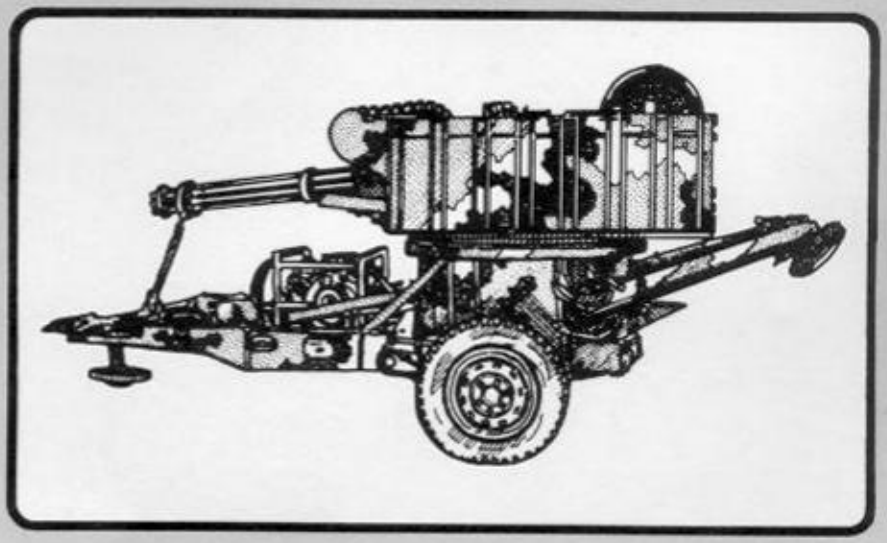


ARMY FM 10-534
AIR FORCE TO 13C7-10-161

AIRDROP OF SUPPLIES AND EQUIPMENT:

RIGGING AIR DEFENSE ARTILLERY GUN (VULCAN)







DISTRIBUTION RESTRICTION: This publication contains technical or operational information that is for official government use only. Distribution is limited to US government agencies. Requests from outside the US government for release of this publication under the Freedom of Information Act or the Foreign Military Sales Program must be made to HQ TRADOC, Fort Monroe, VA 23651-5000.

DEPARTMENTS OF THE ARMY AND THE AIR FORCE

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
FORT MONROE, VIRGINIA 23651-5000

REPLY TO ATTENTION OF

ATCD-SL (70-1f) 21 Oct 96

MEMORANDUM FOR DEPUTY CHIEF OF STAFF OPERATIONS AND PLANS, 400 ARMY PENTAGON, ATTN: DAMO-FDL, WASHINGTON DC 20310-0400

SUBJECT: Quartermaster (QM) Functional Area Assessment (FAA) Response

1. References:

a. Message, HQDA, DAMO-FDL, 231825Z Apr 96, subject: QM FAA Results.

b. Memorandum, HQ TRADOC, ATCG, 29 Jul 96, Army Airdrop Capabilities Assessment.

2. At the 29 Mar 96 QM FAA briefing to the Director of Army Staff, the decision was reached to revisit the Army's decision to "shelf" Low Altitude Parachute Extraction System (LAPES) (reference 1a).

a. Reference 1b, solicited CINCs input for their positions on LAPES and assessments of airdrop capabilities. The CINCs responses will be used to chart the direction and role for airdrop in the 21st century.

b. Based on the responses received (enclosure), there is no strong support for LAPES airdrop capability at this time. The consensus for the airdrop capabilities is to continue support for current Low Velocity Airdrop System (LVAD), develop a 500-foot LVAD and further explore Advanced Precision Aerial Delivery System (APADS).

3. Further, we will continue to maintain a range of airdrop capabilities to support all contingencies throughout the Army. The results of the Army Airdrop Capabilities Assessment also will be incorporated into the Operational Concept for Aerial Delivery Operations and Improved Cargo Aerial Delivery Capability Mission Needs Statement being developed by the Quartermaster Directorate of Combat Developments, U.S. Army Combined Arms Support Command (CASCOM).

4. The HQ TRADOC POC is MAJ Higgins, Airborne Airlift Action Office, ATCD-SL, E-mail: higginsn@emh10.monroe.army.mil, DSN 680-2469/3921, datafax DSN 680-2520.

10/21/1996 13:55 8047343174 DM GENERALS OFFICE PAGE 02

ATCD-SL
SUBJECT: Quartermaster (QM) Functional Area Assessment (FAA) Response

FOR THE DEPUTY CHIEF OF STAFF FOR COMBAT DEVELOPMENTS:

Encl

JOHN A. MANDEVILLE
Colonel, GS
Director, Combat Service Support

CF:
USACASCOM (ATCL-CG/ATCL-QC/ATCL-MES)
USAQMC&S (ATSM-CG/ATSM-ABN/FS)
USANRDEC (SSCNC-UT/AMSSC-PM)

10/21/1996 13:55 8047343174 QM GENERALS OFFICE PAGE 03

ORGANIZATION	LAPES	LVAD	500' LVAD	APADS	SPTS/ NOT SPEC
USSOCOM		X	X	X	
EUCOM					X
CENTCOM		X	X		
FORSCOM		X	X	X	
TRANSCOM					X
SOUTHCOM	X			X	
VIII ARMY					X
ACOM					X

USSOCOM: Memorandum specifically states that the command does not support LAPES airdrop capability, but supports LVAD as well as APADS.

EUCOM: Draft memorandum specifically states that the command support the need for a low level airdrop capability. However, memorandum summarizes that the specific capability is not important as to have a capability to meet the required mission/threat profile.

CENTCOM: Memorandum specifically states that the command does not support LAPES airdrop capability, but support both current LVAD and 500-foot LVAD airdrop capabilities.

FORSCOM: 1st Endorsement specifically states that the command does not support LAPES airdrop capability, however supports LVAD, 500-foot LVAD and APADS.

TRANSCOM: Memorandum does not specifically address any airdrop capability as it talks to the 21st century requiring the full spectrum of tactical delivery methods.

SOUTHCOM: Memorandum specifically supports LAPES and APADS airdrop capabilities for their command.

VIII ARMY: E-Mail note for VIII Army states that the command has no input to the assessment as their plans call for a limited employment of airdrop.

ACOM: Sent request for input on 30 Sep 96. Received verbal response on 16 Oct 96 stating command is indifferent on the specific capability received.

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
FORT MONROE, VIRGINIA 23651-5000

REPLY TO ATTENTION OF

ATCD-SL (70-1f)

6 SEP 1995

MEMORANDUM FOR

Major General Thomas W. Robison, Commander, U.S. Army Combined Arms Support Command and Fort Lee, Fort Lee, VA 23801-6000
Major General Robert K. Guest, Commander, U.S. Army Quartermaster Center and School, Fort Lee, VA 23801-5030

SUBJECT: Low Altitude Parachute Extraction System (LAPES) Disassembly

1. References:

a. Message, HQ TRADOC, ATCD-SL, 100930Z Jan 95, subject: LAPES.

b. OVVM Note, HQ USACASCOM, 30 March 95, subject: TRADOC Disassembly of LAPES.

2. The U.S. Army and other services recently have concurred that LAPES will be terminated, as this capability is no longer required as a viable wartime contingency airdrop option. However, Headquarters, Department of the Army (DA), Deputy Chief of Staff for Operations and Plans, has agreed that LAPES technology will be shelved, and all specialized equipment preserved for possible future use.

3. Take the necessary steps to terminate training and leader development concerning LAPES operations. Major General Guest's questions regarding the disassembly of LAPES (enclosed) with following guidance will be utilized:

a. "Does the U.S. Army Quartermaster Center and School (USAQMC&S) continue to publish LAPES procedures in their joint field manual(FMs)/technical order manuals?" "Do we publish the LAPES procedures that have been written but not been printed yet?" Publishing LAPES procedures in all joint publications, Army FMs, regulations, etc., will be discontinued and addressed in the next revision of the aforementioned documents. Concurrently, all LAPES procedures that have been written and not printed will not be published.

SEP 11 '95 08:30AM CSSRD FT MONROE VA P.2/7

ATCD-SL 6 SEP 1995
SUBJECT: Low Altitude Parachute Extraction System (LAPES) Disassembly

b. "Do we keep LAPES in our programs of instruction (POIs)?" "Do we teach LAPES to other services and our allies?" The USAQMC&S will remove LAPES procedures from POI and cease teaching LAPES to other services and/or allies.

c. "What do we teach to folks that have LAPES equipment in their war reserves?" All instruction concerning LAPES procedures will be discontinued whether LAPES equipment is located in units or in war reserves.

d. "What is the DA/TRADOC guidance on disposition of unit, depot, and war reserves LAPES equipment?" All LAPES equipment in war reserves and depot should be preserved with the exception of a few items that can be utilized in other existing airdrop capabilities. Specifically, the Type V airdrop platforms and attitude control bars of the LAPES system are being utilized to augment current Low Velocity Airdrop Systems (LVADS) loads.

e. "What is the guidance to U.S. Army Test and Experimentation Command on force development test and experimentation certification of LAPES loads?" The certification of all LAPES loads at the Airborne Special Operations Test Directorate will be redirected toward testing and certification of LVADS loads.

4. HQ TRADOC POC is CPT Higgins or CPT Phillips, ATCD-SL, DSN 680-2469/3921, datafax DSN 680-2520.

FOR THE COMMANDER:

Encl

JOE N. BALLARD
Major General, GS
Chief of Staff

CF:
HQDA (DAMO-FDL)
CDR, NRDEC (SAFNC-UA)
CDR, FORSCOM (FCJ3-FC)
CDR, OPTEC (CSTE-CS, CSTE-OPM)
CDR, ATCOM (AMSAT-W-TD)
DIR, ABNSOTD (ATCT-AB)
HQ TRADOC (ATCD-L, ATCD-RM, ATDO-A, ATTG-IT)

SEP 11 '95 08:30AM CSSRD FT MONROE VA P.3/7

rom: HIGGINSN--MON1 Date and time 07/18/95 10:28:11
o: HIGGINSN--MON1

rom: CPT NEIL HIGGINS, (AAACO), 680-2469
ubject: TRADOC "DISASSEMBLY" OF LAPES

****
* AIRBORNE AIRLIFT ACTION OFFICE *
* (AAACO) *
****

** Forwarding note from BRUNEAUN--CMSNAMES 07/18/95 10:27 ***
eceived: from LEE-EMH2.ARMY.MIL by MONROE-EMH1.ARMY.MIL (IBM VM SMTP V2R2)
with TCP; Tue, 18 Jul 95 10:27:22 EDT
eceived: from LEE1 by LEE-EMH2.ARMY.MIL (IBM VM SMTP V2R2) with BSMTP id 3547;
Tue, 18 Jul 95 10:29:34 EDT
omments: Converted from PROFS to RFC822 format by PUMP V2.2x
ate: Tue, 18 Jul 95 10:29:26 EDT
rom: NORMAN BRUNEAU <BRUNEAUN@LEE-EMH2.ARMY.MIL>
ubject: TRADOC "DISASSEMBLY" OF LAPES
o: "NEIL HIGGINS- AAACO " <HIGGINSN@MONROE-EMH1.ARMY.MIL>

** Resending note of 03/30/95 09:23

-To: LARRY MC MILLIAN AAA <MCMILLIL@MONROE-EMH1.ARMY.MIL>
rom: NORMAN BRUNEAU
ubject: TRADOC "DISASSEMBLY" OF LAPES

EIL- HERE ARE THE QUESTIONS THAT MG GUEST WANTS DA/ TRADOC TO ANSWER RE LAPES.
S I UNDERSTAND HIS GUIDANCE. I HAVE DISCUSSED THESE W/ OUR ABN DPT. IF THESE
UESTIONS MAKE SENSE, GIVE ME AN "UP" BEFORE I FORMALLY SEND ANYTHING OUT.
G GUEST WANTS SPECIFIC GUIDANCE FM TRADOC ON LAPES, RESPONSE NEEDS TO BE CLEAR
ND TO THE POINT. A LOT OF THIS WILL HINGE ON WHAT ACC PLANS TO DO W/ LAPES
OW THAT THE AIR STAFF HAS GIVEN THEM THE GREEN LIGHT TO KILL IT. IF THEY
LAN TO PLACE IT ON THE SHELF OR KEEP A LIMITED OR CONTINGENCY CAPABILITY, THAT
ILL DRIVE YOUR ANSWER TO US, AT THIS POINT I THINK ACC WILL DO WHATEVER THE
RMY WANTS, AS THEIR PRIMARY CUSTOMER. I WILL NOT REHASH HOW THE ARMY DE-
IDED THEY DIDNT NEED LAPES. QUESTIONS FOLLOW:

OES THE CMCS CONTINUE TO PUBLISH LAPES PROCEDURES IN THEIRJOINT FM/TO MAN-
UALS?
O WE PUBLISH THE LAPES PROCEDURES THAT HAVE BEEN WRITTEN BUT HAVE NOT BEEN
PRINTED YET?
O WE REMOVE ALL LAPES PROCEDURES FROM ALREADY PUBLISHED MANUALS?
O WE KEEP LAPES IN OUR POI?
O WE TEACH LAPES TO OTHER SERVICES AND OUR ALLIES?
HAT DO WE TEACH TO FOLKS THAT HAVE LAPES EQUIPMENT IN THEIR WAR RESERVES?
HAT IS THE DA/TRADOC GUIDANCE ON DISPOSITION OF UNIT, DEPOT, AND WAR RE-
SERVE LAPES EQUIPMENT?
HAT IS THE GUIDANCE TO TEXCOM ON THE FDTE CERTIFICATION OF LAPES LOADS?

KNOW THESE ARE TOUGH QUESTIONS, BUT THEY HAVE TO BE ASKED. HQ STAFFS CAN-
OT SIMPLY SAY "KILL IT" AND MOVE ON TO THE NEXT ISSUE. I DONT THINK WE ARE
OING OUR JOB IF WE LEAVE IT UP TO THE SCHOOLHOUSE TO INTERPRET SKETCHY GUID-
NCE. THAT PLACES US IN THE POSSIBLE POSITION OF BEING ACCUSED OF NOT FOLLOW-
NG ORDERS.

ETS TALK.....NORM

SEP 11 '95 08:30AM CSSRD FT MONROE VA

DEPARTMENT OF THE ARMY
QUARTERMASTER CENTER AND SCHOOL
1201 22D STREET
FORT LEE, VIRGINIA 23801-1601

ATSM-ABN-FS 15 Dec 96

MEMORANDUM FOR RECORD

SUBJECT: Airdrop Equipment Update

Reference:

a. Phone conversation between CW4 Mahon, CASCOM and Dick Harper, Weapons System Management Office, Army Aviation Troop Command, Subject : sab

b. Phone conversation between CW4 Mahon, CASCOM and Don Stump, Logistics Management Specialist, Office, Deputy Chief of Staff for Logistics, Subject, sab

c. Phone conversation between CW4 Mahon, CASCOM and Chief Msgt Okraneck, Hqrs Air Combat Command, Subject sab

d. msg dtg R 181348Z Feb 94, subject: FCIF item: Type II platforms, PEFTC and SL/CS for Air Force unilateral training

1. Based on information received from the references a-c above, the following update is provided per request ref c, above.

a. The type II modular platform no longer exists within any contingency stocks. Therefore, maintaining Joint Inspection training program is no longer required for this equipment.

b. The Parachute Extraction Transfer Force Coupling (PEFTC) no longer exists within any contingency stocks. Therefore, maintaining Joint Inspection training program is no longer required for this equipment.

c. The metric platform interim rigging procedures are no longer valid as they apply to metric platforms. Those rigging procedures which have dual application with the type V platform are still valid for the type V platform.

d. The static line connector strap (SL/CS) currently has limited application. Only those loads that specifically require this system are authorized use of this system. The SL/CS is not an across the board substitute for the Extraction Force Transfer Coupling (EFTC). These authorized loads are specific in nature and will normally be found in the special operations arena of airdrop loads. This system is not authorized for use IAW ref d, above.

2. For additional questions/information contact the undersigned at DSN 687-4733, Fax 3084.

John R. Mahon
CW4, USA
Senior Airdrop Systems
Technician

CHANGE
NO 1

HEADQUARTERS
DEPARTMENTS OF THE ARMY
AND THE AIR FORCE
Washington, DC, 14 February 1989

AIRDROP OF SUPPLIES AND EQUIPMENT:
RIGGING AIR DEFENSE ARTILLERY GUN (VULCAN)

This change adds procedures for rigging the M167A1 gun on a type V airdrop platform for low-velocity and LAPE airdrop.

FM 10-534/TO 13C7-10-161, 27 February 1985, is changed as follows:

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

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

Remove pages	Insert pages
i through iii	i through iv
1-1 and 1-2	1-1 and 1-2
	6-1 through 6-37
	7-1 through 7-26
Glossary-1	Glossary-1
References-1	References-1

3. File this transmittal sheet in front of the publication for reference purposes.

DISTRIBUTION RESTRICTION: *Distribution authorized to US government agencies only to protect technical or operational information from automatic dissemination under the International Exchange Program or by other means. This determination was made on 4 February 1987. Other requests for this document will be referred to Commandant, US Army Quartermaster School, ATTN: ATSM-DTP, Fort Lee, VA 23801-5036.*

DESTRUCTION NOTICE: Destroy by any method that will prevent disclosure of contents or reconstruction of the document.

C1, FM 10-534/TO 13C7-10-161

14 FEBRUARY 1989

By Order of the Secretaries of the Army and the Air Force:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

WILLIAM J. MEEHAN II
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:
Active Army, USAR, and ARNG: To be distributed in accordance with DA Form 12-11E, requirements for FM 10-534, Airdrop of Supplies and Equipment: Rigging Air Defense Artillery Gun (VULCAN) (Qty rqr block no. 917).

CHANGE
NO. 2

C2, FM 10-534/TO 13C7-10-161
HEADQUARTERS
DEPARTMENT OF THE ARMY
AND THE AIR FORCE
Washington, DC, 24 March 1992

AIRDROP OF SUPPLIES AND EQUIPMENT
RIGGING AIR DEFENSE ARTILLERY GUN (VULCAN)

This change adds the procedures for rigging M151A2, ¼-ton trucks, M416, ¼-ton cargo trailer,; and TOW weapon system on the type V airdrop platform for low-velocity airdrop. Also with this change, the distribution restriction statement and the destruction notice shown below must be added to the cover of the basic manual. Change the distribution restriction statement on the Change 1 transmittal page to agree with the statement shown below.

FM 10-534/TO 13C7-10-161, 27 February 1985, is changed as follows:

1. New or changed material is identified by a vertical bar in the margin opposite the changed material.
2. Remove old pages and insert new pages as identified below:

Remove Old Pages	**Insert New Pages**
i through iv	i through v
1-1 and 1-2	1-1 through 1-2
	8-1 through 8-34
Glossary-1	Glossary-1
References-1	References-1

3. File this transmittal sheet in front of the publication for reference purposes.

DISTRIBUTION RESTRICTION: Approved for public release; distribution is unlimited.

By Order of the Secretaries of the Army and the Air Force:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army
00791

DISTRIBUTION:
Active Army, USAR, and ARNG: **To be distributed in accordance with DA Form 12-11-E, requirements for FM 10-534, Airdrop of Supplies and Equipment: Rigging Air Defense Artillery Gun (VULCAN) (Qty rqr block no. 0917).**

By Order of the Secretaries of the Army and Air Force:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

THOMAS F. SIKORA
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:

Active Army, USAR, and ARNG: To be distributed in accordance with DA Form 12-11-E, requirements for FM 10-534, Airdrop of Supplies and Equipment: Rigging Air Defense Artillery Gun (VULCAN) (Qty rqr block no _____).

		Page
CHAPTER 6	RIGGING THE M167A1 GUN ON A TYPE V AIRDROP PLATFORM FOR A LOW-VELOCITY AIRDROP	
6-1	Description of Load	6-1
6-2	Preparing Platform	6-1
6-3	Preparing and Placing Honeycomb Stacks	6-2
6-4	Stowing Accompanying Load	6-6
6-5	Preparing Gun	6-8
6-6	Positioning Gun	6-21
6-7	Stowing and Lashing Outrigger Arms	6-21
6-8	Lashing Gun	6-22
6-9	Building and Installing Parachute Stowage Platform	6-23
6-10	Covering Load	6-26
6-11	Installing Suspension Slings	6-26
6-12	Safetying Suspension Slings and Installing Emergency Restraint Clevises	6-27
6-13	Stowing Cargo Parachutes	6-29
6-14	Installing Release System	6-30
6-15	Installing Extraction System	6-31
6-16	Placing Extraction Parachute	6-33
6-17	Marking Rigged Load	6-33
6-18	Equipment Required	6-35
CHAPTER 7	RIGGING THE M167A1 GUN ON A TYPE V AIRDROP PLATFORM FOR A LAPE AIRDROP	
7-1	Description of Load	7-1
7-2	Preparing Platform	7-1
7-3	Stowing Accompanying Load	7-3
7-4	Preparing and Placing Honeycomb Stacks	7-9
7-5	Preparing Gun	7-12
7-6	Positioning Gun	7-18
7-7	Stowing and Lashing Outrigger Arms	7-18
7-8	Lashing Gun	7-20
7-9	Installing Attitude Control Bar (ACB)	7-21
7-10	Installing Extraction System	7-23
7-11	Placing Extraction Parachutes	7-23
7-12	Marking Rigged Load	7-23
7-13	Equipment Required	7-24
CHAPTER 8	RIGGING THE M167A2 GUN WITH THE 1 1/4-TON TRUCK (HMMWV) AND ACCOMPANYING AMMUNITION ON A TYPE V PLATFORM FOR LOW-VELOCITY AIRDROP	
8-1	Description of Load	8-1
8-2	Preparing Platform	8-1
8-3	Stowing Accompanying Load	8-4
8-4	Preparing and Placing Honeycomb Stacks	8-11
8-5	Preparing Gun and Truck	8-13
8-6	Lifting and Positioning Gun and Truck	8-13
8-7	Stowing and Lashing Gun Outrigger Arms	8-15

		Page
8-8	Lashing Gun and Truck	8-16
8-9	Installing and Tying Suspension Slings	8-18
8-10	Building and Installing Parachute Stowage Platform	8-22
8-11	Stowing Cargo Parachutes	8-24
8-12	Installing Extraction System	8-25
8-13	Installing Provisions for Emergency Restraints	8-27
8-14	Installing Release System	8-27
8-15	Placing Extraction Parachute	8-29
8-16	Marking Rigged Load	8-29
8-17	Equipment Required	8-29
GLOSSARY		Glossary-1
REFERENCES		References-1

PREFACE

SCOPE

This manual tells and shows how to prepare and rig the M167 and M167A1, 20-millimeter air defense artillery guns (VULCAN) with accompanying ammunition loads. The guns are rigged for low-velocity airdrop from the C-130 and C-141 aircraft and for delivery by LAPE airdrop from the C-130 aircraft. Also included is the M167A2 gun rigged with the 1 1/4-ton truck (HMMWV) and accompanying ammunition load for low-velocity airdrop. This manual is designed for use by all parachute riggers.

USER INFORMATION

The proponent of this publication is HQ TRADOC. You are encouraged to report any errors or omissions and suggest ways for improving this manual. Army personnel, send your comments on DA Form 2028 directly to:

Commander

US Army Quartermaster Center and School

ATTN: ATSM-DTP

Fort Lee, Virginia 23801-5036

Air Force personnel, send your reports on AFTO Form 22 through:

Headquarters

Military Airlift Command

(MAC/DOXT)

Scott AFB, Illinois 62225-5001

to:

Commander

US Army Quartermaster Center and School

ATTN: ATSM-DTP

Fort Lee, Virginia 23801-5036

Also send information copies of AFTO Form 22 to:

San Antonio ALC/MMILRA

Kelly AFB, Texas 78241-5000

CHAPTER 1

INTRODUCTION

1-1. Description of Items

The M167 and M167A1, 20-millimeter air defense artillery guns are shown in Figures 1-1 and 1-2. The M167A2 gun is not shown. Each gun consists of the M167, 20-millimeter cannon; AN/VPS-2 radar set; M61 lead computing sight; and M42 gun carriage. The unrigged gun weighs 3,630 pounds (with 500 rounds of 20-millimeter ammunition in the storage can assembly). The gun is 79 inches wide. Its length is 188 inches (reducible to 161 inches). The height of the gun is 86 inches (reducible to 57 inches without the radar unit). The LIN of the gun is J96845. All procedures for rigging the M167A1 are valid for both the single- and dual-wheel VULCAN. The M167A2 gun is rigged the same way as the M167A1 gun.

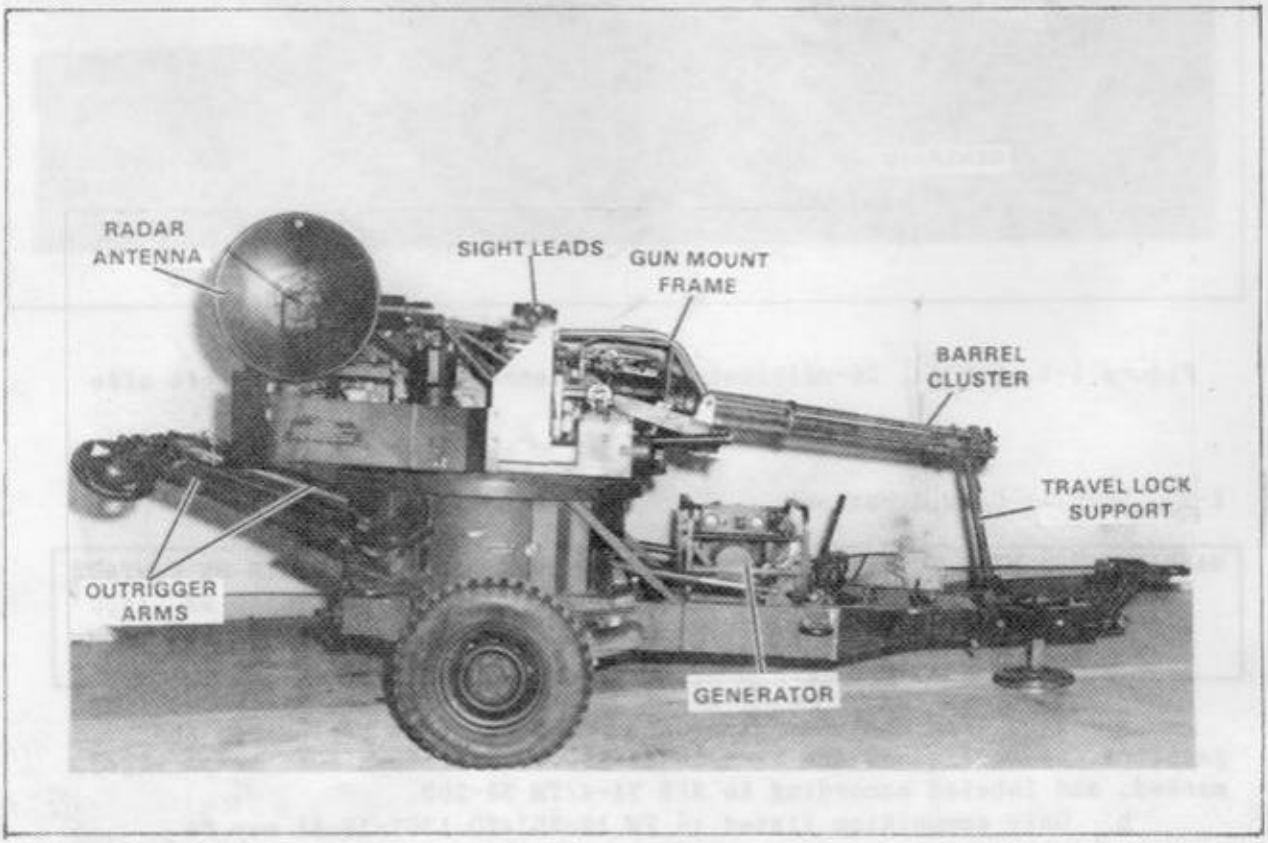


Figure 1-1. M167, 20-millimeter air defense artillery gun, right side

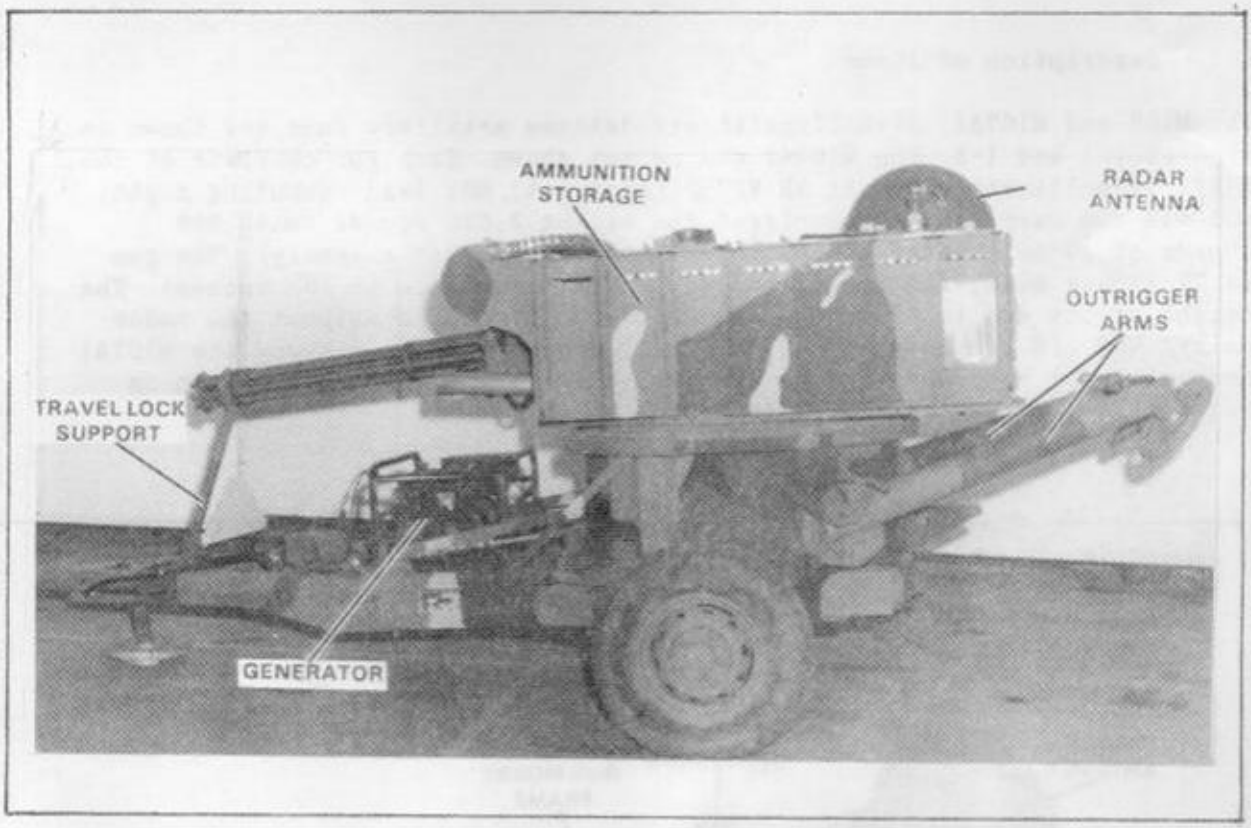


Figure 1-2. M167A1, 20-millimeter air defense artillery gun, left side

1-2. Special Considerations

WARNING: THE HIGH VOLTAGE USED WITH THESE GUNS CAN CAUSE DEATH ON CONTACT IF YOU FAIL TO OBEY THE SAFETY RULES. ONLY A QUALIFIED MECHANIC FROM THE TRANSPORTED UNIT MAY TAKE THESE GUNS APART OR PUT THEM BACK TOGETHER.

a. Each load includes hazardous items, such as explosives and gasoline, as defined in AFR 71-4/TM 38-250. These items must be packaged, marked, and labeled according to AFR 71-4/TM 38-250.

b. Only ammunition listed in FM 10-553/TO 13C7-18-41 may be airdropped.

