APPENDIX V

AIRCRAFT LOAD PLANNING AND DOCUMENTATION

A. RESPONSIBILITIES (FOR AIR LOAD PLANNERS TRAINING, SEE DTR PART III, APPENDIX B)

1. The mobility force will:
   a. Assist the deploying unit in developing load plans and advising where there are aircraft limitation changes. While it is the responsibility of the deploying unit to develop load plans, units are encouraged to collaborate with the mobility force as early as possible to facilitate execution and ensure maximum aircraft utilization.
   b. Ensure the deploying unit accomplishes the documentation and manifesting of all personnel, cargo, and equipment (i.e., all air load plans provided in Integrated Computerized Deployment System [ICODES] format).
      (1) Cargo documentation and manifesting requirements are outlined in this regulation, Part III, Appendix H, and Part II.
      (2) Passenger documentation and manifesting requirements are outlined in this regulation, Part I.
      (3) Vehicle and equipment having characteristics presenting air movement transportability problem as identified in Department of Defense (DoD) Instruction 4540.07, Operation of the DoD Engineering for Transportability and Deployability Program, must be approved by the Air Transportability and Test Loading Activity (ATTLA) or be listed in an aircraft Dash 9 technical order.
   c. Ensure adequate cargo and/or passenger manifests accompanies each aircraft load.

2. Deployment planners and/or the deploying unit are required to maximize aircraft utilization where possible and collaborate with mobility forces to fill unused space. Units can also expect the mobility force to consolidate where possible to increase aircraft utilization as well.

3. Mission Validation. Load plans are required for all air movements by the Air Mobility Command’s (AMC) 618th Air and Space Operations Center (AOC) Tanker Airlift Control Center (TACC). To facilitate mission planning, deploying/redeploying units will be prepared to create planning load plans prior to unit movement. Any changes in requirements may also necessitate the need for new load plans. The 618th AOC (TACC) will also require a Hazardous Diplomatic (HAZ DIP) Clearance Worksheet (Figure V-1) for each aircraft load plan (chalk) identifying all hazardous cargo for the mission. Submit aircraft load plans and HAZ DIP worksheets to TACC.XOPC.verifications@us.af.mil (NIPR) or TACC.XOPC.verif@amc.af.smil.mil, as soon as the airlift requirement is accepted for movement by USTRANSCOM and “T” coded in the Joint Operation Planning and Execution System (JOPES) in accordance with (IAW) Chairman of the Joint Chiefs of Staff Manual 3122.02D, JOPES, Volume III. If additional information is required to adequately plan the mission, the 618th TACC may request units to generate and submit load plans within 48 hours of notification to ensure adequacy of proposed aircraft and mission plan. Submission of load plans is IAW AMC load planners and unit mission parameters.
   a. Submitting Load Plans: After completion of Joint Inspection, deploying units must submit final load plans to tac.fm.do@us.af.mil for flight managers to perform final aircraft mission planning, calculate fuel loads, and perform any other necessary duties. The subject line must be in the following format: Subject: Departure ICAO – Mission Number (for example, KDOV – PVRA75477241). Load plans will be submitted via ICODES format. Changes in
requirements may necessitate submission of new load plans. For short-notice validations (movements inside 96 hours from the available-to-load date), the supported command will ensure deploying units submit planning load plans along with hazardous materials documentation to the 618th TACC as part of the validation process. (Chairman of the Joint Chiefs of Staff Manual 3122.02D, Joint Operation Planning and Execution System [JOPES] Volume III [Crisis Action Time-Phased Force and Deployment Data Development and Deployment Execution], Appendix E, Enclosure C, Paragraph 3.)

B. AIRCRAFT LOAD PLANNING

1. The Integrated Computerized Deployment System (ICODES) is the only acceptable automated system for completing air load plans.
   a. In the event ICODES is unavailable, units will utilize reach back to obtain an ICODES generated load plan. If a manual load plan is required, use DD Form 2130 or Air Force (AF) Form 4080, Load/Sequence Breakdown Worksheet.

2. Load planning guidance by aircraft type, Model Design Series (MDS) is contained in the following AF and AMC publications. Compliance with these publications is mandatory. These publications are available at http://www.e-publishing.af.mil.
   a. C-5 Planning Data, Air Force Instruction (AFI) 11-2C5, Volume (V)3, Addenda (ADD) A and 1C-5A-9 (Figure V-2).
   b. C-130 (Short) Planning Data, AFI 11-2C-130 V3 ADD A and 1C-130A-9 (Figure V-4).
   c. C-130J-30 (Stretch) Planning Data, AFI 11-2C-130J V3 ADD A and 1C-130J-9 (Figure V-6).
   d. KC-10A Planning Data, AFI 11-2KC-10 V3 ADD A and 1C-10(K)A-9 (Figure V-10).
   e. C-17A Planning Data, AFI 11-2C-17 V3 ADD A and 1C-17A-9 (Figure V-18).
   f. KC-135 Planning Data, AFI 11-2KC-135 V3 ADD A and 1C-135-9 (Figure V-20).
   g. Air Mobility Command Pamphlet (AMCPAM) 24-2 V1, Civil Reserve Air Fleet Load Planning Guide.
   h. AMCPAM 24-2 V2 ADD-A, Civil Reserve Air Fleet Load Planning – Airbus A300.
   i. AMCPAM 24-2 V2 ADD-B, Civil Reserve Air Fleet Load Planning – Airbus A310.
   j. AMCPAM 24-2 V2 ADD-C, Civil Reserve Air Fleet Load Planning – Airbus A320.
   k. AMCPAM 24-2 V2 ADD-D, Civil Reserve Air Fleet Load Planning – Airbus A330.
   l. AMCPAM 24-2 V2 ADD-E, Civil Reserve Air Fleet Load Planning – Airbus A340.
   m. AMCPAM 24-2 V3 ADD-A, Civil Reserve Air Fleet Load Planning – Boeing B727.
   n. AMCPAM 24-2 V3 ADD-B, Civil Reserve Air Fleet Load Planning – Boeing B737.
   o. AMCPAM 24-2 V3 ADD-C, Civil Reserve Air Fleet Load Planning – Boeing B747.
   q. AMCPAM 24-2 V3 ADD-E, Civil Reserve Air Fleet Load Planning – Boeing B767.
   r. AMCPAM 24-2 V3 ADD-F, Civil Reserve Air Fleet Load Planning – Boeing B777.
   s. AMCPAM 24-2 V4 ADD-A, Civil Reserve Air Fleet Load Planning – Boeing (McDonnell-Douglas) DC-8 Series.
t. AMCPAM 24-2 V4 ADD-B, Civil Reserve Air Fleet Load Planning – Boeing (McDonnell-Douglas) DC-10 Series.

u. AMCPAM 24-2 V4 ADD-C, Civil Reserve Air Fleet Load Planning – Boeing (McDonnell-Douglas) MD-11 Series.

v. AMCPAM 24-2 V4 ADD-D, Civil Reserve Air Fleet Load Planning – Boeing (McDonnell-Douglas) MD-80 Series.

w. AMCPAM 24-2 V4 ADD-E, Civil Reserve Air Fleet Load Planning – Boeing (McDonnell-Douglas) MD-90 Series.

C. AIRCRAFT UTILIZATION

When planning for full aircraft utilization, the planner will apply the following criteria:

1. Aircraft will be configured and loaded to maximum capacity using the Allowable Cabin Load (ACL), passenger limits, and aircraft load specifications found in Figures V-2 through V-23. For further assistance, contact an affiliated Air Mobility Control Unit (AMCU) or deployed Contingency Response Force.

2. Accurate ACL information is subject to variables such as type of mission, destination, distance, weather, operational priorities, airfield conditions, and individual aircraft characteristics. For aircraft specific planning ACL refer to Air Force Pamphlet (AFPAM) 10-1403, Air Mobility Planning Factors. These characteristics can impact the efficiency and effectiveness of Air Mobility assets making it critical that units provide Post-Joint Inspection (JI) final/updated load plans NLT 6 hours prior to aircraft departure.

