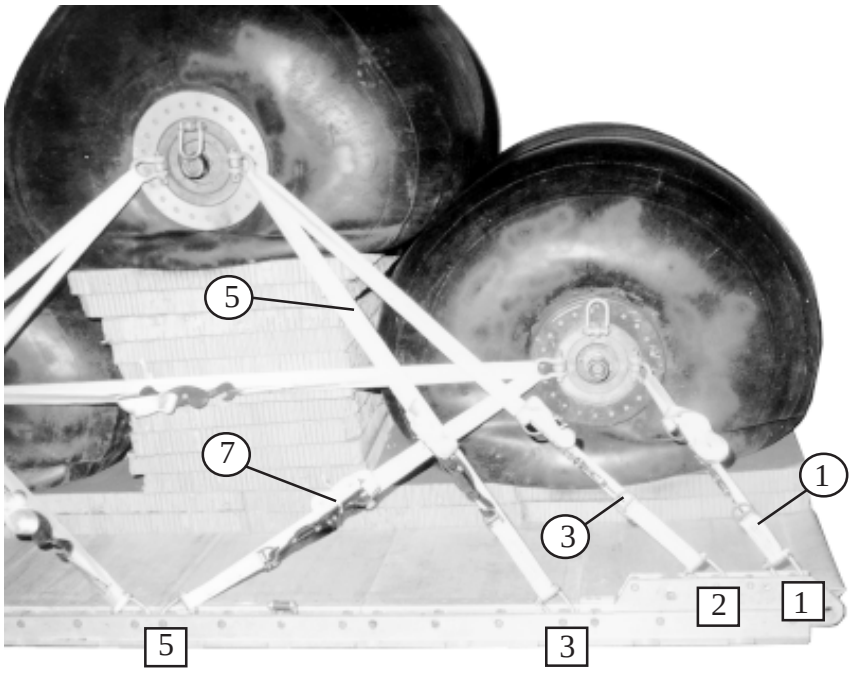


1. Attach a 9-foot (2-loop), type XXVI nylon webbing sling to the upper shackle on each side of the drum with a platform clevis.
2. Lift a drum onto the front and rear of the honeycomb base as shown.
3. Lash the inside shackles of the two drums together on each side with a 15-foot tiedown assembly.
4. Glue a 60- by 34-inch piece of honeycomb centered on the stack. Glue a 60- by 36-inch piece of honeycomb centered over the piece placed previously.
5. Lift and position a drum onto the honeycomb stack.

Figure 4-13. Fuel drums positioned

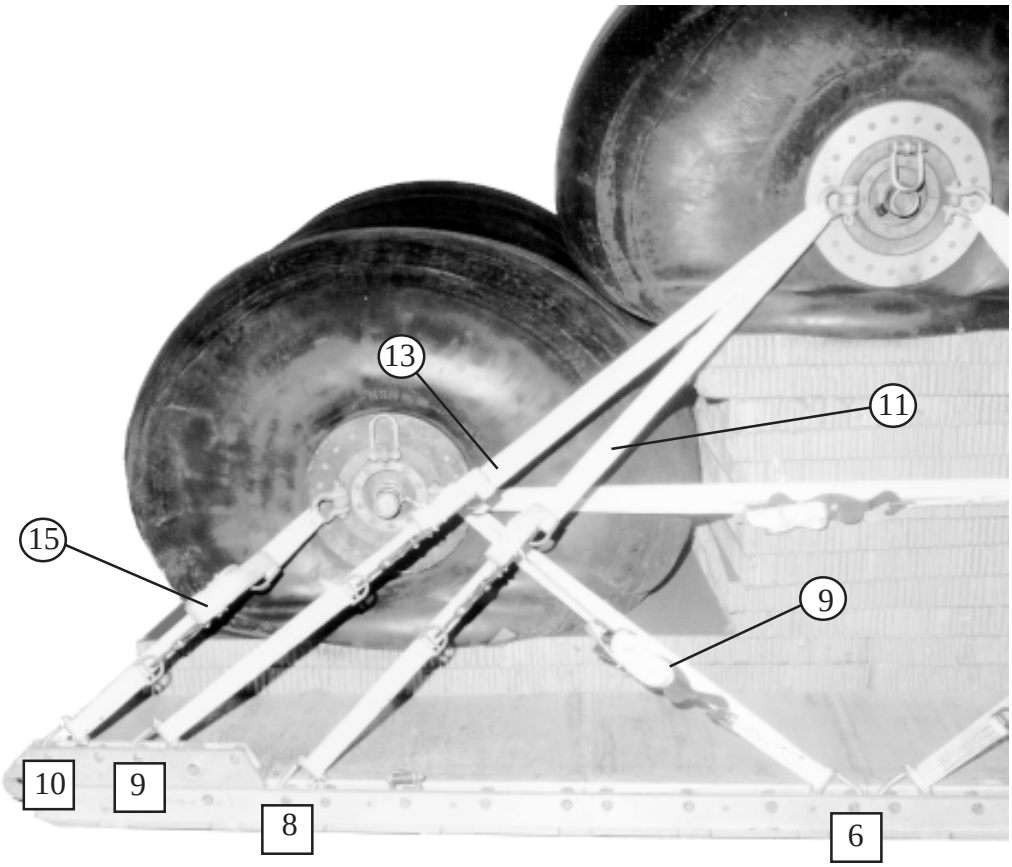
4-18. Lashing Drums

Use twenty 15-foot tie-down assemblies to lash the fuel drums to the platform as shown in Figure 4-14 and according to FM 10-500-2/TO 13C7-1-5.



Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
1	1	Through right front shackle of front drum.
2	1A	Through left front shackle of front drum.
3	2	Through right front shackle of center drum.
4	2A	Through left front shackle of center drum.
5	3	Through right front shackle of center drum.
6	3A	Through left front shackle of center drum.
7	5	Through right rear shackle of front drum.
8	5A	Through left rear shackle of front drum.

Figure 4-14. Fuel drums lashed to platform

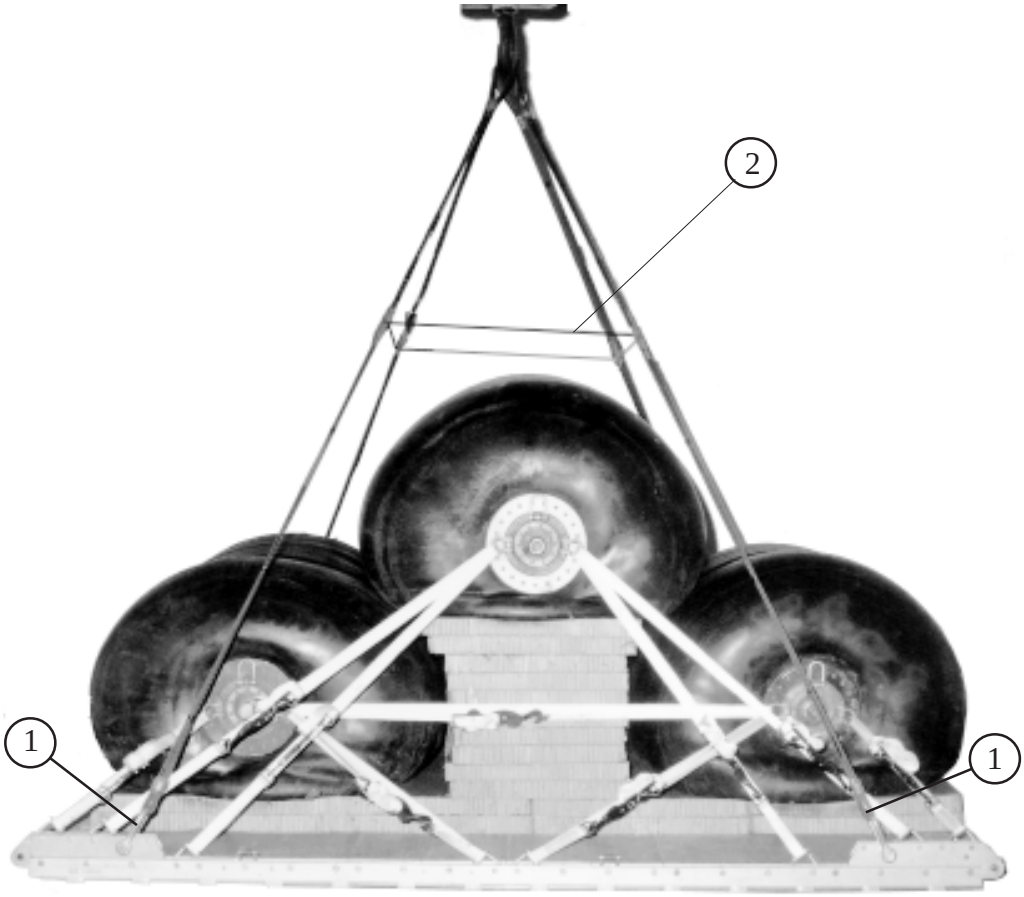


Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
9	6	Through right front shackle of rear drum.
10	6A	Through left front shackle of rear drum.
11	8	Through right rear shackle of center drum.
12	8A	Through left rear shackle of center drum.
13	9	Through right rear shackle of center drum.
14	9A	Through left rear shackle of center drum.
15	10	Through right rear shackle of rear drum.
16	10A	Through left rear shackle of rear drum.

Figure 4-14. Fuel drums lashed to platform (continued)

4-19. Installing and Safetying Suspension Slings

Install and safety four 12-foot (2-loop), type XXVI nylon webbing slings to the tandem links as shown in Figure 4-15.



(1) Place the end loop of a 12-foot (2-loop), type XXVI nylon webbing sling in the bell portion of a large clevis. Bolt the clevis to a tandem link. Repeat for the other three tandem links.

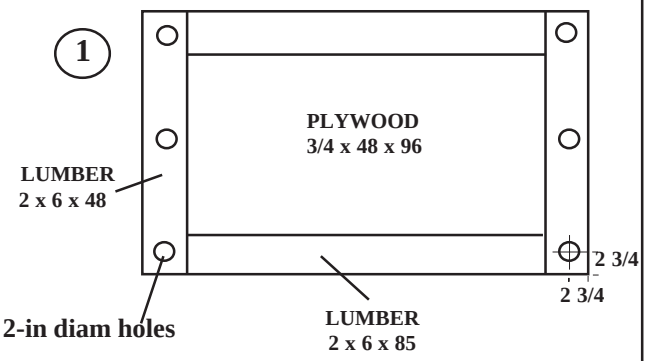
(2) Raise the slings and install the deadman's tie according to FM 10-500-2/TO 13C7-1-5.

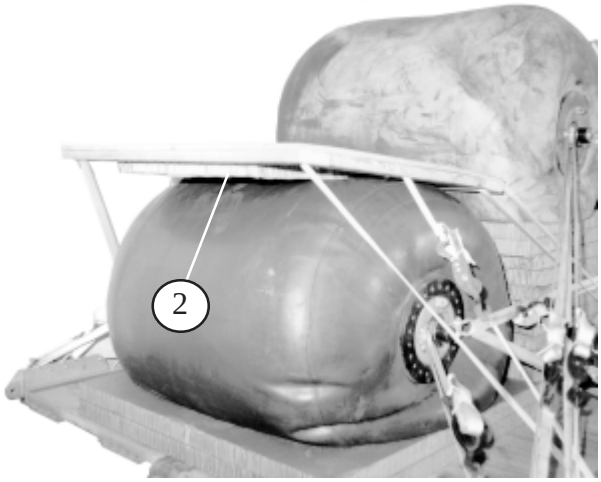
Figure 4-15. Suspension slings installed and safetied

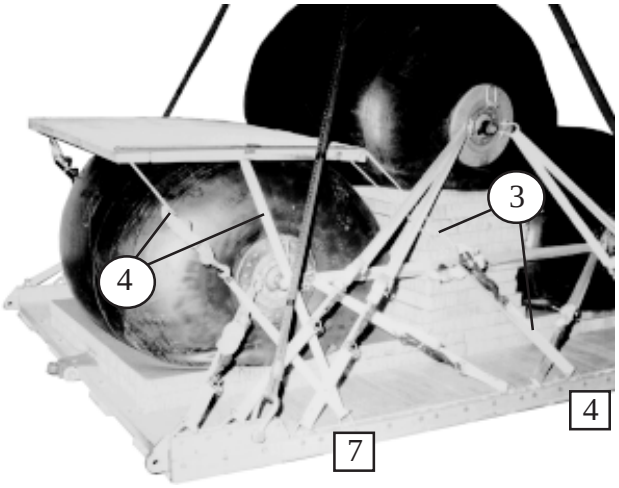
4-20. Building and Lashing Parachute Stowage Platform

Build the parachute stowage platform and lash it to the load with four 15-foot lashings as shown in Figure 4-16.

Notes: 1. This drawing is not to scale.
2. All dimensions are given in inches.
3. Use eightpenny nails.







(1) Build the parachute stowage platform as shown. Nail the 2- by 6-inch pieces of lumber to the edges of the plywood and drill 2-inch holes for the lashings.

(2) Center a piece of honeycomb 48 inches wide and 26 inches long over the rear drum.

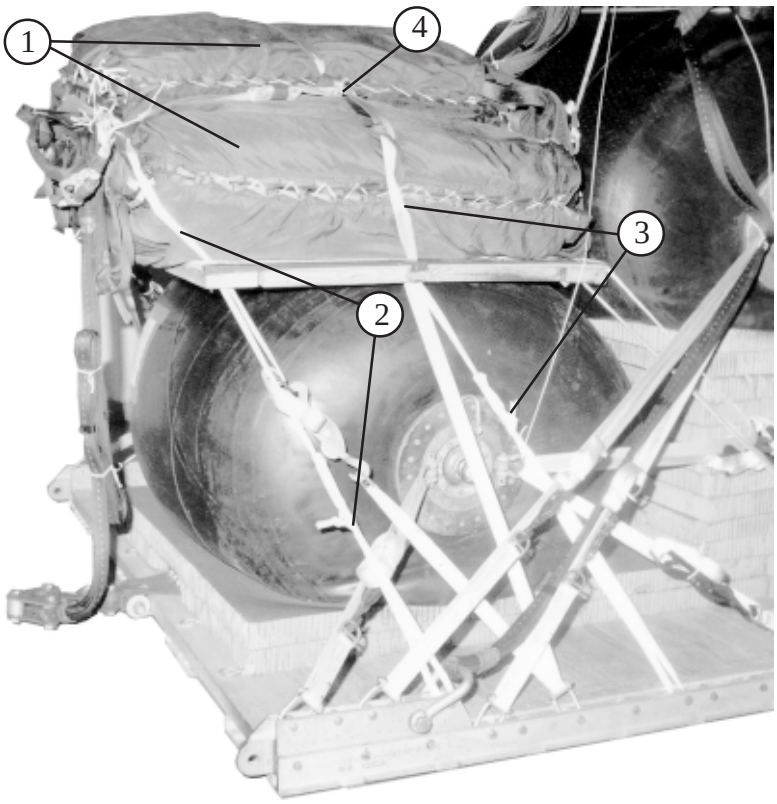
(3) Place the parachute stowage platform over the honeycomb and the rear drum. Lash the front holes to clevises 4 and 4A.

(4) Lash the center and rear holes to clevises 7 and 7A.

Figure 4-16. Parachute stowage platform built and lashed

4-21. Installing Cargo Parachutes

Install three G-11 cargo parachutes as shown in Figure 4-17 and according to FM 10-500-2/TO 13C7-1-5.

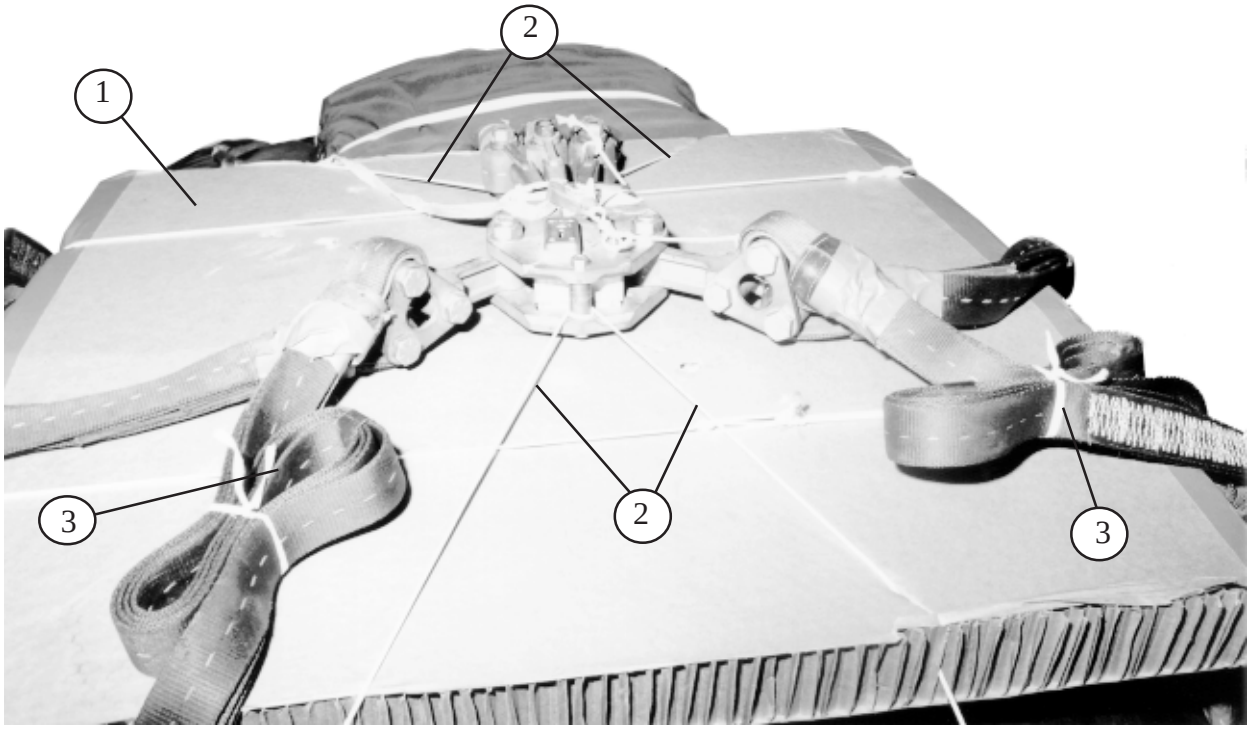


1. Cluster three G-11 cargo parachutes on the parachute stowage platform.
2. Pass the rear restraint strap through the rear holes in the parachute stowage platform, and tie the ends to the first bushing on the rear tandem links.
3. Pass the front restraint strap through the center holes in the parachute stowage platform, and tie the ends to the 17th bushing on each side of the platform.
4. Install the parachute release knives according to FM 10-500-2/TO 13C7-1-5.

Figure 4-17. G-11 cargo parachutes installed

4-22. Installing Parachute Release

Prepare and install an M-1 cargo parachute release as shown in Figure 4-18 and according to FM 10-500-2/TO 13C7-1-5.



1. Center a 36 -by 36-inch piece of honeycomb over the upper drum. Secure the honeycomb to the drum shackles with type III nylon cord.

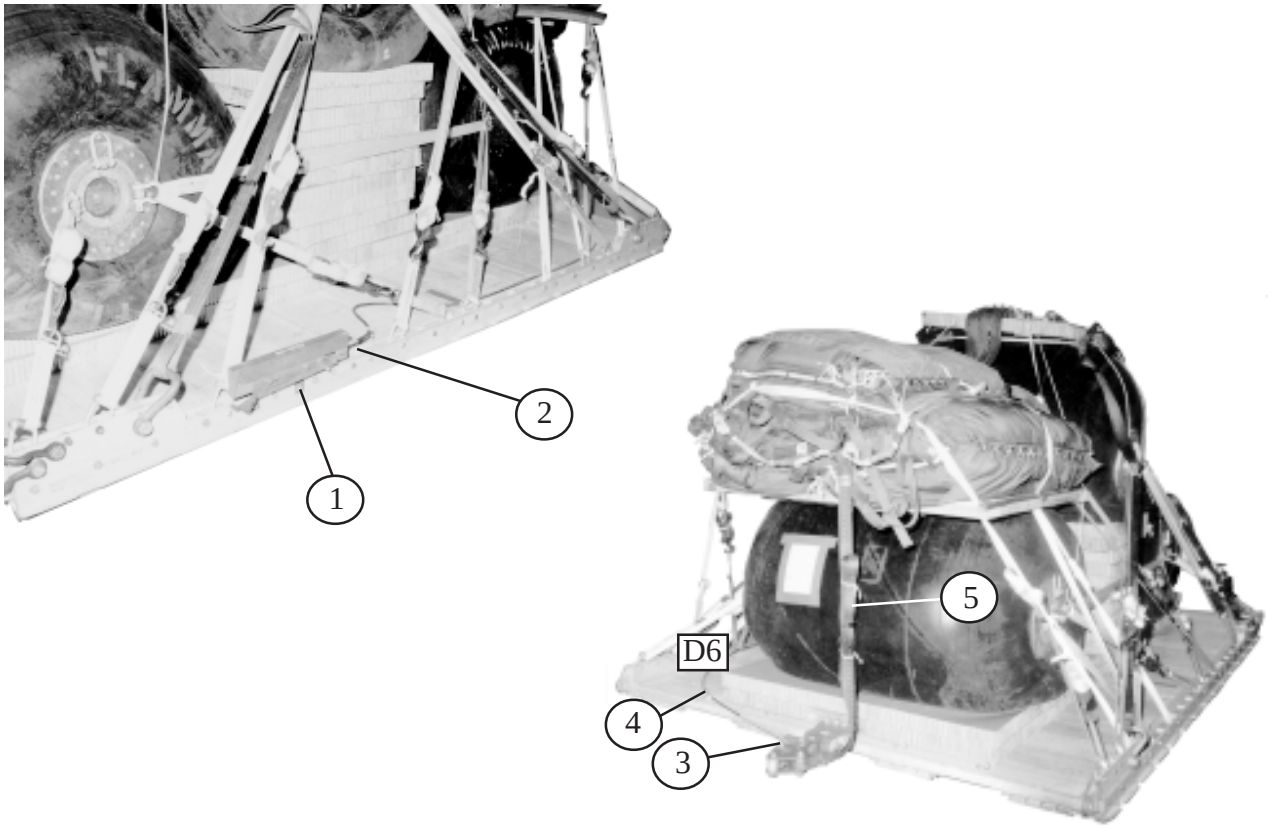
2. Attach the suspension slings and riser extensions to the M-1 release according to FM 10-500-2/TO 13C7-1-5. Secure the release to the shackles on the lower drums with type III nylon cord.

3. S-fold the suspension slings and tie the folds with type I, 1/4-inch cotton webbing.

Figure 4-18. M-1 release installed

4-23. Installing Extraction System

Prepare and install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-19.



1. Install the actuator mounting brackets to the front holes on the left platform rail.
2. Install a 12-foot cable to the actuator. Install the actuator to the brackets.
3. Attach the latch assembly to the extraction bracket. Attach the cable to the latch assembly.
4. Safety the cable to tiedown ring D6 with type I, 1/4-inch cotton webbing.
5. Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold and tie the excess in two places with type I, 1/4-inch cotton webbing.

Figure 4-19. EFTC installed

4-24. Installing Provisions for Emergency Restraints

Select and install provisions for emergency restraints according to the emergency aft restraint requirements table in FM 10-500-2/TO 13C7-1-5.

4-25. Placing Extraction Parachute

Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachute and extraction line on the load for installation in the aircraft.

4-26. Marking Rigged Load

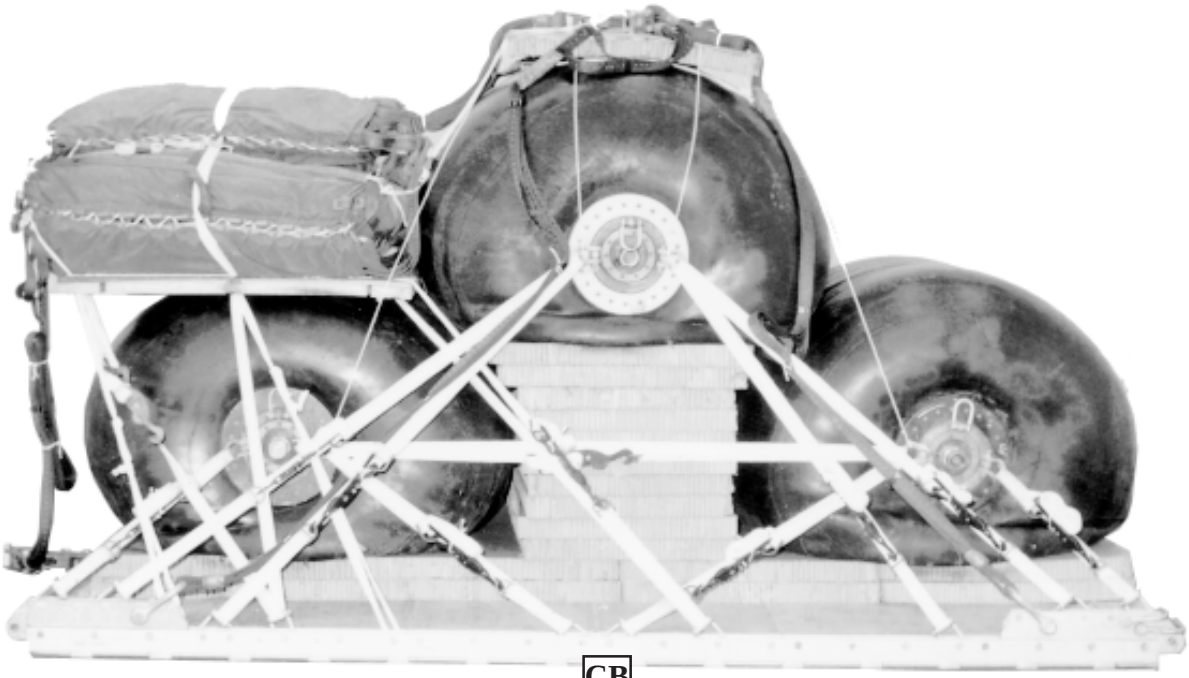
Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-20.

CAUTION
The load weight may vary from the one shown, depending upon the fuel rigged. Be sure that the load is weighed, and the parachute requirements, CB, and tip-off curve recomputed.

4-27. Equipment Required

Use the equipment listed in Table 4-2 to rig this load.

CAUTION
Make the final rigger inspection required by FM 10-500-2/TO 13C7-1-5 before the load leaves the rigging site.



CB

Rigged Load Data

Weight: Estimated, with gasoline	10,960 pounds
Maximum (as shown)	13,940 pounds
Height	86.5 inches
Width	108 inches
Length	144 inches
Overhang Front	5 inches
Rear	17 inches
CB (from front edge of platform)	75 inches
Extraction System (adds 18 inches to length of platform)	EFTC

Figure 4-20. Three drums without pumping assembly rigged on a 12-foot, type V airdrop platform for low-velocity airdrop

Table 4-2. Equipment required for rigging three drums without pumping assembly on a 12-foot, type V airdrop platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-678-8562	Clevis, suspension, 3/4-in (medium)	4
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer with cable, 12-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	7
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-062-6316	60-ft (3-loop), type XXVI	1
	Line, extraction:	
1670-01-062-6316	60-ft (3-loop), type XXVI (for C-130)(Use w/ 140-ft for C-5)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C-141B,C-5, or C-17)	1
	Link assembly:	
1670-00-783-5988	Type IV	7
	Two-point:	
5306-00-435-8994	Bolt, 1-in diam, 4-in long	2
5310-00-232-5165	Nut, 1-in, hexagonal	2
1670-00-003-1953	Plate, side, 3 3/4-in	2
5365-00-007-3414	Spacer, large	2
	Lumber:	
5510-00-220-6148	2- by 6- by 85-in	2
	by 48-in	2
5315-00-010-4659	Nail, steel wire, 8d	As required

Table 4-2. Equipment required for rigging three drums without pumping assembly on a 12-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	
	3- by 36- by 96-in	14 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11B	3
	Cargo extraction:	1
1670-01-063-3716	22-ft	
	Drogue (for C-17)	1
1670-01-063-3715	15-ft	
	Platform, airdrop, type V, 12-ft	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(20)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(4)
5530-00-128-4981	Plywood, 3/4 -by 48- by 96-in	1 sheet
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop	
	For suspension:	
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	6
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	18
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

Section III

RIGGING THREE DRUMS WITH PUMPING ASSEMBLY ON A 12-FOOT PLATFORM

4-28. Description of Load

Three drums are rigged with a pumping assembly on a 12-foot, type V platform. Filled with 432 gallons of gasoline, each drum weighs 2,842 pounds and is 62 inches long and 53 inches in diameter. An empty drum weighs 250 pounds.

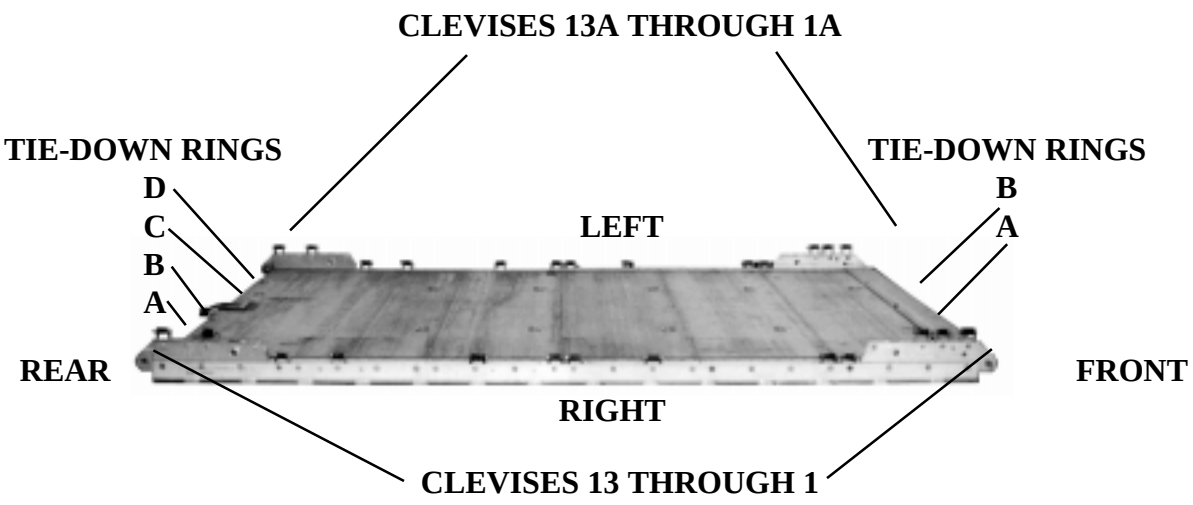
Note: Fill drums with no more than 432 gallons of fuel. If the drums are filled with a fuel other than gasoline, the drum weight must be computed.

4-29. Preparing Platform

Prepare a 12-foot, type V airdrop platform using four tandem links and 26 clevises as shown in Figure 4-21.

Notes:
1. **The nose bumper may or may not be installed.**
2. **Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.**

WARNING
Do not add air to drums. Pressurization changes will cause leaking or bursting.



Step:

1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/ TO 13C7-52-22.

2. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3. Install a tandem link on the rear of each platform side rail using holes 22, 23, and 24.

3. Bolt a clevis on bushings 1, 2 and 3 of each front tandem link, and on bushings 2 and 4 of each rear tandem link.

4. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 4, 5, 10, 12, 13, 15, 19 and 21.

5. Starting at the front of the platform, number the clevises bolted to the right side 1 through 13, and those bolted to the left side 1A through 13A.

6. Label the tiedown rings according to FM 1-500-2/TO 13C7-1-5.

Figure 4-21. Platform prepared

4-30. Preparing and Positioning Honeycomb Stacks

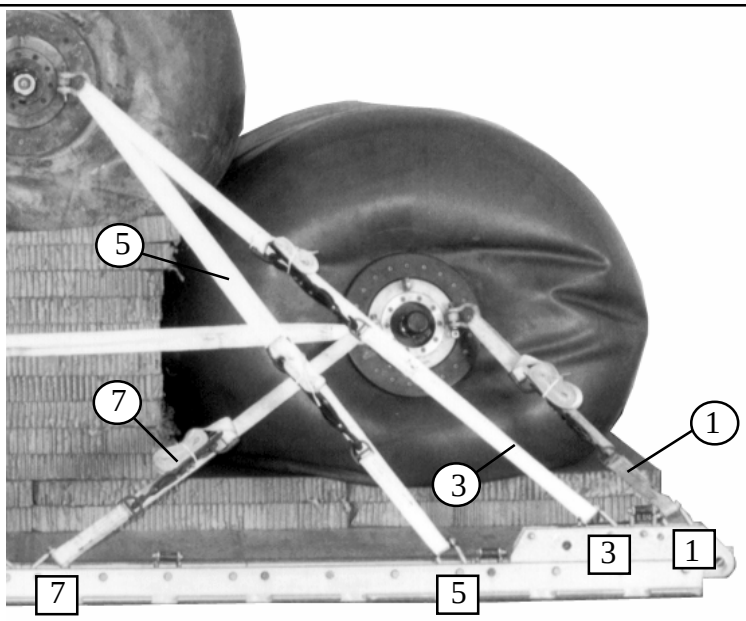
Prepare and position the honeycomb stacks as shown in Figure 4-12.

4-31. Installing Lifting Slings and Positioning Drums

Lift the drums and position them on the honeycomb as shown in Figure 4-13.

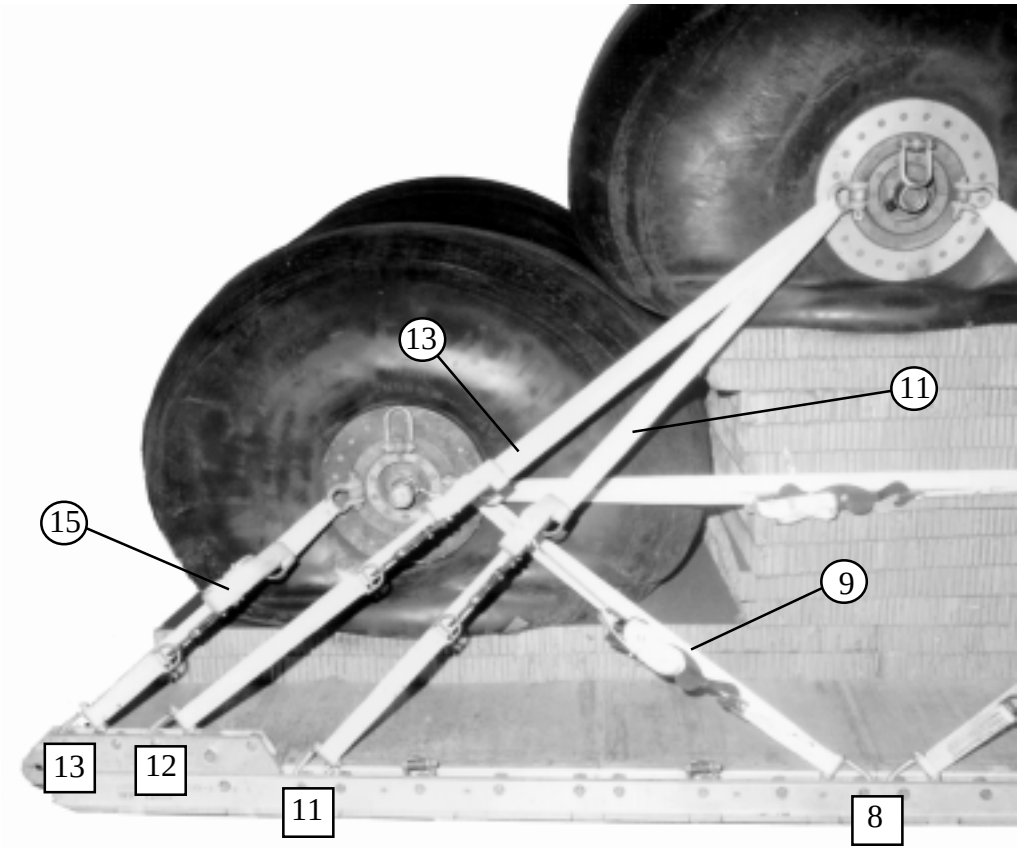
4-32. Lashing Drums

Use twenty-six 15-foot tiedown assemblies to lash the fuel drums to the platform as shown in Figure 4-22 and according to FM 10-500-2/TO 13C7-1-5.



Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
1	1	Through right front shackle of front drum.
2	1A	Through left front shackle of front drum.
3	3	Through right front shackle of center drum.
4	3A	Through left front shackle of center drum.
5	5	Through right front shackle of center drum.
6	5A	Through left front shackle of center drum.
7	7	Through right rear shackle of front drum.
8	7A	Through left rear shackle of front drum.

Figure 4-22. Fuel drums lashed to platform



Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
9	8	Through right front shackle of rear drum.
10	8A	Through left front shackle of rear drum.
11	11	Through right rear shackle of center drum.
12	11A	Through left rear shackle of center drum.
13	12	Through right rear shackle of center drum.
14	12A	Through left rear shackle of center drum.
15	13	Through right rear shackle of rear drum.
16	13A	Through left rear shackle of rear drum.

Figure 4-22. Fuel drums lashed to platform (continued)

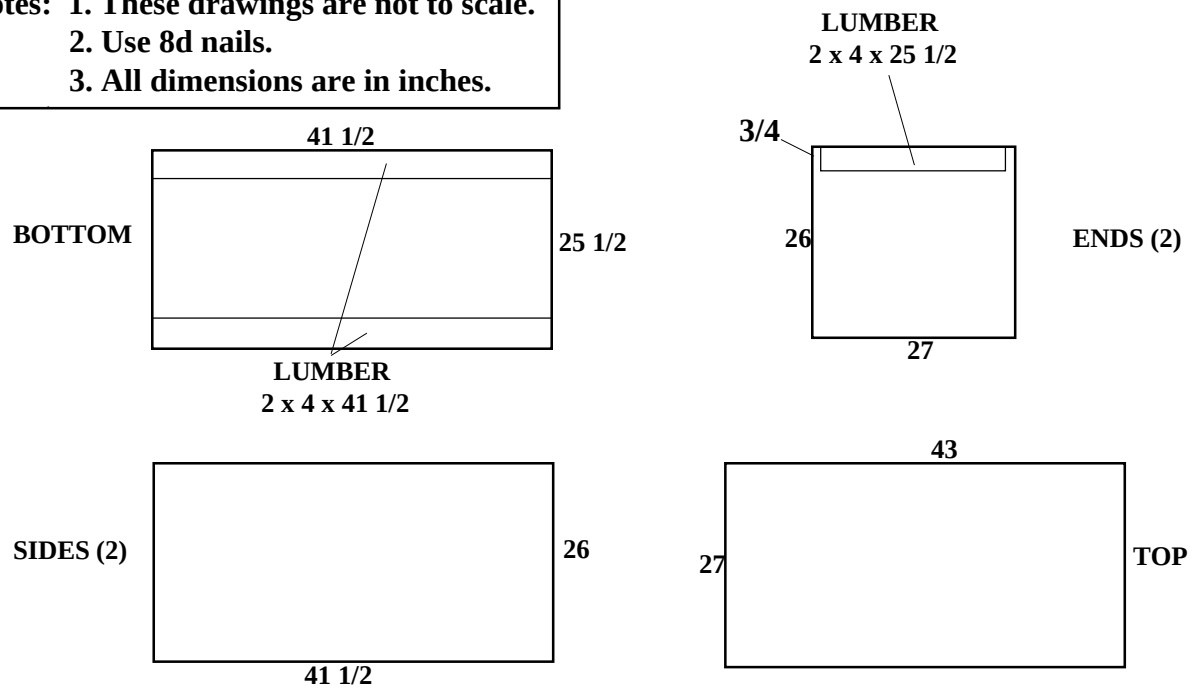
4-33. Preparing Pump Assembly

Build the box for the pump assembly as shown in Figure 4-23. Pack the pump, hoses, and equipment in the box as shown in Figure 4-24.