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

d. The gun can be dropped by LAPE as a single or tandem load.

CHAPTER 6

RIGGING THE M167A1 GUN ON A TYPE V AIRDROP PLATFORM FOR A LOW-VELOCITY AIRDROP

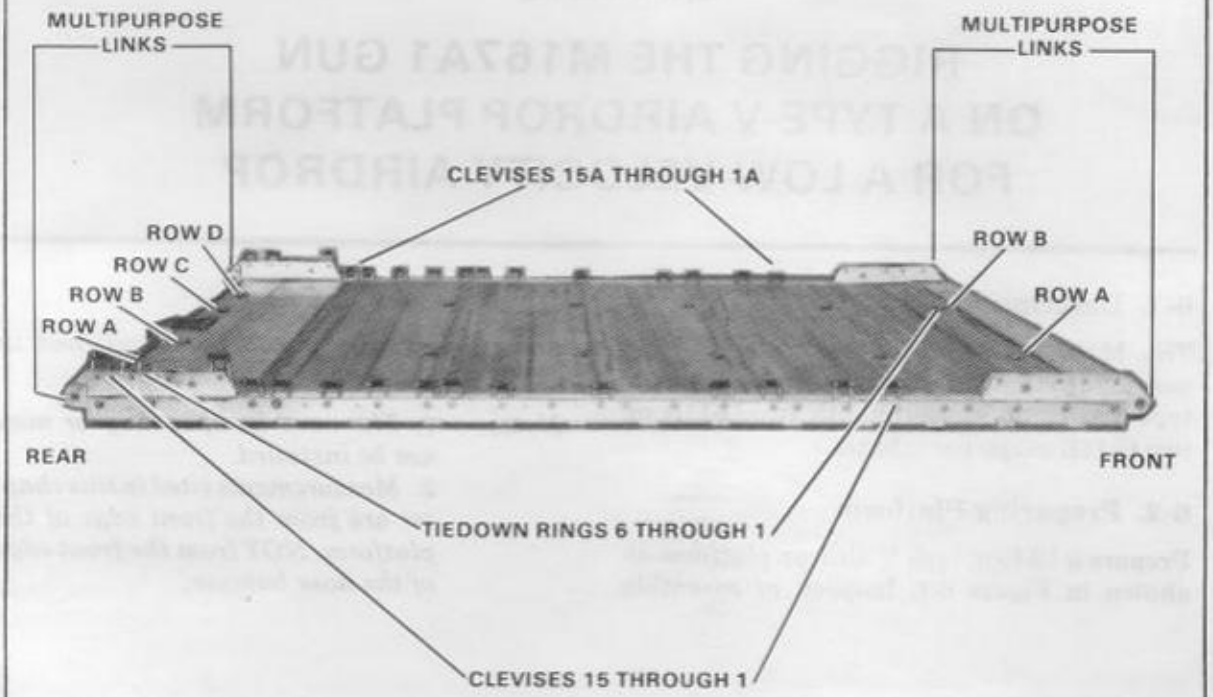
6-1. Description of Load

The M167A1, 20-millimeter gun with an accompanying load is rigged on a 12-foot, type V airdrop platform with two G-11A or two G-11B cargo parachutes.

6-2. Preparing Platform

Prepare a 12-foot, type V airdrop platform as shown in Figure 6-1. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.

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



Step:

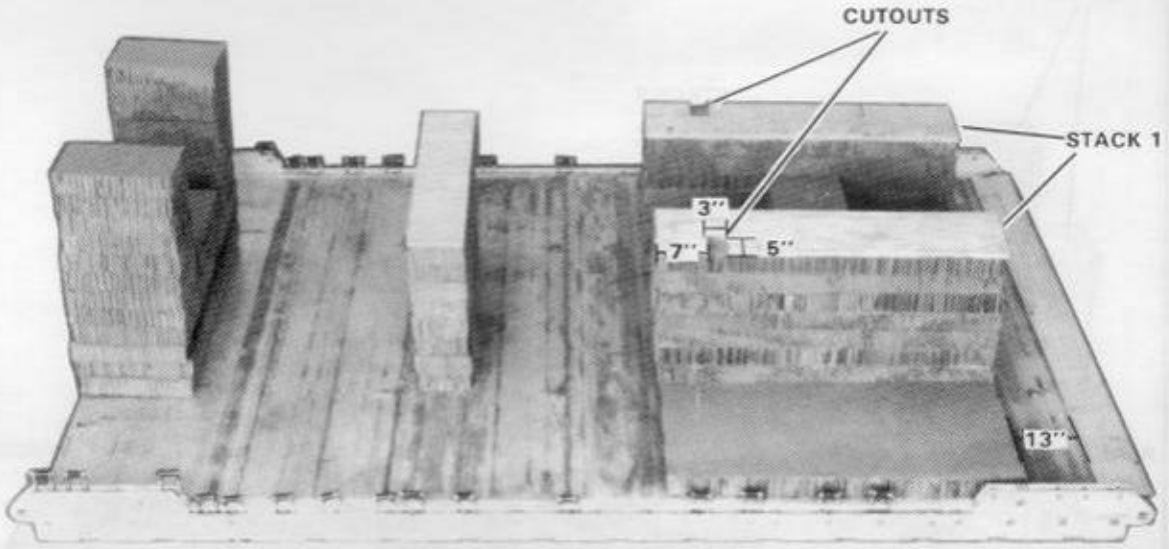
1. Install a multipurpose link at the front of each side rail.
2. Install a multipurpose link at the rear of each side rail.
3. Bolt a tiedown clevis to side rail bushings 3, 4, 6, 7, 10, 12, 13, 14, 15, 16, 17, and 18 on each side rail starting at the first bushing behind the front multipurpose links.
4. Bolt a tiedown clevis to bushings 1, 3, and 4 on each rear multipurpose link.
5. Number the clevises starting at the right front multipurpose link from 1 through 15 and those starting at the left front multipurpose link from 1A through 15A.
6. Number the tiedown rings 1 through 6 from front to rear.
7. Letter the tiedown rings on each of the five forward panels from right to left A and B.
8. Letter the tiedown rings on the rear panel A, B, C, and D from right to left.

Figure 6-1. Platform prepared

6-3. Preparing and Placing Honeycomb Stacks

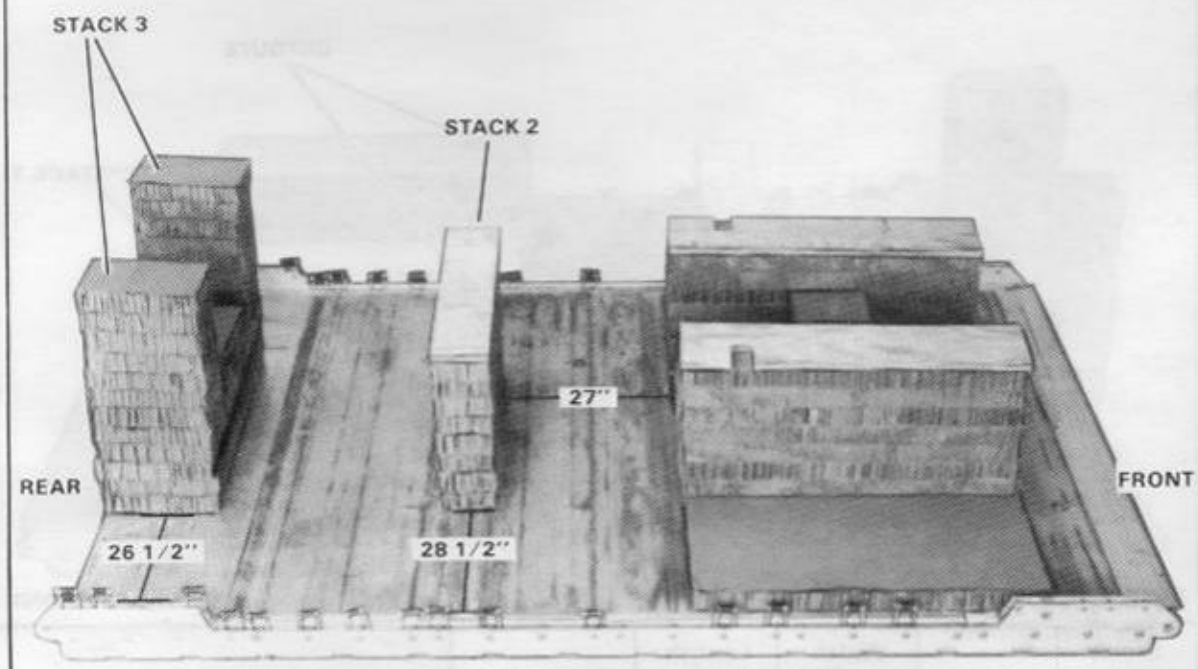
Prepare and place the honeycomb stacks as shown in Figures 6-2 and 6-3.

Note: Glue all honeycomb and plywood together. Do not glue the stacks to the platform.



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
1	2	36	48	Honeycomb	Position one piece as a bottom layer 13 inches from front edge of the platform and 1 1/2 inches from each side rail.
	12	12	48	Honeycomb	Place six pieces on each bottom layer; align them with the inside edges of the bottom layer. (Do not glue layers at this time.)
	1	50	12	Honeycomb	Place the piece as a bridge between the portions of the honeycomb at layer 6.
	4	12	18	Honeycomb	Use pieces as a filler along each side of the bridge.
	2	12	48	3/4-inch plywood	Make a 3- by 5-inch cutout on one side of each piece of plywood 7 inches from the end. Place one piece on top of each portion of the stack with the cutout toward the rear and facing outward.

Figure 6-2. Honeycomb stacks placed on platform, side view



Stack Number	Pieces	Width (Inches)	Length (Inches)	Material	Instructions
2	8	44	8	Honeycomb	Place all eight pieces 27 inches to the rear of stack 1 and 28 1/2 inches from each side rail.
	1	44	8	3/4-inch plywood	Lay plywood on top of the stack.
3	4	48	16	Honeycomb	Place all four pieces flush with the rear edge of the platform and 26 1/2 inches from each side rail.
	2	16	16	Honeycomb	Center pieces on the 48- by 16-inch honeycomb.
	16	10	16	Honeycomb	Place eight pieces on each end of the stack.

Figure 6-2. Honeycomb stacks placed on platform, side view (continued)

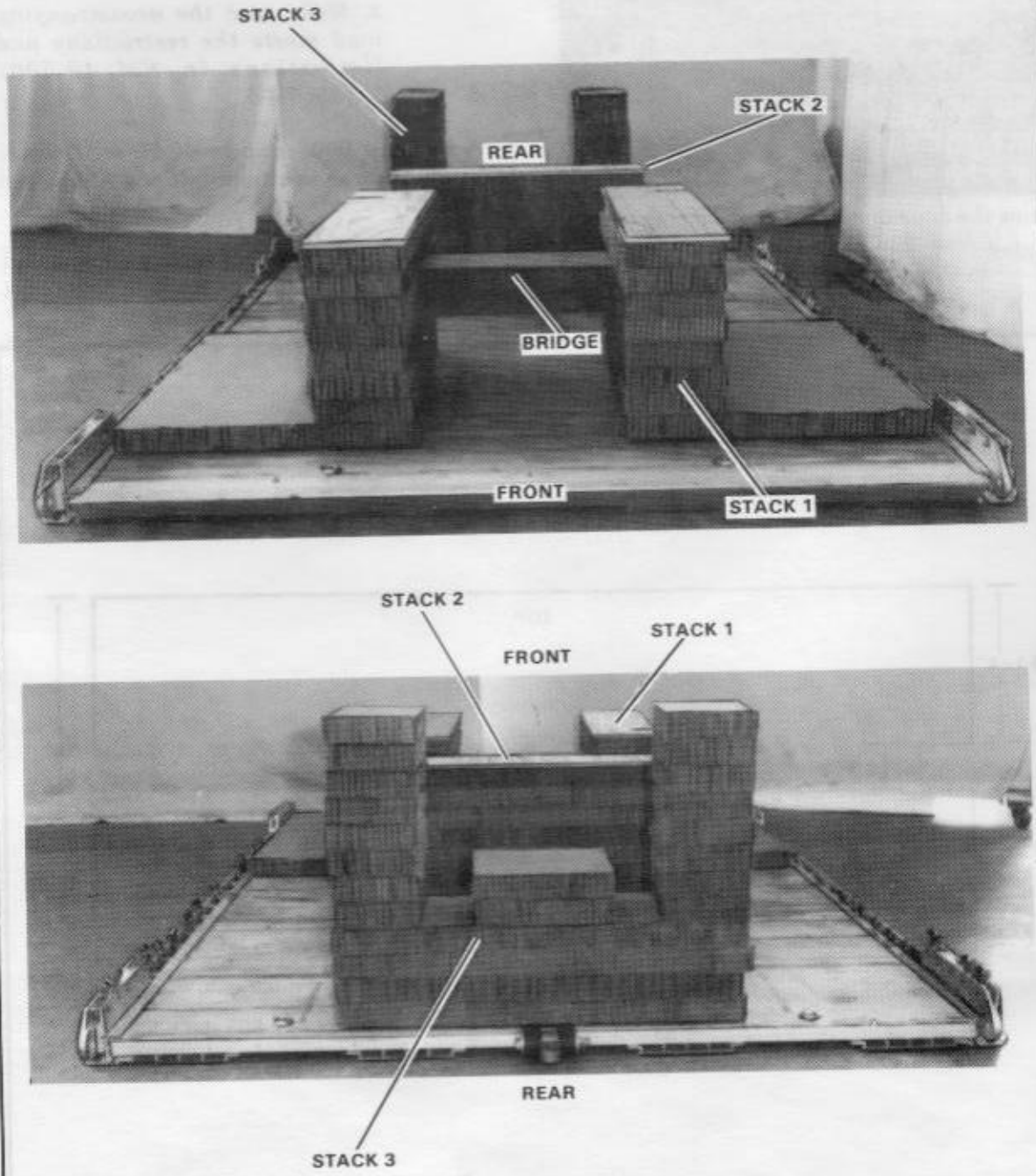


Figure 6-3. Honeycomb stacks on platform, front and rear views

6-4. Stowing Accompanying Load

CAUTION: An accompanying load of 1,500 pounds MUST be rigged as a part of this load. Mark and label the ammunition according to AFR 71-4/ TM 38-250. Only the ammunition listed in FM 10-553/TO 13C7-18-41 may be airdropped.

Stow the accompanying load as given below.

Notes: *1. Remove stacks 2 and 3 before stowing the accompanying load.*

2. Make sure the accompanying load meets the restrictions and limitations in FM 10-500/ TO 13C7-1-5.

a. Place 500 rounds of 20-millimeter ammunition in the ammunition storage can assembly.

b. Construct two 3/4-inch plywood endboards according to the details in Figure 6-4.

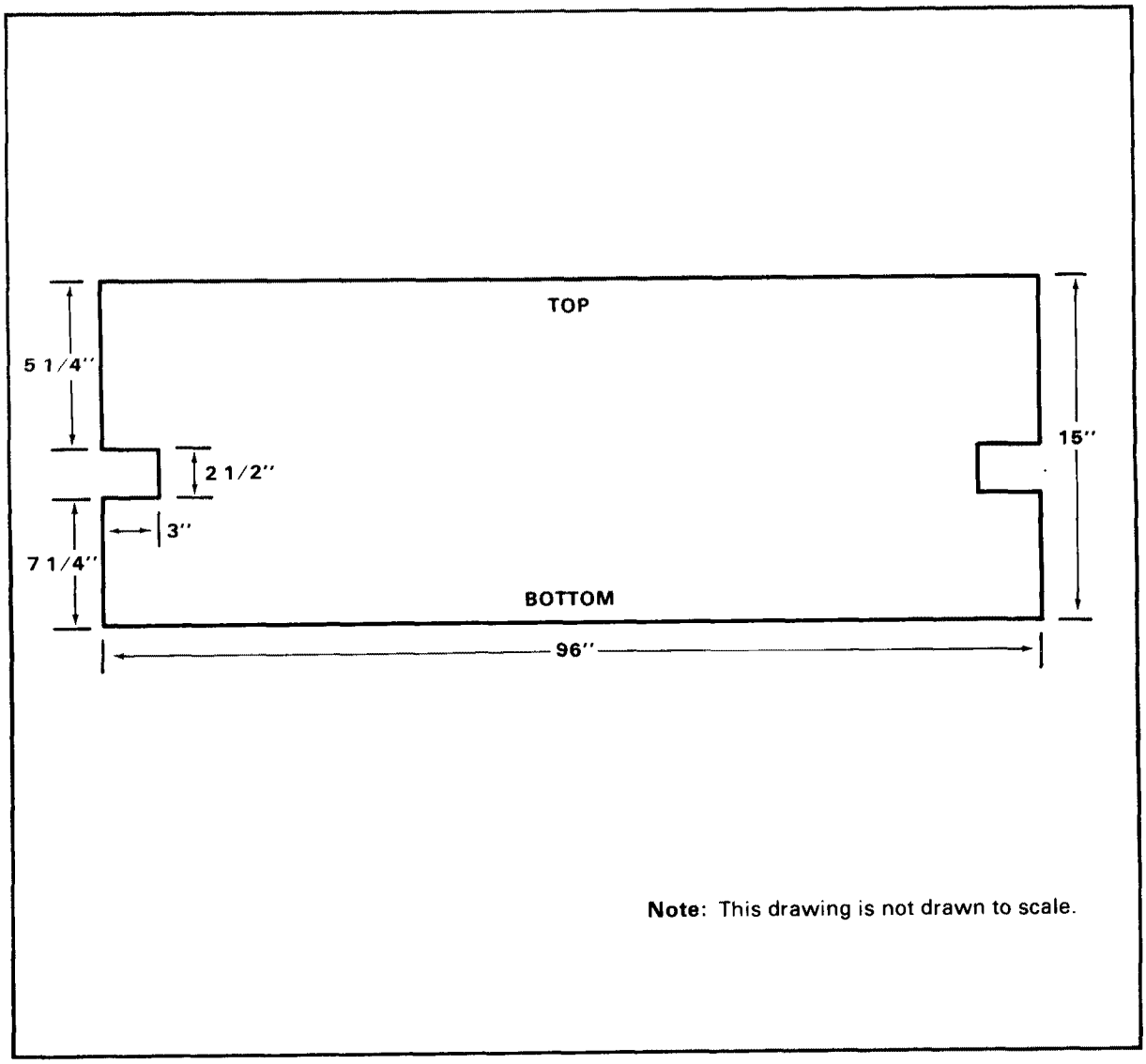
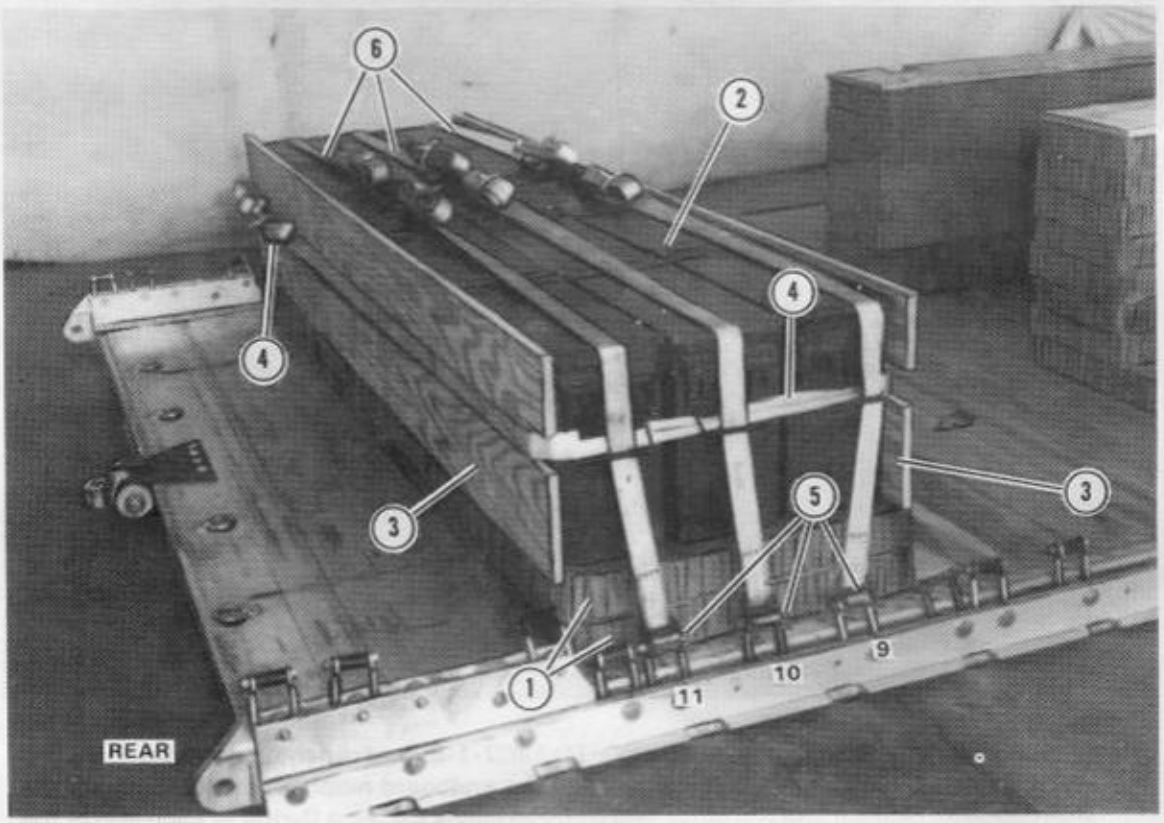


Figure 6-4. Endboard construction details

c. Stow 15 boxes of 20-millimeter ammunition on the platform as shown in Figure 6-5.



(1) Center two layers of 26- by 96-inch honeycomb on the platform 22 inches from the rear edge of the platform.

(2) Place 15 boxes of 20-millimeter ammunition on the honeycomb.

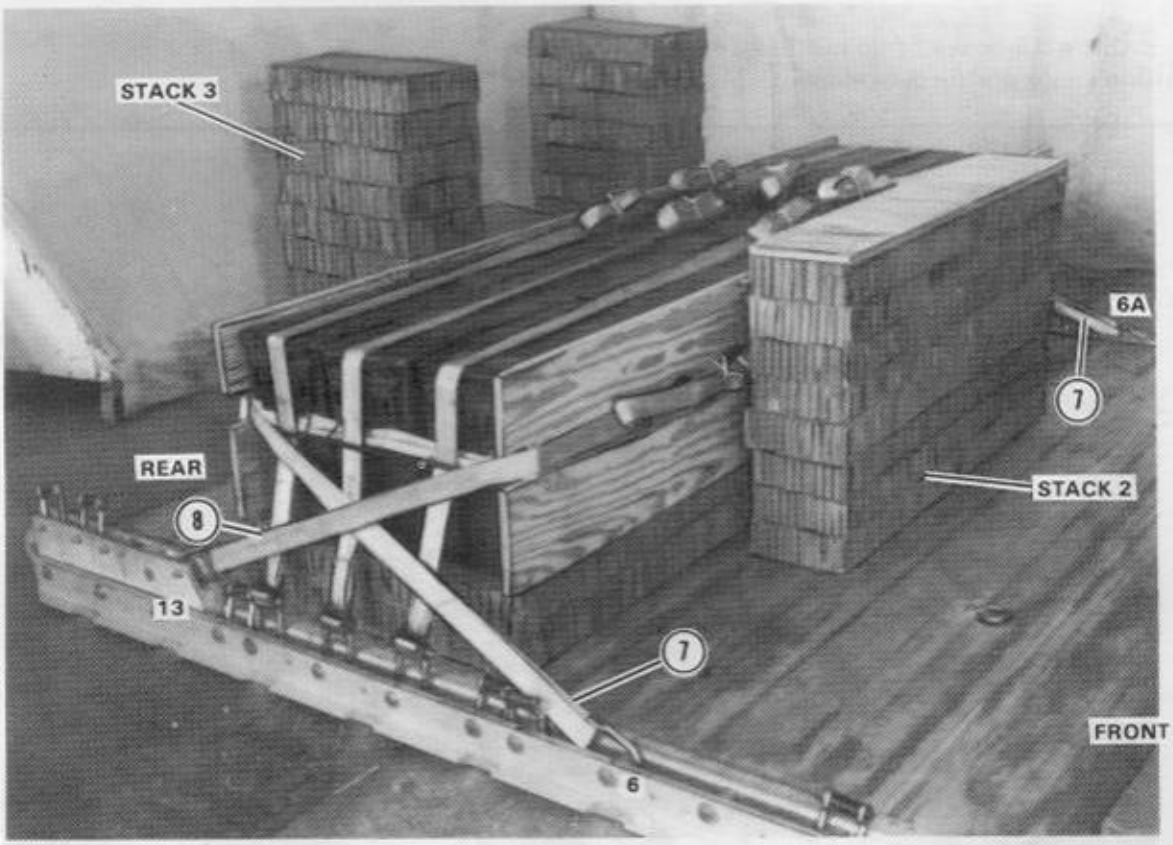
(3) Set the endboards in place.

(4) Form a 30-foot tiedown strap (FM 10-500/TO 13C7-1-5), and run the strap around the boxes through the outside box handles. Fit a D-ring to each end of the strap, and hook the D-rings together with a load binder. Fold the excess strap, and tie the folds to the load binder with 80-pound cotton webbing.

(5) Fit a 15-foot tiedown strap to clevises 9, 9A, 10, 10A, 11, and 11A by running the free end of the strap through the clevis and through its own D-ring. Pull all straps taut.

(6) Run the ends of the straps up through the outside box handles and over the boxes to the top of the accompanying load. Fit a D-ring to each strap, and hook each set of D-rings together with a load binder. Fold the excess strap, and tie the folds to the load binder with 80-pound cotton webbing.

Figure 6-5. Accompanying load stowed



(7) Form a 30-foot tiedown strap (FM 10-500/TO 13C7-1-5), and run the strap around the rear endboard. Make sure the strap runs through the endboard notches. Pass one end of the strap through clevis 6 and the other end through clevis 6A. Fit a D-ring to each end of the strap, and hook the D-rings together with a load binder. Fold the excess strap, and tie the folds to the load binder with 80-pound cotton webbing.

(8) Form a 30-foot tiedown strap (FM 10-500/TO 13C7-1-5), and run the strap around the front endboard. Make sure the strap runs through the endboard notches. Pass one end of the strap through clevis 13 and the other end through clevis 13A. Fit a D-ring to each end of the strap, and hook the D-rings together with a load binder. Fold the excess strap, and tie the folds to the load binder with 80-pound cotton webbing.

Note: Replace honeycomb stacks 2 and 3 after stowing the accompanying load.