3. To optimize utilization goals, build pallets to 100 percent by module type. If not possible, strive to achieve 90 percent of the gross weight and/or 80 percent of the pallet cube for each module type. Pallet module types listed by airframe, including configurations and limitations can be found in DTR Part II, Appendix ZZ. Pallet Utilization Goals can be found at https://www.my.af.mil/gcss-af/USAF/AFP40/d/s6925EC1353610FB5E044080020E329A9/Files/a4t/a4tc/cargo/precision/max_pallet_goals_by_aircraft.zip.

4. The configuration of vehicles and equipment to be air transported or air dropped must allow for emergency access from the front to the rear of the aircraft and safe loading and off-loading.

5. In aircraft loading, axle loads, wheel loads, tire footprint loads, and general floor loads, as determined from the plan view of the equipment, must conform to aircraft fuselage zone and compartment limitations. Detailed allowable load limits can be found in the aircraft Technical Order Dash 9. Units having extremely heavy or outsize equipment will emphasize this during joint planning conferences and seek technical assistance prior to load planning. Palletized and platform limitations, along with aircraft roller load limits, must not be exceeded.

6. Use spread loading as a technique, whereby like capabilities of a given unit are distributed throughout the entire air flow versus on a single aircraft. For example, if a deploying unit’s entire petroleum, oils, and lubricants capability is on one aircraft and the aircraft is lost because of weather or combat, the capability of the deploying unit would be severely limited.
7. Each item will be planned for placement aboard the aircraft so it can be rapidly loaded or offloaded. In such cases, the most efficient use of aircraft will be planned with the following exceptions:
   a. Minimize floor-loaded cargo for aircraft carrying rolling stock.
   b. Vehicles will normally be loaded on the aircraft facing the ramp. Also, trailers and towed equipment will be moved on the same aircraft as their prime mover.
   c. Palletized cargo will be planned for placement aft of all rolling stock and passengers (aircraft weight and balance permitting).

D. PARACHUTE ELEMENT

Units assigned to parachute elements will:
1. Prepare aircraft load plans that reflect the tactical plan and comply with references of the United States Army’s Techniques Publication (ATP) 4-48, Aerial Delivery, or other Service regulations.
2. Use the provisions of load planning shown herein and in Appendix O for the preparation of equipment and supplies for airdrop, except when those instructions conflict with requirements of the tactical plan.
3. Provide the necessary auxiliary equipment for airdrop of vehicles and equipment, such as platforms, parachutes, webbing straps, and energy-dissipating material to absorb impact shock and vibration.
4. Rig loads according to the technical orders and Service regulations.

E. AIR-LANDED ELEMENT

Units assigned to air-landed elements:
1. Will prepare aircraft load plans using ICODES.
2. Must be able to compute aircraft weight and balance to ensure fuel efficiency and safety of flight.
3. Will plan for the use of C-130s or Civil Reserve Air Fleet as basic aircraft for the movement of all equipment and general cargo that can be transported by those aircraft.
4. Will plan for the use of C-5 and C-17 aircraft for outsize equipment, plus other equipment and general cargo, to make full use of floor space and/or ACL.
5. Will assign a minimum of two passengers to function as cargo/equipment custodian in case a portion of the load is downloaded en route to the final destination.
6. Must be familiar with proper pallet build up and aircraft contour restrictions.
7. Will ensure each self-propelled vehicle has at least one qualified operator (not required on civil aircraft cargo missions).
8. Must be familiar with the ATTLA certification website: https://intelshare.intelink.gov/sites/attla.
9. Will use the passenger, baggage weights, and aircraft planning factors found in Figures V-2 through V-23 this regulation, Part I, Chapter 103 and AFI 11-2 (MDS Specific) Volume 3 Addenda A and AFPAM 10-1403. (Normally, passenger bags will be palletized or loaded aboard the aircraft as secondary loads in vehicles.) Load planners will allocate cargo compartment floor space to load rucksacks aboard the aircraft. The standard planning passengers/baggage weight for contingency operations is 400 lbs. per passenger. This includes passengers (210 lbs. each), baggage and combat gear (190 lbs. each) (Figure V-23).
10. Must be able to determine hazardous material compatibility.

11. Must be familiar with passenger restrictions associated with the movement of hazardous cargo.

12. Will determine planning weight and dimensions for all vehicles and equipment to be loaded. These planning weights are to be used only in the pre-planning airlift allocation process. Actual weights must be used when submitting final load plans.

13. Normally, will plan to load trailers and semi-trailers in the same aircraft as their prime movers. In cases where it is impossible to load trailers on the same chalk with prime movers (because of aircraft limitations), a prime mover will need to be available at the embarkation/debarkation field to on/off-load the trailer. A prime mover will also need to be available at the on-load airfield when re-deploying to load the trailer.

14. Will ensure the equipment items are complete in type, quantity, and configuration and the weight, dimensions, and number of packages of supplies are correct.

15. Will ensure the number of personnel indicated in the planned loads accurately describes the unit’s readiness for movement and is the same as the movement data reported to the force commander or major command.

16. After submission of movement data and planning of aircraft loads, will ensure any replacement of equipment items is reflected in a corrected movement data report.

17. Will ensure all cargo documentation is complete IAW this regulation, Part III, Appendix H, and Part II.

18. Update post-JI weights and other load factors on the final load plan and submit the load plan to 618th AOC/TACC via email to tacc.fm.do@us.af.mil. The subject line must be in the following format: Subject: Departure ICAO – Mission Number (for example, KDOV – PVRA75477241). This update is crucial and must be submitted NLT 6 hours prior to aircraft departure to ensure flight managers are able to perform final aircraft mission planning, calculate fuel loads, and any other necessary duties.

F. SUBSTITUTE AIRCRAFT LOADING PROCESS

This loading situation requires unit equipment to be aligned by type item and positioned according to priority in the line. Passengers are separated from the equipment and processed as required on a seat-available basis (except drivers, assistant drivers, and cargo custodians). This procedure is used when there is an unexpected change in aircraft or aircraft type, and time constraints dictate a rapid, efficient completion of the move. For example, an operation is progressing on schedule with C-17s when an unexpected event (such as earthquake relief) takes place and the C-17s are used immediately in support of that event. A change of aircraft (on an as-available basis) is needed to complete the assigned mission. For that loading, the following procedures will apply:

1. All cargo is arranged according to M-series (Military Design) or type items.

2. Passengers will be held in a holding area with a predetermined number on hand at all times. Passengers will have ready access of baggage and personal equipment and be prepared to depart.

3. Loads will be determined and selected upon notification of estimated time of arrival, type, and number of aircraft arriving.

4. Load plans will be prepared listing serial number, bumper number, or Transportation Control Number (TCN) of the items to be airlifted (according to a transported force directed priority) on the cargo and passenger manifests (load plan). A transported unit representative must assist the load planner.
5. After the load plan is complete and all cargo and equipment for the chalk is present, cargo will be aligned in loading sequence by serial number. The JI will then be conducted using a DD Form 2133, Joint Airlift Inspection Record, in accordance with (IAW) this regulation, Part III, Appendix O.

6. Once the cargo is load planned, the number of seats available is determined. The passenger holding area will be notified and passengers will be manifested and segregated by load.

7. Cargo goes to the aircraft with cargo and passenger manifests IAW this regulation.

8. The passenger holding area is notified when to escort passengers to the aircraft. This is an efficient method of processing both cargo and passengers when there is uncertainty as to the type of aircraft to be used.

G. TYPE LOADING

Identical type loads simplify the planning process and make the tasks of load planning easier. The type load method is the most common and widely accepted method of air movement planning. This method is often used in planning unit moves. Consider the following when type loading:

1. Load configuration
2. Load condition upon arrival
3. Rapid unloading
4. Aircraft unloading
5. Security requirement en route
6. Operational requirements.

H. PREPARATION AND USE OF DD FORM 2130 SERIES

1. These forms are designed for use in load planning in the event a load planner does not have access to ICODES. Except for the aircraft diagram, the forms are the same. The front of the form serves as a load-planning sheet. Sidewall seats are shown on the C-130, C-17, and KC-135 aircraft diagrams and will be marked through with an “X” when seats are to be filled with passengers.

