

**BY ORDER OF THE COMMANDER,
436TH AIRLIFT WING**



**DOVER AIR FORCE BASE
INSTRUCTION 11-204**

4 SEPTEMBER 2004

Flying Operations

**AIRCRAFT WEIGHT AND BALANCE
PROGRAM**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This Dover Air Force Base Instruction (DAFBI) outlines procedures and responsibilities for control and management of the Aircraft Weight and Balance Program for all C-5 aircraft assigned to the 436th Airlift Wing, Dover AFB, Delaware. This guidance is applicable to the Aircraft Maintenance Squadron (AMXS), Equipment Maintenance Squadron (EMS), Plans, Scheduling and Documentation (PS&D), Maintenance Group Quality Assurance Office (QA), Aerial Port Squadron (APS), Operation Support Squadron (OSS), 3d Airlift Squadron (AS), 9th Airlift Squadron (AS), 326th Airlift Squadron (AS), and 709th Airlift Squadron (AS) Loadmasters. All weight and balance procedures are outlined in the referenced technical orders below. These technical orders will be used in conjunction with this operating instruction. This is a joint publication between the 436th and 512th Airlift Wings.

Summary of Revisions

This instruction has been expanded and assigns a minor task to Life Support Flight. **A bar (|) indicates a revision from the previous edition.**

1. Quality Assurance (QA).

1.1. The QA Office will manage and be responsible for the Weight and Balance Program for all C-5 aircraft assigned to the 436th Airlift Wing, Dover AFB, DE.

1.2. QA will appoint individuals to be Weight and Balance Program Managers who will ensure the following:

1.2.1. Sufficient personnel have completed W&B General CBT, W&B Airlift CBT, and are trained/certified weight and balance technicians. They must also be signed off in their training records and tracked on the special certification roster.

1.2.2. Weight and balance inventories are completed prior to first flight IAW applicable directives upon return to home station from any ALC or contractor facility where extensive maintenance was performed.

1.2.3. DD Form 365-3, **Weight and Balance Record, Chart C - Basic**, for all assigned aircraft shall be re-certified (checked for accuracy and corrected if necessary) at least once every 180 days. A spare copy will be maintained for all home-station aircraft in the QA office. This spare Chart C will be used when the supplemental handbook copy is missing.

1.2.4. The primary weight and balance handbooks will be maintained in the weight and balance office.

1.2.5. Weight and Balance supplemental book will be located in all assigned aircraft in the slot beneath the relief crew table. A certified copy of the current (last page) DD Form 365-3, will be located in the supplemental handbook.

1.2.6. Provide and maintain sample (canned) DD Form 365-4, **Weight and Balance Clearance Form F – Transport/Tactical**, for the operating aircrews. Canned Form F will be located at Base Operations in the fuel planning room. The Form Fs are provided for each assigned aircraft to aid and expedite the aircrews in fuel planning purposes only.

1.2.7. The DD Form 365-4, will be updated during the 180-day aircraft weight and balance primary/supplemental handbook recertification.

1.2.8. Coordinate all arrangements for acquiring aircraft scales if weighing of an aircraft is required at the home station.

1.2.9. Track all accomplished aircraft TCTOs and modifications that are determined to affect the basic weight and moment. This will be done by developing a spreadsheet to ensure weight and balance records are properly documented for all aircraft.

1.3. QA TODO will ensure that the Weight and Balance Program Manager receives a copy of all TCTOs within 24 hours of receipt.

2. Plans, Scheduling, and Documentation (PS&D).

2.1. PS&D will inform and provide the QA TODO of any TCTO changes that affect weight and balance of assigned aircraft. This information will include, but is not limited to, a copy of the TCTO, the time, date, and location of the initial TCTO briefing.

2.2. PS&D will inform the Weight and Balance Authority when any assigned aircraft is scheduled for: Programmed Depot Maintenance (PDM) Input, PDM return, and aircraft transfers, in or out, of Dover AFB. This notification is to take place no later than five days prior to any anticipated aircraft movement.

3. Aircraft Maintenance Squadron (AMXS).

3.1. The AMXS Debrief Element will inform QA if weight and balance discrepancies are discovered during the debriefing of any C-5 aircraft assigned to or transiting Dover AFB.

3.2. AMXS will prepare the aircraft if weighing is required. Preparation will include, but is not limited to, defueling, servicing of LOX and hydraulic systems, and towing the aircraft to an approved

hanger. AMXS will also provide at least one crew chief at the aircraft to assist during the weighing process.

3.3. AMXS will coordinate aircraft configuration between APS, AMXS (AMES shop), and QA for the equipment that will be removed/installed for Depot input/returns.

3.4. AMXS will immediately inform the QA Weight and Balance Authority when a PDM input aircraft has completed its equipment removal prior to departure. This will allow an accurate aircraft equipment inventory update, and weight and balance recertification by QA. Aircraft configuration will be complete 24 hours prior to scheduled departure. The PDM input will be complied with by using the locally developed checklist (see [Attachment 2](#)).