4-34. Lashing Pump Assembly to Platform

Place the pump assembly box on the load and lash it to the platform as shown in Figure 4-25.

Notes: 1. These drawings are not to scale.
2. Use 8d nails.
3. All dimensions are in inches.



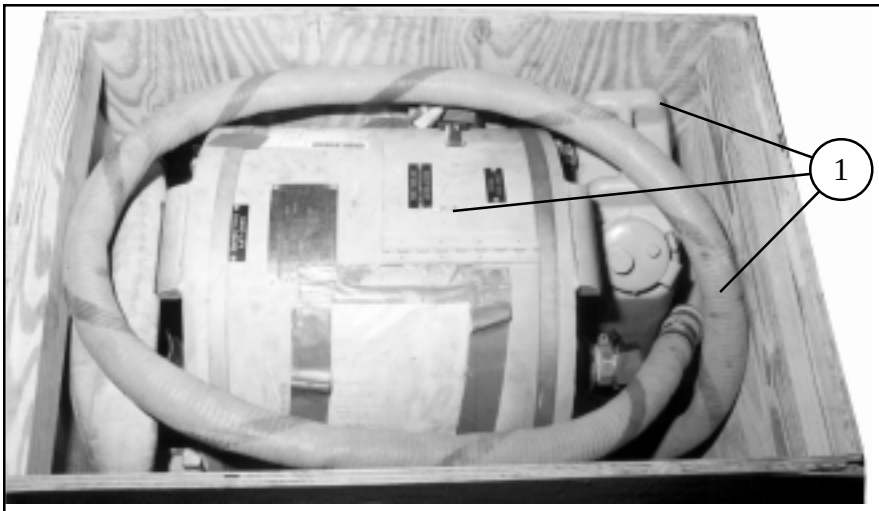
Step:

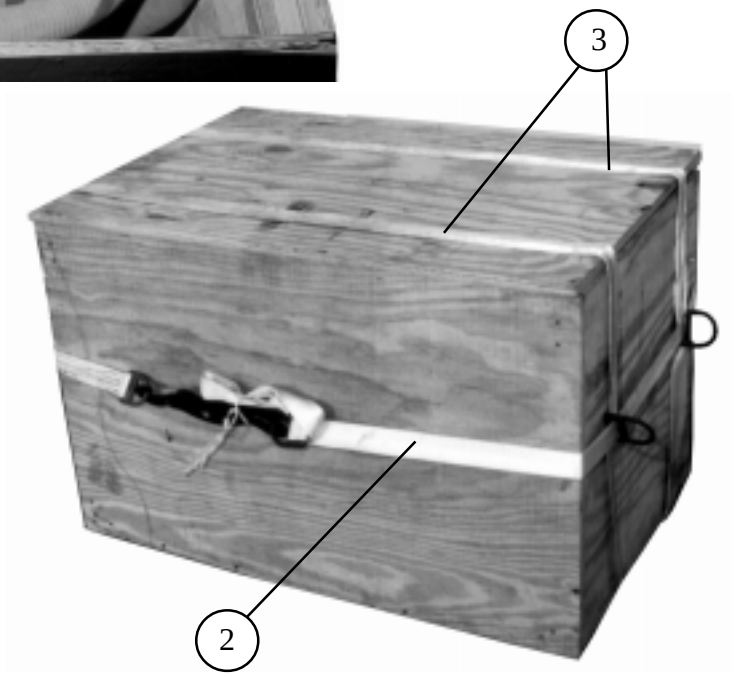
1. Cut the bottom of the box from 3/4-inch plywood 41 1/2 inches long and 25 1/2 inches wide. Nail a 41 1/2-inch length of 2- by 4-inch lumber flat side down and flush along each long edge of the bottom. The top of the box is 43- by 27 inches.

2. Cut the sides of the box from 3/4-inch plywood 41 1/2 inches long and 26 inches high. Place the sides flush with the bottom. Nail into the 2- by 4-inch pieces of lumber.

3. Cut the ends of the box from 3/4-inch plywood 27 inches wide and 26 inches high. Nail a piece of 2- by 4-inch lumber flat side down, centered, and flush with the top edge of each end piece. Nail the ends flush to the bottom and sides. Nail the sides to the 2- by 4-inch pieces of lumber on the ends.

Figure 4-23. Pump assembly box built



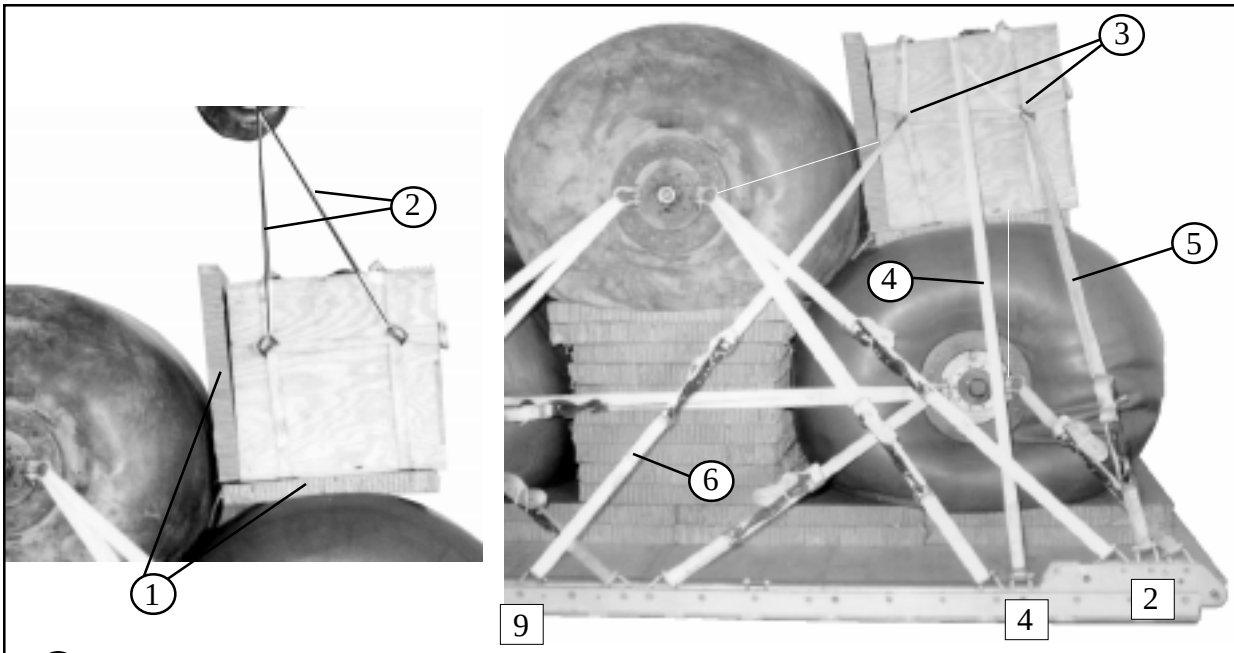


(1) Place the pump, its hoses, a five-gallon can of fuel, and any other items needed by the unit in the box. Pad the items with cellulose wadding. Nail the top to the box.

(2) Place four D-rings onto a 15-foot lashing. Place the lashing around the box lengthwise, and position two D-rings on each end of the box, six inches from each side. Tighten the lashing.

(3) Pass two 15-foot lashings around the box and through the D-rings as shown. Tighten the lashings.

Figure 4-24. Pump assembly box packed



1. Cut two pieces of honeycomb the dimensions of the bottom and side of the box.

2. Lift the box onto the front drum using 1/2-inch tubular nylon webbing tied to the D-rings on the ends of the box. Place the honeycomb cut in step 1 between the box and the front and center drums. Secure the honeycomb in place with type III nylon cord.

3. Untie the 1/2-inch tubular nylon webbing placed in step 2 on one side. Retie the webbing tightly between the D-rings on opposite ends of the box to hold the D-rings in position when the box is lashed.

4. Pass a 15-foot lashing through clevis 4 and through its own D-ring. Pass a 15-foot lashing through clevis 4A and through its own D-ring. Secure the two lashings with two D-rings and a load binder on the left side of the load.

5. Pass a 15-foot lashing through clevis 2 and through the right front D-ring. Pass a 15-foot lashing through clevis 2A and through the left front D-ring. Tighten the lashings at the same time.

6. Pass a 15-foot lashing through clevis 9 and through the right rear D-ring. Pass a 15-foot lashing through clevis 9A and through the left rear D-ring. Tighten the lashings at the same time.

Figure 4-25. Pump assembly box lashed to platform

4-35. Installing and Safetying Suspension Slings

Install and safety four 12-foot (2-loop), type XXVI nylon webbing slings to the tandem links as shown in Figure 4-15.

4-36. Building and Lashing Parachute Stowage Platform

Build the parachute stowage platform and lash it to the load as shown in Figure 4-16.

4-37. Installing Cargo Parachutes

Install three G-11 cargo parachutes as shown in Figure 4-17 and according to FM 10-500-2/TO 13C7-1-5.

4-38. Installing Parachute Release

Prepare and install an M-1 cargo parachute release as shown in Figure 4-18 and according to FM 10-500-2/TO 13C7-1-5.

4-39. Installing Extraction System

Prepare and install the EFTC extraction system as shown in Figure 4-19 and according to FM 10-500-2/TO 13C7-1-5.

4-40. Installing Provisions for Emergency Restraints

Select and install provisions for emergency restraints according to the emergency aft restraint requirements table in FM 10-500-2/TO 13C7-1-5.

4-41. Placing Extraction Parachute

Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachute and extraction line on the load for installation in the aircraft.

4-42. Marking Rigged Load

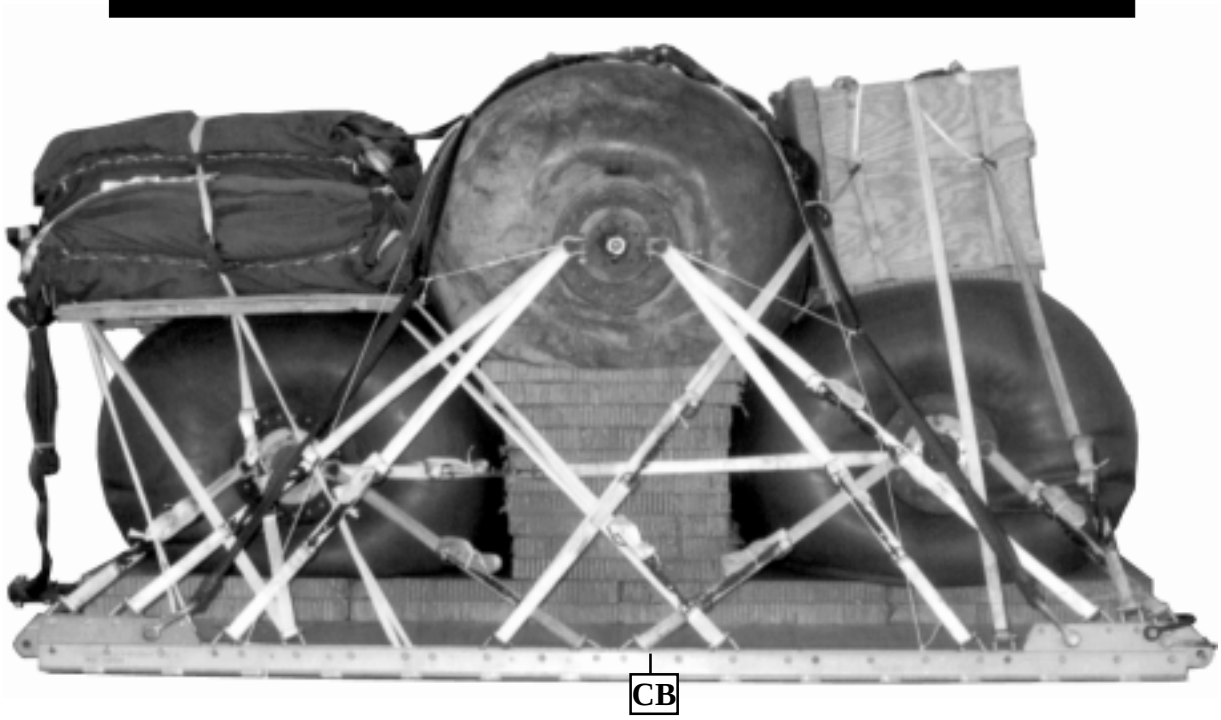
Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-26.

CAUTION
The load weight may vary from the one shown, depending upon the fuel rigged. Be sure that the load is weighed, and the parachute requirements, CB, and tip-off curve recomputed.

4-43. Equipment Required

Use the equipment listed in Table 4-3 to rig this load.

CAUTION
Make the final rigger inspection required by FM 10-500-2/TO 13C7-1-5 before the load leaves the rigging site.



Rigged Load Data

Weight: Estimated, with gasoline	11,200 pounds
Maximum (as shown)	14,180 pounds
Height	86.5 inches
Width	108 inches
Length	144 inches
Overhang Front	5 inches
Rear	17 inches
CB (from front edge of platform)	74 inches
Extraction System (adds 18 inches to length of platform)	EFTC

Figure 4-26. Three drums with pumping assembly rigged on a 12-foot, type V airdrop platform for low-velocity airdrop.

Table 4-3. Equipment required for rigging three drums with pumping assembly on a 12-foot, type V airdrop platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-678-8562	Clevis, suspension, 3/4-in (medium)	4
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5783	Coupling, airdrop, extraction force transfer with cable, 12-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	7
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-062-6316	60-ft (3-loop), type XXVI	1
	Line, extraction:	
1670-01-062-6316	60-ft (3-loop), type XXVI (for C-130)(Use w/ 140-ft for C-5)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C-141B,C-5, or C-17)	1
	Link assembly:	
1670-00-783-5988	Type IV	7
	Two-point:	
5306-00-435-8994	Bolt, 1-in diam, 4-in long	2
5310-00-232-5165	Nut, 1-in, hexagonal	2
1670-00-003-1953	Plate, side, 3 3/4-in	2
5365-00-007-3414	Spacer, large	2
	Lumber:	
5510-00-220-6146	2- by 4- by:	
	41 1/2-in	2
	25 1/2-in	2
5510-00-220-6148	2- by 6- by:	
	85-in	2
	48-in	2
5315-00-010-4659	Nail, steel wire, 8d	As required

Table 4-3. Equipment required for rigging three drums with pumping assembly on a 12-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	
	3- by 36- by 96-in	15 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11B	3
	Cargo extraction:	1
1670-01-063-3716	22-ft	
	Drogue (for C-17)	1
1670-01-063-3715	15-ft	
	Platform, airdrop, type V, 12-ft	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(26)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(4)
5530-00-128-4981	Plywood, 3/4 -by 48- by 96-in	2 sheets
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop	
	For suspension:	
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	6
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	29
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

Section IV

RIGGING FOUR DRUMS WITHOUT PUMPING ASSEMBLY ON A 20-FOOT PLATFORM

4-44. Description of Load

Four drums are rigged on a 20-foot, type V platform. Filled with 432 gallons of gasoline, each drum weighs 2,842 pounds and is 62 inches long and 53 inches in diameter. An empty drum weighs 250 pounds.

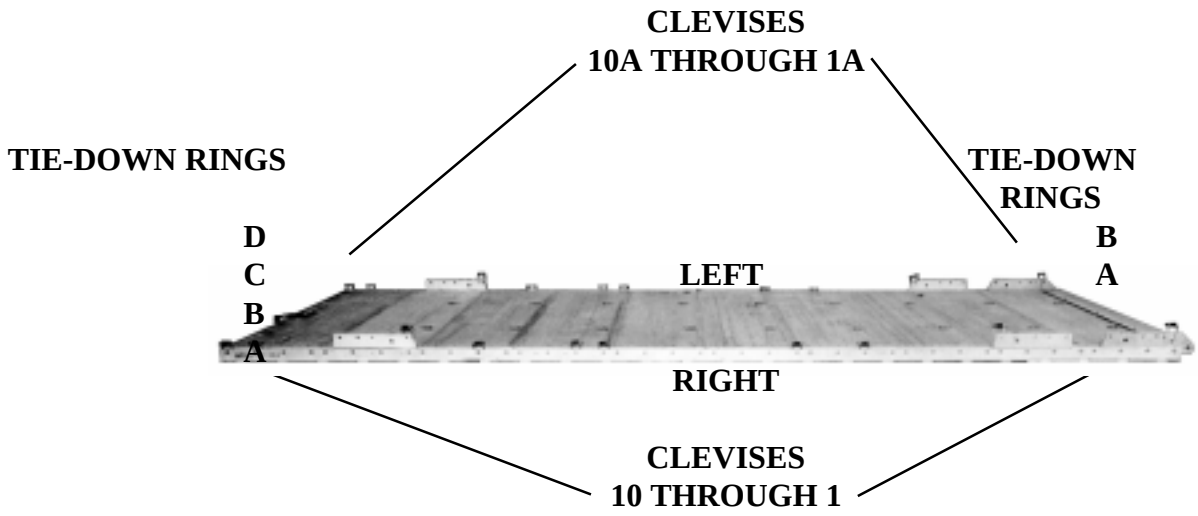
Note: Fill drums with no more than 432 gallons of fuel. If the drums are filled with a fuel other than gasoline, the drum weight must be computed.

4-45. Preparing Platform

Prepare a 20-foot, type V airdrop platform using two tandem links, four suspension links and 20 clevises as shown in Figure 4-27.

Notes:
1. **The nose bumper may or may not be installed.**
2. **Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.**

WARNING
Do not add air to drums. Pressurization changes will cause leaking or bursting.



Step:

1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/ TO 13C7-52-22.

2. Install a suspension link on each platform side rail using holes 6, 7, and 8.

3. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.

4. Install a suspension link on each platform side rail using holes 33, 34, and 35.

5. Bolt a clevis on bushing 1 of each front tandem link, on bushing 4 of each first suspension link, and on bushing 1 of each rear suspension link.

6. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 14, 17, 25, 26, 30, 39, and 40.

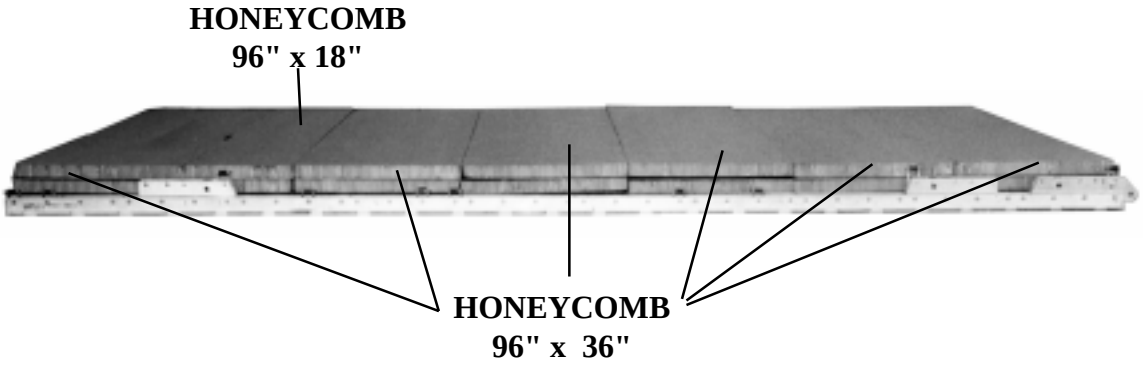
7. Starting at the front of the platform, number the clevises bolted to the right side 1 through 10, and those bolted to the left side 1A through 10A.

8. Label the tiedown rings according to FM 10-500-2/TO 13C7-1-5.

Figure 4-27. Platform prepared

4-46. Preparing and Positioning Honeycomb Stack

Prepare and position the honeycomb stack as shown in Figure 4-28.



(1) Use 12 full sheets of honeycomb and two 18- by 96 inch pieces to form a two-layer stack 234 inches long and 96 inches wide. Center the stack on the platform 3 inches from the front edge.

Note: Place the 18-inch section inside the stack.

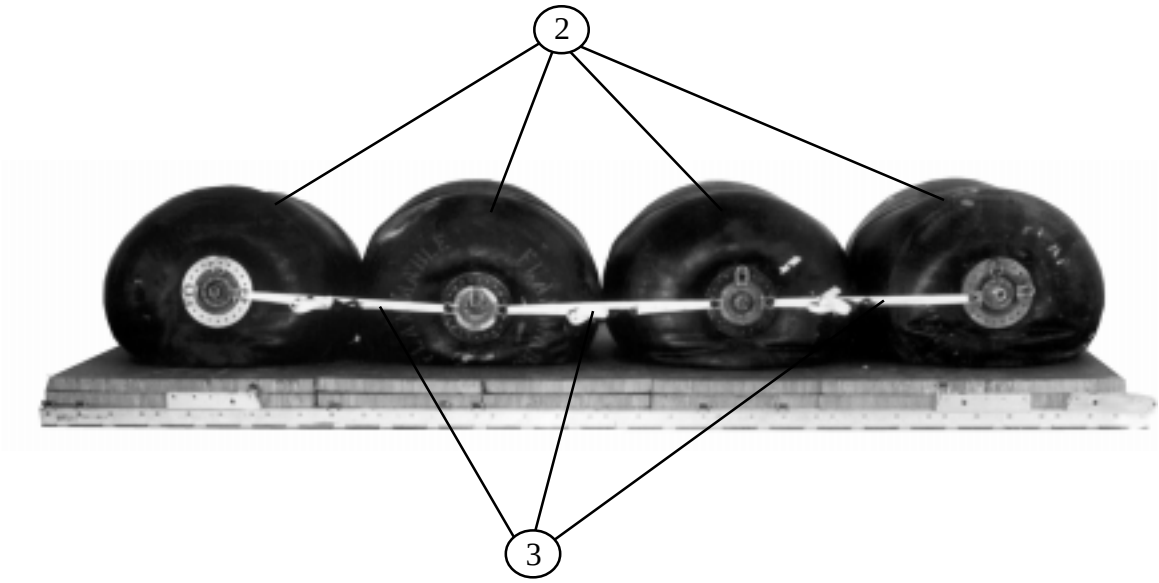
Figure 4-28. Honeycomb stack positioned

4-47. Installing Lifting Slings and Positioning Drums

Lift the drums and position them on the honeycomb as shown in Figure 4-29.

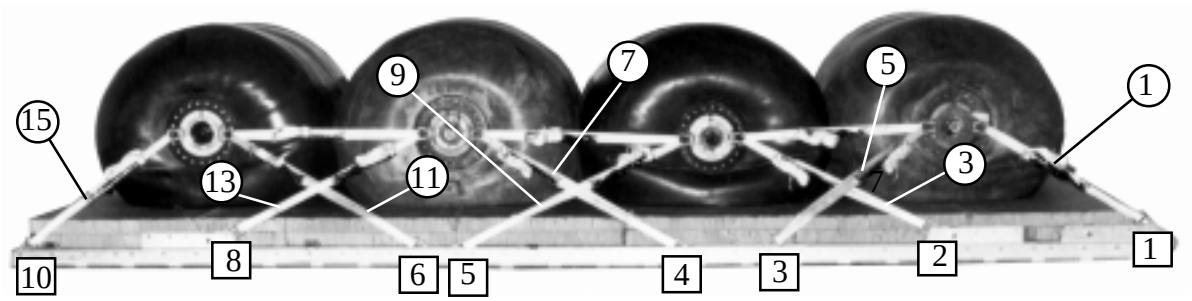
4-48. Lashing Drums

Use twenty 15-foot tie-down assemblies to lash the fuel drums as shown in Figure 4-30, and according to FM 10-500-2/TO 13C7-1-5.



1. Attach a 9-foot (2-loop), type XXVI nylon webbing sling to the upper shackle on each side of the drum with a platform clevis as shown in Figure 4-13.
2. Lift the drums onto the honeycomb base as shown in Figure 4-13.
3. Lash the shackles of the drums together on each side with 15-foot tiedown assemblies.

Figure 4-29. Fuel drums positioned

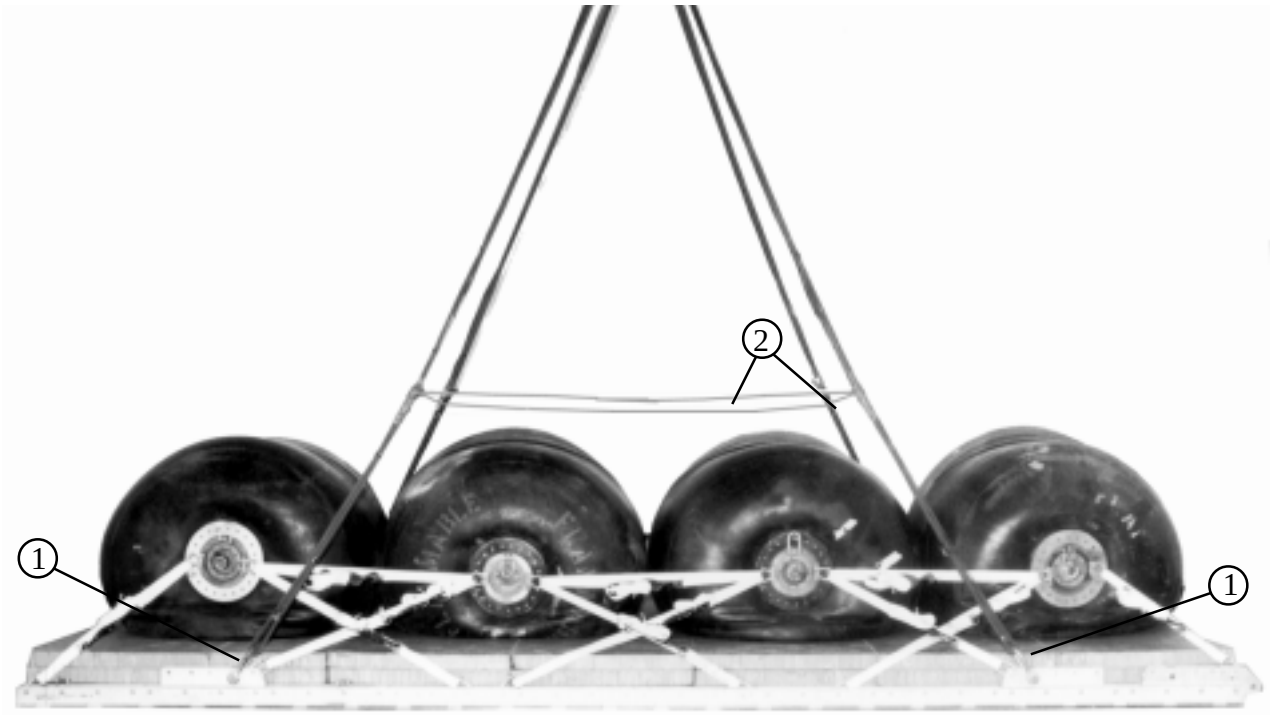


Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
1	1	Through right front shackle of first drum.
2	1A	Through left front shackle of first drum.
3	2	Through right front shackle of second drum.
4	2A	Through left front shackle of second drum.
5	3	Through right rear shackle of first drum.
6	3A	Through left rear shackle of first drum.
7	4	Through right front shackle of third drum.
8	4A	Through left front shackle of third drum.
9	5	Through right rear shackle of second drum.
10	5A	Through left rear shackle of second drum.
11	6	Through right front shackle of fourth drum.
12	6A	Through left front shackle of fourth drum.
13	8	Through right rear shackle of third drum.
14	8A	Through left rear shackle of third drum.
15	10	Through right rear shackle of fourth drum.
16	10A	Through left rear shackle of fourth drum.

Figure 4-30. Fuel drums lashed to platform

4-49. Installing and Safetying Suspension Slings

Install and safety four 16-foot (4-loop), type XXVI nylon webbing slings to the suspension links as shown in Figure 4-31.



(1) Place the end loop of a 16-foot (4-loop), type XXVI nylon webbing sling in the bell portion of a large clevis. Bolt the clevis to a suspension link. Repeat for the other three suspension links.

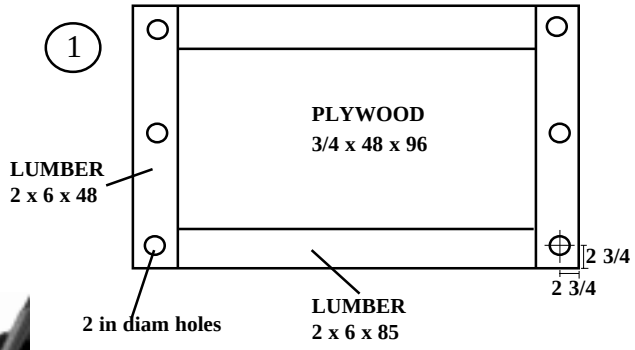
(2) Raise the slings and install the deadman's tie according to FM 10-500-2/TO 13C7-1-5.

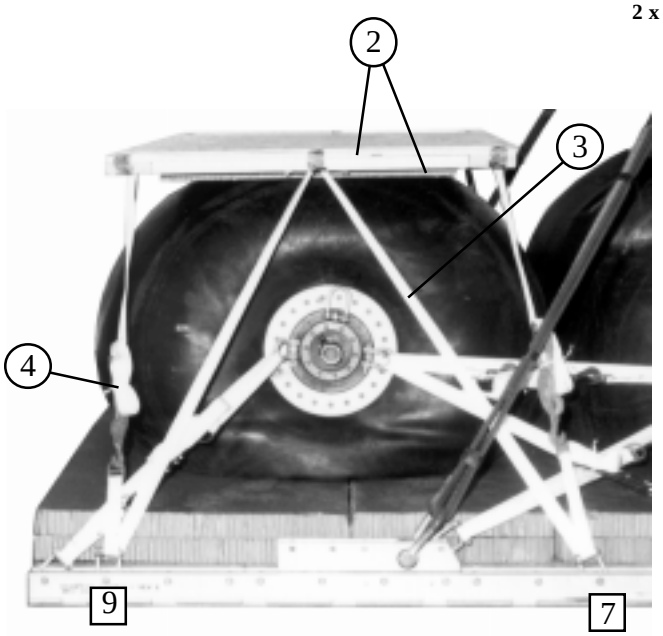
Figure 4-31. Suspension slings installed and safetied

4-50. Building and Lashing Parachute Stowage Platform

Build the parachute stowage platform and lash it to the load with four 15-foot lashings as shown in Figure 4-32.

Notes: 1. This drawing is not to scale.
2. All dimensions are given in inches.
3. Use eightpenny nails.





1. Build the parachute stowage platform as shown. Nail the 2- by 6-inch pieces of lumber to the edges of the plywood and drill 2-inch holes for the lashings.

2. Center a 36- by 85-inch piece of honeycomb over the rear drum. Place the parachute stowage platform on the drum over the honeycomb.

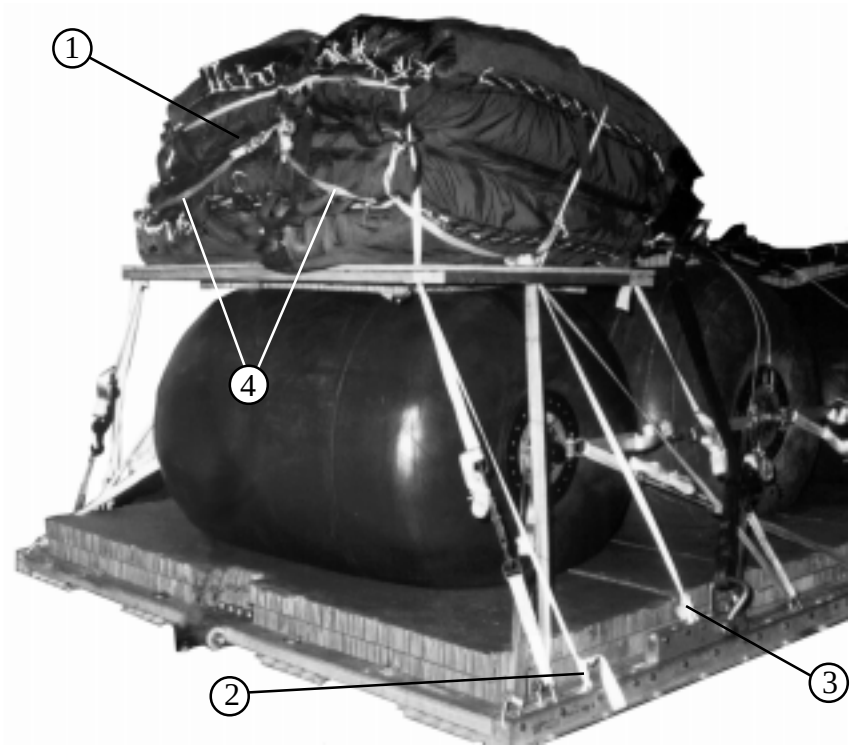
3. Lash the two front holes in the parachute stowage platform to clevises 7 and 7A.

4. Lash the two rear holes in the parachute stowage platform to clevises 9 and 9A.

Figure 4-32. Parachute stowage platform built and lashed

4-51. Installing Cargo Parachutes

Install four G-11 cargo parachutes as shown in Figure 4-33 and according to FM 10-500-2/TO 13C7-1-5.

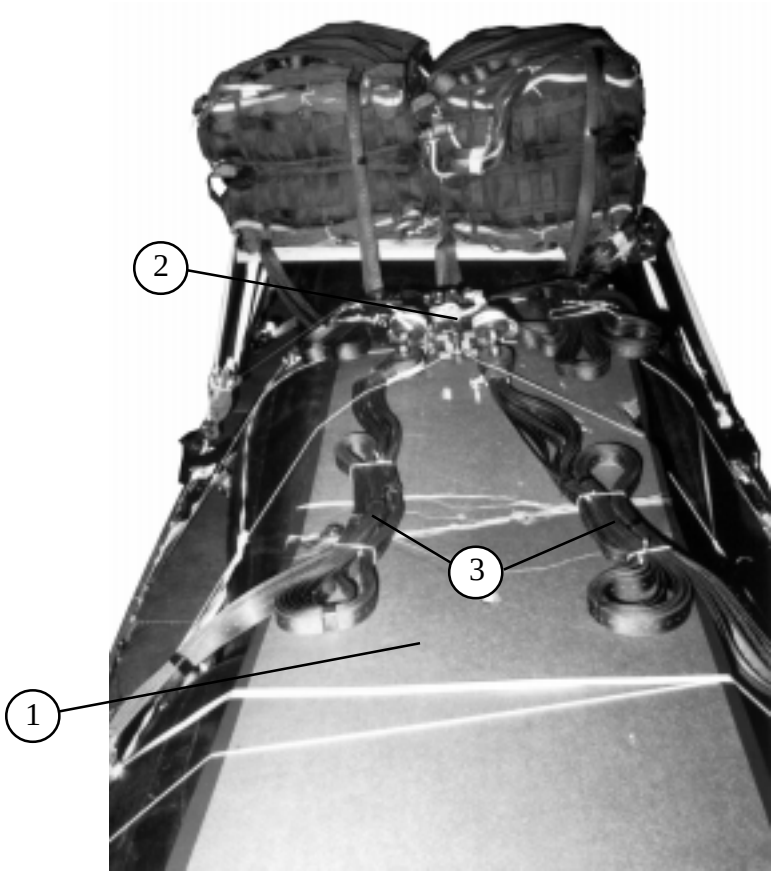


1. Cluster four G-11 cargo parachutes on the parachute stowage platform.
2. Pass the rear restraint strap through the rear holes in the parachute stowage platform, and tie the ends to the 38th bushing on each side rail.
3. Pass the front restraint strap through the center holes in the parachute stowage platform, and tie the ends to the second bushing on each rear suspension link.
4. Install the parachute release knives according to FM 10-500-2/TO 13C7-1-5.

Figure 4-33. G-11 cargo parachutes installed

4-52. Installing Parachute Release

Prepare and install an M-2 cargo parachute release as shown in Figure 4-34 and according to FM 10-55-2/TO 13C7-1-5.



1. Center a 36- by 96-inch piece of honeycomb over the second and third drums. Secure the ` honeycomb to the platform with type III nylon cord.

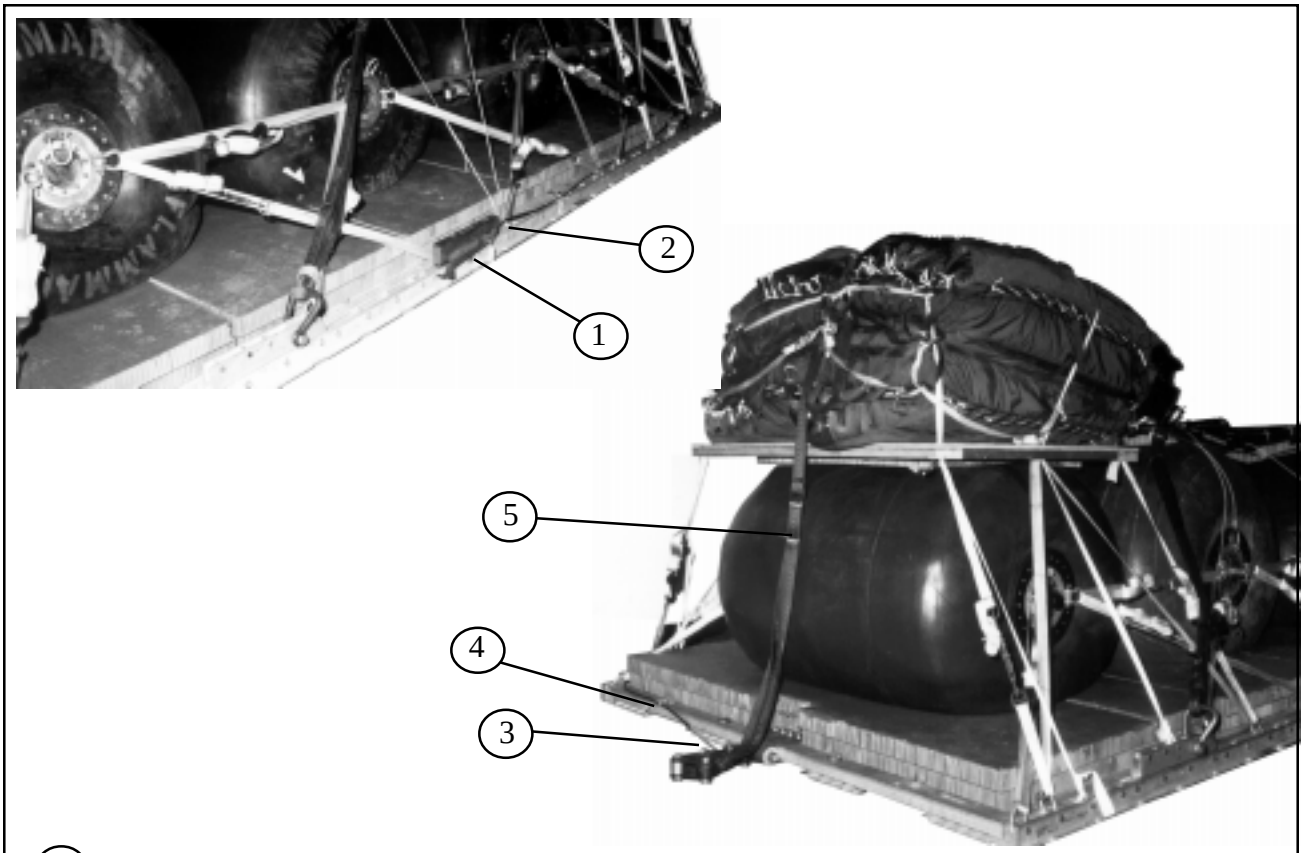
2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5. Secure the release to the platform with type III nylon cord.