2. The DD Form 2130 series includes:
   a. DD Form 2130-1, C-5A/B Load Plan (with Cargo Pallet Positions), Figure V-3.
   b. DD Form 2130-2, C-130 E/H/J Load Plan (with Cargo Pallet Positions), Figure V-5.
   c. DD Form 2130-4, C-160 Transall Load Plan (with Cargo Pallet Positions), Figure V-8.
   d. DD Form 2130-5, DC 10-10/30CF Load Plan (Side 1 with Cargo Pallet Positions), Figure V-9.
   e. DD Form 2130-6, KC-10A Load Plan (with 17 Cargo Pallet Positions), Figure V-11.
   f. DD Form 2130-7, KC-10A Load Plan (with 23 Cargo Pallet Positions), Figure V-12.
   g. DD Form 2130-8, DC 8-50 Series F/CF Load Plan (with Cargo Pallet Positions), Figure V-13.
   h. DD Form 2130-9, DC 8-61/71-63/73F/CF Load Plan (with Cargo Pallet Positions), Figure V-14.
   i. DD Form 2130-10, DC 8-62CF Load Plan (with Cargo Pallet Positions), Figure V-15.
j. DD Form 2130-11, B707-300C Load Plan (with Cargo Pallet Positions), Figure V-16
k. DD Form 2130-12, B747-100F/200C/200F Load Plan, Figure V-17
l. DD Form 2130-13, C-17 Load Plan (with Cargo Pallet Positions), Figure V-19
m. DD Form 2130-14, KC-135 Load Plan (with Cargo Pallet Positions), Figure V-21
n. DD Form 2130-15, C-130J (Stretch) Load Plan (with Cargo Pallet Positions), Figure V-7
o. DD Form 2130C, Aircraft Load Plan Continuation Sheet, Figure V-22.

3. Preparation instructions for the completion of DD Form 2130 series are as follows:

a. Block 1: UNIT BEING AIRLIFTED. Enter the name or number of unit being airlifted.

b. Block 2: UNIT IDENTIFICATION CODE. Enter the six-character, alphanumeric-unique code assigned to the unit being airlifted. Deploying units may also use the unit line number (ULN) in this block.

c. Block 3: TYPE MOVEMENT PLAN. Enter the operation or exercise name. If it is a Special Assignment Airlift Mission (SAAM), enter the SAAM number. If it is a contingency, enter the plan number and whether it is inter-theater or intra-theater airlift. Enter “CLASSIFIED” if there is any doubt about associating the type of movement with detailed load information on the unit (e.g., if the Plan Identification Number is listed).

**Caution**: The association of an exercise name, SAAM sequence number, contingency name, or operation plan number with the other information on this form may cause this form to become classified up to TOP SECRET.

d. Block 4: MOVEMENT DATE. Enter the date of the airlift (DDMMMYY). **NOTE**: All airlift times are specified in Greenwich Mean Time (Zulu time zone).

e. Block 5: UNIT AIRCRAFT LOAD NUMBER. Enter the number identifying the specific load and the total loads to be airlifted for a particular unit (e.g., 5 of 47).

f. Block 6: MISSION NUMBER. The assigned mission number goes here. (Mobility force personnel normally complete this.)

g. Block 7: AIRCRAFT SERIAL NUMBER. The last five digits of the aircraft tail number go here. (Mobility force personnel normally complete this.)


i. Block 9: DEPARTURE AIRFIELD. Enter the actual geographical name of the departure airfield. If the departure is classified, enter “CLASSIFIED”.

j. Block 10: DESTINATION AIRFIELD. Enter the actual geographical name of the arrival airfield. If the destination is classified, enter “CLASSIFIED”.

k. Block 11: ACTUAL LOADOUT. The aircraft diagram schematic scale is 1/4 inch = 3 feet or scale 1:144 cm. The actual position of cargo being airlifted will be shown on the diagram using DoD-approved cargo load planning templates. Contact any of the AMCUs listed in
Chapter 303, Paragraph C.2.b.(1)(g), for further guidance. Vehicles will be backed into C-130/C-17 for ease of offload. If it is necessary to drive a vehicle into the aircraft, explain in the Remarks Section, Block 11d, of the load plan.

(1) Column 11(a): LOAD SEQUENCE. Enter the order items will be loaded aboard aircraft (completed by deploying unit load planners). This order may be changed when circumstances dictate. The general sequencing rule is from front to rear of aircraft. Passengers do not receive a sequence number.

(2) Column 11(b): ITEM MODEL AND NOMENCLATURE/DESCRIPTION. Enter a text description of the item (e.g., M818 5-ton tractor or CH-53E helicopter). A common or generic description may be used when shipping classified items.

(3) Column 11(c): TRANSPORTATION CONTROL NUMBER (TCN) or VEHICLE PACKAGE NUMBER/ SERIAL NUMBER/INCREMENT NUMBER. Enter the 17-digit TCN (e.g., MSEABACR200110XXX), bumper number, license number, or serial number (e.g., HQ 16 or 76B2050).

(4) Column 11(d): REMARKS (Special Handling, Shoring).

(5) REMARKS CODES (from Column 11(h)). Enter any pertinent information about shoring requirements, reduction in height requirements, or hazardous cargo.

(6) OTHER. This is for information not covered in the remarks code pertaining to the item (e.g., some helicopters may require special approach shoring or use of code 4 in Column 11(d), which would require an “arrow” in the “other remarks” column showing position and orientation of item inside the aircraft).

(7) Column 11(e): DIMENSIONAL DATA. Enter the length, width, and height of all the rolling stock and equipment to be transported on the aircraft. Do not use data plate dimensions. Physically measure the item to ensure it fits in the desired aircraft envelope.

(8) Column 11(f): PLANNED LOAD DATA. Enter the planned length, width, height (in inches), and gross weight (in pounds [lbs]) based on the most current available Unit Movement Data. Also record the fuselage station (position in aircraft) and simplified moment. Simplified moment permits the load planner to reduce the amount of numerical digits accumulated during the mathematical process associated with airlift planning. As airlift cargo capability increases, moments accrued during the calculation of aircraft load Center of Balance (CB) also increase. To simplify a given moment, the load planner moves the decimal point a given number of spaces to the left depending upon which type aircraft is being used. Use following simplifications for aircraft:

- C-130E/H/J, C-130J-30, KC-135, C-160 1,000 (3 digits left)
- KC-10A, DC-10-10/30CF 10,000 (4 digits left)
- C-17, B707-300C, DC8-62CF 10,000 (4 digits left)
- DC8-50F/CF, DC8-61/71-63/73FCC 10,000 (4 digits left)
- C-5A/B, B747100F/200C/200F/400F 100,000 (5 digits left)

**Example:** A moment of 7305560 on a C-130 aircraft would be simplified to 7306. As the example depicts, the simplified moment method can be related to standard rounding-off rules.

(9) Column 11(g): ACTUAL LOAD DATA. Enter the weight obtained by physically weighing the item on scales in current calibration. Also record the fuselage station (position in aircraft) and the simplified moment, and recompute the load CB. If the
actual CB changes more than 10 inches from the planned CB position, ensure aircraft limitations are not exceeded.

(10) Column 11(h): REMARKS CODES. Choose the codes and enter them in Column 11(d).

l. Block 12: PASSENGERS SEATS PLANNING DATA. Enter the number of total seats used in the “Number Seats” section (in this example, 12 is entered).

