

**BY ORDER OF THE COMMANDER AIR
MOBILITY COMMAND**



**AIR MOBILITY COMMAND INSTRUCTION
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Transportation

**C-17 AERIAL PORT EXPEDITOR (APEX)
LOAD DIRECTOR CHECKLIST**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Department of the Air Force Policy Directive (DAFPD) 24-6, Distribution and Traffic Management. It establishes guidance and procedures for the Aerial Port Expeditor (APEX) Program. This instruction is applicable to APEX APS/AMS units, and deployed APEX locations. It does not apply to the Air National Guard, the Air Force Reserve Command, or the United States Space Force. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Instruction (AFI) 33-322, Records Management and Information Governance Program, and disposed of in accordance with Air Force Records Information Management System Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes to this instruction to the office of primary responsibility (OPR) using the DAF Form 847, Recommendation for Change of Publication. Route DAF Forms 847 from the field through the appropriate functional chain of command. Supplements to this publication are not authorized. The authorities to waive wing/unit level requirements in this publication are identified with a Tier (T-2) number following the compliance statement. See Department of the Air Force Manual (DAFMAN) 90-161, Publishing Processes and Procedures, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority through HQ AMC/A4TC. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES

This instruction has been substantially revised and must be completely reviewed.

C-17 AERIAL PORT EXPEDITOR (APEX) LOAD DIRECTOR CHECKLIST
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1. GENERAL INFORMATION

1.1. Items in the checklist are excerpts from the relevant portions of the basic aircraft flight manuals/loading instructions (T.O. 1C-17A-1 and T.O. 1C-17A-9) are used by APEX loading supervisors. If conflict arises between this checklist and the T.O. checklists, the T.O. checklist will always take precedence.

1.2. Warnings, Cautions and Notes. The following definitions apply to WARNINGS, CAUTIONS and NOTES found in this checklist.

WARNING

Operating procedures, techniques, etc., which could result in personal injury and/or loss of life if not carefully followed.

CAUTION

Operating procedures, techniques, etc., which could result in damage to equipment if not carefully followed.

NOTE

Operating procedures, techniques, etc., which is considered essential to emphasize.

2. LOAD PLANNING CHECKLIST

2.1. Load Plan

- | | |
|--------------------------------|----------------|
| A. Operating Weight and Moment | CHECKED |
| B. Allowable Cabin Load | CHECKED |
| C. Zero Fuel CG | CHECKED |
| D. Manifest/Load Sequence | CHECKED |

N1

2.2. Hazardous Materials and Special Handling

- | | |
|--|----------------|
| A. Size, Weight, Location | CHECKED |
| B. Hazardous Documentation/handling instructions | CHECKED |
| C. Compatibility and Separation Requirements | CHECKED |

N2 N3

2.3. Cargo Inspection

- | | |
|---|------------------------------|
| A. Gross Weigh | CHECKED |
| B. CG Marked (Loaded or Empty) | CHECKED |
| C. Axle/Wheel Weights | CHECKED / COMPUTED |
| D. ATTLA Certification | CHECKED / AS REQUIRED |
| E. Hazardous Material Orientation Marking | CHECKED / AS REQUIRED |

C1 N4

2.4. Dimensional Considerations

- | | |
|-----------------------|----------------|
| A. Pallet Dimensions | CHECKED |
| B. Vehicle Dimensions | CHECKED |

W1

N5

2.5. Aircraft Limitations

- | | |
|-------------------------|------------------------------|
| A. Ramp Limits | CHECKED |
| B. Cargo Floor Limits | CHECKED |
| C. Shoring Requirements | CHECKED / AS REQUIRED |

2.6. Venting Requirements

W2

N1

Loading sequence will be based on aircraft limitations and offload sequence. Emergency jettisoning and passenger evacuation should be considered during load planning.

N2

Hazardous cargo that is considered jettison able shall not be positioned forward of non-jettison able cargo, except when its size, weight, and location will permit jettisoning by hand. Hazardous cargo will never be loaded in such a manner that would make jettisoning impossible.

N1

Verify the placement of hazardous materials for accessibility, visual inspection, and jettisoning.

C1

Failure to comply with ATTLA Certification letter instructions may cause damage to aircraft or equipment if not carefully followed.

N3

Minor deviations to weight, dimensions, etc are permitted provided the item does not exceed the limitations outlined in applicable loading manual.

W1

Use caution when positioning pallet/platform in ADS pallet position No. 1 that exceeds 78 inches in height measured from the surface of the pallet/platform. Cargo will contact oxygen lines attached to the aircraft bulkhead prior to pallet/platform contacting the ADS pallet end stops. Prior to loading pallets that exceed 78 inches in height in the ADS rails raise the inboard logistics rail end stops for final positioning.

