

## CHAPTER 5

### EMERGENCY PROCEDURES

#### TABLE OF CONTENTS

<u>PARAGRAPH</u>	<u>TITLE</u>	<u>PAGE</u>
5.1	GENERAL .....	5-1
5.2	ON-THE-GROUND AND IN-FLIGHT EMERGENCY PROCEDURES .....	5-1
5.3	CARGO JETTISONING PROCEDURES .....	5-1
5.3.1	Factors to be considered for cargo jettisoning .....	5-1
5.3.2	Cargo jettison by hand .....	5-2
5.3.3	Preparation for jettisoning .....	5-2
5.4	WEIGHT AND HEIGHT LIMITATIONS FOR JETTISONING .....	5-3
5.5	JETTISONING OF PALLETIZED CARGO ON THE AM109 CHADS .....	5-4
5.5.1	Jettisoning the pallet on the ramp .....	5-4
5.5.2	Jettisoning pallets on the cargo cabin .....	5-5
5.6	EMERGENCY EXITS AND EQUIPMENT .....	5-5

**LIST OF FIGURES**

5-1      Cargo height jettison limits ..... 5-6

## **CHAPTER 5**

### **EMERGENCY PROCEDURES**

#### **5.1 GENERAL**

This chapter contains procedures to be followed by loadmasters for jettisoning cargo as a part of the correcting actions to be taken to solve an in-flight emergency. Procedures for general emergencies are covered in detail in the Flight Manual and the Operations Manual, since they require closely coordinated actions performed by the whole aircrew. Emergency airdrop procedures, which also require close aircrew coordination, can be found in the Operations Manual.

#### **5.2 ON-THE-GROUND AND IN-FLIGHT EMERGENCY PROCEDURES**

Besides of emergency duties assigned in the Flight and Operations manuals, when an emergency occurs on the ground, while taxiing, or in flight, the aircrew loadmasters shall:

- A. Acknowledge/notify the aircraft commander the emergency condition.
- B. When a condition requiring an engine shutdown occurs (engine overheat or fire indications, possible fluid leak, etc.), closely watch the affected engine and keep the crew at the flight station informed.
- C. If passengers are on board, inform them about the situation and actions to be taken, and keep the cargo cabin under control.
- D. If all or part of the load is to be jettisoned for lightening aircraft gross weight to improve aircraft control, perform jettisoning procedures contained in this chapter.
- E. After landing, start evacuating passengers on pilot's command (if required).
- F. During the crew briefing prior to tactical missions for the airdrop of personnel, loadmasters will brief the rest of the crew about possible malfunctions and emergency procedures to be accomplished.

#### **5.3 CARGO JETTISONING PROCEDURES**

Each time a load is initially planned, jettisoning should be taken into consideration to reduce the aircraft gross weight. Because of the many different cases and circumstances that may be encountered when coping with an in-flight emergency, it is not practical to establish detailed cargo jettisoning procedures, so the following paragraphs provide only a basic guideline.

##### **5.3.1 Factors to be considered for cargo jettisoning**

When all or part of the load is not considered jettisonable, the aircraft commander must be informed prior to takeoff. Some of the factors to be taken into account during load planning and cargo preparation are the following:

- A. Initially, jettisonable items are only loads composed by single HCU-6/E pallets or airdrop platforms within weight, CG position, and height limits outlined in paragraph 5.4 and Figure 5-1.
- B. Loads containing hazardous materials should be placed at the aft-most positions, so that they are the first item to be jettisoned.

- C. Wheeled cargo, bulk loads resting directly on the cargo floor, or married pallets are not considered jettisonable, so their weight and arrangement in flight should be taken into consideration when determining the loading sequence.
- D. If the load is composed both by jettisonable and non-jettisonable items (those described in preceding paragraph and/or passengers), check the aircraft balance condition with those non-jettisonable items on board only.
- E. Any item placed on the cargo floor aft of the pallets (aircraft chocks, boxes, etc.) must be jettisoned or removed prior to start pallet jettisoning.
- F. Pallet side D-rings not in use for restraint and/or not in the vertical position may fall and cause the pallet to get jammed at some point on the CHADS rails while the pallet is exiting the aircraft. These rings should be lowered so they are underneath the CHADS siderails, or secured in the vertical position before the pallet is loaded into the aircraft.