<table>
<thead>
<tr>
<th>NUMBER SEATS</th>
<th>AVG. WEIGHT (Pounds Each)</th>
<th>TOTAL PLANNED WT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>210</td>
<td>2,520</td>
</tr>
</tbody>
</table>

Also enter the average weight used per an individual for planning purposes and the total weight of the planned passenger load. This is for use during the planning phase of the movement. To estimate passenger weights, see Figure V-23. The load planner or unit movement officer will furnish the actual number of passengers and the total passenger weight.

m. Block 13: TOTAL WEIGHT/MOMENT FROM BACK. Enter the total planned load weight and moments from the reverse side in Block 11(f), “Gross Weight and Moment” columns. Enter the total actual load weight and moments from the reverse side in Block 11(g), “Gross Weight and Moment” columns. Record the total weight and moment from the reverse to Blocks 11(f) and 11(g).

n. Block 14: TOTALS. Compute the sum of the figures in the Gross Weight and Moment columns for both Blocks 11(f) and 11(g), and Block 13. To obtain the load CB station, divide the total moment by the total gross weight; for example, 6107 ÷ 68190 = 896.

o. Block 15(a): LOAD PLANNED BY: Enter the date the load plan was certified and the name, grade, organization, and signature of the individual responsible for planning or initiating the cargo load plan. Planning officials must be qualified load planners or graduates of the AMC Affiliation Airlift Planners Course; the United States Army Air Deployment Planning Course at Fort Eustis, Virginia; the United States Marine Corps Expeditionary Warfare Training Group, Pacific, Air Movement Planning Course (K-8A-3558) at Naval Air Base Coronado, California; 101st Airborne Division Strategic Deployment School in Fort Campbell, Kentucky; or 82d Airborne Division Air Movement Operation School in Fort Bragg, North Carolina.

p. Block 15(b): LOAD APPROVED BY. Enter date load plan validated, name, grade, organization, and signature of individual validating plan in actual load plan block. Actual plan certification will not be accomplished until the actual load plan is completely filled out and verified. The load plan validator must be an authorized representative of the mobility force or the aircrew loadmaster.

4. Distribution. A minimum of seven copies is required for movement, with one copy to each of the following:

a. Departure airfield mobility force
b. Departure Airfield Operations
c. Loading team chief
d. Aircraft loadmaster or Boom Operator
e. Arrival airfield mobility force
f. Planeload/troop commander

g. Arrival Airfield Operations.

**NOTE:** Additional copies may be required for customs and foreign clearances on missions operating outside the United States.

## I. PREPARATION AND USE OF DD FORM 2130-5

1. DD Form 2130-5, DC 10-10/30CF Load Plan (Figure V-9) is for use in load planning cargo to be airlifted by DC 10-10/30CF aircraft during unit moves other than AMC channel missions. Side 1 is for the DC 10-30CF, and side 2 is for the DC 10-10CF. Use DD Form 2130C, Aircraft Load Plan Continuation (Figure V-22) for cargo manifesting. Complete the appropriate form in seven copies and distribute it as indicated in Paragraph H.4, above. The preparation instructions are as follows:

a. Block 1: UNIT BEING AIRLIFTED. Enter the name or number of the unit being airlifted.

b. Block 2: UNIT IDENTIFICATION CODE. Enter the six-character, alphanumeric-unique code assigned to unit being airlifted. The deploying unit may also use the ULN in this block.

c. Block 3: TYPE MOVEMENT PLAN. Enter the operation or exercise name. Enter the SAAM number for SAAMs. If it is a contingency, enter the plan number and whether it is inter-theater or intra-theater airlift. Enter “CLASSIFIED” if any doubt exists when associating the type of movement with the detailed unit load information (i.e., if the Plan Identification Number is listed).

**Caution:** Association of an exercise name, SAAM sequence number, contingency name, or operation plan number with other information on this form may cause this form to become classified up to TOP SECRET.

d. Block 4: MOVEMENT DATE. Enter the date of the airlift (DDMMYY).

**NOTE:** All airlift times are specified in Greenwich Mean Time (Zulu time zone).

e. Block 5: UNIT AIRCRAFT LOAD NUMBER. Enter the number identifying the specific load and the total number of loads to be airlifted for a particular unit (e.g., 5 of 47).

f. Block 6: MISSION NUMBER. The assign mission number goes here. (Air carrier or mobility force personnel normally complete this.)

g. Block 7: AIRCRAFT SERIAL NUMBER. The last five digits of the aircraft tail number go here. (Air carrier or mobility force personnel normally complete this.)

h. Block 8: CONFIGURATION. (Optional entry.) This aircraft has no predetermined configurations. Plain remarks, such as “20 seats/10 pallets” may be used.

i. Block 9: DEPARTURE AIRFIELD. Enter the actual geographical name of the departure airfield. If the departure is classified, enter “CLASSIFIED”.

j. Block 10: DESTINATION AIRFIELD. Enter the actual geographical name of the scheduled arrival airfield. If the destination is classified, enter “CLASSIFIED”.

k. Block 11: ACTUAL LOADOUT. The aircraft diagram schematic scale is 1/4 inch = 3 feet. The actual position of the cargo being airlifted will be shown on the diagram using DoD-approved cargo load-planning templates. Use the DD Form 2130C, Aircraft Load Plan Continuation (Figure V-22), for documenting load sequence, nomenclature, TCN, and remarks. Contact any of the AMCU's or AMCFs listed in Chapter 303, Paragraph C.2.b.(1)(g), for further guidance.
1. Block 12: PASSENGERS SEATS PLANNING DATA. Enter the number of total seats used in the “Number Seats” section (in this example, 12 is entered).

<table>
<thead>
<tr>
<th>NUMBER SEATS</th>
<th>AVG. WEIGHT (Pounds Each)</th>
<th>TOTAL PLANNED WT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>210</td>
<td>2,520</td>
</tr>
</tbody>
</table>

Also enter average weight used per individual for planning purposes and the total weight of the planned passenger load. This is for use during the planning phase of the movement. To estimate passenger weights, see Figure V-23. The load planner or unit movement officer will furnish the actual number of passengers and the total passenger weight.

m. Block 13: TOTAL WEIGHT/MOMENT. Enter the total planned load weight and moments from the reverse side in Block 11(f), “Gross Weight and Moment” columns. Enter the total actual load weight and moments from the reverse side in Block 11(g), “Gross Weight and Moment” columns.

n. Block 14: TOTALS. Compute the sum of the figures in the “Sub Totals Gross Weight and Moment” columns, both Blocks 11(f) and 11(g), on the DD Form 2130C and enter it in Block 14. To obtain load CB station, divide the total moment by the total gross weight; for example, 6107 ÷ 68190 = 896.

o. Block 15(a): LOAD PLANNER. Enter the date load plan was certified and the name, grade, organization, and signature of the individual responsible for planning or initiating the cargo load plan. Planning officials must be qualified load planners or graduates of the AMC Affiliation Airlift Planners Course; the United States Army Air Deployment Planning Course at Fort Eustis, Virginia; the United States Marine Corps Expeditionary Warfare Training Group, Pacific, Air Movement Planning Course (K-8A-3558) Naval Air Base Coronado, California; 101st Airborne Division Strategic Deployment School at Fort Campbell, Kentucky; or 82d Airborne Division Air Movement Operation School at Fort Bragg, North Carolina.

p. Block 15(b): ACTUAL LOAD PLAN VALIDATOR. Enter the date the load plan was validated and the name, grade, organization, and signature of the individual validating the load plan in the actual load plan block. Actual load plan certification will not be accomplished until the actual load plan is completely filled out and verified. The load plan validator must be an authorized representative of the mobility force or the air crew loadmaster.

NOTE: For air-drop loads, graduates of the Fort Lee Parachute Riggers Course may certify the load plan.

J. PASSENGER MANIFESTING PROCEDURES

For information regarding passengers manifesting, see DTR Part I, Chapter 103.
Purpose: Coordinate ORGANIC aircraft clearance requests for missions with hazardous cargo.

Instructions:
1. This worksheet MUST be filled out COMPLETELY in order for the International Clearance Branch to coordinate diplomatic clearances.
2. Refer to the Foreign Clearance Guide for food item requirements (Take into account countries that must be flown over to get to destination).
3. Mission identification MUST be the ORIGINATING mission number, not the mission identification number at the point of onload.
4. Submit this worksheet NOT two days PRIOR to the longest country lead time; take into account weekends and US/foreign holidays.
5. Piping organizations submitting TACC Service Requests with hazardous cargo must attach a copy of this worksheet directly to the Service Request in DCAP.