Figure 6-5. Accompanying load stowed (continued)

6-5. Preparing Gun

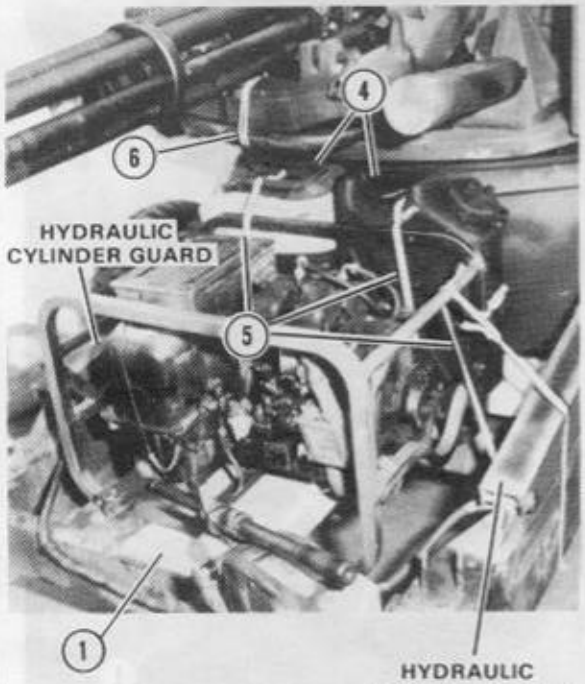
Prepare the gun as given below.

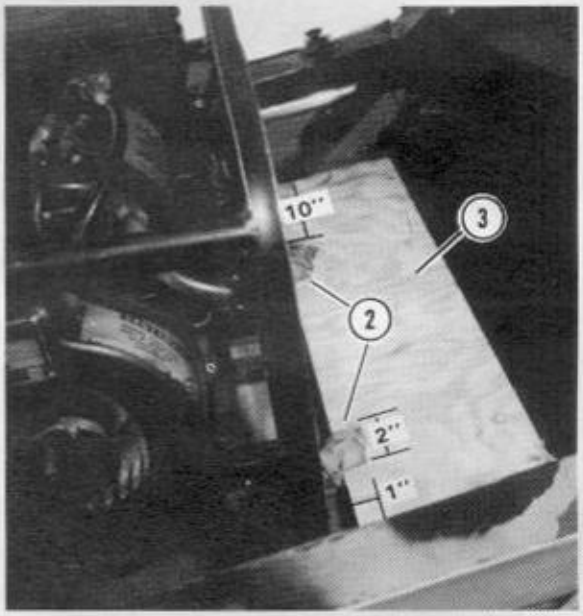
Notes: *1. Only a qualified mechanic from the transported unit may take*

these guns apart or put them back together.
2. An additional O-ring must be dropped with the unit in case the old O-ring is lost or damaged.

a. Remove the travel lock support bracket.

b. Stow the generator, shovel, gasoline can, and water can and safety the W-3 cable assembly as shown in Figures 6-6 and 6-7.





(1) Rotate the gun turret 90 degrees to the left. Loosen the generator mounting bolts. Slide a 3/4- by 11- by 28-inch piece of plywood under the generator.

(2) Tighten the mounting bolts. Pad the bolts with cellulose wadding, and tape the wadding in place (not shown).

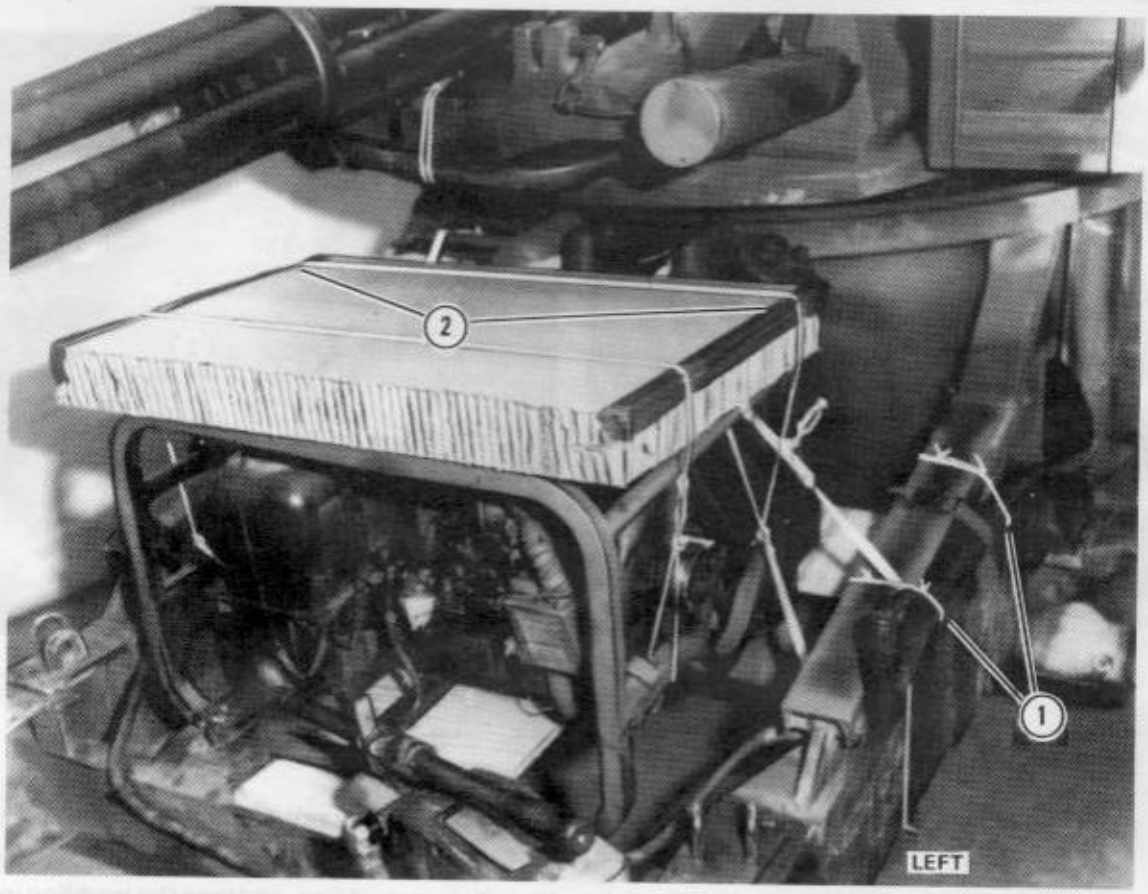
(3) Make two 1- by 2-inch cutouts in a 3/4- by 8- by 37 1/2-inch piece of plywood. Place the plywood between the generator and the carriage.

(4) Pad the gasoline can with cellulose wadding. Set the gasoline can and the water can on the plywood.

(5) Tie the generator to the trails and the cans to the generator with 1/2-inch tubular nylon webbing. Be sure the ties around the trails pass over the top of the hydraulic cylinder guards.

(6) Rotate the gun turret 90 degrees to the right. Safety the W-3 cable assembly to the turret frame with doubled type III nylon cord.

Figure 6-6. Generator and cans stowed and W-3 cable assembly safetied

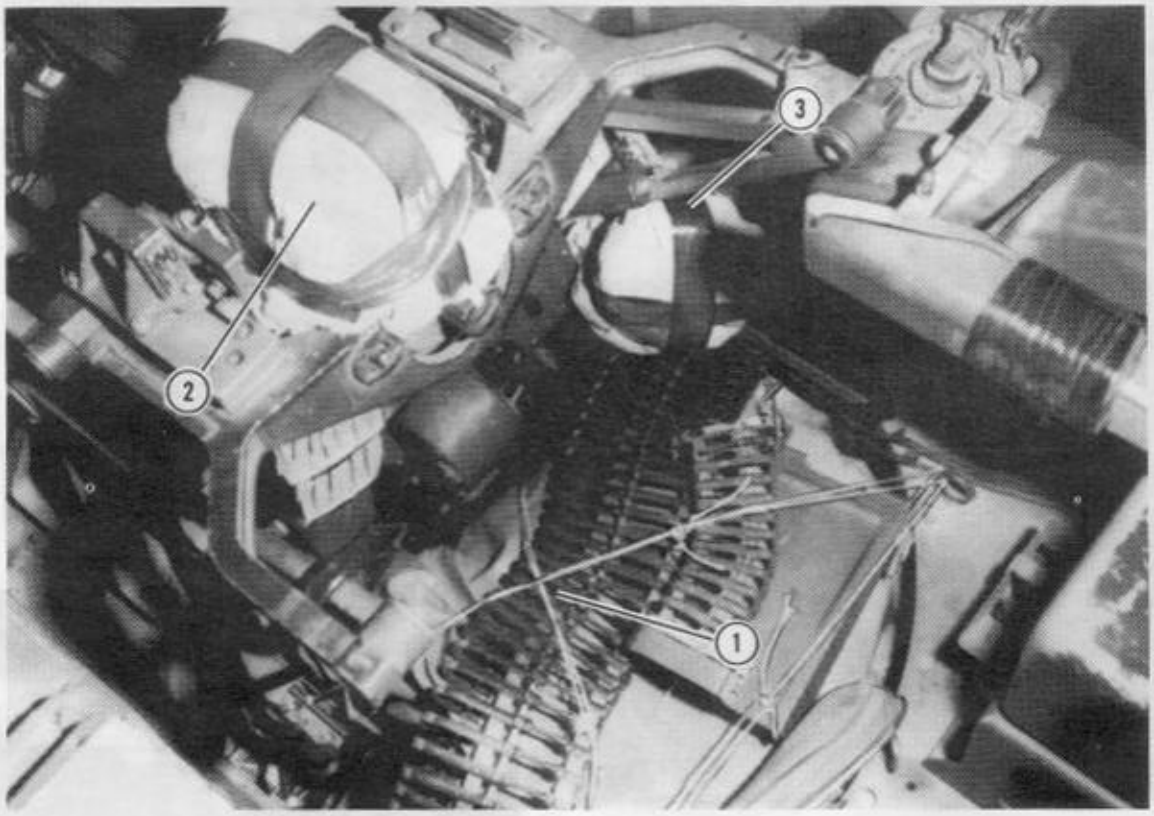


(1) Fasten the shovel to the left hydraulic cylinder guard with a retaining strap and type III nylon cord.

(2) Tape the 20-inch sides of a 20- by 30-inch piece of honeycomb. Tie the honeycomb on top of the generator with type III nylon cord.

Figure 6-7. Shovel and honeycomb secured

c. Stow the small items and safety the gunsight and azimuth indicator as shown in Figure 6-8.

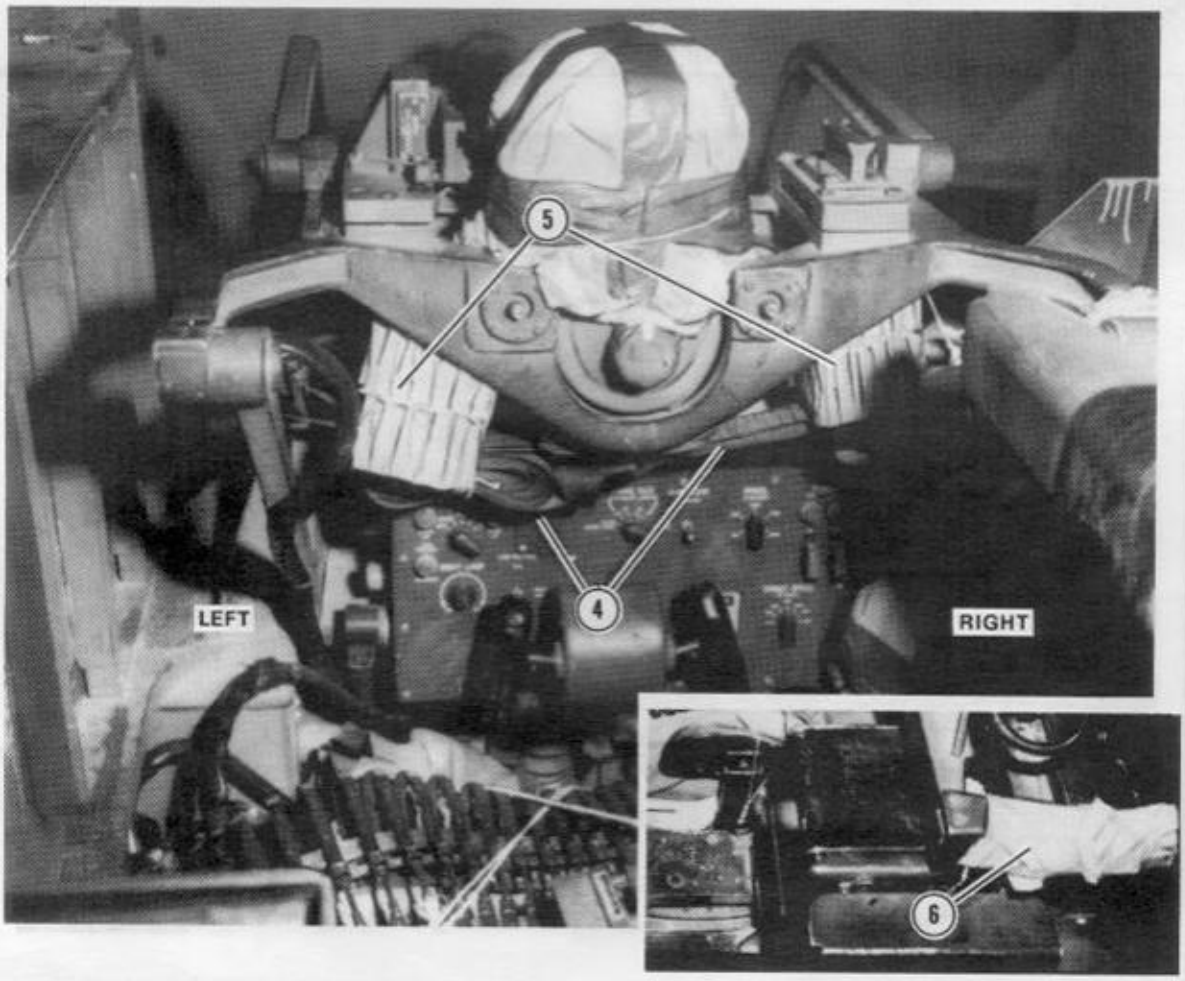


(1) Wrap the small items (including the travel lock bracket) in cellulose wadding, and roll them up in the gun cover. Lay the cover, the link, and the case chute assemblies on the seat. Tie them in place with type III nylon cord.

(2) Pad the sight leads with cellulose wadding. Secure the cellulose wadding with tape and type III nylon cord. Raise the barrel cluster 3 feet.

(3) Pad the azimuth indicator with cellulose wadding. Secure the cellulose wadding with tape.

Figure 6-8. Small items stowed and gunsight and azimuth indicator safetied



(4) Run one 60-inch shear strap around the left side of the sight frame, under the mount telescope lead sight, and around the right side of the sight frame. Buckle the strap, and pull it taut. Tie an overhand knot in the free end of the strap near the buckle. Fold the excess strap, and tie the folds in place with 80-pound cotton webbing.

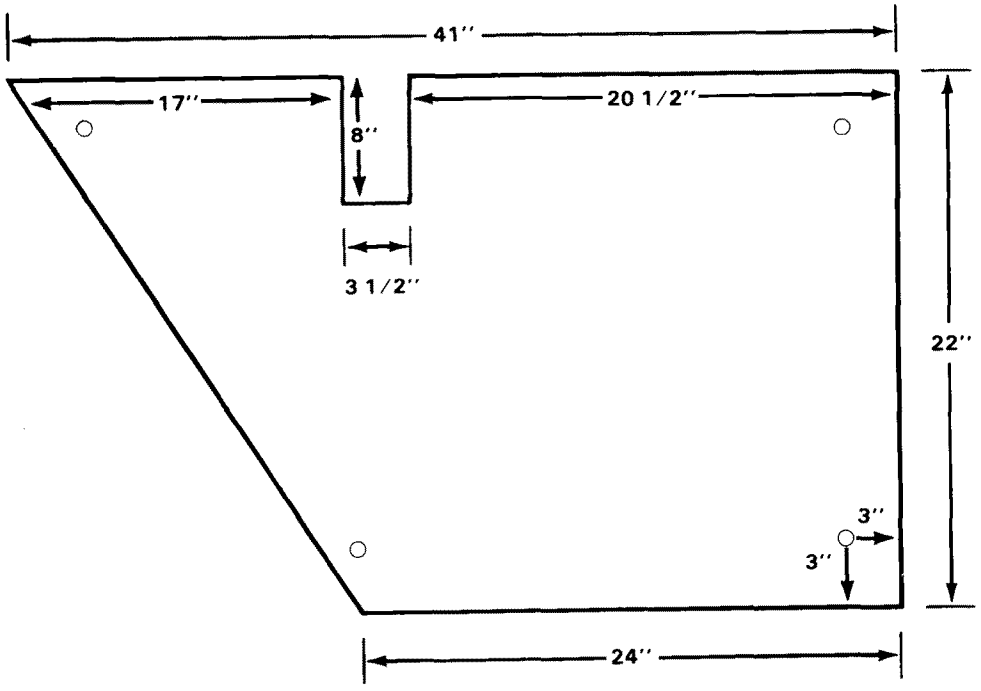
(5) Set two 4- by 6-inch pieces of honeycomb on top of the 60-inch shear strap at the left and right sides of the frame. Tie the pieces of honeycomb in place with type III nylon cord.

(6) Remove the radar antenna. Pad the wave guide with cellulose wadding, and tape the wadding in place.

Figure 6-8. Small items stowed and gunsight and azimuth indicator safetied (continued)

d. Stow the radar antenna as described below.

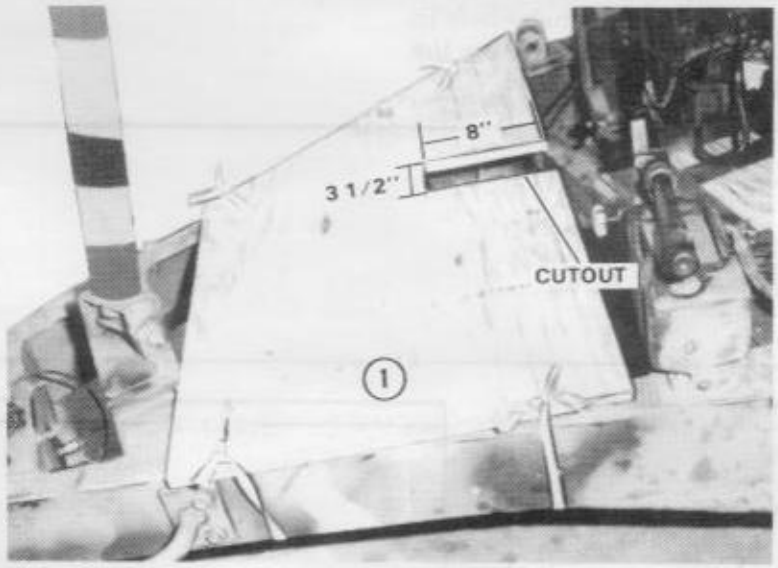
(1) Construct a 3/4-inch plywood radar antenna stowage base as shown in Figure 6-9. Make a 1/2-inch-diameter hole in each corner, with each hole 3 inches from the edge of the base.

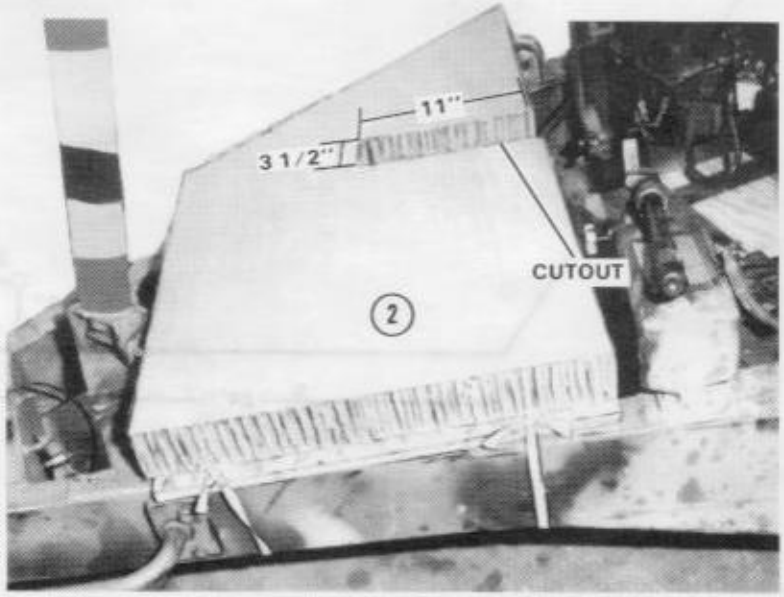


Note: This drawing is not drawn to scale.

Figure 6-9. Radar antenna stowage base construction details

(2) Tie the stowage base to the gun trails, and cover the base with honeycomb as shown in Figure 6-10.





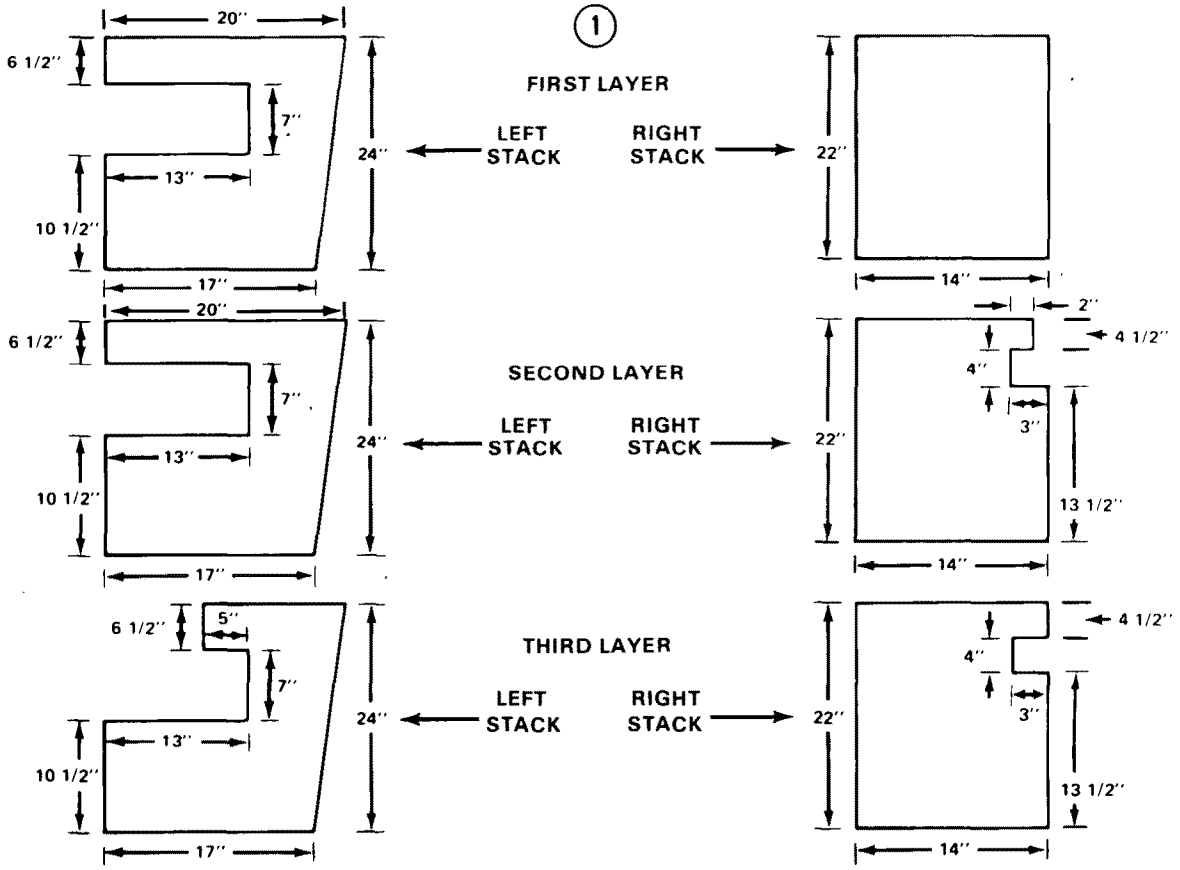
(1) Set the plywood stowage base (Figure 6-9) on the trails, and tie the base in place with 1/2-inch tubular nylon webbing run through the 1/2-inch-diameter holes in the base.

(2) Cut a piece of honeycomb to fit the plywood base. Make the cutout in the honeycomb 3 inches longer than the cutout in the plywood base. Set the honeycomb on the base.

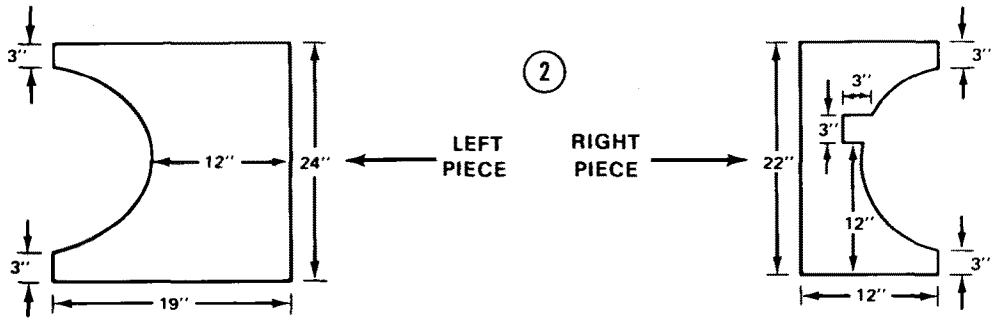
Figure 6-10. Stowage base secured and covered

(3) Build a honeycomb antenna protector according to the details in Figure 6-11.

(1) Cut six pieces of honeycomb as shown. Make two honeycomb stacks by gluing the pieces of the left stack together and the pieces of the right stack together.



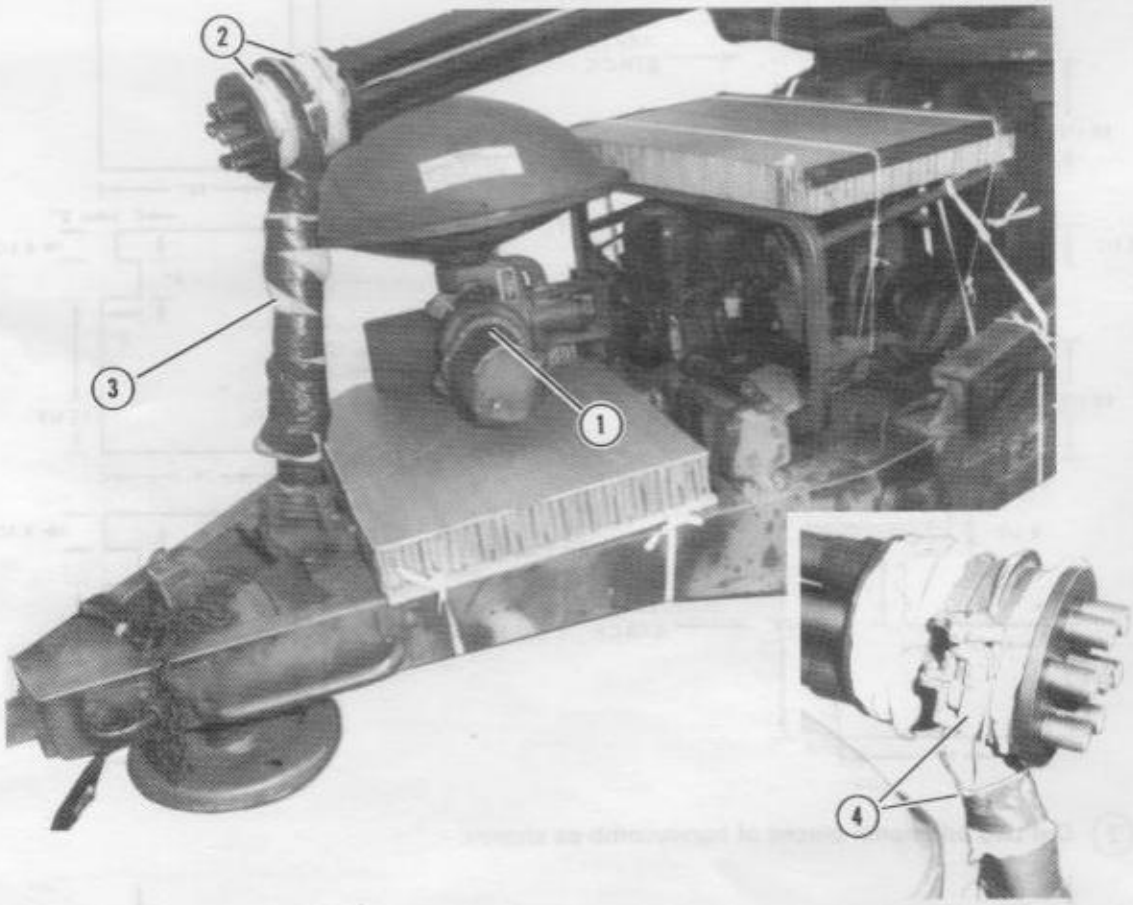
(2) Cut two additional pieces of honeycomb as shown.



Note: These drawings are not drawn to scale.

Figure 6-11. Honeycomb antenna protector

(4) Set the radar antenna in the travel position and set it on the stowage base as shown in Figure 6-12. Tie the radar antenna in place as shown in Figure 6-13.