3. S-fold the suspension slings and tie the folds with type I, 1/4-inch cotton webbing.

Figure 4-34. M-2 release installed

4-53. Installing Extraction System

Prepare and install the EFTC extraction system as shown in Figure 4-35 and as shown in FM 10-500-2/TO 13C7-1-5.



1. Install the actuator mounting brackets to the front holes on the left platform rail.
2. Install a 20-foot cable to the actuator. Install the actuator to the brackets.
3. Attach the latch assembly to the extraction bracket. Attach the cable to the latch assembly.
4. Safety the cable to tiedown ring D10 with type I, 1/4inch cotton webbing.
5. Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold and tie the excess in two places with type I, 1/4-inch cotton webbing.

Figure 4-35. EFTC installed

4-54. Installing Provisions for Emergency Restraints

Select and install provisions for emergency restraint according to the emergency aft restraint requirements table in FM 10-500-2/ TO 13C7-1-5.

4-55. Placing Extraction Parachute

Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachute and extraction line on the load for installation in the aircraft.

4-56. Marking Rigged Load

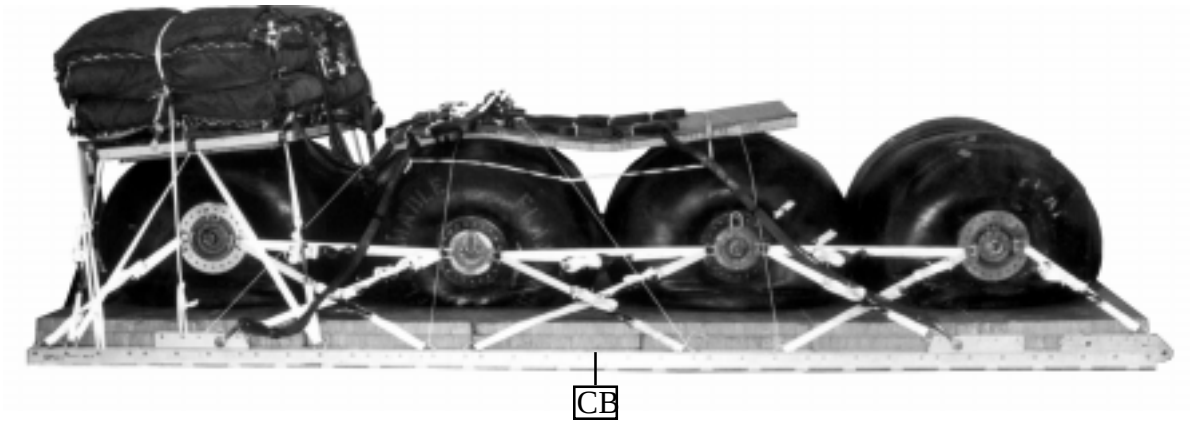
Mark the rigged load according to FM 10-500-2/ TO 13C7-1-5 and as shown in Figure 4-36.

CAUTION
The load weight may vary from the one shown, depending upon the fuel rigged. Be sure that the load is weighed, and the parachute requirements, CB, and tip-off curve recomputed.

4-57. Equipment Required

Use the equipment listed in Table 4-4 to rig this load.

CAUTION
Make the final rigger inspection required by FM 10-500-2/TO 13C7-1-5 before the load leaves the rigging site.



Rigged Load Data

Weight: Estimated, with gasoline	14,426 pounds
Maximum (as shown)	18,400 pounds
Height	90.5 inches
Width	108 inches
Length	240 inches
Overhang Front	5 inches
Rear	17 inches
CB (from front edge of platform)	125 inches
Extraction System (adds 18 inches to length of platform)	EFTC

Figure 4-36. Four drums rigged on a 20-foot, type V airdrop platform for low-velocity airdrop

Table 4-4. Equipment required for rigging four drums without pumping assembly on a 20-foot, type V airdrop platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-678-8562	Clevis, suspension, 3/4-in (medium)	6
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5787	Coupling, airdrop, extraction force transfer with cable, 20-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	9
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-062-6316	60-ft (3-loop), type XXVI	1
	Line, extraction:	
1670-01-062-6316	60-ft (3-loop), type XXVI (for C-130)(Use w/ 140-ft for C-5)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C-141B,C-5, or C-17)	1
	Link assembly:	
1670-00-783-5988	Type IV	9
	Two-point:	
5306-00-435-8994	Bolt, 1-in diam, 4-in long	2
5310-00-232-5165	Nut, 1-in, hexagonal	2
1670-00-003-1954	Plate, side, 5 1/2-in	2
5365-00-007-3414	Spacer, large	2
5510-00-220-6148	Lumber:	
	2- by 6- by:	
	85-in	2
	48-in	2
5315-00-010-4659	Nail, steel wire, 8d	As required

Table 4-4. Equipment required for rigging four drums without pumping assembly on a 20-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	
	3- by 36- by 96-in	15 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11B	4
	Cargo extraction:	
1670-01-063-3716	22-ft (option for C-141 and C-5)	1
1670-00-040-8135	28-ft (for C-130 and C-17, option for C-141 and C-5)	
1670-01-063-3715	Drogue (for C-17)	1
	15-ft	
	Platform, airdrop, type V, 20-ft	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(20)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(2)
1670-01-247-2389	Suspension link	(4)
5530-00-128-4981	Plywood, 3/4 -by 48- by 96-in	1 sheet
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop	
	For suspension:	
1670-01-062-6308	16-ft (4-loop), type XXVI nylon webbing	4
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	8
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	26
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

Section V

RIGGING FIVE DRUMS WITHOUT PUMPING ASSEMBLY ON A 20-FOOT PLATFORM

4-58. Description of Load

Five drums are rigged on a 20-foot, type V platform. Filled with 432 gallons of gasoline, each drum weighs 2,842 pounds and is 62 inches long and 53 inches in diameter. An empty drum weighs 250 pounds.

Note: Fill drums with no more than 432 gallons of fuel. If the drums are filled with a fuel other than gasoline, the drum weight must be computed.

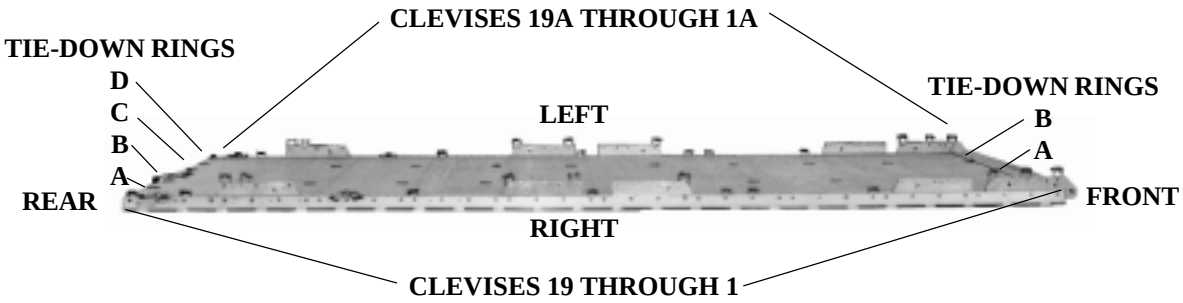
4-59. Preparing Platform

Prepare a 20-foot, type V airdrop platform using two tandem links, eight suspension links and 42 clevises as shown in Figure 4-37.

Notes:
1. **The nose bumper may or may not be installed.**
2. **Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.**

WARNING

Do not add air to drums. Pressurization changes will cause leaking or bursting.



Step:

1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/ TO 13C7-52-22.

2. Install suspension links on each platform side rail using holes 17, 18, and 19, and holes 5, 6, and 7.

3. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.

4. Install suspension links on each platform side rail using holes 22, 23, and 24, and holes 34, 35, and 36.

5. Bolt clevises on bushings 1, 2, and 3 of each front tandem link, on bushing 1 of each second suspension link, on bushings 1 and 4 of each third suspension link, and on bushings 3 and 4 of each rear suspension link.

6. Install clevises on bushings 31 and 39 in an inverted position on each platform side rail. Bolt two additional clevises to each inverted clevis.

7. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 9, 14, 15, 21, 28, 38, and 40.

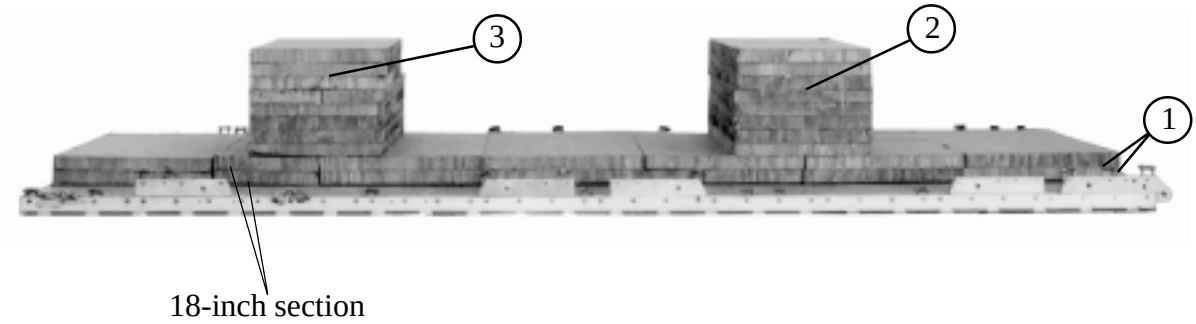
8. Starting at the front of the platform, number the clevises bolted to the right side 1 through 19, and those bolted to the left side 1A through 19A.

9. Label the tiedown rings according to FM 10-500-2/TO 13C7-1-5.

Figure 4-37. Platform prepared

4-60. Preparing and Positioning Honeycomb Stack

Prepare and position the honeycomb stack as shown in Figure 4-38.



(1) Use 12 sheets of honeycomb 36- by 60 inches and two pieces 18- by 96 inches to form a two-layer stack 234 inches long and 60 inches wide. Center the stack on the platform 3 inches from the front edge.

Note: Place the 18-inch section inside the stack.

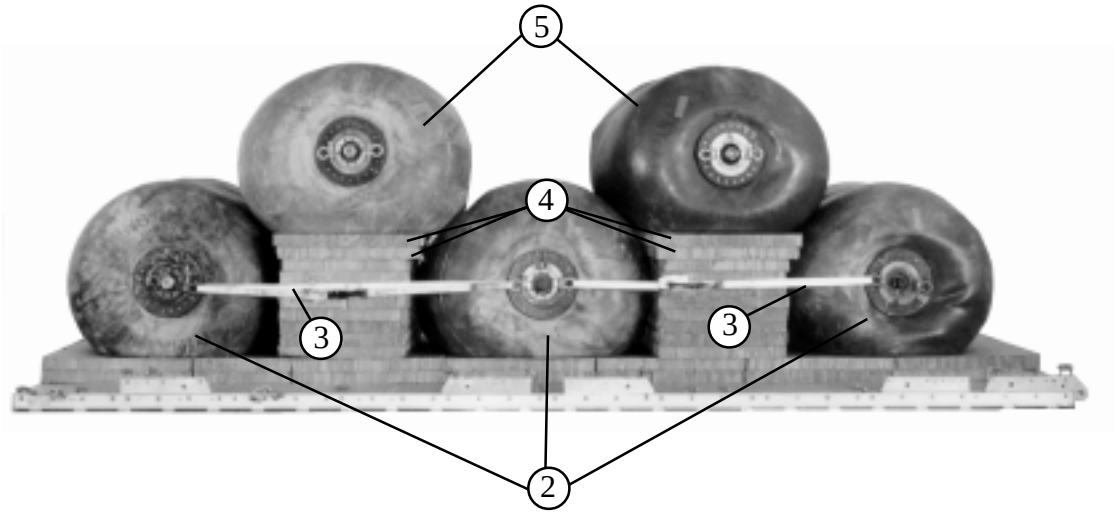
(2) Make two 8-layer stacks of honeycomb 60- by 30 inches. Center one stack on the base layer 62 1/2 inches from the front edge of the base.

(3) Center the other stack on the base layers 55 1/2 inches to the rear of the stack placed in step 2 above.

Figure 4-38. Honeycomb stack positioned

4-61. Installing Lifting Slings and Positioning Drums

Lift the drums and position them on the honeycomb as shown in Figure 4-39.

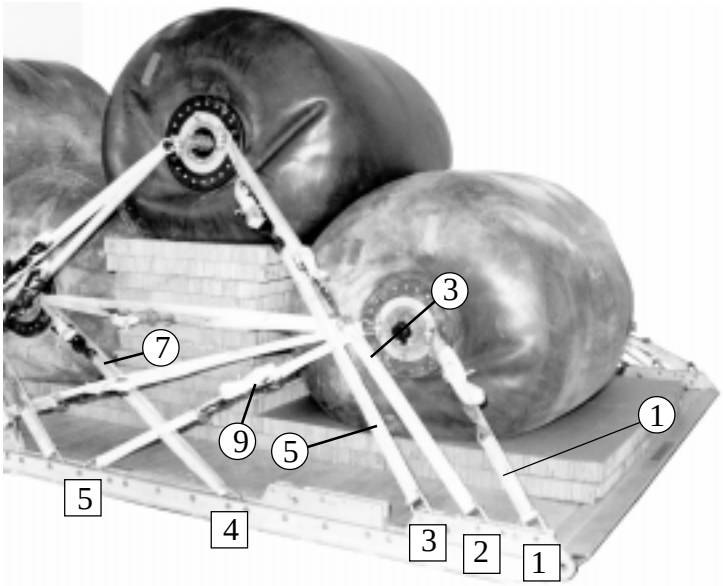


1. Attach a 9-foot (2-loop), type XXVI nylon webbing sling to the upper shackle on each side of the drum with a platform clevis as shown in Figure 4-13.
2. Lift three drums onto the honeycomb base as shown in Figure 4-13.
3. Lash the shackles of the drums together on each side with 15-foot tiedown assemblies.
4. Glue a 60- by 34-inch piece of honeycomb centered on each stack. Glue a 60- by 36-inch piece of honeycomb centered over the pieces placed previously.
5. Lift and position a drum onto each stack.

Figure 4-39. Fuel drums positioned

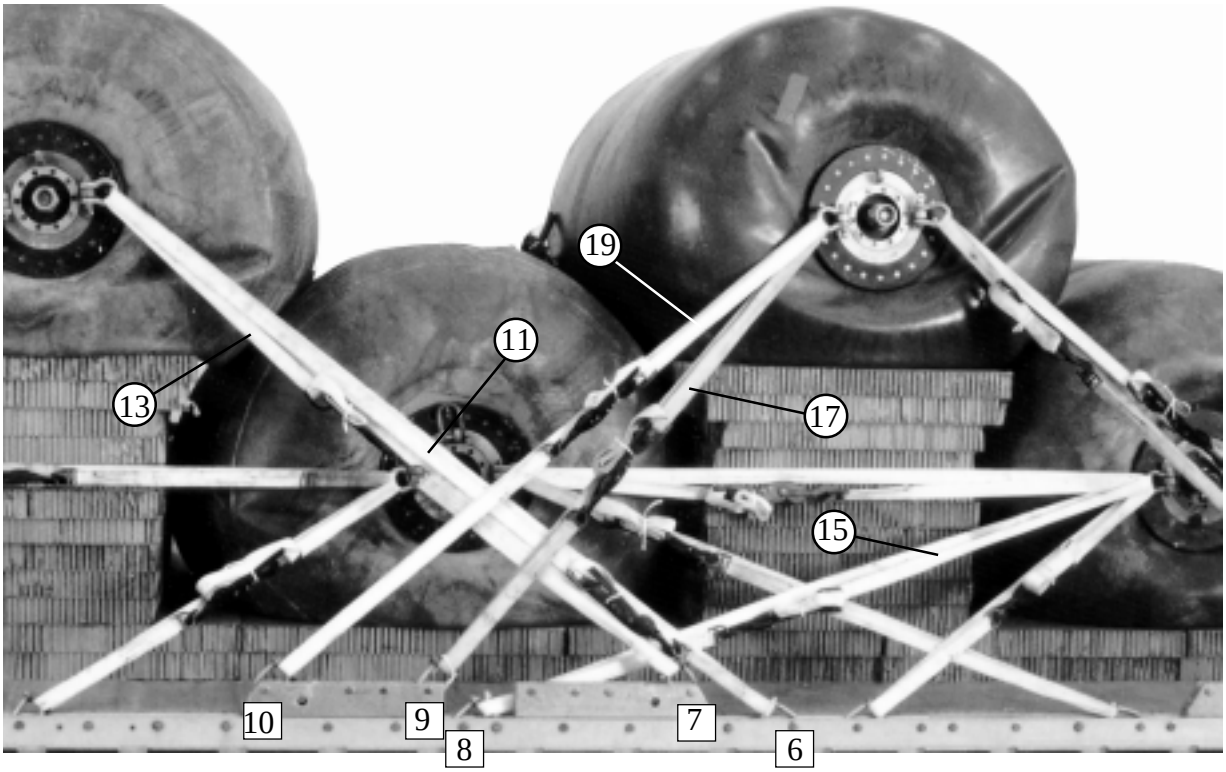
4-62. Lashing Drums

Use thirty 15-foot tie-down assemblies to lash the fuel drums as shown in Figure 4-40, and according to FM 10-500-2/TO 13C7-1-5.



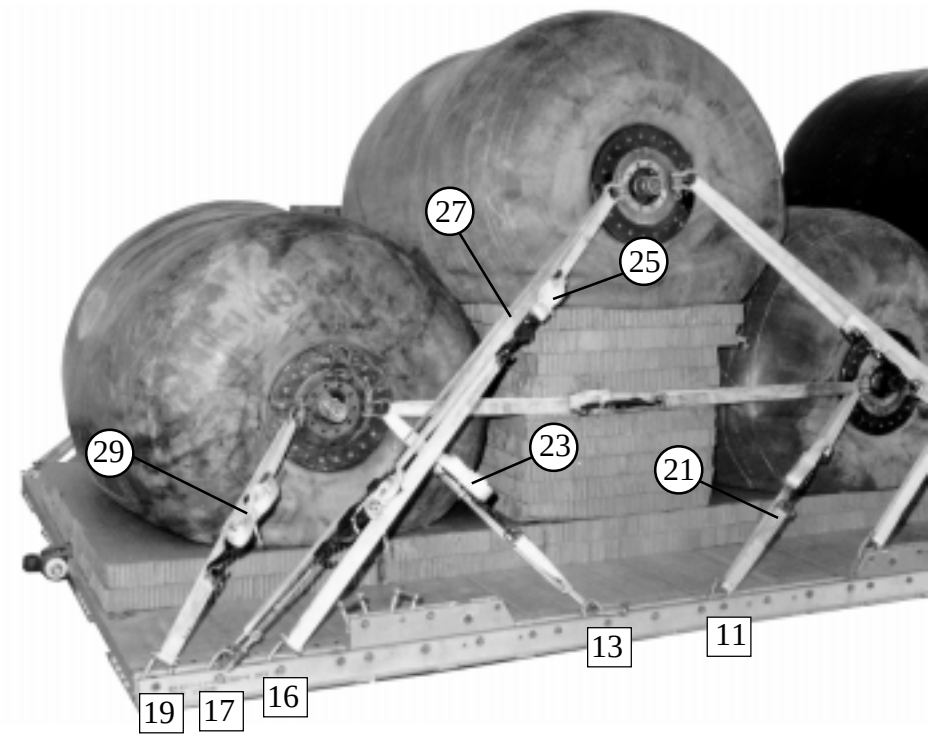
Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
1	1	Through right front shackle of first drum.
2	1A	Through left front shackle of first drum.
3	2	Through right front shackle of second drum.
4	2A	Through left front shackle of second drum.
5	3	Through right front shackle of second drum.
6	3A	Through left front shackle of second drum.
7	4	Through right front shackle of third drum.
8	4A	Through left front shackle of third drum.
9	5	Through right rear shackle of first drum.
10	5A	Through left rear shackle of first drum.

Figure 4-40. Fuel drums lashed to platform



Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
11	6	Through right front shackle of fourth drum.
12	6A	Through left front shackle of fourth drum.
13	7	Through right front shackle of fourth drum.
14	7A	Through left front shackle of fourth drum.
15	8	Through right rear shackle of first drum.
16	8A	Through left rear shackle of first drum.
17	9	Through right rear shackle of second drum.
18	9A	Through left rear shackle of second drum.
19	10	Through right rear shackle of second drum.
20	10A	Through left rear shackle of second drum.

Figure 4-40. Fuel drums lashed to platform (continued)

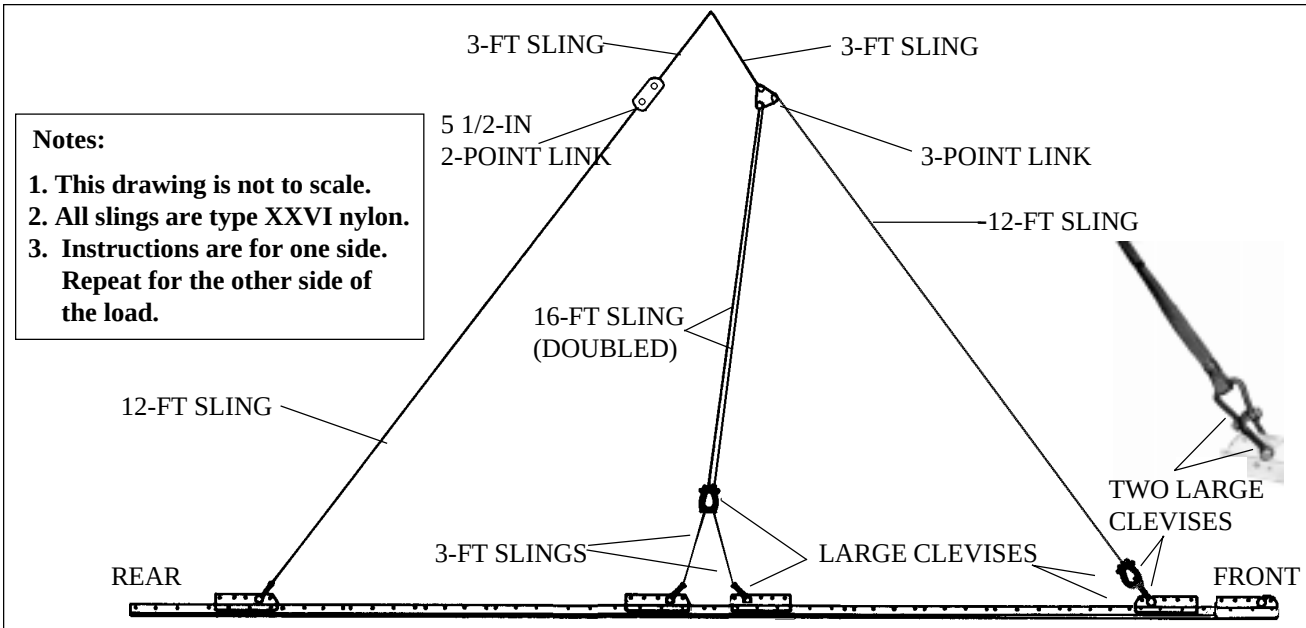


Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
21	11	Through right rear shackle of third drum.
22	11A	Through left rear shackle of third drum.
23	13	Through right front shackle of fifth drum.
24	13A	Through left front shackle of fifth drum.
25	16	Through right rear shackle of fourth drum.
26	16A	Through left rear shackle of fourth drum.
27	17	Through right rear shackle of fourth drum.
28	17A	Through left rear shackle of fourth drum.
29	19	Through right rear shackle of fifth drum.
30	19A	Through left rear shackle of fifth drum.

Figure 4-40. Fuel drums lashed to platform (continued)

4-63. Installing and Safetying Suspension Slings

Install the components of the centerline suspension system according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 4-41. Safety the suspension slings as shown in Figure 4-42.



Notes:

1. This drawing is not to scale.
2. All slings are type XXVI nylon.
3. Instructions are for one side. Repeat for the other side of the load.

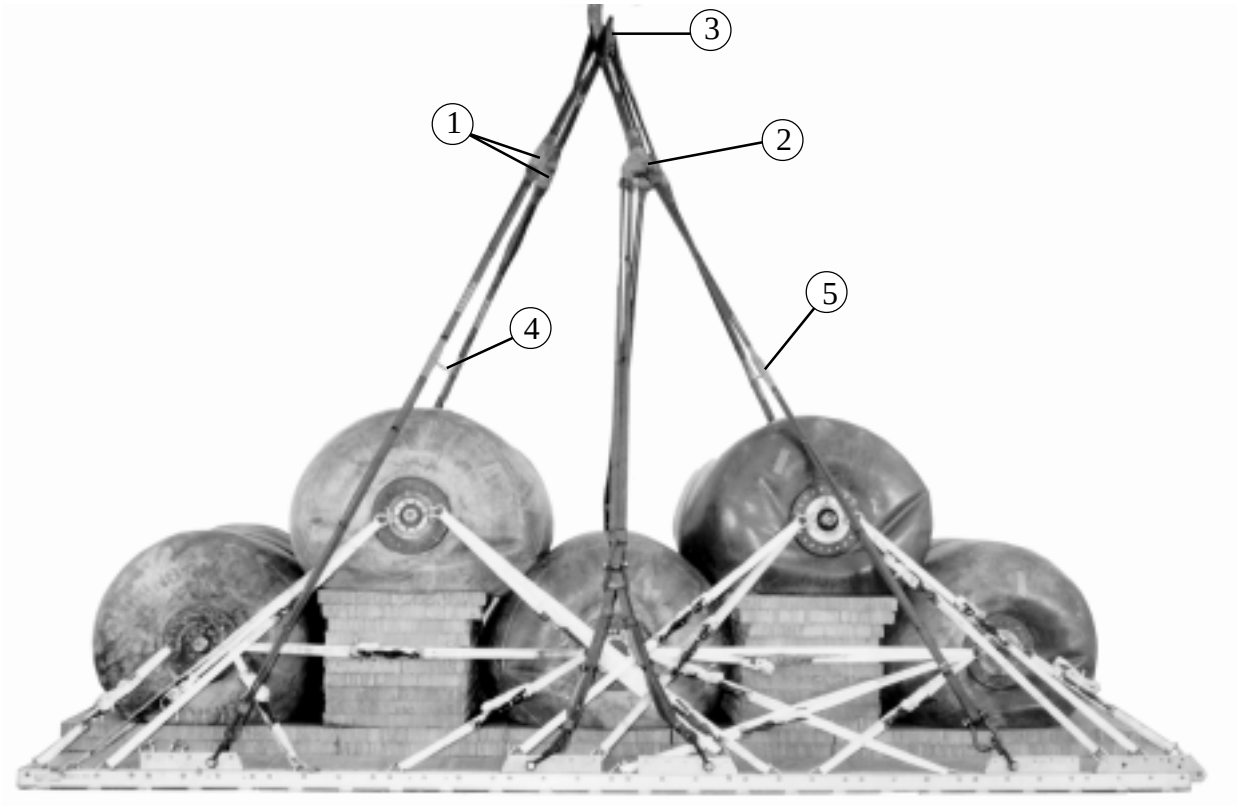
Step:

1. Place the end loop of a 12-foot (4-loop) sling in the bell portion of a large clevis. Bolt the clevis to the rear suspension link. Connect the free end of the 12-foot sling to a 3-foot (4-loop) sling with a 5 1/2-inch two-point link.

2. Attach a 3-foot (4-loop) sling to each center suspension link with a large clevis. Place both 3-foot slings in the bell portion of a large clevis. Pass a 16-foot (2-loop) sling through one spool of a three-point link. Place both end loops of the 16-foot sling in the bolt of the large clevis.

3. Place the end loop of a 12-foot (4-loop) sling in the bell portion of a large clevis. Place the bolt of the clevis in the bell of a second large clevis. Bolt the second clevis to the front suspension link. Bolt the free end of the 12-foot sling to the three-point link on the center suspension sling. Bolt a 3-foot (4-loop) sling to the remaining spool of the three-point link.

Figure 4-41. Suspension slings installed

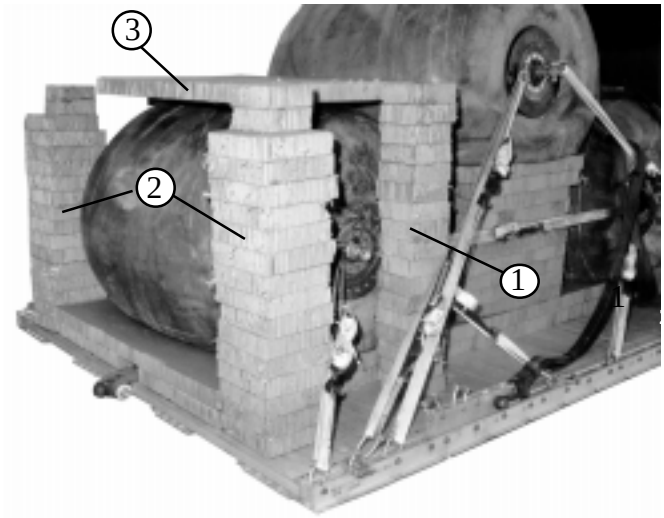


1. Pad the two-point links with felt taped in place.
2. Pad the three-point links with felt taped in place.
3. Attach the 3-foot slings from the two- and three-point links to the crane hook. Raise the suspension slings.
4. Tie the rear suspension slings to each other 12 inches above the load with a double length of 1/2-inch tubular nylon webbing.
5. Tie the front suspension slings to each other in the same way.

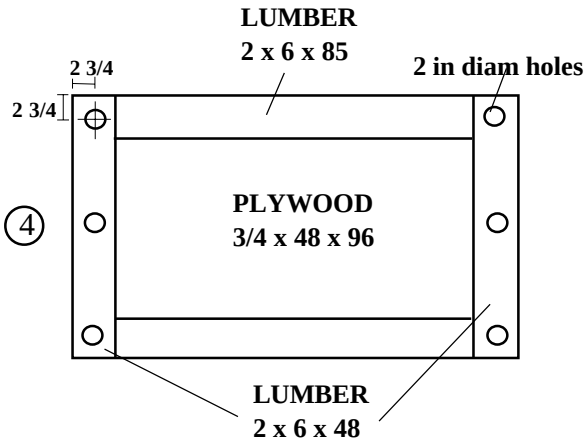
Figure 4-42. Suspension slings safetied

4-64. Building and Lashing Parachute Stowage Platform

Build the parachute stowage platform and its supports as shown in Figure 4-43. Lash the parachute stowage platform to the load with four 15-foot lashings as shown in Figure 4-44.



Notes: 1. This drawing is not to scale.
2. All dimensions are given in inches.
3. Use eightpenny nails.



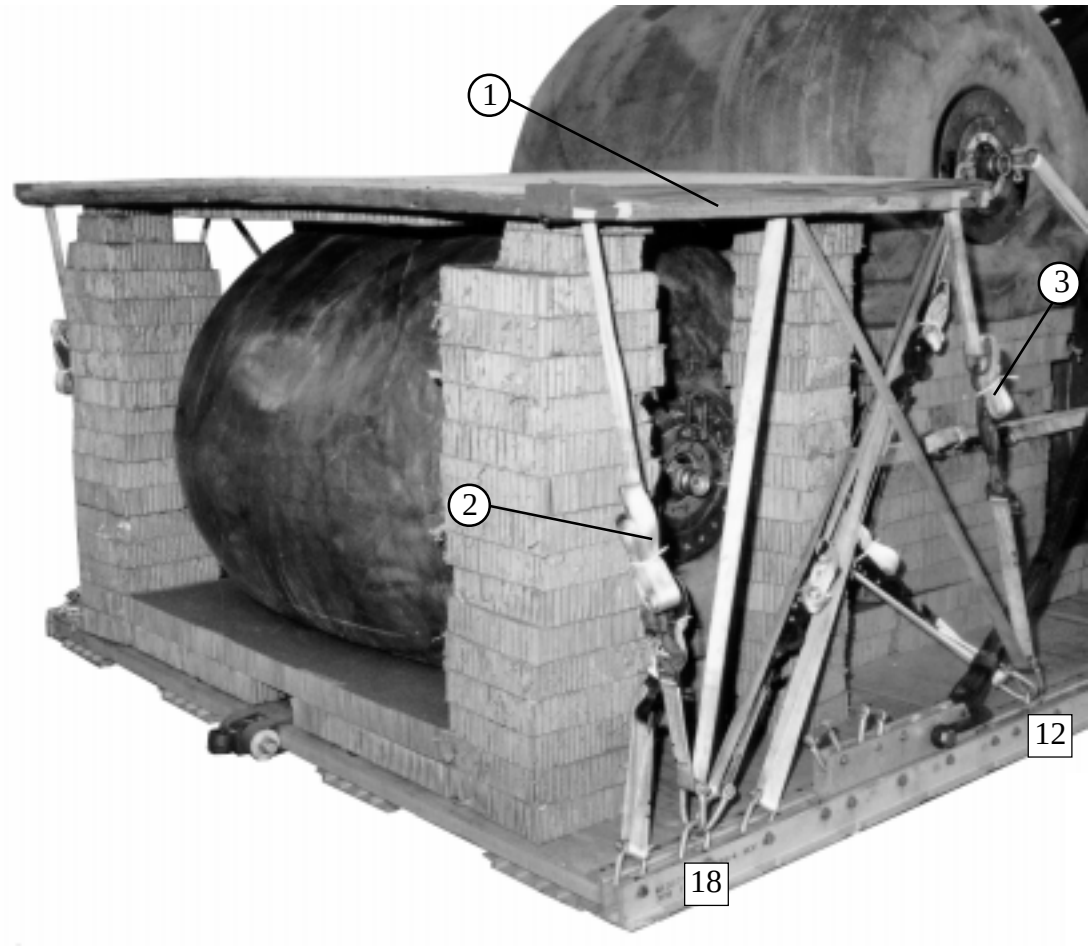
1. Make two 17 layer stacks of 8- by 8-inch honeycomb. Place one stack on each side flush with the edge of the honeycomb supporting the rear drum and 29 inches from the rear edge of the platform.

2. Make two 15 layer stacks of 12- by 12-inch honeycomb. Glue two 8- by 8-inch pieces of honeycomb on top of each stack flush with the inside front corners. Place the stacks on each side of the rear drum flush with the rear edge of the honeycomb base layer.

3. Center a 48- by 26-inch piece of honeycomb over the rear drum.

4. Build the parachute stowage platform as shown. Nail the 2- by 6-inch piece of lumber to the edges of the plywood, and drill 2-inch holes for the lashings.

Figure 4-43. Supports placed and parachute stowage platform constructed

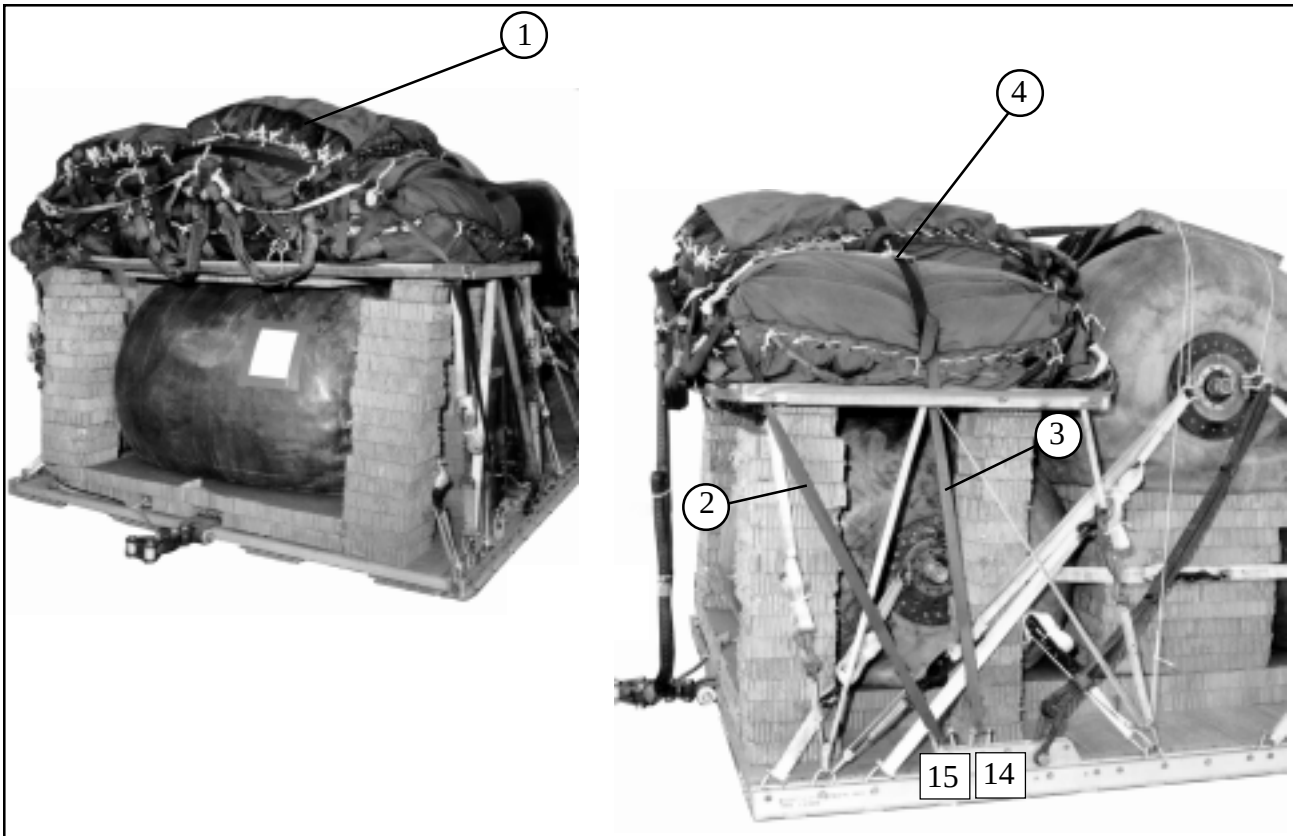


1. Center the parachute stowage platform on the honeycomb placed in Figure 4-42.
2. Lash the two rear holes in the parachute stowage platform to clevises 18 and 18A.
3. Lash the two front holes in the parachute stowage platform to clevises 12 and 12A.