For Official Use Only

HAZARDOUS CARGO AIRCRAFT AND MUNITIONS OF WAR CLEARANCE REQUEST

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>See NOTE 4 &amp; 5</th>
<th>See NOTE 1</th>
<th>See NOTE 2</th>
<th>See NOTE 3</th>
<th>See NOTE 4</th>
<th>See NOTE 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCN/General Description</td>
<td>UN #</td>
<td>Pieces or Packages</td>
<td>Weight in Pounds</td>
<td>Weight in Kilograms</td>
<td>N.E.W. in Kilograms</td>
<td>Class and Div</td>
</tr>
<tr>
<td>AEROPHILES, NON-HAZARDOUS</td>
<td>FO44712122/2112212</td>
<td>16</td>
<td>120</td>
<td>54.55</td>
<td>2.2</td>
<td>FTTJ</td>
</tr>
<tr>
<td>AMMUNITION, SMALL ARMS</td>
<td>FO44712122/2112212</td>
<td>3</td>
<td>120</td>
<td>59.09</td>
<td>5.02</td>
<td>1.45</td>
</tr>
<tr>
<td>BATTERIES, 11-1.2V, LI-ION</td>
<td>FO44712122/2112212</td>
<td>5</td>
<td>46</td>
<td>20.93</td>
<td>0</td>
<td>FTTJ</td>
</tr>
<tr>
<td>EXPLOSIVE HAZARDOUS SUBSTANCES, LIQUID, N</td>
<td>FO44712122/2112212</td>
<td>1</td>
<td>10</td>
<td>4.55</td>
<td>9</td>
<td>FTTJ</td>
</tr>
<tr>
<td>FIRE EXTINGUISHERS</td>
<td>FO44712122/2112212</td>
<td>12</td>
<td>130</td>
<td>59.09</td>
<td>2.2</td>
<td>FTTJ</td>
</tr>
<tr>
<td>GUN</td>
<td>FO44712122/2112212</td>
<td>6</td>
<td>65</td>
<td>29.55</td>
<td>5</td>
<td>FTTJ</td>
</tr>
<tr>
<td>VEHICLES, FLAMMABLE LIQUID POWERED</td>
<td>FO44712122/2112212</td>
<td>1</td>
<td>4912</td>
<td>2201.08</td>
<td>9</td>
<td>FTTJ</td>
</tr>
</tbody>
</table>

Figure V-1. Hazardous Diplomatic (HAZ DIP) Clearance Worksheet
C-5 PLANNING DATA

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Takeoff Weight:</td>
<td>769,000 lbs</td>
</tr>
<tr>
<td>Normal Operating Weight:</td>
<td>374,000 lbs</td>
</tr>
<tr>
<td>Peacetime Planning ACL*:</td>
<td>150,000 lbs</td>
</tr>
<tr>
<td>Wartime Planning ACL*:</td>
<td>175,000 lbs</td>
</tr>
</tbody>
</table>

CARGO COMPARTMENT:
Length - 1736 inches  
Width - 228 inches**  
Height - 162 inches **

CARGO AREA:
From Fuselage Station 511-1976 (main cargo floor), from Station 395-511 (aircraft forward ramp), and from Station 1976-2131 (aircraft aft ramp). NOTE: 463L pallets loaded in pallet positions 1, 2, 35, and 36 (forward and aft ramps) will have a 14-inch access aisle which will extend from the outboard edge of pallet to the vertical stacking line of the cargo.

VEHICLE LOADING -- MAXIMUM WEIGHTS:
Aircraft Ramps
Station 395-517 and Station 1971-2131: 3,600 lbs in any 20-inch length.
Station 511-724 and 1884-1971: 20,000 lbs in any 40-inch length.
Station 724-1884****: 36,000 lbs in any 40-inch area.

PASSENGER CARGO LOADING:
Maximum allowable using HCU-7/E and HCU-15/C nets.
Pallet positions 3 thru 34: 10,355 lbs ***
Pallet positions 1, 2, 35, and 36 (ramps): 7,500 lbs each ***
Height of pallet positions 1 thru 34: 96 inches ****
Height of pallet positions 35 and 36: 70 inches **/***.

PASSENGER LOADING:
Airline seats (permanently installed): 73 passengers/troops
Airline seats (additional seat kit): 267 passengers/troops
Web passenger seats: Not Available
Paratroops: 73 paratroops
Litter patients (plus medical crew): Not Available
Full sidewall seats only: Not Available

NOTE: When 20 or more troops are transported aboard the C-5, a baggage pallet(s) will be used.

MAXIMUM ON OVER-WATER FLIGHTS: 329 passengers

NOTES:
1. * Maximum payload is computed without regard to cargo density. It is limited only by aircraft structural limitations or critical leg fuel (3500 Nautical Miles (NM)) and is shown primarily for information. It includes the weight of any passengers carried. Do not use unless cargo density is known to be high and physical characteristics of cargo would permit full use of compartment space. Flight route segments less than critical leg distances may allow for more or less ACL depending on wind factors. If tankers can be provided with aerial refueling qualified aircrews, the C-5 can airlift maximum payload (145.5 Short Tons) over any critical leg.
2. ** Cargo must be six inches from sides and top of aircraft. Aft Ramp cargo height is restricted to 70 inches.
3. *** Includes weight of cargo, pallet and nets.
4. **** Maximum height allowed.
5. ***** Side-by-side or multiple wheeled vehicles axles loaded between F.S. 1458 and F.S. 1518 are limited to a combined maximum weight of 25,000 pounds. Tracked type vehicles are excluded from this restriction.

Figure V-2. C-5 Planning Data
Figure V-3. DD Form 2130-1, C-5 A/B/C/M Load Plan (with Cargo Pallet Positions)
### C-130 PLANNING DATA

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Takeoff Weight</td>
<td>155,000 lbs</td>
</tr>
<tr>
<td>Normal Operating Weight</td>
<td>88,000 lbs</td>
</tr>
<tr>
<td>Peacetime Planning ACL*</td>
<td>25,000 lbs</td>
</tr>
<tr>
<td>Wartime Planning ACL*</td>
<td>38,800 lbs</td>
</tr>
</tbody>
</table>

**CARGO COMPARTMENT:**

- Length: 624 inches (612" usable)
- Width: 123 inches**
- Height: 108 inches**

**CARGO AREA:**

- From Fuselage Station 257-742 (main cargo floor) and from Station 742-869 (aircraft ramp).

**VEHICLE LOADING:**

- 35-inch tread ways extend entire length of cargo compartment (FS 257 to 867)

**MAXIMUM AXLE WEIGHTS:**

- Station 257-337 and Station 682-737: 6,000 lbs per individual axle.
- Station 337-682: 13,000 lbs per individual axle.
- Aircraft Ramp (Station 737-869): 3,500/2,500 lbs (see note)

**NOTE:** Single axle of 3,500 lbs (provided it is the only item on the ramp) or multiple axles of 2,500 lbs each. In any case, maximum allowable weight on the ramp is 4,664 lbs when aircraft rails and rollers are installed.

**PALLETIZED CARGO LOADING:**

- Maximum allowable using 463L pallets and nets.
- Pallet positions 1-4: 10,355 lbs ***
- Pallet positions 5: 8,500 lbs ***
- Pallet positions 6 (ramp): 4664 lbs ***
- Height of pallet positions 1-5: 96 inches ****
- Height of pallet position 6: 76 inches ****

**PASSENGER LOADING (-):**

- Airline seats plus one comfort pallet: 40 passengers
- Web passenger seats: 90 passengers
- Paratroops: 64 paratroops
- Litter patients (plus medical crew): 72 litters
- Full sidewall seats only: 41 passengers