(1) Set the antenna on the stowage base (Figure 6-10) with the base of the antenna in the 3 1/2- by 11-inch cutout in the honeycomb.

(2) Wrap the end of the barrel cluster with cellulose wadding, and tape the wadding in place.

(3) Wrap the travel lock with cellulose wadding, and tape the wadding in place.

(4) Place the gun in the travel position. Close the travel lock clamp, and tie it in place with type III nylon cord.

Figure 6-12. Radar antenna positioned and gun locked in the travel position



(1) Glue the stacks of the honeycomb antenna protector (Figure 6-11, step 1) to the honeycomb of the stowage base so that the 14- and 17-inch sides of the bottom layer of the protector are aligned with the 24-inch side of the stowage base.

(2) Tie two lengths of 1/2-inch tubular nylon webbing around the antenna, below the dish. Run one length of webbing rearward between the stacks, and tie it to the right trail. Run the second length of webbing rearward over the left stack, and tie it to the left trail.

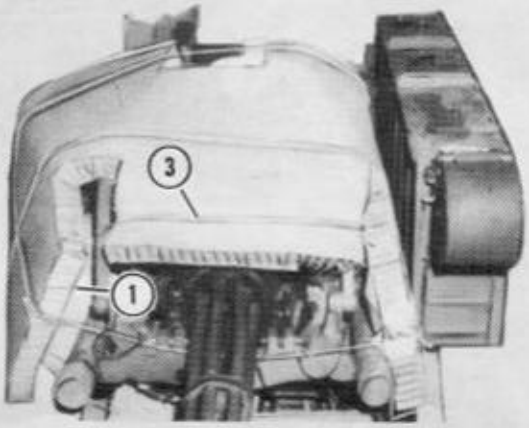
(3) Tie one length of 1/2-inch tubular nylon webbing around the antenna, below the dish. Run the webbing forward through the center tiedown provision, and tie it to the left trail.

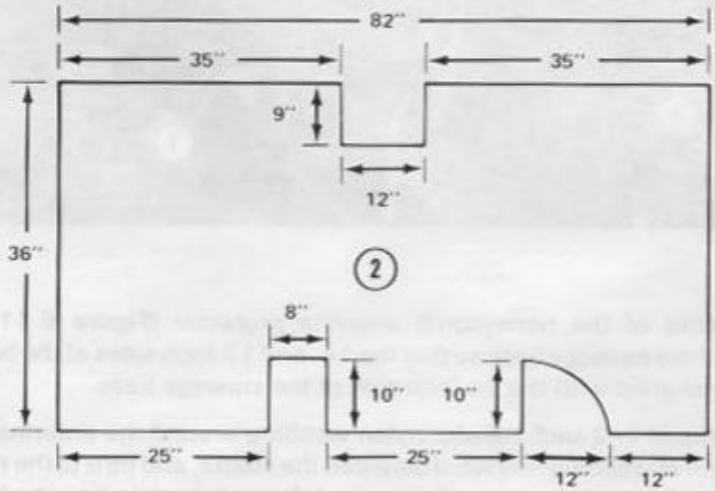
(4) Wrap the bottom of the antenna dish with cellulose wadding, and tape the wadding in place.

(5) Glue the two additional pieces of the honeycomb antenna protector (Figure 6-11, step 2) to the top of the honeycomb stacks. Push the wadding between the dish and the honeycomb pieces. Tape the sides of the top honeycomb layer. Tie the stacks in place with type III nylon cord.

Figure 6-13. Radar antenna padded and secured

e. Install and tie honeycomb protectors on the gun with type III nylon cord as shown in Figures 6-14 and 6-15. Tape the edges of the honeycomb where the type III nylon cord passes.





Note: This drawing is not drawn to scale.

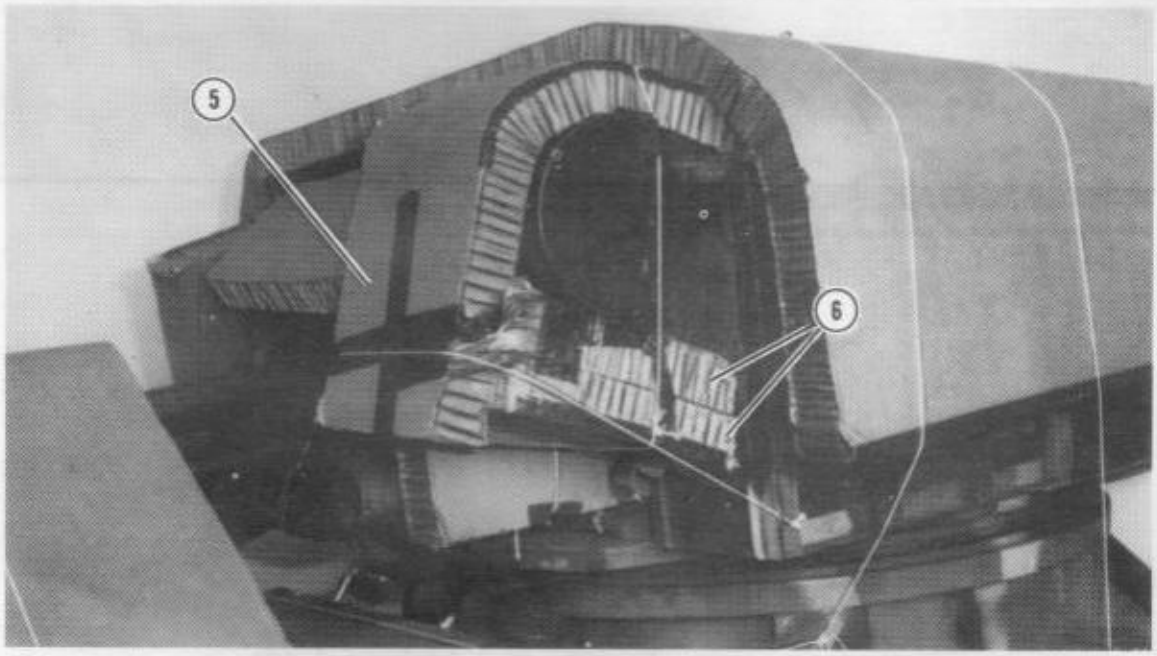
1. Pad the firing interrupter assembly with cellulose wadding, and tape the wadding in place.
2. Make cutouts in a 36- by 82-inch piece of honeycomb as shown.
3. Place the honeycomb on the gun, and bend it to fit around the sight and gun mount frame. Tie the honeycomb securely in place with type III nylon cord.

Figure 6-14. Honeycomb placed on gun



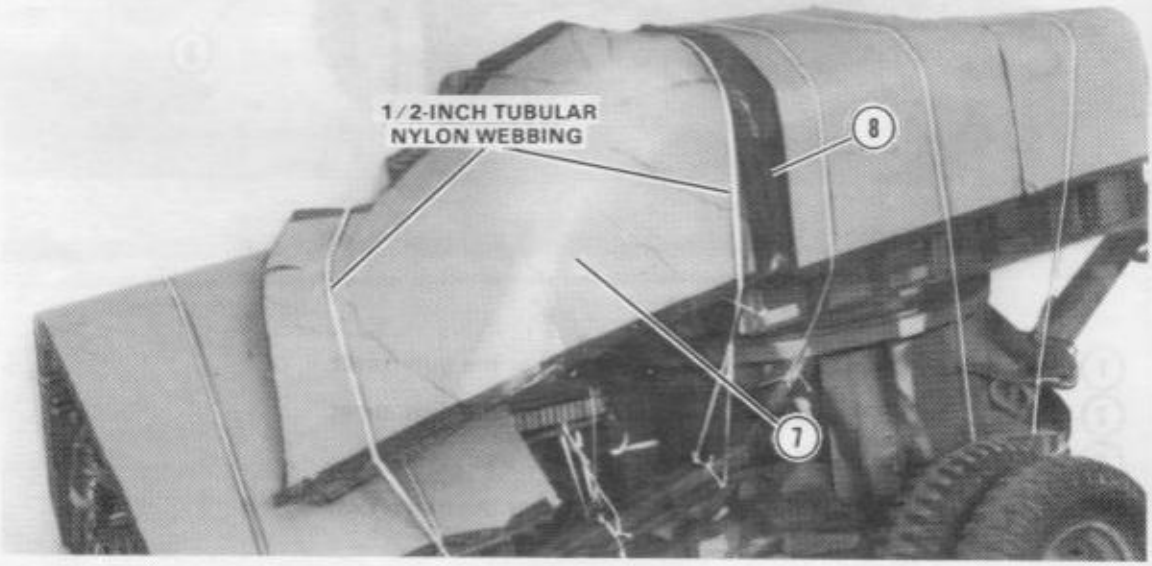
(1) Tie a 24- by 96-inch piece of honeycomb over the gun turret.
(2) Tie a 36- by 96-inch piece of honeycomb over the gun turret.
(3) Tie an 8- by 8-inch piece of honeycomb over each taillight.
(4) Tie a 36- by 82-inch piece of honeycomb over the barrel cluster.

Figure 6-15. Honeycomb protectors installed



(5) Tie a 12- by 36-inch piece of honeycomb over the roller housing.

(6) Tie two pieces of 12- by 15-inch honeycomb under the roller housing.



(7) Place a 36- by 54-inch piece of honeycomb flush against the honeycomb installed in step 2. Fold it over the roller housing, and bend it to fit the contour of the gun.

Note: Use 1/2-inch tubular nylon webbing to secure this honeycomb.

(8) Tape the honeycomb installed in step 7 above to the honeycomb installed in step 2.

Figure 6-15. Honeycomb protectors installed (continued)

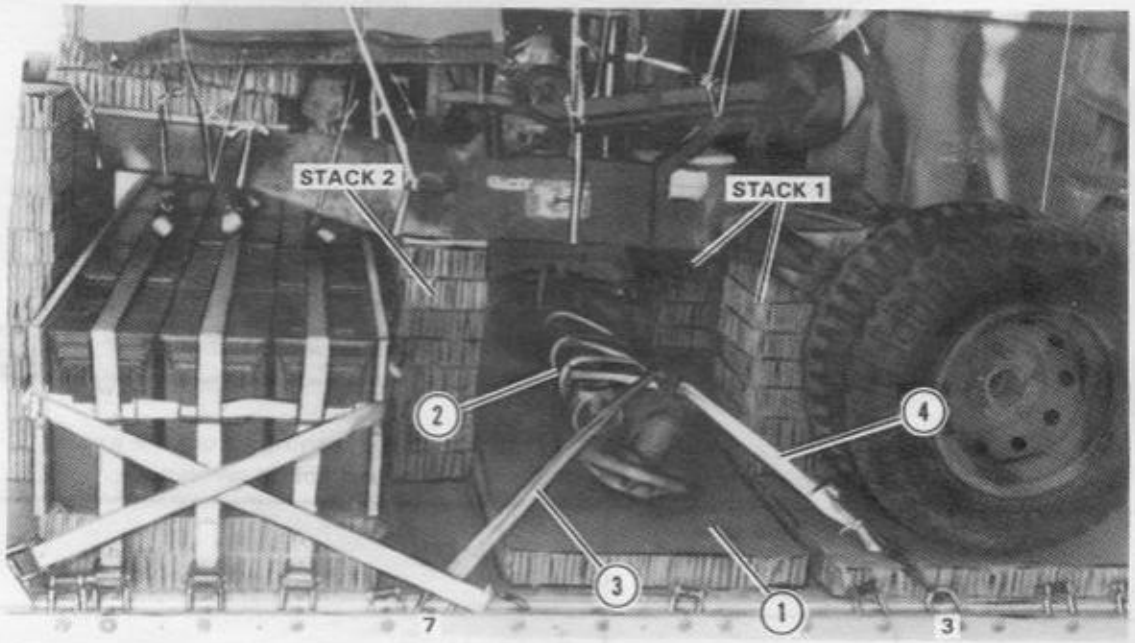
6-6. Positioning Gun

Using the outrigger arms and the front lifting point, lift the gun with four 12-foot (3-loop), type X or 12-foot (2-loop), type XXVI nylon webbing slings. Set the gun on the honeycomb stacks so that the rear of the gun overhangs the front edge of the platform by 4 inches. Remove the slings after positioning the gun.

6-7. Stowing and Lashing

Outrigger Arms

Stow and lash the outrigger arms as shown in Figure 6-16.



(1) Place a 26- by 96-inch piece of honeycomb on the platform between stacks 1 and 2.

(2) Remove the outrigger arms, and place them on the 26- by 96-inch honeycomb under the gun.

(3) Run the end of a 15-foot tiedown strap through clevis 7 and through its own D-ring. Pull the strap taut. Run the strap twice around the outrigger arms and through the lifting ring nearest to the left rail. Fit a D-ring on the end of the strap, and secure it to clevis 3A with a load binder. Fold the excess strap, and secure the folds to the load binder with tape or 80-pound cotton webbing.

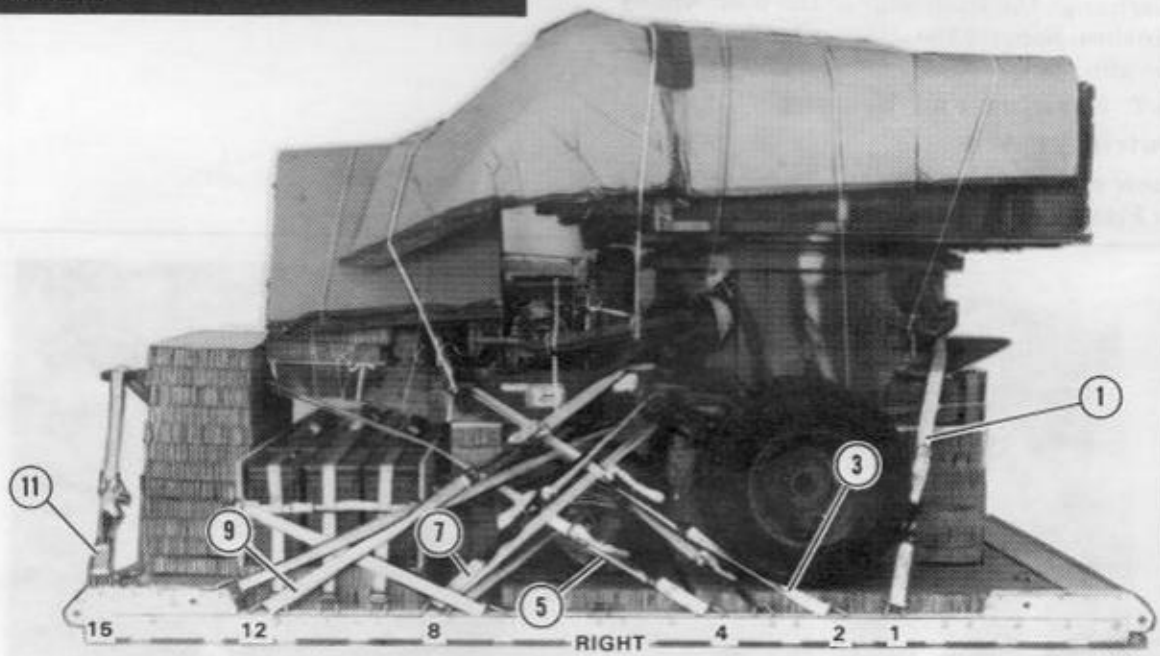
(4) Attach a second strap to clevis 7A. Run the strap in the opposite direction to the first strap, and secure it to clevis 3 as in step 3 above.

Figure 6-16. Outrigger arms stowed and lashed

6-8. Lashing Gun

Lash the gun to the platform with twelve 15-foot tiedown assemblies as shown in Figure 6-17.

CAUTION: Make sure the lashings are not so tight that they cause the platform to bow.



Note: Pad all sharp edges that may come in contact with the lashings. Fold the excess strap, and secure the folds to the binders with tape or 80-pound cotton webbing.

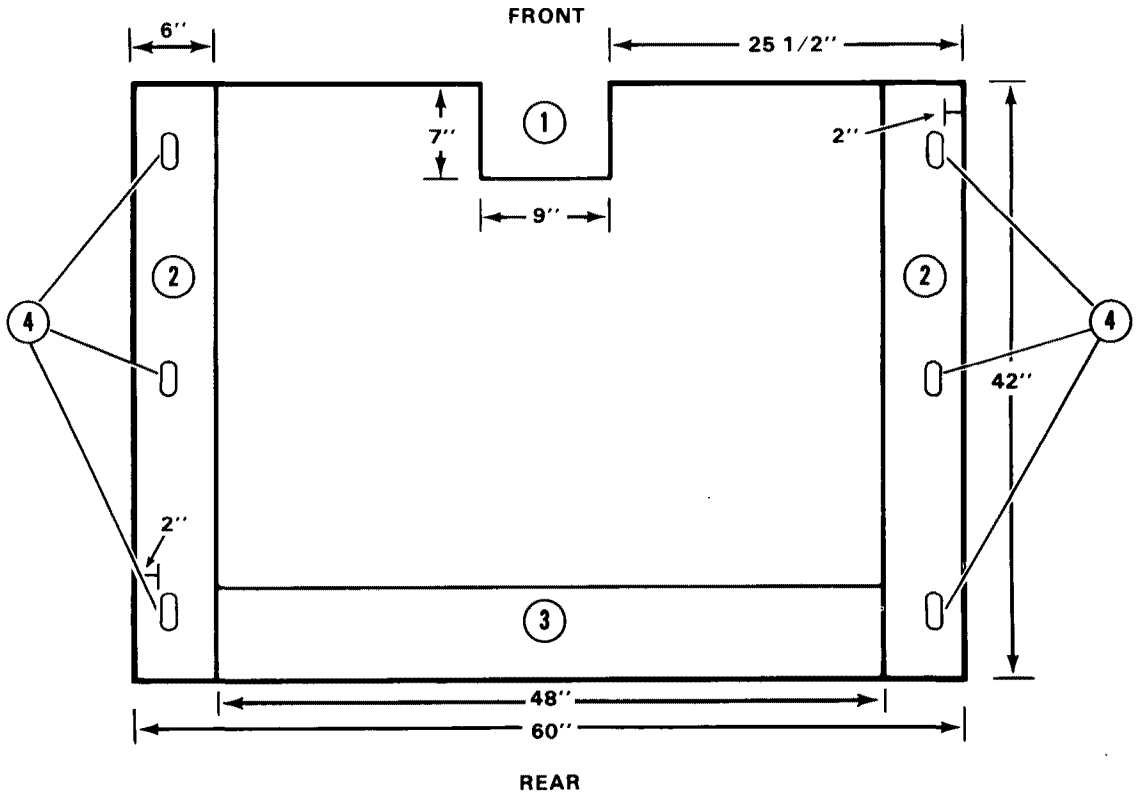
Lashing Number	Tiedown Ring/Clevis Number	Instructions
		Pass lashing:
1	1	Around the right outrigger arm lock pin.
2	1A	Around the left outrigger arm lock pin.
3	2	Through the right center tiedown provision.
4	2A	Through the left center tiedown provision.
5	4	Around the right forward section of cross member.
6	4A	Around the left forward section of cross member.
7	8	Around the suspension bar assembly, right side.
8	8A	Around the suspension bar assembly, left side.
9	12	Around the center of cross member, right side.
10	12A	Around the center of cross member, left side.
11	15	Through the lunette.
12	15A	Through the lunette.

Figure 6-17. Gun lashed to platform

6-9. Building and Installing Parachute Stowage Platform

Build and install a parachute stowage platform as given below.

a. Build a parachute stowage platform as shown in Figure 6-18.



Notes: 1. This drawing is not drawn to scale.
2. Use 36 sixpenny common wire nails to join the individual pieces.

(1) Make a 7- by 9-inch cutout in a 3/4- by 42- by 60-inch piece of plywood.

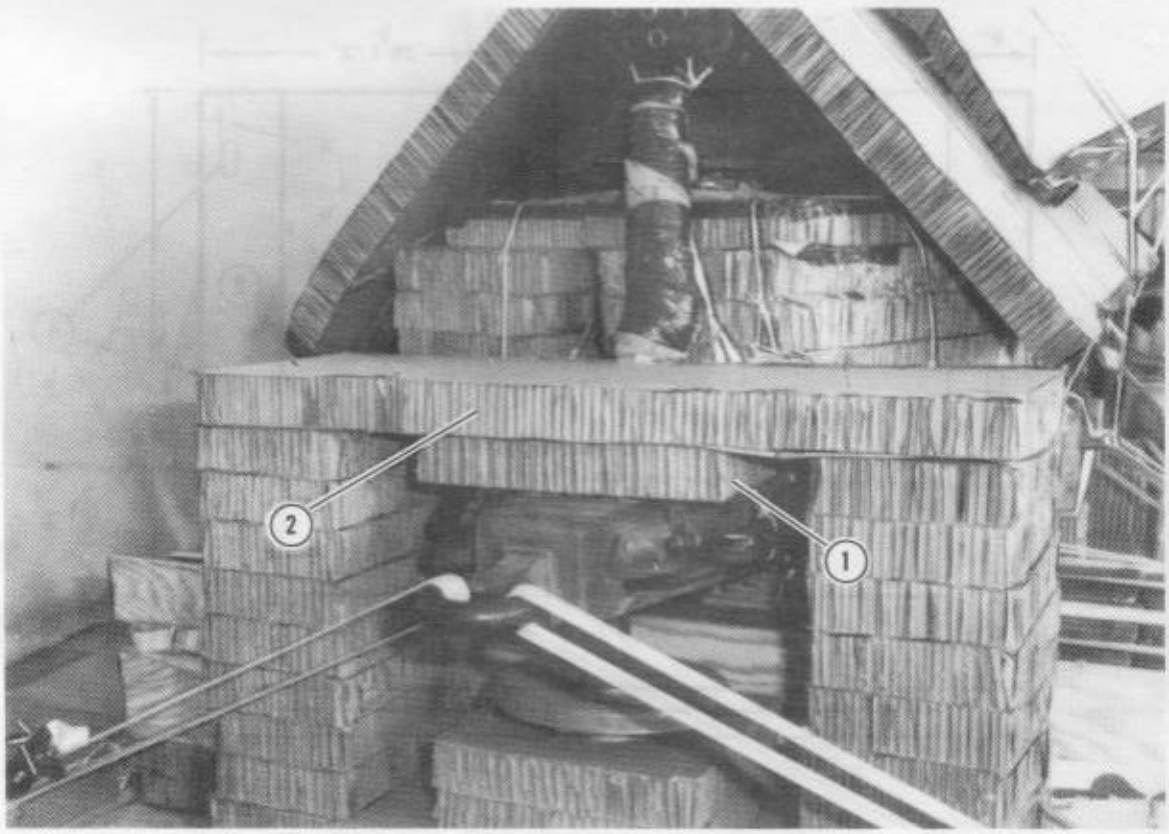
(2) Nail a 2- by 6- by 42-inch piece of lumber to each side of the plywood as shown.

(3) Nail a 2- by 6- by 48 3/4-inch piece of lumber flush with the rear edge of the plywood.

(4) Make three 2-inch holes in each 42-inch side of the platform, with each hole 2 inches from the edge.

Figure 6-18. Parachute stowage platform construction details

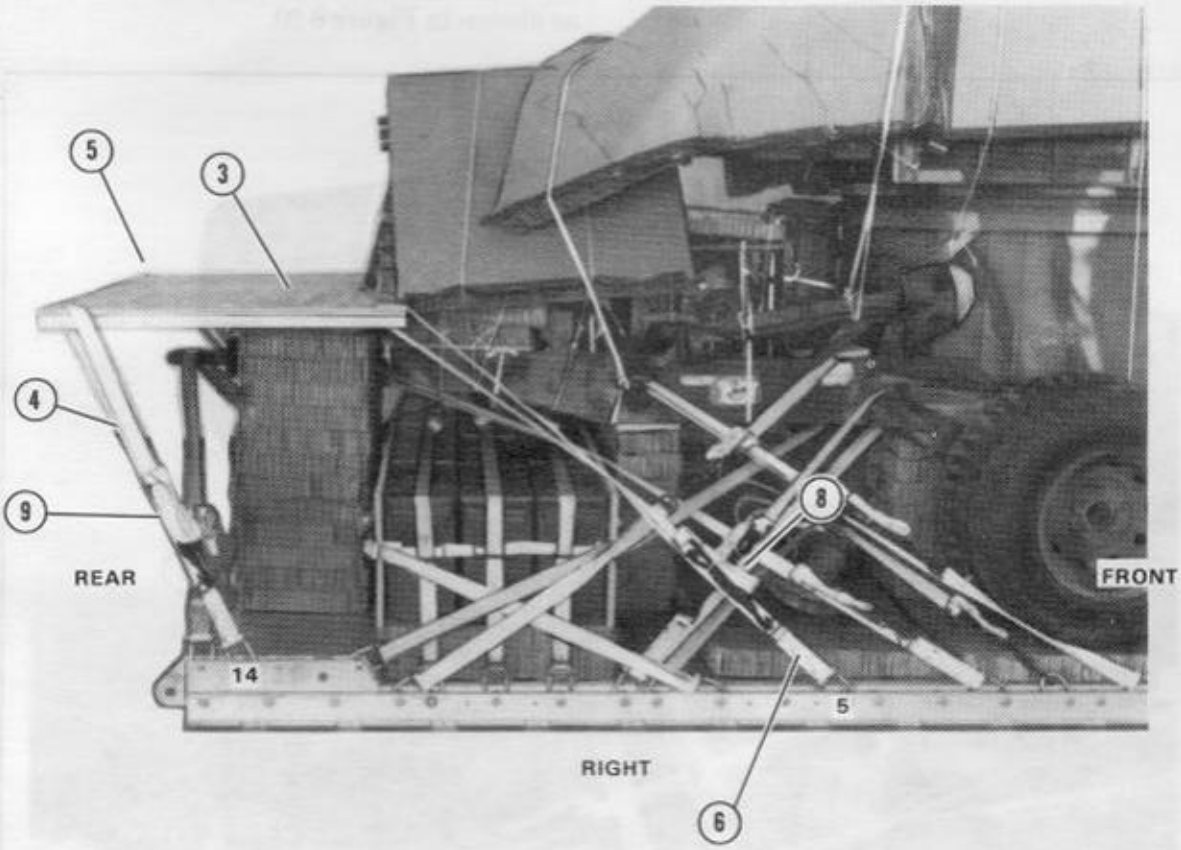
b. Install the parachute stowage platform as shown in Figure 6-19.



(1) Make a 3- by 3-inch cutout on the underside of a 10- by 18-inch piece of honeycomb, 7 1/2 inches in from the 10-inch side and 3 inches in from the 18-inch side. Position the cutout portion on the drop pad located on the tongue of the vehicle.

(2) Place a 16- by 48-inch piece of honeycomb on stack 3.

Figure 6-19. Stowage platform installed



(3) Set the stowage platform (Figure 6-18) on stack 3 with the travel lock in the 7- by 9-inch cutout.

(4) Hold the stowage platform in place with four 15-foot tiedown assemblies. Run a 15-foot tiedown lashing through the hole in the right rear corner of the stowage platform and through tiedown clevis 14. Fit a D-ring to the free end of the strap, and hook the D-rings together with a load binder.

(5) Run a second strap through the left rear hole and tiedown clevis 14A as in step 4 above.

(6) Run a third strap through the right front hole and tiedown clevis 5 as in step 4 above.

(7) Run a fourth strap through the left front hole and tiedown clevis (not shown) as in step 4 above.

(8) Pull the straps taut from steps 6 and 7 above, and close the load binders at the same time. Fold the excess strap, and tie the folds to the load binders with 80-pound cotton webbing.

(9) Pull the straps taut from steps 4 and 5 above, and close the load binders at the same time. Fold the excess strap, and tie the folds to the load binders with 80-pound cotton webbing.

Figure 6-19. Stowage platform installed (continued)

6-10. Covering Load

Cover the load with a cotton duck load cover as shown in Figure 6-20.