Figure 4-44. Parachute stowage platform lashed to platform rails

4-65. Installing Cargo Parachutes

Install five G-11 cargo parachutes as shown in Figure 4-45, and according to FM 10-500-2/TO 13C7-1-5.

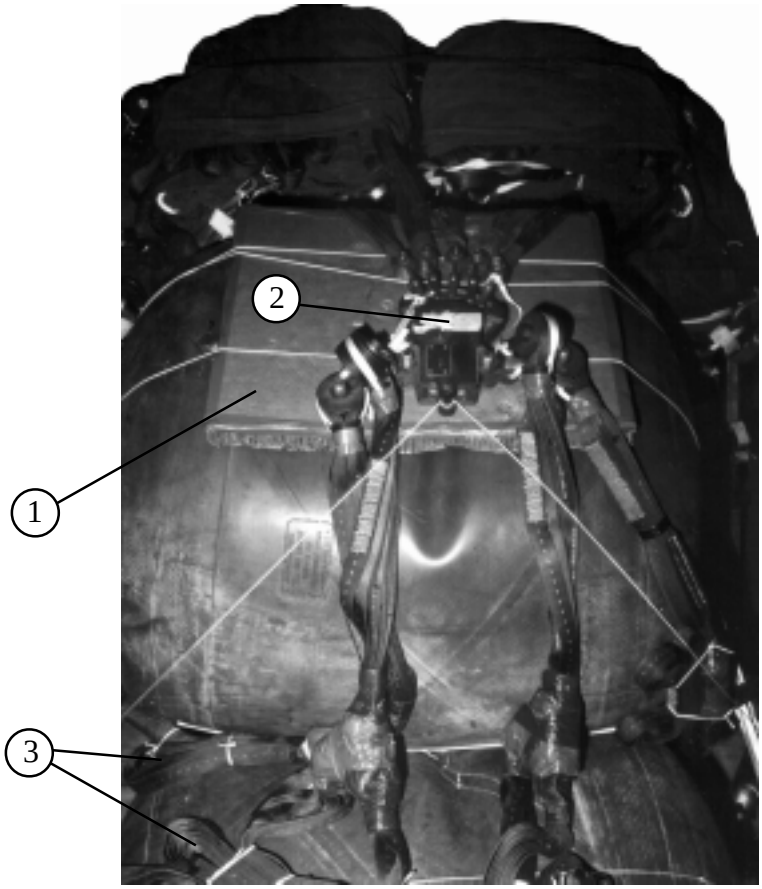


1. Cluster five G-11 cargo parachutes on the parachute stowage platform.
2. Pass the rear restraint strap through the rear holes in the parachute stowage platform, and tie the ends to clevises 15 and 15A.
3. Pass the front restraint strap through the center holes in the parachute stowage platform, and tie the ends to clevises 14 and 14A.
4. Install the parachute release knives according to FM 10-500-2/TO 13C7-1-5.

Figure 4-45. G-11 cargo parachutes installed

4-66. Installing Parachute Release

Prepare and install an M-2 cargo parachute release as shown in Figure 4-46 and according to FM 10-500-2/TO 13C7-1-5.



1. Center a 36- by 36-inch piece of honeycomb over the fourth drum. Secure the honeycomb to the drum shackles with type III nylon cord.

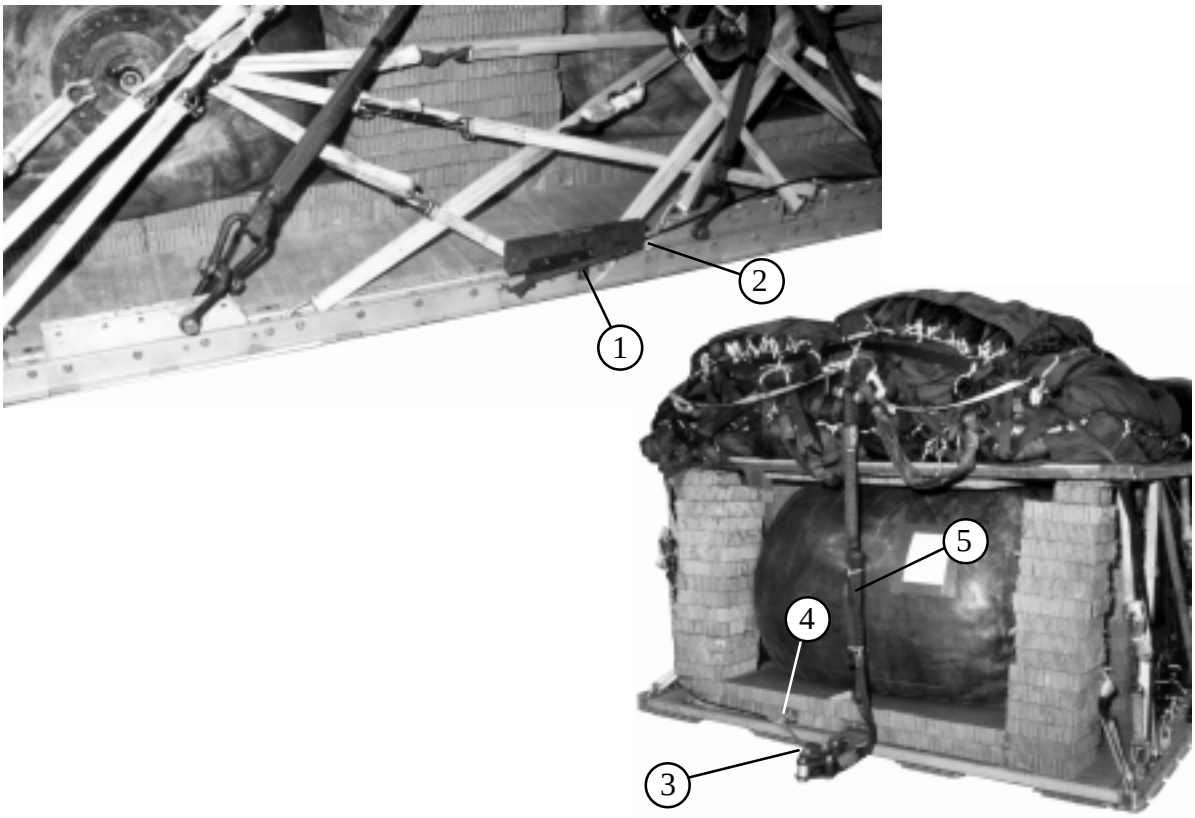
2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5. Secure the release to the platform with type III nylon cord.

3. S-fold the suspension slings and tie the folds with type I, 1/4-inch cotton webbing.

Figure 4-46. M-2 release installed

4-67. Installing Extraction System

Prepare and install the EFTC extraction system as shown in Figure 4-47 and as shown in FM 10-500-2/TO 13C7-1-5.



1. Install the actuator mounting brackets to the rear holes on the left platform rail.
2. Install a 20-foot cable to the actuator. Install the actuator to the brackets.
3. Attach the latch assembly to the extraction bracket. Attach the cable to the latch assembly.
4. Safety the cable to tiedown ring C10 with type I, 1/4inch cotton webbing.
5. Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold and tie the excess in two places with type I, 1/4-inch cotton webbing.

Figure 4-47. EFTC installed

4-68. Installing Provisions for Emergency Restraints

Select and install provisions for emergency restraints according to the emergency aft restraint requirements table in FM 10-500-2/TO 13C7-1-5.

4-69. Placing Extraction Parachute

Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachute and extraction line on the load for installation in the aircraft.

4-70. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-48.

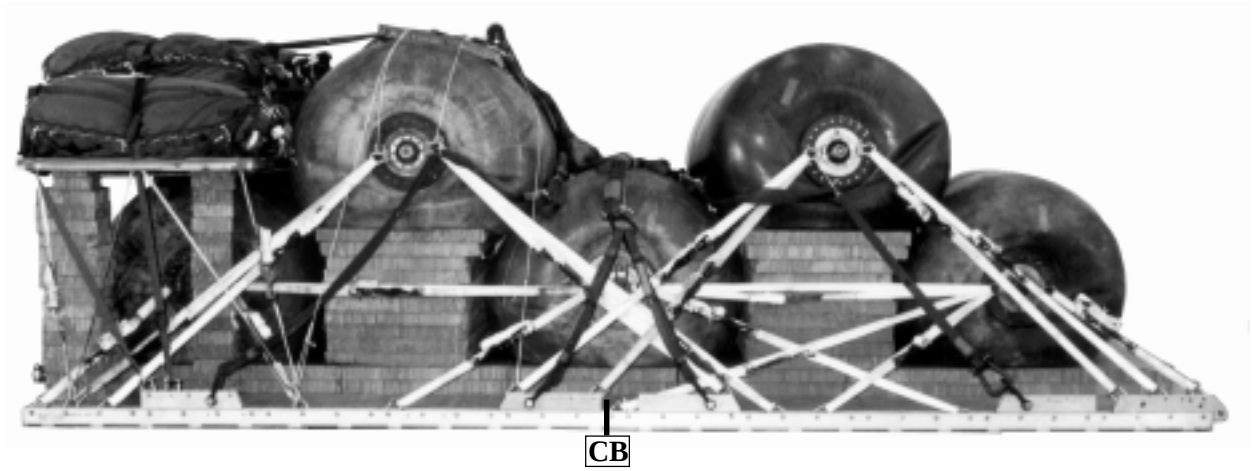
CAUTION

The load weight may vary from the one shown, depending upon the fuel rigged. Be sure that the load is weighed, and the parachute requirements, CB and tip-off curve recomputed.

4-71. Equipment Required

Use the equipment listed in Table 4-5 to rig this load.

CAUTION
Make the final rigger inspection required by FM 10-500-2/ TO 13C7-1-5 before the load leaves the rigging site.



Rigged Load Data

Weight: Estimated, with gasoline	18,492 pounds
Maximum (as shown)	23,460 pounds
Height	84 3/4 inches
Width	108 inches
Length	240 inches
Overhang Front	5 inches
Rear	17 inches
CB (from front edge of platform)	126 inches
Extraction System (adds 18 inches to length of platform)	EFTC

Figure 4-48. Five drums rigged on a 20-foot, type V airdrop platform for low-velocity airdrop

Table 4-5. Equipment required for rigging five drums without pumping assembly on a 20-foot, type V airdrop platform for low-velocity airdrop.

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-678-8562	Clevis, suspension, 3/4-in (medium)	6
4030-00-090-5354	Clevis, suspension, 1-in (large)	16
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5787	Coupling, airdrop, extraction force transfer with cable, 20-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	6
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-062-6316	60-ft (3-loop), type XXVI	1
	Line, extraction:	
1670-01-062-6316	60-ft (3-loop), type XXVI (for C-130)(Use w/ 140-ft for C-5)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C-141B,C-5, or C-17)	1
	Link assembly:	
1670-00-783-5988	Type IV	6
1670-01-307-0155	Three-point	2
	Two-point:	
5306-00-435-8994	Bolt, 1-in diam, 4-in long	6
5310-00-232-5165	Nut, 1-in, hexagonal	6
1670-00-003-1954	Plate, side, 5 1/2-in	6
5365-00-007-3414	Spacer, large	6
5510-00-220-6148	Lumber, 2- by 6- by:	
	85-in	2
	48-in	2

Table 4-5. Equipment required for rigging five drums without pumping assembly on a 20-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5315-00-010-4659	Nail, steel wire, 8d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	
	3- by 36- by 96-in	24 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11C	5
	Cargo extraction:	
1670-00-040-8135	28-ft	1
	Drogue (for C-17)	
1670-01-063-3715	15-ft	1
	Platform, airdrop, type V, 20-ft	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(42)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(2)
1670-01-247-2389	Suspension link	(8)
5530-00-128-4981	Plywood, 3/4 -by 48- by 96-in	1 sheet
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop	
	For suspension:	
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	8
1670-01-062-6307	12-ft (4-loop), type XXVI nylon webbing	4
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	2
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	5
1670-01-062-6313	60-ft (3-loop), type XXVI nylon webbing	5

Table 4-5. Equipment required for rigging five drums without pumping assembly on a 20-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	38
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-263-3591	Type VIII	As required

Section VI

RIGGING SIX DRUMS WITHOUT PUMPING ASSEMBLY ON A 24-FOOT PLATFORM

4-72. Description of Load

Six drums are rigged on a 24-foot, type V platform. Filled with 432 gallons of gasoline, each drum weighs 2,842 pounds and is 62 inches long and 53 inches in diameter. An empty drum weighs 250 pounds.

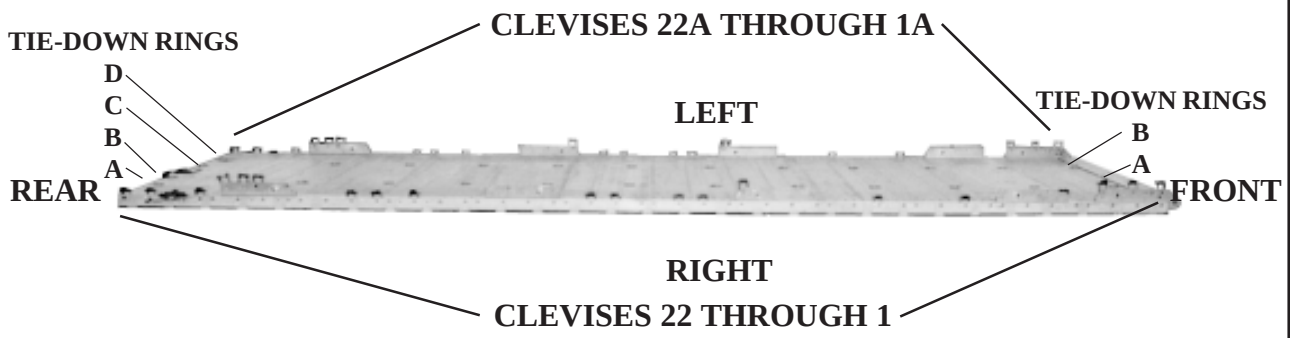
Note: Fill drums with no more than 432 gallons of fuel. If the drums are filled with a fuel other than gasoline, the drum weight must be computed.

4-73. Preparing Platform

Prepare a 24-foot, type V airdrop platform using two tandem links, eight suspension links and 46 clevises as shown in Figure 4-49.

Notes:
1. **The nose bumper may or may not be installed.**
2. **Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.**

WARNING
Do not add air to drums. Pressurization changes will cause leaking or bursting.



Step:

1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/ TO 13C7-52-22.

2. Install suspension links on each platform side rail using holes 18, 19, and 20, and holes 6, 7, and 8.

3. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.

4. Install suspension links on each platform side rail using holes 29, 30, and 31, and holes 41, 42, and 43.

5. Bolt clevises on bushings 1, 3, and 4 of each front tandem link, on bushing 4 of each second suspension link, on bushing 1 of each third suspension link, and on bushings 2, 3 and 4 of each rear suspension link.

6. Install a clevis on bushing 46 in an inverted position on each platform side rail. Bolt two additional clevises to each inverted clevis.

7. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 10, 14, 22, 23, 26, 27, 35, 37, 38, 45, 47 and 48.

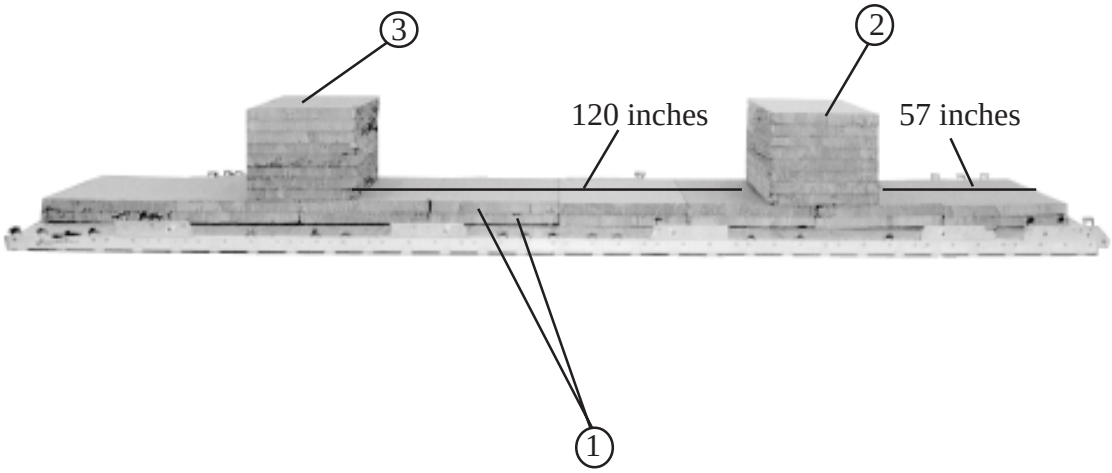
8. Starting at the front of the platform, number the clevises bolted to the right side 1 through 22, and those bolted to the left side 1A through 22A.

9. Label the tiedown rings according to FM 10-500-2/TO 13C7-1-5.

Figure 4-49. Platform prepared

4-74. Preparing and Positioning Honeycomb Stack

Prepare and position the honeycomb stack as shown in Figure 4-50.



1. Use 16 sheets of 36- by 60-inch honeycomb to form a two-layer stack 288 inches long and 60 inches wide. Center the stack on the platform flush with the front edge.

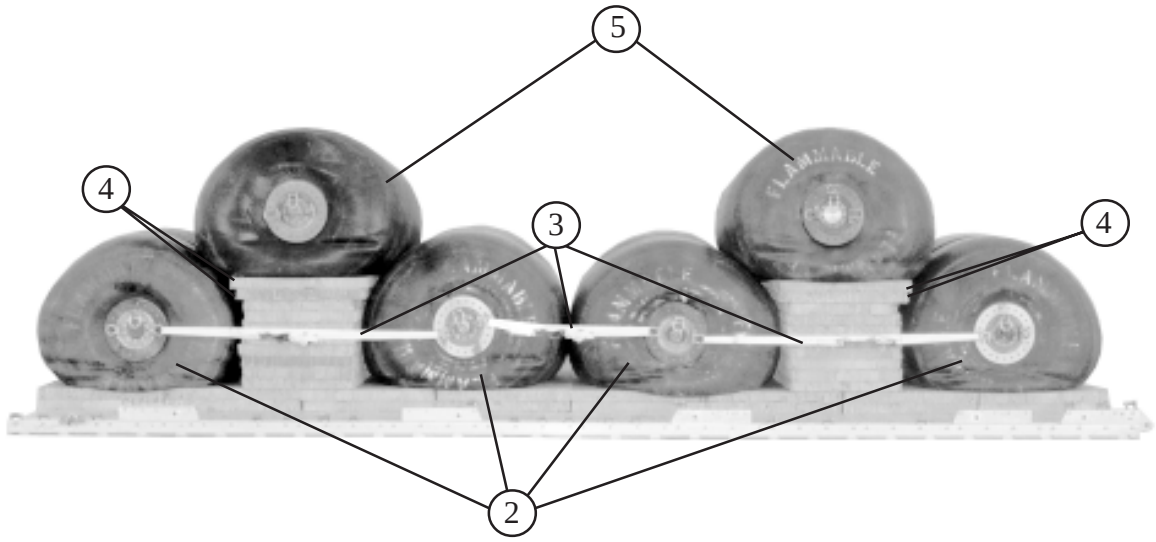
2. Make two 8-layer stacks of 60- by 30-inch honeycomb. Center one stack on the base layer 57 inches from the front edge of the base.

3. Center the other stack on the base layers 120 inches to the rear of the stack placed in step 2 above.

Figure 4-50. Honeycomb stack positioned

4-75. Installing Lifting Slings and Positioning Drums

Lift the drums and position them on the honeycomb as shown in Figure 4-51.

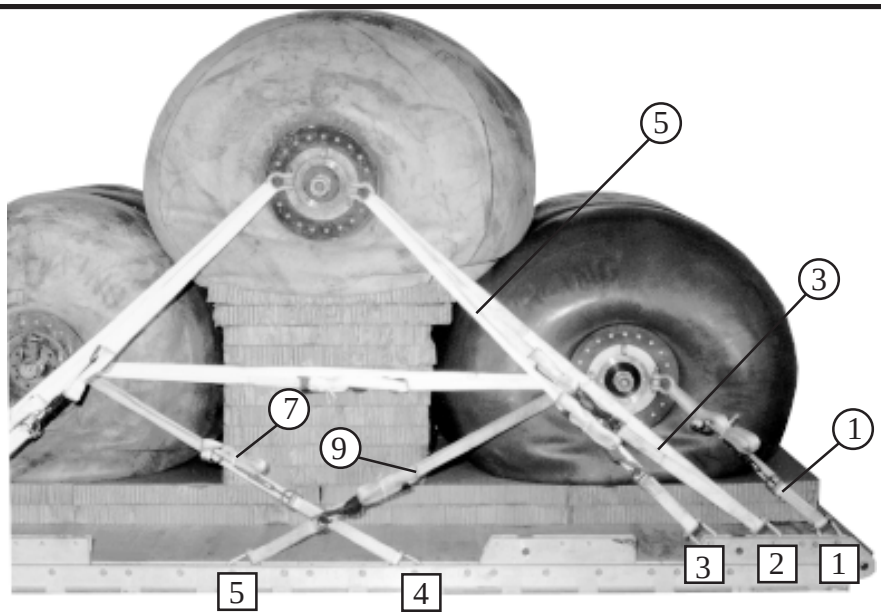


1. Attach a 9-foot (2-loop), type XXVI nylon webbing sling to the upper shackle on each side of the drum with a platform clevis as shown in Figure 4-13.
2. Lift four drums onto the honeycomb base as shown in Figure 4-13.
3. Lash the shackles of the drums together on each side with 15-foot tiedown assemblies.
4. Glue a 60- by 34-inch piece of honeycomb centered on each stack. Glue a 60- by 36-inch piece of honeycomb centered over the pieces placed previously.
5. Lift and position a drum onto each stack.

Figure 4-51. Fuel drums positioned

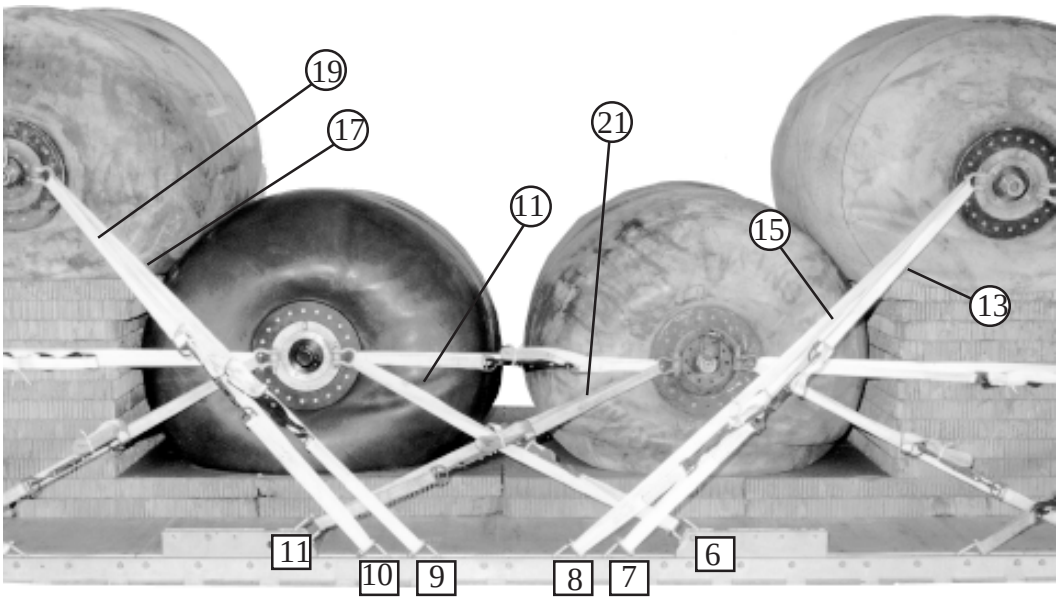
4-76. Lashing Drums

Use thirty-four 15-foot tiedown assemblies to lash the fuel drums as shown in Figure 4-52, and according to FM 10-500-2/TO 13C7-1-5.



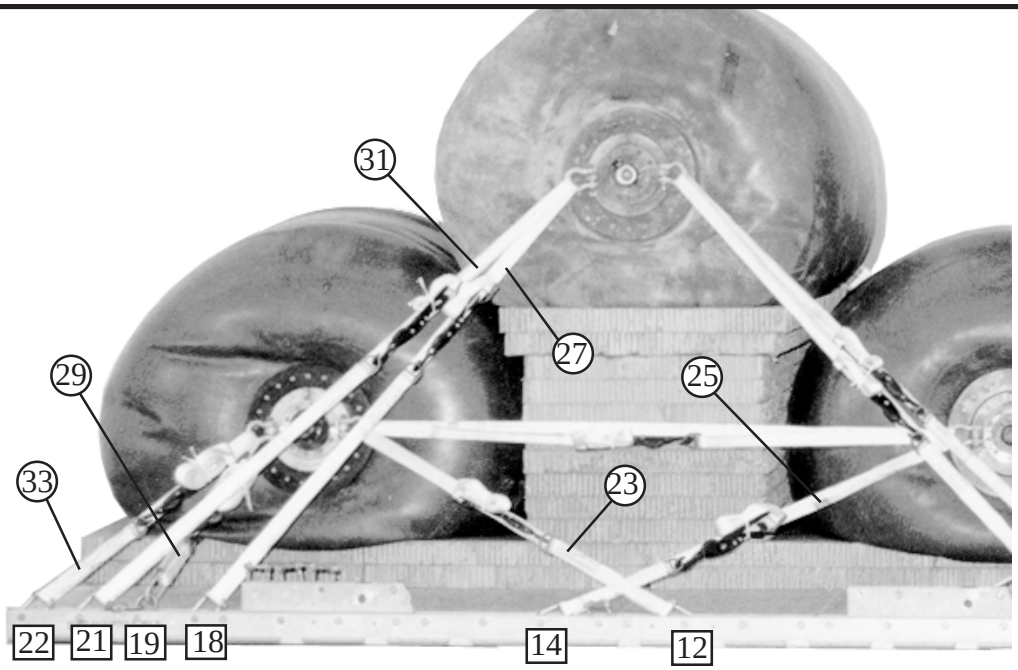
Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
1	1	Through right front shackle of first drum.
2	1A	Through left front shackle of first drum.
3	2	Through right front shackle of second drum.
4	2A	Through left front shackle of second drum.
5	3	Through right front shackle of second drum.
6	3A	Through left front shackle of second drum.
7	4	Through right front shackle of third drum.
8	4A	Through left front shackle of third drum.
9	5	Through right rear shackle of first drum.
10	5A	Through left rear shackle of first drum.

Figure 4-52. Fuel drums lashed to platform



Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
11	6	Through right front shackle of fourth drum.
12	6A	Through left front shackle of fourth drum.
13	7	Through right rear shackle of second drum.
14	7A	Through left rear shackle of second drum.
15	8	Through right rear shackle of second drum.
16	8A	Through left rear shackle of second drum.
17	9	Through right front shackle of fifth drum.
18	9A	Through left front shackle of fifth drum.
19	10	Through right front shackle of fifth drum.
20	10A	Through left front shackle of fifth drum.
21	11	Through right rear shackle of third drum.
22	11A	Through left rear shackle of third drum.

Figure 4-52. Fuel drums lashed to platform (continued)

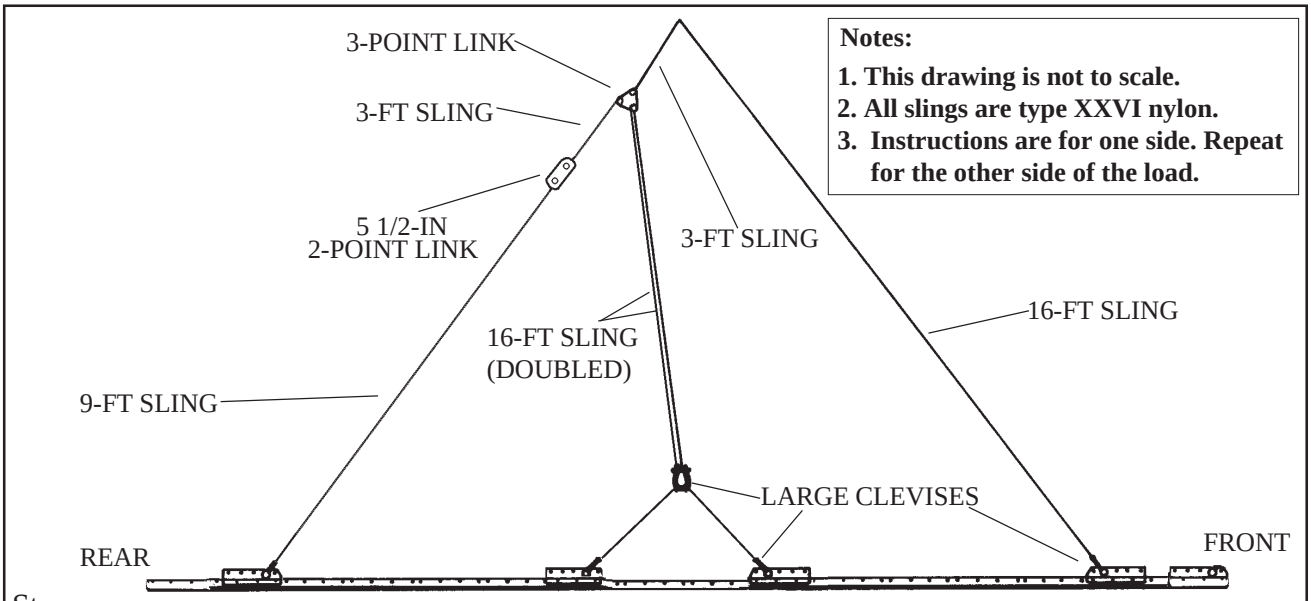


Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
23	12	Through right front shackle of sixth drum.
24	12A	Through left front shackle of sixth drum.
25	14	Through right rear shackle of fourth drum.
26	14A	Through left rear shackle of fourth drum.
27	18	Through right rear shackle of fifth drum.
28	18A	Through left rear shackle of fifth drum.
29	19	Through right rear shackle of sixth drum.
30	19A	Through left rear shackle of sixth drum.
31	21	Through right rear shackle of fifth drum.
32	21A	Through left rear shackle of fifth drum.
33	22	Through right rear shackle of sixth drum.
34	22A	Through left rear shackle of sixth drum.

Figure 4-52. Fuel drums lashed to platform (continued)

4-77. Installing and Safetying Suspension Slings

Install the components of the centerline suspension system according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 4-53. Safety the suspension slings as shown in Figure 4-54.



Notes:

1. This drawing is not to scale.
2. All slings are type XXVI nylon.
3. Instructions are for one side. Repeat for the other side of the load.

Step:

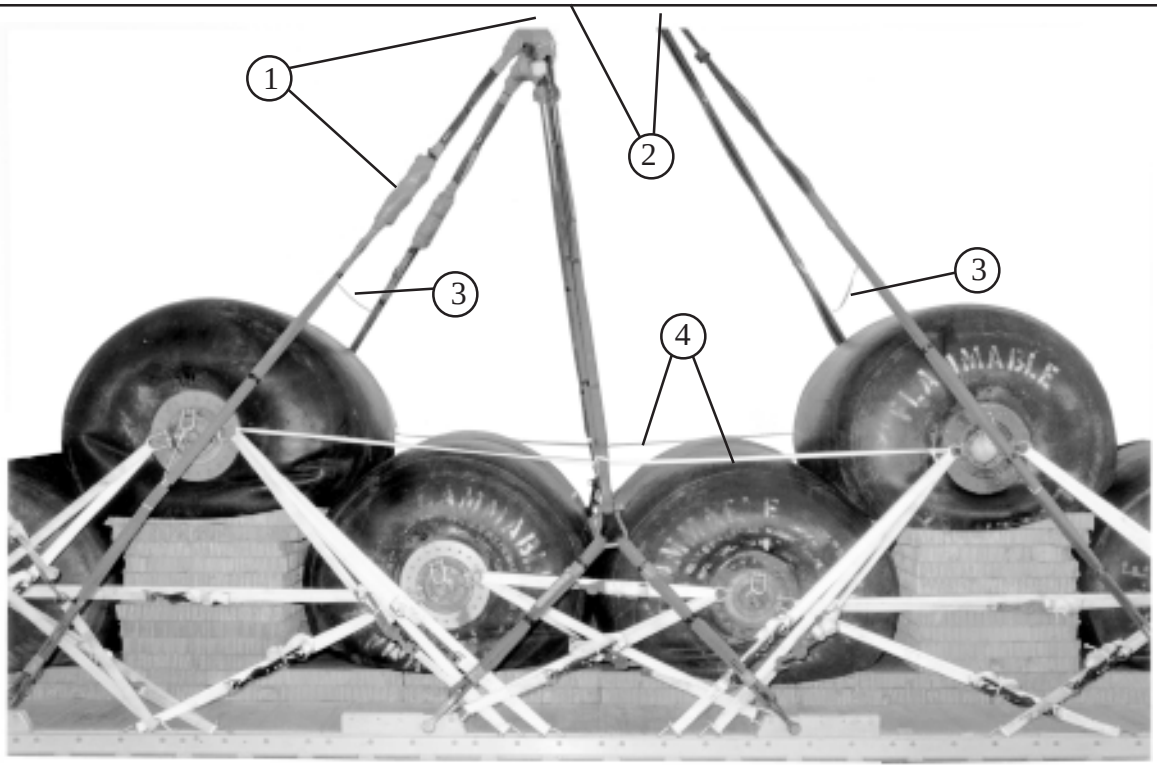
1. Place the end loop of a 9-foot (4-loop) sling in the bell portion of a large clevis. Bolt the clevis to the rear suspension link. Connect the free end of the 9-foot sling to a 3-foot (4-loop) sling with a 5 1/2-inch two-point link.

2. Attach a 3-foot (4-loop) sling to each center suspension link with a large clevis. Place both 3-foot slings in the bell portion of a large clevis. Pass a 16-foot (2-loop) sling through one spool of a three-point link. Place both end loops of the 16-foot sling in the bolt of the large clevis.

3. Bolt the free end of the rear suspension sling to the three-point link placed in step 2 so that the remaining spool of the three-point link points upward. Bolt a 3-foot (4-loop) sling to the remaining spool.

4. Place the end loop of a 16-foot (4-loop) sling in the bell portion of a large clevis. Bolt the clevis to the front suspension link.

Figure 4-53. Suspension slings installed



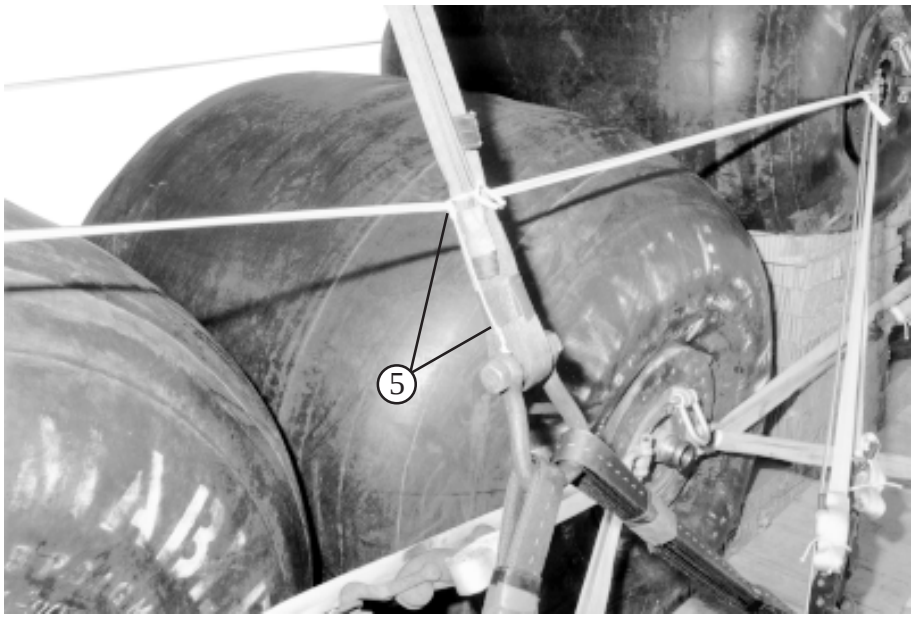
1. Pad the two-point links and the three-point links with felt taped in place.

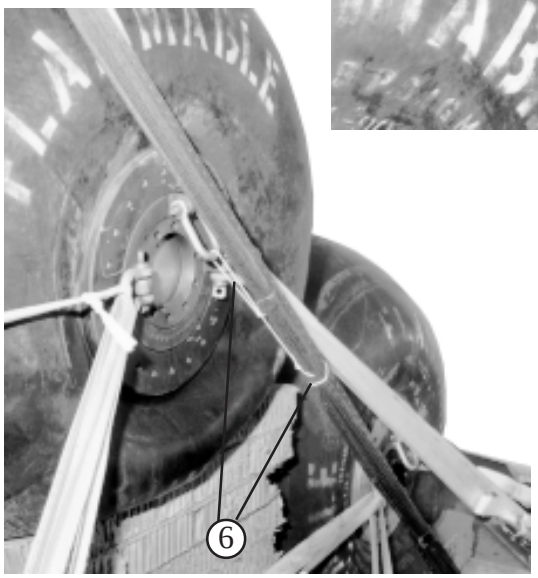
2. Attach the front suspension slings and the 3-foot slings from the three-point links to the crane hook. Raise the suspension slings.

3. Tie the rear suspension slings to each other 12 inches above the load with a double length of 1/2-inch tubular nylon webbing. Tie the front suspension slings to each other in the same way.

4. Tie a length of 1/2-inch tubular nylon webbing between the shackles of the second and fifth drums and under the center suspension slings. Make this tie as taut as possible.

Figure 4-54. Suspension slings safetied





(5) Pass a length of 1/4-inch, type I cotton webbing through the plies of the center suspension slings at the clevis bolt. Pass the ends up and over the 1/2-inch tubular nylon webbing placed in step 4 so that the nylon webbing is kept in a horizontal position. Tie the cotton webbing to the outside of the slings.

