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Título/Title

# ATA 25 A330 MRTT Civil Certification

# Cargo Loading System (CLS) Ground Test Requirements (GTR)

| alabras clave/Key words | Clasificación acceso<br>Access class |
|---|---|
| A330, CLS, MRTT, GTR | P1 |


Resumen/Summary

This document establishes the tests to check that the modified Cargo Loading System functions properly when military pallets are loaded in the lower deck cargo compartments of the A330 MRTT aircraft.




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| October 2007 | • Page 5 – 2.2.1: Five pallets are necessary instead of four.<br>• Page 5 – 2.2.1: Figure 1 corrected.<br>• Page 6: Figure 2 corrected.<br>• Page 8: Reference to Figures 4 and 5 added.<br>• Page 9: References to Figures added.<br>• Page 10: New.<br>• Pages 11 and 12: References to Figures added.<br>• Page 17: Figure 8 corrected and updated to show position 11L.<br>• Page 26: Before: "...grab it." – After: "...lock and hold".<br>• Pages 28 and 29: Test Procedures updated.<br>Page 34: New. | | | |
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# 1. INTRODUCTION

## 1.1. SCOPE

This document establishes the test requirements pertinent to the compliance with the certification requirements JAR 25.1301 (d) of the CLS modification in A330-200 MRTT RAAF aircraft.

## 1.2. EQUIPMENT DESCRIPTION

The Cargo Loading System modification designed for RAAF's aircraft consists on the addition of the capability of carrying up to four military pallets of 88''x108'' (MIL-P27443E) in the forward and the aft cargo holds without reduction of civil cargo capabilities.

The main Cargo Loading System modifications are described below:

1. New YZ-Locks (lateral-vertical) restrictions due to the different size of military pallets
2. Stops at the end of the compartment modified for a better pallet attaching.
3. Continuous Side-guides
4. Additional locks in roller tracks at Y-140
5. XZ-Latches (longitudinal-vertical) of Y+1470 and Y-805 moved to Y+1308 and Y-643 due to the discontinuous attachment points in military pallets.
6. A new short Y-Guide version in the Aft Cargo Compartment due to the new roller track.

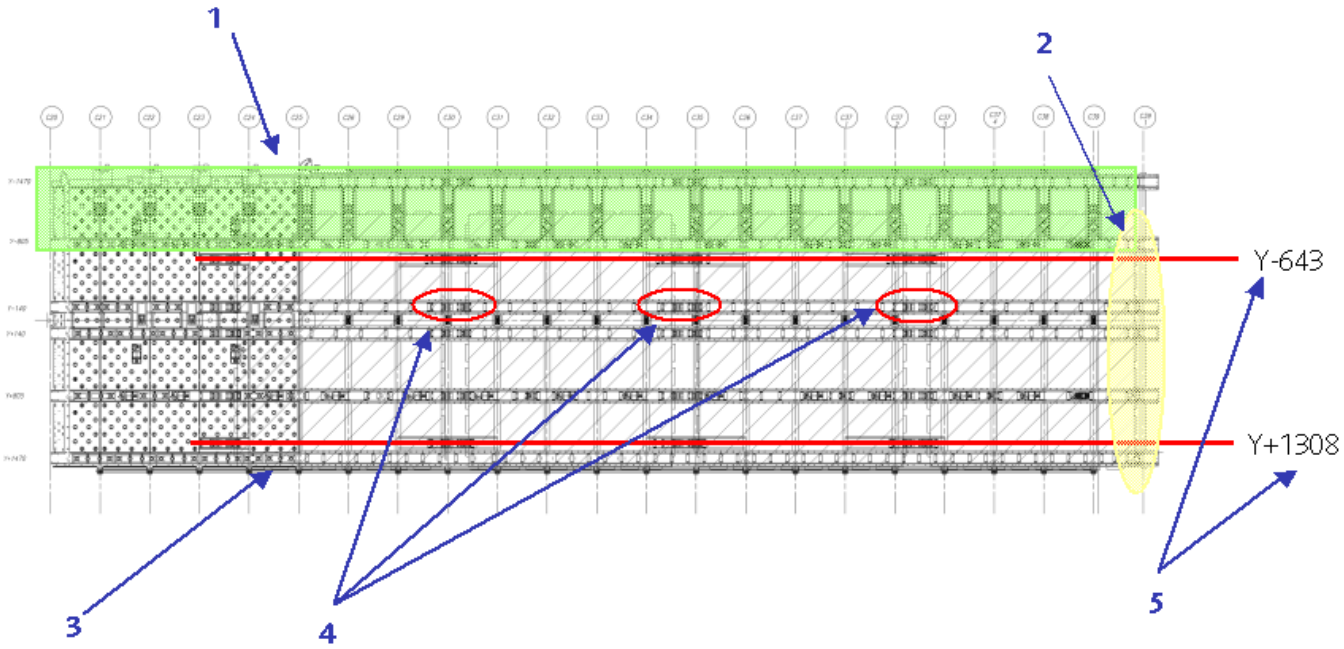



*Figure 1. Modifications in CLS for military pallets (Forward Cargo Compartment*

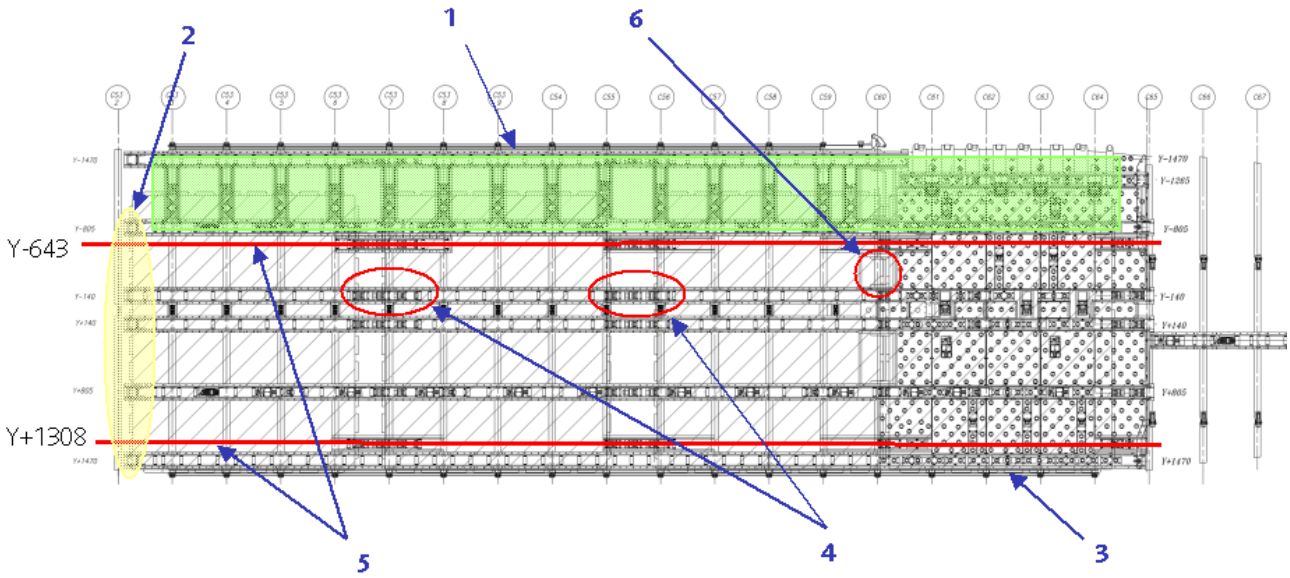



*Figure 2. Modifications in CLS for military pallets (Aft Forward Cargo Compartment)*

## 1.3. TEST OBJECTIVE

The objective of these ground tests is to demonstrate the proper functioning of military CLS modification and that combination loads of military pallets and civil ULD's can be loaded into the cargo holds and they can be secured correctly.

## 1.4. APPLICABILITY

These tests apply to the ATA 25 Cargo Loading System modification in the forward and aft cargo compartments of the A330 MRTT RAAF aircraft.