N5

Consider the removal and stowage of equipment on vehicles (i.e. antennas, hooks, etc.) to eliminate or reduce the need for approach or step-up shoring.

W2

Preparation and hookup of the vent system will be accomplished by qualified shipper or aircraft maintenance personnel. ATOC will prearrange for a qualified MX person to vent cargo. Ramp personnel and aircraft loadmasters are not qualified to connect cargo to the aircraft exhaust venting system.

3. AIRCRAFT PREFLIGHT**3.1. Aircraft Preflight: Exterior**

A. Parking Spot/Tail Number

CHECKED**N1**

B. Ground Support Fire Extinguisher(s)

IN PLACE / CHECKED

C. Nose Gear Pins (2)

INSTALLED

D. Ground Wires

CONNECTED / AS REQUIRED

E. Main Landing Gear Chocks

CONNECTED / AS REQUIRED**N2****3.2. Aircraft Preflight: Interior**

A. Aircraft Forms

CHECKED**N3**

B. Aircraft Power

ON

C. MX Personnel

BRIEFED

D. Safety/Evacuation Points

BRIEFED

E. Aircraft Brakes

ON / PRESSURE CHECKED**C1****3.3. Load Team**

A. Loading Equipment

BRIEFED

B. ADS Links/Ramp Toes

BRIEFED

C. Cargo Floor/Ramp Configuration

BRIEFED

D. Safety Briefing

BRIEFED

E. Ground Emergency Exits Locations

BRIEFED

F. Evacuation Points

BRIEFED**3.4. Cargo Compartment Inspection Forward Loadmaster Station**

A. Circuit Breaker(s)

CHECKED**N4**

B. Emergency Light Switch

ON / CHECKED / NORM**N5**

C. Cargo Compartment Lights

ON / CHECKED

D. Annunciator/Digit Test

CHECKED

E. GANG LOCK BACKUP Panel Switches

OFF

F. Loadmaster Forward Control Panel

1. Electric Power Switch

ON

2. Rail Locks/Lips

AS REQUIRED**N6**

3. Sidewall Panel Power

ON / AS REQUIRED

4. ADS Locks Select L/R

CHECKED / SAFE

5. Ramp Blowdown Switches

DISARM / OFF

6. Exhaust and Redistribution Fans

ON / AS REQUIRED

N1

Contact ATOC if the aircraft is not parked on the required hazardous cargo loading area/Hotspot.

N2

Excessive aircraft weight can cause the chocks to become stuck, advise MX to move chocks based on cargo weight.

N3

Check the aircraft forms to ensure all required systems are operational.

C1

Confirm aircraft parking brake pressure is set above 1,000 PSI and confirm PARKING BRAKES ON L, R on WAP.

N4

All circuit breakers should be in, unless requirements in AFTO Form 781 indicate otherwise, or tagged to identify inoperability.

N5

Ensure all emergency lights and exit signs in the cargo compartment illuminate. Return switch to normal.

N6

If pallets/platforms are onboard ensure applicable rail locks/lips are engaged.

G. Cargo Winch Control Panel
H. Rail Lifting Tools (2)

**OFF / OFF / NORM
STOWED**

3.5. Cargo Compartment Left Side

A. Aircraft Equipment
B. Fire Extinguishers
C. Circuit Breakers

**STOWED
CHECKED
CHECKED**

N1

3.6. AFT Loadmaster Station Panels

A. AFT Loadmaster STATUS Panel
B. RAMP BLOWDN Switches
C. RAMP BLOWDN EMERG LIGHTS

**CHECKED
DISARM / OFF
TEST**

N2

D. AFT Loadmaster Panel Lights
E. Cargo Door Lights

**CHECKED
CHECKED**

N3

F. Cargo Winch Control Pane
G. ANNUNCIATOR/DIGIT TEST
H. APU FIRE Control Panel
I. Stabilizer Struts

**OFF / OFF / NORM
CHECKED
NORM / NORM
STOWED / RETRACT /
AS REQUIRED**

3.7. Cargo Door And Ramp Inspection

A. ADS Link/Plug Assembly

INSTALLED / AS REQUIRED

C1

B. Tow Release Mechanism Cover
C. Ramp Toe Stowage

**INSTALLED
CHECKED**

N4

D. Ramp Toes, Roller Conveyors, Guide Rails

SECURED

W1

E. Door Stowage

CHECKED / SECURED

C2 C3

3.8. Aft Loadmaster Station/Cargo Compartment Right Side

A. Equipment
B. ANNUNCIATOR/DIGIT TEST
C. Fire Extinguishers
D. Circuit Breakers
E. Snatch Blocks (4)

**STOWED
CHECKED
CHECKED
CHECKED
CHECKED / STOWED**

N5

N1

All circuit breakers should be in, unless requirements in AFTO Form 781 indicate otherwise, or tagged to identify inoperability.