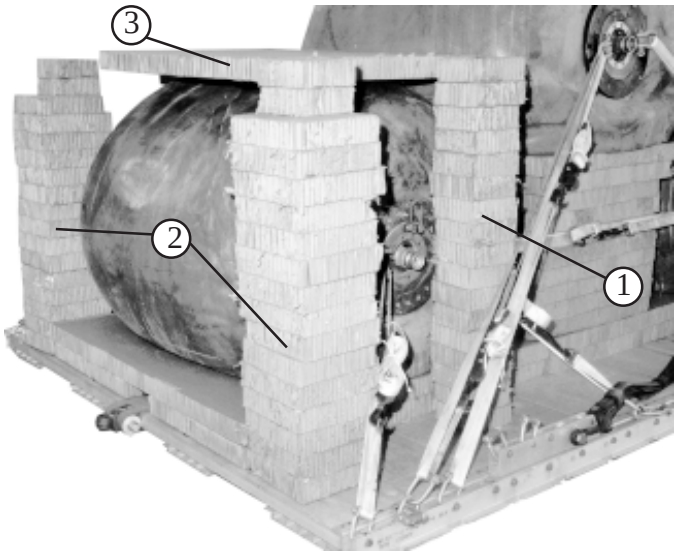
(6) Tie the front suspension slings to the upper shackle on the second drum with a length of type III nylon cord. Tie the rear suspension slings to the fifth drum in the same way.

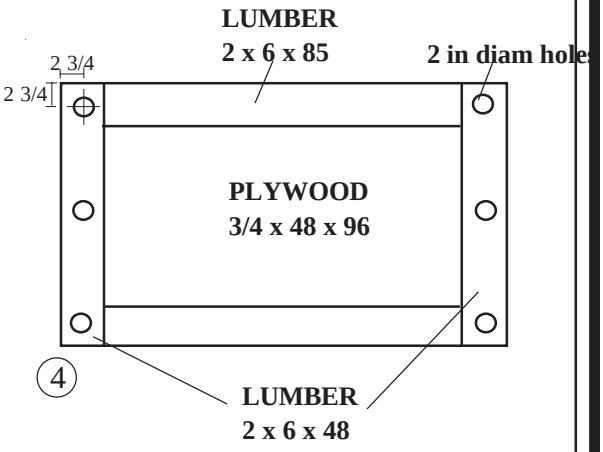
Figure 4-54. Suspension slings safetied (continued)

4-78. Building and Lashing Parachute Stowage Platform

Build the parachute stowage platform and its supports as shown in Figure 4-55. Lash the parachute stowage platform to the load as shown in Figure 4-56.

Notes: 1. This drawing is not to scale.
2. All dimensions are given in inches.
3. Use eightpenny nails.





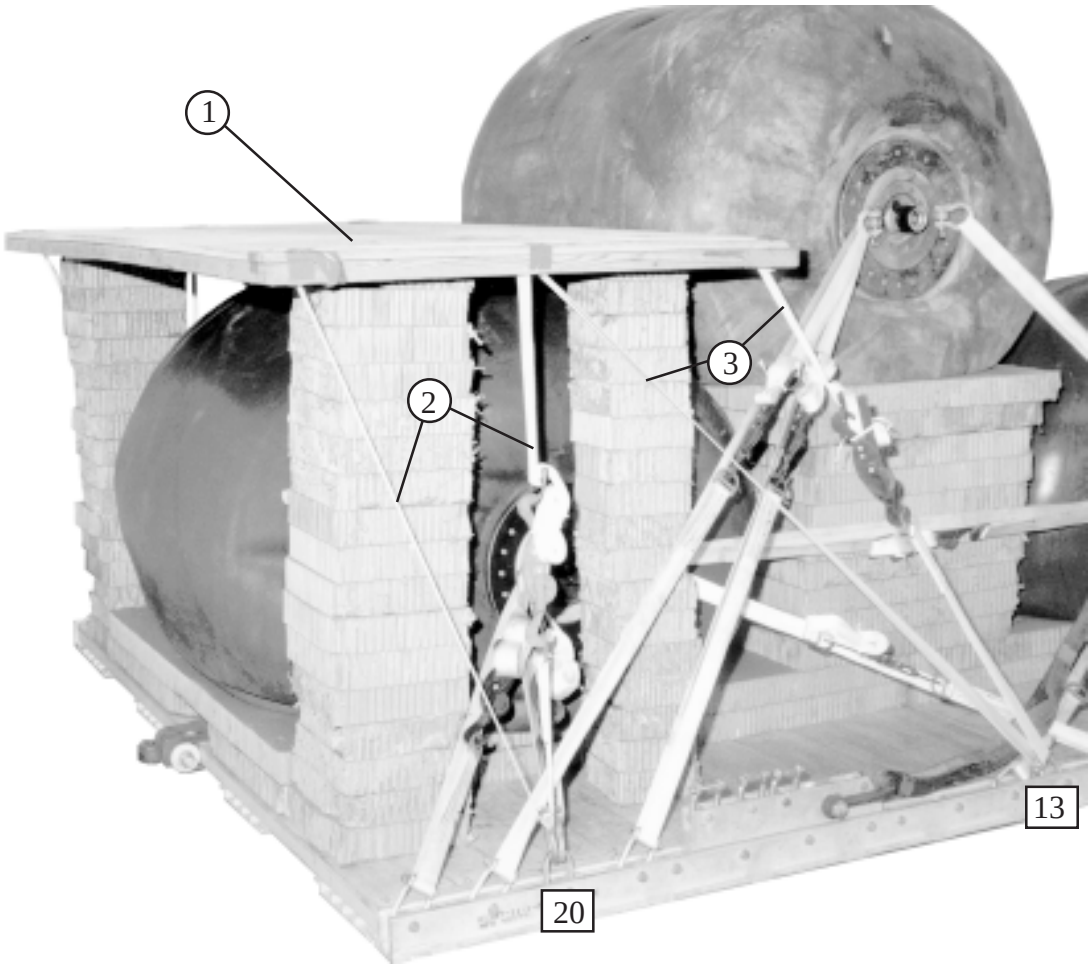
1. Make two 17-layer stacks of 8- by 8-inch honeycomb. Place one stack on each side flush with the edge of the honeycomb supporting the rear drum and 29 inches from the rear edge of the platform.

2. Make two 15-layer stacks of 12- by 12-inch honeycomb. Glue two 8- by 8-inch pieces of honeycomb on top of each stack flush with the inside front corners. Place the stacks on each side of the rear drum flush with the rear edge of the honeycomb base layer.

3. Center a 48- by 26-inch piece of honeycomb over the rear drum.

4. Build the parachute stowage platform as shown. Nail the 2- by 6-inch pieces of lumber to the edges of the plywood, and drill 2-inch holes for the lashings.

Figure 4-55. Supports placed and parachute stowage platform constructed

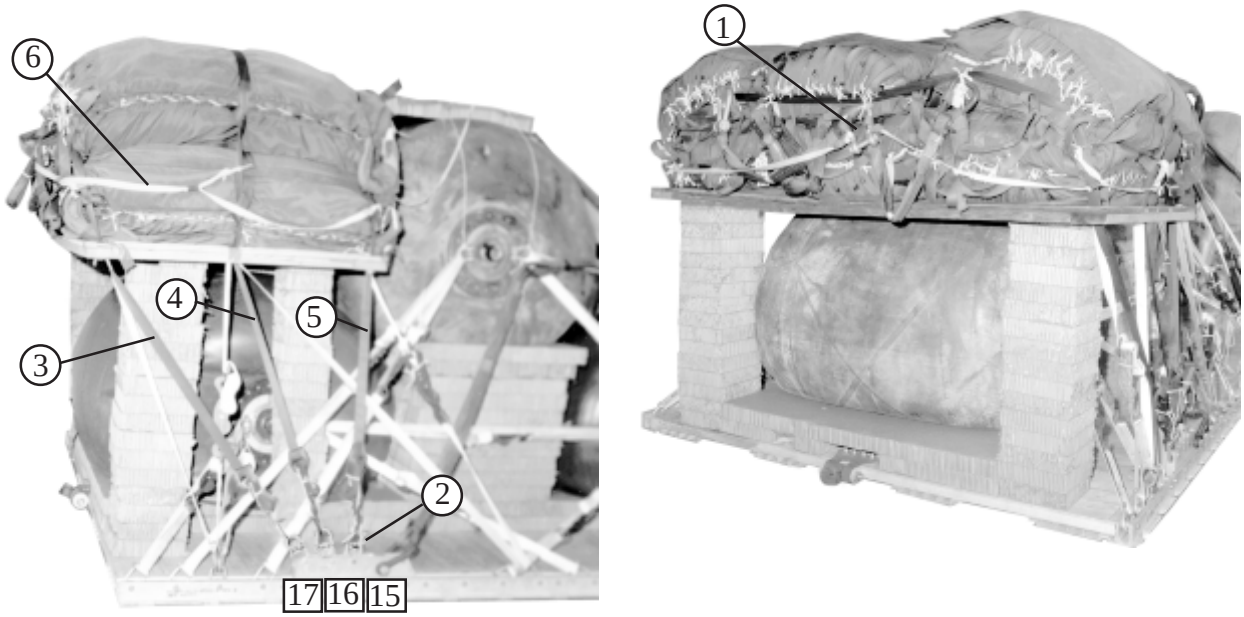


1. Center the parachute stowage platform on the honeycomb placed in Figure 2-54.
2. Lash the two rear holes in the parachute stowage platform to clevises 20 and 20A.
3. Lash the two front holes in the parachute stowage platform to clevises 13 and 13A.

Figure 4-56. Parachute stowage platform lashed to platform rails.

4-79. Installing Cargo Parachutes

Install six G-11 cargo parachutes as shown in Figure 4-57, and restrain them with type X nylon webbing according to FM 10-500-2/TO 13C7-1-5.

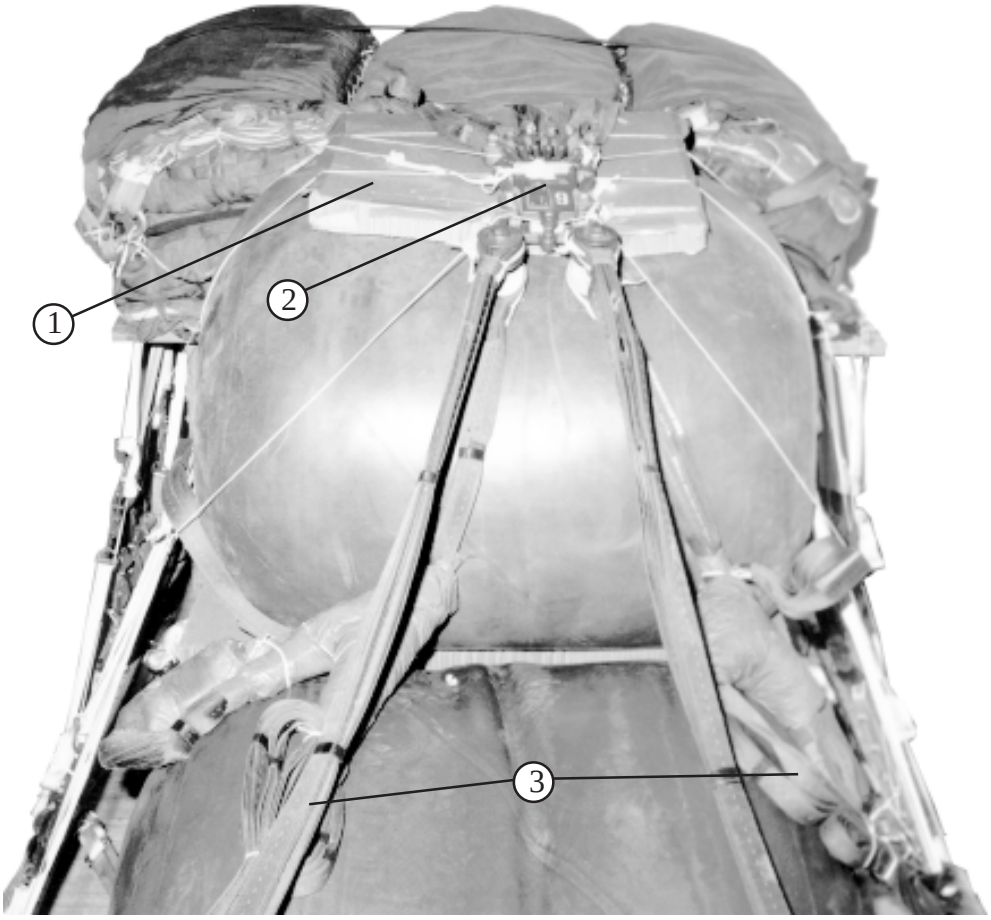


1. Cluster six G-11 cargo parachutes on the parachute stowage platform.
2. Place an additional clevis on clevises 15, 15A, 16, 16A, 17, and 17A. Place the added clevises in an inverted position.
3. Pass the rear restraint strap through the rear holes in the parachute stowage platform, and attach the ends to the curves of clevises 17 and 17A with D-rings and load binders.
4. Pass the center restraint strap through the center holes in the parachute stowage platform, and attach the ends to the curves of clevises 16 and 16A with D-rings and load binders.
5. Pass the front restraint strap through the front holes in the parachute stowage platform, and attach the ends to the curves of clevises 15 and 15A with D-rings and load binders.
6. Install the parachute release knives according to FM 10-500-2/TO 13C7-1-5.

Figure 4-57. G-11 cargo parachutes installed

4-80. Installing Parachute Release

Prepare and install an M-2 cargo parachute release as shown in Figure 4-58 and according to FM 10-500-2/TO 13C7-1-5.



1. Center a 36- by 36-inch piece of honeycomb over the fifth drum. Secure the honeycomb to the drum shackles with type III nylon cord.

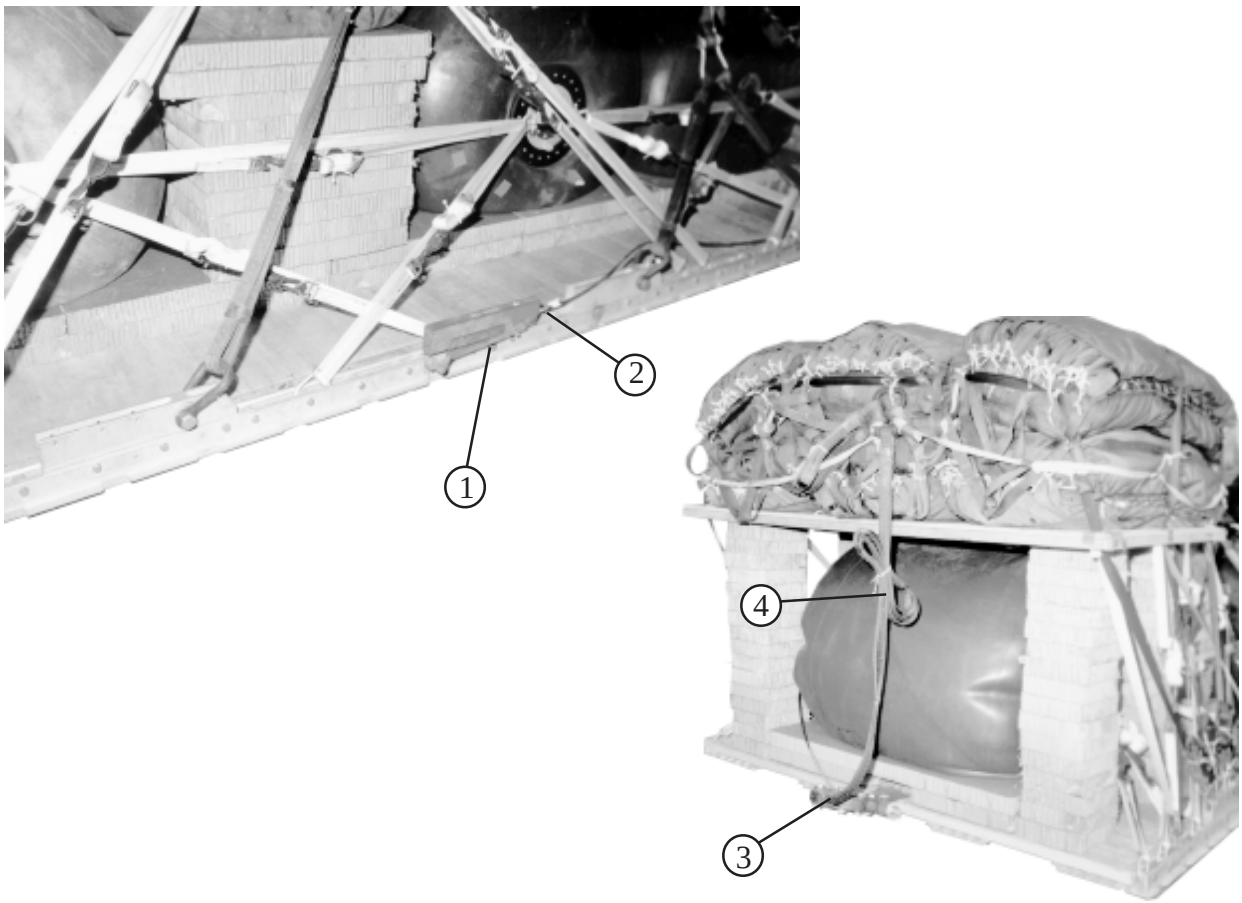
2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5. Secure the release to the platform with type III nylon cord.

3. S-fold the suspension slings and tie the folds with type I, 1/4-inch cotton webbing.

Figure 4-58. M-2 release installed

4-81. Installing Extraction System

Prepare and install the EFTC extraction system as shown in Figure 4-59 and as shown in FM 10-500-2/TO 13C7-1-5.



1. Install the actuator mounting brackets to the rear holes on the left platform rail.
2. Install a 24-foot cable to the actuator. Install the actuator to the brackets.
3. Attach the latch assembly to the extraction bracket. Attach the cable to the latch assembly.
4. Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold and tie the excess in two places with type I, 1/4-inch cotton webbing.

Figure 4-59. EFTC installed

4-82. Installing Provisions for Emergency Restraints

Select and install provisions for emergency restraints according to the emergency aft restraint requirements table in FM 10-500-2/TO 13C7-1-5.

4-83. Placing Extraction Parachute

Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachute and extraction line on the load for installation in the aircraft.

4-84. Marking Rigged Load

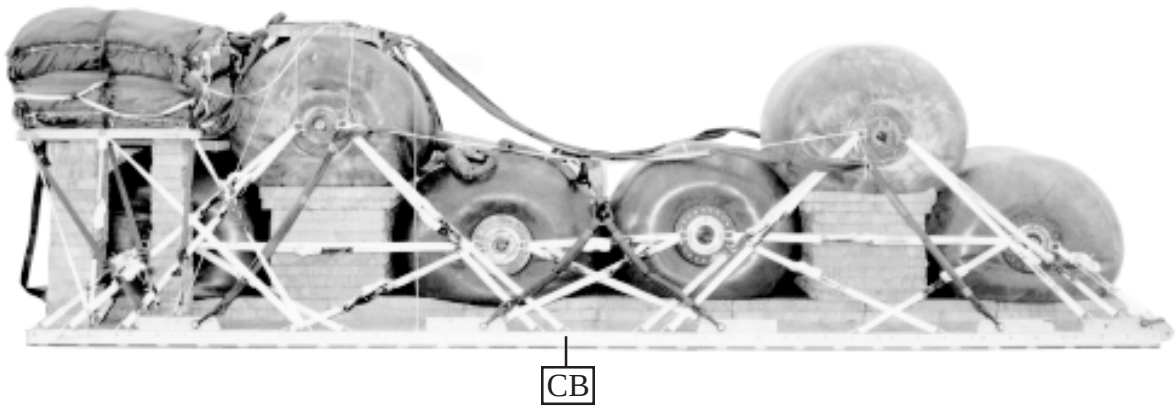
Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-60.

CAUTION
The load weight may vary from the one shown, depending upon the fuel rigged. Be sure that the load is weighed, and the parachute requirements, CB, and tip-off curve recomputed.

4-85. Equipment Required

Use the equipment listed in Table 4-6 to rig this load.

CAUTION
Make the final rigger inspection required by FM 10-500-2/TO 13C7-1-5 before the load leaves the rigging site.



Rigged Load Data

Weight: Estimated, with gasoline	22,158 pounds
Maximum (as shown)	28,120 pounds
Height	85 inches
Width	108 inches
Length	288 inches
Overhang Front	5 inches
Rear	17 inches
CB (from front edge of platform)	153 inches
Extraction System (adds 18 inches to length of platform)	EFTC

Figure 4-60. Six drums rigged on a 24-foot, type V airdrop platform for low-velocity airdrop

Table 4-6. Equipment required for rigging six drums without pumping assembly on a 24-foot, type V airdrop platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-678-8562	Clevis, suspension, 3/4-in (medium)	6
4030-00-090-5354	Clevis, suspension, 1-in (large)	14
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5782	Coupling, airdrop, extraction force transfer with cable, 24-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	7
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-062-6316	60-ft (3-loop), type XXVI	1
	Line, extraction:	
1670-01-062-6316	60-ft (3-loop), type XXVI (for C-130)(Use w/ 140-ft for C-5)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C-141B,C-5, or C-17)	1
	Link assembly:	
1670-01-307-0155	Three-point	2
1670-00-783-5988	Type IV	7
	Two-point:	
5306-00-435-8994	Bolt, 1-in diam, 4-in long	6
5310-00-232-5165	Nut, 1-in, hexagonal	6
1670-00-003-1954	Plate, side, 5 1/2-in	6
5365-00-007-3414	Spacer, large	6
5510-00-220-6148	Lumber: 2- by 6- by:	
	85-in	2
	48-in	2

Table 4-6. Equipment required for rigging six drums without pumping assembly on a 24-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5315-00-010-4659	Nail, steel wire, 8d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	
	3- by 36- by 96-in	26 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11C	6
	Cargo extraction:	
1670-00-040-8135	28-ft	1
	Drogue (for C-17)	
1670-01-063-3715	15-ft	1
	Platform, airdrop, type V, 24-ft	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(48)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(2)
1670-01-247-2389	Suspension link	(8)
5530-00-128-4981	Plywood, 3/4 -by 48- by 96-in	1 sheet
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop	
	For suspension:	
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	8
1670-01-062-6305	9-ft (4-loop), type XXVI nylon webbing	2
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	4
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6311	120-ft (2-loop), type XXVI nylon webbing	6

Table 4-6. Equipment required for rigging six drums without pumping assembly on a 24-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	40
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-261-8584	Type X	As required

Section VII

RIGGING SIX DRUMS WITH PUMPING ASSEMBLY ON A 24-FOOT PLATFORM

4-86. Description of Load

Six drums are rigged with a pumping assembly on a 24-foot, type V platform. Filled with 432 gallons of gasoline, each drum weighs 2,842 pounds and is 62 inches long and 53 inches in diameter. An empty drum weighs 250 pounds.

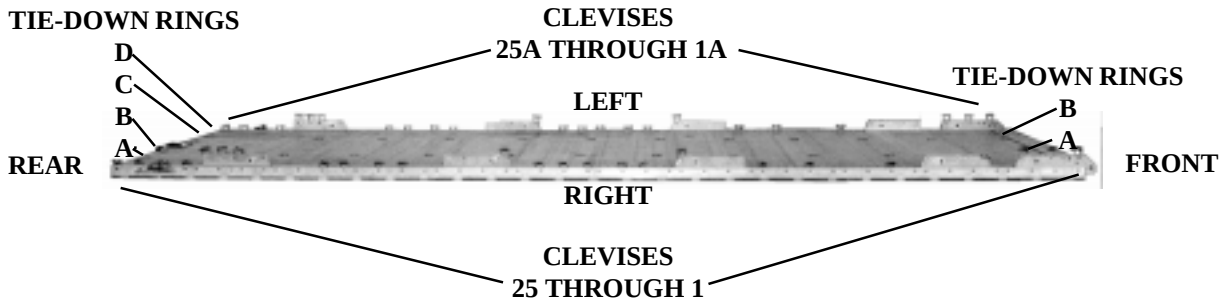
Note: Fill drums with no more than 432 gallons of fuel. If the drums are filled with a fuel other than gasoline, the drum weight must be computed.

4-87. Preparing Platform

Prepare a 24-foot, type V airdrop platform using two tandem links, eight suspension links and 52 clevises as shown in Figure 4-61.

Notes:
1. **The nose bumper may or may not be installed.**
2. **Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.**

WARNING
Do not add air to drums. Pressurization changes will cause leaking or bursting.



Step:

1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/ TO 13C7-52-22.

2. Install suspension links on each platform side rail using holes 18, 19, and 20, and holes 6, 7, and 8.

3. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.

4. Install suspension links on each platform side rail using holes 29, 30, and 31, and holes 41, 42, and 43.

5. Bolt clevises on bushings 1, 3, and 4 of each front tandem link, on bushing 4 of each second suspension link, on bushing 1 of each third suspension link, and on bushings 2, 3 and 4 of each rear suspension link.

6. Install a clevis on bushing 46 in an inverted position on each platform side rail. Bolt two additional clevises to each inverted clevis.

7. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 10, 14, 16, 22, 23, 25, 26, 27, 34, 35, 37, 38, 45, 47 and 48.

8. Starting at the front of the platform, number the clevises bolted to the right side 1 through 25, and those bolted to the left side 1A through 25A.

9. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

Figure 4-61. Platform prepared

4-88. Preparing and Positioning Honeycomb Stacks

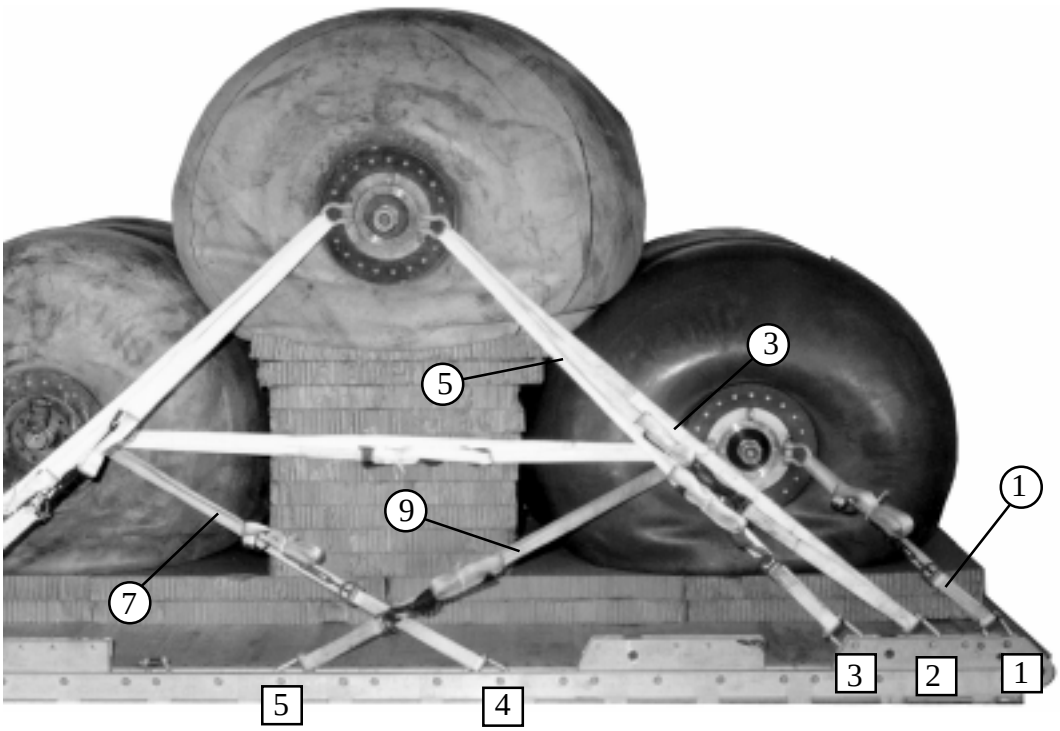
Prepare and position the honeycomb stack as shown in Figure 4-50 found in Section VI.

4-89. Installing Lifting Slings and Positioning Drums

Lift the drums and position them on the honeycomb as shown in Figure 4-51 found in Section VI.

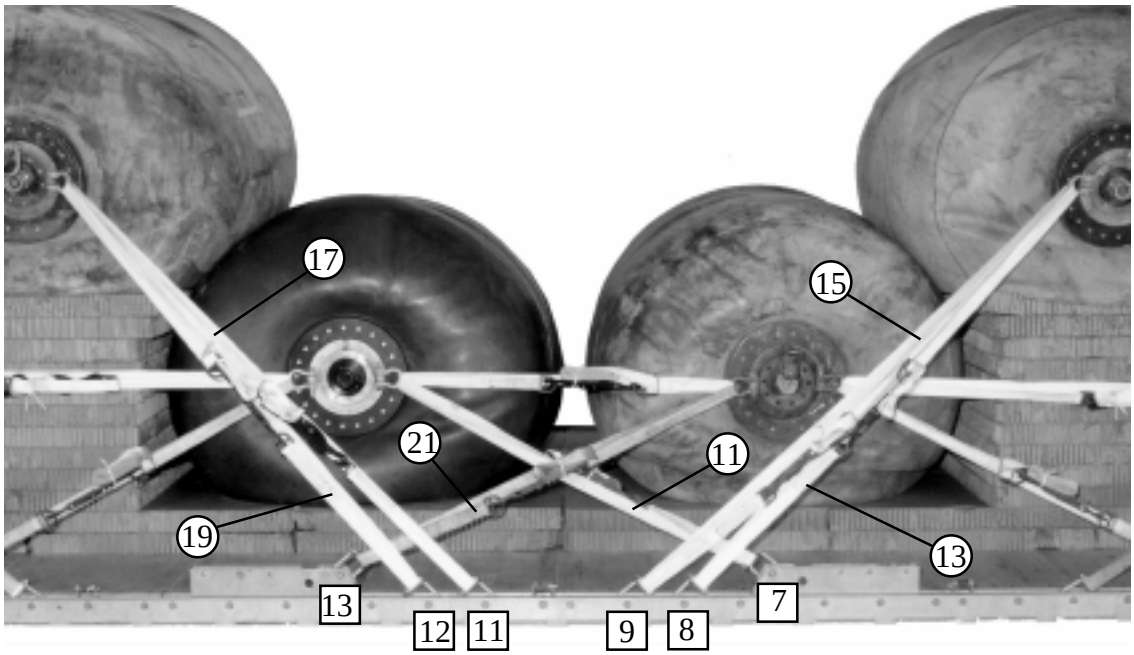
4-90. Lashing Drums

Use fifty 15-foot tiedown assemblies to lash the fuel drums as shown in Figure 4-62, and according to FM 10-500-2/TO 13C7-1-5.



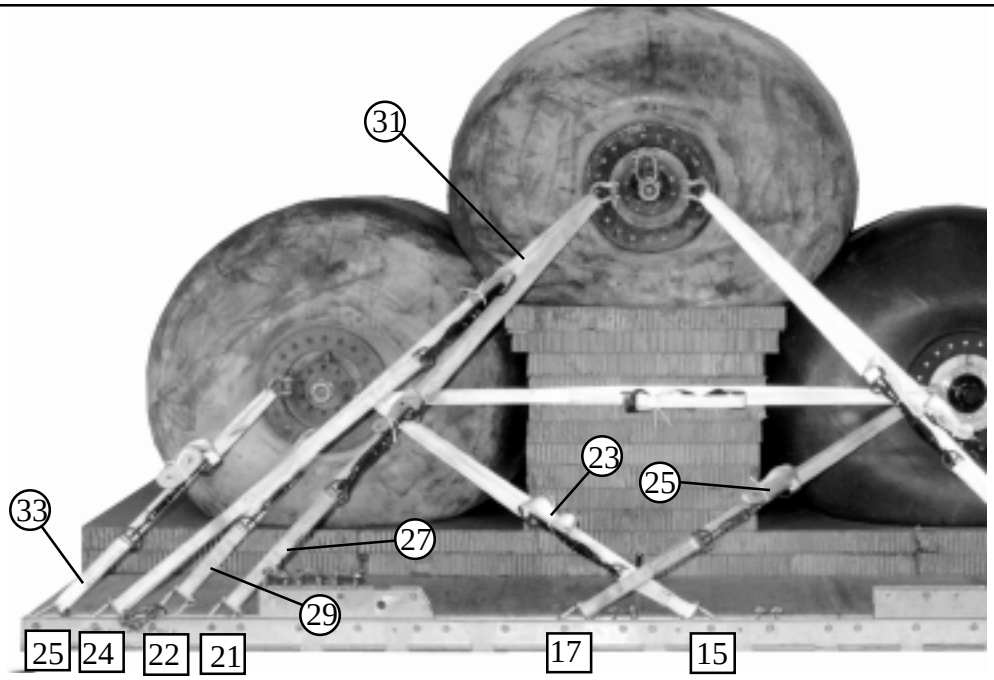
Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
1	1	Through right front shackle of first drum.
2	1A	Through left front shackle of first drum.
3	2	Through right front shackle of second drum.
4	2A	Through left front shackle of second drum.
5	3	Through right front shackle of second drum.
6	3A	Through left front shackle of second drum.
7	4	Through right front shackle of third drum.
8	4A	Through left front shackle of third drum.
9	5	Through right rear shackle of first drum.
10	5A	Through left rear shackle of first drum.

Figure 4-62. Fuel drums lashed to platform



Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
11	7	Through right front shackle of fourth drum.
12	7A	Through left front shackle of fourth drum.
13	8	Through right rear shackle of second drum.
14	8A	Through left rear shackle of second drum.
15	9	Through right rear shackle of second drum.
16	9A	Through left rear shackle of second drum.
17	11	Through right front shackle of fifth drum.
18	11A	Through left front shackle of fifth drum.
19	12	Through right front shackle of fifth drum.
20	12A	Through left front shackle of fifth drum.
21	13	Through right rear shackle of third drum.
22	13A	Through left rear shackle of third drum.

Figure 4-62. Fuel drums lashed to platform (continued)



Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
23	15	Through right front shackle of sixth drum.
24	15A	Through left front shackle of sixth drum.
25	17	Through right rear shackle of fourth drum.
26	17A	Through left rear shackle of fourth drum.
27	21	Through right rear shackle of fifth drum.
28	21A	Through left rear shackle of fifth drum.
29	22	Through right front shackle of sixth drum.
30	22A	Through left front shackle of sixth drum.
31	24	Through right rear shackle of fifth drum.
32	24A	Through left rear shackle of fifth drum.
33	25	Through right rear shackle of sixth drum.
34	25A	Through left rear shackle of sixth drum.

Figure 4-62. Fuel drums lashed to platform (continued)

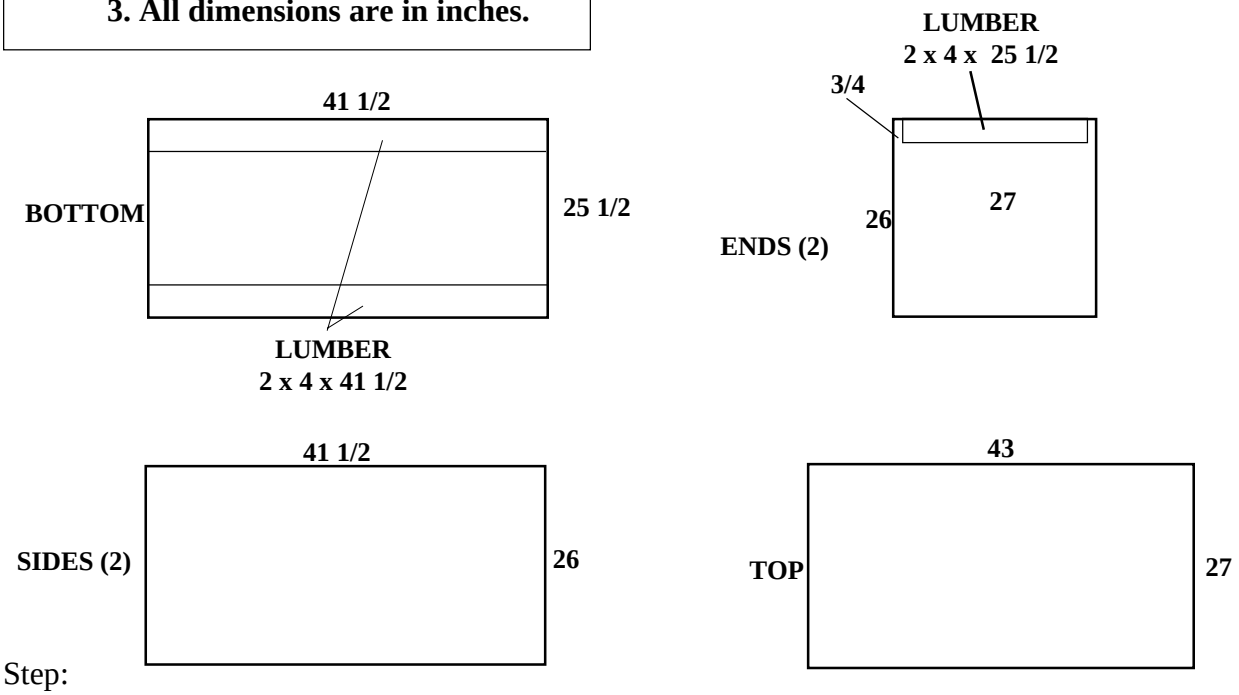
4-91. Preparing Pump Assembly

Build the box for the pump assembly as shown in Figure 4-63. Pack the pump assembly and hoses in the box as shown in Figure 4-64.

4-92. Lashing Pump Assembly to Platform

Place the pump assembly box on the load and lash it to the platform as shown in Figure 4-65.

Notes: 1. These drawings are not to scale.
2. Use 8d nails.
3. All dimensions are in inches.