3.5. AMXS will complete the entire equipment reconfiguration of a PDM return at least 24 hours before the aircraft's next flight. Immediately after the post PDM reconfiguration, AMXS will inform the QA Weight and Balance Authority. This will allow an accurate and complete aircraft inventory update and weight and balance recertification by QA prior to the next flight.

3.6. Configuration/reconfiguration is considered complete when all aircraft slides, rafts, troop compartment seats, dash 21 equipment and required chains, devices, and straps are returned/removed as required.

3.7. The Aircraft Expediter or Production Supervisor is responsible for informing the QA Weight and Balance Authority of any circumstance in which the aircraft's weight and balance could be affected prior to a scheduled flight. An example of this would be removal of the forward ramp extension for repairs, and the aircraft is required to fly prior to reinstallation.

3.8. AMXS will replace any weight and balance technical orders or binders that are determined to be unserviceable by the Weight and Balance Authority. AMXS will also post the required updates to the technical orders.

3.9. AMXS will procure and install DD Forms 365-4, (blanks) on all aircraft (maintain sufficient amount to accomplish mission).

4. Equipment Maintenance Squadron (EMS).

4.1. EMS will assist QA if weighing of an aircraft becomes necessary.

4.1.1. Aero Repair (A/R) shop will provide a fully qualified C-5 jacking team in the event an aircraft requires weighing. EMS will be notified as soon as possible if weighing of an aircraft is required.

4.2. The EMS Aircraft Refurbishment Element will inform the QA Weight and Balance Authority when a "New Look" refurbishment is accomplished. The use of new materials, adding additional weight to the aircraft, necessitates a recalculation of the weight and balance.

5. Aerial Port Squadron (APS).

5.1. APS will configure a PDM input aircraft no later than 24 hours prior to aircraft scheduled departure time.

5.2. APS will reconfigure a PDM return aircraft no later than 24 hours prior to the first flight after return.

6. Operations Support Squadron (OSS).

6.1. Life Support will remove the aircrew body armor container 24 hours prior to aircraft scheduled departure for PDM and will ensure proper build-up of each aircraft upon return from PDM.

7. 326th, 709th, 9th, and 3d Airlift Squadron (AS) Loadmasters.

7.1. Loadmasters will maintain the supplemental handbook in an operable and clean condition. Inspect each handbook and, if in need of repair or revision, enter appropriate discrepancy in aircraft forms.

7.2. Preparation of the DD Form 365-4, is a loadmaster responsibility. Loadmasters will ensure adequate supplies of DD Forms 365-4, are kept in each handbook.

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Commander, 436th Airlift Wing

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 11-2C-5, Vol 3, Addenda A, *C-5 Aircraft Configuration and Mission Planning*

AFI 11-301, Vol 2, *Maintenance and Configuration Requirements for Aircrew and Aircraft Installed Life Support Equipment (LSE)*

AFI 21-101, *Aerospace Equipment Maintenance Management*

AFI 21-101_AMCSUP1, *Aerospace Equipment Maintenance Management*

Abbreviations and Acronyms

ALC—Air Logistics Center

AMXS—Aircraft Maintenance Squadron

APS—Aerial Port Squadron

A/R—Aero Repair

AS—Airlift Squadron

CWS—Contract Work Specification

EMS—Equipment Maintenance Squadron

OSS—Operations Support Squadron

PDM—Programmed Depot Maintenance

PS&D—Plans, Scheduling and Documentation

QA—Quality Assurance

TCTO—Time Compliance Technical Order

TUDO—Technical Order Distribution Office

Terms

Weight and Balance Authority—Person who has the responsibility to ensure the weight and balance work is complete and correct.

Weight and Balance Technician Personnel—Qualified person assigned to weight and balance work.

Attachment 2

PROGRAMMED DEPOT MAINTENANCE INPUT EQUIPMENT CHECKLIST

A2.1. This checklist was developed for, and applies to, the 436th/512th Aircraft Maintenance Squadron.

A2.2. The following criteria must be complied with as noted in this checklist during the pre depot period prior to aircraft PDM departure. When all checklist items are completed, Archer 3 will notify MXG/QA so the aircraft's weight and balance data can be adjusted. All equipment removed will be reflected in the AF Form 2692, **Aircraft/Missile Equipment Transfer/Shipping Listing**, as applicable. MXG/QA will be responsible for clearing the AFTO 781A, **Maintenance Discrepancy and Work Document**, entry for the required inventory and recertification. Accomplishment of this checklist will take place NO LATER than 24 hours prior to the aircraft's PDM departure. References: AFI 11-301 Vol. 2 and Contract Work Specification (CWS) RFP No. F41608-96-R-0254

A2.3. Flight Station:

A2.3.1. The following items will be **REMOVED** for PDM input:

INSTRUCTOR ENGINEERS SEAT	ALL CHECKLISTS
INSTRUCTOR NAVIGATORS SEAT	FIRST AID KITS-ALL BUT 2 EA

A2.3.2. The following will be serviced and/or stowed as required:

GLOVES, FIRE FIGHTING – STOWED IN BUNK ROOM
AIRCREW SAFETY HARNESS – STOWED IN BUNK ROOM
AFT FUSELAGE JACK PADS AND HARDWARE – STOWED UNDER FWD BUNK
1C-5A-102-(1)- STOWED IN F/E T.O. CABINET

A2.4. Crypto Controlled Inventory (CCI) Items.