N2

Ensure all emergency lights and exit signs aft of the troop door and the two exit signs at FS 1345 illuminate. Contact maintenance personnel if lights do not remain illuminated during TEST.

N3

Cargo door and staging lights will be used when additional lighting is required behind the aircraft. Cargo door lights required for cargo door inspection.

C1

When ADS links are used, equal length links shall be used on each side of the ramp. Damage to the aircraft ramp will occur if the ADS links are not configured the same on both sides.

N4

Ensure Ramp Toes stowage handles are engaged and locked.

W1

Check all roller conveyors/guide rails for condition and proper installation. If they are not properly installed, injury to personnel may occur.

C2

Equipment that is authorized for stowage in the cargo door and associated tie down devices shall not extend into the door opening/closing envelope. Damage to the cargo door seals or aft exterior fuselage may result.

C3

Stowage of equipment on the aft bulkhead is prohibited.

N5

Check general condition of pulley, hook latch quick release pin and stop.

4. DOOR, RAMP AND TOES OPERATIONS

4.1. Opening the Door/Ramp

A. Electrical and Hydraulic Power

ESTABLISHED

N1 **N2**

B. RAMP TOES Toggle Switch

UP / AS REQUIRED

N3

C. DOOR Toggle Switch

OPEN

W1 **N4**

D. ADS Links/Plugs

AS REQUIRED

C1

E. RAMP ADJ Toggle Switch

DOWN

W2 **N5** **N6**

F. Electrical and Hydraulic Power

OFF / AS REQUIRED

N1

Establish electrical and hydraulic power (AUX system No.2) at the Aft loadmaster control panel, Left side.

N2

When more than 25,000 pounds are on the ramp and/or extreme cold weather operation, the No.2, No.3 and XFER pump will be required to raise and lock the ramp.

N3

Position and hold the RAMP TOES UP toggle switch until the toes reach the desired position.

W1

Ensure the opening envelope is clear of personnel, equipment or obstructions prior to operation. Damage to equipment or personnel injury may occur.

N4

Position and hold the Door toggle switch to the desired position until the door is open and locked.

C1

When ADS links are used, equal length links shall be used on each side of the ramp. Damage to the aircraft ramp will occur if the ADS links are not configured the same on both sides.

W2

Ensure the opening envelope is clear of personnel, equipment or obstructions prior to operation. Damage to equipment or personnel injury may occur.

N5

All ramp toe operations are inhibited unless the cargo door is up and locked, or the cargo door and ramp are both closed/locked.

N6

Position and hold the RAMP ADJ toggle switch until the ramp is at the desired position.

4.2. Closing the Ramp/Door

A. Electrical and Hydraulic Power

ESTABLISHED

N1 **N2**

B. RAMP ADJ Toggle Switch

UP

N3

C. DOOR Toggle switch

CLOSED

W1 **N4**

D. Electrical and Hydraulic Power

OFF / AS REQUIRED

4.3. Independent Ramp Toes Operation

A. Electrical and Hydraulic Power

ESTABLISHED

N5

B. RAMP TOES Toggle Switch

UP / DOWN

N6 **N7**

C. Hydraulic Power

OFF

N1

Establish electrical and hydraulic power at the Aft LM control panel, Left side. Use AUX system No.2 for independent operation.

N2

When more than 25,000 pounds are on the ramp and/or extreme cold weather operation the No.2, No.3 and XFER pump will be required to raise and lock the ramp.

N3

Position and hold the RAMP ADJ toggle switch until the ramp is up and locked.

W1

Ensure the opening envelope is clear of personnel, equipment or obstructions prior to operation. Damage to equipment or personnel injury may occur.

N4

Position and hold the Door toggle switch to close until the door is fully closed and locked.

N5

Establish electrical and hydraulic power at the Aft LM control panel, Left side. Use AUX system No.2 for independent operation.

N6

All ramp toe operations are inhibited unless the cargo door is up and locked, or the cargo door and ramp are both closed/locked.

N7

Position and hold the RAMP TOES toggle switch until the toes reach the desired position.

5. STABILIZER STRUTS OPERATING PROCEDURES DEPLOYING/RETRACTING

5.1. Deploying Stabilizer Struts

A. Aircraft Parking Brakes

ON / PRESSURE CHECKED

W1

B. Stab Strut Manifold Floodlight Switch

AS REQUIRED

N1

C. Pressure Regulator Control Knob

CLOSED

D. Stab Strut Control Handle

STOW / AS REQUIRED

E. STAB STRUTS Annunciator Panel

EXTINGUISHED / AS REQUIRED

N2

F. Electrical and Hydraulic Power

ESTABLISHED

N3

G. Stab Strut Control Handle

DEPLOY

W2

H. Stab Strut Control Handle

EXTEND

C1 N4 N5

I. Stab Strut Control Handle

STRUT HOLD

N6

J. Hydraulic Power

OFF / AS REQUIRED

N7

W1

Failure to set the parking brake before strut extension may result in aircraft movement and damage.