## 1.5. REFERENCES

| | | |
|---|---|---|
| 1. | DT-FA-C00-05002 | A330-200 MRTT RAFF Certification Program Plan for Civil Configuration |
| 2. | JAR 25 Change 13 effective on October 5, 1989 | |
| 3. | DT-FA-AE0-06-165 | ATA 25 A330-200 CIVIL CERTIFICATION PROGRAM PLAN |
| 4. | AMM 25-51-00 | Aircraft Maintenance Manual (Lower Deck Cargo Loading System) |
| 5. | F255A0000 | CLS Modification |
| 6. | F532A0010 | Fwd Cargo Compartment Structural Modification |
| 7. | F534A0010 | Aft Cargo Compartment Structural Modification |
| 8. | F255A2001 | Military Pallets Installation- Fwd Cargo Compartment |
| 9. | F255A3001 | Military Pallets Installation- Aft Cargo Compartment |
| 10. | F113A5001 | Placards CLS-Fwd Cargo Compartment |
| 11. | F113A5002 | Placards CLS-Aft Cargo Compartment |

## 1.6. ABBREVIATIONS

| | |
|---|---|
| AMM | Aircraft Maintenance Manual |
| JAR | Joint Aviation Regulations |
| MRTT | Multi-Role Tanker Transport |
| RAAF | Royal Australian Air Force |
| CLS | Cargo Loading System |
| FWD CC | Forward Cargo Compartment |
| AFT CC | Aft Cargo Compartment |
| CG | Centre of Gravity |
| ARO | Anti Roll Out |
| ULD | Unit Load Device |
| PDU | Power Drive Unit |

# 2. TEST INSTALLATION REQUIREMENTS

## 2.1. AIRCRAFT CONFIGURATION

The aircraft must have the following configuration:

1. It must rest on its landing gear.
2. There must be electrical power (115/200 V AC 400 Hz)
3. Cargo doors must be closed.
4. Bulk cargo compartment door shall be closed during the entire test.

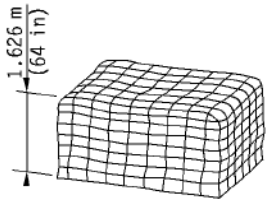
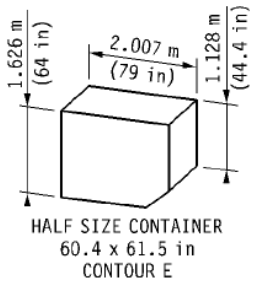
The following actions are to be performed prior to the beginning of the test activity:

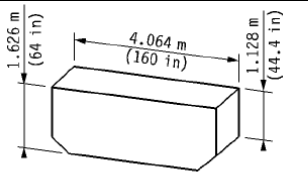
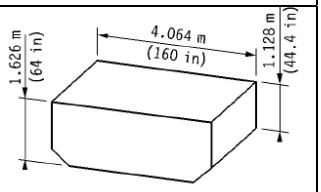
- Confirm that all the equipment has been installed according to their applicable installation drawings and instructions (assemblies F255A0000, F532A0010, F534A0010, F113A5001 and F113A5002)
- The bonding and electrical tests have been satisfactorily performed
- AMM tasks have been performed:
  - TASK 25-51-00-710-801 Operational Test of the Proximity Switches

### 2.1.1. Test equipment

No special tools are necessary for testing the CLS.

The following table lists the cargo devices required for testing:

| ULD/PALLET | ATA | NAS3610 | IATA | LOAD (lb) | LOAD (kg) | QTY | CONTOUR |
|---|---|---|---|---|---|---|---|
| 88"x108" | | 1B6 | | 9000 | 4082 | 5 |   |
| Half-size | LD3 | 2K | E | 3500 | 1587 | 1 |   |

| ULD/PALLET | ATA | NAS3610 | IATA | LOAD (lb) | LOAD (kg) | QTY | CONTOUR |
|---|---|---|---|---|---|---|---|
| Full-size | LD6 | 2L | F | 7000 | 3174 | 1 |  FULL SIZE CONTAINER 60.4 x 125 in CONTOUR F |
| 96X125 in | | 2M1C /2M1P | F | 11250 | 5103 | 1 |  FULL SIZE CONTAINER 96 x 125 in CONTOUR F |

Note: All the load devices shall be loaded at its maximum weight.

The maximum allowable cargo CG limits are described bellow:

## 1. MILITARY PALLETS

- Maximum CG height is 36 inches for pallets from the bottom of the unit load device.
- The maximum allowable cargo CG deviation from the unit load device geometric centre is:

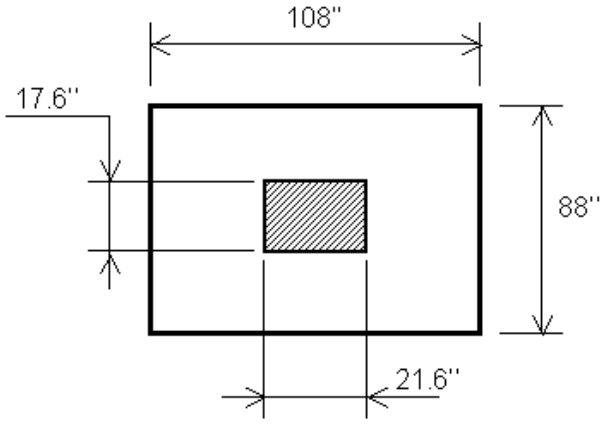



Figure 1. Maximum CG limits of a military pallet

## 2. LD3 container

- Maximum CG height is 34 inches from the bottom of the unit load device.
- The maximum allowable cargo CG deviation from the unit load device geometric centre is:

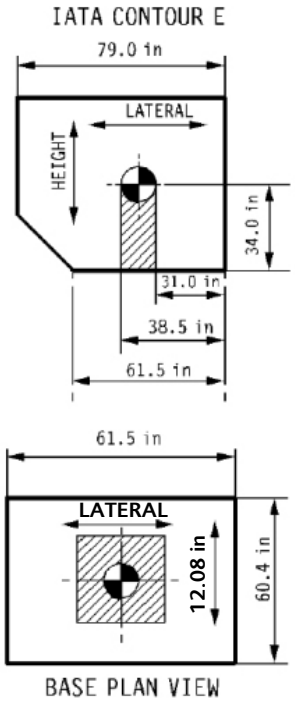
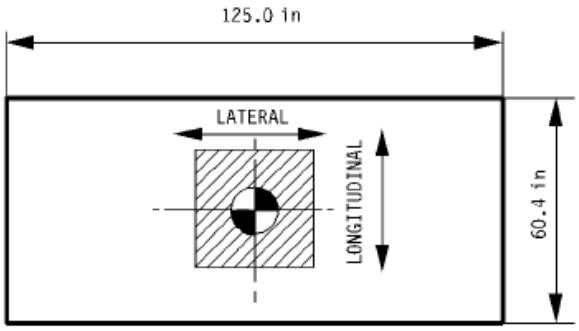



Figure 2. Maximum CG limits of a LD3

## 3. LD6 container

- Maximum CG height is 34 inches from the bottom of the unit load device.
- The maximum allowable cargo CG deviation from the unit load device geometric centre is:

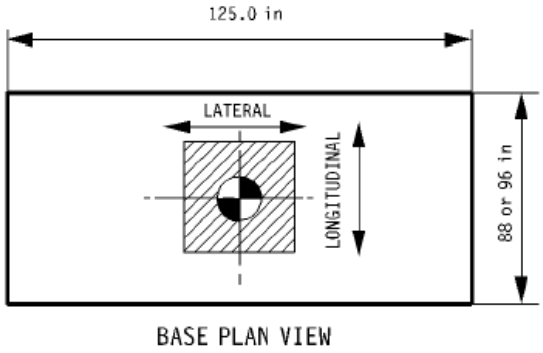



BASE PLAN VIEW
**LATERAL: 25IN**
**LONGITUDINAL: 12.08IN**

Figure 3. Maximum CG limits of a LD6

## 4. 96x125 container

- Maximum CG height is 34 inches for containers and 36 inches for pallets from the bottom of the unit load device.
- The maximum allowable cargo CG deviation from the unit load device geometric centre is:




**LATERAL: 25IN**
**LONGITUDINAL: 19.2 IN**

Figure 4. Maximum CG limits of a 96x125 container/pallet

For pallets and LD3 transport a pallet container loader and a pallet transporter shall be necessary (Figure 3).