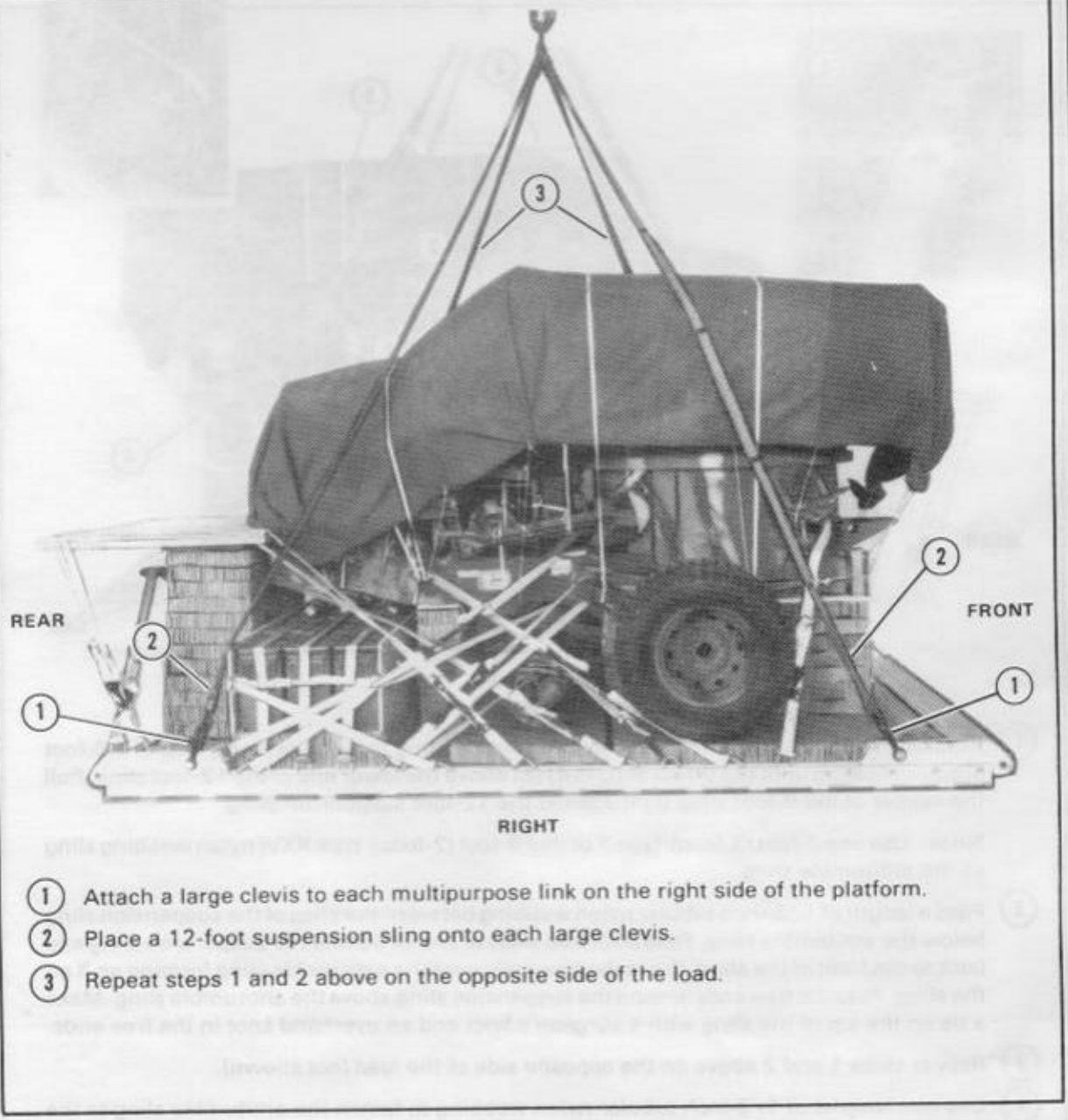
(1) Tie a 10- by 17-foot cotton duck load cover over the gun with type III nylon cord.

(2) Further secure the cover to convenient points with 1/2-inch tubular nylon webbing.

Figure 6-20. Load covered

6-11. Installing Suspension Slings

Install suspension slings as shown in Figure 6-21. Use either 12-foot (3-loop), type X or 12-foot (2-loop), type XXVI nylon webbing slings as the suspension slings. However, all slings on the load MUST be the same type.



(1) Attach a large clevis to each multipurpose link on the right side of the platform.

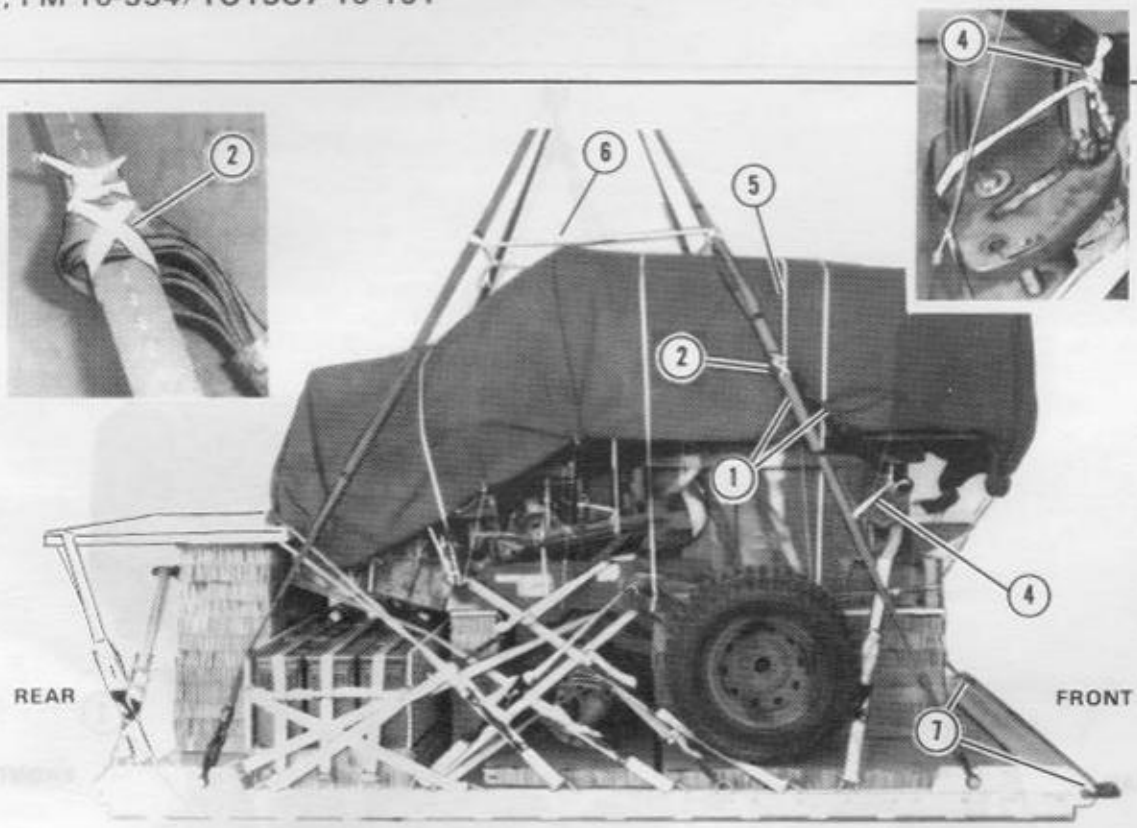
(2) Place a 12-foot suspension sling onto each large clevis.

(3) Repeat steps 1 and 2 above on the opposite side of the load.

Figure 6-21. Suspension slings installed

6-12. Safetying Suspension Slings and Installing Emergency Restraint Clevises

Safety the suspension slings and install the emergency restraint clevises as shown in Figure 6-22.



(1) Pass the end of the right front 12-foot suspension sling through one end loop of a 9-foot antitumble sling until the 9-foot sling is 4 feet above the lower end of the 12-foot sling. Pull the keeper of the 9-foot sling tight against the 12-foot suspension sling.

Note: Use one 9-foot (3-loop), type X or one 9-foot (2-loop), type XXVI nylon webbing sling as the antitumble sling.

(2) Pass a length of 1/2-inch tubular nylon webbing between the plies of the suspension sling below the antitumble sling. Pass both free ends of the tie behind the suspension sling and back to the front of the sling. Cross the free ends over the antitumble sling forming an X on the sling. Pass the free ends around the suspension sling above the antitumble sling. Make a tie on the top of the sling with a surgeon's knot and an overhand knot in the free ends.

(3) Repeat steps 1 and 2 above on the opposite side of the load (not shown).

(4) Use two lengths of 1/2-inch tubular nylon webbing to fasten the antitumble sling to the outrigger arm bracket on each side.

(5) Run a length of 1/2-inch tubular nylon webbing from the right front suspension sling, at the antitumble sling, over the top of the load to the left front suspension sling at the antitumble sling with the slings in the raised position.

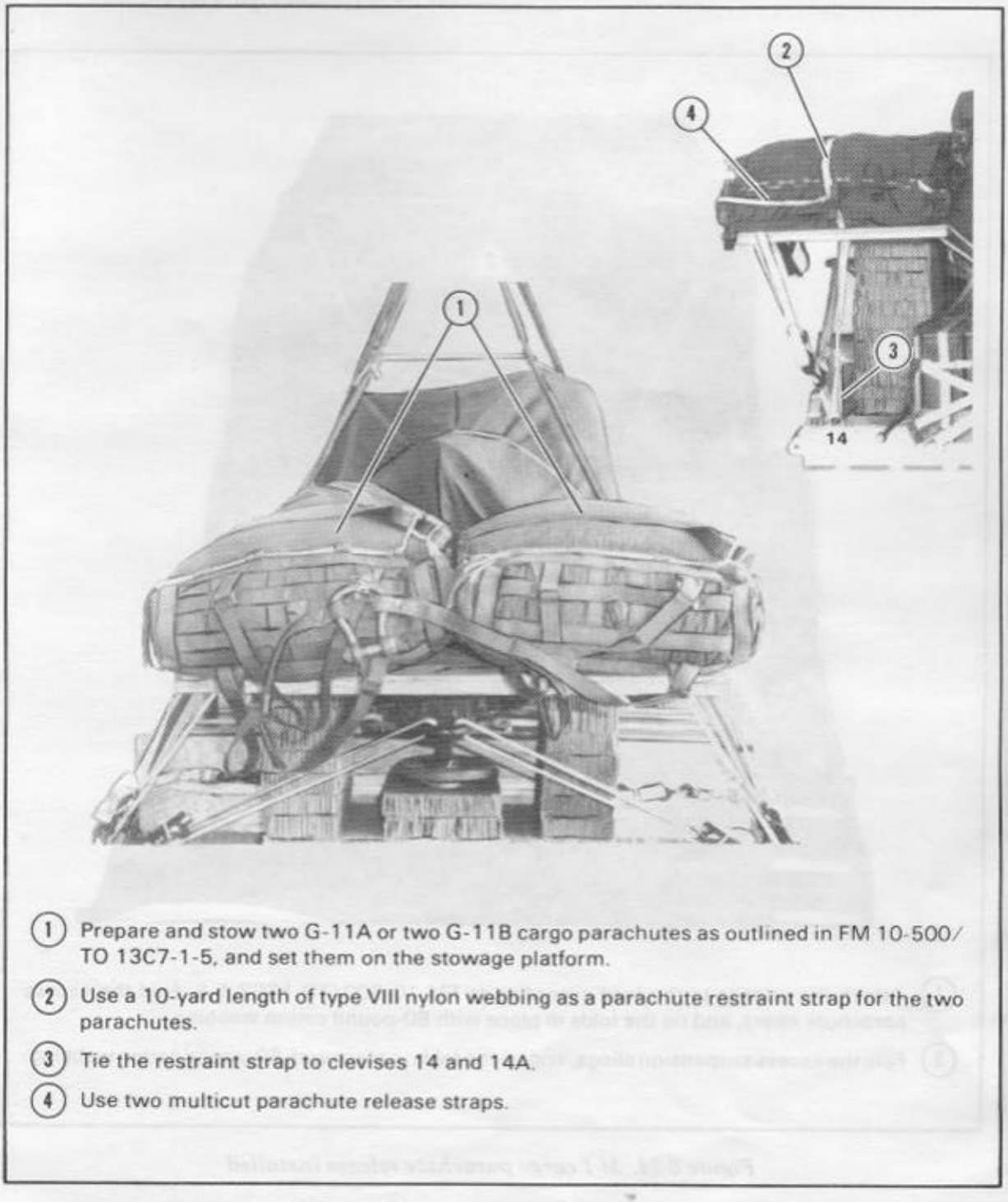
(6) Safety the slings with a deadman's tie as outlined in FM 10-500/TO 13C7-1-5.

(7) Bolt a medium clevis to the hole in the outer tip of each front multipurpose link for emergency restraint purposes.

Figure 6-22. Suspension slings safetied and emergency restraint clevises installed

6-13. Stowing Cargo Parachutes

Stow the cargo parachutes as shown in Figure 6-23.



(1) Prepare and stow two G-11A or two G-11B cargo parachutes as outlined in FM 10-500/TO 13C7-1-5, and set them on the stowage platform.

(2) Use a 10-yard length of type VIII nylon webbing as a parachute restraint strap for the two parachutes.

(3) Tie the restraint strap to clevises 14 and 14A.

(4) Use two multicut parachute release straps.

Figure 6-23. Cargo parachutes stowed

6-14. Installing Release System

Prepare, attach, and safety an M-1 cargo parachute release according to FM 10-500/TO 13C7-1-5 and Figure 6-24.



(1) Attach the release to the load according to FM 10-500/TO 13C7-1-5. Fold the excess parachute risers, and tie the folds in place with 80-pound cotton webbing.

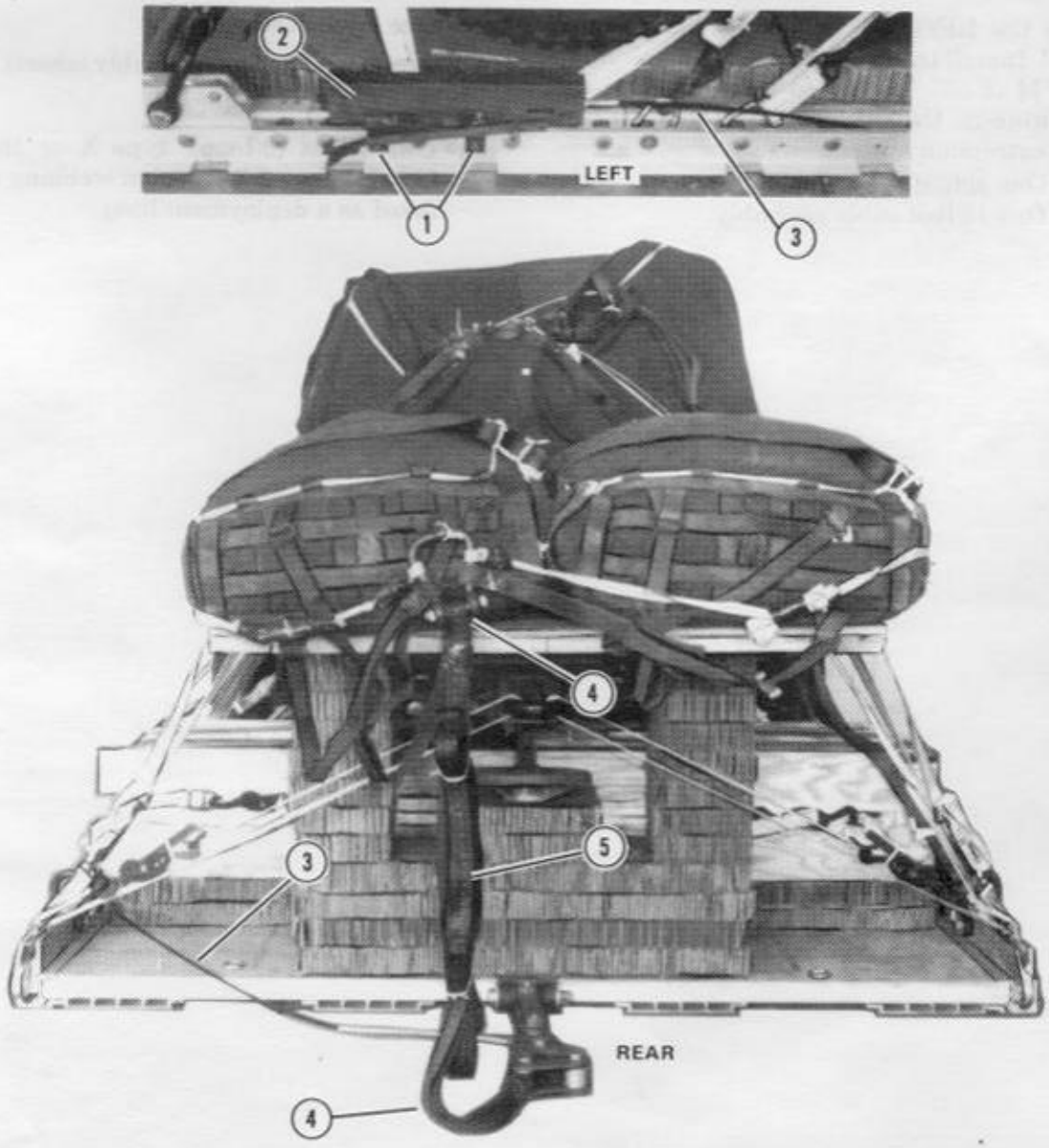
(2) Fold the excess suspension slings, and tie the folds in place with 80-pound cotton webbing.

Figure 6-24. M-1 cargo parachute release installed

6-15. Installing Extraction System

Use the EFTC extraction system for this load. Install the extraction system according to FM 10-500/TO 13C7-1-5 and as shown in Figure 6-25. Use the following items to install the extraction system:

- One actuator assembly.
- One 12-foot cable assembly.
- One latch assembly.
- One latch adapter assembly (short).
- One link assembly.
- One 9-foot (3-loop), type X or 16-foot (2-loop), type XXVI nylon webbing sling (used as a deployment line).



(1) Install the EFTA brackets on the left rail of the platform using the first pair of EFTA bracket mounting holes.

(2) Mount the EFTA to the brackets.

(3) Run a 12-foot cable assembly rearward to the latch assembly.

(4) Attach a 9-foot deployment line to the link assembly and to the large suspension clevis.

(5) Fold the excess deployment line, and tape the folds in place using 80-pound cotton webbing.

Figure 6-25. Components of the EFTC installed

6-16. Placing Extraction Parachute

Place the extraction parachute as described below.

a. C-130 Aircraft. Place an unreefed, 15-foot cargo extraction parachute with a 36-inch adapter web and a 60-foot (1-loop), type X or type XXVI nylon webbing extraction line on the load for installation in the aircraft. Use a type IV link to connect the line to the adapter web.

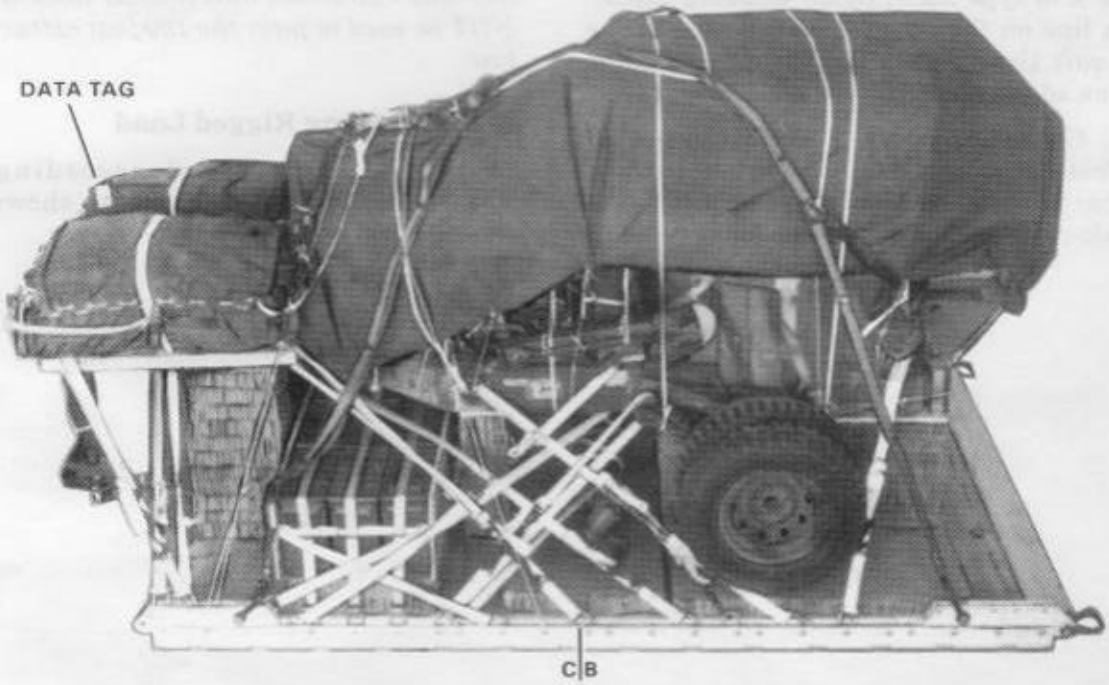
b. C-141 Aircraft. Place an unreefed, 15-foot cargo extraction parachute with a 36-inch adapter web and a continuous 160-foot (1-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft. Use a type IV link to connect the line to the adapter web.

Note: The extraction line MUST be a continuous 160-foot (1-loop), type XXVI nylon webbing extraction line. Shorter lines WILL NOT be used to form the 160-foot extraction line.

6-17. Marking Rigged Load

Mark the rigged load according to FM 10-500/TO 13C7-1-5 and as shown in Figure 6-26.

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



RIGGED LOAD DATA

Weight	7,250 pounds
Height	89 inches
Width	108 inches
Length	180 inches
Overhang: Front	4 inches
Rear	32 inches
CB (from front edge of platform)	84 inches
Extraction System	EFTC

Figure 6-26. M167A1 gun rigged on a type V airdrop platform for low-velocity airdrop

6-18. Equipment Required

Use the equipment listed in Table 6-1 to rig the M167A1 gun on a type V airdrop platform for low-velocity airdrop. This table includes the equipment required for stowing the accompanying load.

Table 6-1. Equipment required for rigging the M167A1 gun on a type V airdrop platform for low-velocity airdrop

National Stock Number	Item	Quantity
1670-00-040-8215	Adapter web, 36-in (for 15-ft parachute)	1
8040-00-273-8713	Adhesive, paste, 1-gal	As required
3990-00-937-0272	Binder, load, 10,000-lb	24
	Clevis, suspension:	
4030-00-678-8562	3/4-in (medium)	2
4030-00-090-5354	1-in (large)	5
8305-00-242-3593	Cloth, cotton duck, 60-in	As required
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
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
5365-00-937-0147	D-ring, heavy-duty, 10,000-lb	27
	Line, extraction:	
1670-01-107-7652	Type XXVI nylon webbing, 160-ft (1-loop)	1
1670-01-064-4452	Type XXVI nylon webbing, 60-ft (1-loop) or	1
1670-00-856-0265	Type X nylon webbing, 60-ft (1-loop) (use with 15-ft parachute)	1
1670-00-783-5988	Link assembly, type IV	1
5510-00-220-6448	Lumber, 2- by 6-in:	
	42-in	2
	48 3/4-in	1
5315-00-010-4657	Nail, steel wire, common, 6d	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	14 sheets
	4- by 6-in	(4)
	8- by 8-in	(2)
	8- by 44-in	(8)
	10- by 16-in	(16)
	10- by 18-in	(1)
	12- by 15-in	(2)
	12- by 18-in	(4)
	12- by 22-in	(1)
	12- by 36-in	(1)
	12- by 48-in	(12)

Table 6-1. Equipment required for rigging the M167A1 gun on a type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
	12- by 50-in	(1)
	14- by 22-in	(3)
	16- by 16-in	(2)
	16- by 48-in	(5)
	19- by 24-in	(1)
	20- by 24-in	(3)
	20- by 30-in	(1)
	22- by 41-in	(1)
	24- by 96-in	(1)
	26- by 96-in	(3)
	36- by 48-in	(2)
	36- by 54-in	(1)
	36- by 82-in	(2)
	36- by 96-in	(1)
1670-01-183-2678	Panel, sling, extraction line	1
	Parachute:	
1670-00-269-1107	Cargo, G-11A or	2
1670-01-016-7841	Cargo, G-11B	2
1670-00-052-1548	Cargo extraction, 15-ft (unreefed)	1
	Platform, airdrop, type V	1
1670-01-162-2375	Bracket, inside EFTA	(1)
1670-01-162-2374	Bracket, outside EFTA:	(1)
5306-00-206-2865	Bolt, machine, 3/8-in diam, 1 9/16-in long	(2)
5310-00-950-0039	Nut, self-locking, hexagon, 3/8-in diam	(2)
5310-00-167-0821	Washer, flat, 3/8-in diam	(4)
1670-01-162-2372	Clevis, load tiedown:	(30)
5306-00-156-2644	Bolt	(30)
5310-00-088-0552	Nut, self-locking	(30)
1670-01-162-2373	Spacer	(30)
5310-00-809-4061	Washer, flat	(30)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-162-2381	Multipurpose link	(4)
1670-01-162-2383	Pad, roller, 12-foot:	(4)
5306-00-206-2865	Bolt, machine, 3/8-in diam, 1 9/16-in long	(96)
5310-00-167-0821	Washer, flat, 3/8-in diam	(104)
1670-01-168-8397	Panel, platform, main	(5)
1670-01-168-8398	Panel, platform, rear	(1)
1670-01-162-2370	Rail, platform side, 12-foot:	(2)
5306-00-638-7718	Bolt, machine, 1/2-in diam, 3 13/64-in long	(48)
1670-01-162-2384	Bushing, 12-foot	(48)
5310-00-167-0823	Washer, flat, 7/16-in diam	(48)

Table 6-1. Equipment required for rigging the M167A1 gun on a type V airdrop platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5530-00-128-4981	Plywood, 3/4-in:	
	8- by 37 1/2-in	1
	8- by 44-in	1
	11- by 28-in	1
	12- by 48-in	2
	15- by 96-in	2
	22- by 41-in	1
	42- by 60-in	1
1670-01-097-8816	Release, cargo parachute, M-1	1
	Sling, cargo, airdrop:	
	For antitumble sling:	
1670-00-753-3631	9-ft (3-loop), type X nylon webbing or	1
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For deployment line:	
1670-00-753-3631	9-ft (3-loop), type X nylon webbing or	1
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For lifting load:	
1670-00-823-5041	12-ft (3-loop), type X nylon webbing or	4
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	4
	For riser extensions:	
1670-00-753-3794	20-ft (2-loop), type X nylon webbing or	2
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	2
1670-00-998-0116	Strap, parachute release, with fastener and release knife	2
1670-00-368-7486	Strap, webbing, nylon (shear strap), 60-in (HAARS)	1
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	27
	Webbing:	
8305-00-268-2411	Cotton, 80-lb	As required
8305-00-082-5752	Nylon, tubular, 1/2-in, 1,000-lb, natural	As required
8305-00-263-3591	Nylon, type VIII, 3,600-lb	10 yards

CHAPTER 8

RIGGING THE M167A2 GUN WITH THE 1 1/4-TON TRUCK (HMMWV) AND ACCOMPANYING AMMUNITION ON A TYPE V PLATFORM FOR LOW-VELOCITY AIRDROP

8-1. Description of Load

The M167A2, 20-millimeter gun is rigged with the 1 1/4-ton truck (HMMWV) as its prime mover and an accompanying load of 6,700 rounds of ammunition on a 32-foot, type V airdrop platform. This load requires five G-11B cargo parachutes.

8-2. Preparing Platform

Prepare a 32-foot, type V airdrop platform as given below.

a. Inspecting Platform. Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.

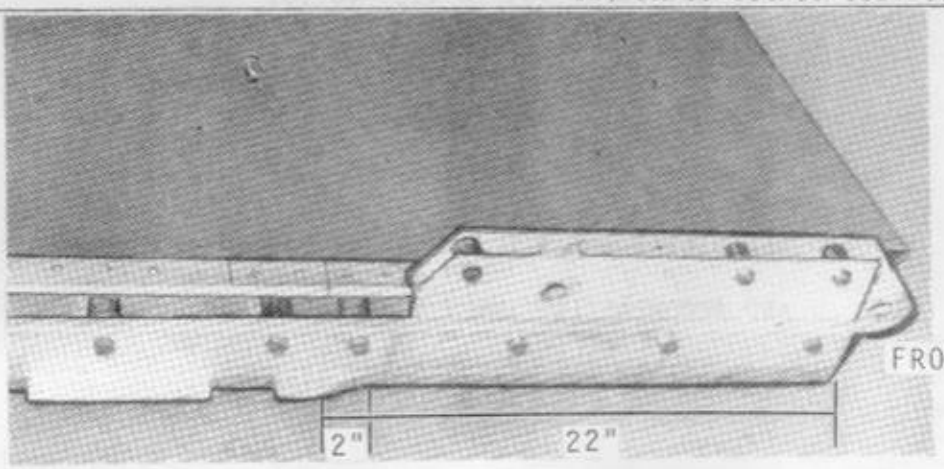
Note: If the platform must be assembled, install the suspension links when assembling the platform. See Figure 8-1 for the location of the suspension links.

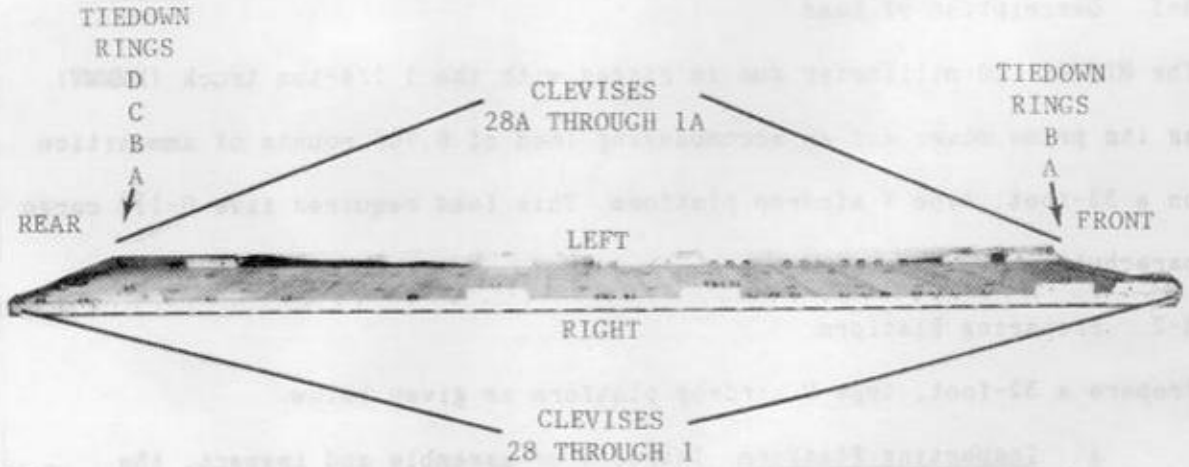
b. Installing Suspension Links. Install the suspension links on assembled platforms according to FM 10-500-2/TO 13C7-1-5.

c. Installing Tandem Links. Install a tandem link on the front of each rail as shown in Figure 8-1.

d. Attaching and Numbering Clevises. Attach and number 56 clevis assemblies as shown in Figure 8-1.