N1

Open the strut manifold access hard-liner panel and position the switch to WHITE, OFF, or NVG to support Stab Strut Operations. Manifold light brightness is controlled from the LM panel left side. If the knob/switch is turned off manifold lights will not function.

N2

When the STAB STRUT ACTUATORS circuit breaker is pulled, the STRUT DOOR light on the DOOR/STATUS will not illuminate.

N3

Establish electrical and hydraulic power at the Aft LM control panel, left side. Use AUX system No.2.

W2

Ensure the opening envelope is clear of personnel, equipment or obstructions prior to operation. Damage to equipment or personnel injury may occur.

C1

Continued operation of, or failure to notify maintenance of a malfunctioning stabilizer strut system may result in damage to aircraft. In the event the system fails to operate properly, do not recycle the stab strut switch. Immediately remove hydraulic power and notify maintenance.

N4

Visually verify that the struts have deployed, and annunciator panel is indicating deployed prior to moving the handle to EXTEND.

N5

When the control handle is in the EXTEND position and released, the spring-loaded control handle will return to the STRUT HOLD position.

N6

Control handle inputs in the range from just below HOLD to halfway to EXTEND produce strut extension at a substantially reduced rate.

N7

The aux hydraulic pump should be off during normal on/offloading to reduce noise level. When strut adjustment is required, temporarily turn the No. 2 aux hydraulic pump on. Move the control handle from HOLD to EXTEND until both struts extend to the ground and then return to HOLD.

5.2. Retracting Stabilizer Struts

A. Hydraulic Power

ESTABLISHED**N1**

B. Stab Strut Control Handle

RETRACT**W1 C1**

C. Stab Strut Control Handle

STOW

D. Stab Struts Annunciator Panel

EXTINGUISHED / AS REQUIRED

E. Stab Strut Manifold Floodlight Switch

OFF

F. Hydraulic Power

OFF / AS REQUIRED

N1

Establish electrical and hydraulic power at the Aft LM control panel, left side. Use AUX system No.2.

W1

Ensure the opening envelope is clear of personnel, equipment or obstructions prior to RETRACTION. Damage to equipment or personnel injury may occur.

C1

Continued operation of, or failure to notify maintenance of a malfunctioning stabilizer strut system may result in damage to aircraft. In the event the system fails to operate properly, do not recycle the stab strut switch. Immediately remove hydraulic power and notify maintenance.

6. PALLET OPERATIONS

6.1. Preparation

A. Sidewall Panel Power Switch

ON

B. ADS LOCK GANG CONTR R LOCK SELECT

SET

N1

C. ADS LOCK GANG CONTR R LOCKS REL

RELEASED

D. ADS LOCK GANG CONTR R LOCK SELECT

SAFE

E. ADS Links/Plugs

INSTALLED / AS REQUIRED

C1

F. Ramp Toes/Guide Rails/Roller Conveyors

POSITIONED / AS REQUIRED

W1

N2

C2

G. Retractable Vertical restraint Lips

RETRACTED

N3

H. Pallet End Stops

RAISED / AS REQUIRED

I. Staging Lights

AS REQUIRED

J. Stabilizer Struts

AS REQUIRED

W2

N4

K. Concurrent Operations

AS REQUIRED

L. Loading Crew Duties

BRIEFED

N5

N1

Set the rotary switch to the locks anticipated for use during loading.

C1

When ADS links are used, equal length links shall be used on each side of the ramp. Damage to the aircraft ramp will occur if the ADS links are not configured the same on both sides. When reconfiguring the ADS Links ensure proper engagement of the ADS sensor support bracket spring with the sensor support bracket arm. Failure to comply could cause improper or no signal from the sensor to the ADSC.

W1

If the ramp toes and roller conveyors/guide rails are used, ensure they are properly installed. Personnel injury could occur when the toes are raised if the roller conveyors and guide rails are not properly secured to the toes.

N2

When bare tine forklift loading, ramp toe rollers shall not be removed while a pallet is positioned over the toes. One set of ramp toe inner roller channels may be removed prior to marshalling the forklift into position if the pallet does not exceed 8,500 lbs.

C2

Ensure rail sections are properly configured for mission. Check the area for foreign objects and loose equipment that could interfere with rail locking mechanisms and pallet movement. Check all roller conveyors and ensure they are properly installed. Damage to restraint rails will occur if the rails are not in the full up position. Ensure roller tray lock tabs are down. Damage to locking tab will occur if not in the down position.

N3

Check annunciator panel to ensure lips are retracted.