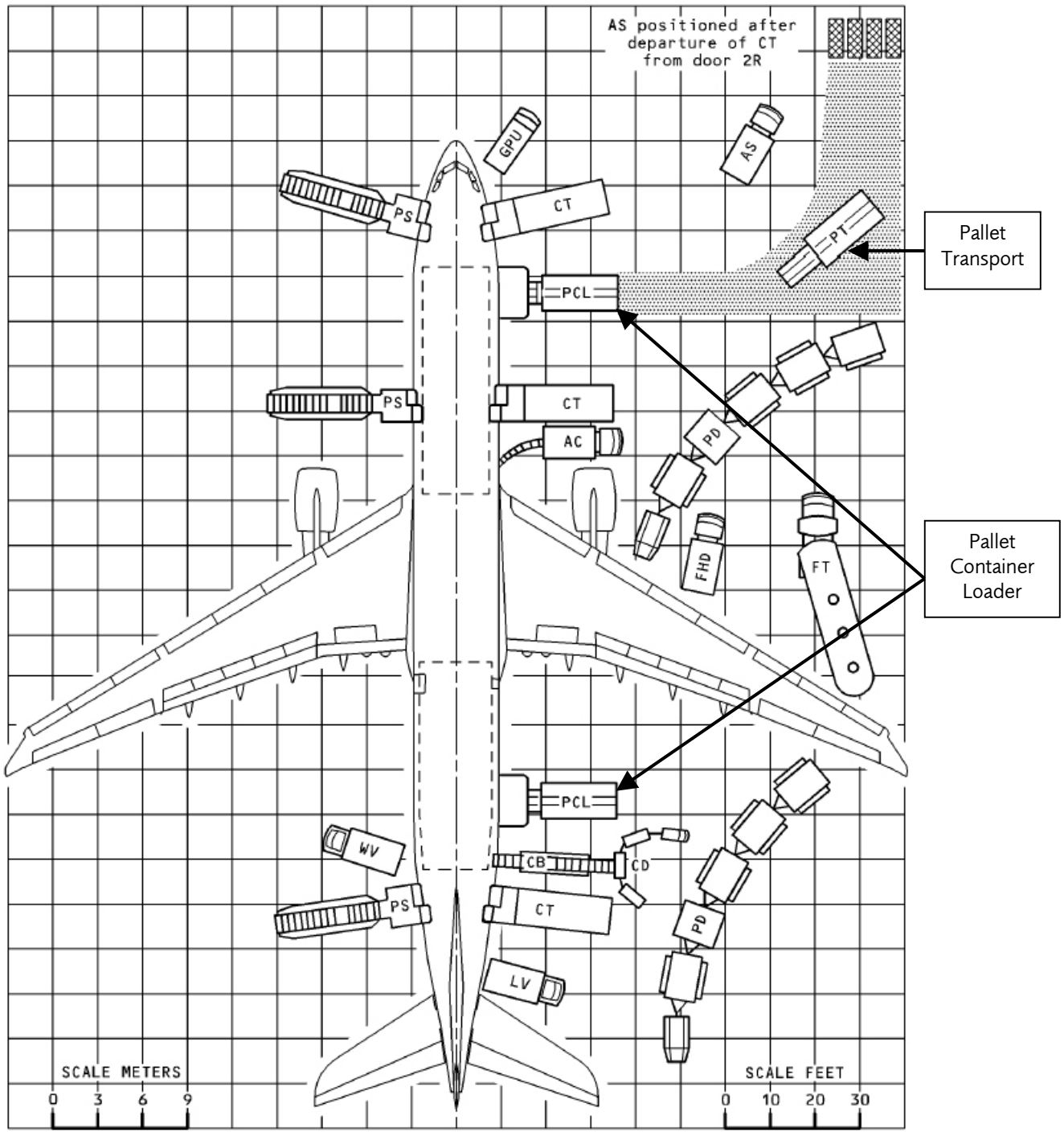



Figure 5. Ground equipment required for testing

### 2.1.2. Personnel required for the test

Four (4) persons are necessary for this test:

- One person to operate the CLS, responsible for:
  - Opening/closing the cargo doors
  - Operate the control panel
  - Latching/unlatching the pallets/containers.

- One person as observer responsible for noting normal and abnormal functioning during the tests.
- One person to operate the pallet transport.
- One person to operate the pallet container loader.

# 3. TEST CONFIGURATIONS

The following configuration with combined loads will be tested:

***CONFIGURATION A*. MILITARY PALLETS IN AFT CARGO COMPARTMENT.**

| LOAD DEVICE | NAS 3610 | ITEM | | FORWARD CARGO | | | | | | | AFT CARGO | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 11 | 12 / 12P | 13 / 13P | 14 | 21 /21P | 22 /22P | 23 | 31/ 31P | 32 / 32P | 33 | 41/41P | 42 /42P | 43 | 44 |
| 88x108 in | 1B6 | 1 | | | | | | | | | | | | | | | |
| | | 2 | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | |
| | | 4 | | | | | | | | | | | | | | | |
| | | 5 | | | | | | | | | | | | | | | |
| LD6 | 2L | 1 | | | | | | | | | | | | | | | |
| 96X125 in | 2M1C /2M1P | 1 | | | | | | | | | | | | | | | |
| LD3 | 2K | 1 | R | | | | | | | | | | | | | | |
| | | | L | | | | | | | | | | | | | | |

***CONFIGURATION B*. COMBINED LOADS IN AFT CARGO COMPARTMENT.**

| LOAD DEVICE | NAS 3610 | ITEM | | FORWARD CARGO | | | | | | | AFT CARGO | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 11 | 12 / 12P | 13 / 13P | 14 | 21 /21P | 22 /22P | 23 | 31/ 31P | 32 / 32P | 33 | 41/41P | 42 /42P | 43 | 44 |
| 88x108 in | 1B6 | 1 | | | | | | | | | | | | | | | |
| | | 2 | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | |
| | | 4 | | | | | | | | | | | | | | | |
| | | 5 | | | | | | | | | | | | | | | |
| LD6 | 2L | 1 | | | | | | | | | | | | | | | |
| 96X125 in | 2M1C /2M1P | 1 | | | | | | | | | | | | | | | |
| LD3 | 2K | 1 | R | | | | | | | | | | | | | | |
| | | | L | | | | | | | | | | | | | | |

***CONFIGURATION C. COMBINED LOADS IN FWD CARGO COMPARTMENT.***

| LOAD DEVICE | NAS 3610 | ITEM | | FORWARD CARGO | | | | | | | AFT CARGO | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 11 | 12 / 12P | 13 / 13P | 14 | 21 /21P | 22 /22P | 23 | 31/ 31P | 32 / 32P | 33 | 41/41P | 42 /42P | 43 | 44 |
| 88x108 in | 1B6 | 1 | | | | | | | | | | | | | | | |
| | | 2 | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | |
| | | 4 | | | | | | | | | | | | | | | |
| | | 5 | | | | | | | | | | | | | | | |
| LD6 | 2L | 1 | | | | | | | | | | | | | | | |
| 96X125 in | 2M1C /2M1P | 1 | | | | | | | | | | | | | | | |
| LD3 | 2K | 1 | R | | | | | | | | | | | | | | |
| | | | L | | | | | | | | | | | | | | |

***CONFIGURATION D. MILITARY PALLETS IN FWD CARGO COMPARTMENT.***

| LOAD DEVICE | NAS 3610 | ITEM | | FORWARD CARGO | | | | | | | AFT CARGO | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 11 | 12 / 12P | 13 / 13P | 14 | 21 /21P | 22 /22P | 23 | 31/ 31P | 32 / 32P | 33 | 41/41P | 42 /42P | 43 | 44 |
| 88x108 in | 1B6 | 1 | | | | | | | | | | | | | | | |
| | | 2 | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | |
| | | 4 | | | | | | | | | | | | | | | |
| | | 5 | | | | | | | | | | | | | | | |
| LD6 | 2L | 1 | | | | | | | | | | | | | | | |
| 96X125 in | 2M1C /2M1P | 1 | | | | | | | | | | | | | | | |
| LD3 | 2K | 1 | R | | | | | | | | | | | | | | |
| | | | L | | | | | | | | | | | | | | |


Figure 6. Test configurations

# 4. OPERATING PROCEDURES

## 4.1. DOOR OPENING / CLOSING PROCEDURE

### 4.1.1. Open the FWD and/or AFT cargo compartment doors.

(Refer to Figures 7 and 8)

| ITEM | | ACTION | RESULT |
|---|---|---|---|
| 1 | Locking handle- handle flap | PUSH | |
| 2 | Locking handle | PULL | Locking handle unlocked |
| *WARNING: STOP THE OPENING PROCEDURE IF THE RED WARNING LIGHT FLASHES. RESIDUAL PRESSURE COULD CAUSE THE DOOR TO OPEN WITH A SUDDEN FORCE AND INJURE PERSONS AND/OR DAMAGE THE AIRCRAFT.* | | | |
| 3 | Indicator flags (colored red) | CHECK | Flags are out |
| 4 | Push button on latching handle | PUSH | Catch released |
| 5 | Latching handle | PULL DOWN FULLY | Door unlatched |
| 6 | Access door 112 CR (152NR) | OPEN | |
| 7 | Door operation | SET TO "OPEN" POSITION AND HOLD THERE UNTIL THE GREEN INDICATOR LIGHT COMES ON | Door opens |

### 4.1.2. Close the FWD and/or AFT cargo compartment doors.

(Refer to Figures 7 and 8)

| ITEM | | ACTION | RESULT |
|---|---|---|---|
| 1 | Door operation lever | SET TO "CLOSE" POSITION AD HOLD THERE UNTIL THE DOOR IS FULLY CLOSED | Door closes |
| 2 | Latching handle | PUSH UP FULLY | Door latched, push button on latching handle engages with an audible "click" |
| 3 | Locking handle | CLOSE | |
| 4 | Indicator flags (colored red) | CHECK | Flags are in |
| 5 | Access door 112CR (152NR) | CLOSE | |

## 4.2. POWER LOADING PROCEDURES

The Cargo Loading System is semi-automatic and electrically powered. The CLS provides individual ULD\pallet baseplate restraint. Locking and unlocking of ULDs inside the cargo compartments is carried out manually.
The CLS is equipped with roller track mounted electrical Power Drive Units (PDUs). They are installed for the lateral (door area) and longitudinal movement of ULD's. These PDUs are controlled by an operator using a joystick in the control panel located behind a service door in the outer skin. The control panel is located forward of the concerned compartment doorway.
Bellow the XZ latches at y=-643 and y=+805 there are attached the proximity switches that controls the PDUs. When these XZ-latches are lift, the related PDU is electrically isolated. This prevents operation of a PDU when a pallet or container is latched in position.

