BY ORDER OF THE COMMANDER AIR MOBILITY COMMAND

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Transportation

C-5 AERIEL PORT EXPEDITOR (APEX) LOAD DIRECTOR CHECKLIST

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SUMMARY OF CHANGES

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

C-5 AERIAL PORT EXPEDITOR APEX) LOAD DIRECTOR CHECKLIST

Table of Contents

1. GENERAL INFORMATION

1.1. Checklist Excerpts. Items in this checklist are excerpts from the relevant portions of the basic aircraft flight manuals/loading instructions (T.O. 1C-5M-1 and T.O. 1C-5M-9) are for use by APEX load directors. If conflict arises between this checklist and the T.O. checklists, the T.O. checklists 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

An operating procedure, technique, etc., which is considered essential to emphasize.

2. LOAD PLANNING CHECKLIST

2.1. Load Plan **CHECKED**

A. Operating Weight and Moment **CHECKED**

B. Allowable Cabin Load **CHECKED**

C. Zero Fuel CG **CHECKED**

NOTE

Ensure all weights, moments and CG are accurate.

D. Manifest/Load Sequence **CHECKED**

NOTE

Load Sequence will be based on aircraft limitations and offload sequence.

E. Hazardous Materials and Special Handling

1. Size, Weight, Location **CHECKED**
2. Hazardous Documentation/handling instruction **CHECKED**
3. Compatibility and Separation Requirements **CHECKED**

F. Destination **CHECKED**

G. Gross Weight **CHECKED**

H. Cargo Size Limitations/ATTLA Certs **CHECKED**

I. Cargo Floor Loading Limitations **CHECKED**

J. Lateral Loading Limitations **CHECKED**

K. Venting Requirements **CHECKED**

NOTE

Air Terminal Operations Center (ATOC) prearranges for a qualified person to make the hookup at the desired time. Air terminal personnel and aircraft loadmasters are not qualified to make the hookups.

3. CARGO LOADING PREPARATION

3.1. Palletized Cargo Inspection Checklist

CAUTION

Any vehicle/item that exceeds the limitations/procedures of this manual shall have the specific approval of WR-ALC/LTET or a letter of air transportability certification from ASC/ENFC or it shall not be airlifted.

NOTE

It is not acceptable to take a pallet that has been rejected for airlift (missing rings, delaminated, etc.) and place it on top of another pallet to airlift it. If the pallet has been rejected for airlift, it shall not be used in any way to support cargo.

A. Condition of Pallets and Nets	**CHECKED**
B. Security of Nets	**CHECKED**
C. Low Profile Cargo	
1. Cargo weight does not exceed 2,500 lbs.	**RESTRAINED/AS REQUIRED**
2. Cargo height not exceeding 45 inches for top of pallet	**RESTRAINED/AS REQUIRED**
3. All hooks are serviceable and attached to pallet rings	**RESTRAINED/AS REQUIRED**
D. Dimensions	**CHECKED**

NOTE

The height of cargo weighing 10,000 pounds on a single pallet secured with nets is limited to 96 inches and 100 inches for cargo weighing 8,000 pounds.

E. Ramp Pallets	**CHECKED**

NOTE

Pallets to be loaded in positions 1, 2, 35 and 36 shall have a 14-inch aisle on the outboard edge and not exceed 7,500 lbs. gross weight each. Additionally, pallets loaded in positions 35 and 36 shall be limited to a maximum height of 70 inches at the aft edge of the pallet.

F. Small Wheeled and Skidded Cargo	**CHECKED**
G. Pallet Identifier	**CHECKED**
H. Pallet Train and Un-netted Pallets	**CHECKED**

NOTE

To ensure vertical clearance when near the cargo compartment sidewall, position palletized cargo with an outboard height of 114 inches or greater or with lateral overhang, out of the logistics restraint rail system. Do not exceed 108 inches above the surface of the pallet when loaded through the aft doors or 156 inches when loaded through the forward doors.

I. Pallet Train Dimensions	**CHECKED**
J. Pallet Rings and Couplers	**CHECKED**
K. Center of Balance	**CHECKED**
L. Roller Load Limitations	**CHECKED**
M. Hazardous Cargo	
1. Size, Weight, Location	**CHECKED**
2. Hazardous Materials Labels/Markings (to include orientation marking)	**CHECKED**
3. Compatibility and Separation Requirements	**CHECKED**
N. Compatibility and Separation Requirements	**CHECKED**

NOTE

Hazardous cargo that is considered jettisonable shall not be positioned forward of non-jettisonable cargo, except when its size, weight, and location will permit jettisoning by hand. Depending upon the amount of hazardous cargo, placement aboard the aircraft should normally be planned for the aft section of the cargo compartment. Hazardous cargo will never be loaded in such a manner that would make jettisoning impossible.

O. Standing water/snow removed from pallets	**CHECKED**
P. Soil Contamination and Pests	**CHECKED**
Q. Load sequenced/secured aboard MHE	**CHECKED**

3.2. Rolling Stock Inspection Checklist

A. Soil Contamination and Pests	**CHECKED**
B. Fluid Leaks	**CHECKED**
C. Condition of Tires and Tracks	**CHECKED**
D. Tanker Type/Fire Fighting Vehicles	**CHECKED**

NOTE

Check for the presence of liquids. Tanker type vehicles (trailer or self-contained) are not normally certified as air transportable in a loaded configuration (liquid in tank). The structural integrity of most tanker type vehicles does not meet the design criteria to withstand the g forces encountered during flight. (Exceptions: The M-149A2 water trailer has been certified for airlift, provided the tank is no more than 3/4 full and the manhole cover is secured with tiedown straps. Fire fighting vehicles are certified for transport with up to 150 gallons of AFFF (foam agent) in the tank.)

E. Shippers Declaration of Dangerous Goods, Label(s)	**CHECKED**

F. Specific Loading requirements	
1. ATTLA Cert.	**CHECKED**
2. T.O. 1C-5M-9-2	**CHECKED**
G. Loose Equipment and Secondary Cargo	**CHECKED/SECURED**
H. Battery	**CHECKED/SECURED**
I. Filler Caps	**CHECKED**

NOTE

Ensure fuel, oil, and any other appropriate filler caps are tight and secure.

J. Fuel Levels	**CHECKED**
K. Trailer Forward Support Leg(s)/Wheel(s)	**SECURED**
L. Vehicle Weights	**CHECKED**
M. Gross Weight	**CHECKED**
N. Vehicle(s) Center of Balance (Loaded or Empty)	**CHECKED**
O. Axle Weights	**CHECKED**
P. Wheel Load	**CHECKED**
Q. Geometric Considerations	
1. Vehicle Size Limitations	**CHECKED**
2. Loading Overhang Limits	**CHECKED**
3. Vehicle Projection Limits	**CHECKED**
4. Ramp Crest Limits	**CHECKED**
5. Parking Overhang Clearance Limits	**CHECKED**
R. Structural Considerations	
1. Forward/Aft Ramp On/Off Loading Limitations	**CHECKED**
2. Rolling Shoring Requirements	**CHECKED/AS REQUIRED**
3. Cargo Floor Loading Limitations	**CHECKED**
4. Concentrated Floor Loads	**CHECKED**
5. Hard Rubber Tire and Steel Wheel limitations	**CHECKED**
6. Lateral Loading Limitations	**CHECKED**
7. Parking Shoring Requirements	**COMPUTED/ AS REQUIRED**
8. Sleeper Shoring Requirements	**COMPUTED/ AS REQUIRED**

NOTE

Ensure all required certifications for loading (ATTLA) are provided and utilized for loading operations.

4. AIRCRAFT PREFLIGHT

4.1. Exterior

A. Aircraft Tail Number/Parking Spot **CHECKED**

NOTE

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

B. Nose Landing Gear Downlock Pin **CHECKED**

C. Aircraft Electrically Grounded **CHECKED**

D. Aircraft Configuration **CHECKED**

NOTE

If the aircraft is to be forward kneeled, install a 4-inch kneeling collar on both aft main gear struts. If the aircraft is to be aft kneeled, install a 4-inch and a 2.75-inch kneeling collar on each forward main gear strut. Kneeling collars are not required for level kneeling.

CAUTION

Ensure the bottom of the yoke for each gear contacts the shoulder on the shock strut or top of kneeling collar as applicable. If contact is not made, do not accomplish cargo loading/unloading operations until maintenance action is completed on the malfunctioning gear.

E. Main Landing Gear Wheel Chocks **IN PLACE**

NOTE

Check main gear wheel chocks forward and aft. Chocks should not contact wheels. Contact maintenance if adjustments need to be made.

F. Fire bottle **POSITIONED/SERVICABLE**

4.2. Interior

A. AFTO Form 781 Series **CHECKED**

NOTE

Ensure there are NO Red X's or deficiencies that prohibit aircraft on/off loading.

B. Parking Brake Set **CHECKED**

NOTE

Have maintenance crew chief ensure the aircraft brake selector is set to emergency and that aircraft parking brakes are set.

C. Electrical Power **AS REQUIRED**

D. Interior Lights — **AS REQUIRED**

4.3. Cargo Compartment/Left Side

A. Cargo Compartment Lights — **AS REQUIRED**

B. Snatch Block (FS 594) — **CHECKED/AS REQUIRED**

NOTE

Check general condition of pulley, hook latch quick release pin and stop. Open the snatch block and ensure the snap ring secures the pulley in place.