W2

Aircraft Brakes will be set if Stabilizer Struts are Deployed. Prior to extending the Struts visually clear the area beneath the struts to prevent damage to equipment or personnel injury.

N4

Stabilizer struts must be used in accordance with Table 4B-1.

N5

Brief/Assign crew members on hand signals and spotter/duties. When loading pallets that exceed 100 inches, monitor overhead clearance between the top of the cargo and aircraft structures.

M. Loading Vehicle

- | | |
|-------------------------|-------------------|
| 1. Driver | BRIEFED |
| 2. MHE/Equipment Chocks | POSITIONED |
| 3. Critical Clearances | MONITORED |
| 4. Brakes | SET |

N. Pallets

- | | |
|---------------------------------|----------------|
| 1. Soil Contamination and Pests | CHECKED |
| 2. Pallet Identifier | CHECKED |
| 3. Pallet and Net Condition | CHECKED |

W1	W2
-----------	-----------

- | | |
|-----------------|----------------|
| 4. Net Security | CHECKED |
|-----------------|----------------|

W3

- | | |
|----------------------|---------------------------------|
| 5. Low Profile Cargo | RESTRAINED / AS REQUIRED |
|----------------------|---------------------------------|

N1

- | | |
|------------------------|----------------|
| 6. Small Wheeled Items | CHECKED |
|------------------------|----------------|

N2

- | | |
|------------------------------|----------------|
| 7. Center of Gravity | CHECKED |
| 8. Pallet Rings and Couplers | CHECKED |
| 9. Hazardous Cargo | CHECKED |

N3

- | | |
|----------------------------------|------------------------------|
| 10. Hazardous Material Placement | CHECKED / AS REQUIRED |
|----------------------------------|------------------------------|

W1

Use caution when positioning pallet/platform in ADS pallet position No. 1 that exceeds 78 inches in height measured from the surface of the pallet/platform. Cargo will contact oxygen lines attached to the aircraft bulkhead prior to pallet/platform contacting the ADS pallet end stops. Prior to loading pallets that exceed 78 inches in height in the ADS rails raise the inboard logistics rail end stops for final positioning.

W2

Pallets and nets with missing tiedown rings, exposed deteriorated wood core, extreme delamination, nets with missing rings, hooks or damaged/missing webbing shall not be loaded. A damaged pallet or net cannot maintain restraint requirements and is a flight safety hazard.

W3

When a top net is used with side nets, the top net hooks shall only be connected to the side net attachment rings. The hook strap shall not be routed under side net webbing and then to the side net ring. Improperly installed nets do not provide required restraint and are a matter of safety of flight.

N1

The top net may be used for restraint in all directions (vertical, lateral, forward, and aft) provided the net weight of the pallet does not exceed 2,500 pounds and cargo height does not exceed 45 inches from the surface of the pallet.

N2

These items should be restrained separately to the pallet in addition to the use of the nets.

N3

Inspect hazardous cargo for evidence of damage, leakage and orientation. Ensure accessibility for jettison.

6.2 Loading

A. Locks and Vertical Retractable Lips

C1

B. Logistic Locks Status

1. White Index line

W1	W2	W3	W4	W5	W6
-----------	-----------	-----------	-----------	-----------	-----------

C. Pallet End Stops

D. Cargo Restraint

E. Cargo Vented

W7

LOCKED / ENGAGED

CHECKED

STOWED / AS REQUIRED

COMPUTED / APPLIED

AS REQUIRED

C1

When cargo projects aft of the end of the logistics rails (FS 1390), ensure the ramp toes do not contact the cargo while being raised to the vertical position. When pallets are loaded out of position in 7, 8, 9 Logistics or 9, 10, 11 ADS ensure Vertical Retractable Lips are securing the pallet indents, if not supplemental vertical restraint will be required.

W1

A white-light flashlight shall be used when inspecting the lock slide marking for lock status. Using the naked eye or any other flashlight color may cause the lock status to be misinterpreted.

W2

Failure to ensure that all locks being utilized in a pallet position are physically locked may result in cargo becoming loose.

W3

Any lock within a pallet position that does not fully lock can cause other locks in that pallet position to unlock uncommanded.

W4

Check all lock annunciator panels, ensure Locks/Lips are fully engaged. If any individual lock engaging a pallet/platform is visually assessed as unlocked, the pallet/platform shall be restrained 3 g's forward and 1.5 g's aft, regardless of control panel lock indications.

W5

When loading pallets/platforms into the aircraft, avoid excessive speed. Excessive loading speed could result in injury to personnel and damage to pallets/cargo/aircraft.

W6

Failure to ensure that all locks being utilized in a pallet position are physically locked may result in injury to personnel and/or damage to pallets/cargo/aircraft.