**CAUTION:** SIDE D-RINGS AT THE CORNERS OF THE PALLET, OR BENT SIDE D-RINGS MAY INTERFERE WITH DETENT LOCKS ENGAGEMENT. THEREFORE IT IS PREFERABLE TO SECURE THEM IN THE VERTICAL POSITION.

- G. For palletized loads, any item protruding from the side of the pallet may jam during exit, causing the aircraft CG to move out of the permissible limits.
- H. Pallets may be jettisoned one at a time provided previous computations have been made to ensure the aircraft CG is within limits with remaining loads on board, otherwise all pallets must be jettisoned at the same time. If conditions permit and it is considered safe, it is preferable to jettison pallets all at a time.

### **5.3.2 Cargo jettison by hand**

If the load is composed by small items resting directly on the cargo floor, or by pallets carrying low profile packages, and circumstances do not allow jettisoning complete pallets, untying cargo and jettison by hand of relatively light weight items may be considered. Prior to reaching a decision, circumstances must be carefully assessed in order to determine whether jettisoning by hand will reduce the aircraft gross weight substantially enough, and that time required to perform this operation is available. The ramp and cargo door are the primary exits to be used when jettisoning by hand. Use the paratroop doors only if the cargo door and ramp cannot be opened.

**CAUTION:** IT IS NOT RECOMMENDED TO JETTISON BY HAND BULKY, LIGHTWEIGHT PACKAGES USING THE PARATROOP DOORS. THESE ITEMS MAY STRIKE THE FUSELAGE OR TAIL SECTION IMMEDIATELY AFTER THEY EXIT THE AIRCRAFT.

### **5.3.3 Preparation for jettisoning**

**WARNING:** LOADMASTERS AND CREWMEMBERS INVOLVED IN THE OPERATION MUST WEAR A SAFETY HARNESS PRIOR TO OPENING THE CARGO DOOR AND RAMP OR PARATROOP DOORS. REST OF PERSONNEL IN THE CARGO CABIN WILL REMAIN SEATED WITH SAFETY BELTS FASTENED.

**WARNING:** THE CARGO DOOR AND RAMP, AND ONE OR BOTH PARATROOP DOORS SHALL NEVER BE OPEN AT THE SAME TIME.

**WARNING:** JETTISONING OF WHEELED CARGO, LARGE LOADS RESTING DIRECTLY ON THE CARGO FLOOR, OR MARRIED PALLET SHOULD BE ATTEMPTED ONLY AS A LAST RESORT. THESE LOADS MAY MOVE AFT VERY SLOWLY, CROSS OR WEDGE IN THE AFT SECTION, CAUSING AIRCRAFT UNBALANCE AND LOSS OF CONTROL.

**WARNING:** IF JETTISONING IS TO BE PERFORMED ABOVE 10000 FT MSL, THE AIRCREW SHALL USE 100 % OXYGEN. PERSONNEL MOVING IN THE CARGO CABIN WILL USE PORTABLE OXYGEN BOTTLES FOR EASE OF WALKING AROUND.

If all factors stated in the preceding paragraph have been considered during load planning, it should be possible to jettison the cargo very quickly with a minimum of preparation. As many preparation operations as possible should be accomplished prior to beginning aircraft depressurization and/or opening the cargo door and ramp:

- A. Check for items aft of the load that may interfere with cargo exit from the aircraft.
- B. Remove all tiedowns not considered necessary.
- C. On palletized loads, remove all tiedowns attached to the cargo floor that may have been installed after loading the pallets into the aircraft.
- D. Secure in the vertical position all side D-rings not in use for restraint for pallets to be jettisoned.
- E. Check that all sidewall seats beside and aft of the pallets to be jettisoned are secured in the vertical position, and do not protrude to interfere with pallet exit.
- F. Install platform buffer stops, or improvise a forward barrier using tiedown devices, as close as possible to the front end of the most forward pallet/platform.

**WARNING:** THE AM109 CHADS DOES NOT PROVIDE FORWARD RESTRAINT AFTER DETENT LOCKS ADJACENT AND FORWARD OF THE MOST FORWARD PALLET/PLATFORM HAVE BEEN RETRACTED.

- G. Prior to opening the ramp and cargo door, check for items that may fall during opening and interfere with cargo exit.