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





Step:

Note: Make the modifications shown in steps 1 and 2 if the manufacturer has not modified the platform side rails.

1. Cut off the indent locks 22 inches from the front of the platform, even with the platform side rails. Taper the cut 2 inches to the edge of the third indent lock.

2. Drill a set of EFTC bracket holes in the left rail. Drill the first .406-inch diameter hole 120 inches on center from the front edge of the rail and 1 1/8 inches on center from the top of the rail. Drill the second hole 7 1/4 inches on center from the first hole and 1 1/8 inches from the top of the rail.

3. Install a suspension link in holes 26, 27, and 28 on each platform side rail. Face the flat part of the link to the front of the rail.

4. Install a suspension link in holes 6, 7, and 8 on each platform side rail. Face the flat part of the link to the front of the rail.

Figure 8-1. Platform prepared

5. Install a suspension link in holes 37, 38, and 39 on each platform side rail. Face the flat part of the link to the rear of the rail.

6. Install a suspension link in holes 57, 58, and 59 on each platform side rail. Face the flat part of the link to the rear of the rail.

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

8. Install clevises on bushings 1, 2, and 4 on each front tandem link.

9. Install a clevis on bushing 3 on the first suspension link on each side.

10. Install clevises on bushings 1, 2, and 3 on the second suspension link on each side.

11. Install a clevis on bushing 2 on the third suspension link on each side.

12. Install a clevis on bushing 2 on the fourth suspension link on each side.

13. Starting at the front of each platform side rail, install clevises on each platform side rail using the bushings bolted on holes 11, 13, 14, 15, 17, 18, 19, 22, 23, 24, 31, 32, 33, 43, 50, 54, 61, 63, and 64.

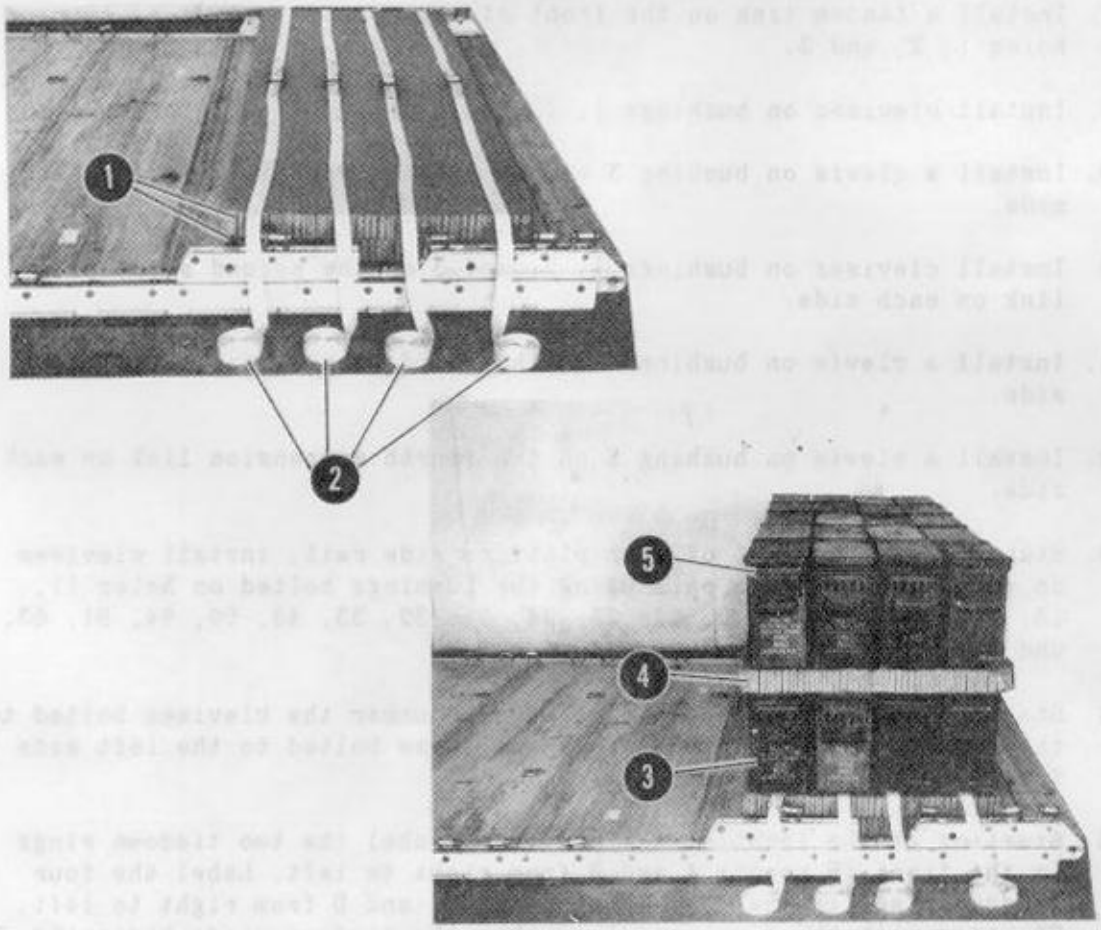
14. Starting at the front of the platform, number the clevises bolted to the right side from 1 through 28 and those bolted to the left side from 1A through 28A.

15. Starting at the front of the platform, label the two tiedown rings in the first 15 panels A and B from right to left. Label the four tiedown rings in the last panel A, B, C, and D from right to left. Starting with the first panel, number the tiedown rings beginning with 1 from front to rear.

Figure 8-1. Platform prepared (continued)

8-3. Stowing Accompanying Load

Stow 55 boxes of 20-millimeter ammunition on the platform as shown in Figures 8-2, 8-3, and 8-4.



① Center two 96- by 36-inch pieces of honeycomb 6 inches from the front edge of the platform.

② Form four 30-foot lashings (FM 10-500-2/TO 13C7-1-5), and evenly space the lashings from right to left across the honeycomb.

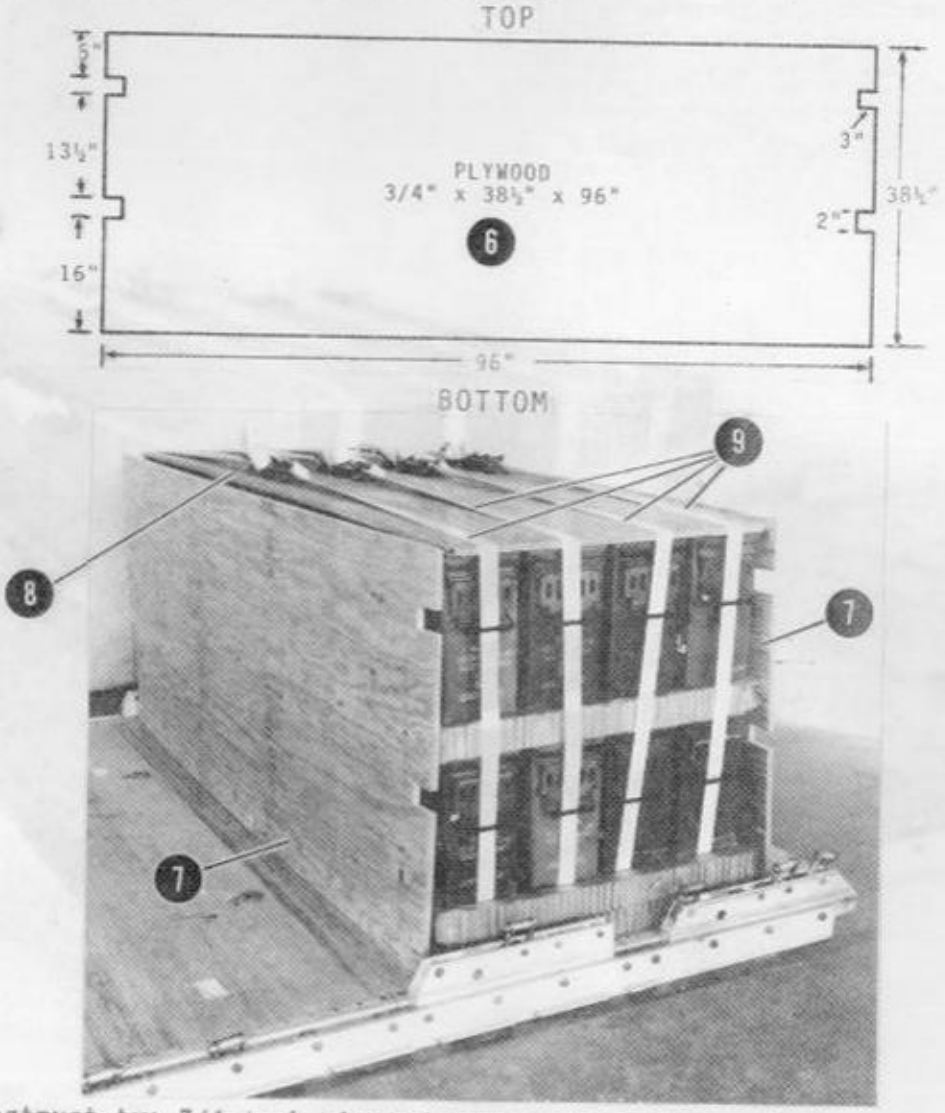
③ Place four rows of five boxes of 20-millimeter ammunition flush on the honeycomb over the lashings.

④ Place a 96- by 36-inch piece of honeycomb on top of the boxes.

⑤ Place 20 additional ammunition boxes on top of the honeycomb.

Figure 8-2. Forty boxes of ammunition placed on platform

Note: This drawing is not drawn to scale.



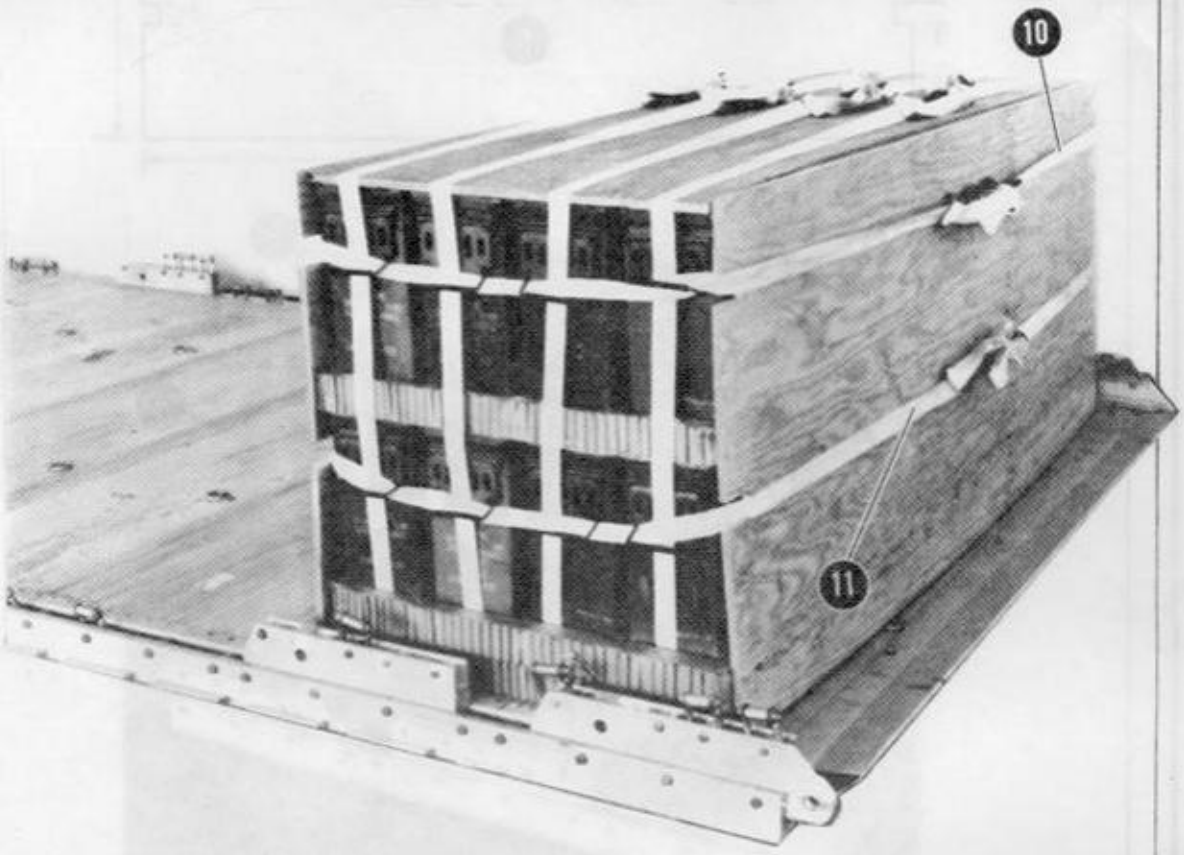
⑥ Construct two 3/4-inch plywood endboards as shown above.

⑦ Place an endboard against the front and rear of the boxes.

⑧ Place a 3/4- by 33- by 95-inch piece of plywood flush over the boxes.

⑨ Run each of the lashings placed in step 2 up through the box carrying handles and over the plywood placed in step 8. Fasten each lashing in the center of the plywood with two D-rings and a load binder.

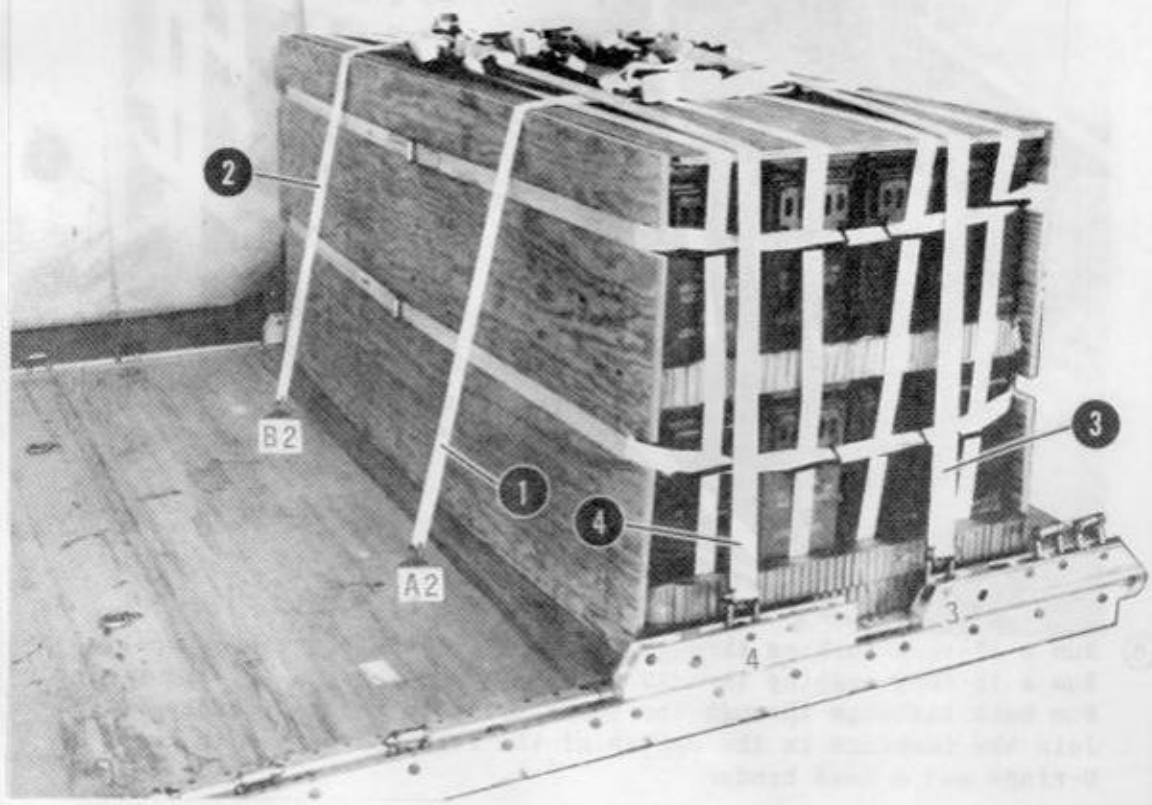
Figure 8-2. Forty boxes of ammunition placed on platform (continued)



(10) Form a 30-foot lashing (FM 10-500-2/TO 13C7-1-5), and run the lashing through the upper slots in the endboards and through the carrying handles of the upper rows of boxes. Secure the lashing in the center of the front endboard with two D-rings and a load binder.

(11) Form a 30-foot lashing (FM 10-500-2/TO 13C7-1-5), and run the lashing through the lower slots in the endboards and through the carrying handles of the lower rows of boxes. Secure the lashing in the center of the front endboard with two D-rings and a load binder.

Figure 8-2. Forty boxes of ammunition placed on platform (continued)



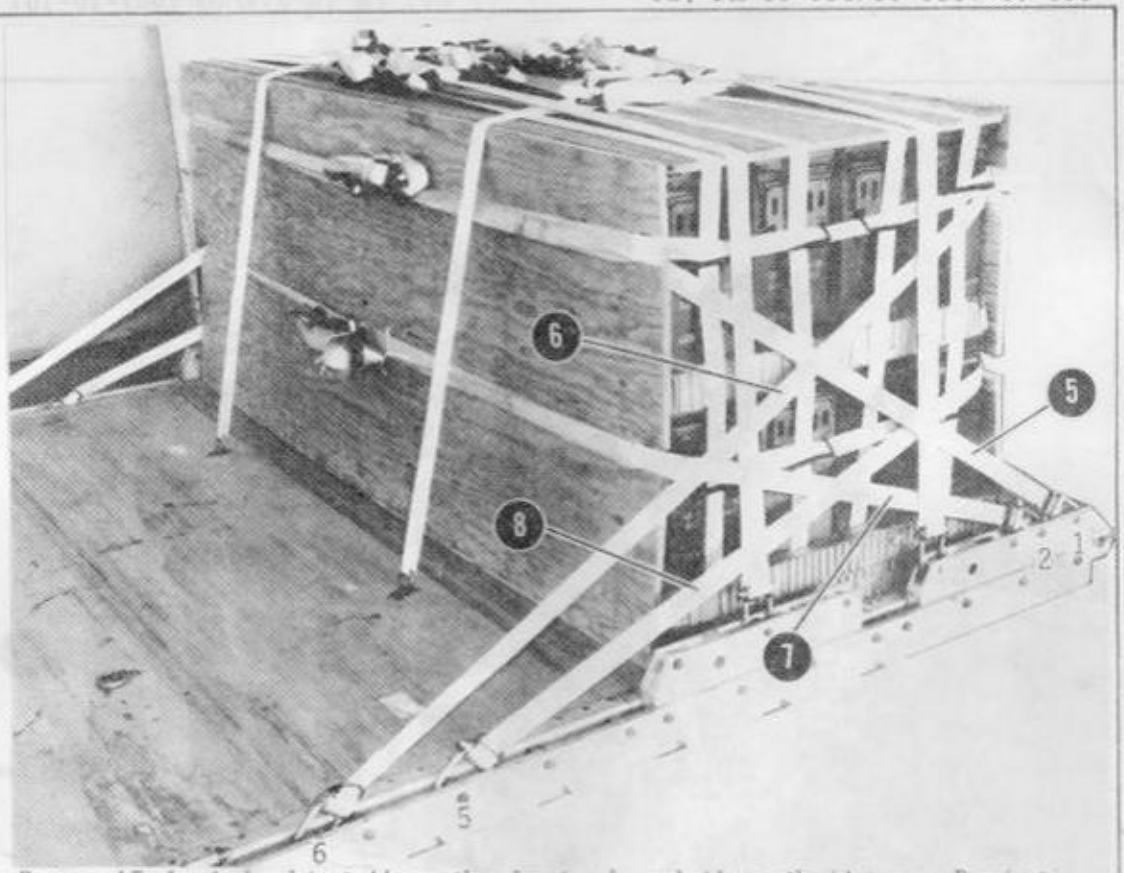
(1) Form a 30-foot lashing (FM 10-500-2/TO 13C7-1-5), and center the lashing from front to rear on top of the ammunition. Pass the free ends of the lashing through tiedown rings A1 and A2, and bring the free ends back to the top of the ammunition. Secure the ends of the lashing on top of the load with two D-rings and a load binder.

(2) Repeat step 1 using tiedown rings B1 and B2.

(3) Form a 30-foot lashing (FM 10-500-2/TO 13C7-1-5), and center the lashing side to side on top of the ammunition. Pass the free ends of the lashing through clevises 3 and 3A, and bring the free ends back to the top of the ammunition. Secure the ends of the lashing on top of the load with two D-rings and a load binder.

(4) Repeat step 3 using clevises 4 and 4A.

Figure 8-3. Forty boxes of ammunition lashed to platform



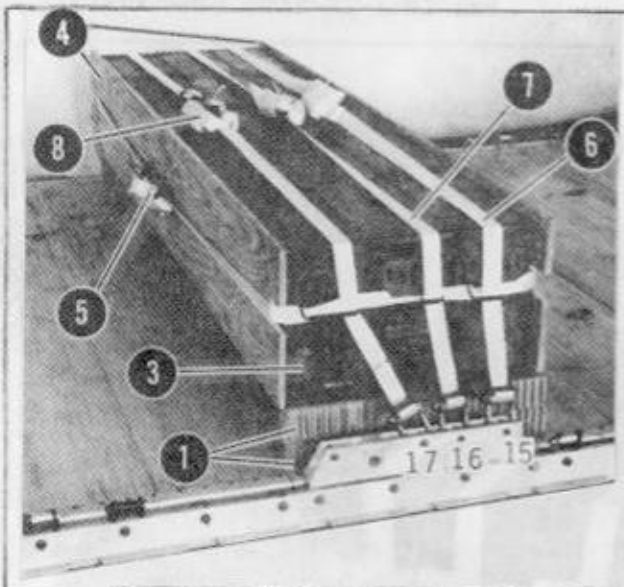
(5) Run a 15-foot lashing through clevis 1 and through its own D-ring. Run a 15-foot lashing through clevis 1A and through its own D-ring. Run both lashings through the upper slots in the rear endboard. Join the lashings in the center of the rear endboard with two D-rings and a load binder.

(6) Run a 15-foot lashing through clevis 6 and through its own D-ring. Run a 15-foot lashing through clevis 6A and through its own D-ring. Run both lashings through the upper slots in the front endboard. Join the lashings in the center of the front endboard with two D-rings and a load binder.

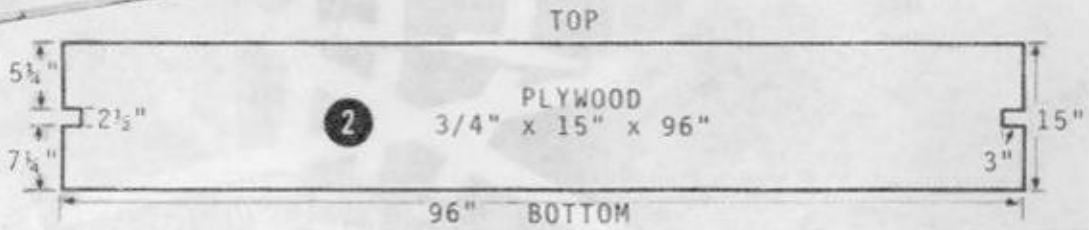
(7) Run a 15-foot lashing through clevis 2 and through its own D-ring. Run a 15-foot lashing through clevis 2A and through its own D-ring. Run both lashings through the lower slots in the rear endboard. Join the lashings in the center of the rear endboard with two D-rings and a load binder.

(8) Run a 15-foot lashing through clevis 5 and through its own D-ring. Run a 15-foot lashing through clevis 5A and through its own D-ring. Run both lashings through the lower slots in the front endboard. Join the lashings in the center of the front endboard with two D-rings and a load binder.

Figure 8-3. Forty boxes of ammunition lashed to platform (continued)



Note: This drawing is not drawn to scale.



(1) Center two 96- by 26-inch pieces of honeycomb 143 inches from the front edge of the platform.

(2) Construct two 3/4-inch plywood endboards as shown above.

(3) Place three rows of five boxes of 20-millimeter ammunition flush on the honeycomb.

(4) Place an endboard against the front and rear sides of the boxes.

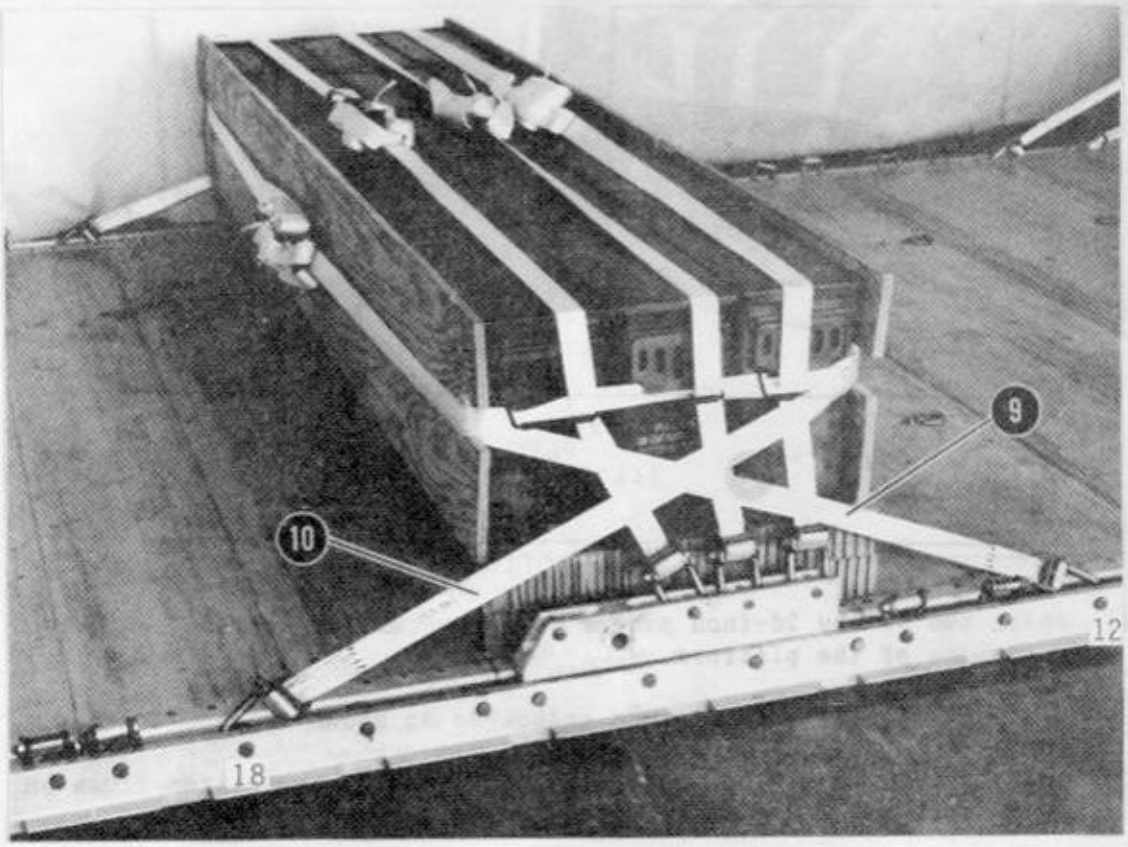
(5) Form a 30-foot lashing (FM 10-500-2/TO 13C7-1-5), and run the lashing through the slots in both endboards and through the box carrying handles. Secure the free ends of the lashing in the center of the rear endboard with two D-rings and a load binder.

(6) Run a 15-foot lashing through clevis 15 and through its own D-ring. Run a 15-foot lashing through clevis 15A and through its own D-ring. Run both lashings through the carrying handles of the first row of boxes. Join the lashings on top of the boxes with two D-rings and a load binder.

(7) Repeat step 5 using clevises 16 and 16A and the second row of boxes.

(8) Repeat step 5 using clevises 17 and 17A and the third row of boxes.

Figure 8-4. Fifteen boxes of ammunition placed on and lashed to platform



(9) Run a 15-foot lashing through clevis 12 and through its own D-ring. Run a 15-foot lashing through clevis 12A and through its own D-ring. Run both lashings through the slot in the rear endboard. Join the lashings in the center of the rear endboard with two D-rings and a load binder.

(10) Run a 15-foot lashing through clevis 18 and through its own D-ring. Run a 15-foot lashing through clevis 18A and through its own D-ring. Run both lashings through the slot in the front endboard. Join the lashings in the center of the front endboard with two D-rings and a load binder.

Figure 8-4. Fifteen boxes of ammunition placed on and lashed to platform (continued)

8-4. Preparing and Placing Honeycomb Stacks

Prepare and place honeycomb stacks as described below.