### 4.2.1. Loading process

#### 4.2.1.1 Preparation

1. Set the latches and guides according to the type of container/pallet (Figures 11, 12, 13, 14 and 15).

   Note 1. For military pallets, set all latches in lower position except the YZ latches (Figure 16, Figure 11-item 10, Figure 13- item 6) and the ARO-YZ latches (Figure 17, Figure 11-tem 11, Figure 18, Figure 13-item 10)

   Note 2. For LD3 at position L11, set all the latches in lower position except for the latches 8 and ARO latches number 11 in doorsill area (Figure 11).

   Note 3. For LD3 at position 44, set all the latches in lower position except the number 9 (Figure 23) and the ARO latches number 10 (Figure 18) in doorsill area (Figure 12).

2. In the Aft Cargo Compartment, set the retractable Y-guides in raised position (number 4 in figures 13, 14 and 15 and figure 22).

3. Lower the doorsill latches 1 (Figures 11, 12, 13, 14, 15 and 19).
   (Note that when lowered, these latches make electrical power available for the CLS)

4. Open the control panel door (Figures 9 and 10).

5. Set the POWER switch to ON (Figure 10).

#### 4.2.1.2 Loading the ULD/pallet

*FWD CARGO COMPARTMENT*

6. Move the ULD/pallet onto the ball mat area.
7. Hold the joystick in the IN position until the ULD/pallet is aligned for AFT movement (Figure 10).
8. Hold the joystick in the AFT position until the pallet is in its desired load position.
9. Raise the latches to lock the ULD/pallet in position (Figure 21).

*AFT CARGO COMPARTMENT*

6. Move the ULD/pallet onto the ball mat area.
7. Hold the joystick in the IN position until the ULD/pallet is aligned for AFT movement (Figure 10).

   Note 4.For a LD3 at position 44, hold the joystick in the IN position until the container is stopped with the aft Y-guides number 9 (Figure 13 and 24). Set the joystick to the AFT position and hold until the LD3 fills the position 44.

8. Set the Y-guide switch to the FWD position and at the same time set the joystick to the FWD position (Figure 10).
9. Hold the Y-guide switch in the FWD position until the pallet is clear of the Y-guides.
10. Hold the joystick in the FWD of AFT position until the pallet is in its desired load position.
11. Raise the latches to lock the ULD/pallet in position (Figure 21).

Note 5. Position of pallets /ULDs.
The positions defined in Figure 6 for ULDs/pallets are indicated on the vertical and inclined sidewall linings of the cargo compartments with placards showing the position numbering and separation (Figure 25)
To avoid any confusion with XZ-latches double or triple that could be shared by different ULD/pallet at the same locations, previous to raise the latches, check that the ULD/pallet location is correct using the position indications.

#### 4.2.1.3 Close-up

12. Raise the doorsill latches 1 (Figures 11, 12, 13, 14, 15 and 19).
13. Make sure that the anti-roll out latch of the doorsill latch is up right.
14. Set the POWER switch to OFF (Figure 10).
15. Close the control panel door (Figure 9).

### 4.2.2. Unloading process

#### 4.2.2.1 Preparation

1. Lower the doorsill latches 1 (Figures 11, 12, 13, 14, 15 and 19).
   (Note that when lowered, these latches make electrical power available for the CLS).
2. Open the control panel door (Figures 9 and 10).
3. Set the POWER switch to ON (Figure 10).

#### 4.2.2.2 Unloading the ULD/pallet

4. For unloading ULD/pallets in the door sill area, lower the YZ latches, the ARO-YZ and the rest of the latches locking the ULD/pallet:
   a. Position 11L: items 5 and 11 in Figure 11
   b. Position 42P: item 10 in Figure 13
   c. Position 42L: items 9 and 10 in Figure 13 and item 5 in Figure 14
   d. Position 44: items 9 and 10 in Figure 13 and items 5 and 8 in Figure 14

5. Set the SILL-LOCK handle to UNLOCKED and release. Hold the joystick in the OUT position until the ULD/pallet moves from the compartment.
6. Lower the latches FWD or AFT the next ULD/pallet (depending if Forward of Aft Cargo compartment).
7. Hold the joystick in the FWD or AFT position until the ULD/pallet contacts the forward/aft latches (depending if Forward of Aft Cargo compartment).
8. Do the steps 5, 6 and 7 again to unload the remaining pallets.

#### 4.2.2.3 Close-up

9. Raise the doorsill latches 1(Figures 11, 12, 13, 14, 15 and 19).
10. Make sure that the anti-roll out latch of the doorsill latch is upright.
11. Set the POWER switch to OFF (Figure 10).
12. Close the control panel door (Figure 9).