**MAXIMUM ON OVER-WATER FLIGHTS:** 74 passengers

---

**Figure V-4. C-130 (Short) Planning Data**
NOTES:
1. * Maximum payload is computed without regard to cargo density. It is limited only by structural limitations or critical leg fuel and is shown primarily for information. It includes weight of any passengers carried. It should not be used unless cargo density is known to be high and physical characteristics of cargo would permit full use of the compartment space. Flight route segments less than critical leg distances may allow for more or less ACL depending on wind factors.
2. ** Maximum heights are as follows. 102 inches for large, single items of cargo placed on pallets. 100 inches for palletized, netted cargo connected. 100 inches for single, palletized, netted cargo weighing no more than 8,000 lbs. 96 inches for single, palletized, netted cargo weighing no more than 10,000 lbs. All heights are measured from the surface of the pallet. Maximum height for cargo located forward of fuselage station 381 or positioned on the airplane ramp is restricted to 76 inches. In terms of width, cargo must be 14 inches from the sides of the airplane, without passengers. Without dual rails installed, the cargo compartment floor is limited to 105 5/8 inches wide. Maximum height for other-than-palletized cargo located on the aircraft is restricted to 80 inches. **Note:** Standard 20-foot ocean containers are 102 inches high and may be moved with pre-planning and coordination.
3. *** Includes weight of cargo, pallet, and nets.
4. **** Maximum height allowed. An 18-inch aisle must be provided on the left-hand side of pallets positioned in pallet position six. A minimum of 6-inch aisle must be provided on the left-hand side of pallets positioned in the wheel well area (pallet positions three and four).
5. (+) Maximum weight on aircraft ramp is 5,000 lbs, including weight of aircraft dual rails and rollers.
6. (-) Any passenger load requires a minimum of one loadmaster in cargo compartment; two if more than 40 passengers are carried.
7. (-) Width of cargo affects use of sidewall seats. If vehicle exceeds 76 inches wide, seats will be available only on one side of aircraft if wide cargo can be loaded off-center to right side of aircraft. Cargo widths over 96-inches, no passenger seats are available beside the cargo.
8. (-) Aisleways: Pallet Positions three and four (Wheel Well). A minimum 6-inch safety aisle must be provided on the left-hand side of pallets positioned in the wheel well area. Pallet Position six (Ramp). To allow for the use of the toilet facility, an 18 X 18-inch cut-out must be provided on the forward, left corner of pallets loaded on the ramp. Also, a 6-inch safety aisle must be provided aft of the toilet facility. **Note:** Certain aircraft models have the toilet facility located on the right side of aircraft. If possible, coordinate with mobility force personnel to determine which model will be used. When this information cannot be obtained, recommend an 18-inch aisle along entire length of ramp pallet. This will enable pallet to be rotated to meet the requirement for the toilet facility and safety aisle.

RESTRAINT:
1. Pallets are restrained to aircraft by detent locks. If pallet is properly built and nets installed correctly, no additional restraint is required.
2. Tie-down rings which have a 10,000 lb. rated capacity are installed in 20-inch grid pattern on the cargo floor.
3. 25,000 lb. tie-down rings are not available when dual rail system is installed. **Exception:** Two, 25,000 lb. tie-down rings are located just forward of the ramp hinge.
4. Tie-down rings located on aircraft ramp and cargo compartment walls have a rated strength of 5,000 lb.
5. Tie-down rings mounted on the aircraft dual rails at 10,000 lb.
6. Aircraft carry a specified complement of tie-down equipment, adequate for most loads.

**Figure V-4. C-130 (Short) Planning Data (Cont’d)**
### Figure V-5. DD Form 2130-2, C-130 E/H/J Load Plan (with Cargo Pallet Positions)

<table>
<thead>
<tr>
<th>Load Sequence</th>
<th>Item Model and Nomenclature Description</th>
<th>Remarks</th>
<th>Other Remarks</th>
<th>Length (In Inches)</th>
<th>Width (In Inches)</th>
<th>Height (In Inches)</th>
<th>Gross Weight (Total Pounds)</th>
<th>Fuselage Station</th>
<th>Moment (1,000)</th>
<th>Gross Weight (Total Pounds)</th>
<th>Fuselage Station</th>
<th>Moment (1,000)</th>
<th>Remarks Codes (For Use In Col. d.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**12. Passenger Seats Planning Data**

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<th>Number</th>
<th>AVE. WEIGHT</th>
<th>TOTAL PLANNED WGT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seats</td>
<td>Pounds Each</td>
<td>Pounds</td>
</tr>
</tbody>
</table>

**13. Total Weight/Moment From Back**

<table>
<thead>
<tr>
<th>LOAD CB STATION</th>
<th>LOAD CB STATION</th>
</tr>
</thead>
</table>

**14. Totals**

**15a. Load Planner**

<table>
<thead>
<tr>
<th>DATE CERTIFIED</th>
<th>TYPE/PRINTED NAME, GRADE, ORGANIZATION OF LOAD PLANNER</th>
<th>SIGNATURE</th>
</tr>
</thead>
</table>

**15b. Actual Load Plan Validator**

<table>
<thead>
<tr>
<th>DATE CERTIFIED</th>
<th>TYPE/PRINTED NAME, GRADE, ORGANIZATION OF LOAD PLAN VALIDATOR</th>
<th>TOTAL WHT/HR</th>
</tr>
</thead>
</table>
### C-130J-30 (STRETCH) PLANNING DATA

<table>
<thead>
<tr>
<th></th>
<th>Normal 164,000 lbs</th>
<th>Alternate 175,000 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Takeoff Weight</td>
<td>92,000 lbs</td>
<td></td>
</tr>
<tr>
<td>Normal Operating Weight</td>
<td>34,000 lbs</td>
<td></td>
</tr>
<tr>
<td>Peacetime Planning ACL*</td>
<td>45,000 lbs</td>
<td></td>
</tr>
<tr>
<td>Wartime Planning ACL*</td>
<td>45,000 lbs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>CARGO COMPARTMENT:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>796 inches (779&quot; usable)</td>
</tr>
<tr>
<td>Width</td>
<td>123 inches **</td>
</tr>
<tr>
<td>Height</td>
<td>108 inches **</td>
</tr>
</tbody>
</table>

**CARGO AREA:**

- From Fuselage Station 345-1017 (main cargo floor) and from Station 1025-1141 (aircraft ramp).

**VEHICLE LOADING:**

- 35-inch tread ways extend entire length of cargo compartment (FS 345 to 1141)

**MAXIMUM AXLE WEIGHTS:**

- Station 345-537 and Station 882-1017: 6,000 lbs per individual axle.
- Station 537-882: 13,000 lbs per individual axle.
- Aircraft Ramp (Station 1017-1141): 3,500/2,500 lbs (see note)

**NOTE:** Single axle of 3,500 lbs (provided it is the only item on the ramp) or multiple axles of 2,500 lbs each. In any case, maximum allowable weight on the ramp is 5,000 lbs when aircraft rails and rollers are installed.

**PALLETIZED CARGO LOADING:** Maximum allowable using 463L pallets and nets.

- Pallet positions 1-6: 10,355 lbs ***
- Pallet positions 7: 8,500 lbs ***
- Pallet positions 8 (ramp): 5,000 lbs ***
- Height of pallet positions 1-7: 96 inches ****
- Height of pallet position 8: 77 inches ****

**PASSENGER LOADING (-):**

- Airline seats plus one comfort pallet: 60 passengers
- Web passenger seats: 128 passengers
- Paratroops: 92 paratroops
- Litter patients (plus medical crew): 97 litters
- Full sidewall seats only: 62 passengers