C. Cryogenic Vent (F.S. 734) — **CHECKED/AS REQUIRED**

E. Tie-Down Equipment — **CHECKED**

F. Cryogenic Vent (F.S. 1219) — **VERIFY**

G. Remote Control Grip Assembly — **CHECKED/POWER OFF**

H. Stowage Box

1. Pallet Stops (2) — **CHECKED**
2. Detent Locking Tees (8) — **CHECKED**

I. Cryogenic Vent (F.S. 1779) — **CHECKED/AS REQUIRED**

J. Retractable Rail — **CHECKED/PIN INSTALLED**

K. LH Inboard Rail Connector — **CHECKED/ STOWED**

L. Troop Compartment Ladder (Cargo Clearance) — **POSITIONED/VERIFIED**

M. “A-Frame” Rail — **CHECKED/STOWED**

N. Pressure Door Seals/Side Sloping Longeron Panels — **CHECKED**

NOTE

Check for Visible Damage. If any damage is found on Pressure door side seals/side sloping longeron panels, contact maintenance immediately. Ensure damage is documented on aircraft forms.

4.4. Cargo Compartment/Right Side

A. Aft Winch and Compartment Hatch — **CHECKED/ SECURED**

B. RH Inboard Rail Connector — **CHECKED/ STOWED**

C. Retractable Rail — **CHECKED/PIN INSTALLED**

D. Exhaust Vent (F.S. 1780) — **CHECKED**

E. Stowage Box Pallet Stops (2) — **CHECKED**

F. Snatch Block (F.S. 1740) — **CHECKED/AS REQUIRED**

NOTE

Check general condition of pulley, hook latch quick release pin and stop. Open the snatch block and ensure the snap ring secures the pulley in place.

G. Aft Cargo Hydraulic Selector Value (F.S. 1622)	**CHECKED/NO. 4 POSITION/ (AS REQUIRED)**
H. Exhaust Vent (F.S. 1219)	**CHECKED/AS REQUIRED**
I. Cargo Winch Circuit Breakers (F.S. 880)	**CLOSED**
J. Exhaust Vent (F.S. 734)	**CHECKED/AS REQUIRED**
K. Forward Cargo Winch Selector Value (F.S. 610)	**CHECKED/NO. 1 POSITION**
L. Snatch Block (F.S. 594)	**CHECKED/AS REQUIRED**

NOTE

Check general condition of pulley, hook latch, quick release pin and stop. Open the snatch block and ensure the snap ring secures the pulley in place.

M. Exhaust Vent (F.S. 594)	**CHECKED**
N. Forward Winch and Compartment Hatch	**CHECKED/ SECURED**

NOTE

Complete reel out of the winch cable is required for a home station departure, when maintenance was performed or when there will be a pallet covering the position.

O. RH/LH Inboard Rail Connector	**CHECKED/STOWED**
P. RH/LH Outboard Rail Bridge	**CHECKED/STOWED**

4.5. Cargo Compartment/Both Side

A. Outboard Restraint Rails/Locks	**CHECKED/POSITIONED/ AS REQUIRED**
B. Inboard Restraint Rails/Locks	**CHECKED/ POSITIONED/ AS REQUIRED**
C. Roller Conveyors	**CHECKED/POSITIONED/ AS REQUIRED**

5. LOADING CHECKLIST

5.1 Palletized Cargo Loading Checklist

CAUTION

Do not on/off load cargo with either of the AFT MLG's kneeled unless maintenance stabilizer jacks are installed prior to kneeling the individual main landing. Failure to comply may result in damage to the aircraft.

CAUTION

Any time an item of cargo/equipment is temporarily positioned on the aircraft ramp, restraints will be applied.

WARNING

On/off loading cargo during fueling operations is permissible only under certain conditions. Refer to T.O. 00-25-172 for additional instructions.

A. Concurrent Operations — **COORDINATED/AS REQUIRED**

NOTE

Check with the Concurrent Service Supervisor prior to starting loading operations.

WARNING

When forward ramp is in truck bed mode, check the ramp extension support jacks for the following. Ensure the roller arm is engaged in the recessed notch. If the roller arm is not fully seated in the recessed notch, the ramp extension jacks may collapse when weight is applied to the ramp.

B. Aircraft Configuration

1. Doors and Ramps — **AS REQUIRED**
2. Roller Conveyors — **UP/LOCKED**
3. Inboard Restraint Rails/Locks — **UP/SECURED/AS REQUIRED**
4. Restraint Rail Detents — **RETRACTED**

CAUTION

A close inspection shall be accomplished to ensure floor outboard tiedown rings are stowed. Failure to comply could result in damage to the rails, locks, roller conveyors, and pallets.

CAUTION

Ensure clearances are maintained when maneuvering K-loaders head-on to the left side of the aft ramp when the loader cab is attached to the movable bed.

WARNING

The on/off loading of cargo with a forklift is prohibited with the aircraft in the unkneeled position. Failure to comply could cause injury to personnel.

C. Palletized Cargo Inspection Checklist	**COMPLETED**
D. Loading Crew Duties	**BRIEFED**
E. Spotters to Observe Critical Clearances	**BRIEFED/POSITIONED**
F. Loading Crew Identify Upwind Evacuation Location	**BRIEFED**
G. Vehicle Driver	**BRIEFED**
H. Wheel Chocks	**POSITIONED**
I. Loading Vehicle	**POSITIONED/ADJUSTED**

CAUTION

Ensure clearances are maintained when maneuvering K-loaders head-on to the left side of the aft ramp when the loader cab is attached to the movable bed.

J. Pallets	**INSPECTED**
K. Pallets Stops (use in pairs)	**AS REQUIRED**

CAUTION

Restraint locks shall not be used as pallet stops. Failure to comply could result in damage to the lock mechanisms.

WARNING

Any pallet(s), single or multiple, weighing 15,000 pounds or more shall be restrained when on/off loading by use of the aircraft winch, when the aircraft is in either the forward or aft kneeled position. Pallets weighing less may be restrained at the option of the APEX Load Director in consideration of the number of loading personnel available for manual restraint, nature of the cargo, adverse floor angle, etc.

L. Winch Pallets	**AS REQUIRED**
M. Pallets	**POSITIONED**
N. Locks and Vertical Restraint Lips	**ENGAGED**

NOTE

Ensure all detents are engaged, all required retractable lips are extended, and lip pins engaged. When pallet trains are loaded, ensure all lips and detents are engaged for the leading pallet. All of the remaining detents for the additional pallets will be engaged, if possible. When sufficient detents cannot be engaged to provide the necessary restraint, tiedown chains and devices shall be used.

O. Cargo Restraint	**COMPUTED/CHECKED**

WARNING

A minimum of one pair of logistic restraint lock mechanisms shall be operative and engaged for restraint of palletized cargo (one inboard and one outboard). Chains or other devices shall not be substituted unless a symmetrical pattern can be obtained. Failure to comply can result in damage to aircraft equipment and injury to personnel. Accordance with T.O. 1C-5M-9 Chapter 2.

NOTE

Outboard logistic rail mechanisms with broken or missing cables may be used to restrain pallets provided the detents are locked in their over center (locked) positions, using locking tees locally manufactured and installed in accordance with Chapter 3.

5.2. Vehicle Loading Checklist

CAUTION

Do not on/off load cargo with either of the AFT MLG's kneeled unless maintenance stabilizer jacks are installed prior to kneeling the individual main landing. Failure to comply may result in damage to the aircraft.

CAUTION

Any time an item of cargo /equipment is temporarily positioned on the aircraft ramp, restraints will be applied.

A. Concurrent Operations	**COORDINATED/AS REQUIRED**

NOTE

Check with Concurrent Service Supervisor prior to starting loading operations.

B. Aircraft Configuration	**CHECKED**
C. Doors and Ramps	**AS REQUIRED**
D. Roller Conveyors	**STOWED/AS REQUIRED**
E. Inboard Restraint Rails	**DOWN/SECURE/AS REQUIRED**
F. Loading Aids	**POSITIONED/AS REQUIRED**

Do not use a prime mover to push any rolling stock with a vertically articulated tongue onto the airplane. Do not use a prime mover to pull this type of cargo off the airplane.

CAUTION

Shoring shall be used under all the ramp extension support jacks and ramp support pads when necessary to ensure proper contact with the ground during on/off loading operations. Failure to comply could result in damage to the ramp extension actuators and ramp extension and/or ramp structure.

G. Ventilation	**CHECKED**

WARNING

Proper ventilation of the aircraft shall be provided when on/off loading self-propelled vehicles. Personnel shall not be permitted to remain on the flight deck or in the troop compartment during multiple vehicle on/off loading unless the auxiliary ventilation system is operating. Exposure to carbon monoxide will produce adverse effects that may prove fatal to personnel.

NOTE

Open the troop doors, the No. 6 service door and the opposite cargo loading doors, if operationally feasible. If multiple vehicle on/off loading is to be accomplished and personnel are to remain in the upper deck area, ensure the auxiliary ventilation system is operating and the flight station ladder door is closed.

H. Vehicle Inspection Checklist	**COMPLETED**
I. Vehicle Driver	
1. Hand Signals	**BRIEFED**
2. Transmission	**LOW GEAR/LOWEST RANGE/ALL WHEEL DRIVE/AS APPLICABLE**
J. Engines and Brakes	**CHECKED**

NOTE

Check vehicle engine and brakes for proper operation prior to loading. Vehicles equipped with air brakes must have required air pressure before loading.

K. Critical Clearance Observers	**BRIEFED/POSITIONED**
L. Shoring	**POSITIONED/AS REQUIRED**

WARNING

If slippery ramp conditions exist, the cargo winch shall be used.

