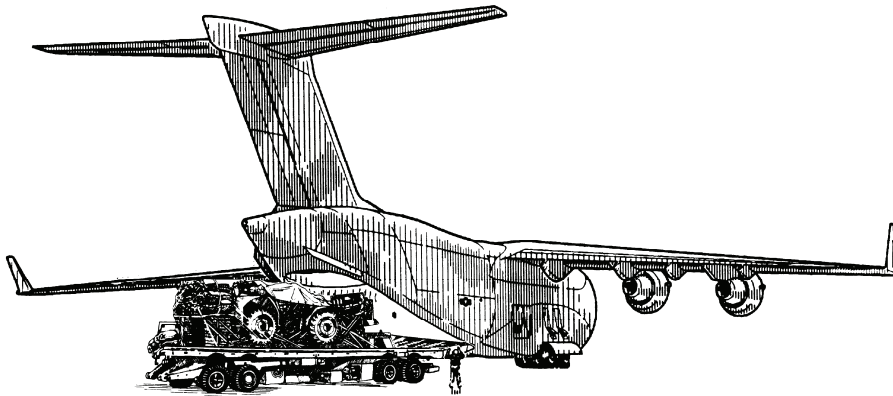


FM 4-20.153
MCRP 4-11.3B
TO 13C7-18-41
(FM 4-20.153/MCRP 4-11.3B/TO 13C7-18-41)
October 2006

Airdrop of Supplies and Equipment: Rigging Ammunition



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

Headquarters
Department of the Army
United States Marine Corps
Department of the Air Force

This page intentionally left blank.

***FM 4-20.153/MCRP 4-11.3B/TO 13C7-18-41**
(FM 4-20.153/MCRP 4-11.3B/TO 13C7-18-41)

Field Manual
No. 4-20.153
Marine Corps Reference Publication
No 4-11.3B
Technical Order
No. 13C7-18-41

Headquarters
Department of the Army
United States Marine Corps
Department of the Air Force
Washington, DC, 23 October 2006

AIRDROP OF SUPPLIES AND EQUIPMENT: RIGGING AMMUNITION

Table of Contents

	Page
PREFACE	iii
Scope.....	iii
User Information	iii
Chapter 1 GENERAL	1-1
Special Instructions	1-1
Parachute Requirements.....	1-1
Equipment Required.....	1-1
Ammunition and Missile Rigging Tables Instructions.....	1-1
Additional Certified Munitions.....	1-1
Chapter 2 RIGGING LOW-VELOCITY A-22 CARGO BAG LOADS	2-1
Rigging The A-22 Cargo Bag	2-1
Special Instructions	2-1
Parachute Requirements.....	2-1
Chapter 3 RIGGING HIGH-VELOCITY A-22 CARGO BAG LOADS	3-1
Preparing A-22 Cargo Bag	3-1
Special Instructions	3-1
Parachute Requirements.....	3-1
Chapter 4 RIGGING LOW-VELOCITY A-7A CARGO SLINGS AND A-21 CARGO BAG LOADS 4-1	
Preparing A-7A Cargo Slings and A-21 Cargo Bags	4-1
Special Instructions	4-1
Parachute Requirements.....	4-1
Chapter 5 RIGGING HIGH-VELOCITY A-7A CARGO SLINGS AND A-21 CARGO BAG LOADS 5-1	
Preparing A-7A Cargo Slings and A-21 Cargo Bags	5-1
Special Instructions	5-1

Distribution Restriction: Approved for public release; distribution is unlimited.

***This publication supersedes FM 4-20.153/MCRP 4-11.3B/TO 13C7-18-41, 1 MAY 2004.**

	Parachute Requirements	5-1
Appendix A	EQUIPMENT REQUIRED.....	A-1
Appendix B	FABRICATION OF HONEYCOMB BIN	B-1
	Introduction	B-1
	Rigging the Honeycomb Bin	B-1
	GLOSSARY	Glossary-1
	REFERENCES.....	References-1

Preface

SCOPE

This manual tells and shows how to prepare and position certain types of ammunition and explosives in A-21 or A-22 cargo bags and A-7A cargo slings for low-velocity or high-velocity airdrop. This manual also lists the types of ammunition and explosives authorized to be airdropped with other low-velocity loads in FM 4-20.100/TO 13C7 (FM 10-500/TO 13C7) series manuals. These procedures apply only to items listed in this manual.

CAUTION

Explosives and ammunition must be handled with care at all times. The explosive elements in primers and fuses are sensitive to shock and high temperatures. Rigging personnel will make sure that boxes or containers of explosives and ammunition are not dropped, thrown, tumbled, or dragged. These loads contain hazardous materials, explosives or ammunition, as defined in AFMAN 24-204(I)/TM 38-250/NAVSUP PUB 505/MCO P 4030.19F/DLAI 4145.3 October 2004. Complete Round Rigging, (CRR), encompasses all necessary munitions for mission completion (for example; primers, propelling charges, projectiles, fuses) rigged on an airdrop platform or in a container. CRR is authorized only during wartime or periods of increased readiness. CRR will not be authorized during exercises. Hazardous materials must be packed, marked, and labeled according to AFMAN 24-204(I)/TM 38-250/NAVSUP PUB 505/MCO P 4030.19F/DLAI 4145.3 October 2004. Ammunition and explosives damaged by airdrop must be disposed of by qualified personnel. Follow these guidelines for hazardous materials.