**MAXIMUM ON OVER-WATER FLIGHTS:** 138 passengers (passengers and crew)

---

**Figure V-6. C-130J-30 (Stretch) Planning Data**
NOTES:
1. * Maximum payload is computed without regard to cargo density. It is limited only by structural limitations or critical leg fuel and is shown primarily for information. It includes weight of any passengers carried. It should not be used unless cargo density is known to be high and physical characteristics of cargo would permit full use of the compartment space. Flight route segments less than critical leg distances may allow for more or less ACL depending on wind factors.
2. ** Maximum heights are as follows. 103 inches for large, single items of cargo placed on pallets. 100 inches for palletized, netted cargo connected. 100 inches for single, palletized, netted cargo weighing no more than 8,000 lbs. 96 inches for single, palletized, netted cargo weighing no more than 10,000 lbs. All heights are measured from the surface of the pallet. Maximum height for cargo positioned on the airplane ramp is restricted to 77 inches. In terms of width, cargo must be 14 inches from the sides of the airplane, without passengers. Without dual rails installed, the cargo compartment floor is limited to 105 5/8 inches wide. Maximum height for other-than-palletized cargo located on the aircraft is restricted to 80 inches. **Note:** Standard 20-foot ocean containers are 102 inches high and may be moved with pre-planning and coordination.
3. *** Includes weight of cargo, pallet, and nets.
4. **** Maximum height allowed. An 18-inch aisle must be provided on the left-hand side of pallets positioned in pallet position eight. A minimum of 6-inch aisle must be provided on the left-hand side of pallets positioned in the wheel well area (pallet positions three and four).
5. (+) Maximum weight on aircraft ramp is 5,000 lbs, including weight of aircraft dual rails and rollers.
6. (-) Any passenger load requires a minimum of one loadmaster in cargo compartment; two if more than 40 passengers are carried.
7. (-) Width of cargo affects use of sidewall seats. If vehicle exceeds 76 inches wide, seats will be available only on one side of aircraft if wide cargo can be loaded off-center to right side of aircraft. Cargo widths over 96-inches, no passenger seats are available beside the cargo.
8. (-) Passengers will NOT occupy seats less than 30 inches from strapped/netted cargo.
9. (-) Aisleways: Pallet Positions four and five (Wheel Well). A minimum 6-inch safety aisle must be provided on the left-hand side of pallets positioned in the wheel well area. Pallet Position eight (Ramp). To allow for the use of the toilet facility, an 18 X 18-inch cut-out must be provided on the forward, right corner of pallets loaded on the ramp. Also, a 6-inch safety aisle must be provided aft of the toilet facility.

RERAINT:
1. Pallets are restrained to aircraft by detent locks. If pallet is properly built and nets installed correctly, no additional restraint is required.
2. Tie-down rings which have a 10,000 lb. rated capacity are installed in 20-inch grid pattern on the cargo floor.
3. 25,000 lb. tie-down rings are not available when dual rail system is installed. (Exception: Two, 25,000 lb. tie-down rings are located just forward of the ramp hinge.)
4. Tie-down rings located on aircraft ramp and cargo compartment walls have a rated strength of 5,000 lb.
5. Tie-down rings mounted on the aircraft side rails at 10,000 lb.
6. Aircraft carry a specified complement of tie-down equipment, adequate for most loads.

Figure V.6. C-130J-30 (Stretch) Planning Data (Cont’d)
Figure V-7. DD Form 2130-15, C-130J-30 (Stretch) Load Plan (with Cargo Pallet Positions)
Figure V-8. DD Form 2130-4, C-160 Transall Load Plan (with Cargo Pallet Positions)
Figure V-9. DD Form 2130-5, DC 10-10/30CF Load Plan (Side 1 with Cargo Pallet Positions)
Figure V-9. DD Form 2130-5 (Reverse), DC 10-10/30CF Load Plan (Side 2 with Cargo Pallet Positions) (Cont'd)
<table>
<thead>
<tr>
<th>KC-10A PLANNING DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Takeoff Weight: 590,000 lbs</td>
</tr>
<tr>
<td>Normal Operating Weight: 252,000 lbs</td>
</tr>
<tr>
<td>Peacetime Planning ACL: 80,000 lbs</td>
</tr>
<tr>
<td>Wartime Planning ACL*: 148,600 lbs</td>
</tr>
</tbody>
</table>

**NOTE:** Maximum payload can only be carried at flight weight of 549,000 lbs or less. At maximum 1.8G flight weight of 585,000 lbs. Maximum ACL is 137,600 lbs.

<table>
<thead>
<tr>
<th>CARGO COMPARTMENT</th>
<th>Length - 1508 inches</th>
<th>Width - 218 inches</th>
<th>***** Height - 108 inches **</th>
</tr>
</thead>
</table>

| CARGO AREA:        | From Fuselage Station 496-2004 (main cargo floor). No lower lobe cargo capability. |

<table>
<thead>
<tr>
<th>VEHICLE LOADING: MAXIMUM WEIGHTS: ****</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station 630-1066:</td>
</tr>
<tr>
<td>Station 1066-1175:</td>
</tr>
<tr>
<td>Station 1175-1502:</td>
</tr>
<tr>
<td>Station 1502-1937:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PALLETIZED CARGO LOADING: Maximum allowable using HCU-7/E &amp; HCU-15/c Nets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pallet positions 1 thru 6 (left and right):</td>
</tr>
<tr>
<td>Pallet positions 7 thru 11 (left and right):</td>
</tr>
<tr>
<td>Pallet positions 12 thru 13 (left and right):</td>
</tr>
<tr>
<td>Height of pallet positions 2 thru 10:</td>
</tr>
<tr>
<td>Height of pallet position 11 and 12:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PASSENGER LOADING:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airline seats (Code A):</td>
</tr>
<tr>
<td>Airline seats (Code B):</td>
</tr>
<tr>
<td>Airline seats (IA/ATT missions) (Code D):</td>
</tr>
<tr>
<td>Airline seats: (Increased Accommodation Kit):</td>
</tr>
<tr>
<td>Web passenger seats:</td>
</tr>
<tr>
<td>Paratroops:</td>
</tr>
<tr>
<td>Litter patients (plus medical crew):</td>
</tr>
<tr>
<td>Full sidewall seats only:</td>
</tr>
</tbody>
</table>

| MAXIMUM ON OVER-WATER FLIGHTS: | 69 passengers |

**Figure V-10.** KC-10A Planning Data
NOTES:
1. * Maximum payload is computed without regard to cargo density, is limited only by aircraft structural limitations or critical leg fuel (4000 NM), and is shown primarily for information. It includes weight of any passengers carried and should not be used unless cargo density is known to be high and physical characteristics of the cargo would permit full use of compartment space. Flight route segments less than critical leg distances may allow for more or less ACL depending on wind factors. Flight refueling missions may reduce cargo ACL allowable.
2. ** Cargo door height limits all cargo to 96 inches above surface of pallet. Cargo compartment curvature restricts normal pallet building techniques.
3. *** Includes weight of cargo, pallet, and nets or other tie-down equipment.
4. **** Maximum axle weights are predicated on a minimum separation of 48 inches.
5. ***** At 100 inches above the floor level, the compartment width is approximately 144 inches. Due to the curvature of the fuselage, the cargo compartment area forward and aft of the constant section diminishes in height and width.
6. The KC-10 does NOT have a floor loading capability. All cargo/baggage must be palletized or placed on a pallet subfloor.
   a. Baggage must be palletized and considered as cargo. Hand-carried item must be fit under the seats. Troops will be allowed to hand carry their weapons and helmets. Other items that will not fit under the seats must be palletized, i.e., ruck sacks, web belts, crew served weapons, etc.
   b. Until further notice, pallet position 13 will not be offered for user cargo space. Space is required for aircraft ground servicing (crew chief) equipment.
   c. External high reach stairs are required for all passenger loading/downloading. Upon request, wide-body stair extenders may be brought in with the aircraft to be used with stands that reach 12 feet in height or higher.
   d. Due to limited galley facilities, hot meal service should be limited to not more than 20 passengers. Box meals are recommended for all troop/passenger missions where meals are required.
   e. When submitting an airlift request under Material Handling Support, the request must include a wide-body loader, stair case extended, or wide-body staircase when needed.
   f. All KC-10s will have 125 straps, 150 chains, and 10 sets of pallet couplers.
   g. Aircraft tow bar is required when aircraft will operate into/out of airfields where like tow bars are not available.