CAUTION

The ground clearance of single axle trailers will change when towed during loading. Contact could occur in the area of the ramp hinge/toes resulting in damage to the aircraft/trailer.

CAUTION

Care must be taken to not turn a tracked vehicle while transiting the cargo ramps.

Allowing a tracked vehicle to turn while transiting the ramps, ramp hinges, or toes could result in damage to the aircraft.

M. Vehicle **LOADED**

1. Load Plan (F.S.) **CHECKED**
2. Brakes and Transmission **SET**

NOTE

Place vehicles with automatic transmissions in park. Diesel-powered vehicles with automatic transmissions without park, or standard transmissions, place in neutral. Place gasoline-powered vehicles with standard transmissions in lowest gear.

3. Ignition **OFF**
4. Safety Chains **INSTALLED**

NOTE

Install a minimum of one chain and device each for both forward and aft restraint.

5. Driver **RELEASED**

N. Restraint **COMPUTED/APPLIED**

6. OFFLOADING CHECKLIST

6.1. Cargo

CAUTION

Do not no/off load cargo with either of the AFT MLG's kneeled unless maintenance stabilizer jacks are installed prior to kneeling the individual main landing. Failure to comply may result in damage to the aircraft.

CAUTION

Any time an item of cargo /equipment is temporarily positioned on the aircraft ramp, restraints will be applied.

A. Concurrent Operations	**COORDINATED/AS REQUIRED**

NOTE

Check with Concurrent Service Supervisor prior to starting loading operations.

B. Aircraft Configuration	**CHECKED**
C. Doors and Ramps	**AS REQUIRED**
E. Rollers Conveyers	**POSITIONED/AS REQUIRED**
F. Inboard Restraint Rails	**POSITIONED/AS REQUIRED**
G. Off Loading Equipment	**POSITIONED/AS REQUIRED**

CAUTION

Do not use a prime mover to push any rolling stock with a vertically articulated tongue onto the airplane. Do not use a prime mover to pull this type of cargo off the airplane.

H. Ventilation	**CHECKED**

WARNING

Proper ventilation of the aircraft shall be provided when on/off loading self-propelled vehicles. Personnel shall not be permitted to remain on the flight deck or in the troop compartment during multiple vehicle on/off loading unless the auxiliary ventilation system is operating. Exposure to carbon monoxide will produce adverse effects that may prove fatal to personnel.

NOTE

Open the troop doors, the No. 6 service door and the opposite cargo loading doors, if operationally feasible. If multiple vehicle on/off loading is to be accomplished and personnel are to remain in the upper deck area, ensure the auxiliary ventilation system is operating and the flight station ladder door is closed.

I. Shoring **POSITIONED/AS REQUIRED**

CAUTION

Shoring shall be used under all the ramp extension support jacks and ramp support pads when necessary to ensure proper contact with the ground during on/off loading operations. Failure to comply could result in damage to the ramp extension actuators and ramp extension and/or ramp structure.

J. Tie-down/Forward Support Leg(s)/Wheel(s) **REMOVED/SECURED**

WARNING

When off-loading a vehicle, the operator will be in position at the controls prior to removing final fore and aft restraint.

K. Vehicle Driver

1. Hands Signals **BRIEFED**
2. Transmission **LOW GEAR/ ALL-WHEEL DRIVE/ AS APPLICABLE**

L. Engines and Brakes **CHECKED**

NOTE

Check vehicle engine and brakes for proper operation prior to loading. Vehicles equipped with air brakes must have required air pressure before loading.

M. Winch **AS REQUIRED**

NOTE

Before a vehicle (other than self-propelled) is allowed to pass down the aircraft ramps, a restraining cable must be attached to prevent these items from rolling/skidding uncontrolled out of the aircraft.

N. Cargo **OFFLOADED**

7. WINCHING

7.1. Preparation

WARNING

Only essential personnel are permitted in the cargo compartment during winching operations.

Winching is a potentially hazardous operation. Refer to all warnings and cautions in Section IV prior to winch operations.

On/off loading cargo during fueling operations is permissible only under certain conditions. Refer to T.O. 00-25-172 for additional instructions.
Use of the winch in the cargo compartment is prohibited during defueling operations.

WARNING

Maintain tension on the cable to prevent a slack cable condition during offloading. A slack cable condition can occur as the cargo goes over the ramp crest, causing the cargo to lunge forward, jerking the cable, causing cable failure, injury to personnel, and damage to equipment.

WARNING

Do not use wheel chocks to prevent vehicles or other wheeled equipment from rolling down the forward ramp, ramp extension and toes, or aft ramp, pressure door and toes in the drive-in position. Failure to comply could result in the injury to personnel as vehicle could jump the chocks.

WARNING

If the airplane snatch blocks are to be used, do not exceed their rated capacity of 15,000 pounds or 3/8-inch diameter cable size. Failure to comply could cause failure of the snatch block and result in injury to personnel.

WARNING

Ensure that personnel do not step over the winch cable attached to cargo.

WARNING

Ensure all personnel wear work gloves when handling the winch cable. Failure to comply could result in injury to personnel.

CAUTION

When cargo is to be winched into or out of the aircraft, maintain a minimum of 12 inches of clearance between truck bed or flat bed and the end of the aircraft ramp (aft loading). This clearance is to allow for possible movement of the vehicle or the aircraft.

CAUTION

When snatch blocks are attached to the cargo floor, ensure shoring is placed between the snatch block hook and the tiedown ring pan receptacle. This will prevent damage to the tiedown ring pan receptacle during the winching operations.

CAUTION

When cargo is being on/off loaded and the winch cable does not rest on one of the cable wear strips, provide a temporary wear strip under the cable to protect the crest of the ramp. Failure to comply could result in damage to the ramp floor at the crest area.

CAUTION

Synthetic cable: When cargo is being on/off loaded and the winch synthetic cable does not rest on one of the cable wear strips, use shoring to provide a temporary wear strip under the cable to protect the synthetic cable from damage. Failure to comply could result in damage to the synthetic cable.

CAUTION

Do not operate the cargo winch if fluid accumulation (oil leakage or spillage) is found in the winch compartment. Failure to comply could result in damage to the aircraft structure and/or cargo winch.

NOTE

Ensure that winching operations are performed by a minimum of a winch operator and two guides. The guides shall be responsible for the following:

Monitor cargo clearances.

Control the position of the cargo through the use of prearranged hand signals.

Ensure that winch cable does not foul or snag.

Ensure chocks are readily available to chock wheeled type cargo.

NOTE

Attach cables as low as possible on the load to help reduce cable tension.

A. Aircraft prepared for on/off load	**CHECKED**
B. Shoring Installed	**CHECKED/AS REQUIRED**
C. Winch Cable Pull	**DETERMINED**
D. Load Team	**BRIEFED**

NOTE

Assign observers to monitor critical clearances. Brief the observers on all signals to be used.

7.2. Attachment 1: (A) Cargo Winch Operating Procedures Using Cargo Winch Control Panel.

The winch control panel is located on the right side of the cargo compartment at FS 1904. The control panel controls operation of the cargo winch. The cargo winch is operated from the control panel as follows:

CAUTION

Do not operate the cargo winch if fluid accumulation (oil leakage or spillage) is found in the winch compartment. Failure to comply could result in damage to the airplane structure or the cargo winch.

NOTE

Winch may be operated with the forward or aft ramp in any position.

a. Check the winch compartment for accumulation of fluid (oil leakage or spillage). Ensure the winch is properly installed and all four locking pins are in place. Check the oil level in oil port No.2 Erect the folding output sheave.

b. Ensure that the electrical power cables for power supply and control of the winch are properly connected to the power receptacles in the winch compartment.

c. Check that the appropriate electrical power source is available and winch circuit breakers are closed before attempting to operate the winch.

d. Ensure that direct communication is established between the APEX Load Director and the loading crew.

CAUTION

Maintain tension on winch cable, while reeling IN and OUT, to prevent cable entanglement and snagging.

e. Advise the loading crew member to hold the winch cable taut while the cable is reeled out.

f. Place the SELECT switch to, as applicable, FWD or AFT (corresponding to the installed position of the cargo winch)

g. Place the MODE switch to the FAST position.

h. Place and hold the OPERATE switch to UNWIND until the entire length of cable is reeled out, then release the switch.

WARNING

An unserviceable winch cable can be a hazard to the loading crew during winch on/off loading operations. It could break under load and whiplash, resulting in serious injury to personnel or causing severe damage to the airplane structure. Before any winching is accomplished, inspect the winch cable as described in Step i and Step j.

i. Examine the winch cable to see that it is in a serviceable condition. Replace winch cables if four or more broken wires per strand inch or seven or more broken wires per cable inch are found. 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 inch of cable). Any cable not within the above specified limits shall be replaced. A kink is a short tight bend or twist in the cable which can result in internal cable damage and may require replacement. Examine the cable strands at the kink. If an individual strand shows a sharp bend or deformation, the cable should be replaced. The APEX Load Director shall determine the degree of kink requiring cable change.

j. Examine the hook and cable assembly for security. Ensure that the thrust bearing is installed and serviceable. There are two types of lock washers currently in use. The first is tabbed and must be secured with at least one tab bent down into the cable assembly notches and one tab bent up into the hook assembly notches (total of two). The second is a flat washer that must be indented twice in the cable assembly notches and twice in the hook assembly notches (total of four indentions). Check the spring and clip, and that the hook rotates freely.

k. When applicable, install the winch snatch blocks at their predetermined loading positions on the cargo floor by hooking to the appropriate tiedown rings, then assemble the winch cable around the snatch block pulleys.

l. Attach the winch cable.

m. Carefully take up the slack in the winch cable by placing the **MODE** switch to **SLOW OR REMOTE** and placing and holding the **OPERATE** switch to **WIND**. Release the **OPERATE** switch when slack is taken up

CAUTION

Ensure output sheave on top of cargo winch is aligned with the direction of the cable pull. Failure to comply could cause a side load condition, resulting in damage to the cargo winch.

n. Check all the attachment points for security, and the cable routing through the snatch blocks for proper cable run.

