

CHAPTER 6

SPECIFIC PROCEDURES

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CHAPTER 6

SPECIFIC PROCEDURES

6.1 GENERAL

This chapter contains specific procedures for the preparation, onload and airlift of individual cargo items or equipment which, because of their characteristics (weight, dimensions, etc.), are considered "SPECIAL LOAD" and are deemed convenient to standardize so they can be airlifted in a routine basis.

SPECIAL LOAD is that which requires special preparation and/or loading procedures to be airlifted on the C-295. Special loads may require a particular aircraft configuration, special preparation, specific auxiliary loading equipment, a determined sequence for onloading/offloading, use of shoring, and/or has a weight and dimensions exceeding normal aircraft capabilities described in chapters 2, 3 and 4.

CAUTION: SOME OF THE PROCEDURES DEPICTED IN THIS CHAPTER MAY EXCEED THE NORMAL AIRCRAFT CAPACITIES, AND HAVE PRECEDENCE OVER PROCEDURES AND LIMITATIONS CONTAINED IN CHAPTERS 2, 3 AND 4 IN THIS MANUAL. THOSE PROCEDURES HAVE BEEN MADE SPECIFICALLY FOR THE PARTICULAR CARGO ITEM, AND PROPERLY VALIDATED. PROCEDURES IN THIS CHAPTER ARE NOT APPLICABLE TO GENERAL CARGO THAT HAS NOT BEEN PREVIOUSLY STUDIED AND PROPERLY VALIDATED.

6.2 GUIDELINES FOR PREPARING PROCEDURES FOR SPECIAL LOADS

Preparation of specific procedures for special loads permits knowing in advance the particular aircraft configuration for the mission, preparation operations to be performed by the supported unit, and all auxiliary/additional equipment required every time the load is to be airlifted, so decreasing the time required to prepare the mission. Previous studies conducted to establish a determined loading sequence allow loadmasters to accomplish these operations safely and efficiently.

Preparing a specific procedure should start with a survey of load's characteristics to determine feasibility of airlift, taking into account load weight, dimensions, etc. Procedures should include instructions for preparing the load (disassembling of parts, adjusting tire pressures, etc.) so resulting dimensions are compatible with those available in the cargo cabin, aircraft preparation, onloading/offloading instructions, tiedown diagrams, etc.

Load preparation and loading procedures should be made in a checklist format including, as appropriate, WARNING, CAUTION, and NOTE labels as they are used in this manual (see CHAPTER 1 - INTRODUCTION). If deemed practical, procedures may include floor plan diagrams showing position of the load in the aircraft, drawings depicting shoring arrangement, as well as reference aircraft balance calculations using an average aircraft operating weight.

The following paragraphs contain some of the factors that should be taken into account when studying and preparing specific procedures.

6.2.1 Description of the load

The procedure should start with a description of the load to be airlifted, and a list of its main features (name, descriptive nomenclature, overall weight and on each of its resting points, etc.). It is also advisable to include a drawing or diagram showing its shape and dimensions.

6.2.2 Additional and auxiliary loading equipment

Second main item in the procedure should be a list of additional equipment and auxiliary loading equipment required (forklifts, loading vehicles, etc.) so they can be obtained in advance, making it easier mission planning and coordination.

6.2.3 Load preparation

The transported unit is, normally, responsible for preparing the load for airlift. Besides of updating the load gross weight and CG location, load preparation will involve, in most cases, disassembling parts protruding from the main frame of the cargo item or vehicle (antennas, cover bows, rearview mirrors, etc.), and which may cause the item to exceed available dimensions in the cargo cabin. The user must agree concerning parts disassembling.

Some of the aspects to consider for inclusion in the load preparation procedure are the following:

- A. Dimensions and description of critical points.
- B. Disassembling of parts: antennas, mirrors, spare wheels, etc.
- C. Determining tiedown-attaching points of sufficient rated strength and, if required, installation of additional tiedown attaching items (rings, clevises, etc.).
- D. Internal pressure for pneumatic tires, if a specific pressure has been established for the vehicle according to its characteristics.

CAUTION: DO NOT DEFLATE VEHICLE TIRES IN ANY CASE. MANUFACTURER TIRE INTERNAL PRESSURE IS SET TO WITHSTAND THE VEHICLE WEIGHT. REDUCTION AT RANDOM OF NOMINAL PRESSURE DECREASES TIRE INTERNAL CONSISTENCY. DURING FLIGHT THROUGH TURBULENCE, TIRE DEFLATION MAY CAUSE THE TIRE SEAL TO BREAK, ALLOWING THE RIM TO CONTACT THE CARGO FLOOR. DURING LOADING/OFFLOADING, VEHICLES WITH DEFLATED TIRES MAY NOT TRACK STRAIGHT, THUS PERMITTING THE VEHICLE TO STRIKE THE AIRCRAFT, ESPECIALLY IF DIMENSIONS ARE VERY TIGHT.