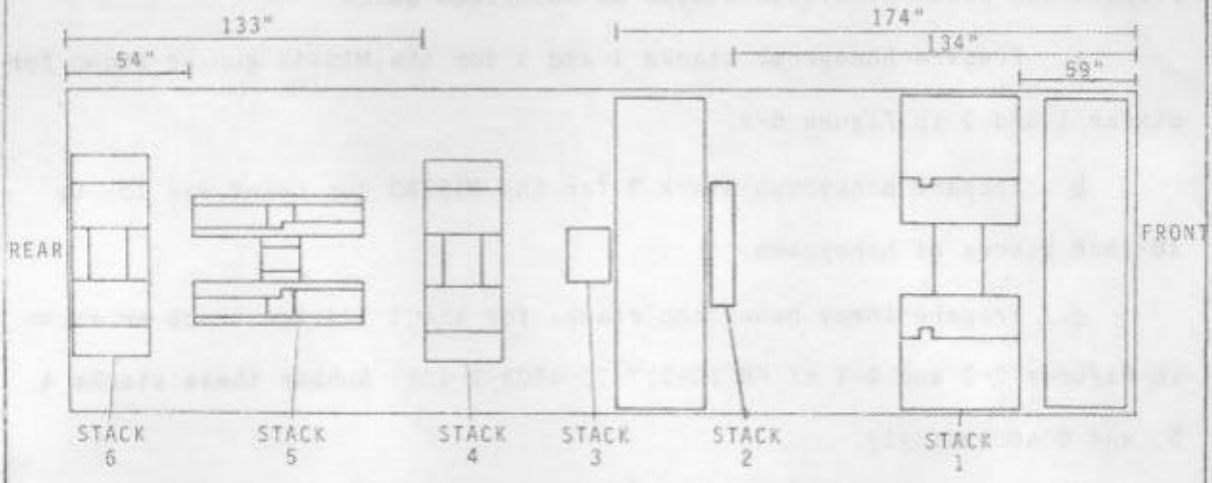
a. Prepare honeycomb stacks 1 and 2 for the M167A2 gun as shown for stacks 1 and 2 in Figure 6-2.

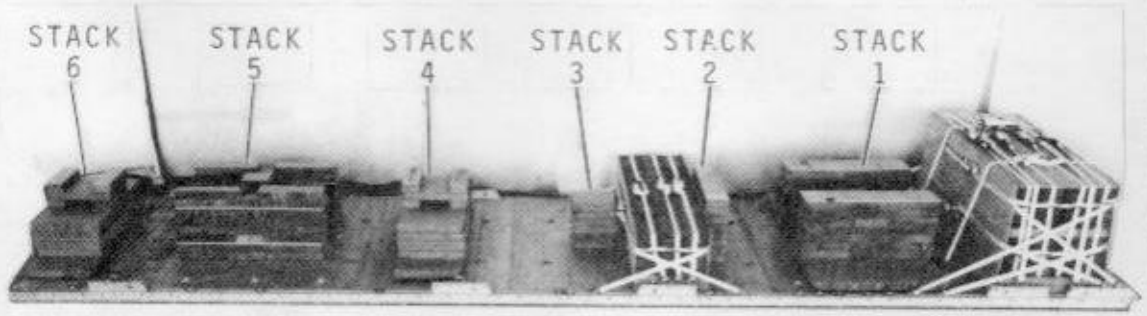
b. Prepare honeycomb stack 3 for the M167A2 gun using six 16- by 16-inch pieces of honeycomb.

c. Prepare three honeycomb stacks for the 1 1/4-ton truck as shown in Figures 2-3 and 2-4 of FM 10-517/TO 13C7-1-111. Number these stacks 4, 5, and 6 accordingly.

d. Place the stacks on the platform as shown in Figure 8-5.

Note: This drawing is not drawn to scale.





Stack Number	Position of Stack on Platform
	Place stack:
1	Centered with the front edge of the stack 59 inches from the front edge of the platform.
2	Centered with the front edge of the stack 134 inches from the front edge of the platform.
3	Centered with the front edge of the stack 174 inches from the front edge of the platform.
4	Centered with the rear edge of the stack 133 inches from the rear edge of the platform.
5	Centered with the rear edge of the stack 54 inches from the rear edge of the platform.
6	Centered flush with the rear edge of the platform.

Figure 8-5. Honeycomb stacks positioned on platform

8-5. Preparing Gun and Truck

Prepare the gun and the truck as given below.

a. Prepare the M167A2 gun as described for the M167A1 gun in paragraph 6-5.

b. Cover the gun as shown in Figure 6-20.

c. Prepare the 1 1/4-ton truck as given in paragraph 2-4 of FM 10-517/TO 13C7-1-111 with the following exception: Place only one layer of honeycomb on the hood of the truck.

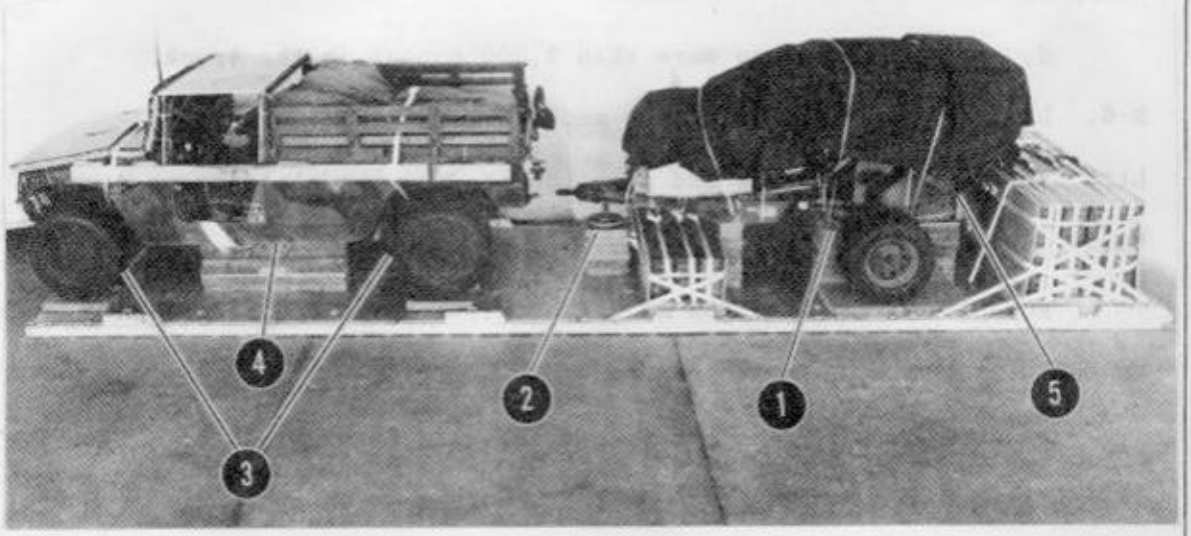
d. Rig a load of no more than 2,000 pounds in the truck.

8-6. Lifting and Positioning Gun and Truck

Lift the gun and the truck and position them on the platform as given below.

a. Lift the M167A2 gun as given in paragraph 6-6. Position the gun on the platform as shown in Figure 8-6.

b. Lift the 1 1/4-ton truck as shown in Figure 2-16 of FM 10-517/TO 13C7-1-111. Position the truck on the platform as shown in Figure 8-6.



(1) Position the gun on honeycomb stacks 1, 2, and 3. Be sure that the carriage tub assembly is centered on stack 1 and that the travel lock pin is engaged and fits over the cutouts in the plywood on stack 1.

(2) Be sure that the gun drop pad rests squarely on stack 3.

(3) Position the truck on stacks 4, 5, and 6. Be sure that the suspension cross members rest squarely on stacks 4 and 6.

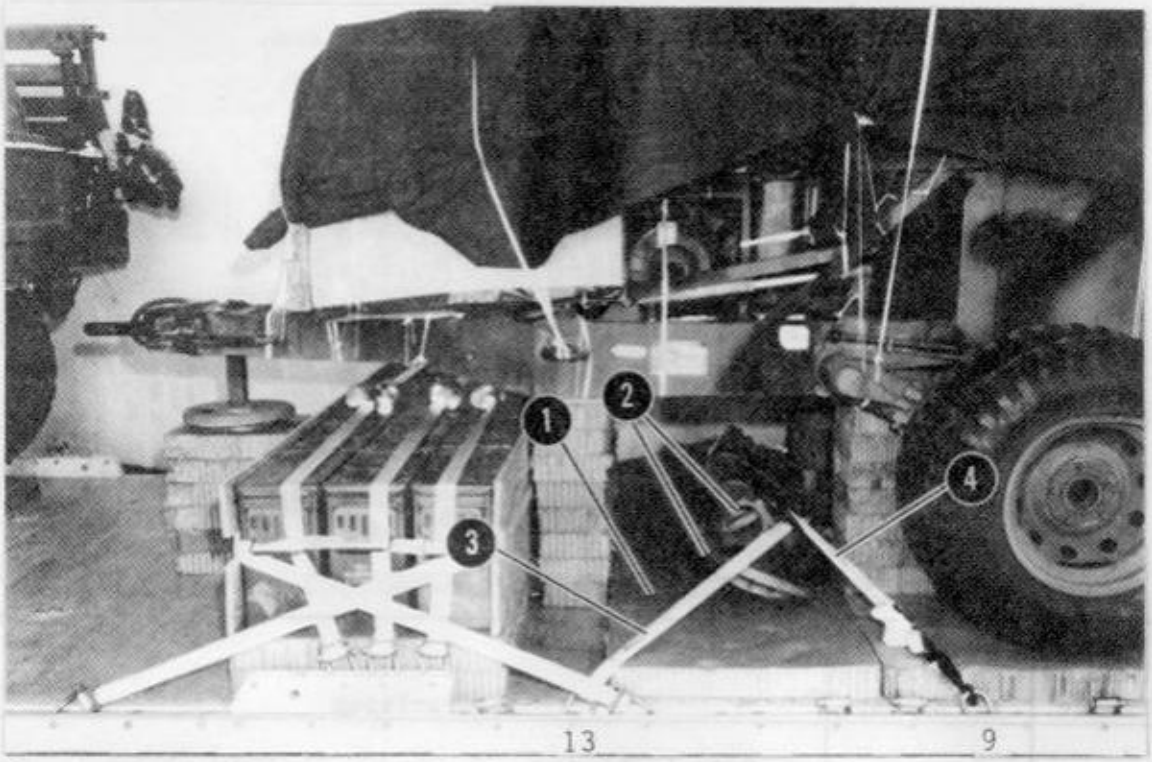
(4) Be sure that the frame rails rest squarely on stack 5.

(5) Remove the outrigger arms from the gun.

Figure 8-6. Gun and truck positioned on platform

8-7. Stowing and Lashing Gun Outrigger Arms

Stow and lash the gun outrigger arms as shown in Figure 8-7.



(1) Place a 26- by 96-inch piece of honeycomb on the platform between stacks 1 and 2.

(2) Center the outrigger arms on the honeycomb under the gun with the baseplates facing in opposite directions.

(3) Run the end of a 15-foot tiedown strap through clevis 13 and through its own D-ring. Pull the strap taut. Run the strap twice around the outrigger arms and through the lifting ring nearest to the left rail. Fit a D-ring on the end of the strap, and secure it to clevis 9A with a load binder. Fold the excess strap, and secure the folds to the load binder with tape or type I, 1/4-inch cotton webbing.

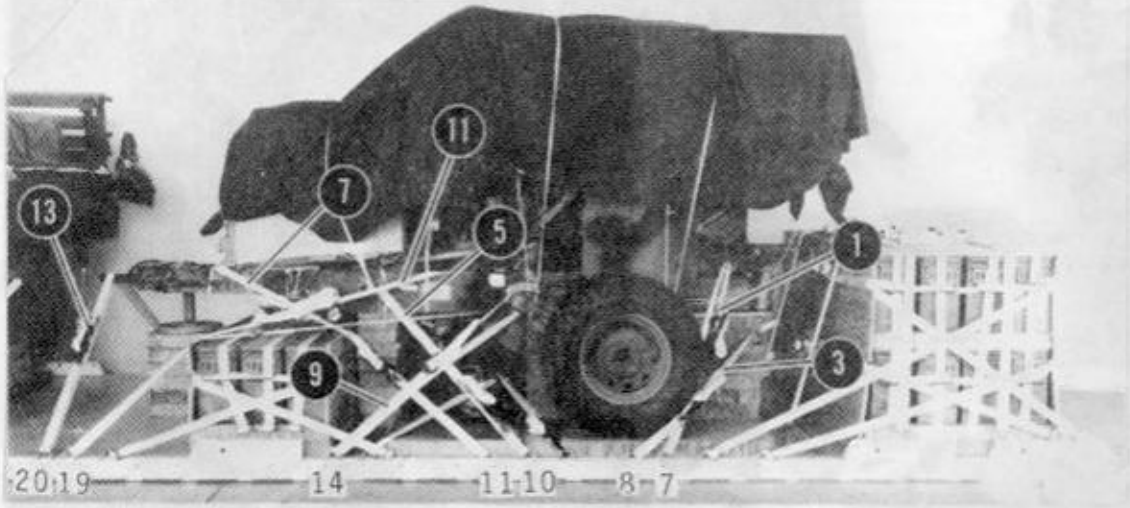
(4) Attach a second strap to clevis 13A. Run the strap in the opposite direction to the first strap, and secure it to clevis 9 as in step 3.

Figure 8-7. Outrigger arms stowed and lashed

8-8. Lashing Gun and Truck

Lash the gun and truck to the platform with twenty-two 15-foot tiedown assemblies as shown in Figures 8-8 and 8-9.

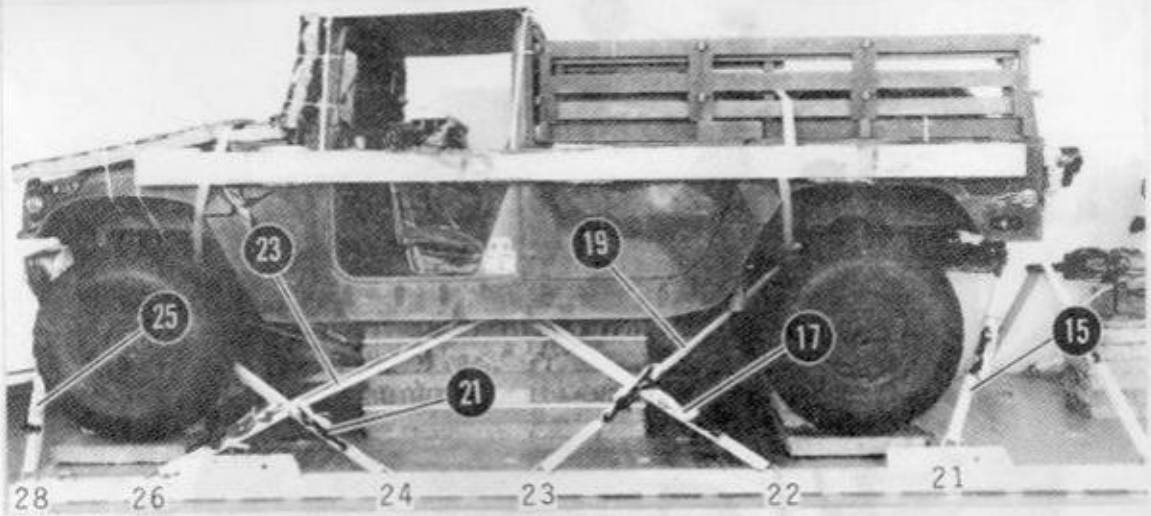
Note: Left, right, front, and rear refer to the platform, NOT the gun.



Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
1	7	Around the right outrigger arm lock pin.
2	7A	Around the left outrigger arm lock pin.
3	8	Through the right front tiedown provision.
4	8A	Through the left front tiedown provision.
5	10	Through the right center tiedown provision.
6	10A	Through the left center tiedown provision.
7	11	Around the right rear section of cross member.
8	11A	Around the left rear section of cross member.
9	14	Around the right suspension bar assembly.
10	14A	Around the left suspension bar assembly.
11	19	Around the right drawbar and in front of the cross member.
12	19A	Around the left drawbar and in front of the cross member.
13	20	Through the lunette.
14	20A	Through the lunette.

Figure 8-8. Lashings 1 through 14 installed

Note: Left, right, front, and rear refer to the platform, NOT the truck.



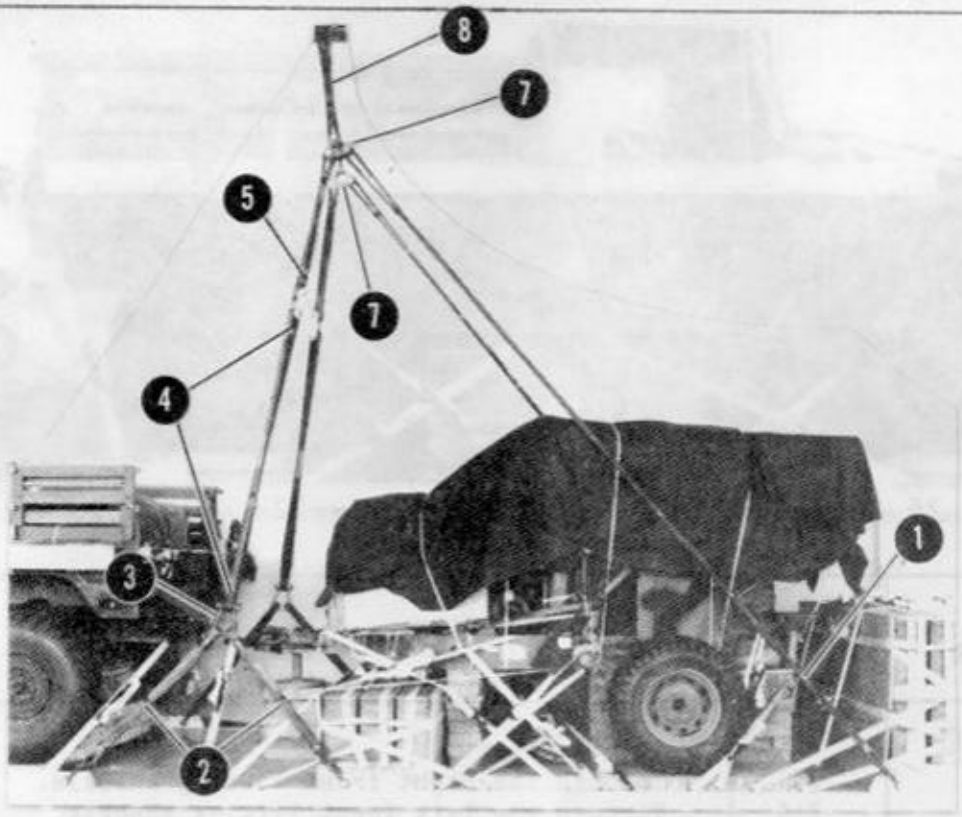
Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
15	21	Through the right front lifting shackle.
16	21A	Through the left front lifting shackle.
17*	22	Around the right frame rail cross member.
18*	22A	Around the left frame rail cross member.
19	23	Through the tiedown bracket in rear of the right front coil spring.
20	23A	Through the tiedown bracket in rear of the left front coil spring.
21	24	Around the right lower control arm.
22	24A	Around the left lower control arm.
23*	26	Around the right frame rail cross member.
24*	26A	Around the left frame rail cross member.
25	28	Through the tiedown bracket on the end of the right frame rail.
26	28A	Through the tiedown bracket on the end of the left frame rail.

*These are pre-positioned lashings.

Figure 8-9. Lashings 15 through 26 installed

8-9. Installing and Tying Suspension Slings

Install the suspension slings according to FM 10-500-2/TO 13C7-1-5 and as shown in Figures 8-10 and 8-11. Tie the suspension slings as shown in Figure 8-12.



(1) Attach a 16-foot (4-loop), type XXVI nylon webbing sling to each first suspension link with a large suspension clevis.

(2) Attach a 3-foot (4-loop), type XXVI nylon webbing sling to each second and third suspension link with a large suspension clevis.

(3) Place the 3-foot slings installed in step 2 in the bell portion of a large suspension clevis.

(4) Place both loops of a 12-foot (2-loop), type XXVI nylon webbing sling in one end of a 5 1/2-inch, two-point link assembly. Place the resulting loop in the sling on the bolt portion of the large suspension clevis installed in step 3.

(5) Bolt a 3-foot (4-loop), type XXVI nylon webbing sling to the 5 1/2-inch, two-point link assembly used in step 4.

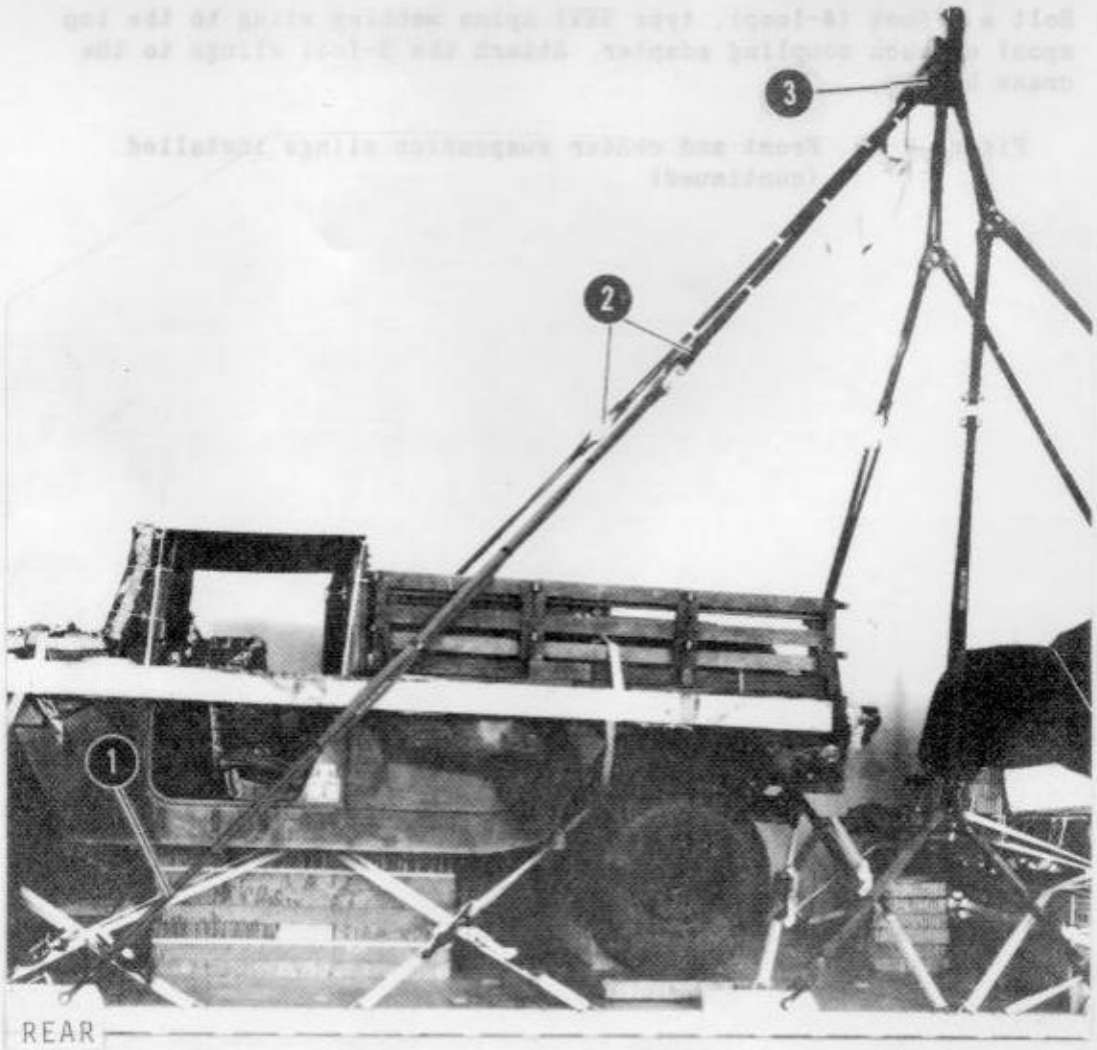
Figure 8-10. Front and center suspension slings installed

⑥ Remove the cams from two EFTC coupling adapters (not shown). Replace the cams with spacers.

⑦ Bolt the front and center suspension slings on each side to two spools of the EFTC coupling adapters.

⑧ Bolt a 3-foot (4-loop), type XXVI nylon webbing sling to the top spool of each coupling adapter. Attach the 3-foot slings to the crane hook.

Figure 8-10. Front and center suspension slings installed (continued)

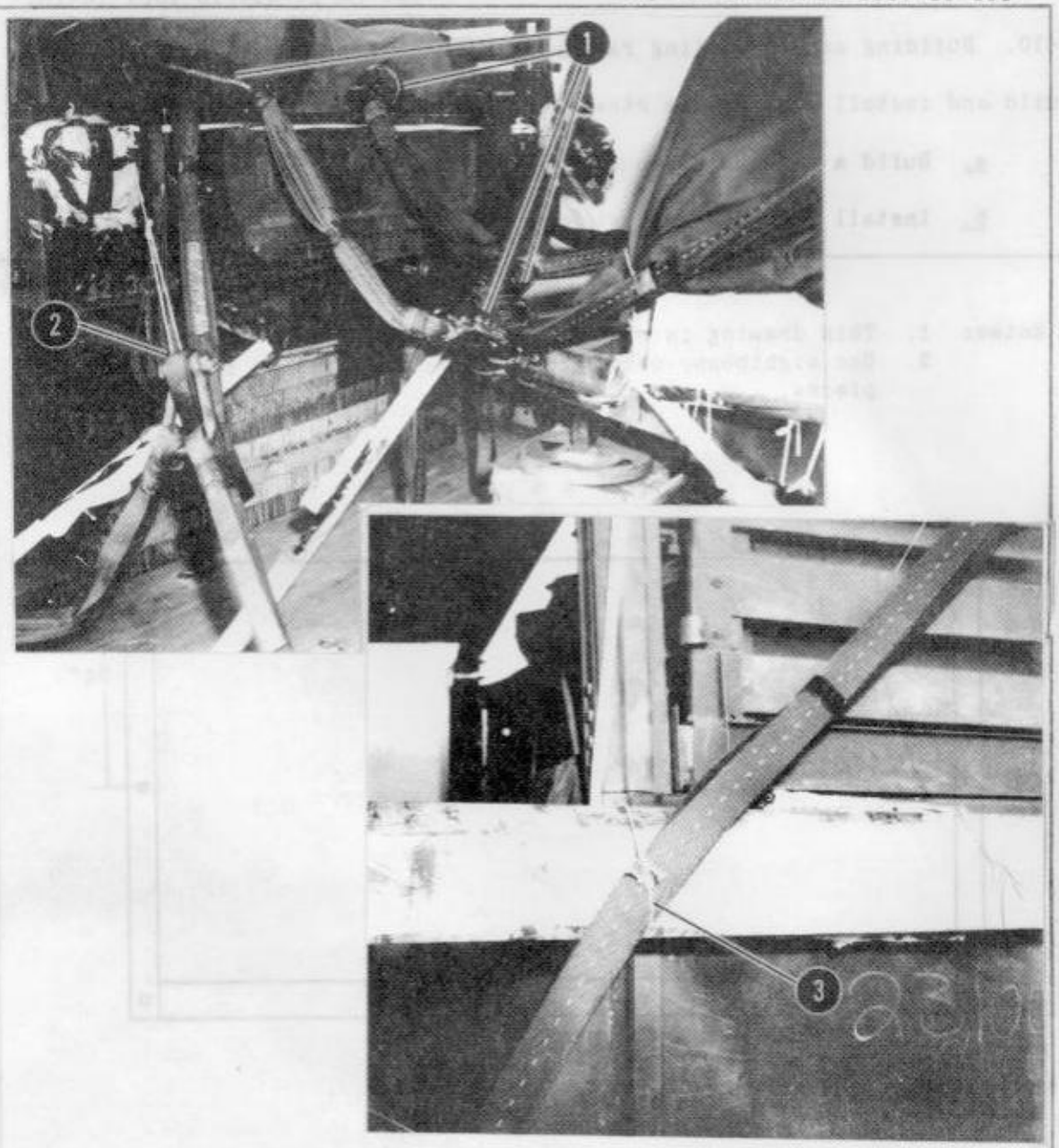


(1) Attach a 12-foot (4-loop), type XXVI nylon webbing sling to each fourth suspension link with a large suspension clevis.

(2) Attach a 9-foot (4-loop), type XXVI nylon webbing sling to each of the 12-foot slings installed in step 1 with a 3 3/4-inch link assembly.

(3) Attach the 9-foot slings to the crane hook.

Figure 8-11. Rear suspension slings installed



(1) Pad all the link assemblies and coupling adapters used in Figures 8-10 and 8-11 with 1/2-inch felt. Tape the felt in place.

(2) Tie the large suspension clevises at the junctions of the center suspension slings to the rear footman loops or other convenient points on the truck with type III nylon cord.

(3) Make sure the suspension slings are raised. Tie the rear suspension slings to the truck sideboards with a length of type III nylon cord.