## 4.2.3. Figures

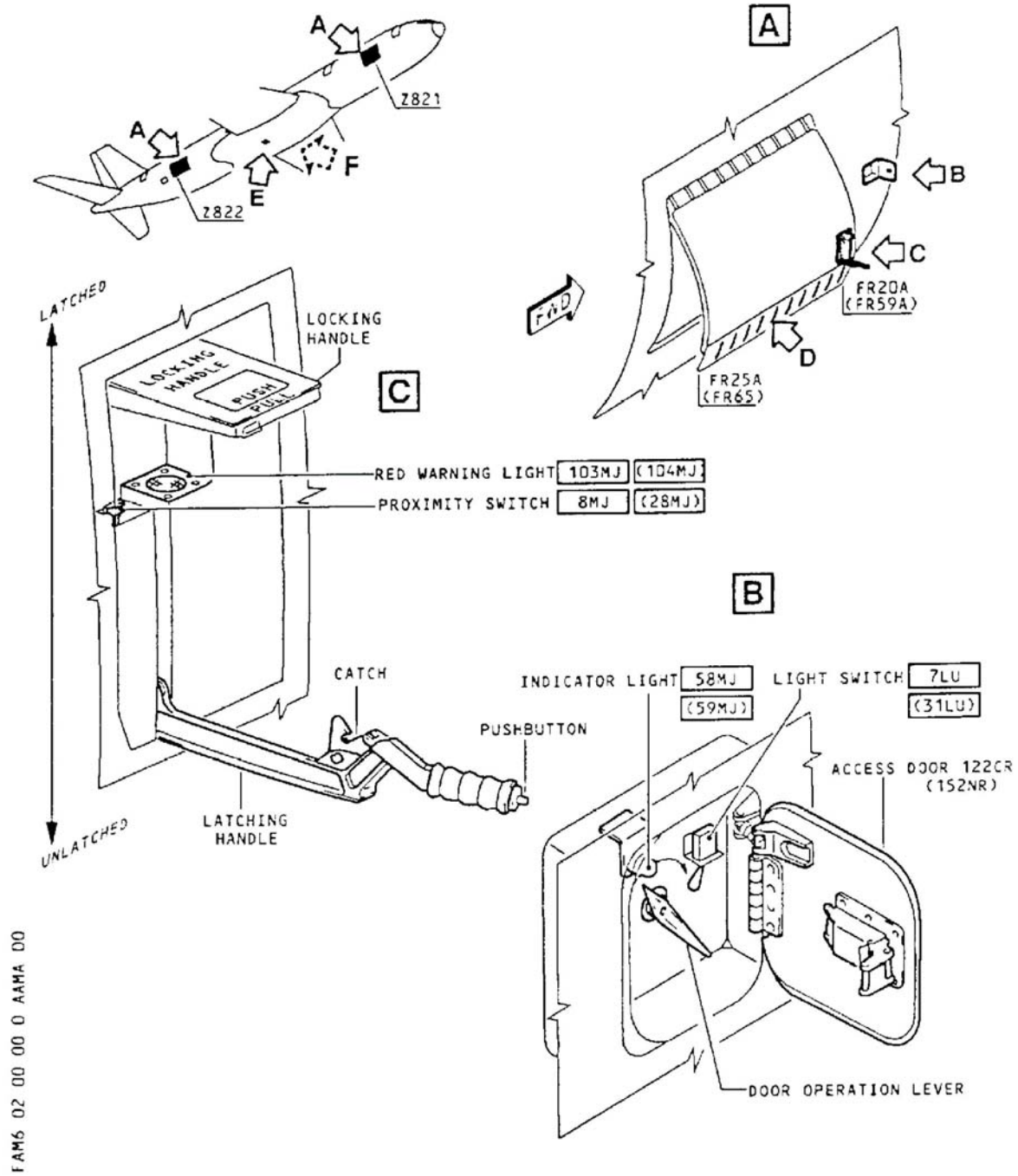



Figure 7. FWD, AFT Cargo compartments – Door Operation

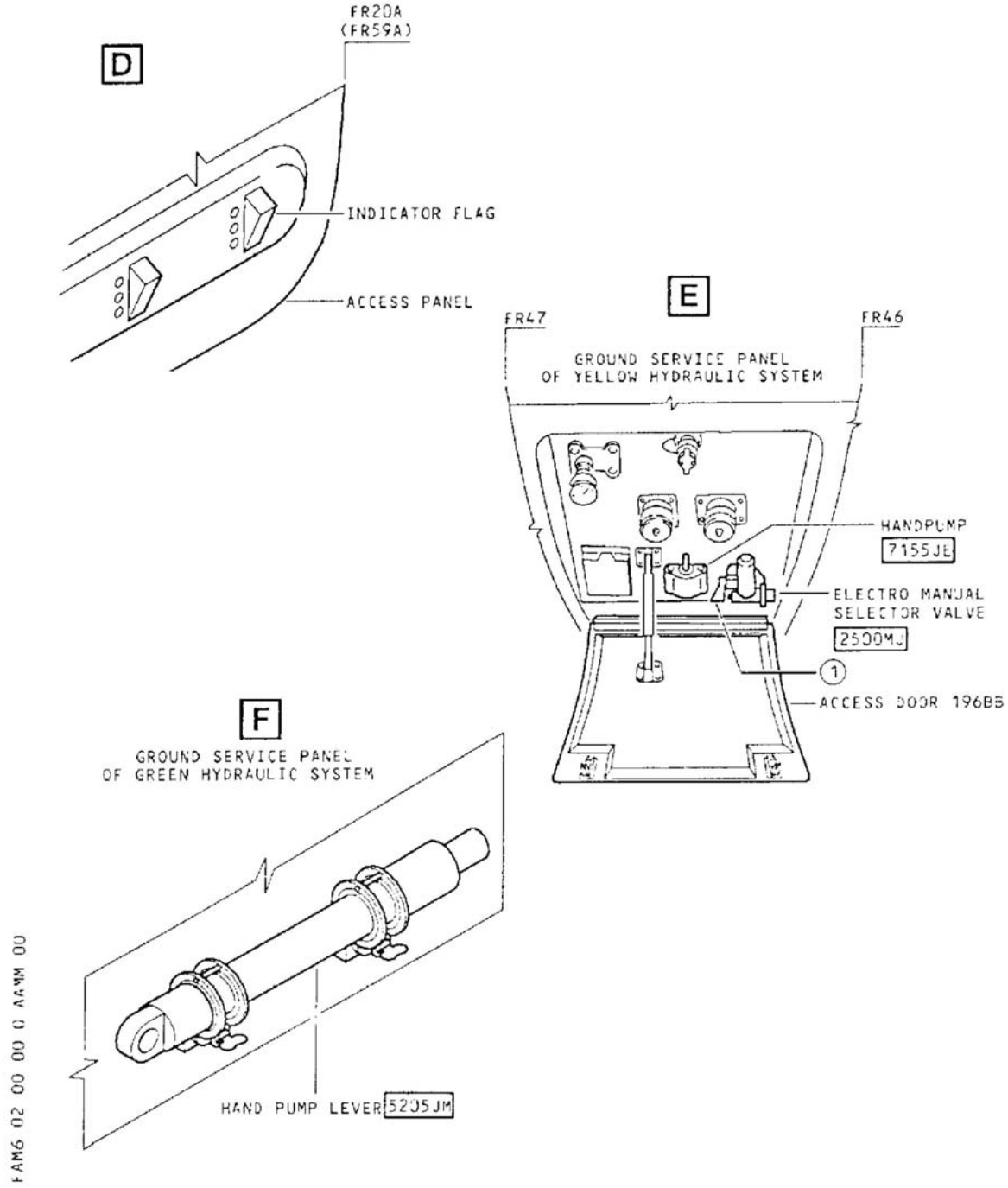



Figure 8. FWD, AFT Cargo Compartments – Door Operation

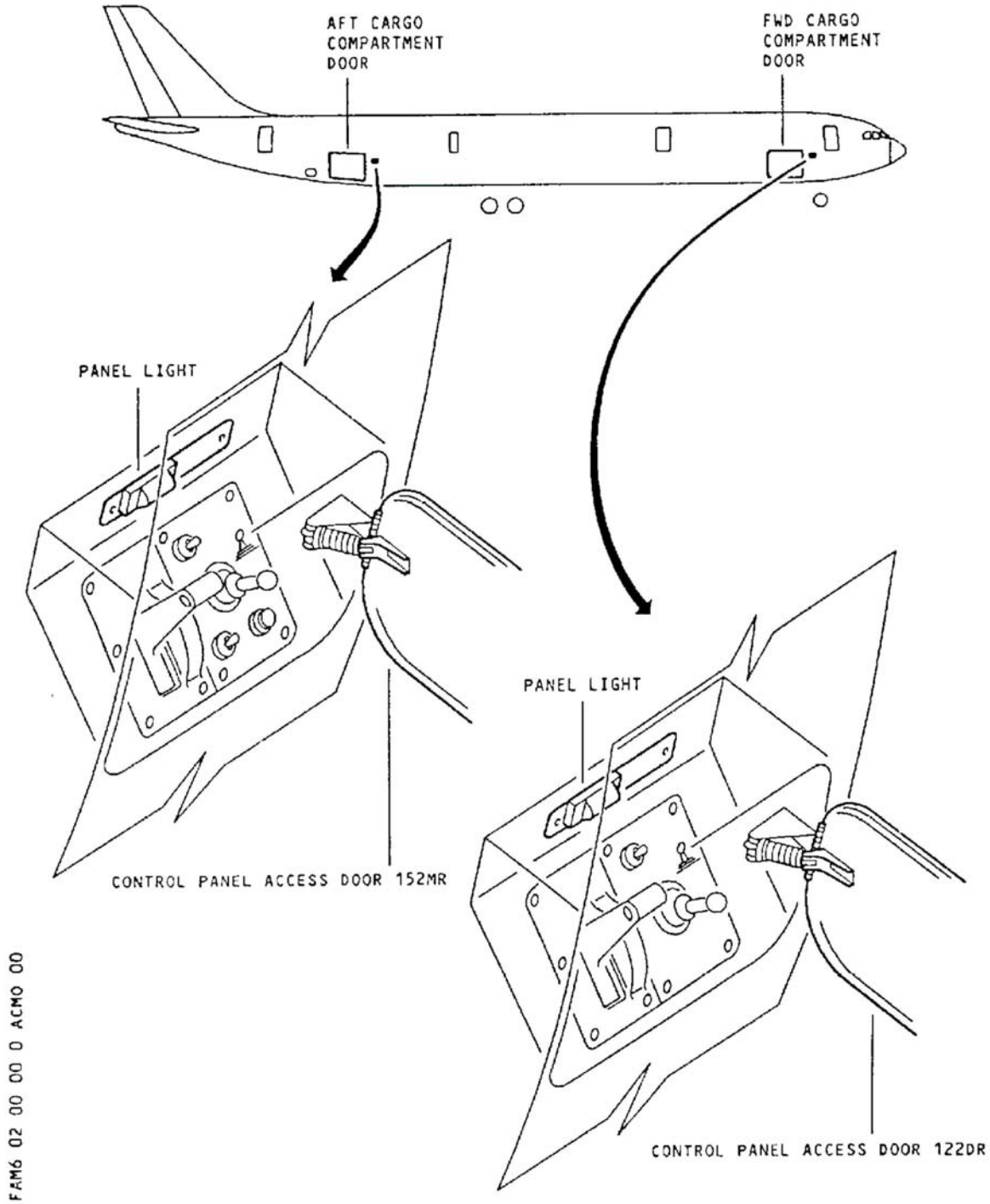



Figure 9. Control Panel Configuration

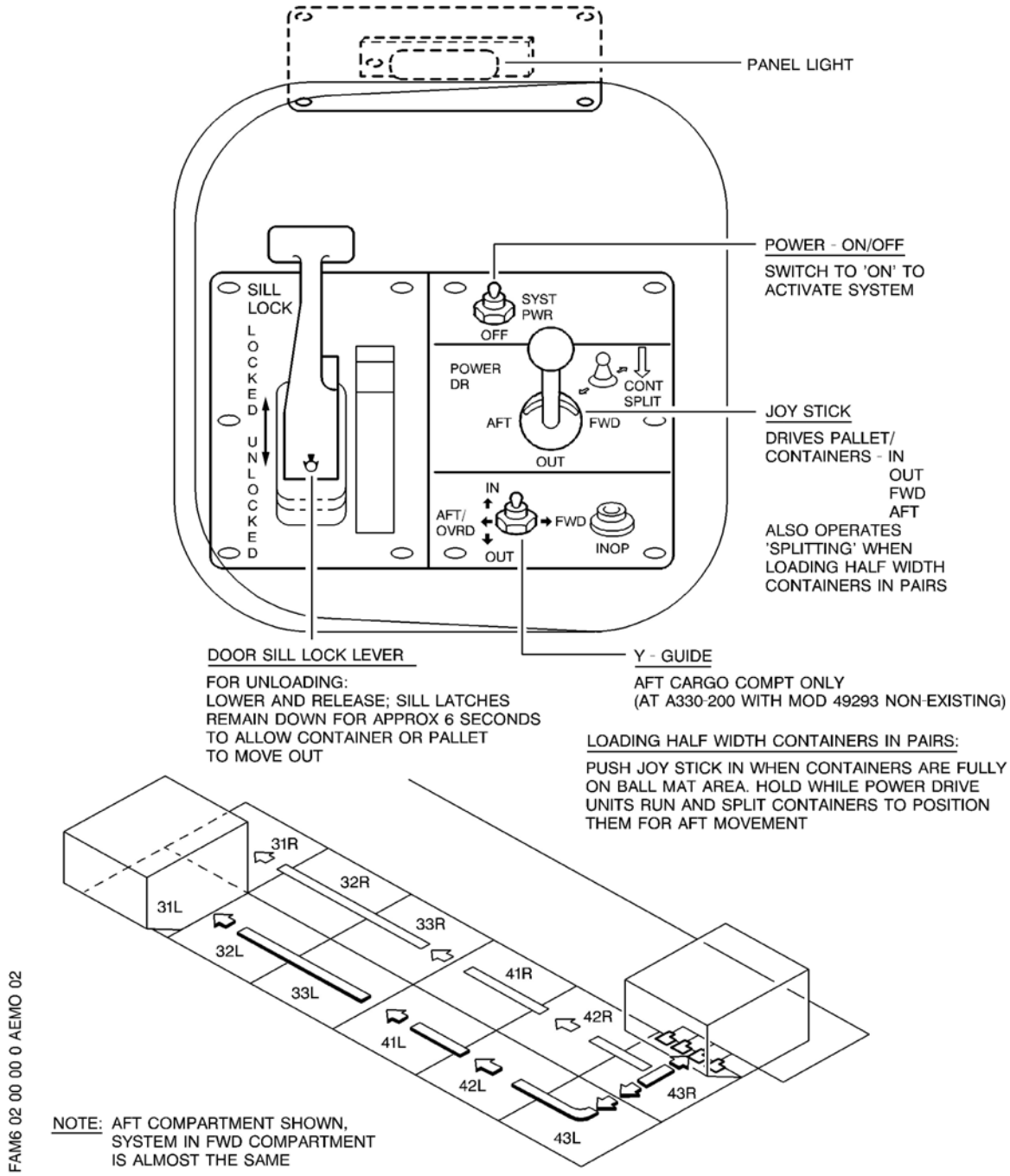