NOTE

Fast speed loading can only be accomplished where pull will not exceed 2,000 pounds. Should the pull exceed 2,000 pounds, the winch will automatically downshift to low speed.

NOTE

As applicable, leave the MODE switch at SLOW OR REMOTE or place to FAST.

WARNING

If the winch cycles rapidly on and off causing a jerking of the cable, discontinue reeling in and reduce cable load before proceeding with winch operation. Failure to comply could result in injury to personnel and damage to the winch.

o. Place and hold OPERATE switch to WIND until the cargo unit is in the desired position, then release the switch.

p. Restrain cargo in accordance with procedures in 1C-5M-9 Chapter 4, Section III.

q. Advise the loading crew to unhook the winch cable from bridle on cargo unit.

r. Repeat Step k through Step q until all cargo is on/off loaded.

s. Advise the loading crew to remove the winch cable from around the snatch blocks.

t. Advise the loading crew to detach snatch blocks from tiedown rings on the cargo floor and stow

CAUTION

Maintain tension on winch cable, while reeling IN and OUT, to prevent cable entanglement and snagging.

u. Place MODE switch to FAST and OPERATE switch to WIND until all the winch cable is reeled in. Release the OPERATE switch.

v. Place the SELECT switch to OFF.

w. Stow the output sheave on the cargo winch and install the winch compartment hatch.

x. Check and make sure the AFT WINCH COMPT HATCH indicator light on the LH aft loadmaster control panel is off, indicating the hatch is correctly locked.

7.3. Attachment 2: (A) Cargo Winch Operating Procedures Using Winch Control Grip Assembly

A winch remote control grip assembly is located on the left side of the cargo compartment at FS 1208, WL 170. The cargo winch is operated using the remote control grip assembly as follows:

NOTE

Winch may be operated with the forward or aft ramp in any position.

CAUTION

Do not operate the cargo winch if fluid accumulation (oil leakage or spillage) is found in the winch compartment. Failure to comply could result in damage to the airplane structure or the cargo winch.

a. Check the winch compartment for accumulation of fluid (oil leakage or spillage). Ensure the winch is properly installed and all four locking pins are in place. Check the oil level in oil port No. 2. Erect the folding output sheave.
b. Check that the appropriate electrical power source is available and winch circuit breakers are closed before attempting to operate the winch.
c. Check that the appropriate electrical power source is available and winch circuit breakers are closed before attempting to operate the winch.
d. Connect the winch remote control grip assembly to the applicable **CARGO WINCH PENDANT CONTROL DISCONNECT** receptacle in the cargo compartment.

NOTE

Step f and Step g are accomplished at the cargo winch control panel on the right side of the cargo compartment at FS 1904. Step f permits electrical power to the winch. Step g provides electrical control power to the CARGO WINCH PENDANT CONTROL DISCONNECT receptacles for operation of the winch using the winch remote control grip assembly.

e. Place the **SELECT** switch, as applicable, to **FWD** or **AFT** (corresponding to the installed position of the cargo winch).
f. Place the **MODE** switch to **SLOW** or **REMOTE.**

CAUTION

Maintain tension on winch cable, while reeling IN and OUT, to prevent cable entanglement and snagging.

g. Advise the loading crew member to hold the winch cable taut while the cable is reeled out.

NOTE

Step i through Step k are accomplished with the winch remote control grip assembly.

h. Place the MODE switch to FAST.

i. Place the SELECT switch to UNWIND.

j. Squeeze and hold the trigger switch until the entire length of winch cable is reeled out, then release the switch.

WARNING

An unserviceable winch cable can be a hazard to the loading crew during winch on/off loading operations. It could break under load and whiplash resulting in serious injury to personnel and/or causing severe damage to the airplane structure. Before any winching is accomplished, inspect the cable as described in Step k and Step l.

k. Examine the winch cable to see that it is in a serviceable condition. Replace winch cables if four or more broken wires per strand inch or seven or more broken wires per cable inch are found. 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 and shall be replaced. A kink is a short tight bend or twist in the cable which can result in internal cable damage and may require replacement. Examine the cable strands at the kink. If an individual strand shows a sharp bend or deformation, the cable should be replaced. The loadmaster shall determine the degree of kink requiring a cable change.

l. Examine the hook and cable assembly for security. Ensure that the thrust bearing is installed and serviceable. There are two types of lock washers currently in use. The first is tabbed and must be secured with at least one tab bent down into the cable assembly notches and one tab bent up into the hook assembly notches (total of two). The second is a flat washer that must be indented twice in the cable assembly notches and twice in the hook assembly notches (total of four indentions). Check the spring and clip, and that the hook rotates freely.

m. When applicable, install the winch snatch blocks at their predetermined loading positions on the cargo floor by hooking to the appropriate tiedown rings, then assemble the winch cable around the snatch block pulleys.

n. Attach the winch cable.

NOTE

Step o through Step u and Step z through Step ac are accomplished with the winch remote control grip assembly.

o. Place the MODE switch to SLOW.

p. Place the SELECT switch to WIND.

q. Carefully take up the slack in the winch cable by squeezing and holding the trigger switch and then releasing the switch.

CAUTION

Ensure output sheave on top of cargo winch is aligned with the direction of the cable pull. Failure to comply could cause a side load condition, resulting in damage to the cargo winch.

r. Check all attachment points for security, and the cable routing through the snatch blocks for proper cable run.

NOTE

Fast speed loading can only be accomplished where pull will not exceed 2,000 pounds. Should the pull exceed 2,000 pounds, the winch will automatically downshift to low speed.

s. As applicable, leave the MODE switch at SLOW or place to FAST.

WARNING

If the winch cycles rapidly on and off causing a jerking of the cable, discontinue reeling in and reduce cable load before proceeding with winch operation. Failure to comply could result in injury to personnel and damage to the winch.

t. Squeeze and hold the trigger switch until the cargo unit is in the desired position, then release the switch.

u. Restrain cargo in accordance with procedures in T.O. 1C-5M-9 Chapter 4, Section III.

v. Advise the loading crew to detach snatch blocks from tiedown rings on cargo floor and stow.

w. Repeat Step M through Step V until all the cargo is on/off loaded.

x. Advise the loading crew to detach snatch blocks from tiedown rings on cargo floor and stow.

CAUTION

Maintain tension on winch cable, while reeling IN and OUT, to prevent cable entanglement and snagging.

y. Place the MODE switch to FAST.

z. Place the SELECT switch to WIND.

aa. Squeeze and hold the trigger switch until all the winch cable is reeled in, then release the switch.

ab. Place the SELECT switch to OFF.

ac. Place the SELECT switch on the cargo winch control panel to OFF.

ad. Disconnect the winch remote control grip assembly from its receptacle and stow.

ae. Stow the output sheave on the cargo winch and install the winch compartment hatch.

af. Check and make sure the AFT WINCH COMPT HATCH indicator light on the LH aft loadmaster control panel is off, indicating the hatch is correctly locked in place.

7.4. Attachment 3: Cargo Winch Operating Procedures

NOTE

Winch operations may be accomplished with the forward or aft ramp in any position.

The cargo winch can be used from either the forward or aft compartments for on/off loading cargo. The cargo winch is operated as follows:

CAUTION

Do not operate the cargo winch if fluid accumulation (oil leakage or spillage) is found in the winch compartment. Failure to comply could result in damage to the airplane structure or cargo winch.

a. Do not operate the cargo winch if fluid accumulation (oil leakage or spillage) is found in the winch compartment. Failure to comply could result in damage to the airplane structure or cargo winch.

CAUTION

On airplanes that have cable assemblies installed for electric winch operation, ensure the shorting plug assembly at FS 1904 RH is disconnected from the WINCH PENDANT CONTROL DISC receptacle. (See Figure 2-36.) Failure to comply will result in damage to the cargo winch control panel.

NOTE

The winch hydraulic and electrical connectors will normally be connected unless the winch is moved from the stowed position.

b. Use the winch remote control pendant at the aft cargo winch control panel or remove the pendant and extension cable from the retainer at FS 1208.

c. Connect the pendant extension cable to the appropriate pendant control disconnect receptacle.

d. Use appropriate procedure at the following locations:

(1) When the control pendant is connected at FS 1231 right side cargo compartment:

(a) Place the pendant selector switch at FS 1231 to RH PENDANT.

(b) Place the left selector switch on the cargo winch remote control panel F.S. 1904 to FWD PENDANT. Place the right selector switch to FWD WINCH or AFT WINCH as appropriate.

(2) When the control pendant is connected at FS 1208 left side cargo compartment:

(a) Place the pendant selector switch at FS 1231 to LH PENDANT.

(b) Place the left selector switch on the cargo winch remote control panel F.S. 1904 to FWD PENDANT. Place the right selector switch to FWD WINCH or AFT WINCH as appropriate.