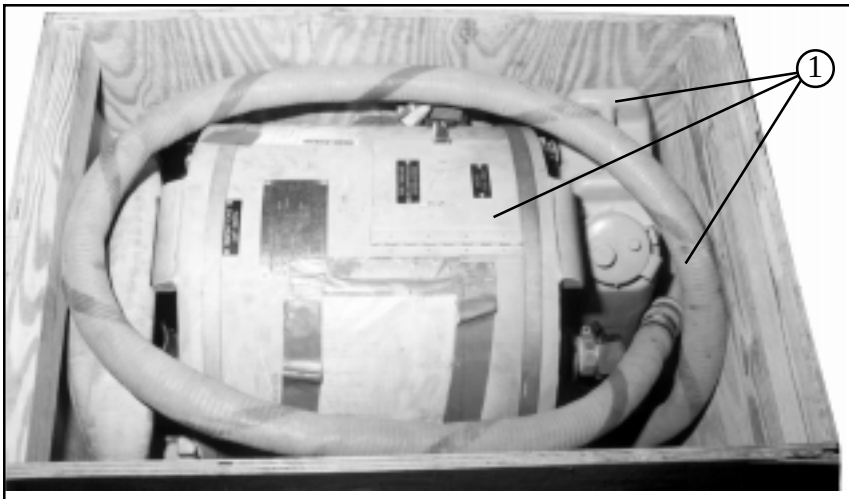
Step:

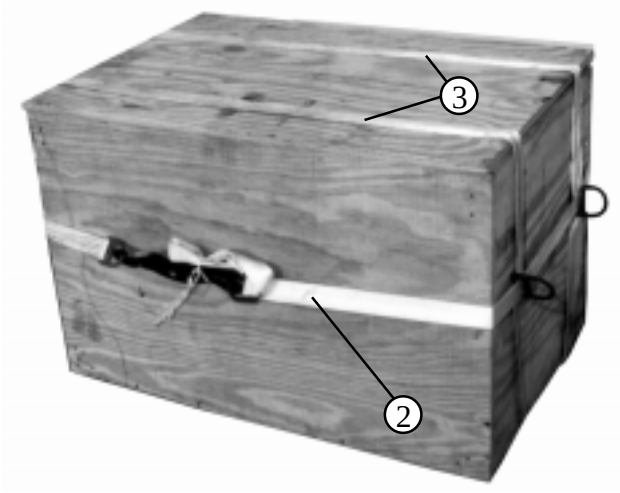
1. Cut the bottom of the box from 3/4-inch plywood 41 1/2 inches long and 25 1/2 inches wide. Nail a 41 1/2-inch length of 2- by 4-inch lumber flat side down and flush along each long edge of the bottom. The top of the box is 43- by 27 inches.

2. Cut the sides of the box from 3/4-inch plywood 41 1/2 inches long and 26 inches high. Place the sides flush with the bottom. Nail into the 2- by 4-inch pieces of lumber.

3. Cut the ends of the box from 3/4-inch plywood 27 inches wide and 26 inches high. Nail a piece of 2- by 4-inch lumber flat side down, centered, and flush with the top edge of each end piece. Nail the ends flush to the bottom and sides. Nail the sides to the 2- by 4-inch pieces of lumber on the ends.

Figure 4-63. Pump assembly box built



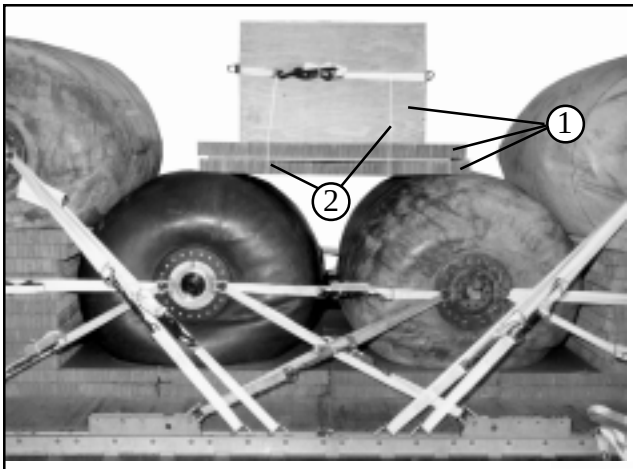


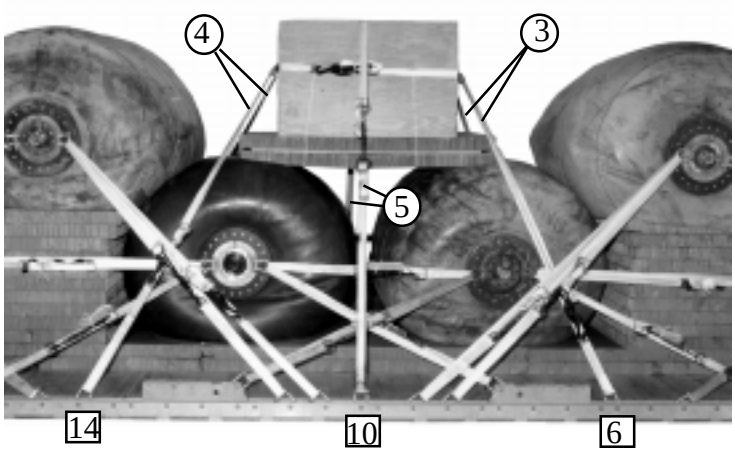
1. Place the pump, its hoses, a five-gallon can of fuel, and any other items needed by the unit in the box. Pad the items with cellulose wadding. Nail the top to the box.

2. Place four D-rings onto a 15-foot lashing. Place the lashing around the box lengthwise, and position two D-rings on each end of the box, six inches from each side. Tighten the lashing.

3. Pass two 15-foot lashings around the box and through the D-rings as shown. Tighten the lashings.

Figure 4-64. Pump assembly box packed





① Center and glue a 56- by 36-inch piece of 3/4-inch plywood between two 60 -by 36-inch pieces of honeycomb. Place the honeycomb and plywood centered over the third and fourth drums. Place the box centered on the honeycomb and plywood.

② Secure the box lashings to the honeycomb with type III nylon cord.

③ Lash the right front D-ring on the box to clevis 6. Lash the left front D-ring to clevis 6A.

④ Lash the right rear D-ring on the box to clevis 14. Lash the left rear D-ring to clevis 14A.

⑤ Pass lashings through clevises 10 and 10A and through their own D-rings. Secure the lashings together on one side of the load with two D-rings and a load binder.

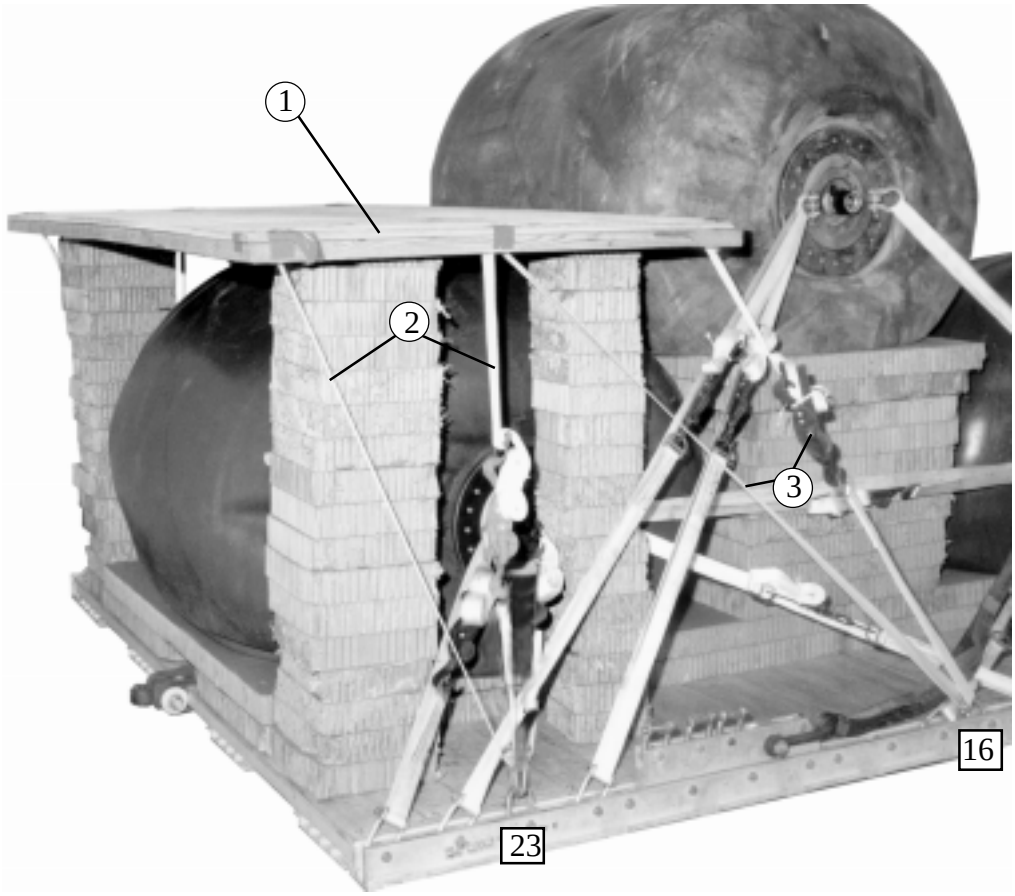
Figure 4-65. Pump assembly box lashed to platform

4-93. Installing and Safetying Suspension Slings

Install the components of the centerline suspension sling system according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 4-43 found in Section VI. Safety the suspension slings as shown in Figure 4-54 found in Section VI.

4-94. Building and Lashing Parachute Stowage Platform

Build the parachute stowage platform and its supports as shown in Figure 4-55. Lash the parachute stowage platform to the load as shown in Figure 4-66.



1. Center the parachute stowage platform on the honeycomb placed in Figure 4-55. Rest the front edge of the platform against the fifth drum.

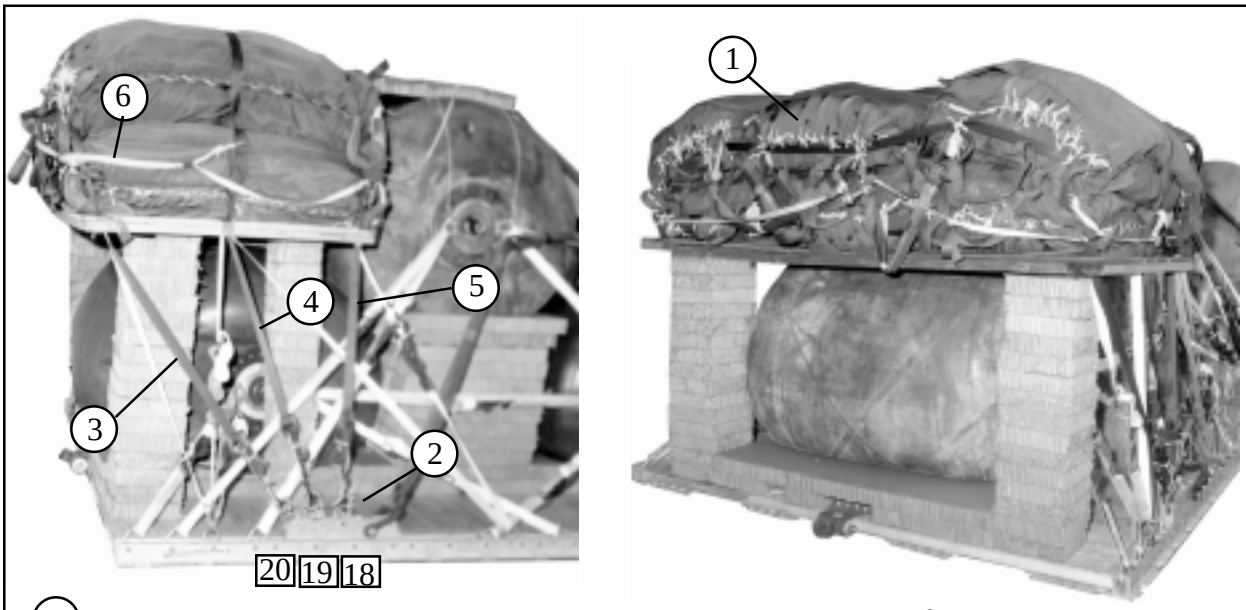
2. Lash the two rear holes in the platform to clevises 23 and 23A.

3. Lash the two front holes in the platform to clevises 16 and 16A.

Figure 4-66. Parachute stowage platform lashed to platform rails

4-95. Installing Cargo Parachutes

Install six G-11 cargo parachutes as shown in Figure 4-67, and according to FM 10-500-2/TO 13C7-1-5.

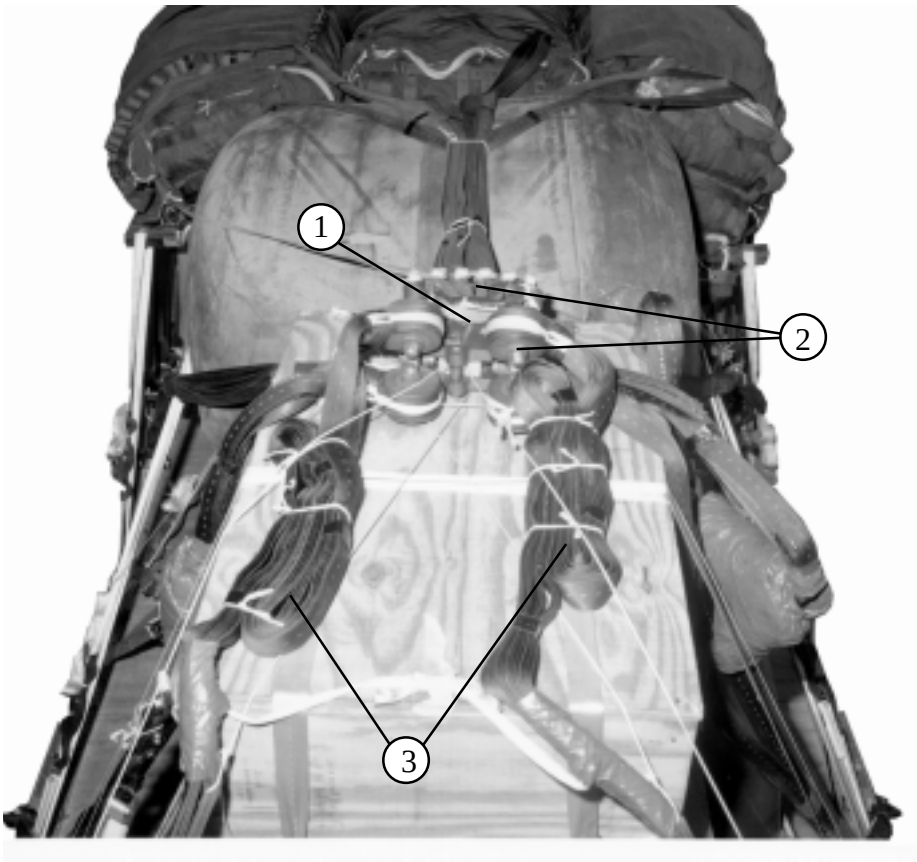


1. Cluster six G-11 cargo parachutes on the parachute stowage platform.
2. Place an additional clevis on clevises 18, 18A, 19, 19A, 20, and 20A. Place the added clevises in an inverted position.
3. Pass the rear restraint strap through the rear holes in the parachute stowage platform, and attach the ends to the curves of clevises 20 and 20A with D-rings and load binders.
4. Pass the center restraint strap through the center holes in the parachute stowage platform, and attach the ends to the curves of clevises 19 and 19A with D-rings and load binders.
5. Pass the front restraint strap through the front holes in the parachute stowage platform, and attach the ends to the curves of clevises 18 and 18A with D-rings and load binders.
6. Install the parachute release knives according to FM 10-500-2/TO 13C7-1-5.

Figure 4-67. G-11 cargo parachutes installed

4-96. Installing Parachute Release

Prepare and install an M-2 cargo parachute release as shown in Figure 4-48, and according to FM 10-500-2/TO 13C7-1-5.



1. Center the M-2 release assembly over the rear half of the pump box. Secure the release to the load with type III nylon cord.

2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5.

3. S-fold the suspension slings and tie the folds with type I, 1/4-inch cotton webbing.

Figure 4-68. M-2 release installed

4-97. Installing Extraction System

Prepare and install the EFTC extraction system as shown in Figure 4-59 found in Section VI, and according to FM 10-500-2/TO 13C7-1-5.

4-98. Installing Provisions for Emergency Restraints

Select and install provisions for emergency restraints according to the emergency aft restraint requirements table in FM 10-500-2/TO 13C7-1-5.

4-99. Placing Extraction Parachute

Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachute and extraction line on the load for installation in the aircraft.

4-100. Marking Rigged Load

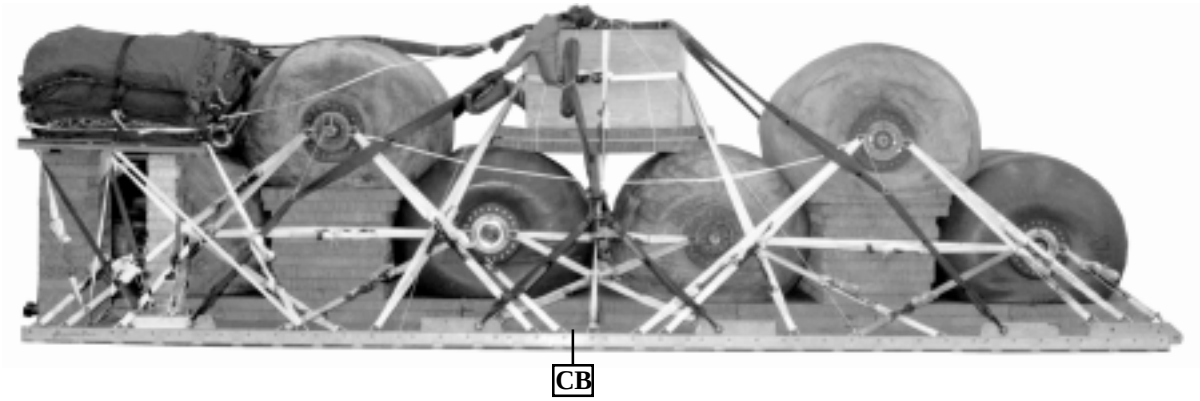
Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-69.

CAUTION
The load weight may vary from the one shown, depending upon the fuel rigged. Be sure that the load is weighed, and the parachute requirements, CB, and tip-off curve recomputed.

4-101. Equipment Required

Use the equipment listed in Table 4-7 to rig this load.

CAUTION
Make the final rigger inspection required by FM 10-500-2/TO 13C7-1-5 before the load leaves the rigging site.



Rigged Load Data

Weight: Estimated, with gasoline	22,548 pounds
Maximum (as shown)	28,420 pounds
Height	92 inches
Width	108 inches
Length	288 inches
Overhang Front	5 inches
Rear	17 inches
CB (from front edge of platform)	150 inches
Extraction System (adds 18 inches to length of platform)	EFTC

Figure 4-69. Six drums with pumping assembly rigged on a 24-foot, type V airdrop platform for low-velocity airdrop

Table 4-7. Equipment required for rigging six drums with pumping assembly on a 24-foot, type V airdrop platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-678-8562	Clevis, suspension, 3/4-in (medium)	6
4030-00-090-5354	Clevis, suspension, 1-in (large)	14
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5782	Coupling, airdrop, extraction force transfer with cable, 24-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	7
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-062-6316	60-ft (3-loop), type XXVI	1
	Line, extraction:	
1670-01-062-6316	60-ft (3-loop), type XXVI (for C-130)(Use w/ 140-ft for C-5)	1
1670-01-107-7651	140-ft (3-loop), type XXVI (for C-141B,C-5, or C-17)	1
	Link assembly:	
1670-01-307-0155	Three-point	2
1670-00-783-5988	Type IV	7
	Two-point:	
5306-00-435-8994	Bolt, 1-in diam, 4-in long	6
5310-00-232-5165	Nut, 1-in, hexagonal	6
1670-00-003-1954	Plate, side, 5 1/2-in	6
5365-00-007-3414	Spacer, large	6
	Lumber:	
5510-00-220-6146	2- by 4- by:	
	25 1/2	2
	41 1/2	2
5510-00-220-6148	2- by 6- by:	
	85-in	2
	48-in	2

Table 4-7. Equipment required for rigging six drums with pumping assembly on a 24-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5315-00-010-4659	Nail, steel wire, 8d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	
	3- by 36- by 96-in	28 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11C	6
	Cargo extraction:	
1670-00-040-8135	28-ft	1
	Drogue (for C-17)	
1670-01-063-3715	15-ft	1
	Platform, airdrop, type V, 24-ft	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(52)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(2)
1670-01-247-2389	Suspension link	(8)
5530-00-128-4981	Plywood, 3/4 -by 48- by 96-in	2 sheets
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop	
	For suspension:	
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	8
1670-01-062-6305	9-ft (4-loop), type XXVI nylon webbing	2
1670-01-062-6308	16-ft (2-loop), type XXVI nylon webbing	4
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6311	120-ft (2-loop), type XXVI nylon webbing	6

Table 4-7. Equipment required for rigging six drums with pumping assembly on a 24-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	59
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-261-8584	Type X	As required

Section VIII

RIGGING SEVEN DRUMS WITHOUT PUMPING ASSEMBLY ON A 28-FOOT PLATFORM

4-102. Description of Load

Seven drums are rigged on a 28-foot, type V platform. Filled with 432 gallons of gasoline, each drum weighs 2,842 pounds and is 62 inches long and 53 inches in diameter. An empty drum weighs 250 pounds.

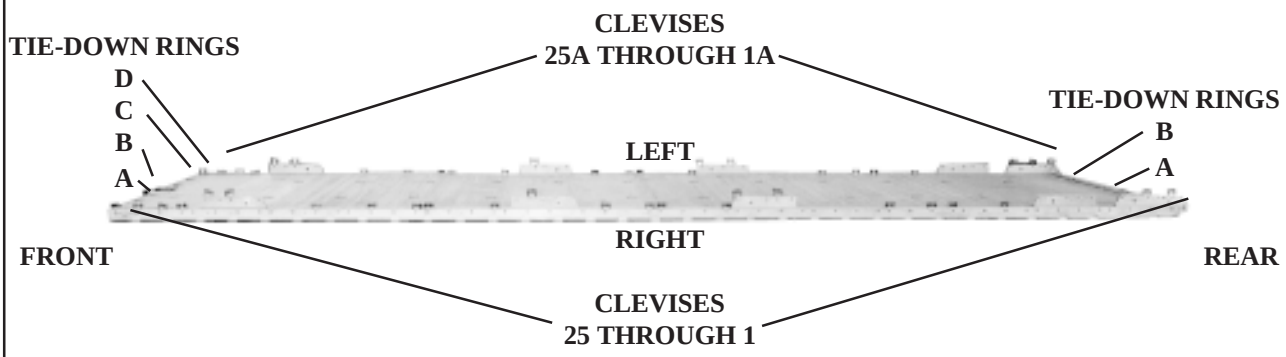
Note: Fill drums with no more than 432 gallons of fuel. If the drums are filled with a fuel other than gasoline, the drum weight must be computed.

4-103. Preparing Platform

Prepare a 28-foot, type V airdrop platform using two tandem links, eight suspension links and 50 clevises as shown in Figure 4-70.

Notes:
1. **The nose bumper may or may not be installed.**
2. **Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.**

WARNING
Do not add air to drums. Pressurization changes will cause leaking or bursting.



Step:

1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/ TO 13C7-52-22.

2. Install suspension links on each platform side rail using holes 22, 23, and 24, and holes 6, 7, and 8.

3. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.

4. Install suspension links on each platform side rail using holes 33, 34, and 35, and holes 49, 50, and 51.

5. Bolt clevises on bushings 1, 3, and 4 of each front tandem link, on bushings 2 and 4 of each second suspension link, on bushing 3 of each third suspension link, and on bushings 2 and 4 of each rear suspension link.

6. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 10, 13, 14, 16, 25, 28, 29, 31, 37, 40, 41, 43, 46, 53, 54, 55 and 56.

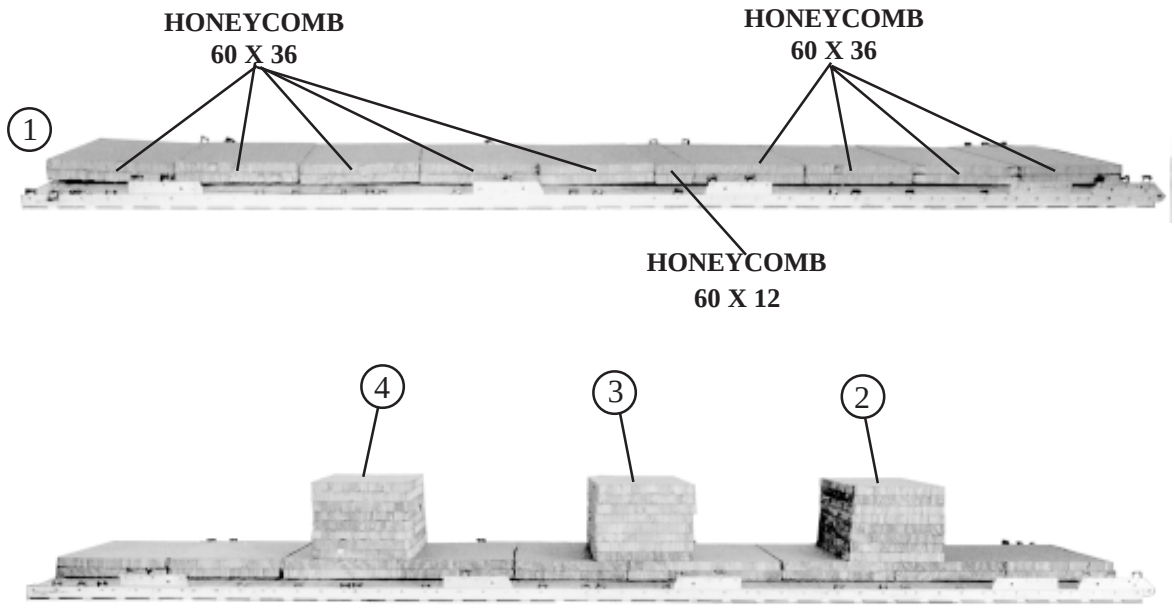
7. Starting at the front of the platform, number the clevises bolted to the right side 1 through 25, and those bolted to the left side 1A through 25A.

8. Label the tiedown rings according to FM 10-500-2/TO 13C7-1-5.

Figure 4-70. Platform prepared

4-104. Preparing and Positioning Honeycomb Stacks

Prepare and position the honeycomb stack as shown in Figure 4-71.



1. Use 18 pieces of 36- by 60-inch honeycomb, and two 12- by 60-inch pieces of honeycomb to form a two-layer stack 336 inches long and 60 inches wide. Center the stack on the platform flush with the front edge.

Note: Place the 12-inch section inside the stack.

2. Make three 8-layer stacks of 60- by 30-inch honeycomb. Center a stack on the base layer 57 inches from the front edge of the base.

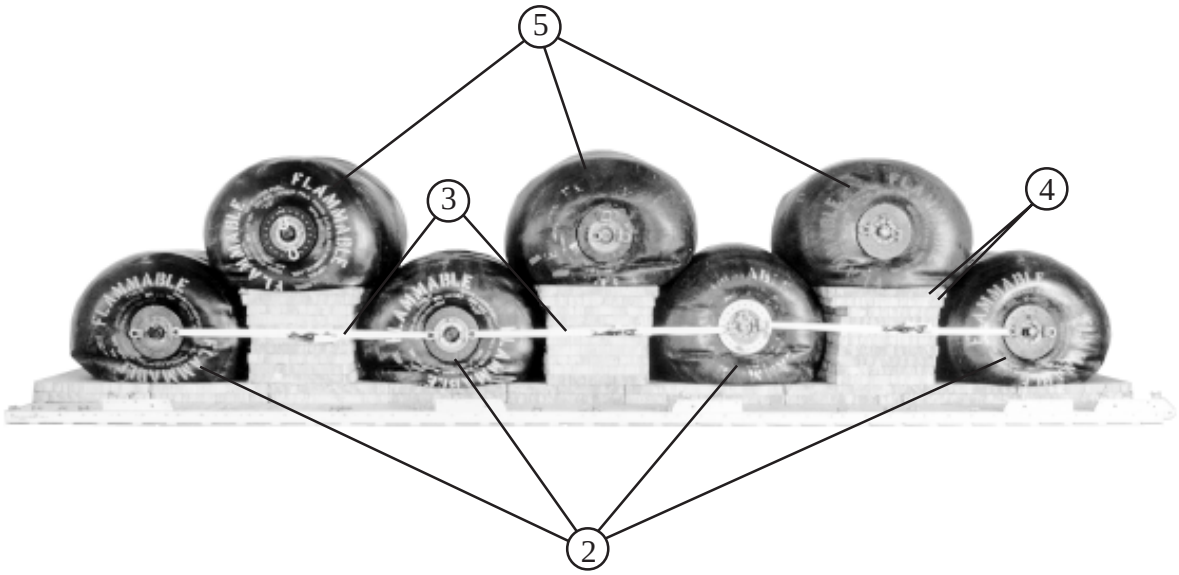
3. Center a second 8-layer stack of honeycomb 57 inches to the rear of the first.

4. Center the third 8-layer stack of honeycomb on the base layers 57 inches to the rear of the stack placed in step 3 above.

Figure 4-71. Honeycomb stack positioned

4-105. Installing Lifting Slings and Positioning Drums

Lift the drums and position them on the honeycomb as shown in Figure 4-72.

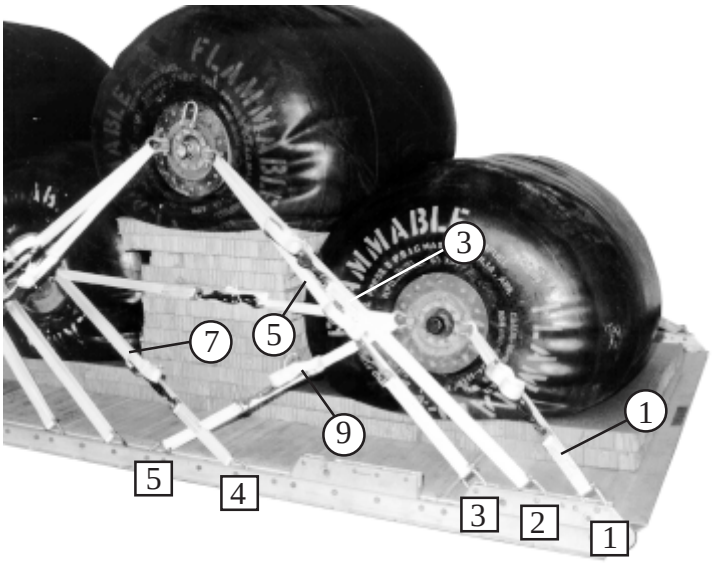


1. Attach a 9-foot (2-loop), type XXVI nylon webbing sling to the upper shackle on each side of the drum with a platform clevis as shown in Figure 4-13.
2. Lift four drums onto the honeycomb base as shown.
3. Lash the shackles of the drums together on each side with 15-foot tiedown assemblies.
4. Glue a 60- by 34-inch piece of honeycomb centered on each stack. Glue a 60- by 36-inch piece of honeycomb centered over the pieces placed previously.
5. Lift and position a drum onto each stack.

Figure 4-72. Fuel drums positioned

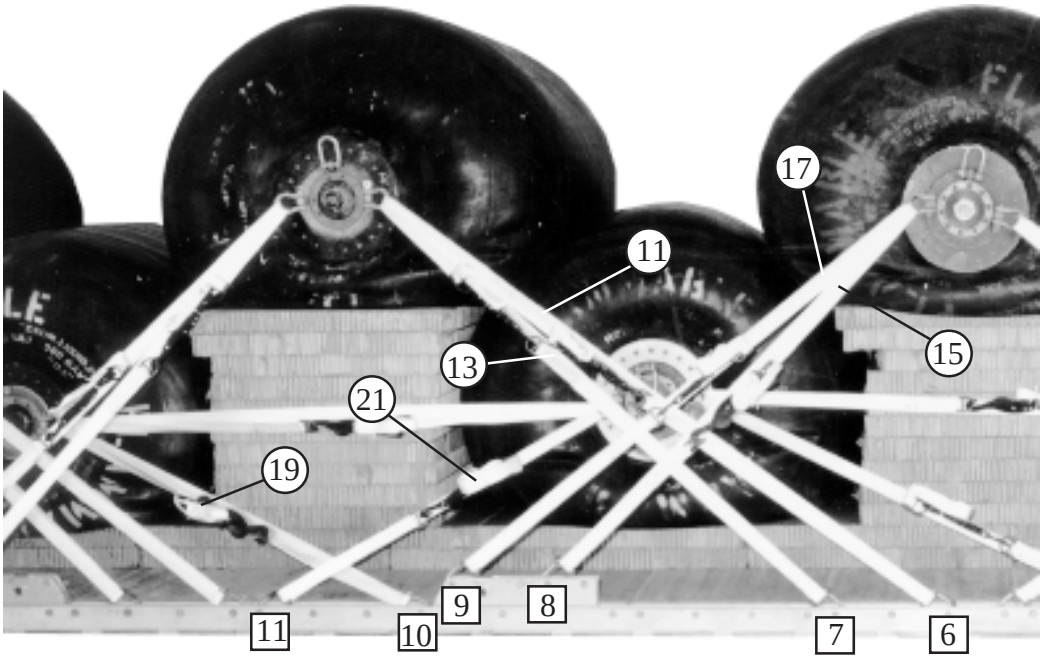
4-106. Lashing Drums

Use fifty 15-foot tie-down assemblies to lash the fuel drums as shown in Figure 4-73, and according to FM 10-500-2/TO 13C7-1-5.



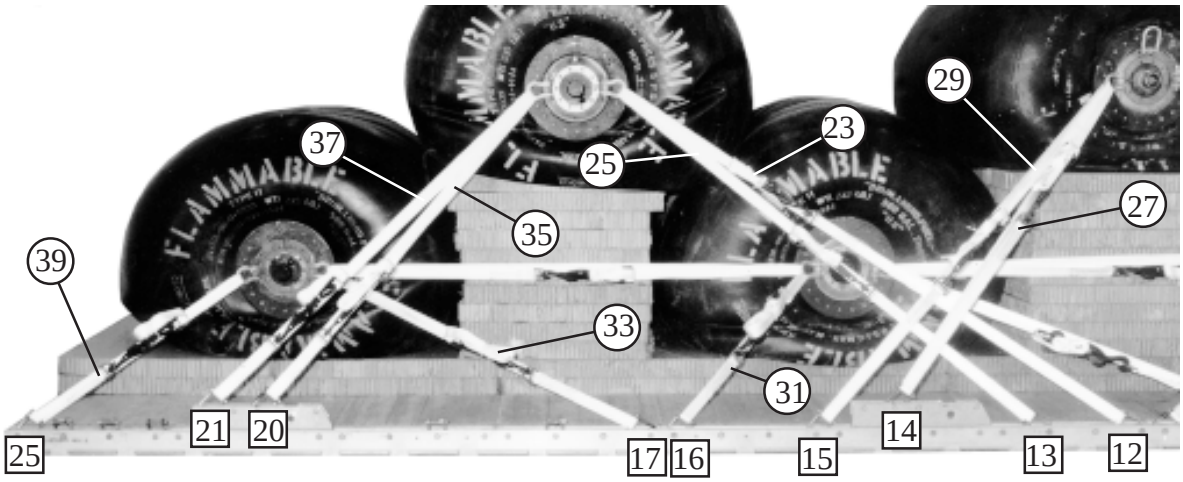
Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
1	1	Through right front shackle of first drum.
2	1A	Through left front shackle of first drum.
3	2	Through right front shackle of second drum.
4	2A	Through left front shackle of second drum.
5	3	Through right front shackle of second drum.
6	3A	Through left front shackle of second drum.
7	4	Through right front shackle of third drum.
8	4A	Through left front shackle of third drum.
9	5	Through right rear shackle of first drum.
10	5A	Through left rear shackle of first drum.

Figure 4-73. Fuel drums lashed to platform



Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
11	6	Through right front shackle of fourth drum.
12	6A	Through left front shackle of fourth drum.
13	7	Through right front shackle of fourth drum.
14	7A	Through left front shackle of fourth drum.
15	8	Through right rear shackle of second drum.
16	8A	Through left rear shackle of second drum.
17	9	Through right rear shackle of second drum.
18	9A	Through left rear shackle of second drum.
19	10	Through right front shackle of fifth drum.
20	10A	Through left front shackle of fifth drum.
21	11	Through right rear shackle of third drum.
22	11A	Through left rear shackle of third drum.

Figure 4-73. Fuel drums lashed to platform (continued)



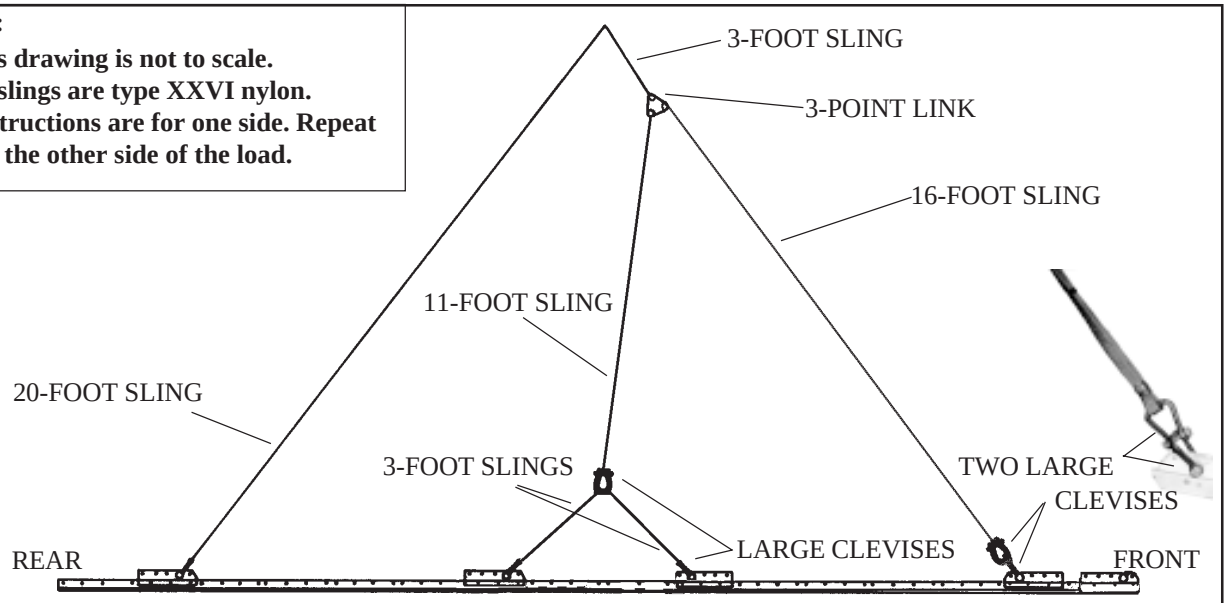
Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
23	12	Through right front shackle of sixth drum.
24	12A	Through left front shackle of sixth drum.
25	13	Through right front shackle of sixth drum.
26	13A	Through left front shackle of sixth drum.
27	14	Through right rear shackle of fourth drum.
28	14A	Through left rear shackle of fourth drum.
29	15	Through right rear shackle of fourth drum.
30	15A	Through left rear shackle of fourth drum.
31	16	Through right rear shackle of fifth drum.
32	16A	Through left rear shackle of fifth drum.
33	17	Through right front shackle of seventh drum.
34	17A	Through left front shackle of seventh drum.
35	20	Through right rear shackle of sixth drum.
36	20A	Through left rear shackle of sixth drum.
37	21	Through right rear shackle of sixth drum.
38	21A	Through left rear shackle of sixth drum.
39	25	Through right rear shackle of seventh drum.
40	25A	Through left rear shackle of seventh drum.