NOTE: Internal pressure in pneumatic tires may be set to lower if a specific internal pressure for airlift has been established and properly certified, according to vehicle characteristics. Airlift internal tire pressure must guarantee that contact and steering control problems mentioned above are not encountered.

- E. Additional load inside main cargo item: weight, load-to-item restraint, hazardous materials, etc. Any additional load must be as stated in the specific procedure in terms of weight and characteristics.
- F. Quantities of fuel in vehicle operation tanks.
- G. Weight of liquids inside transport tanks, if the item is certified for airlift containing liquids.

NOTE: Most tanker-type vehicles (self-propelled or trailer) are not designed and certified for airlift with liquid in the transport tank. Structural integrity of these vehicles is not guaranteed under the G forces experienced in flight. In addition, partially filling the tank would cause balance and aircraft control problems due to shifting of the liquid in flight.

- H. Weighing and checking for CG location on main cargo item, loaded overall weight, weight per axle or supporting point, reference and distance to both empty and loaded CG, marking CG location on item. Updated weights must be supplied for each mission, for which the cargo item must be actually weighed prior to airlift. Obtained weight must not exceed those stated in the specific procedure. CG location must be checked and marked from figures obtained after weighing. Vehicle handbook weights shall not be used.

WARNING: UPDATED WEIGHTS MUST NOT BE LOWER OR HIGHER THAN THOSE ESTABLISHED IN THE SPECIFIC PROCEDURE. INCREASING OR DECREASING WEIGHTS ESTABLISHED IN THE PROCEDURE MAY CAUSE PRECALCULATED AIRCRAFT BALANCE, LOAD DISTRIBUTION ON THE CARGO FLOOR, AND TIEDOWN TO BE USELESS OR JEOPARDIZE IN-FLIGHT SAFETY.

- I. Building shoring required for weight distribution, according to dimensions and characteristics resulting from previous study.

NOTE: The user is usually responsible for building and supplying plank shoring for weight distribution over the cargo floor. If approach shoring is needed, building and supplying is normally the airlift unit's responsibility.

- J. Qualified personnel that must accompany the load for handling during unloading/offloading.

6.2.4 Aircraft preparation

Aircraft preparation will involve configuring the cargo cabin to accommodate the special load to be airlifted:

- A. Removal of seats.

- B. Removal of roller trays.

NOTE: If flight is performed with AM109 CHADS siderails removed, replace siderails with the cover assemblies of the lateral socles to cover the zone that remains disclosed. Intermediate roller trays may be removed as required.

- C. As an exception, removal of equipment in the cargo cabin to increase available dimensions.
- D. Number and type of required tiedown devices.
- E. Additional equipment: auxiliary loading ramps, rolling and approach shoring, etc.

6.2.5 Onloading

Onloading specific procedures should be based on the Amplified Loading/Offloading checklist contained in chapter 4 for the particular type of cargo (wheeled, palletized, etc.), and include operations to perform immediately before and during loading the item into the aircraft, positioning, shoring installation, and tiedown. It is very helpful to use a cargo cabin diagram with position reference marks and arrangement of tiedowns.

- A. Checking for correct load preparation, weight, location and marking of CG.
- B. Checking that the load and hazardous materials are properly documented.
- C. Availability of auxiliary loading equipment required: forklifts, cargo loaders, etc.
- D. Maximum height at the ramp hinge, or loading across the ramp in the horizontal position.

- E. Installation of auxiliary loading ramps.
- F. Installation of approach and/or rolling shoring.
- G. During transition of the cargo item to the aircraft, watching of clearances at critical points, variation of height if the cargo item is equipped with hydraulic jacks or any other devices to make height adjustments.
- H. Correct positioning the cargo item in the cargo cabin, according to established references.
- I. Installation of plank, sleeper, bridge, or parking shoring.
- J. Tying down the cargo item, according to the arrangement of tiedowns depicted in the procedure.
- K. Computing the updated aircraft balance condition.

WARNING: FOR EACH PARTICULAR MISSION, THE LOADMASTER SHALL CHECK WEIGHTS OF CARGO ITEMS, NUMBER AND ARRANGEMENT OF TIEDOWNS, AS WELL AS ACTUAL POSITION OF EACH CARGO ITEM IN THE CARGO CABIN, AND AIRCRAFT BALANCE.

6.2.6 Offloading

The offloading procedure will be, basically, reversing that followed during onloading. If considered practical, and especially when dimensions are very tight, detail each step until the load is out of the safety area around the aircraft.

6.3 REFERENCE INDEX TO SPECIFIC PROCEDURES

In subsequent changes and revisions to this manual, this paragraph will include an up-to-date list of specific procedures for equipment and loads, received from C-295 operators, as they are checked and validated by appropriate certification organizations. Depending on their extension, complete specific procedures will be included in consecutive paragraphs and subsections, as necessary.