**WARNING:** WHEN JETTISONING PALLETIZED CARGO, AFTER PREPARATION CHECKS HAVE BEEN COMPLETED AND BEFORE STARTING TO OPEN RAMP AND CARGO DOOR, ALL PERSONNEL SHALL POSITION AND KEEP FORWARD OF THE MOST FORWARD PALLET/PLATFORM.

- H. Notify the flight station that the cargo cabin is ready to open cargo cabin and ramp, or to begin jettisoning by hand through the paratroop doors or ramp.

#### **5.4 WEIGHT AND HEIGHT LIMITATIONS FOR JETTISONING**

During exit from the aircraft, loads will tend to overturn immediately after their CG losses contact with the aircraft ramp. To prevent the front end of the load, or point of maximum height, from striking the aircraft overhead when the cargo overturns, the height of the load in relation to its CG position must not exceed the limits shown in Figure 5-1.

**WARNING:** IF THE POINT OF MAXIMUM HEIGHT IS LOCATED BETWEEN THE LOAD CG AND ITS FRONT END, ENTER FIGURE 5-1 WITH THIS HEIGHT AND DISTANCE TO CG. IF THERE ARE DIFFERENT CRITICAL POINTS ON THE SAME LOAD, CHECK EACH OF THEM IN THE SAME MANNER.

**CAUTION:** IT IS NOT RECOMMENDED TO JETTISON SINGLE HCU-6/E PALLETS WEIGHING LESS THAN 600 KG (1300 LB). THERE IS A POSSIBILITY THAT LIGHTWEIGHT PALLETS COULD STRIKE THE AIRCRAFT DURING EXIT DUE TO THEIR LIGHT WEIGHT COMPARED WITH THEIR LARGE RESTING AREA.

## **5.5 JETTISONING OF PALLETIZED CARGO ON THE AM109 CHADS**

**NOTE:** If the load to be jettisoned consists of platforms or containers rigged for airdrop, and circumstances permit, jettisoning can be accomplished using normal airdrop procedures.

After preparation checks indicated in paragraph 5.3.3 have been completed, and the ramp and cargo door have been opened, perform items outlined in paragraph 5.5.1 and/or paragraph 5.5.2 (as required).

### **5.5.1 Jettisoning the pallet on the ramp**

If a pallet placed on the aircraft ramp is to be jettisoned, proceed as follows:

A. If there is only a crewmember in the cargo cabin to perform jettisoning:

1. Pull right release handle on the CHADS ramp assembly.
2. Check that all detent locks and flanges are retracted.

**NOTE:** It may be necessary to move slightly the ramp pallet back and forth to retract all locks.

3. Station next to left release handle on the CHADS ramp assembly, and notify "READY TO JETTISON PALLET ON THE RAMP" to the flight station.
4. On pilot's command, pull left release handle.
5. Notify "PALLET CLEAR" (or condition) to the flight station.

B. If there are two crewmembers available to perform jettisoning:

1. Station one crewmember at each of the two ramp-assembly release handles.
2. Notify "READY TO JETTISON PALLET ON THE RAMP" to the flight station.
3. On pilot's command, pull simultaneously both release handles.
4. Notify "PALLET CLEAR" (or condition) to the flight station.

**WARNING:** THE RAMP SIDERAILS DO NOT PROVIDE FORWARD RESTRAINT AFTER LOCK-FLANGES HAVE BEEN RETRACTED.

### 5.5.2 Jettisoning pallets on the cargo cabin

- A. Check all ramp detent locks and flanges on both ramp assemblies are retracted.
- B. Operate the left-hand rail control handle (logistic handle) to unlock all left detent locks for the pallets/platforms to be jettisoned in this pass.
- C. Station next to the right-hand rail control handle and notify "READY TO JETTISON PALLETS ON THE CARGO CABIN" to the flight station.
- D. On pilot's command, pull right-hand control handle (airdrop handle).

**WARNING:** AFTER RIGHT DETENTS HAVE BEEN RETRACTED, USE EXTREME CAUTION TO KEEP BODY PARTS FORWARD OF THE BUFFER STOPS/FORWARD BARRIER UNTIL ALL LOADS HAVE EXITED THE AIRCRAFT.

- E. Notify "PALLETS CLEAR" (or condition) to the flight station.
- F. With the right-hand control handle, re-lock pallets/platforms remaining on board.