Figure 4-73. Fuel drums lashed to platform (continued)

4-107. Installing and Safetying Suspension Slings

Install the components of the centerline suspension system according to FM 10-500-2/TO 13C7-1-5, and as shown in Figure 4-74. Safety the suspension slings as shown in Figure 4-75.

Notes:
1. This drawing is not to scale.
2. All slings are type XXVI nylon.
3. Instructions are for one side. Repeat for the other side of the load.



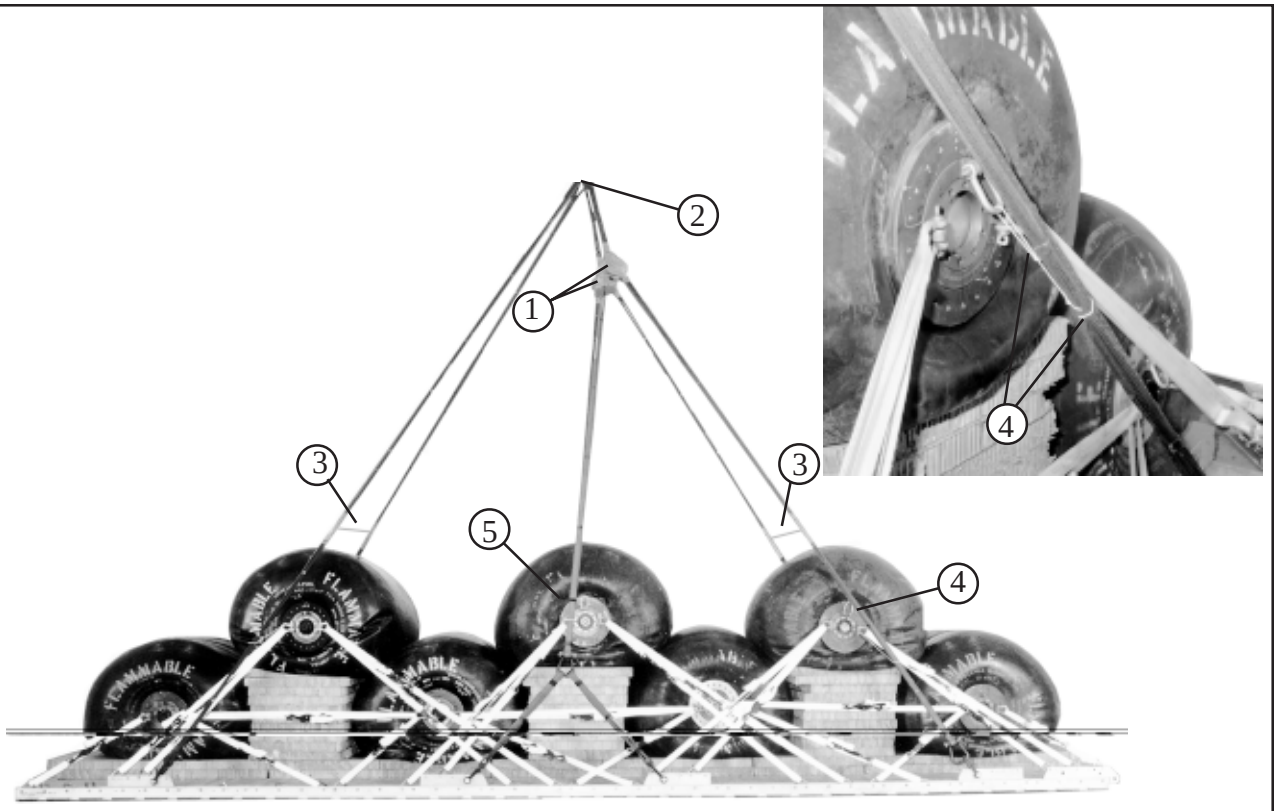
Step:

1. Place the end loop of a 20-foot (4-loop) sling in the bell portion of a large clevis. Bolt the clevis to the rear suspension link.

2. Attach a 3-foot (4-loop) sling to each center suspension link with a large clevis. Place both 3-foot slings in the bell portion of a large clevis. Place an end loop of an 11-foot (4-loop) sling through one spool of a three-point link. Place the other end loop of the 11-foot sling in the bolt of the large clevis.

3. Place the end loop of a 16-foot (4-loop) sling in the bell portion of a large clevis. Place the bolt of the clevis in the bell of a second large clevis. Bolt the second clevis to the front suspension link. Bolt the free end of the 16-foot sling to the three-point link on the center suspension sling. Bolt a 3-foot (4-loop) sling to the remaining spool of the three-point link.

Figure 4-74. Suspension slings installed



1. Pad the three-point links with felt taped in place.

2. Attach the rear suspension slings and the 3-foot slings from the three-point links to the crane hook. Raise the suspension slings.

3. Tie the rear suspension slings to each other 12 inches above the load with a double length of 1/2-inch tubular nylon webbing. Tie the front suspension slings to each other in the same way.

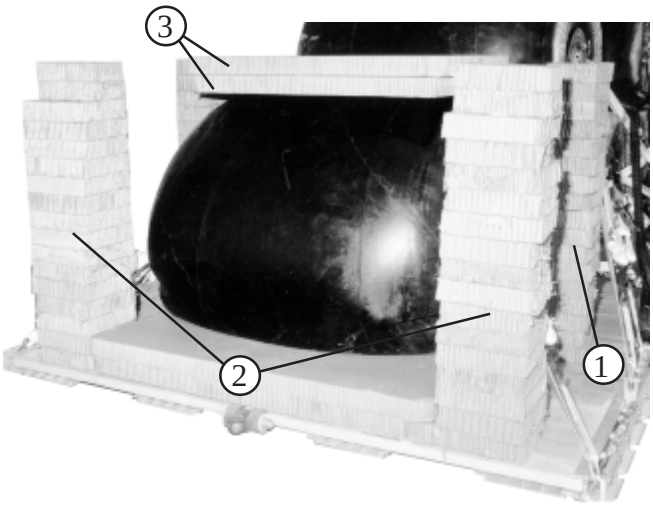
4. Tie the front suspension slings to the upper shackle on the second drum with a length of type III nylon cord. Tie the rear suspension slings to the sixth drum in the same way.

5. Tie the upper clevises on the center suspension slings to the nearest shackle on the fourth drum with type III nylon cord.

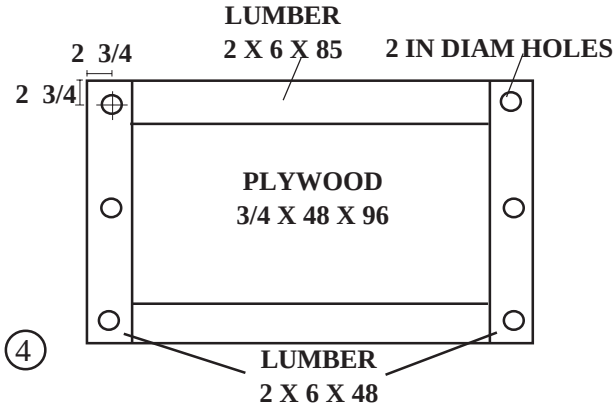
Figure 4-75. Suspension slings safetied

4-108. Building and Lashing Parachute Stowage Platform

Build the parachute stowage platform and its supports as shown in Figure 4-76. Lash the parachute stowage platform to the load as shown in Figure 4-77.



Notes: 1. This drawing is not to scale.
2. All dimensions are given in inches.
3. Use eightpenny nails.



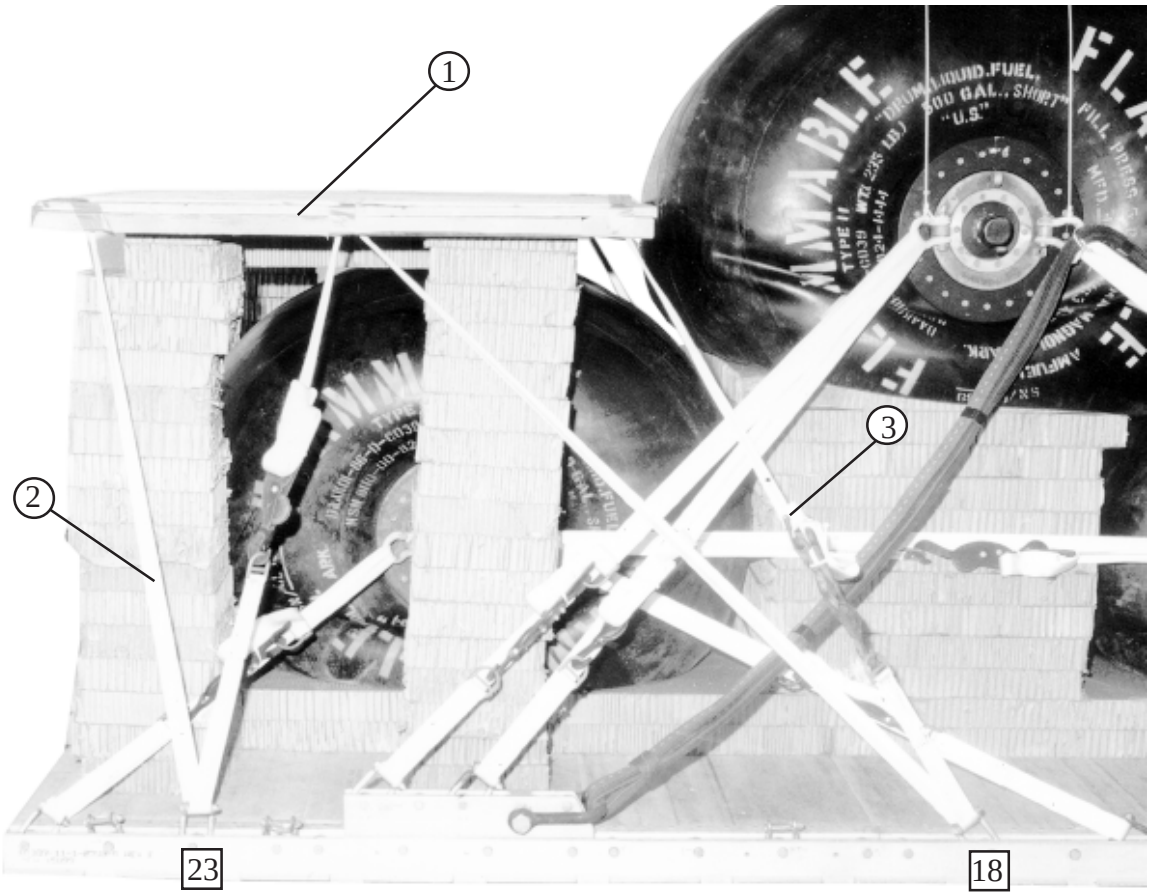
1. Make two 17-layer stacks of 8- by 8-inch honeycomb. Place one stack on each side flush with the edge of the honeycomb supporting the rear drum and 29 inches from the rear edge of the platform.

2. Make two 15-layer stacks of 12- by 12-inch honeycomb. Glue two 8- by 8-inch pieces of honeycomb on top of each stack flush with the inside front corners. Place the stacks on each side of the rear drum flush with the rear edge of the honeycomb base layer.

3. Center one or two 48- by 26-inch pieces of honeycomb over the rear drum.

4. Build the parachute stowage platform as shown. Nail the 2- by 6-inch pieces of lumber to the edges of the plywood, and drill 2-inch holes for the lashings.

Figure 4-76. Supports placed and parachute stowage platform constructed



1. Center the parachute stowage platform on the honeycomb placed in Figure 4-76. Remove or add honeycomb if necessary for a snug fit.

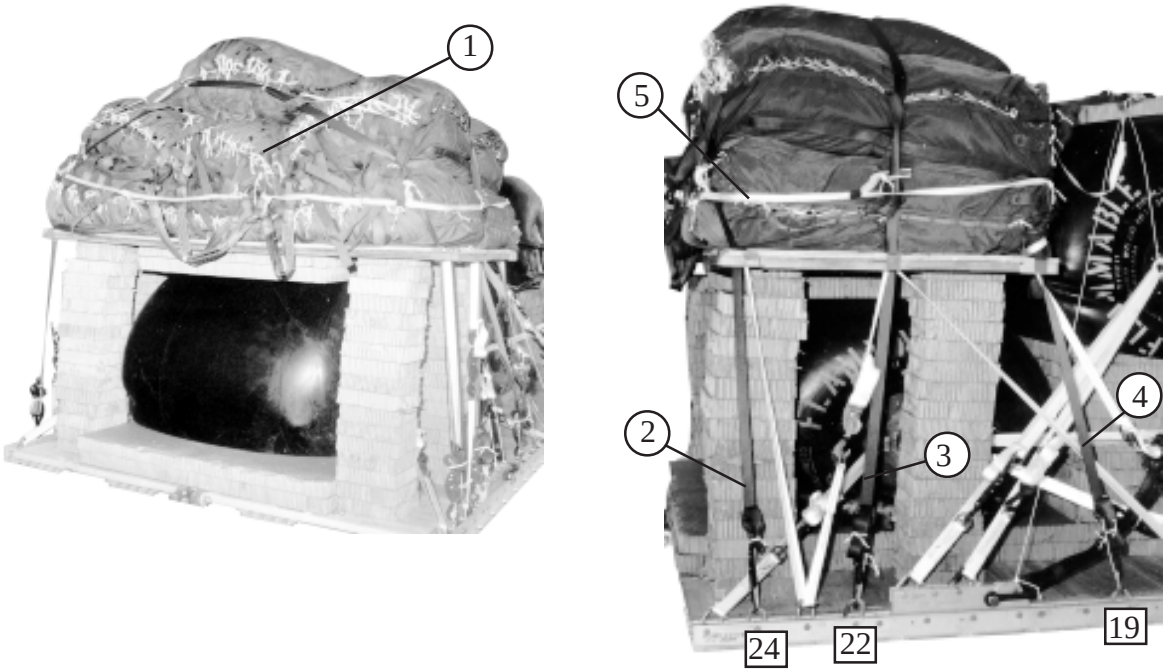
2. Lash the two rear holes in the parachute stowage platform to clevises 23 and 23A.

3. Lash the two front holes in the parachute stowage platform to clevises 18 and 18A.

Figure 4-77. Parachute stowage platform lashed to platform rails

4-109. Installing Cargo Parachutes

Install seven G-11 cargo parachutes as shown in Figure 4-78, and according to FM 10-500-2/TO 13C7-1-5.

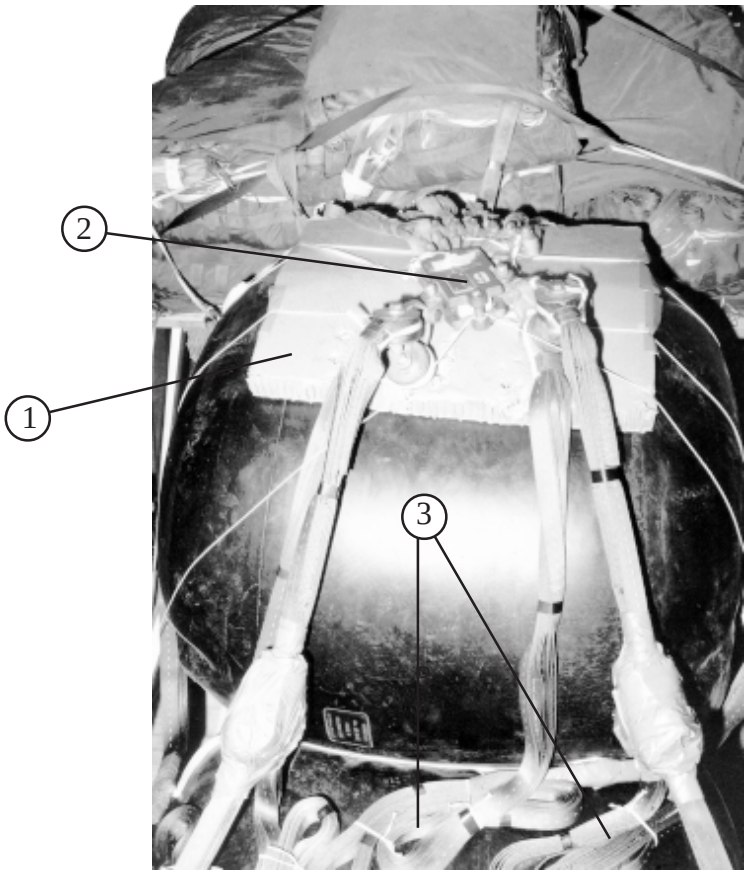


1. Cluster seven G-11 cargo parachutes on the parachute stowage platform.
2. Pass the rear restraint strap through the rear holes in the parachute stowage platform, and attach the ends to inverted clevises 24 and 24A with D-rings and load binders.
3. Pass the center restraint strap through the center holes in the parachute stowage platform, and attach the ends to inverted clevises 22 and 22A with D-rings and load binders.
4. Pass the front restraint strap through the front holes in the parachute stowage platform, and attach the ends to inverted clevises 19 and 19A with D-rings and load binders.
5. Install the parachute release knives according to FM 10-500-2/TO 13C7-1-5.

Figure 4-78. G-11 cargo parachutes installed

4-110. Installing Parachute Release

Prepare and install an M-2 cargo parachute release as shown in Figure 4-79, and according to FM 10-500-2/TO 13C7-1-5.



1. Center a 36 -by 36-inch piece of honeycomb over the sixth drum. Secure the honeycomb to the drum shackles with type III nylon cord.

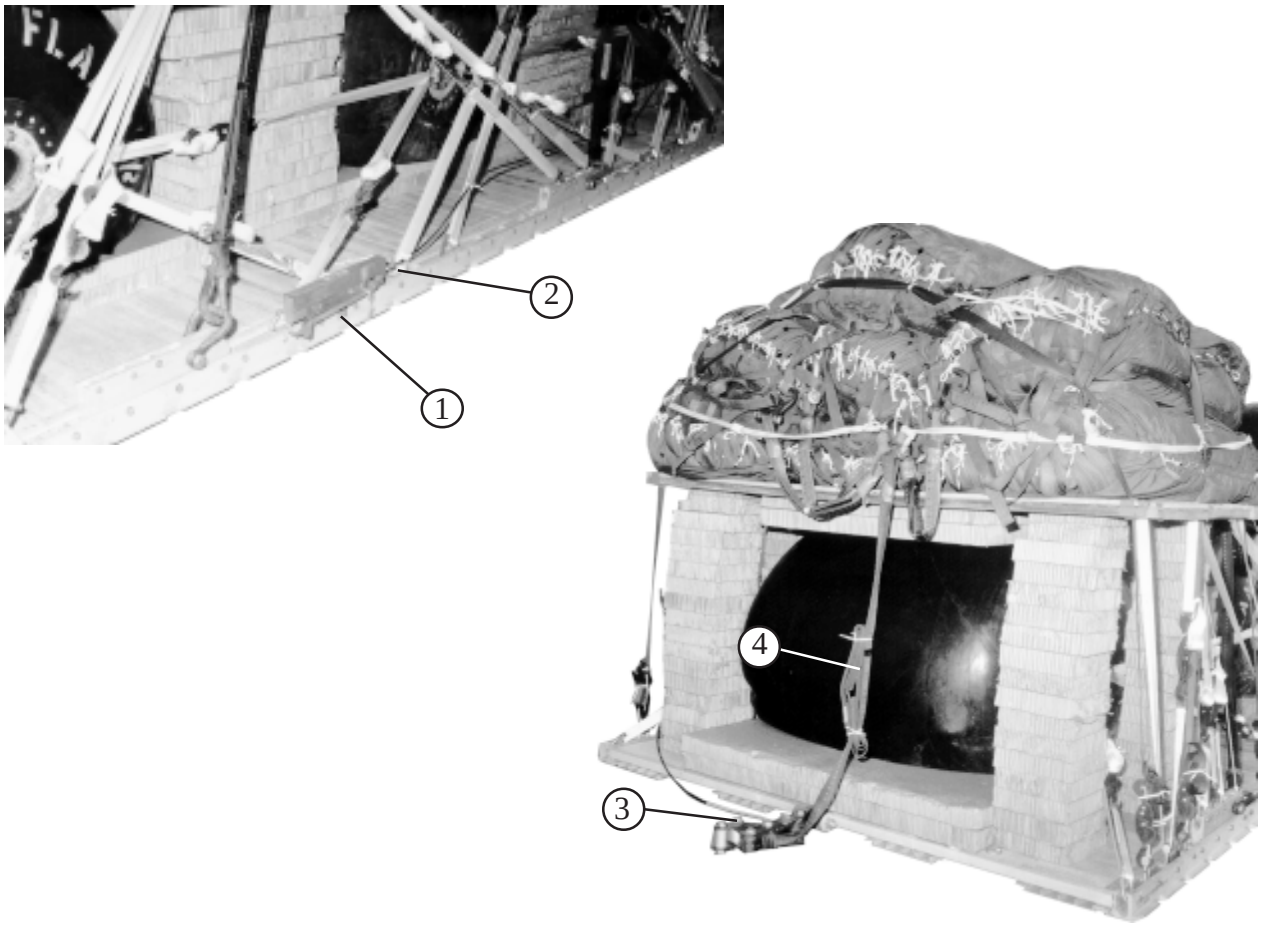
2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5. Secure the release to the platform with type III nylon cord.

3. S-fold the suspension slings and tie the folds with type I, 1/4-inch cotton webbing.

Figure 4-79. M-2 release installed

4-111. Installing Extraction System

Prepare and install the EFTC extraction system as shown in Figure 4-80, and according to FM 10-500-2/TO 13C7-1-5.



1. Install the actuator mounting brackets to the rear holes on the left platform rail.
2. Install a 28-foot cable to the actuator. Install the actuator to the brackets.
3. Attach the latch assembly to the extraction bracket. Attach the cable to the latch assembly.
4. Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold and tie the excess in two places with type I, 1/4-inch cotton webbing.

Figure 4-80. EFTC installed

4-112. Installing Provisions for Emergency Restraints

Select and install provisions for emergency restraints according to the emergency aft restraint requirements table in FM 10-500-2/TO 13C7-1-5.

4-113. Placing Extraction Parachute

Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachute and extraction line on the load for installation in the aircraft.

4-114. Marking Rigged Load

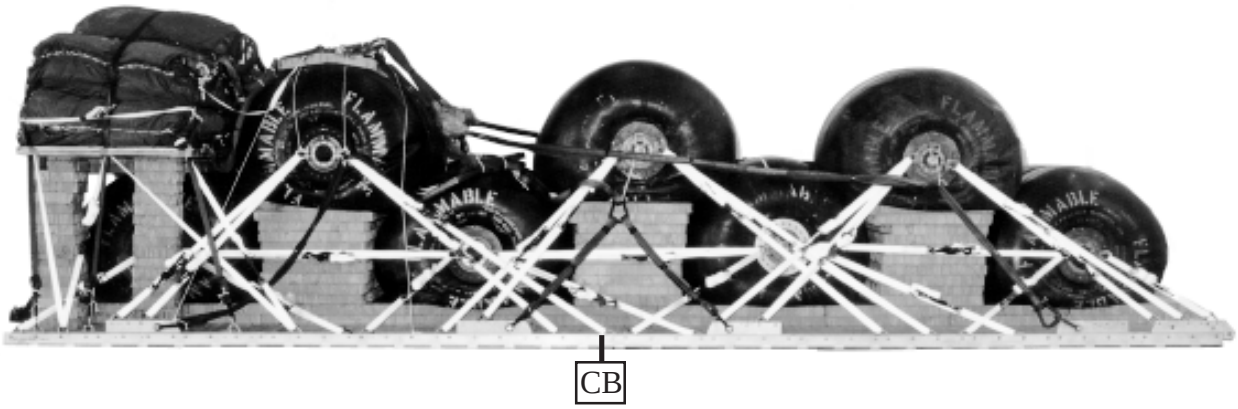
Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-81.

CAUTION
The load weight may vary from the one shown, depending upon the fuel rigged. Be sure that the load is weighed, and the parachute requirements, CB, and tip-off curve recomputed.

4-115. Equipment Required

Use the equipment listed in Table 4-8 to rig this load.

CAUTION
Make the final rigger inspection required by FM 10-500-2/TO 13C7-1-5 before the load leaves the rigging site.



Rigged Load Data

Weight:	Estimated, with gasoline	24,781 pounds
	Maximum (as shown)	31,735 pounds
Height		90 inches
Width		108 inches
Length		336 inches
Overhang Front		5 inches
	Rear	17 inches
CB (from front edge of platform)		176 inches
Extraction System (adds 18 inches to length of platform)		EFTC

Figure 4-81. Seven drums rigged on a 28-foot, type V airdrop platform for low-velocity airdrop

Table 4-8. Equipment required for rigging seven drums without pumping assembly on a 28-foot, type V airdrop platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-678-8562	Clevis, suspension, 3/4-in (medium)	6
4030-00-090-5354	Clevis, suspension, 1-in (large)	16
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-01-326-7309	Coupling, airdrop, extraction force transfer with cable, 28-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	8
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-062-6313	60-ft (3-loop), type XXVI	1
	Line, extraction:	
1670-01-064-4454	60-ft (6-loop), type XXVI (for C-130)	1
1670-01-062-6312	120-ft (6-loop), type XXVI (for C-141B or C-5)	1
NO NSN	140-ft (6-loop), type XXVI (for C-17)	1
	Link assembly:	
1670-01-307-0155	Three-point	2
1670-00-783-5988	Type IV	8
1670-00-006-2752	Four-point	1
5510-00-220-6148	Lumber: 2- by 6- by:	
	85-in	2
	48-in	2

Table 4-8. Equipment required for rigging seven drums without pumping assembly on a 28-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5315-00-010-4659	Nail, steel wire, 8d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	
	3- by 36- by 96-in	32 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11C	7
	Cargo extraction:	
1670-00-040-8135	28-ft	2
	Drogue (for C-17)	
1670-01-063-3715	15-ft	1
	Platform, airdrop, type V, 28-ft	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(50)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(2)
1670-01-247-2389	Suspension link	(8)
5530-00-128-4981	Plywood, 3/4 -by 48- by 96-in	1 sheet
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop	
	For suspension:	
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	6
1670-01-062-6310-	11-ft (4-loop), type XXVI nylon webbing	2
1670-01-062-6308	16-ft (4-loop), type XXVI nylon webbing	2
1670-01-064-4453	20-ft (4-loop), type XXVI nylon webbing	2
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6311	120-ft (2-loop), type XXVI nylon webbing	7

Table 4-8. Equipment required for rigging seven drums without pumping assembly on a 28-foot, type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	46
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-261-8584	Type X	As required

Section IX

RIGGING SEVEN DRUMS WITH PUMPING ASSEMBLY ON A 28-FOOT PLATFORM

4-116. Description of Load

Seven drums are rigged with the pumping assembly on a 28-foot, type V platform. Filled with 432 gallons of gasoline, each drum weighs 2,842 pounds and is 62 inches long and 53 inches in diameter. An empty drum weighs 250 pounds.

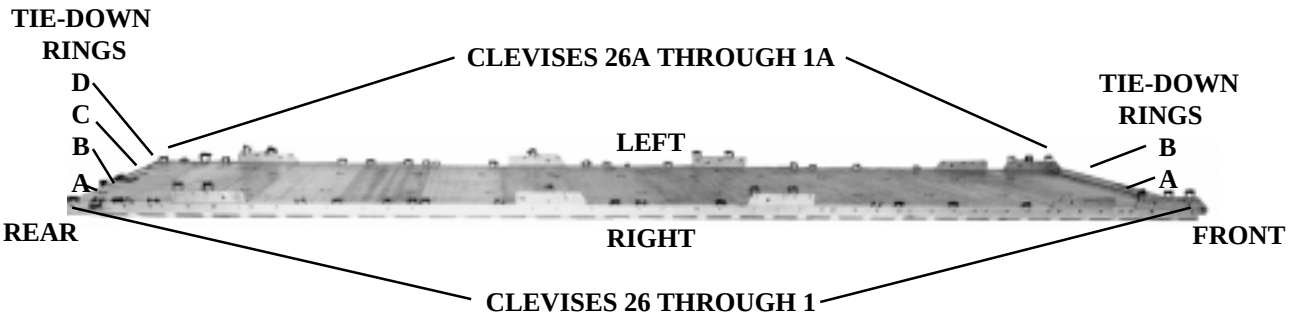
Note: Fill drums with no more than 432 gallons of fuel. If the drums are filled with a fuel other than gasoline, the drum weight must be computed.

4-117. Preparing Platform

Prepare a 28-foot, type V airdrop platform using two tandem links, eight suspension links and 54 clevises as shown in Figure 4-82.

Notes:
1. **The nose bumper may or may not be installed.**
2. **Measurements given in this section are from the front edge of the platform, NOT from the front edge of the nose bumper.**

WARNING
Do not add air to drums. Pressurization changes will cause leaking or bursting.



Step:

1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/ TO 13C7-52-22.

2. Install suspension links on each platform side rail using holes 22, 23, and 24, and holes 6, 7, and 8.

3. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.

4. Install suspension links on each platform side rail using holes 33, 34, and 35, and holes 49, 50, and 51.

5. Bolt clevises on bushings 1, 3, and 4 of each front tandem link, on bushings 2 and 4 of each second suspension link, on bushing 2 of each third suspension link, and on bushings 2 and 4 of each rear suspension link.

6. Install a clevis on bushings 54 and 55 in an inverted position on each platform side rail. Bolt one additional clevis to each inverted clevis.

7. Starting at the front of the platform, install clevises on each platform side rail using the bushings bolted on holes 10, 14, 17, 18, 26, 30, 31, 37, 40, 41, 42, 44, 46, 53, and 56.

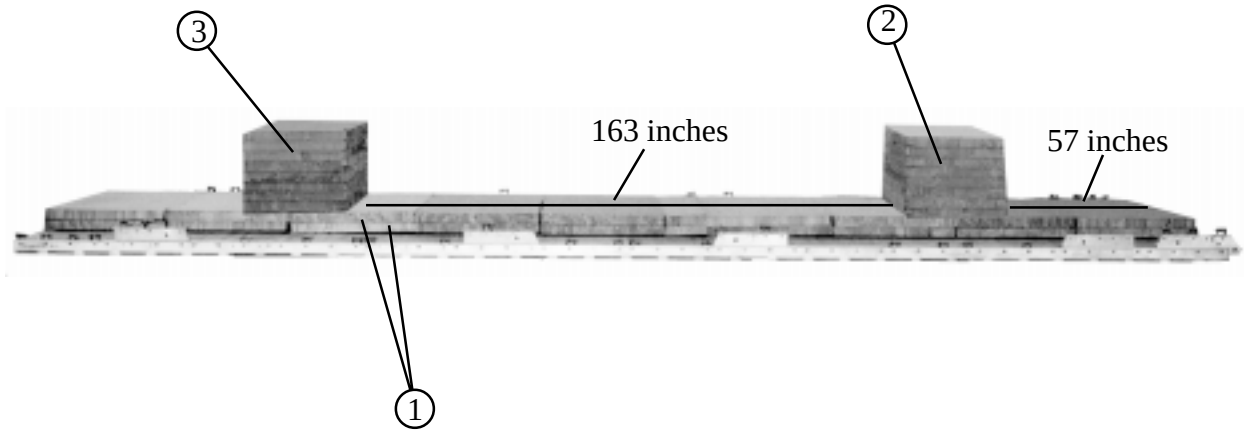
8. Starting at the front of the platform, number the clevises bolted to the right side 1 through 26, and those bolted to the left side 1A through 26A.

9. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

Figure 4-82. Platform prepared

4-118. Preparing and Positioning Honeycomb Stack

Prepare and position the honeycomb stack as shown in Figure 4-83.



1. Use 18 pieces of 36- by 60-inch honeycomb, and two pieces 12- by 60 inches to form a two-layer stack 336 inches long and 60 inches wide. Center the stack on the platform flush with the front edge.

Note: Place the 12-inch section inside the stack.

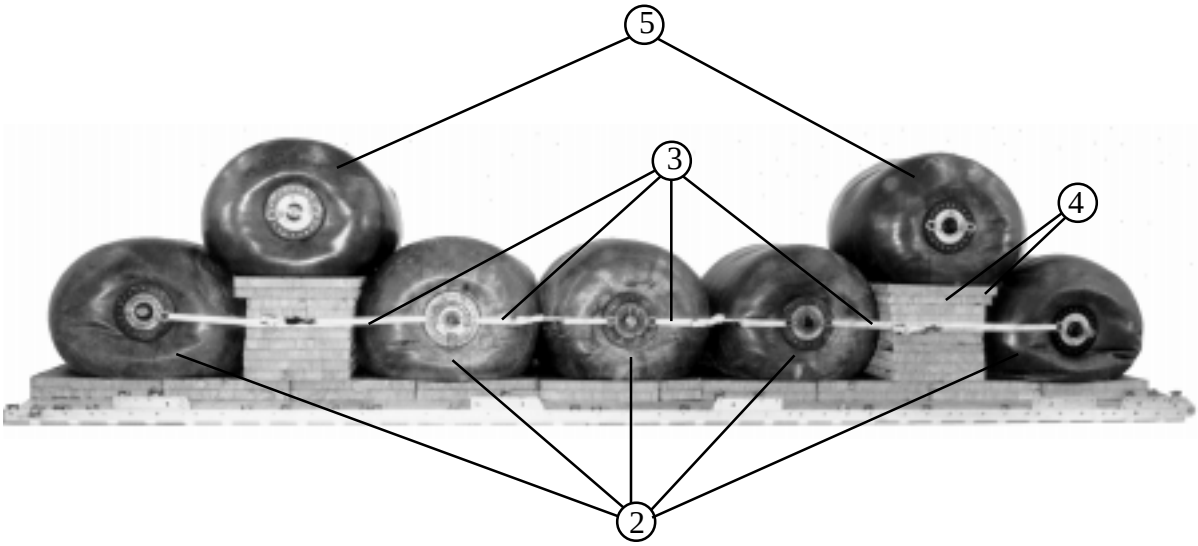
2. Make two 8-layer stacks of 60- by 30-inch honneycomb. Center a stack on the base layer 57 inches from the front edge of the base.

3. Center the other stack on the base layers 163 inches to the rear of the stack placed in step 2.

Figure 4-83. Honeycomb stack positioned

4-119. Installing Lifting Slings and Positioning Drums

Lift the drums and position them on the honeycomb as shown in Figure 4-84.

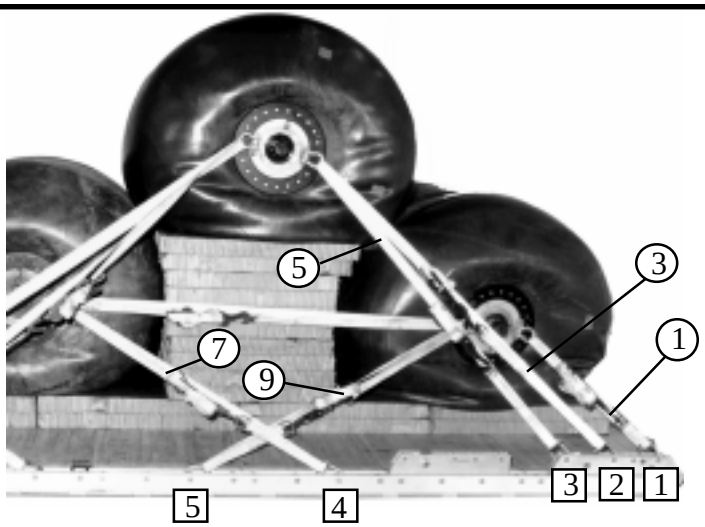


1. Attach a 9-foot (2-loop), type XXVI nylon webbing sling to the upper shackle on each side of the drum with a platform clevis as shown in Figure 4-13.
2. Lift five drums onto the honeycomb base as shown.
3. Lash the shackles of the drums together on each side with 15-foot tie-down assemblies.
4. Glue a 60- by 34-inch piece of honeycomb centered on each stack. Glue a 60- by 36-inch piece of honeycomb centered over the pieces placed previously.
5. Lift and position a drum onto each stack.

Figure 4-84. Fuel drums positioned

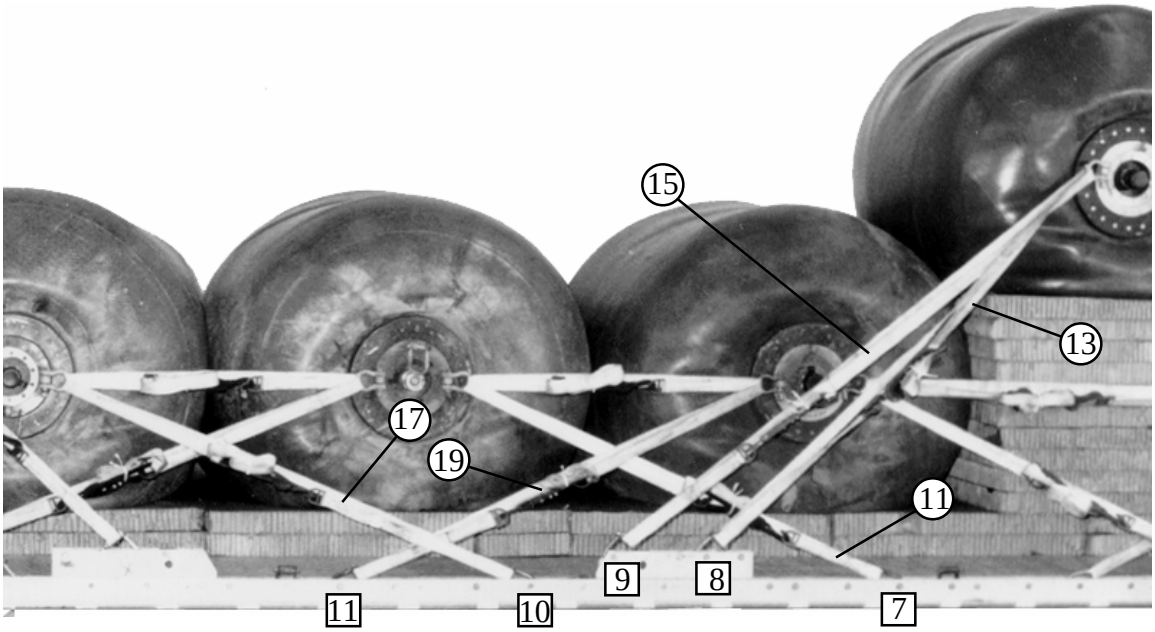
4-120. Lashing Drums

Use thirty-eight 15-foot tie-down assemblies to lash the fuel drums to the platform as shown in Figure 4-85, and according to FM 10-500-2/TO 13C7-1-5.