Figure 10. FWD, AFT Cargo Compartment Conveyance System Control

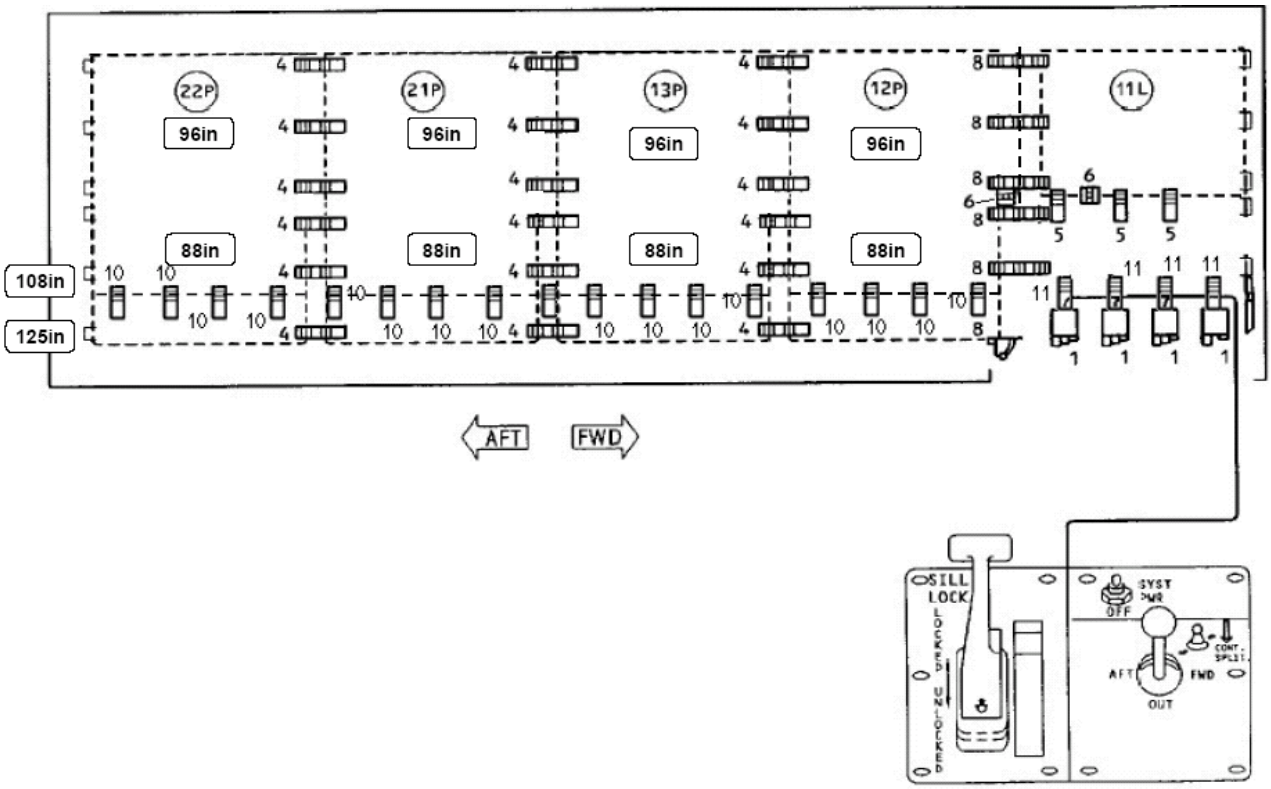



Figure 11. Latches in FWD Cargo Compartment (Military pallets,96x125 container/pallets and LD3 at position 11L)

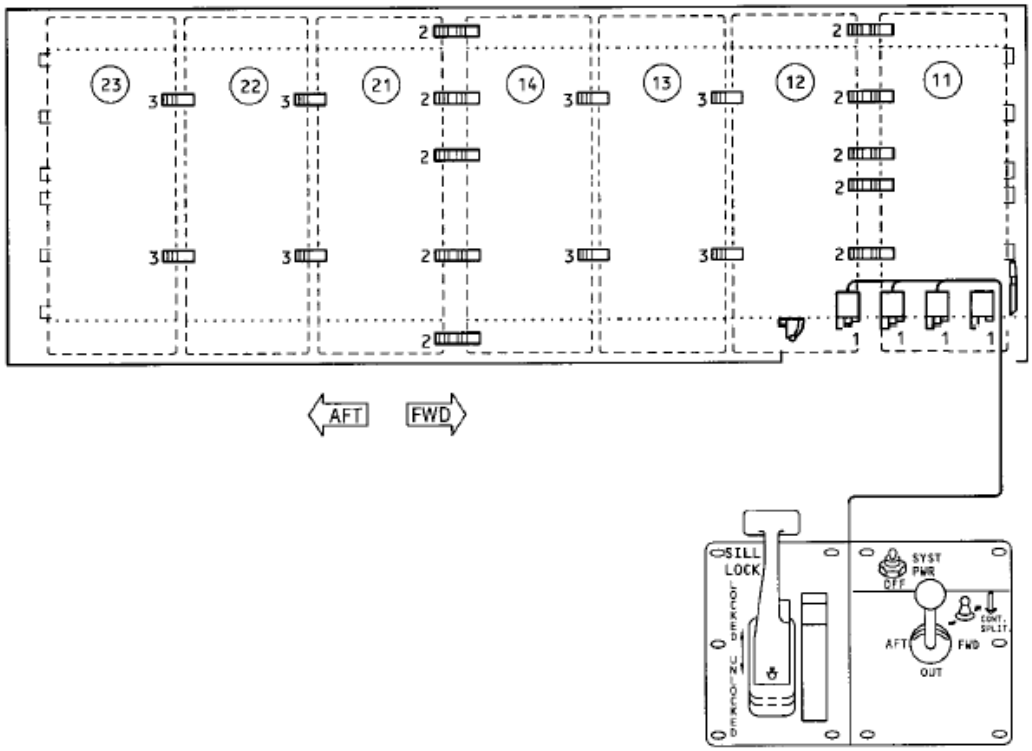



Figure 12. Latches in FWD Cargo Compartment (LD6 container)