A2.4.1. ALE-47 System:

A2.4.1.1. The following items will be **REMOVED** for PDM input:

ALE-47 PROGRAMMER	ALE-47 SAFETY PINS
ALE 47 PISTOL GRIPS 3 EA	

A2.4.1.2. The following will be **INSTALLED** as required:

MASTER SAFETY PIN-INSTALLED F/E C/B PANEL #1

A2.5. Relief Crew Compartment.

A2.5.1. The following items will be **REMOVED** for PDM input:

FIRST AID KITS	CREW LIFE RAFT
GALLEY OVEN	ALL BUNK MATTRESSES
HOT PLATE	ALL SPARE AIRCRAFT PARTS
GALLEY REFRIGERATOR	ALL JOB GUIDES
COFFEE POT	FOOD TRAYS
ALL TECH ORDERS	

A2.5.2. The following will be serviced and/or stowed as required:

CREW LATRINE – SERVICED
RESTRAINT GATE, #5 DOOR – STOWED
CREW LIFE RAFT EJECTION BOTTLE - DE-SERVICED

A2.6. Courier Compartment.

A2.6.1. The following items will be **REMOVED** for PDM input:

ALL SEATS	ALL TRASH CANS
FIRST AID KIT	AIRCREW BODY ARMOR CONTAINER

A2.6.2. The following will be serviced and/or stowed as required:

POTABLE WATER SYSTEM – DE-SERVICED

A2.7. Cargo Compartment.

A2.7.1. The following items will be **REMOVED** for PDM input:

WINCHES	UTILITY LADDER
WINCH PENDANTS	TACKLE BLOCK
SHORT SCANNERS CORDS	HYDRAULIC FLUID- ALL BUT 1 EA. CASE
FIRST AID KITS- ALL BUT 2 EA	ENGINE OIL- ALL BUT 1 EA. CASE
ALL CHAINS (EXCEPT REQUIREMENTS BELOW)	ALL DEVICES (EXCEPT REQUIREMENTS BELOW)
ALL CARGO STRAPS (EXCEPT REQUIREMENTS BELOW)	

A2.7.2. The following will be serviced and/or stowed as required:

4 EA. ENGINE INLET COVERS – STOWED
PITOT COVERS, ANT. STREAMERS – STOWED
4 EA. FAN STICKS – STOWED
1 EA. FAN STOPPER – STOWED
MLG TOW RING ADAPTERS – STOWED LEFT F.S. 694
ALL KNEELING COLLARS – STOWED LEFT F.S. 694
KNEEL PAD EXTEND PIN – STOWED LEFT F.S. 630
STRUT LIMITER – STOWED LEFT F.S. 694
ALL MLG DOWNLOCK PINS – STOWED LEFT F.S. 630
WING JACK PAD ADAPTERS AND BOLTS – STOWED RIGHT F.S. 480
4 EA. PALLET STOPS – STOWED LEFT F.S. 1780 (2ea) & RIGHT F.S. 1780 (2ea)
FWD AND AFT RAMP “ A ” FRAMES– STOWED
10 EA. 25,000 POUND CHAINS – STOWED LEFT F.S. 794
10 EA. 25,000 POUND DEVICES – STOWED LEFT F.S. 674 (4ea), 714 (4ea), & 754 (2ea)
10 EA. 10,000 POUND CHAINS- STOWED RIGHT F.S. 794
10 EA. 10,000 POUND DEVICES – STOWED RIGHT F.S. 494 (5ea) & 594 (5ea)
10 EA. CARGO STRAPS – STOWED FWD
2 EA. AFT PRESSURE DOOR HINGE ADAPTERS (PORKCHOPS) – STOWED RIGHT F.S. 1780
ALL FWD AND AFT RAMP LOCK PINS – INSTALLED

A2.8. Troop Compartment.

A2.8.1. The following items will be **REMOVED** for PDM input:

ALL SEATS	ALL SLIDES
BOTH REFRIGERATORS	ALL SLIDE RESERVOIRS
ALL FIRST AID KITS	ALL LIFE RAFTS
BOTH OVENS	LOADMASTERS PAX SERVICE KIT
ALL TRASH CANS	ALL FOOD TRAYS

A2.8.2. The following will be serviced and/or stowed as required:

ALL LATRINES– DE-SERVICED
WATER SYSTEM – DE-SERVICED
RESTRAINT GATE #6 SERVICE DOOR – STOWED
PROTECTIVE CLOTHING KIT - STOWED

A2.8.3. All deviations from this checklist will be coordinated with the MXG/QA Weight and Balance Program Managers.