W7

Preparation and hookup of the vent system will be accomplished by qualified shipper or aircraft maintenance personnel. ATOC will prearrange for a qualified MX person to vent cargo. Ramp personnel and aircraft loadmasters are not qualified to connect cargo to the aircraft exhaust venting system.

7. ROLLING STOCK OPERATIONS

7.1. Preparation

A. ADS Links/Plugs

INSTALLED / AS REQUIRED

C1

B. Ramp Toes

POSITIONED / AS REQUIRED

N1

C. Door and Ramp

OPEN

W1

D. Staging Lights

AS REQUIRED

E. Stabilizer Struts

AS REQUIRED

N2 W2

F. Cargo Floor

CLEARED / AS REQUIRED

W3

G. Vehicle/Rolling Stock

1. Soil Contamination and Pests
2. Fluid Leaks
3. Tires and Track Pads Condition
4. Engine and Brakes
5. Battery and Filler Caps
6. Tanker Type Vehicles

CHECKED

CHECKED

CHECKED

CHECKED

CHECKED

CHECKED

N3

7. Shippers Declaration(s)/Labels
8. Loose Equipment and Secondary Cargo

CHECKED / AS REQUIRED

CHECKED / SECURED

N4

9. Fuel Tanks

CHECKED

N5 N6

10. Trailer Forward Support Leg/Wheel
11. Specific instructions

SECURED

CHECKED / AS REQUIRED

C1

When ADS links are used, the same length link shall be used on each side of the ramp. Damage to the aircraft ramp will occur if the ADS links are not configured the same on both sides.

N1

Ramp toes must be used in accordance with Table 4B-1.

W1

Ensure the opening envelope is clear of personnel, equipment or obstructions prior to operations. Damage to equipment or personnel injury may occur.

N2

If stabilizer struts are required, extend prior to loading. Stabilizer struts must be used in accordance with Table 4B-1. Periodically check to ensure the struts maintain contact with the ground. If ground contact is lost, turn on the No. 2 aux hydraulic pump to restore ground contact.

W2

Prior to extending struts, visually clear area beneath ramp and stabilizer struts to prevent personnel injury.

W3

Gloves should be used when configuring logistics rails to prevent hand injury.

N3

Tanker type vehicles, either trailer or self-contained, are not certified for airlift with fuel or water in the tank.

N4

Ensure all loose equipment and secondary cargo are secured.

N5

Vehicles with pressure-type fuel system, the cap will be placed in the semi-locked position.

N6

Verify that fuel levels in vehicles/items are within limitations.

H. Concurrent Operations

AS REQUIRED

W1

I. Ventilation

CHECKED / AS REQUIRED

W2

J. Vehicle Driver(s)

1. Hand Signals

BRIEFED

2. Transmission

SET / AS REQUIRED

C1 N1

K. Engine and Brakes

CHECKED

L. Critical Clearance Observers

BRIEFED / POSITIONED

N2

M. Shoring

AS REQUIRED

N. Bridge Plates

AS REQUIRED

O. Bridge Plates Rollers (Bar)

AS REQUIRED

W3 N3

W1

On/offloading cargo during fueling operations is permissible only under certain conditions. Refer to T.O. 00-25-172 for additional instructions. Failure to comply could result in loss of aircraft and injury to personnel.

W2

Exhaust fans shall be used when prolonged operation of engine powered equipment is required inside the aircraft. Without both air conditioning packs operating, the crew door or forward emergency escape door must be open during operation of the cargo exhaust fans to ensure proper ventilation. Failure to comply could result in build-up of carbon monoxide fumes and possible injury to personnel.

C1

Vehicles that do not have a neutral position transmission, which allows the item to move freely, will be on/offloaded from the aircraft using their own power. The cargo winch and vehicle transmission will not be used together. If more than one layer of shoring is required, the shoring will be prefabricated or joined together.

N1

Low Gear/Lowest Range/All-Wheel Drive.

N2

A clear view of all observers/spotters by the Load Director or appointed spotter giving commands should be maintained at all times during loading/offloading operations.

W3

If slippery ramp conditions exist, the cargo winch should be used in the loading operation. Load shift could result in damage to equipment and injury to personnel.

N3

Refer to T.O. 1C-17A-9, Section IVB for vehicle loading methods and restraint or ATTLA certification/T.O. 1C-17A-9 Section VI for specifics.

7.2. Loading

A. Load planned CG station

CHECKED

B. Brakes and Transmission

SET

N1

C. Ignition

OFF

D. Safety Chains

ATTACHED

E. Driver

RELEASED

F. Restraint

APPLIED / COMPUTED

C1 C2

G. Cargo Vented

AS REQUIRED

W1

N1

Place all vehicles with automatic transmissions in PARK. Place vehicles with standard transmissions in the LOWEST GEAR.