Figure 8-12. Suspension slings tied

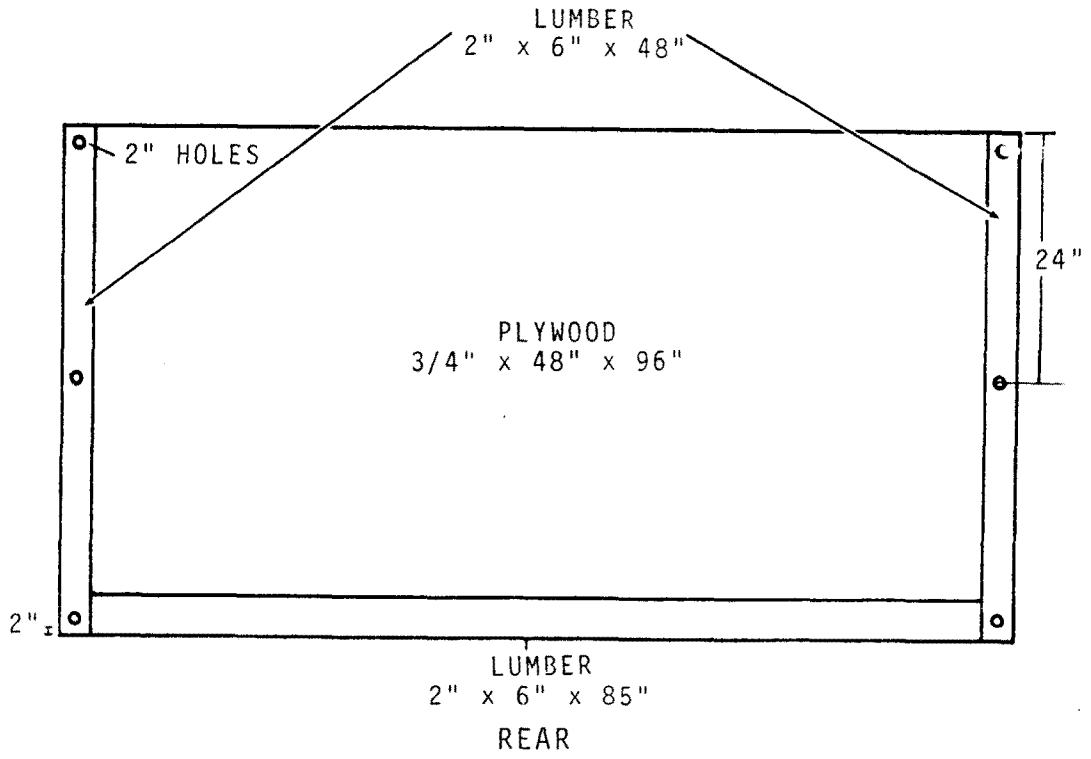
8-10. Building and Installing Parachute Stowage Platform

Build and install a parachute stowage platform as given below.

a. Build a parachute stowage platform as shown in Figure 8-13.

b. Install the parachute stowage platform as shown in Figure 8-14.

Notes: 1. This drawing is not drawn to scale.
2. Use eightpenny common wire nails to join the individual pieces.



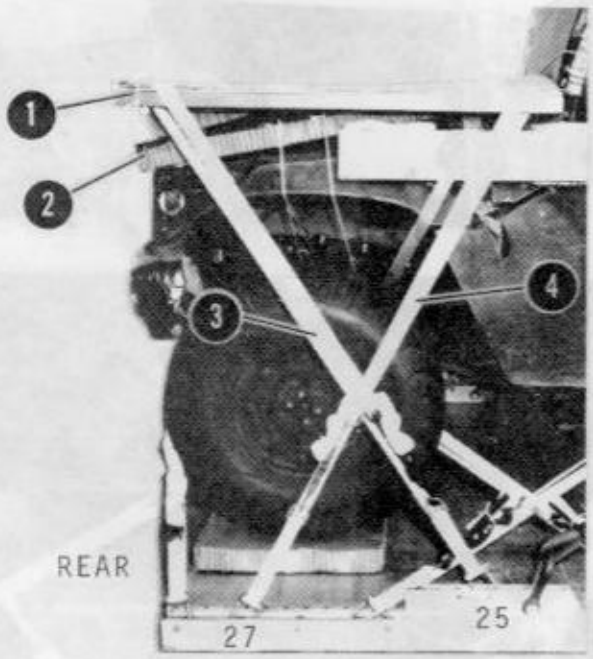
① Cut a 3/4- by 48- by 96-inch piece of plywood.

② Nail a 2- by 6- by 48-inch piece of lumber to each side of the plywood as shown.

③ Nail a 2- by 6- by 85-inch piece of lumber flush with the rear edge of the plywood.

④ Make three 2-inch holes in each 48-inch side of the platform as shown.

Figure 8-13. Parachute stowage platform construction details



(1) Tie the plywood to the 2- by 6-inch lumber at the corners of the parachute stowage platform with type III nylon cord.

(2) Place a 12- by 82-inch piece of honeycomb along the rear edge of the honeycomb covering the truck hood. Center the parachute stowage platform on the hood with the 2- by 6-inch lumber to the rear.

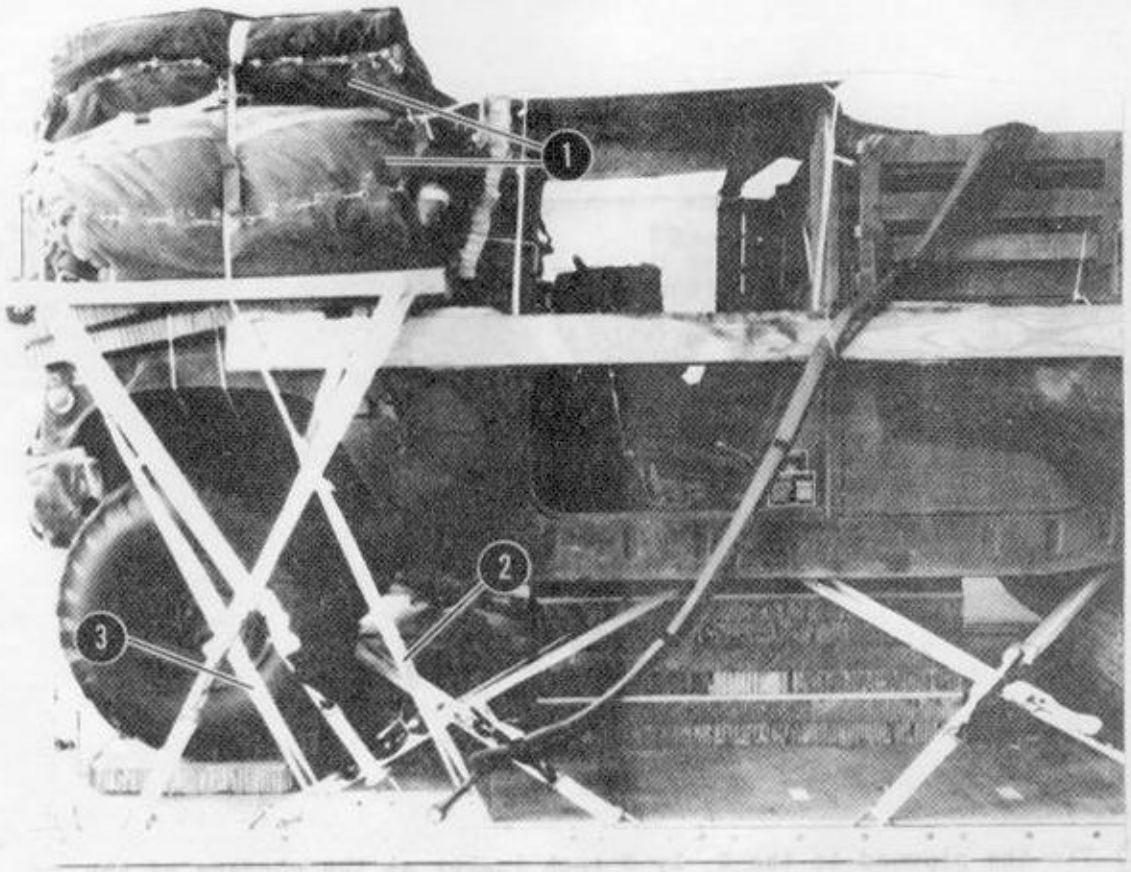
(3) Lash the rear holes of the parachute stowage platform to clevises 25 and 25A with two 15-foot lashings.

(4) Lash the front holes of the stowage platform to clevises 27 and 27A with two 15-foot lashings.

Figure 8-14. Parachute stowage platform installed

8-11. Stowing Cargo Parachutes

Stow the cargo parachutes as shown in Figure 8-15.



① Prepare and stow five G-11B cargo parachutes as outlined in FM 10-500-2/TO 13C7-1-5, and set them on the parachute stowage platform.

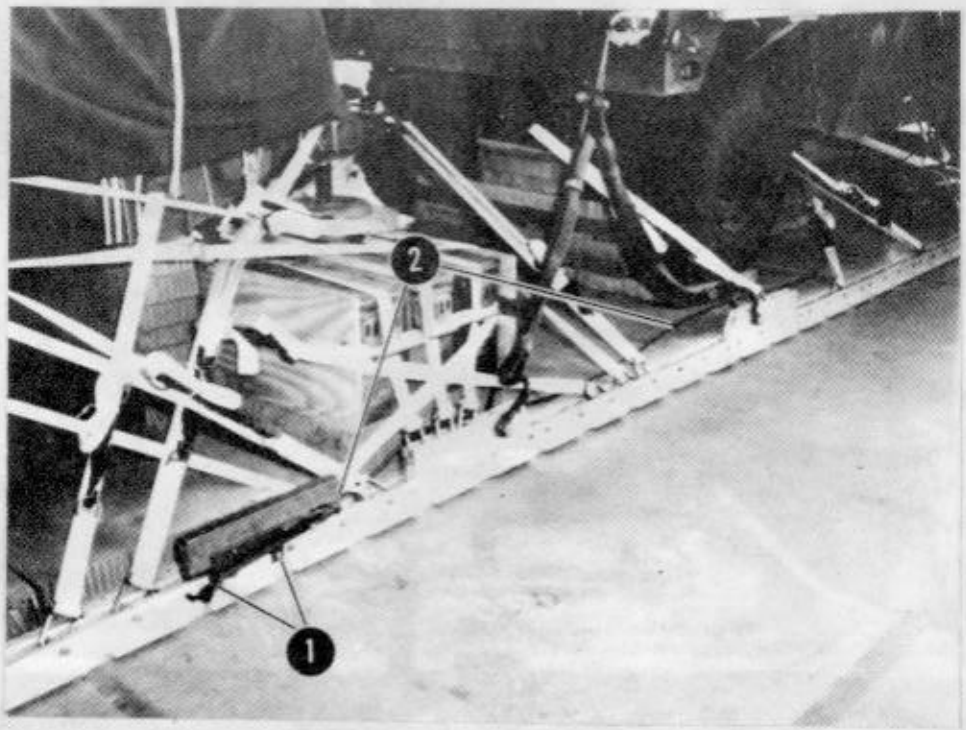
② Tie the front restraint straps to the first bushing on each fourth suspension link.

③ Tie the rear restraint straps to the fourth bushing on each fourth suspension link.

Figure 8-15. Cargo parachutes stowed

8-12. Installing Extraction System

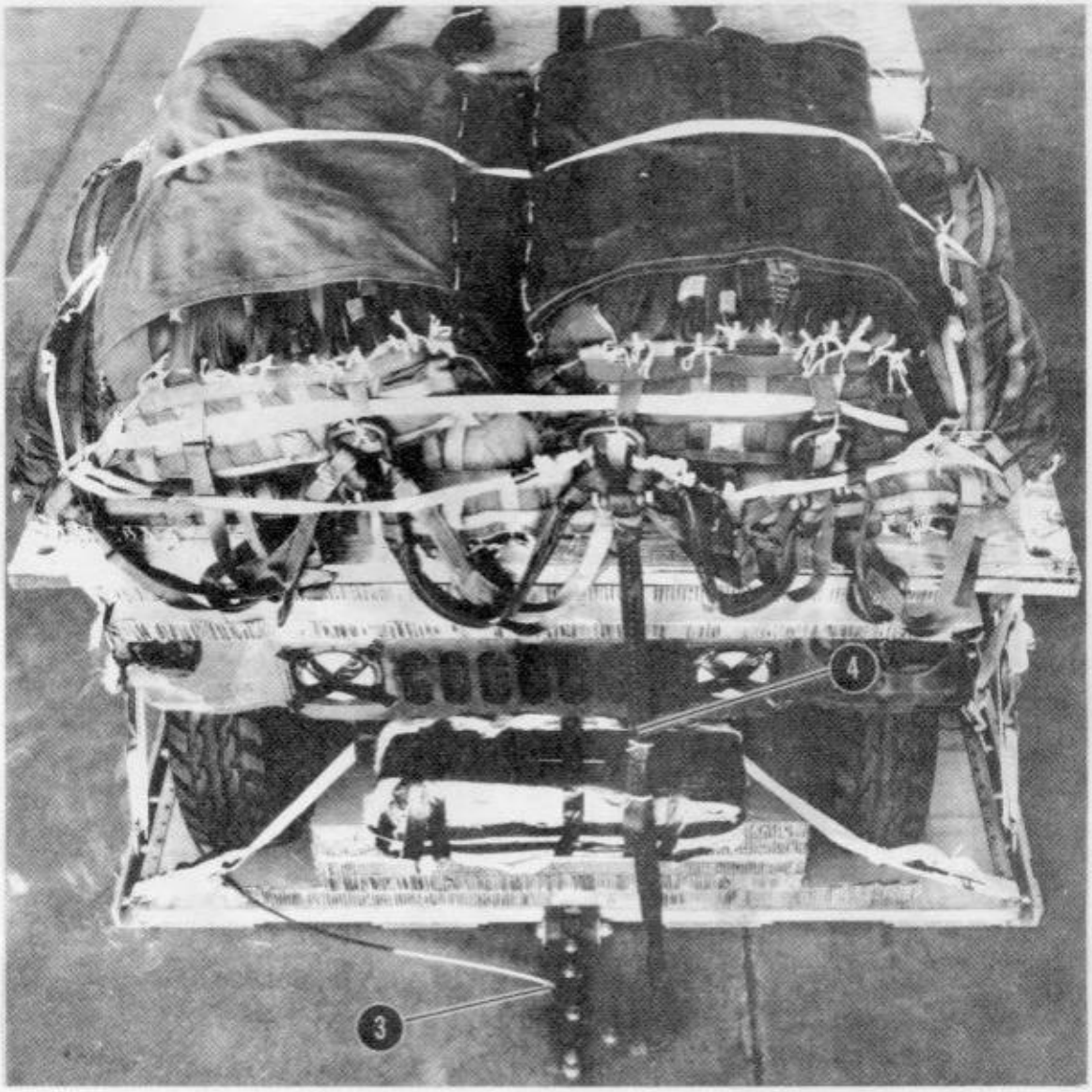
Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 8-16.



(1) Install the EFTC mounting brackets in the rear mounting holes in the left platform rail.

(2) Attach a 28-foot release cable to the actuator. Install the actuator to the EFTC mounting brackets. Run the cable to the rear of the load.

Figure 8-16. EFTC installed



(3) Install the latch assembly to the extraction bracket. Attach the release cable to the latch assembly.

(4) Install a 9-foot (2-loop), type XXVI nylon webbing sling as the deployment line.

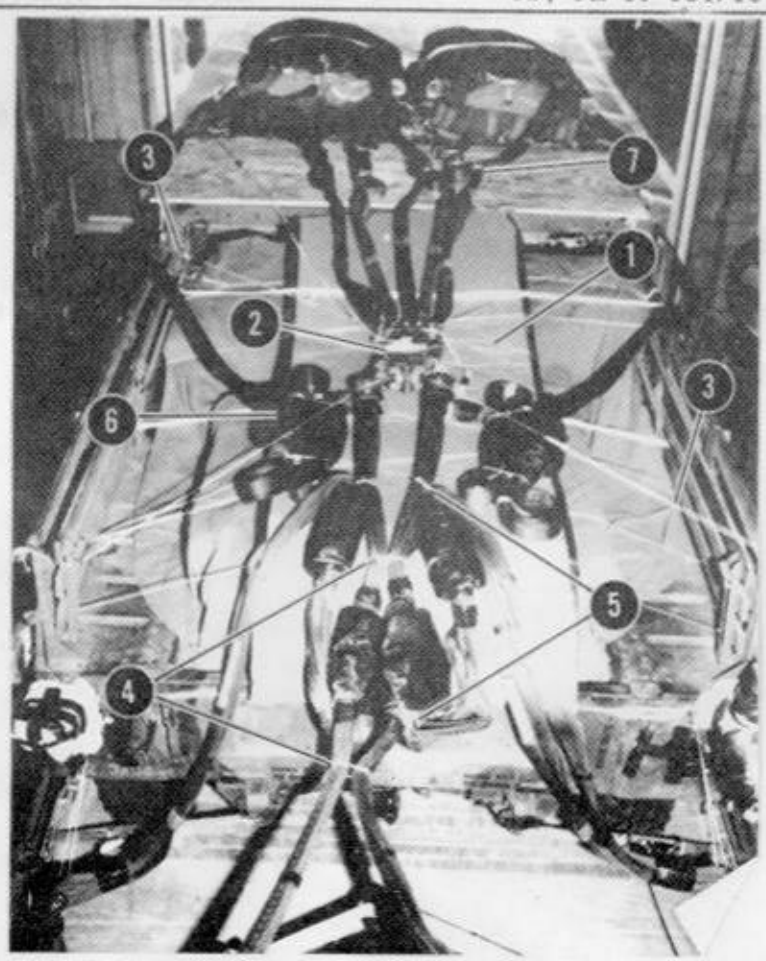
Figure 8-16. EFTC installed (continued)

8-13. Installing Provisions for Emergency Restraints

Install provisions for emergency restraints according to FM 10-500-2/TO 13C7-1-5.

8-14. Installing Release System

Prepare and install an M-2 cargo parachute release according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 8-17.



(1) Center a 36- by 96-inch piece of honeycomb over the load in the truck. Tape the sides of the honeycomb, and tie the honeycomb to convenient points on the truck with type III nylon cord.

(2) Center the M-2 release on the honeycomb.

(3) Secure the release to convenient points on the truck with type III nylon cord.

(4) Tie the front suspension slings together in two places with type I, 1/4-inch cotton webbing.

(5) Tie the center suspension slings to the front suspension slings in two places on each side.

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

(7) S-fold the slack in the riser extensions, and tie the folds with type I, 1/4-inch cotton webbing.

Figure 8-17. M-2 cargo parachute release installed

8-15. Placing Extraction Parachute

Place the extraction parachute as described below.

a. C-130 Aircraft. Place a 28-foot cargo extraction parachute and a 60-foot (3-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

b. C-141 Aircraft. Place a 28-foot cargo extraction parachute and a continuous 140-foot (3-loop), type XXVI nylon webbing extraction line on the load for installation in the aircraft.

8-16. Marking Rigged Load

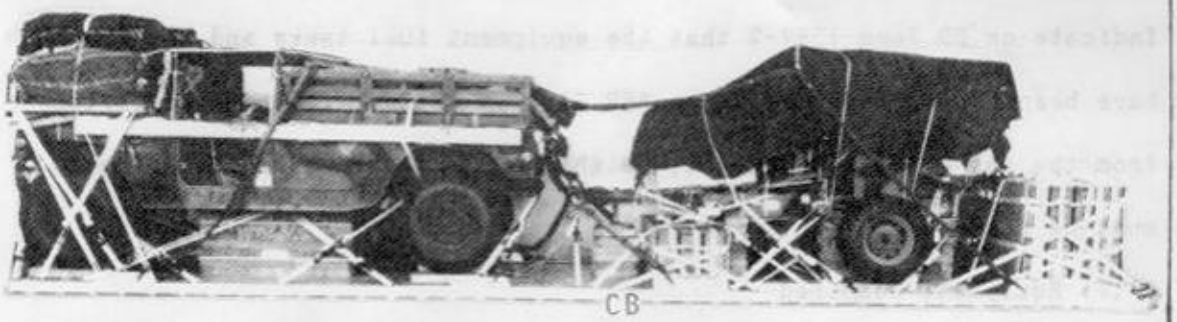
Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 8-18. Complete DD Form 1387-2, and securely attach it to the load. Indicate on DD Form 1387-2 that the equipment fuel tanks and batteries have been prepared according to AFR 71-4/TM 38-250. If the load varies from the one shown, the weight, height, CB, and parachute requirements must be recomputed.

8-17. Equipment Required

Use the equipment listed in Table 8-1 to rig this load. The equipment for rigging a load in the truck cargo bed is NOT given in Table 8-1.

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: Load shown	23,100 pounds
Maximum load allowed	26,400 pounds
Height	95 inches
Width	108 inches
Length	406 1/2 inches
Overhang: Front (nose bumper)	4 1/2 inches
Rear (extraction system)	18 inches
CB (from front edge of platform)	189 inches
Extraction System	EFTC

Figure 8-18. M167A2 gun with 1 1/4-ton truck and accompanying ammunition rigged on a type V platform for low-velocity airdrop

Table 8-1. Equipment required for rigging the M167A2 gun with 1 1/4-ton truck and accompanying ammunition rigged on a type V platform for low-velocity airdrop

National Stock Number	Item	Quantity
1670-00-162-4981	Adapter, coupling, EFTC	2
5365-00-405-9293	Spacer	(2)
8040-00-273-8713	Adhesive, paste, 1-gal	As required
	Clevis, suspension:	
4030-00-678-8562	3/4-in (medium)	6
4030-00-090-5354	1-in (large)	13
8305-00-242-3593	Cloth, cotton duck, 60-in	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-157-6527	Coupling, airdrop, extraction force transfer w 28-ft cable	1
1670-00-360-0329	Cover, link assembly (type IV)	20
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-01-183-2678	Leaf, extraction line	2
	Line, extraction, type XXVI nylon webbing:	
1670-01-062-6313	60-ft (3-loop) or	1
1670-01-107-7651	140-ft (3-loop)	1

Table 8-1. Equipment required for rigging the M167A2 gun with 1 1/4-ton truck and accompanying ammunition rigged on a type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
	Link assembly:	
	Two-point, 3 3/4-in:	3
5306-00-435-8994	Bolt, 1-in diam, 4-in long	(6)
5310-00-232-5165	Nut, 1-in, hexagon	(6)
1670-00-003-1953	Plate, side, 3 3/4-in	(6)
5365-00-007-3414	Spacer, large	(6)
	Two-point, 5 1/2-in:	2
5306-00-435-8994	Bolt, 1-in diam, 4-in long	(4)
5310-00-232-5165	Nut, 1-in	(4)
1670-00-003-1954	Plate, side, 5 1/2-in	(4)
5365-00-007-3414	Spacer, large	(4)
1670-00-783-5988	Type IV	20
5510-00-220-6148	Lumber, 2- by 6-in:	
	16-in	1
	48-in	2
	85-in	2
	150-in	2
5315-00-010-4657	Nail, steel wire, common, 6d	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb,	
	3- by 36- by 96-in:	30
	4- by 6-in	(4)
	6- by 10-in	(10)

Table 8-1. Equipment required for rigging the M167A2 gun with 1 1/4-ton truck and accompanying ammunition rigged on a type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
	6- by 24-in	(2)
	8- by 8-in	(2)
	8- by 24-in	(2)
	8- by 54-in	(6)
	10- by 10-in	(5)
	12- by 12-in	(1)
	12- by 15-in	(2)
	12- by 18-in	(4)
	12- by 22-in	(9)
	12- by 36-in	(1)
	12- by 48-in	(12)
	12- by 54-in	(4)
	12- by 82-in	(2)
	14- by 22-in	(3)
	16- by 16-in	(6)
	19- by 24-in	(1)
	20- by 6-in	(8)
	20- by 24-in	(5)
	20- by 30-in	(1)
	21- by 83-in	(1)
	24- by 96-in	(1)
	36- by 48-in	(2)
	36- by 54-in	(1)

Table 8-1. Equipment required for rigging the M167A2 gun with 1 1/4-ton truck and accompanying ammunition rigged on a type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
	36- by 82-in	(3)
	36- by 96-in	(1)
	42- by 10-in	(2)
	44- by 8-in	(8)
	50- by 12-in	(1)
	54- by 24-in	(8)
	80- by 24-in	(2)
	96- by 26-in	(3)
	96- by 36-in	(4)
	Parachute:	
1670-01-016-7841	Cargo, G-11B	5
1670-00-040-8135	Cargo extraction, 28-ft	1
	Platform, AD, type V, 32-ft:	1
	Bracket:	
1670-01-162-2375	Inside EFTA	(1)
1670-01-162-2374	Outside EFTA	(1)
1670-01-162-2372	Clevis assembly	(56)
1670-01-162-2376	Extraction bracket assembly	(1)
1670-01-247-2389	Suspension link	(8)
1670-01-162-2381	Tandem link	(2)

Table 8-1. Equipment required for rigging the M167A2 gun with 1 1/4-ton truck and accompanying ammunition rigged on a type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
5530-00-128-4981	Plywood, 3/4-in:	
	8- by 37 1/2-in	1
	8- by 54-in	2
	10- by 10-in	2
	11- by 28-in	1
	12- by 48-in	2
	12- by 54-in	2
	15- by 96-in	2
	20- by 6-in	4
	22- by 41-in	1
	33- by 95-in	1
	36- by 82-in	1
	38 1/2- by 96-in	2
	44- by 8-in	1
	54- by 24-in	2
	96- by 48-in	1
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo, airdrop, type XXVI nylon webbing:	
	For deployment line:	
1670-01-062-6304	9-ft (2-loop)	1

Table 8-1. Equipment required for rigging the M167A2 gun with 1 1/4-ton truck and accompanying ammunition rigged on a type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
	For lifting:	
1670-01-062-6304	9-ft (2-loop)	2
1670-01-062-6303	12-ft (2-loop)	4
1670-01-063-7761	16-ft (2-loop)	2
	For riser extension:	
1670-01-062-6302	20-ft (2-loop)	20
	For suspension:	
1670-01-062-6309	3-ft (4-loop)	8
1670-01-062-6305	9-ft (4-loop)	2
1670-01-062-6303	12-ft (2-loop)	2
1670-01-062-6307	12-ft (4-loop)	2
1670-00-432-2507	16-ft (4-loop)	2
	Strap:	
1670-00-040-8219	Parachute release, multicut comes w 3 knives	2
1670-00-368-7486	Webbing, nylon (shear strap), 60-in (HAARS)	1
7510-00-266-5016	Tape, adhesive, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	76
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required

Table 8-1. Equipment required for rigging the M167A2 gun with 1 1/4-ton truck and accompanying ammunition rigged on a type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
	Nylon:	
	Tubular:	
8305-00-082-5752	1/2-in	As required
8305-00-268-2455	1-in	As required
8305-00-263-3591	Type VIII	As required

GLOSSARY

ACB attitude control bar

AD airdrop

AFB Air Force base

AFR Air Force regulation

AFTO Air Force technical order

attn attention

C change

CB center of balance

d penny

DA Department of the Army

DC District of Columbia

DD Department of Defense

diam diameter

EFTA extraction force transfer actuator

EFTC extraction force transfer coupling

FM field manual

ft foot/feet

gal gallon

HAARS high-altitude airdrop resupply system

HMMWV high-mobility, multipurpose wheeled vehicle

HQ headquarters

in inch

LAPE low-altitude parachute extraction

LAPES low-altitude parachute extraction system

lb pound

LV low-velocity

no number

NSN national stock number

OVE on-vehicular equipment

PEFTC extraction force transfer coupling (platform)

SL/CS static line/connector strap

TM technical manual

TO technical order

TRADOC United States Army Training and Doctrine Command

US United States

w with

REFERENCES

AFR 71-4/TM 38-250. Packaging and Materials Handling: Preparing Hazardous Materials for Military Air Shipments. 15 January 1988.

FM 10-500-2/TO 13C7-1-5. Airdrop of Supplies and Equipment: Rigging Airdrop Platforms. October 1989, Interim.

FM 10-508/TO 13C7-2-491. Airdrop of Supplies and Equipment: Rigging 1/2- and 1 1/4-Ton Trucks. 16 August 1985.

FM 10-517/TO 13C7-1-111. Airdrop of Supplies and Equipment: Rigging 1 1/4-Ton Utility Truck (HMMWV). 14 November 1989.

FM 10-553/TO 13C7-18-41. Airdrop of Supplies and Equipment: Rigging Ammunition. 4 December 1981.

TM 9-2320-280-10/TO 36A12-1A-2091-1/TM 2320-10/6. Operator's Manual for Truck, Utility. April 1985.

TM 10-1670-208-20&P/TO 13C3-4-12. Organizational Maintenance Manual Including Repair Parts and Special Tools List for Platforms, Types 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.

AFTO Form 22. Technical Order Publication Improvement Report. April 1973.

DA Form 2028. Recommended Changes to Publications and Blank Forms. February 1974.

DD Form 1387-2. Special Handling Data/Certification. June 1986.

FM 10-534/TO 13C7-10-161

27 FEBRUARY 1985

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

DONALD J. DELANDRO
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:
Active Army, USAR, and ARNG: To be distributed in accordance with DA Form 12-11A, requirements for Airdrop of Supplies and Equipment (Qty rqr block no. 228).

Additional copies may be requisitioned from the US Army Adjutant General Publications Center, 2800 Eastern Boulevard, Baltimore, MD 21220.

* U.S. GOVERNMENT PRINTING OFFICE : 1985 573-031/20030