**NOTE:** To re-lock right detent locks, it may be necessary to use a tiedown strap to position pallets, or indicate the pilot to operate softly the aircraft elevators.

- G. For jettisoning remaining pallets/platforms, repeat above steps.

### 5.6 EMERGENCY EXITS AND EQUIPMENT

Refer to CHAPTER 2 - DESCRIPTION OF AIRCRAFT FEATURES and CHAPTER 3 - AIRCRAFT CONFIGURATION in this manual, and Flight and Operations manuals for emergency exits and emergency equipment available.

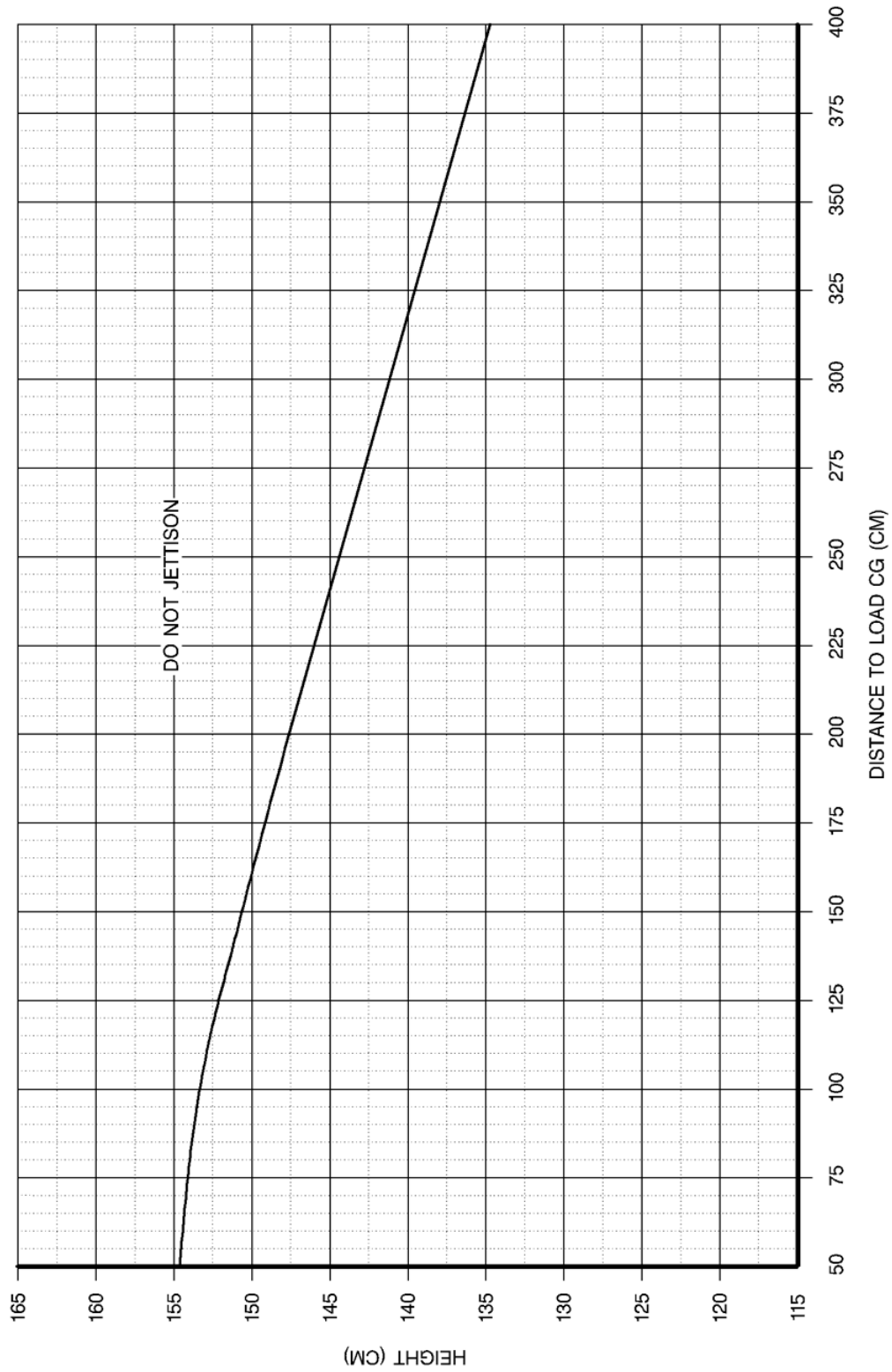


Figure 5-1 Cargo height jettison limits (Sheet 1 of 2)