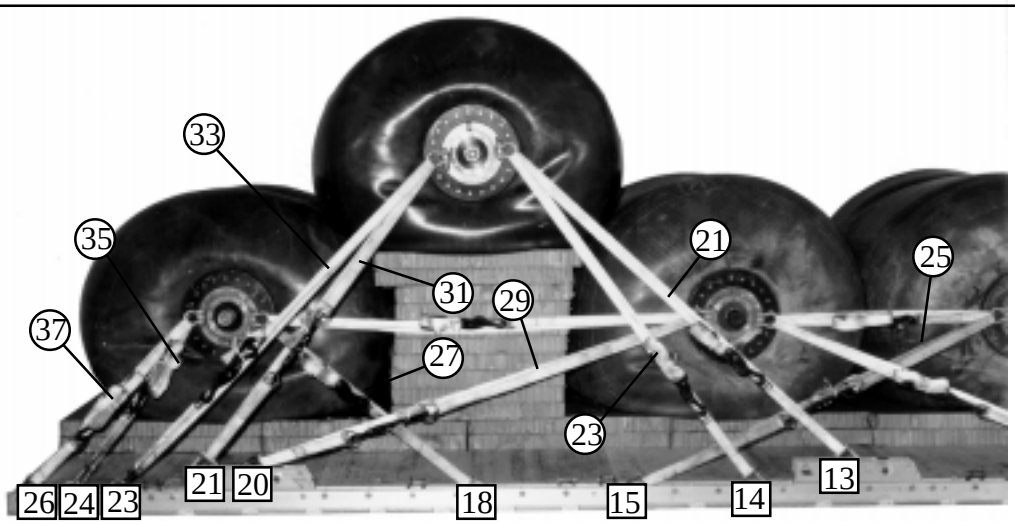
Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
1	1	Through right front shackle of first drum.
2	1A	Through left front shackle of first drum.
3	2	Through right front shackle of second drum.
4	2A	Through left front shackle of second drum.
5	3	Through right front shackle of second drum.
6	3A	Through left front shackle of second drum.
7	4	Through right front shackle of third drum.
8	4A	Through left front shackle of third drum.
9	5	Through right rear shackle of first drum.
10	5A	Through left rear shackle of first drum.

Figure 4-85. Fuel drums lashed to platform



Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
11	7	Through right front shackle of fourth drum.
12	7A	Through left front shackle of fourth drum.
13	8	Through right rear shackle of second drum.
14	8A	Through left rear shackle of second drum.
15	9	Through right rear shackle of second drum.
16	9A	Through left rear shackle of second drum.
17	10	Through right front shackle of fifth drum.
18	10A	Through left front shackle of fifth drum.
19	11	Through right rear shackle of third drum.
20	11A	Through left rear shackle of third drum.

Figure 4-85. Fuel drums lashed to platform (continued)



Lashing Number	Tie-down Clevis Number	Instructions
		Pass lashing:
21	13	Through right front shackle of sixth drum.
22	13A	Through left front shackle of sixth drum.
23	14	Through right front shackle of sixth drum.
24	14A	Through left front shackle of sixth drum.
25	15	Through right rear shackle of fourth drum.
26	15A	Through left rear shackle of fourth drum.
27	18	Through right front shackle of seventh drum.
28	18A	Through left front shackle of seventh drum.
29	20	Through right rear shackle of fifth drum.
30	20A	Through left rear shackle of fifth drum.
31	21	Through right rear shackle of sixth drum.
32	21A	Through left rear shackle of sixth drum.
33	23	Through right rear shackle of sixth drum.
34	23A	Through left rear shackle of sixth drum.
35	24	Through right rear shackle of seventh drum.
36	24A	Through left rear shackle of seventh drum.
37	26	Through right rear shackle of seventh drum.
38	26A	Through left rear shackle of seventh drum.

Figure 4-85. Fuel drums lashed to platform (continued)

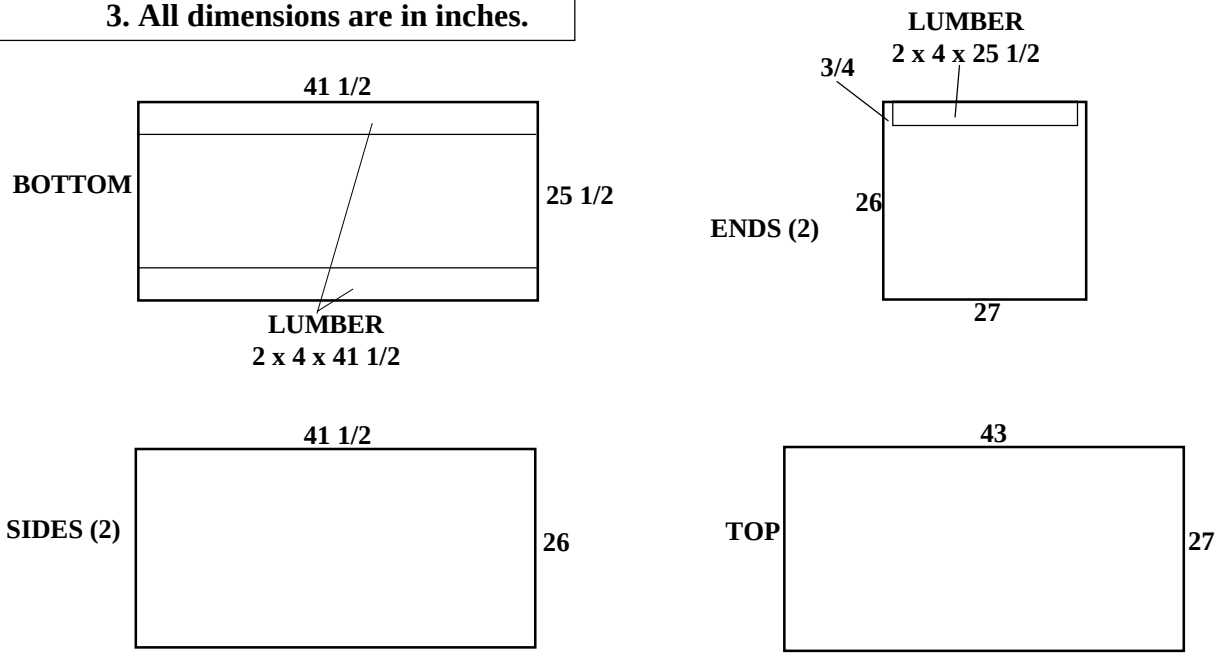
4-121. Preparing Pump Assembly

Build the box for the pump assembly as shown in Figure 4-86. Pack the pump assembly and hoses in the box as shown in Figure 4-87.

4-122. Lashing Pump Assembly to Platform

Place the pump assembly box on the load and lash it to the platform as shown in Figure 4-88.

Notes: 1. These drawings are not to scale.
2. Use 8d nails.
3. All dimensions are in inches.



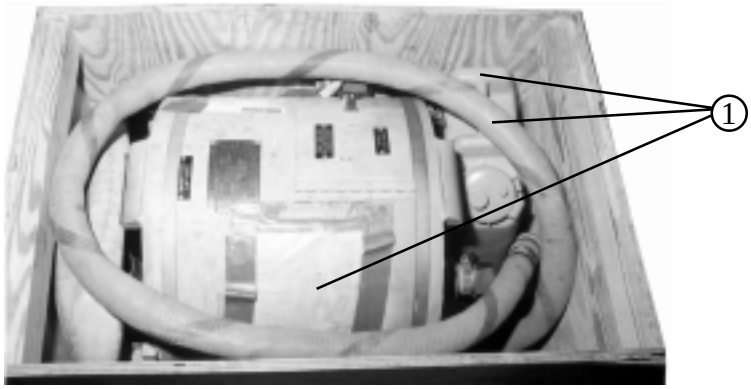
Step:

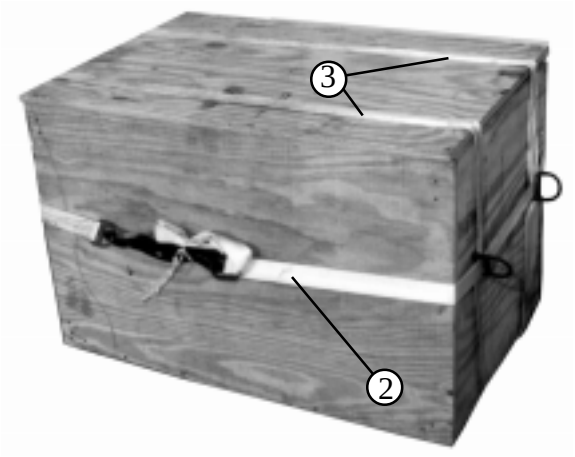
1. Cut the bottom of the box from 3/4-inch plywood 41 1/2 inches long and 25 1/2 inches wide. Nail a 41 1/2-inch length of 2- by 4-inch lumber flat side down and flush along each long edge of the bottom. The top of the box is 43- by 27 inches.

2. Cut the sides of the box from 3/4-inch plywood 41 1/2 inches long and 26 inches high. Place the sides flush with the bottom. Nail into the 2 -by 4-inch pieces of lumber.

3. Cut the ends of the box from 3/4-inch plywood 27 inches wide and 26 inches high. Nail a 25 1/2-inch piece of 2- by 4-inch lumber flat side down, centered, and flush with the top edge of each end piece. Nail the ends flush to the bottom and sides. Nail the sides to the 2- by 4-inch pieces of lumber on the ends.

Figure 4-86. Pump assembly box built



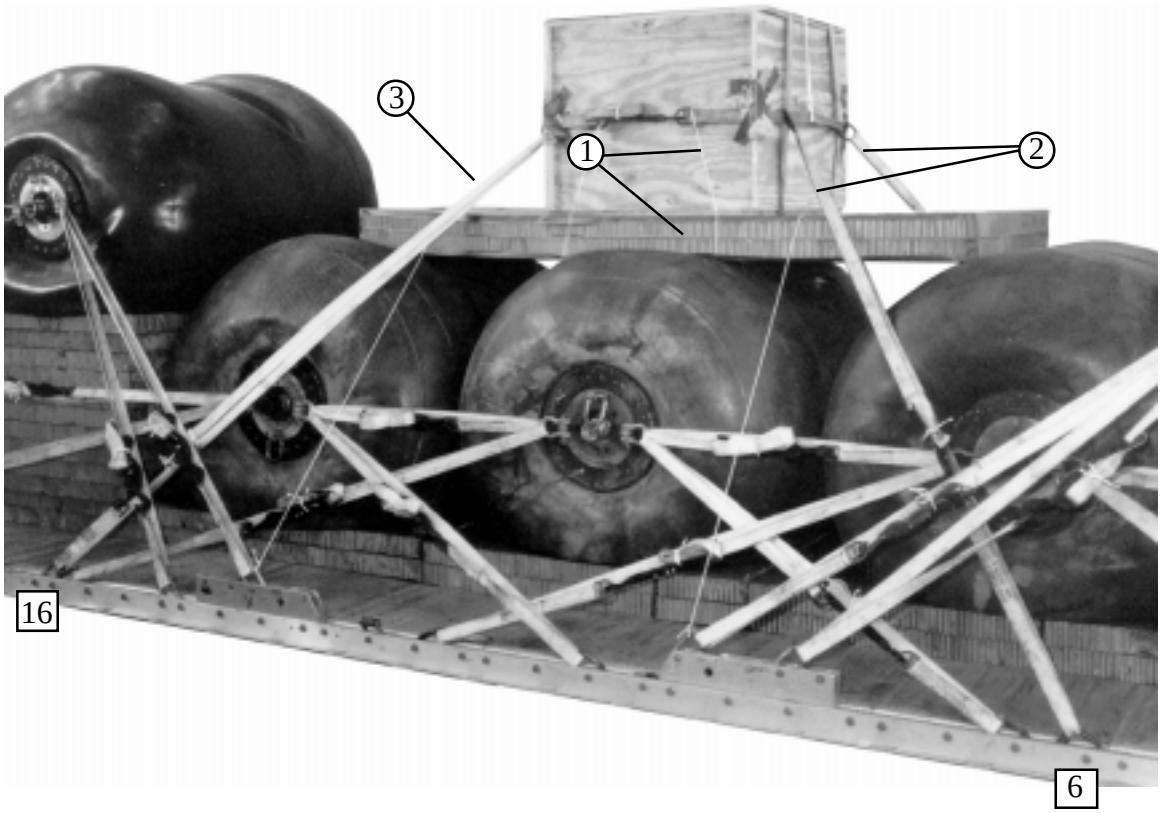


① Place the pump, its hoses, a 5-gallon can of fuel, and any other items needed by the unit in the box. Pad the items with cellulose wadding. Nail the top to the box.

② Place four D-rings onto a 15-foot lashing. Place the lashing around the box lengthwise, and position two D-rings on each end of the box, 6 inches from each side. Tighten the lashing.

③ Pass two 15-foot lashings around the box and through the D-rings as shown. Tighten the lashings.

Figure 4-87. Pump assembly box packed



① Center two 96- by 36-inch pieces of honeycomb over the third, fourth, and fifth drums. Tape the edges of the honeycomb and secure the honeycomb to the load with type III nylon cord. Center the pump box on the honeycomb with the D-rings facing the front and rear.

② Lash the right front D-ring on the box to clevis 6. Lash the left front D-ring to clevis 6A.

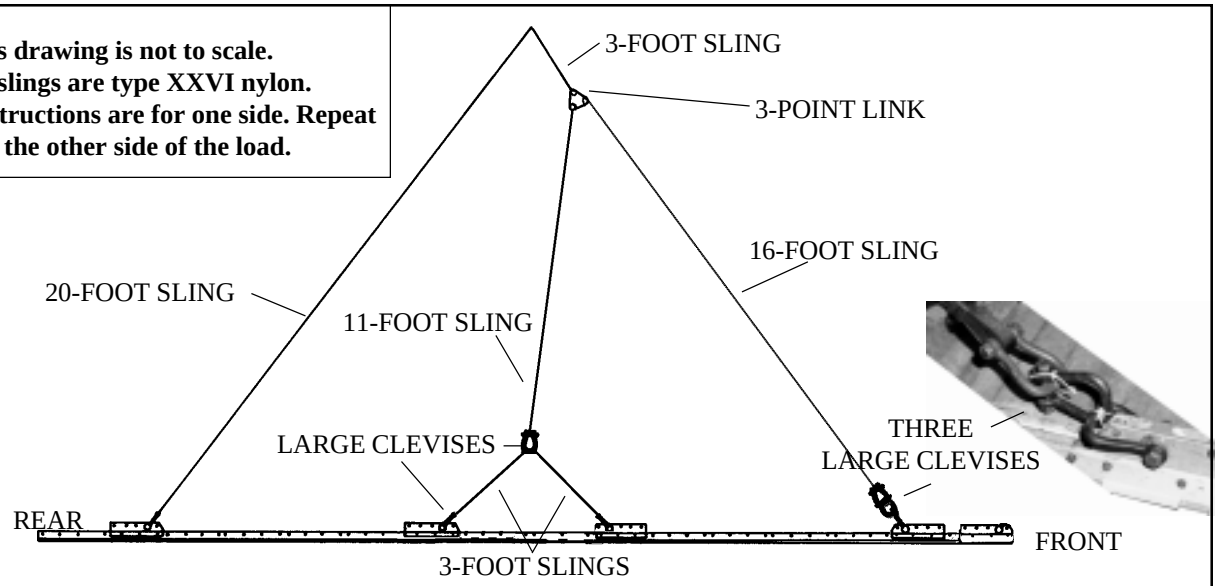
③ Lash the right rear D-ring on the box to clevis 16. Lash the left rear D-ring to clevis 16A.

Figure 4-88. Pump assembly box lashed to platform

4-123. Installing and Safetying Suspension Slings

Install the components of the centerline suspension system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-89. Safety the suspension slings as shown in Figure 4-90.

Notes
1. This drawing is not to scale.
2. All slings are type XXVI nylon.
3. Instructions are for one side. Repeat for the other side of the load.



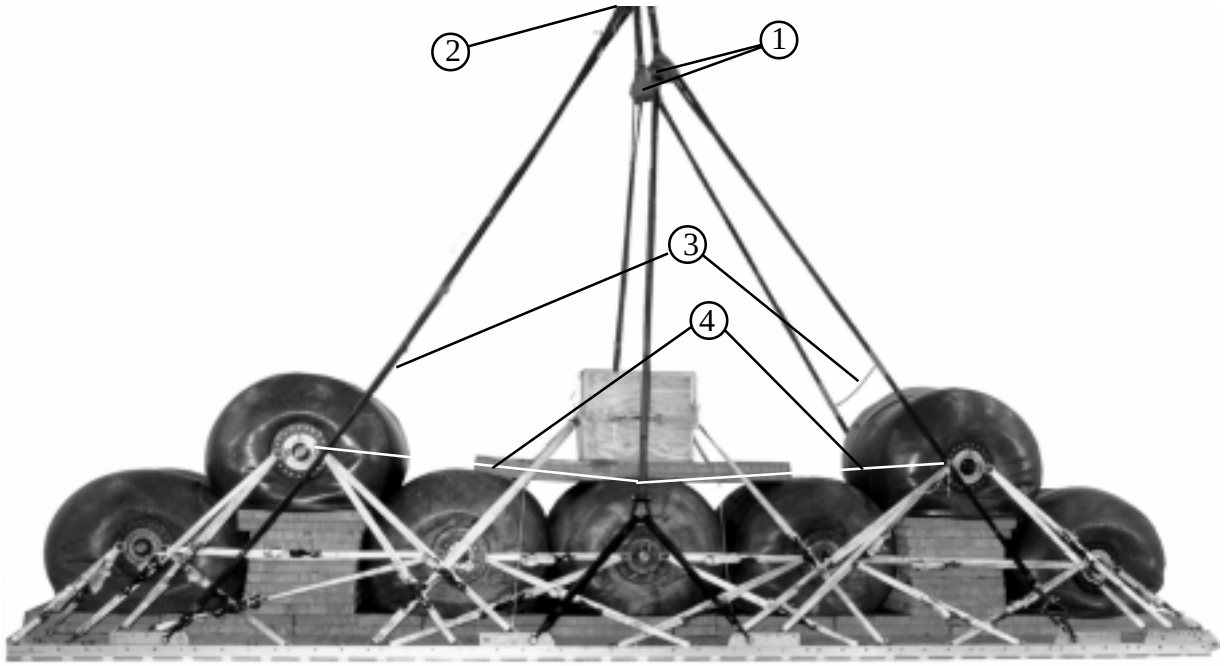
Step:

1. Place the end loop of a 20-foot (4-loop) sling in the bell portion of a large clevis. Bolt the clevis to the rear suspension link.

2. Attach a 3-foot (4-loop) sling to each center suspension link with a large clevis. Place both 3-foot slings in the bell portion of a large clevis. Place an end loop of an 11-foot (4-loop) sling through one spool of a three-point link. Place the other end loop of the 11-foot sling in the bolt of the large clevis.

3. Place the end loop of a 16-foot (4-loop) sling in the bell portion of a large clevis. Place the bolt of the clevis in the bell of a second large clevis. Attach the second clevis to the front suspension link with a third large clevis. Bolt the free end of the 16-foot sling to the three-point link on the center suspension sling. Bolt a 3-foot (4-loop) sling to the remaining spool of the three-point link.

Figure 4-89. Suspension slings installed



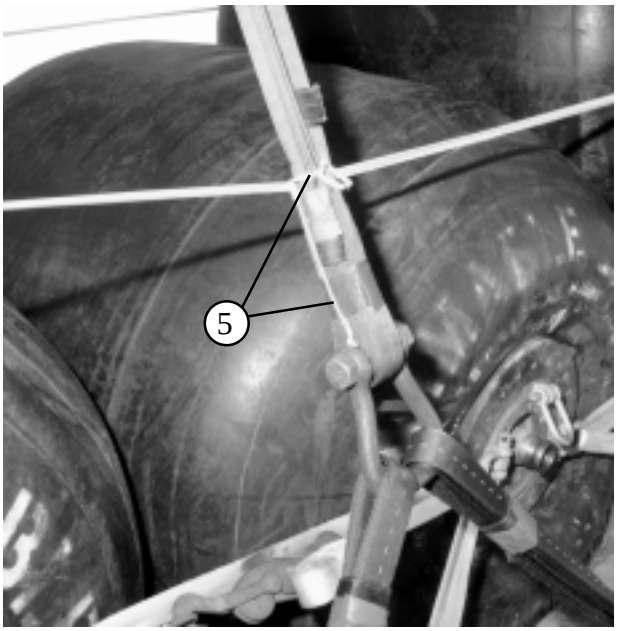
1. Pad the three-point links with felt taped in place.

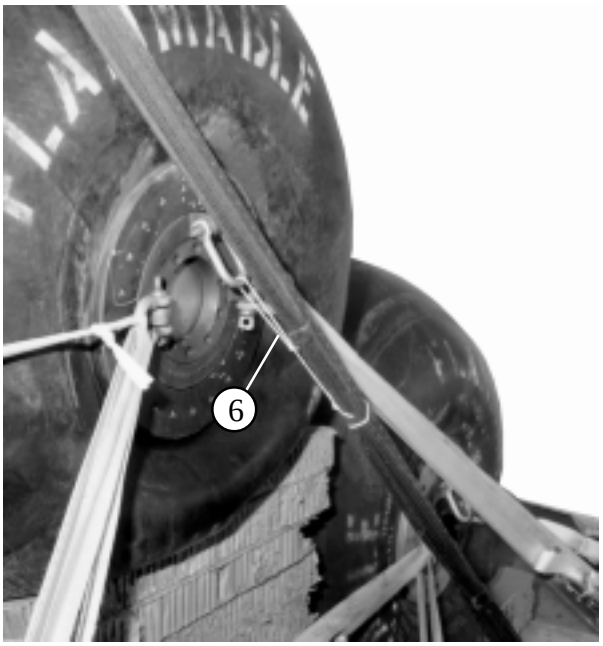
2. Attach the rear suspension slings and the 3-foot slings from the three-point links to the crane hook. Raise the suspension slings.

3. Tie the rear suspension slings to each other 12 inches above the load with a double length of 1/2-inch tubular nylon webbing. Adapt the procedures in Figure 3-12, FM 10-500-2/TO 13C7-1-5 to tie and tape the webbing. Tie the front suspension slings to each other in the same way.

4. Tie a length of 1/2-inch tubular nylon webbing between the inside shackles of the second and sixth drums and behind the center suspension slings. Make this tie as taut as possible.

Figure 4-90. Suspension slings safetied





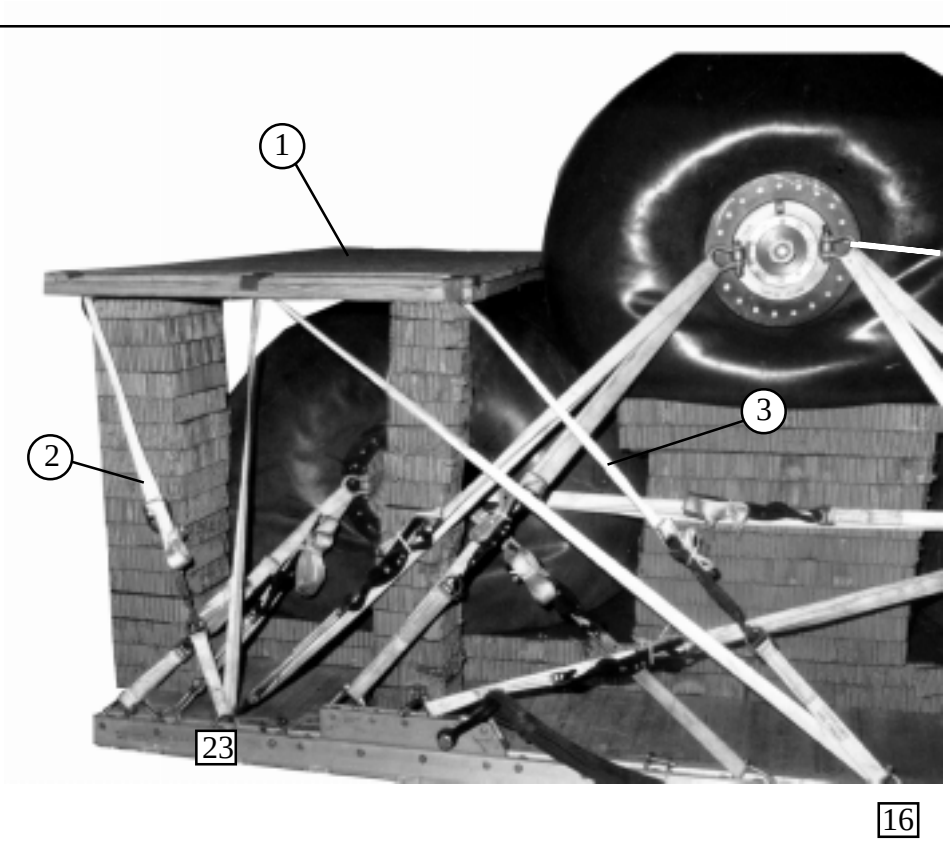
(5) Pass a length of 1/4-inch, type I cotton webbing through the plies of the center suspension slings at the clevis bolt. Pass the ends up and over the 1/2-inch tubular nylon webbing placed in step 4 so that the nylon webbing is kept in a horizontal position. Tie the cotton webbing to the outside of the slings.

(6) Tie the front suspension slings to the upper shackle on the second drum with a length of type III nylon cord. Tie the rear suspension slings to the sixth drum in the same way.

Figure 4-90. Suspension slings safetied (continued)

4-124. Building and Lashing Parachute Stowage Platform

Build the parachute stowage platform and its supports as shown in Figure 4-76, found in Section VIII. Lash the parachute stowage platform to the load as shown in Figure 4-91.

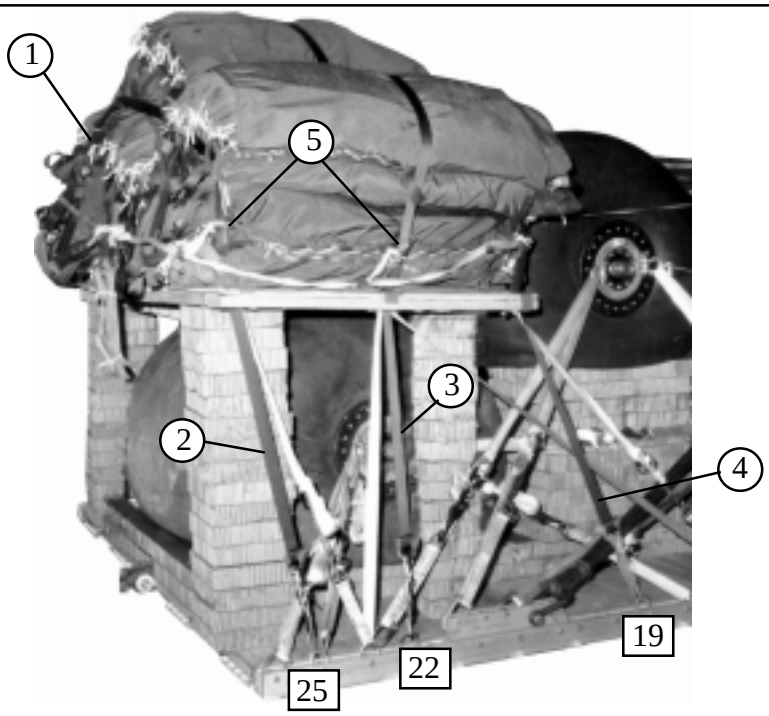


1. Center the parachute stowage platform on the honeycomb placed in Figure 4-77.
2. Lash the two rear holes in the parachute stowage platform to clevises 23 and 23A.
3. Lash the two front holes in the parachute stowage platform to clevises 16 and 16A.

Figure 4-91. Parachute stowage platform lashed to platform rails

4-125. Installing Cargo Parachutes

Install seven G-11 cargo parachutes as shown in Figure 4-92, and according to FM 10-500-2/TO 13C7-1-5.

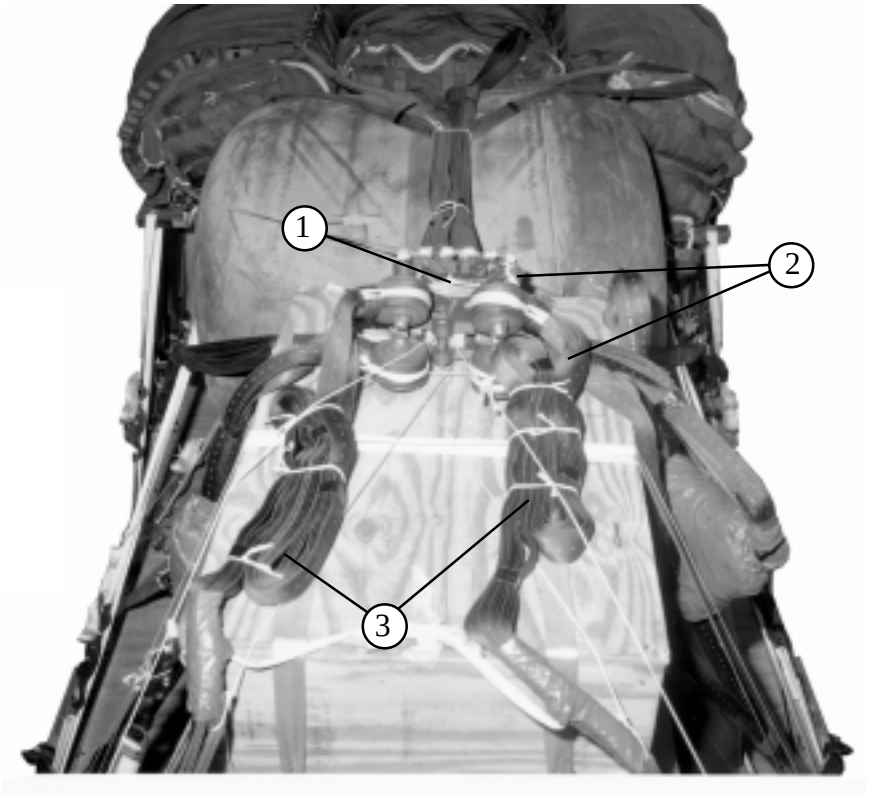


1. Cluster seven G-11 cargo parachutes on the parachute stowage platform.
2. Pass the rear restraint strap through the rear holes in the parachute stowage platform, and attach the ends to the lower clevises of 25 and 25A with D-rings and load binders.
3. Pass the center restraint strap through the center holes in the parachute stowage platform, and attach the ends to inverted clevises 22 and 22A with D-rings and load binders.
4. Pass the front restraint strap through the front holes in the parachute stowage platform, and attach the ends to inverted clevises 19 and 19A with D-rings and load binders.
5. Install the parachute release knives according to FM 10-500-2/TO 13C7-1-5.

Figure 4-92. G-11 cargo parachutes installed

4-126. Installing Parachute Release

Prepare and install an M-2 cargo parachute release as shown in Figure 4-93, and according to FM 10-500-2/TO 13C7-1-5.



1. Center the M-2 release assembly on the pump box. Secure the release to the load with type III nylon cord.
2. Attach the suspension slings and the riser extensions to the M-2 release according to FM 10-500-2/TO 13C7-1-5.
3. S-fold the suspension slings and tie the folds with type I, 1/4-inch cotton webbing.

Figure 4-93. M-2 release installed

4-127. Installing Extraction System

Prepare and install the EFTC extraction system as shown in Figure 4-80 in Section VIII, and according to FM 10-500-2/TO 13C7-1-5.

4-128. Installing Provisions for Emergency Restraints

Select and install provisions for emergency restraint according to the emergency aft restraint requirements table in FM 10-500-2/ TO 13C7-1-5.

4-129. Placing Extraction Parachute

Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachute and extraction line on the load for installation in the aircraft.

4-130. Marking Rigged Load

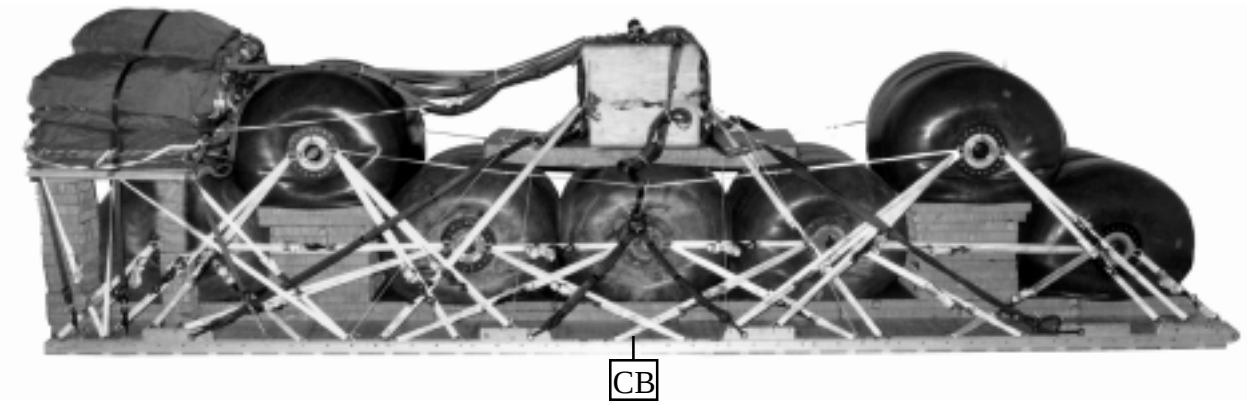
Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 4-94.

CAUTION
The load weight may vary from the one shown, depending upon the fuel rigged. Be sure that the load is weighed, and the parachute requirements, CB, and tip-off curve recomputed.

4-131. Equipment Required

Use the equipment listed in Table 4-9 to rig this load.

CAUTION
Make the final rigger inspection required by FM 10-500-2/TO 13C7-1-5 before the load leaves the rigging site.



Rigged Load Data

Weight: Estimated, with gasoline	25,081 pounds
Maximum (as shown)	32,135 pounds
Height	90 inches
Width	108 inches
Length	336 inches
Overhang Front	5 inches
Rear	17 inches
CB (from front edge of platform)	176 inches
Extraction System (adds 18 inches to length of platform)	EFTC

Figure 4-94. Seven drums with pumping assembly rigged on a 28-foot, type V airdrop platform for low-velocity airdrop

Table 4-9. Equipment required for rigging seven drums with pumping assembly on a 28-foot, type V platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-678-8562	Clevis, suspension, 3/4-in (medium)	6
4030-00-090-5354	Clevis, suspension, 1-in (large)	18
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-01-326-7309	Coupling, airdrop, extraction force transfer with cable, 28-ft	1
	Cover:	
1670-00-360-0328	Clevis, large	1
1670-00-360-0329	Link, type IV	8
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-01-183-2678	Leaf, extraction line (line bag)	2
	Line, drogue (for C-17)	
1670-01-062-6316	60-ft (3-loop), type XXVI	1
	Line, extraction:	
1670-01-064-4454	60-ft (6-loop), type XXVI (for C-130)	1
1670-01-062-6312	120-ft (6-loop), type XXVI (for C-141B or C-5)	1
NO NSN	140-ft (6-loop), type XXVI (for C-17)	1
	Link assembly:	
1670-01-3070155	Three-point	2
1670-00-783-5988	Type IV	8
1670-00-006-2752	Four-point	1
	Lumber:	
5510-00-220-6146	2- by 4- by:	
	41 1/2-in	2
	25 1/2-in	2
5510-00-220-6148	2- by 6- by:	
	85-in	2
	48-in	2

Table 4-9. Equipment required for rigging seven drums with pumping assembly on a 28-foot, type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5315-00-010-4659	Nail, steel wire, 8d	As required
1670-00-753-3928	Pad, energy-dissipating (honeycomb)	
	3- by 36- by 96-in	28 sheets
	Parachute:	
	Cargo:	
1670-01-016-7841	G-11C	7
	Cargo extraction:	
1670-00-040-8135	28-ft	2
	Drogue (for C-17)	
1670-01-063-3715	15-ft	1
	Platform, airdrop, type V, 28-ft	
1670-01-353-8425	Bracket assembly, coupling	(1)
1670-01-162-2372	Clevis assembly, type V	(56)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Tandem link assembly (Multipurpose link)	(2)
1670-01-247-2389	Suspension link	(8)
5530-00-128-4981	Plywood, 3/4 -by 48- by 96-in	7 sheets
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop	
	For suspension:	
1670-01-062-6306	3-ft (4-loop), type XXVI nylon webbing	6
1670-01-062-6310-	11-ft (4-loop), type XXVI nylon webbing	2
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	2
1670-01-064-4453	20-ft (4-loop), type XXVI nylon webbing	2
	For lifting:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	2
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For riser extension:	
1670-01-062-6311	120-ft (2-loop), type XXVI nylon webbing	7

Table 4-9. Equipment required for rigging seven drums with pumping assembly on a 28-foot, type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5340-00-040-8219	Strap, parachute release, multi-cut, comes w/ 3 knives	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-foot	56
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
8305-00-082-5752	Nylon, tubular, 1/2-in	As required
8305-00-261-8584	Type X	As required

GLOSSARY

ACB	Attitude control bar
AFB	Air Force base
AFJMAN	Air Force Joint Manual
AFR	Air Force regulation
AFTO	Air Force technical order
attn	attention
CB	center of balance
d	penny
DA	Department of the Army
DD	Department of Defense
diam	diameter
EFTA	extraction force transfer actuator
EFTC	extraction force transfer coupling
fig	figure
FM	field manual
ft	foot/feet
gal	gallon
HQ	headquarters
in	inch
JAI	joint airdrop inspector
JP	jet propulsion
LAPE	low-altitude parachute extraction
LAPES	low-altitude parachute extraction system
lb	pound
LV	low-velocity
NSN	national stock number
PEFTC	platform extraction force transfer coupling
psi	pounds per square inch
SL/CS	static line/connector strap
TM	technical manual
TO	technical order
TRADOC	US Army Training and Doctrine Command
US	United States
w	with
yd	yard

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TM 10-1670-208-20&P/ TO 13C3-4-12	*Organizational Maintenance Manual Including Repair Parts and Special Tools List for Platforms, Type II Modular and LAPES/Airdrop Modular.* 10 August 1978.
TM 10-1670-268-20&P/ TO 13C7-52-22	*Organizational Maintenance Manual With Repair Parts and Special Tools List: Type V Airdrop Platform.* 1 June 1986.
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***AFJMAN24-204/TM 38-250 has superseded AFR 71-4/TM 38-250 (15 January 1988). Change 1 reflects this change. The basic manual still references the superseded publication. You may wish to make pen and ink changes to update the old reference citations accordingly.**

TM 10-1670-279-23&P/ TO 13C5-27-2/ NAVAIR 13-1-28	*Unit and Intermediate DS Maintenance Manual Including Repair Parts and Special Tools List for Parachute, Cargo Type, 22-ft Diam, Cargo Extraction.* 30 August 1989.
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TM 10-1670-286-20/ TO 13C5-2-41	*Unit Maintenance Manual for Sling/Extraction Line Panel (Including Stowing Procedures).* 1 April 1986.
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*** Shipper's Declaration for Dangerous Goods**	Locally procured form

*** Shipper's Declaration for Dangerous Goods has superseded DD Form 1387-2 (February 1982.) Change 1 reflects this change. The basic manual still references the superseded publication. You may wish to make pen and ink changes to update the old reference citations accordingly.**