Boxed ammunition. Boxed ammunition should be rigged in the position in which it is normally shipped with the box lid on top.

Proximity Fuse. Proximity fuses must be rigged in the "nose-down" position. If the fuse boxes are damaged, the fuses should not be used.

USER INFORMATION

This publication applies to the Active Army, the Army National Guard/Army National Guard of the United States, and the United States Army reserve unless otherwise stated.

The proponent of this publication is HQ, United States Army Training and Doctrine Command (TRADOC). You are encouraged to report any errors or omissions and to suggest ways of making this a better manual. Army personnel, send your comments on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to:

Director,
Aerial Delivery and Field Services Department,
USA Quartermaster Center and School,
710 Adams Avenue, Fort Lee, Virginia 23801-1502

Air Force personnel, route your reports on AFTO Form 22 through: respective command Weapons and Tactics to:

Headquarters, Air Mobility Command (AMC/A39T),
402 Scott Drive, Unit 3AI, Scott AFB, Illinois 62225-5302,
HQ AMC/A39T will consolidate and forward changes to:
Director, Aerial Delivery and Field Services Department,
USA Quartermaster Center and School,
710 Adams Avenue,
Fort Lee, Virginia 23801-1502

Also send an information copy of AFTO Form 22 to:

542d MSUG/GBMUDE,
380 Richard Ray Blvd, STE
Robins AFB, Georgia 31098-1640

Marine Corps. Readers of this publication are encouraged to submit suggestions and changes through the Universal Need Statement (UNS) process. The UNS submission process is delineated in Marine Corps Order 3900.15A, *Marine Corps Expeditionary Force Development System*, which can be obtained from the Marine Corps Publications Electronic Library Online (universal reference locator: <http://www.usmc.mil/directiv.nsf/web+orders>). The UNS recommendation should include the following information:

- Location of change
 - Publication number and title
 - Current page number
 - Paragraph number (if applicable)
 - Line number
 - Figure or table number (if applicable)
- Nature of change
 - Addition/deletion of text
 - Proposed new text

Chapter 1

General

SPECIAL INSTRUCTIONS

1-1. The A-22 cargo bag loads shown in this manual will be rigged according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11.

Note: The Low Cost Aerial Delivery System (LCADS) may be used to airdrop ammunition in this manual when the ammunition is rigged according to Chapter 13 Sections I and II of FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11. LCADS may not be used for extended or double A-22 container configurations.

PARACHUTE REQUIREMENTS

- 1-2. The parachute requirements for low-velocity and high-velocity airdrop are given below.
- **Low-Velocity Airdrop.** The G-12E and G-14 cargo parachutes used for low-velocity airdrop do not require special preparation. These parachutes are packed according to specific manuals listed in the References. Parachute requirements are listed in Table 1-1.
 - **High-Velocity Airdrop.** The primary parachutes for high-velocity airdrop are the 68-inch pilot parachute and the 12-foot or 26-foot-diameter canopy high-velocity cargo parachute. These parachutes require no special preparation and are packed according to specific manuals listed in the references. The 15-foot and 22-foot extraction cargo parachutes are authorized substitutes for the 12-foot and 26-foot high-velocity parachutes. The low cost high velocity parachute is only used on the LCADS. The parachutes are prepared according to FM 4-20.103/MCRP 4-11.3C/TO 13C7-1-11. Requirements for the parachutes are listed in Table 1-2.

EQUIPMENT REQUIRED

1-3. The equipment required for rigging container loads is listed in Appendix A.

AMMUNITION AND MISSILE RIGGING TABLES INSTRUCTIONS

1-4. Ammunition items are listed by type, DODIC or NALC, and NSN order in Table 1-3. The numbers under the low-velocity and high-velocity airdrop columns reference a figure number that shows how to arrange container loads. Items certified for airdrop on platforms for low-velocity airdrop are rigged according to specific FM 4-20.100/TO 13C7 (FM 10-500/TO 13C7) series manuals. Missiles are listed in Table 1-4.

ADDITIONAL CERTIFIED MUNITIONS

1-5. The munitions listed in Table 1-5 are certified for airdrop when rigged according to procedures in specific FM 4-20.100/TO 13C7 (FM 10-500/TO 13C7) series manuals.

Table 1-1. Parachute Requirements for Low-Velocity Airdrop

<i>Parachute</i>	<i>Suspended Weight (Pounds)</i>	
	<i>Minimum</i>	<i>Maximum</i>
One 68-inch pilot	30	50
Three 68-inch pilot	51	200
One G-14	200	500
Two G-14	501	1000
*Three G-14	1,001	1,500
One G-12E	501	2,200

* Loads must be dropped one at a time.
Note: Clustering G-14 cargo parachutes should be used only when a G-12E cargo parachute is not available.

Table 1-2. Parachute Requirements for High-Velocity Airdrop

<i>Parachute</i>	<i>Suspended Weight (Pounds)</i>	
	<i>Minimum</i>	<i>Maximum</i>
One 68-inch pilot	75	150
Three 68-inch pilot	151	500
*One 12-foot high velocity	151	500
One 15-foot cargo extraction	151	500
*One 26-foot high velocity	501	2,200
**Parachute, Low Cost, High-Velocity	501	2,200
One 22-foot cargo extraction	501	2,200

* Primary parachute.
**Used on the Low Cost Aerial Delivery System only.