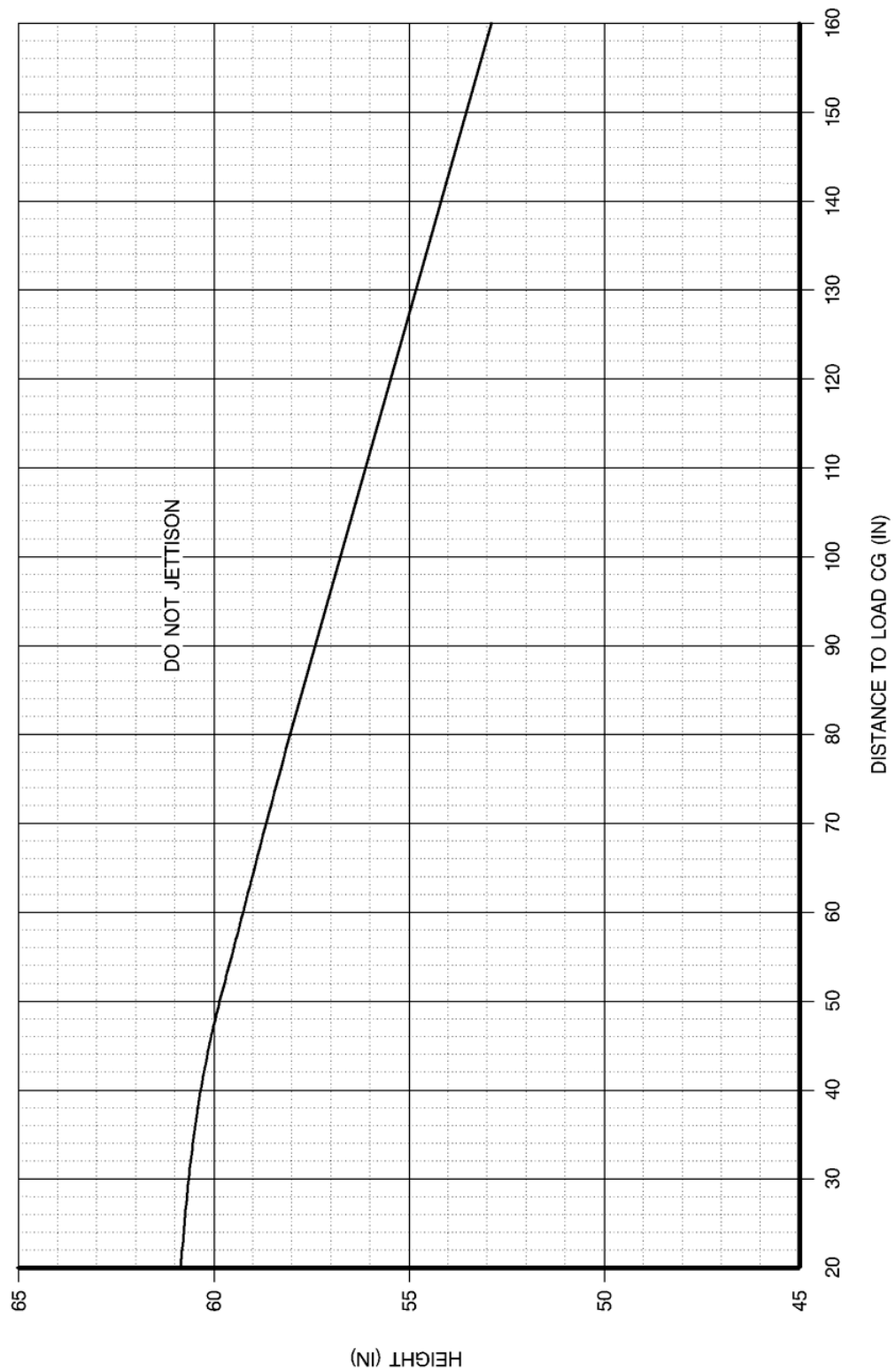


Figure 5-1 Cargo height jettison limits (Sheet 2 of 2)

Intentionally Left Blank