(3) When the control pendant is connected at FS 1904 cargo winch remote control panel, place the left selector switch on the cargo winch remote control panel to AFT PENDANT. Place the right selector switch to FWD WINCH or AFT WINCH as appropriate.

e. Check the manual hydraulic selector valves on the cargo compartment right side at FS 604 and FS 1620 for proper positioning for the hydraulic system to be used and winch location.

f. Pressurize No. 1 or No. 4 hydraulic system as appropriate.

g. Establish direct communication between loadmaster and loading crew.

CAUTION

Initial reel-out of the cable shall be accomplished by a sharp pull to prevent cable entanglement. Maintain tension on winch cable while reeling IN and OUT to prevent cable entanglement and snagging.

h. Have a loading crew member hold the winch cable taut while the cable is reeled out.

i. Place the pendant POWER switch to ON.

j. Place the pendant SPEED switch to HI.

k. Move the WINCH thumbwheel control towards the OUT direction. Hold the thumbwheel control towards the OUT direction until no further movement can be obtained.

l. Allow cable to reel out until entire length of cable is obtained and release the thumbwheel control.

WARNING

An unserviceable winch cable could result in personnel injury. Inspect the winch cable in accordance with Step m and Step n prior to performing winching operations.

m. Examine the winch cable to see that it is in a serviceable condition. Replace winch cables if four or more broken wires per strand inch or seven or more broken wires per cable inch are found. 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 consecutive 2 inches of cable (e.g., 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 replaced. A kink is a short, tight bend or twist in the cable which can result in internal cable damage and may require replacement. Examine the cable strands at the kink. If an individual strand shows a sharp bend or deformation, the cable should be replaced. The loadmaster shall determine the degree of kink requiring a cable change.

n. Examine the hook and cable assembly for security. Ensure that the thrust bearing is installed and serviceable. There are two types of lock washers currently in use. The first is tabbed and must be secured with at least one tab bent down into the cable assembly notches and one tab bent up into the hook assembly notches (total of two). The second is a flat washer that must be indented twice in the cable assembly notches and twice in the hook assembly notches (total of four indentions). Check the spring and clip, and that the hook rotates freely.

o. When applicable, install the winch snatch blocks at their predetermined loading positions on the cargo floor by hooking to the appropriate tiedown rings, then assemble the winch cable around the snatch block pulleys.

p. Attach the winch cable.

q. Slowly move the WINCH thumbwheel control towards the IN direction to take up cable slack. Release the thumbwheel control.

CAUTION

Ensure output sheave on top of cargo winch is aligned with the direction of the cable pull. Failure to comply could cause a side load condition, resulting in damage to the cargo winch.

r. Check all the attachment points for security, and the cable routing through the snatch blocks for proper cable run.

WARNING

Closely observe load movement during winching operation. If at any time load movement stops, reverses, or cable jerking is experienced during winching, the control pendant thumbwheel shall be immediately released to the neutral position to ensure brake engagement.

If the winch motor stalls or the cable jerks; discontinue winching operations. Reduce the cable load prior to continuing with winching operations.

NOTE

Fast speed loading can only be accomplished where pull will not exceed 2,000 pounds.

s. Place the pendant SPEED switch to HI or LOW as appropriate.

t. Move the WINCH thumbwheel control towards the IN direction. Continue to move thumbwheel control toward the IN direction until desired reel-in speed is obtained.

u. When the cargo is in the desired position, release the thumbwheel control. Slowly move thumbwheel control towards the OUT direction to release cable tension and release thumbwheel control.

v. Restrain cargo in accordance with procedures in 1C-5M-9, Chapter 4, section III.

w. Unhook the winch cable.

x. Repeat Step o through Step w until all cargo is loaded.

y. Remove winch cable from snatch block

z. Stow snatch blocks.

CAUTION

Maintain tension on winch cable, while reeling IN and OUT, to prevent cable entanglement and snagging. Failure to comply could result in damage to the airplane.

aa. Have a loading crew member hold the winch cable taut while the cable is reeled in.

ab. Place the pendant SPEED switch to HI.

ac. Move the WINCH thumbwheel control towards the IN direction. Hold the thumbwheel control towards the IN direction until the winch cable is reeled in, then release the thumbwheel.

ad. Place the pendant POWER switch to OFF.

ae. Coordinate with MX to turn off hydraulic system as appropriate.

af. If used, disconnect the pendant extension cable from the receptacle and stow the pendant and cable in the retainer at FS 1208.

ag. Stow the output sheave on the cargo winch and install the winch compartment hatch.

ah. Check and make sure the AFT WINCH COMPT HATCH indicator light on the LH aft loadmaster control panel is off, indicating the hatch is correctly locked in place.

7.5. Attachment 4: (A) Dual Powered Winch Operating Procedures Using Winch Pendant Assembly

The winch control panel is located on the right side of the cargo compartment at fuselage station 1208, WL170. The winch is operated as follows using the winch pendant:

CAUTION

Do not operate the dual powered winch (DPW) if fluid accumulation (oil leakage or spillage) is found in the winch compartment. Failure to comply could result in damage to the airplane structure and/or cargo winch.

CAUTION

Ensure folding output sheave lock is fully engaged and locking pin is flush with housing. Failure to comply could result in damage to DPW or equipment.

NOTE

Winch operation may be accomplished with the forward or aft ramp in any position.

a. Check the winch compartment for accumulation of fluid (oil leakage or spillage). Make sure the winch is properly installed and all four locking pins are in place. Erect the folding output sheave.

b. Check that the appropriate electrical power source is available and winch circuit breakers are closed before attempting to operate the DPW.

c. Ensure that direct communication is established between the APEX Load Director and the loading crew.

d. Connect the DPW pendant to the applicable CARGO WINCH PENDANT CONTROL DISCONNECT receptacle in the cargo compartment.

NOTE

Step e and Step f are accomplished at the cargo winch control panel on the right side of the cargo compartment at fuselage station 1904.

Step e permits electrical power to the winch.

Step f provides electrical control power to the CARGO WINCH PENDANT CONTROL DISCONNECT receptacles for operation of the DPW pendant.

e. Place the **SELECT** switch to, as applicable, “FWD” or “AFT” (corresponding to the installed position of the cargo winch).

f. Place the **MODE** switch to “SLOW OR REMOTE.”

CAUTION

Wait 5 seconds prior to operating the winch once SLOW or REMOTE is selected.

Maintain tension on winch cable using body weight, while reeling "IN" and "OUT," to prevent cable entanglement and snagging.

Do not step on the winch cable at any time. Doing so may cause damage to the cable core.

g. Advise the loading crew member to hold the winch cable taut while the cable is reeled out.

NOTE

Step h, Step i and Step j are accomplished with the DPW pendant.

h. Place Power Switch to "ON".

NOTE

Allow 5 - 7 seconds for winch to 'boot up' after placing 'Power Switch' to 'On'.

i. Using thumb, rotate thumbwheel in the "OUT" direction.

NOTE

Increasing the degree of rotation of the thumbwheel increases the cable speed in the direction selected.

There may be up to a 7 second delay before the synthetic cable moves.

j. Hold the thumbwheel in the desired position until the required length of cable is reeled out, then release the thumbwheel.

WARNING

An unserviceable DPW synthetic cable can fail during winch on/off loading operations, releasing the load, potentially resulting in serious injury to personnel or damage to the airplane structure. Before any winching is accomplished, inspect the DPW synthetic cable as described in step k and step l.

NOTE

The cable speed will automatically slow when approximately 240 feet of cable has been removed from the DPW drum and stop when 250 feet has been removed.

k. Examine the synthetic cable for three conditions, to determine whether it is in serviceable condition. First, inspect the length of the synthetic cable for damage to the sheath (external cover). Any amount of wear on the sheath is acceptable as long as the cable core is not exposed. The cable core is colored bright orange. If the cable core is visible, the sheath has been breached, and the synthetic cable is unserviceable. Second, inspect the length of the synthetic cable for any sharp reduction in diameter. If a sharp reduction in diameter is found, this indicates damage to one or more of the cable internal strands and the synthetic cable is unserviceable. Third, if any section of the cable bends into an abrupt

corner this indicates damage to one or more of the internal strands, the cable is unserviceable.

l. Examine the hook and cable assembly for security. Ensure the pin attaching the loop to the hook is tightly in place. Check the spring and clip to ensure they are operating freely and that the clip snaps into place correctly. Inspect the outer sheathing to ensure the cable core is not exposed. There should be no abrupt changes in the cable diameter (not including the area where the inner core is spliced together). If any of these conditions exist, the cable is unserviceable.

m. When applicable, the APEX Load Director installs the winch snatch blocks at their predetermined loading positions on the cargo floor by hooking to the appropriate tiedown rings, then assembles the winch synthetic cable around the snatch block pulleys.

n. Attach the winch synthetic cable to the bridle of the cargo unit to be on/offloaded.

NOTE

Step o, Step Step p, Step r and Step s are accomplished with the DPW pendant.

o. Ensure that the Power Switch is in the ON position.

p. Carefully take up the slack in the winch synthetic cable by slightly rotating the thumbwheel in the "IN" direction. Release the thumbwheel when the slack is removed from the synthetic cable.

CAUTION

Ensure output sheave on top of the DPW is aligned with the direction of the cable pull. Failure to comply could cause a side load condition, resulting in damage to the DPW.

q. Check all the attachment points for security, and the cable routing through the snatch blocks for proper cable run.

r. Adjust to desired speed by rotating the thumbwheel to the desired position.\

WARNING

If the winch cycles rapidly on and off causing a jerking of the cable, discontinue reeling in and reduce cable load before proceeding with winch operation. Failure to comply could result in injury to personnel and damage to the winch.

s. When cargo unit approaches desired position slowly reduce the degree of rotation on the thumbwheel to reduce cable speed. When the cargo unit is in the desired position, release the thumbwheel.