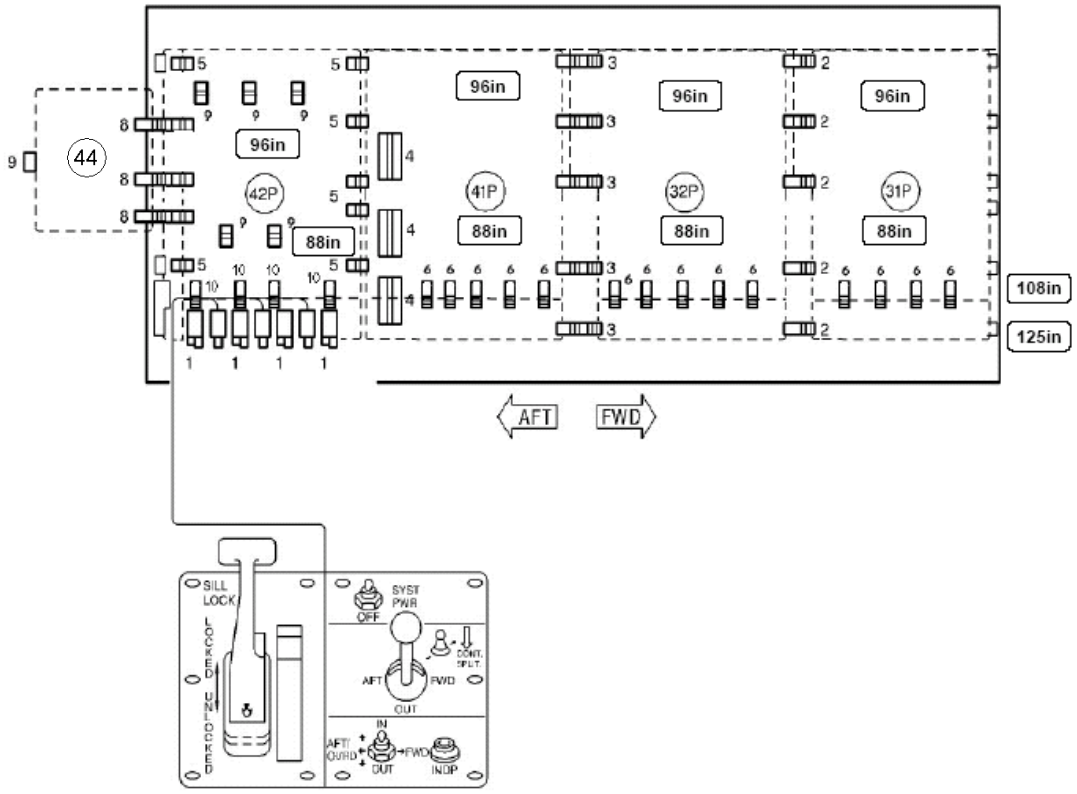



Figure 13. Latches in AFT Cargo Compartment (Military pallets, 96x125 pallets and LD3 at position 44)

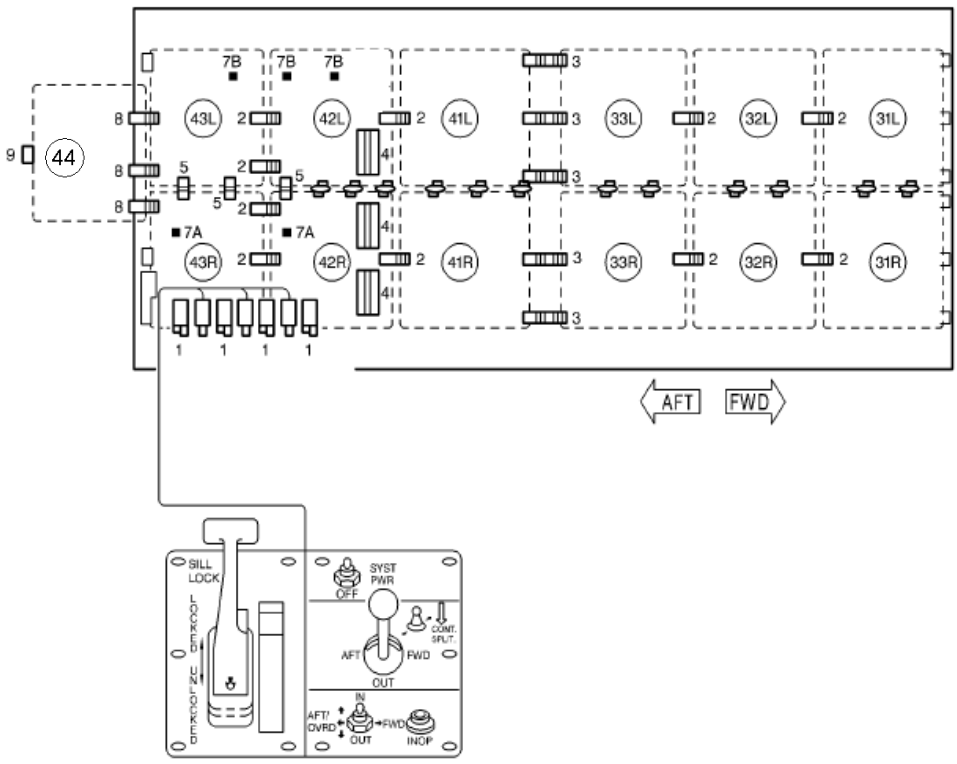



Figure 14. Latches in AFT Cargo Compartment (LD3 at position 43L)

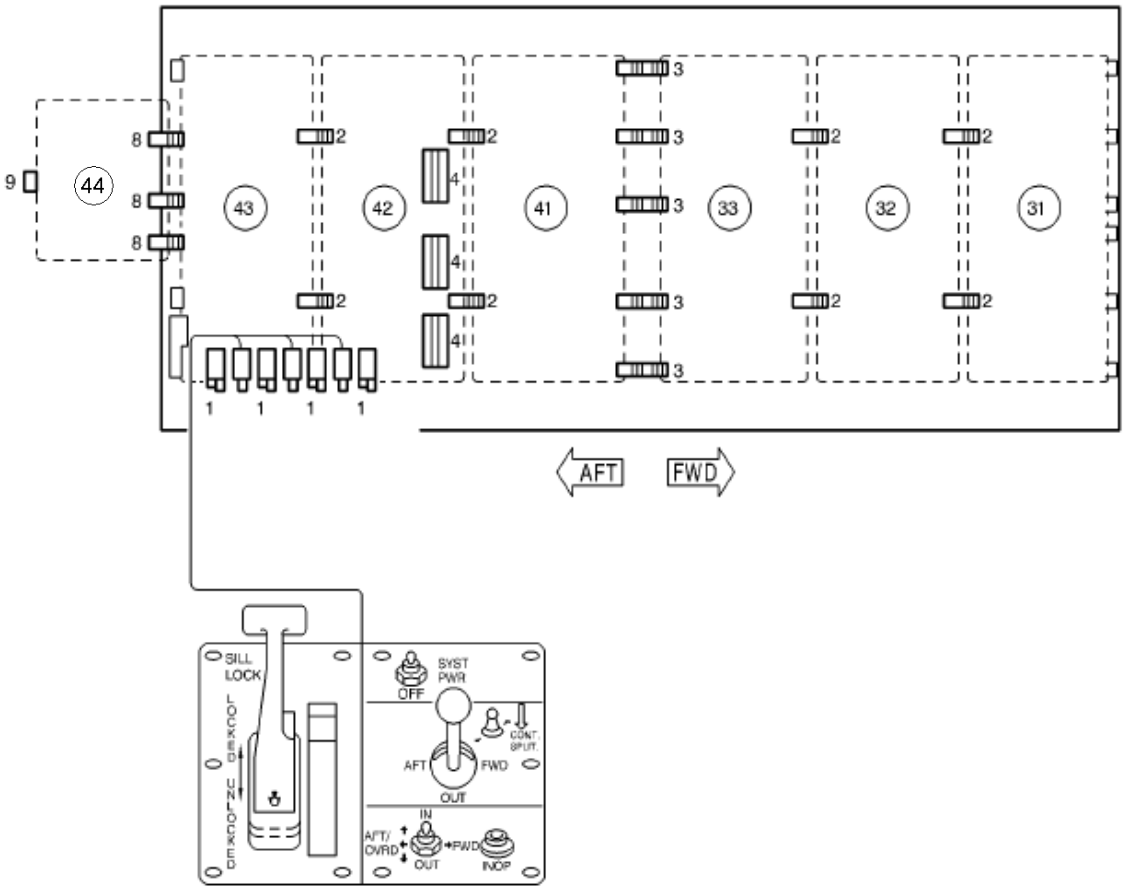



Figure 15. Latches in AFT Cargo Compartment (LD6 container)