C1

Inspect the backside of the axles and structures for the presence of hydraulic lines or electrical cables before attaching the tiedown chains around these hidden areas. Failure to comply could cause damage to the aircraft or cargo.

C2

Do not attach more than half of the total tiedown required to the axles. No vertical restraint value is added when tiedown is connected to spring mounted axles.

W1

Preparation and hookup of the vent system will be accomplished by qualified shipper or aircraft maintenance personnel. ATOC will prearrange for a qualified MX person to vent cargo. Ramp personnel and aircraft loadmasters are not qualified to connect cargo to the aircraft exhaust venting system.

8. GENERAL WINCHING PROCEDURES

8.1. Remote Winch Control Operating Procedures (RWC)

A. FWD and AFT Winch Control Panels	OFF / OFF / NORM
B. RWC Bracket Assembly/Door Wingnut Fastener	OPEN
C. RWC Battery Charge Status Light is GREEN	CHECKED
D. GROUP SELECT Rotary Switch	SELECTED
E. WINCH IDENT THUMB wheel	SELECTED
F. Operating Frequency	SET
N1 N2 N3	
G. RWC Armed/Ready	REMOVE
H. RETRIEVER winch control switch	OFF
N4	
I. RWC Mode	IN / OUT
J. RWC Speed	AS REQUIRED
K. OPERATE Winch	ACTION
N5 N6	

8.2. FWD/AFT Winch Control Panels

A. Mode HIGH/LOW	AS REQUIRED
B. Speed IN/OUT	AS REQUIRED
C. Remote ORIDE/NORM	AS REQUIRED

N1

The RWC operating frequency is determined by the position of the GROUP SELECT rotary switch and the WINCH IDENT thumb wheels. Ensure they are on the same frequency. The RWC bracket assembly door/wingnut fastener must be open before pressing the ENTER button. Depress the enter button on the receiver/transmitter radio.

N2

Establish electrical and hydraulic power. Use AUX system No.3.

N3

When changing the GROUP SELECT/WINCH IDENT settings, the RWC must be returned to the holder and the ENTER button depressed again.

N4

Retriever winch operations are controlled from the top half of the RWC. Ensure the directional control switch is in the OFF position to operate the cargo winch.

N5

Depress deadman trigger then slowly squeeze the upper trigger to start cable movement.

N6

Use ORIDE if RWC is removed from holder and fails to operate or return to holder.

9. CARGO WINCHING

9.1. Rolling Stock

A. Aircraft Parking Brakes

ON / PRESSURED / CHECKED

B. Winch Condition

CHECKED

W1

C. Winch Sheave

UP AND PINNED

C1

D. Winch Cable Condition/Hook

CHECKED

W2 N1

E. Snatch Block

AS REQUIRED

F. Sheave/Cable Path

ALIGNED / CLEARED

C2 N2

G. Chain Bridle/Attachment Points

AS REQUIRED

N3

H. Cargo Compartment/Cargo/Personnel

CLEARED

I. Winch Cable/Snatch Blocks

ATTACHED / AS REQUIRED

C3

J. Winch Cable Path

CLEARED

K. Steering Yoke

AS REQUIRED

L. Equipment Chocks

POSITIONED

W3

W1

All personnel will wear gloves when handling the winch cable.

C1

Winch cable sheave shall be raised, pinned, and aligned before operating the winch. Winching with the cable sheave stowed or not aligned under any operating condition will damage the winch.

W2

An unserviceable winch cable can be a hazard to the loading crew during winch on/offloading operations. It could break under load and whiplash, resulting in serious injury to personnel and/or causing severe damage to the aircraft structure.

N1

Examine the winch cable to see that it is in a serviceable condition: Any cable that has three broken wires or less per strand inch or six broken wires or less per cable inch shall be considered serviceable. The maximum number of broken wires shall not occur in any 2 consecutive inches of cable, i.e., if six wires are broken in 1 inch of cable, no additional broken wires shall be allowed in the next consecutive inch of cable. Any cable not within the above specified limits shall be considered unserviceable.

C2

Ensure the winch cable sheave is in alignment with the cable pull, properly routed through the snatch blocks and will not interfere with other items (tiedown chains/devices, cargo, etc.).

N2

When the direction of the cable pull is changed, the sheave must be manually realigned to correspond with the new angle of pull. Ensure sheave remains in proper alignment with the direction of cable pull throughout the winching operation.

N3

Inspect attachment points for condition and rated strength.

C3

Ensure the winch cable is properly routed through the snatch blocks and will not interfere with other items (tiedown chains/devices, cargo, etc.).

W3

Wheel chocks shall not be used on any wheeled item while it is being winched up the cargo ramp and ramp toes. If brakes are inoperative, wheel chocks shall be used to keep the item from rolling past the desired position.