CAUTION

Winching items at higher speeds may require additional stopping time. Slower speeds should be used when clearances are critical.

If winching direction needs to be changed and the winch fails to respond, release the switch and wait 3 seconds before attempting to reverse direction.

t. Restrain cargo in accordance with procedures in T.O. 1C-5M-9 Chapter 4 section III.

u. Advise the loading crew to unhook the winch cable from bridle on cargo unit.

v. Repeat Step m through Step u until all cargo is on/off loaded.

w. Advise the loading crew to remove the winch synthetic cable from around the snatch blocks.

x. Advise the loading crew to detach the snatch blocks from tie down rings on the cargo floor and stow.

WARNING

Tensioning device is designed for retracting cable during a no-load condition. Do not use during normal cargo loading. Failure to comply can result in serious injury to personnel and/or damage to equipment.

CAUTION

Anytime the DPW cable is being reeled IN unloaded, the tension device must be used and tension maintained using body weight to prevent cable knifing or entanglement.

y. Attach Tension Device (PN 201643347-10) to a suitable tiedown ring at 90 degrees inboard securing with hook and chain. Wind cable through tensioner pulleys and advise the loading crew member to maintain tension on cable while reeling in.

NOTE

The winch will automatically slow with approximately 240 feet of cable in. Winch will automatically stop when all of the cable is reeled in except for the length necessary to slow the cable hook.

z. Reel cable in at desired speed by rotating the thumbwheel toward the “IN” position until the winch cable is reeled in. Release the thumbwheel.

aa. Place the winch pendant Power Switch to “OFF”.

ab. Disconnect the DPW pendant from its receptacle and stow.

ac. Stow the output sheave on the cargo winch and install the winch compartment hatch.

ad. Check and make sure the AFT WINCH COMPT HATCH indicator light on the LH aft loadmaster’s control panel is off, indicating the hatch is correctly locked.

7.6. Attachment 5: (B) Dual Powered Winch Operating Procedures Using Winch Pendant Assembly, Hydraulic

The winch can be used from either the forward or aft compartments for on/off loading cargo. The winch is operated as follows:

CAUTION

Do not operate the dual powered winch (DPW) if fluid accumulation (oil leakage or spillage) is found in the winch compartment. Failure to comply could result in damage to the airplane structure and/or cargo winch.

NOTE

Winch operation may be accomplished with the forward or aft ramp in any position.

a. Check the winch compartment for accumulation of fluid (oil leakage or spillage). Make sure the DPW is properly installed and all four locking pins are in place. Erect the folding output sheave.

CAUTION

On airplanes that have cable assemblies installed for electric winch operation, ensure the shorting plug assembly at fuselage station 1904 RH is disconnected from the WINCH PENDANT CONTROL DISC receptacle. Failure to comply will result in damage to the cargo winch control panel.

NOTE

The winch hydraulic and electrical connectors will normally be connected unless the winch is moved from the stowed position.

b. Connect the pendant cable assembly to the appropriate pendant control disconnect receptacle.

c. Procedure to be used when the DPW pendant assembly is connected at the following locations:

(1). Fuselage station 1231 right side cargo compartment.

(a). Place the pendant selector switch at fuselage station 1231 to “RH PENDANT.”

(b). Place the left selector switch on the cargo winch remote control panel to “FWD PENDANT.” Place the right selector switch to “FORWARD WINCH” or “AFT WINCH” as appropriate.

(2). Fuselage station 1208 left side cargo compartment.

(a). Place the pendant selector switch at fuselage station 1231 to “LH PENDANT.”

(b). Place the left selector switch on the cargo winch remote control panel to “FWD PENDANT.” Place the right selector switch to “FORWARD WINCH” or “AFT WINCH” as appropriate.

(3). Fuselage station 1904 left side cargo compartment.

(a). Place the left selector switch on the cargo winch remote control panel to "AFT PENDANT."

(b). Place the right selector switch to "FORWARD WINCH" or "AFT WINCH" as appropriate.

d. Check the manual hydraulic selector valves on the cargo compartment right side at fuselage stations 604 and 1620 for proper positioning for the hydraulic system to be used and winch location.

e. Pressurize No. 1 or No. 4 hydraulic system as appropriate.

f. Establish direct communication between the APEX Load Director and the loading crew.

CAUTION

Maintain tension on winch cable using body weight, while reeling "IN" and "OUT," to prevent cable entanglement and snagging.

g. Have a loading crew member hold the winch cable taut while the cable is reeled out.

h. Place the pendant POWER switch to "ON".

NOTE

Allow 5 - 7 seconds for winch to 'boot up' after placing 'Power Switch' to 'On'.

i. Using thumb, rotate thumbwheel in the "OUT" direction.

NOTE

Increasing the degree of rotation of the thumbwheel increases the cable speed in the direction selected.

j. Hold the thumbwheel in the desired position until the required length of cable is reeled out, then release the thumbwheel.

WARNING

An unserviceable DPW synthetic cable can fail during winch on/off loading operations, releasing the load, potentially resulting in serious injury to personnel or damage to the airplane structure. Before any winching is accomplished, inspect the DPW synthetic cable as described in Step k and Step l.

NOTE

The cable speed will automatically slow when approximately 240 feet of synthetic cable has been removed from the DPW drum and stop when 250 feet has been removed.

k. Examine the synthetic cable for three conditions, to determine whether it is in serviceable condition. **First**, inspect the length of the synthetic cable for damage to the sheath (external cover). Any amount of wear on the sheath is acceptable as long as the cable core is not exposed. The cable core is colored bright orange. If the cable core is visible, the sheath has been breached, and the synthetic cable is unserviceable. **Second**, inspect the length of the synthetic cable for any sharp reduction in diameter. If a sharp reduction in diameter is found, this indicates damage to one or more of the cable internal strands and the synthetic cable is unserviceable. **Third**, if any section of the cable bends into an abrupt corner this indicates damage to one or more of the internal strands, and the synthetic cable is unserviceable.

l. Examine the hook and cable assembly for security. Ensure the pin attaching the loop to the hook is tightly in place. Check the spring and clip to ensure they are operating freely and that the clip snaps into place correctly. Inspect the outer sheathing to ensure the cable core is not exposed. There should be no abrupt changes in cable diameter (not including the area where the inner core is spliced together). If any of these conditions exist the cable is unserviceable.

m. When applicable, the load director installs the winch snatch blocks at their predetermined loading positions on the cargo floor by hooking to the appropriate tiedown rings, then assembles the winch synthetic cable around the snatch lock pulleys.

n. Attach the winch synthetic cable to the bridle of the cargo unit to be on/off loaded.

o. Carefully take up the slack in the winch synthetic cable by slightly rotating the thumbwheel in the "IN" direction. Release the thumbwheel when the slack is removed from the synthetic cable.

CAUTION

Ensure output sheave on top of the DPW is aligned with the direction of the cable pull. Failure to comply could cause a side load condition, resulting in damage to the DPW.

p. Check all attachments points for security, and the cable routing through the snatch blocks for proper cable run.

WARNING

If the winch cycles rapidly on and off causing a jerking of the cable, discontinue reeling in and reduce cable load before proceeding with winch operation. Failure to comply could result in injury to personnel and damage to the winch.

q. Adjust to desired speed by rotating the thumbwheel toward to the desired position.

r. When cargo unit approaches desired position slowly reduce the degree of rotation on the thumbwheel to reduce cable speed. When the cargo unit is in the desired position, release the thumbwheel.

CAUTION

Winching items at higher speeds may require additional stopping time. Slower speeds should be used when clearances are critical.

If the winch fails to respond after rotating the thumbwheel in the desired direction, release the thumbwheel and wait 3 seconds before resuming winching operation

s. Restrain the cargo in accordance with procedures in 1C-5M-9 Chapter 4 Section III.

t. Advise the loading crew to unhook the winch synthetic cable from the bridle on cargo unit.

u. Repeat Step m through Step t until all cargo is on/off loaded.

v. Advise the loading crew to remove winch synthetic cable from around snatch blocks.

w. Advise the loading crew to detach snatch blocks from tiedown rings on cargo floor and stow.

WARNING

Tensioning device is designed for retracting cable during a no-load condition. Do not use during normal cargo loading. Failure to comply can result in serious injury to personnel and/or damage to equipment.

CAUTION

Anytime the DPW cable is being reeled "IN" unloaded, the Tension Device must be used and tension maintained using body weight to prevent cable knifing or entanglement.

x. Attach Tension Device (PN 201643347-10) to a suitable tiedown ring at 90 degrees inboard securing with hook and chain. Wind cable through tensioner pulleys and advise the loading crew member to maintain tension on cable while reeling in.

NOTE

The winch will automatically slow with approximately 240 feet of cable in. Winch will automatically stop when all of the cable is reeled in except for the length necessary to stow the cable hook.

y. Reel cable in at desired speed by rotating the thumbwheel toward the "IN" position until the winch cable automatically stops. Release the thumbwheel.

z. Place the winch pendant POWER switch to "OFF".

aa. Coordinate with MX to turn off hydraulic system as appropriate.

ab. If used, disconnect the DPW pendant from its receptacle, stow the pendant and cable in the retainer at fuselage station 1208.

ac. Stow the output sheave on the cargo winch and install the winch compartment hatch.

ad. Check and make sure the AFT WINCH COMPT HATCH indicator light on the LH aft loadmaster's control panel is off, indicating the hatch is correctly locked.