**Figure V-10. KC-10A Planning Data (Cont’d)**
Figure V-11. DD Form 2130-6, KC-10A Load Plan (with 17 Cargo Pallet Positions)
Figure V-12. DD Form 2130-7, KC10A Load Plan (with 23 Cargo Pallet Positions)
Figure V-13. DD Form 2130-8, DC8-50 Series F/CF Load Plan (with Cargo Pallet Positions)
Figure V-14. DD Form 2130-9, DC-8-61/71-63/73F/CF Load Plan (with Cargo Pallet Positions)
Figure V-15. DD Form 2130-10, DC8-62CF Load Plan (with Cargo Pallet Positions)
Figure V-16. DD Form 2130-11, B707-300C Load Plan (with Cargo Pallet Positions)
Figure V-17. DD Form 2130-12, Load Plan B747-100F/200C/200F
**C-17A PLANNING DATA**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Takeoff Weight:</td>
<td>585,000 lbs</td>
</tr>
<tr>
<td>Normal Operating Weight:</td>
<td>276,000 lbs</td>
</tr>
<tr>
<td>Peacetime Planning ACL:</td>
<td>130,000 lbs</td>
</tr>
</tbody>
</table>

**CARGO COMPARTMENT:**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Length - 1056 inches</td>
<td>Width - 216 inches</td>
</tr>
<tr>
<td>Height - 148 inches**</td>
<td></td>
</tr>
</tbody>
</table>

**CARGO AREA:**

From Fuselage Station 347-1165 (main cargo floor) and from Station 1165-1403 (aircraft ramp).

**VEHICLE LOADING:**

<table>
<thead>
<tr>
<th>Station</th>
<th>Maximum weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>347-578 and 1073-1165</td>
<td>27,000 lbs per individual axle</td>
</tr>
<tr>
<td>578-1073</td>
<td>36,000 lbs per individual axle</td>
</tr>
<tr>
<td>Aircraft Ramp (Station 1165-1403)</td>
<td>27,000 lbs per individual axle</td>
</tr>
</tbody>
</table>

**PALLETTIZED CARGO LOADING:**

Maximum allowables using HCU-7/E & HCU-15/C nets.

<table>
<thead>
<tr>
<th>Logistics rail system</th>
<th>Maximum weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Pallet positions 1L-9L and 1R-9R):</td>
<td>10,355 ***</td>
</tr>
<tr>
<td>Aerial delivery system</td>
<td></td>
</tr>
<tr>
<td>(Pallet positions 1-11):</td>
<td>10,355 ***</td>
</tr>
<tr>
<td>Height of all pallet positions:</td>
<td>96 inches</td>
</tr>
</tbody>
</table>

**PASSENGER LOADING:**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanently installed seats:</td>
<td>54 passengers</td>
</tr>
<tr>
<td>Onboard centerline seat kit:</td>
<td>48 passengers</td>
</tr>
<tr>
<td>Paratroops (maximum):</td>
<td>102 paratroops</td>
</tr>
<tr>
<td>Onboard litter capacity:</td>
<td>12 litters</td>
</tr>
<tr>
<td>Additional litter capacity:</td>
<td>36 passengers</td>
</tr>
<tr>
<td>MAXIMUM ON OVER-WATER FLIGHTS:</td>
<td>102 passengers</td>
</tr>
</tbody>
</table>

**NOTES:**

1. * The maximum payload is computed without regard to cargo density. It is limited only by aircraft structural limitations or critical leg fuel (2500NM) and is shown primarily for information. It includes weight on any passengers carried. It should not be used unless cargo density is known to be high and physical characteristics of cargo would permit full use of compartment space. Flight route segments less than critical leg distances may allow for more or less ACL, depending on wind factors. If tanker support can be provided with aerial refueling qualified aircrews, the C-17 can airlift maximum payload over any critical leg.

2. ** Aft of fuselage Station 937 cargo compartment height is 162 inches. Cargo must be six inches from sides and top of aircraft.

3. *** Includes weight of cargo, pallet, nets.

4. Any passenger load requires a minimum of one loadmaster in the cargo compartment; two if more than 40 passengers are carried.

5. Passengers will NOT occupy a seat closer than 30 inches from strapped or netted cargo.

6. Width of cargo affects use of sidewall seats. Cargo/vehicle widths less than 157 inches, seats will be available on both sides on the cargo, cargo/vehicle widths of 157 to 192 inches, seats will be available on one side of the aircraft only. Cargo/vehicle widths 193 inches and greater, no seats will be available beside the cargo.

**Figure V-18. C-17 Planning Data**
Figure V-19. DD Form 2130-13, C-17 Load Plan (with Cargo Pallet Positions)
### KC-135 PLANNING DATA

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Takeoff Weight:</td>
<td>322,500 lbs</td>
</tr>
<tr>
<td>Normal Operating Weight:</td>
<td>122,500 lbs</td>
</tr>
<tr>
<td>Peacetime Planning ACL:</td>
<td>30,000 lbs</td>
</tr>
</tbody>
</table>

#### CARGO COMPARTMENT:
- Length – 840 inches
- Width – 129 inches
- Height – 84 inches

#### CARGO AREA:
From Fuselage Station 440-1120 (main cargo floor). No lower lobe cargo capability.

#### PALLETIZED CARGO LOADING:
- Maximum allowable using HCU-7/E & HCU-15/C nets.
- Pallet positions 1–6: 6,000 lbs
- Height of pallet positions 1–6: 65 inches

#### PASSENGER LOADING:
- Airline seats: 56 passengers (when equipped)
- Web passenger seats: 57 passengers (4 available with 6 pallets)
- Litter patients (plus medical crew): 8 litters, 1 floor loaded

#### MAXIMUM ON OVER-WATER FLIGHTS:
- 57 passengers

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**Figure V-20. KC-135 Planning Data**
Figure V-21. Form 2130-14, KC-135 Load Plan (with Cargo Pallet Positions)
Figure V-22. DD Form 2130C, Aircraft Load Plan Continuation Sheet
1. General. Actual weights will always be used when manifesting passengers on commercial aircraft. Actual weights should be used for DoD organic aircraft. Use of standard planning weights is authorized on DoD organic aircraft for contingencies or wartime situations only where time does not allow for obtaining actual weights.

2. Standard Planning Weights. The following will be used as planning weights for combat equipped troops being deployed on DoD organic aircraft:
   a. Passengers with web gear and weapon or with carry-on baggage:
      (1) Combat: 210 lbs
      (2) Training: 210 lbs
   b. Passengers with web gear, weapon, and rucksack or combat equipment/tools:
      (1) Combat: 300 lbs
      (2) Rucksacks: Training 40 lbs; combat 80 lbs
   c. Passengers with duffel bag, web gear, weapon, and rucksack or with duffel bag and combat equipment or tools:
      (1) Training: 350 lbs.
      (2) Combat: 400 lbs
   d. Parachutist with web gear, weapon, and rucksack:
      (1) Training: 300 lbs
      (2) Combat: 350 lbs
   e. Parachutists with no weapon or equipment: 220 lbs.
      Only under contingency or wartime situations when time does not permit obtaining actual weights will standard planning weights be used in lieu of actual weights for manifesting passengers or cargo on military aircraft.
      If scales are not available, interrogated weights of individuals can be used.

3. The following weights will be used for planning the deployment of non-combat equipped troops on DoD organic aircraft:
   a. Passenger with no bag: 175 lbs.
   b. Passenger with hand-carried bag: 195 lbs.
   c. Additional planning weights:
      (1) Hand-carried weapon: 10 lbs.
      (2) Mobility bags: 25 lbs.
      (3) Mobility pack (mask, web gear, and helmet): 20 lbs.
      (4) Tool Box: 55 lbs.
      (5) Checked baggage: 70 lbs.

4. The following planning weights and procedures apply to individuals transported on AMC-chartered commercial aircraft:
   b. Combat-equipped troops with carry-on bag only: 210 lbs.
   c. Combat-equipped troops with web gear and weapon: 210 lbs.
   d. Combat-equipped troops with web gear, weapon, and carry-on baggage: 230 lbs.
      (1) These weights are for planning purposes only. NO standard body weights will be used for troops transported on commercial aircraft. Use actual scaled weights of individuals with uniform, boots, helmet, weapon, web gear, and hand-carried bag.
      (2) If scales are not available, interrogated weights of individuals can be used. After asking each individual their weight, use the following additive item weights as necessary to determine total weight of the traveler:
         (a) Boots: 5 lbs.
         (b) Helmet: 5 lbs.
         (c) Uniform: 5 lbs.
         (d) Web gear: 12 lbs.
         (e) Weapon: 10 lbs.
         (f) Hand-carried bag: 20 lbs.

All items transported in the cargo compartment of a commercial aircraft must be weighed.

Figure V-23. Standard Planning Weights