9.2. Pallet Winching

A. Aircraft Parking Brakes

ON / PRESSURE CHECKED

B. Winch Condition

CHECKED**W1**

C. Winch Sheave

UP AND PINNED**C1**

D. Winch Cable Condition/Hook

CHECKED**W2 N1**

E. Snatch Block Condition

AS REQUIRED

F. Sheave/Cable Path

ALIGNED / CLEARED**C2 N2**

G. Chain Bridle

ATTACHED**C3**

H. Cargo Compartment/Cargo/Personnel

CLEARED

I. Winch Connected

CHECKED

J. Operate Winch

RWC / FWD / AFT LM PANEL

W1

All personnel will wear gloves when handling the winch cable.

C1

Winch cable sheave shall be raised, pinned, and aligned before operating the winch. Winching with the cable sheave stowed or not aligned under any operating condition will damage the winch.

W2

An unserviceable winch cable can be a hazard to the loading crew during winch on/offloading operations. It could break under load and whiplash, resulting in serious injury to personnel and/or causing severe damage to the aircraft structure.

N1

Examine the winch cable to see that it is in a serviceable condition: Any cable that has three broken wires or less per strand inch or six broken wires or less per cable inch shall be considered serviceable. The maximum number of broken wires shall not occur in any 2 consecutive inches of cable, i.e., if six wires are broken in 1 inch of cable, no additional broken wires shall be allowed in the next consecutive inch of cable. Any cable not within the above specified limits shall be considered unserviceable.

C2

Ensure the winch cable sheave is in alignment with the cable pull, properly routed through the snatch blocks and will not interfere with other items (tiedown chains/devices, cargo, etc.).

N2

When the direction of the cable pull is changed, the sheave must be manually realigned to correspond with the new angle of pull. Ensure sheave remains in proper alignment with the direction of cable pull throughout the winching operation.

C3

The bridle shall be formed by maintaining a minimum of 30 inches between the winch cable hook and the forward edge of the pallet whenever possible in both the 88- and 108-inch orientation. Use only the corner pallet rings for bridle attachment.

10. POST LOADING**10.1. Procedures**

A. Cargo	CHECKED
B. Load Restraint	CHECKED
C. Stabilizer Struts	STOWED
W1	
D. Cargo Door and Ramp	CLOSED
W2	
E. Staging Lights	OFF
F. Ramp Toes/ADS Links	AS REQUIRED
N1	
G. Cargo Winch Control Panels	OFF / OFF / NORM
H. SIDEWALL PANEL POWER Switch	OFF
I. Loose Equipment	SECURED
J. Maintenance Advised	LOADING COMPLETE

W1

Ensure loading envelope is clear of personnel, equipment or obstruction prior to operation. Damage to equipment or personnel injury may occur.

W2

Ensure loading envelope is clear of personnel, equipment or obstruction prior to operation. Damage to equipment or personnel injury may occur.

N1

Toes will be left in the vertical position when installed.

11. OFFLOADING PROCEDURES

11.1 Offloading procedures for all types are essentially the reverse of loading procedures.

12. RAMP TOE LOADING LIMITATION CHART**12.1. INSERT TABLE 4B-1 RAMP TOE LOADING LIMITATION CHART (from the most current TO-1C-17A-9).**

13. WINCHING CHARTS

13.1. INSERT TABLE 4E-1 CALCULATION OF MAXIMUM CARGO WEIGHT VERSUS ANGLE COEFFICIENT OF FRICTION (from the most current TO-1C-17A-9).

14. GROUND EMERGENCY PROCEDURE

1. Fire

- a. Personnel – **Evacuate**
- b. Command Post/Fire Department – **Notify by any available means. State nature of emergency, tail number, parking spot, and number of personnel on board.**
- c. Fire Source Accessible/Removable – **Removed/As Required**

WARNING

If flammable and/or explosive materials are onboard, offload these items first. Failure to comply could result in spread of the fire and/or onboard expositions that could result in serious injury to personnel.

- d. Fight Fire – **As Required**
- e. Operating Systems – **OFF/As Required**

If conditions permit, have maintenance personnel shutdown the APU, External Power, and Battery

- f. Personnel Count – **Complete**

2. Fuel Spills

- a. Fire Extinguisher – **Ready/Stand By**
- b. Vehicles – **Shut Down**
- c. Crew Chief/Fire Department/ATOC – **Notified**
- d. Electrical Equipment – **OFF**
- e. Cargo Compartment Doors/Ramps – **OPEN**
- f. Small fuel spill – **Wipe up**
- g. Large fuel spill – **Await Instructions**

3. Hazardous Cargo Spills

- a. Crew Chief/Fire department/ATOC – **Notified**
- b. Keep Personnel away from spills
- c. Do not attempt to clean it up