7.7. Attachment 6: (B) Electric Cargo Winch Operating Procedures Using the Remote Control Grip Assembly

WARNING

Ensure winch control pendant and electrical cable are routed free of the winch sheave and winch cable assembly to ensure entanglement will not occur. Failure to comply could result in personnel injury.

CAUTION

Ensure shorting plug assembly is installed in the WINCH PENDANT CONTROL DISC receptacle on the aft CARGO WINCH CONTROL panel at FS 1904 RH. Failure to comply could result in damage to the airplane.

The electric cargo winch can be operated on airplanes using the remote control grip assembly when cable assemblies are installed.

NOTE

Winch may be operated with the forward or aft ramp in any position.

a. Open the following circuit breakers and attach warning tags.

(1). CARGO WINCH SELECTOR circuit breaker on flight engineer circuit breaker panel No. 5.

(2). FWD BUFFET/OUTLET circuit breaker located at FS 607.

(3). AFT BUFFET/OUTLET circuit breaker located at FS 761.

(4). SERVICE OUTLET RH circuit breakers (all three phase) located on the AC LOAD CENTER MONITOR AC BUS NO. 3.

b. Uncoil and route the 115-volt AC cable assembly to the forward or aft winch compartment as appropriate.

c. Connect the winch electrical connector to the 115-volt AC cable assembly. Connect one section of the 28-volt DC cable assembly to the winch wiring harness. Connect the other section of the 28-volt DC cable assembly to the existing 28-volt DC receptacle in the winch compartment.

CAUTION

Do not operate the cargo winch if fluid accumulation (oil leakage or spillage) is found in the winch compartment. Failure to comply could result in damage to the airplane structure and/or cargo winch.

d. Check the winch compartment for accumulation of fluid (oil leakage or spillage). Ensure the winch is properly installed and all four locking pins are in place. Check the oil level in oil port No. 2. Erect the folding output sheave.

e. Connect the winch remote control grip cable to the 28-volt DC connector.

f. Connect cable assemblies to service outlet at FS 624 for forward winch operation or FS 758 for aft winch operation.

g. Check that appropriate electrical power source is available.

h. Close the following circuit breakers and remove warning tags.

(1). CARGO WINCH SELECTOR circuit breaker on flight engineer circuit breaker panel No. 5.

(2). FWD BUFFET/OUTLET circuit breaker located at FS 607.

(3). AFT BUFFET/OUTLET circuit breaker located at FS 761.

(4). SERVICE OUTLET RH circuit breakers (all three phase) on AC LOAD CENTER MONITOR AC BUS NO. 3.

i. Establish direct communication between the APEX Load Director and the loading crew.

WARNING

Ensure winch control pendant and electrical cable are routed free of the winch sheave and winch cable assembly to ensure entanglement will not occur.

CAUTION

Maintain tension on winch cable while reeling in and out to prevent cable entanglement and snagging.

j. Advise the loading crew member to hold the winch cable taut while the cable is reeled out.

k. Place the MODE switch to FAST.

l. Place the SELECT switch to UNWIND.

m. Squeeze and hold the trigger switch until the entire length of winch cable is reeled out, then release the switch.

WARNING

An unserviceable winch cable can be a hazard to the loading crew during winch on/off loading operations. It could break under load and whiplash resulting in serious injury to personnel and/or causing severe damage to the airplane structure. Before any winching is accomplished, inspect the cable as described in Step n and Step o.

n. Examine the winch cable to see that it is in a serviceable condition. Replace winch cables if **four or more broken wires per strand-inch or seven or more broken wires per cable-inch are found.** 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 be allowed in any two consecutive inches of a serviceable cable. For example, if six wires are broken in 1 inch of cable, no additional broken wires shall be allowed in the next inch of cable. Any cable not within the above

specified limits shall be considered unserviceable and shall be replaced. A kink is a short tight bend or twist in the cable which can result in internal cable damage and may require replacement. Examine the cable strands at the kink. If an individual strand shows a sharp bend or deformation, the cable should be replaced. The APEX Load Director shall determine the degree of kink requiring a cable change.

o. Examine the hook and cable assembly for security. Ensure that the thrust bearing is installed and serviceable. There are two types of lock washers currently in use. The first is tabbed and must be secured with at least one tab bent down into the cable assembly notches and one tab bent up into the hook assembly notches (total of two). The second is a flat washer that must be indented twice in the cable assembly notches and twice in the hook assembly notches (total of four indentions). Check the spring and clip, and that the hook rotates freely.

p. When applicable, install the winch snatch blocks at their predetermined loading positions on the cargo floor by hooking to the appropriate tiedown rings, then assemble the winch cable around the snatch block pulleys.

q. Attach the winch cable.

r. Place the MODE switch to SLOW.

s. Place the SELECT switch to WIND.

t. Carefully take up the slack in the winch cable by squeezing and holding the trigger switch and then releasing the switch.

CAUTION

Ensure output sheave on top of cargo winch is aligned with the direction of the cable pull. Failure to comply could cause a side load condition, resulting in damage to the cargo winch.

u. Check all attachment points for security, and the cable routing through the snatch blocks for proper cable run.

NOTE

Fast-speed loading can only be accomplished where pull will not exceed 2,000 pounds. Should the pull exceed 2,000 pounds, the winch will automatically downshift to low speed. Ref 1C-5M-9, page 4-166.

v. As applicable, leave the MODE switch at SLOW or place to FAST. Ref 1C-5M- 9, page 4-166.

WARNING

If the winch cycles rapidly on and off causing a jerking of the cable, discontinue reeling in and reduce cable load before proceeding with winch operation.

w. Squeeze and hold the trigger switch until the cargo unit is in the desired position, then release the switch.

x. Restrain cargo in accordance with procedures in 1C-5M-9, Chapter 4, section III.

y. Advise the loading crew to unhook the winch cable.

z. Repeat Step p through Step y until all cargo is loaded.

aa. Stow snatch blocks.

CAUTION

Maintain tension on winch cable while reeling in and out to prevent cable entanglement and snagging.

ab. Place the MODE switch to FAST.

ac. Place the SELECT switch to WIND.

ad. Squeeze and hold the trigger switch until all the winch cable is reeled in, then release the switch.

ae. Place the SELECT switch to OFF.

af. Open the following circuit breakers and at warning tags.

(1). CARGO WINCH SELECTOR circuit breaker on MAIN DC BUS NO. 2 on flight engineer circuit breaker panel No. 5.

(2). FWD BUFFET/OUTLET circuit breaker located at FS 607.

(3). AFT BUFFET/OUTLET circuit breaker located at FS 761.

(4). SERVICE OUTLET RH circuit breakers (all three phase) on AC LOAD CENTER MONITOR AC BUS NO. 3.

ag. Disconnect cable assemblies.

ah. Disconnect the winch remote control grip assembly.

CAUTION

Ensure that the winch AC and DC electrical cables are disconnected, coiled, and stowed before securing the winch compartment access hatch.

ai. Disconnect the AC and DC cable assemblies in the winch compartment and coil and stow cables.

aj. Close the following circuit breakers and remove warning tags.

(1). CARGO WINCH SELECTOR circuit breaker on MAIN DC BUS NO. 2 on flight engineer circuit breaker panel No. 5.

(2). FWD BUFFET/OUTLET circuit breaker located at FS 607.

(3). AFT BUFFET/OUTLET circuit breaker located at FS 761.

(4). SERVICE OUTLET RH circuit breakers (all three phase) on AC LOAD CENTER MONITOR AC BUS NO. 3.

ak. Stow the output sheave on the cargo winch and install the winch compartment hatch.

al. Check and make sure the AFT WINCH COMPT HATCH indicator light on the LH aft loadmaster control panel is off.

7.8. Attachment 7: (B) Dual Powered Winch Operating Procedures Using Winch Pendant, Electric

The DPW can be operated on airplanes using the DPW winch pendant when pendant cables are installed. The winch can be used from either the forward or aft compartments for on/off loading cargo. The winch is operated as follows:

WARNING

Ensure DPW pendant and pendant cable are routed free of the winch sheave and winch cable to ensure entanglement. Failure to comply could result in personnel injury.

CAUTION

Ensure the shorting plug assembly is installed in the WINCH PENDANT CONTROL DISC receptacle on the aft CARGO WINCH CONTROL panel at fuselage station 1904 RH. Failure to comply could result in damage to the airplane.

Do not operate the cargo winch if fluid accumulation (oil leakage or spillage) is found in the winch compartment. Failure to comply could result in damage to the airplane structure and/or cargo winch.

NOTE

Winch operation may be accomplished with the forward or aft ramp in any position.

There is approximately a five second delay when operating the winch.

a. Open the following circuit breakers and attach danger tags.

(1). CARGO WINCH SELECTOR circuit breaker on flight engineer circuit breaker panel No. 5.

(2). BUFFET/LAV OUTLET circuit breakers (all three phases) on AC LOAD CENTER MONITOR AC BUS NO. 2.

(3). SERVICE OUTLET RH circuit breakers (all three phases) on AC LOAD CENTER MONITOR AC BUS NO. 3.

b. Uncoil and route the 115-volt AC cable assembly to the forward or aft winch compartment as appropriate.

c. Connect the winch electrical connector to the 115-volt AC cable assembly. Connect one section of the 28-volt DC cable assembly to the winch wiring harness. Connect the other section of the 28-volt DC cable assembly to the existing 28-volt DC receptacle in the winch compartment.

d. Check the winch compartment for accumulation of fluid (oil leakage or spillage). Make sure the DPW is properly installed, and all four locking pins are in place. Erect the folding output sheave.

e. Connect the DPW pendant cable to the 28-volt DC connector.

f. Connect cable assemblies to service outlet at FS 624 for forward winch operation or FS 758 for aft winch operation.

g. Check that appropriate electrical power source is available.

h. Close the following circuit breakers and remove danger tags.

(1). CARGO WINCH SELECTOR circuit breaker on flight engineer circuit breaker panel No. 5.

(2). BUFFET/LAV OUTLET circuit breakers (all three phases) on AC LOAD CENTER MONITOR AC BUS NO. 2.

(3). SERVICE OUTLET RH circuit breakers (all three phases) on AC LOAD CENTER MONITOR AC BUS NO. 3.

i. Ensure that direct communication is established between the APEX Load Director and the loading crew.

WARNING

Ensure DPW pendant and pendant cable are routed free of the winch sheave and winch cable to prevent entanglement. Failure to comply could result in personnel injury.

CAUTION

Maintain tension on winch cable using body weight, while reeling "IN" and "OUT," to prevent cable entanglement and snagging. Failure to comply could result in damage to the airplane.

Do not step on the winch cable at any time. Doing so may cause damage to the cable core.

j. Advise the loading crew member to hold the winch cable taut while the cable is reeled out.

k. Place Power Switch to "ON".

NOTE

Allow 5 - 7 seconds for winch to 'boot up' after placing 'Power Switch' to 'On'.

l. Using thumb, rotate thumbwheel in the "OUT" direction.

NOTE

Increasing the degree of rotation of the thumbwheel increases the cable speed in the direction selected.

m. Allow synthetic cable to reel out until required length of cable is obtained and release the thumbwheel switch.

WARNING

An unserviceable DPW synthetic cable can fail during winch on/off loading operations, releasing the load, potentially resulting in serious injury to personnel or damage to the airplane structure. Before any winching is accomplished, inspect the DPW synthetic cable as described in Step n and Step o.

NOTE

The cable speed will automatically slow when approximately 240 feet of cable has been removed from the DPW drum, and stop when 250 feet has been removed.

n. Examine the synthetic cable for three conditions, to determine whether it is in serviceable condition. First, inspect the length of the synthetic cable for damage to the sheath (external cover). Any amount of wear on the sheath is acceptable as long as the cable core is not exposed. The cable core is colored bright orange. If the cable core is visible, the sheath has been breached, and the synthetic cable is unserviceable. Second, inspect the length of the synthetic cable for any sharp reduction in diameter. If a sharp reduction in diameter is found, this indicates damage to one or more of the cable internal strands and the synthetic cable is unserviceable. Third, if any section of the cable bends into an abrupt corner this indicates damage to one or more of the strands, and cable is unserviceable.

o. Examine the hook and cable assembly for security. Ensure the pin attaching the loop to the hook is tightly in place. Check the spring and clip to ensure they are operating freely and that the clip snaps into place correctly. Inspect the outer sheathing to ensure the cable core is not exposed. There should be no abrupt changes in cable diameter (not including the area where the inner core is spliced together). If any of these conditions exist the cable is unserviceable.

p. When applicable, the APEX Load Director installs the winch snatch blocks at their predetermined loading positions on the cargo floor by hooking to the appropriate tiedown rings, then assembles the winch synthetic cable around the snatch block pulleys.

q. Attach the winch synthetic cable to the bridle of the cargo unit to be on/off loaded.

r. Carefully take up the slack in the winch synthetic cable by slightly rotating the thumbwheel in the “IN” direction. Release the thumbwheel when the slack is removed from the synthetic cable.

CAUTION

Ensure output sheave on top of the DPW is aligned with the direction of the cable pull. Failure to comply could cause a side load condition, resulting in damage to the DPW.

s. Check all the attachment points for security, and the cable routing through the snatch blocks for proper cable run.

WARNING

If the winch cycles rapidly on and off causing a jerking of the cable, discontinue reeling in and reduce cable load before proceeding with winch operation. Failure to comply could result in injury to personnel and damage to the winch.

t. Adjust to desired speed by rotating the thumbwheel to the desired position.

u. When cargo unit approaches desired position slowly reduce the degree of rotation on the thumbwheel to reduce speed. When the cargo unit is in the desired position, release the thumbwheel.

CAUTION

Winching items at higher speeds may require addition stopping time. Slower speeds should be used when clearances are critical.

If the winch fails to respond after rotating the thumbwheel in the desired direction, release the thumbwheel and wait 3 seconds before resuming winching operation

v. Restrain cargo in accordance with procedures in 1C-5M-9 Chapter 4 Section III.

w. Advise the loading crew to unhook the winch synthetic cable from bridle on cargo unit.

x. Repeat Step p through Step w until all cargo is on/off load.

y. Advise the loading crew to remove the winch cable from around the snatch blocks.

z. Advise the loading crew to detach the snatch blocks from tie down rings on the cargo floor and stow.

WARNING

Tensioning device is designed for retracting cable during a no-load condition. Do not use during normal cargo loading. Failure to comply can result in serious injury to personnel and/or damage to equipment.

CAUTION

Anytime the DPW cable is being reeled "IN" unloaded, the tension device must be used and tension maintained using body weight to prevent cable knifing or entanglement.

aa. Attach Tension Device (PN 201643347-10) to a suitable tiedown ring at 90 degrees inboard securing with hook and chain. Wind cable through tensioner pulleys and advise the loading crew member to maintain tension on cable while reeling in.

NOTE

The winch will automatically slow with approximately 240 feet of cable in. Winch will automatically stop when all of the cable is reeled in except for the length necessary to slow the cable hook.

ab. Reel cable in at desired speed by rotating the thumbwheel toward the "IN" position until the winch cable automatically stops. Release the thumbwheel.

ac. Place the Power Switch to "OFF".

ad. Open the following circuit breakers and attach danger tags.

(1). CARGO WINCH SELECTOR circuit breaker on flight engineer circuit breaker panel No. 5.

(2). BUFFET/LAV OUTLET circuit breakers (all three phases) on AC LOAD CENTER MONITOR AC BUS NO. 2.

(3). SERVICE OUTLET RH circuit breakers (all three phases) on AC LOAD CENTER MONITOR AC BUS NO. 3.

ae. Disconnect cable assemblies from service outlet at FS 624 or FS 758.

af. Disconnect the DPW pendant from its receptacle and stow.

CAUTION

Ensure that the winch AC and DC electrical cables are disconnected, coiled and stowed before securing the winch compartment access hatch. Failure to comply could result in damage to the airplane.

ag. Disconnect the AC and DC cable assemblies in the winch compartment and coil and stow cables.

ah. Close the following circuit breakers and remove danger tags.

(1). CARGO WINCH SELECTOR circuit breaker on flight engineer circuit breaker panel No. 5.

(2). BUFFET/LAV OUTLET circuit breakers (all three phases) on AC LOAD CENTER MONITOR AC BUS NO. 2.

ai. SERVICE OUTLET RH circuit breakers (all three phases) on AC LOAD CENTER MONITOR AC BUS NO. 3.Stow the output sheave on the DPW and install the winch compartment hatch. Check and make sure the AFT WINCH COMPT HATCH indicator light on the LH aft loadmaster’s control panel is off, indicating the hatch is correctly locked.

8. AFTER LOADING CHECKLIST

A. Cargo Winch	**CHECKED**
B. Cargo Doors/Ramps Coordinate w/ MX	**CLOSED/AS REQUIRED**
C. Cargo Restraint	**CHECKED**
D. Loose Equipment	**SECURED**

NOTE

Check for fumes, leaks, placement of cargo and location of special handling cargo.

E. Cargo Compartment Vents	**CHECKED**
F. General Cleanliness	**CHECKED**
G. Curb Lights	**OFF**
H. Parking Brake Coordinated w/ MX	**OFF**
I. Main Landing Gear Wheel Chocks	**IN PLACE/CHECKED**

9. EMERGENCY PROCEDURES

1. Ground Emergency – **DECLARED/REPORTED**

NOTE

APEX load director will direct loading crew to evacuate and alert on board maintenance personnel of danger if ground emergency is declared by Load Director. Announce the emergency over the interphone, Land Mobile Radio or both if utilized. Do not move equipment until told to do so by local crash fire and rescue personnel.

2. Direct evacuation – **COMPLETE**

3. Operating Systems – **OFF/AS PREMITTED**
   - APU – **OFF**
   - External Power – **OFF**
   - Battery – **OFF**
   - K-loader - **OFF**

NOTE

On board Aircraft Maintainers will power down aircraft operating systems as applicable. Load Directors will provide assistance.

WARNING

If flammable or explosive materials are on board, download if situation permits immediately

4. Remove Fire Source – **IF PRACTICAL**

NOTE

If the fire source is removable, and easily accessible, immediately remove from the aircraft.

5. Extinguish Fire – **IF PRACTICAL**

NOTE

If possible, try to put out the fire with the aboard portable fire extinguishers or by the use of the Fire Suppression System.

6. Oxygen Manual Shutoff Valve – **CLOSED/AS PRACTICAL** close Oxygen Manual Shutoff Valve and evacuate (FS 1465)

7. Account for personnel – **CHECKED/COMPLETED**