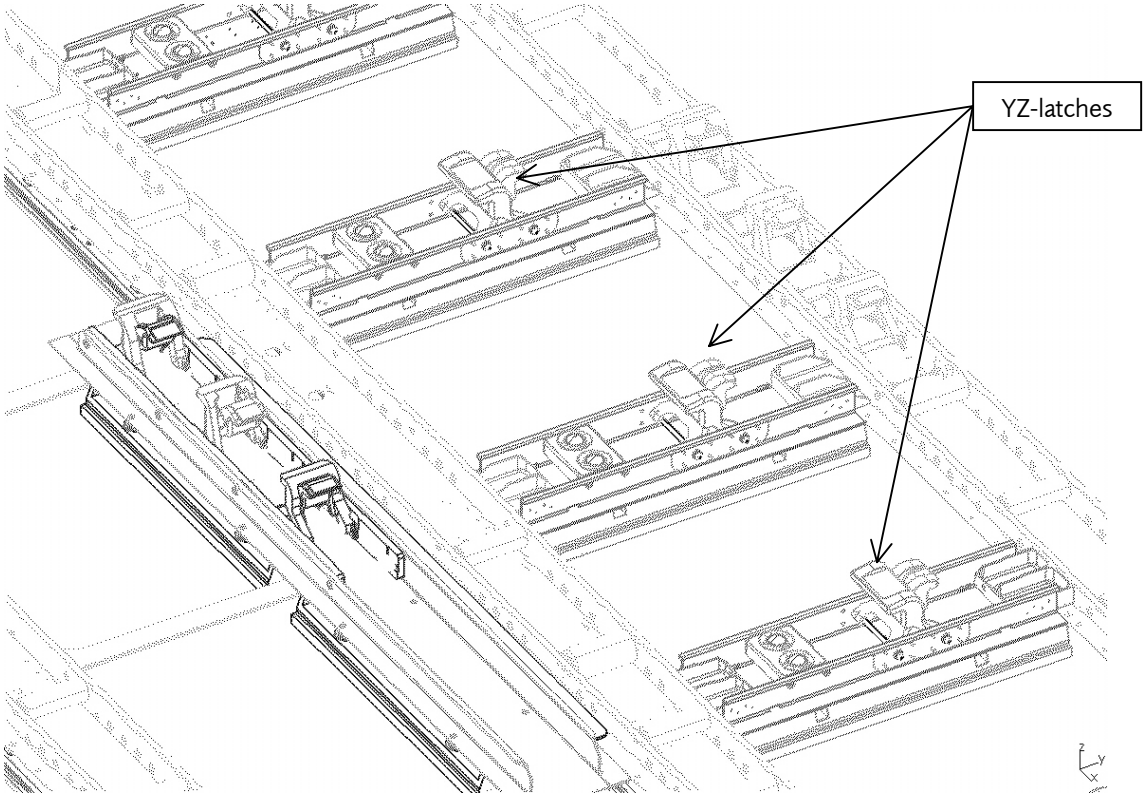



Figure 16. YZ-latches (Item 10 of Figure 11and Item 6 of Figure 13)

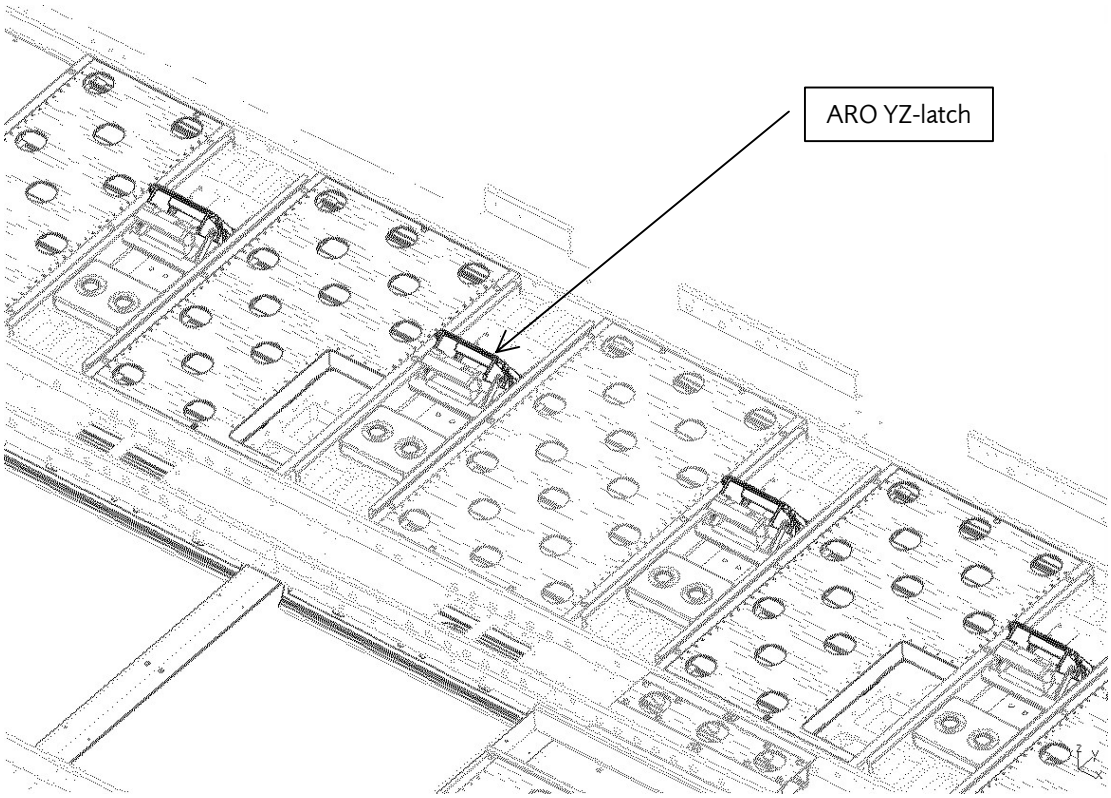



Figure 17. ARO YZ-latches in FWD Cargo Compartment (Item 11 of Figure 11)

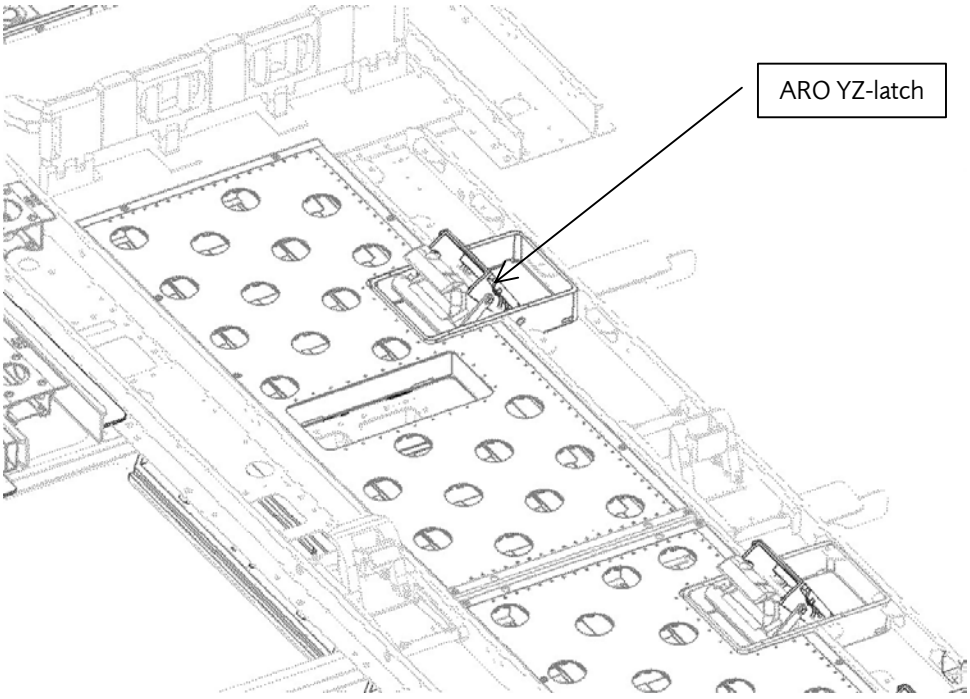



Figure 18. ARO YZ-latches in AFT Cargo Compartment (Item 10 of Figure 13)

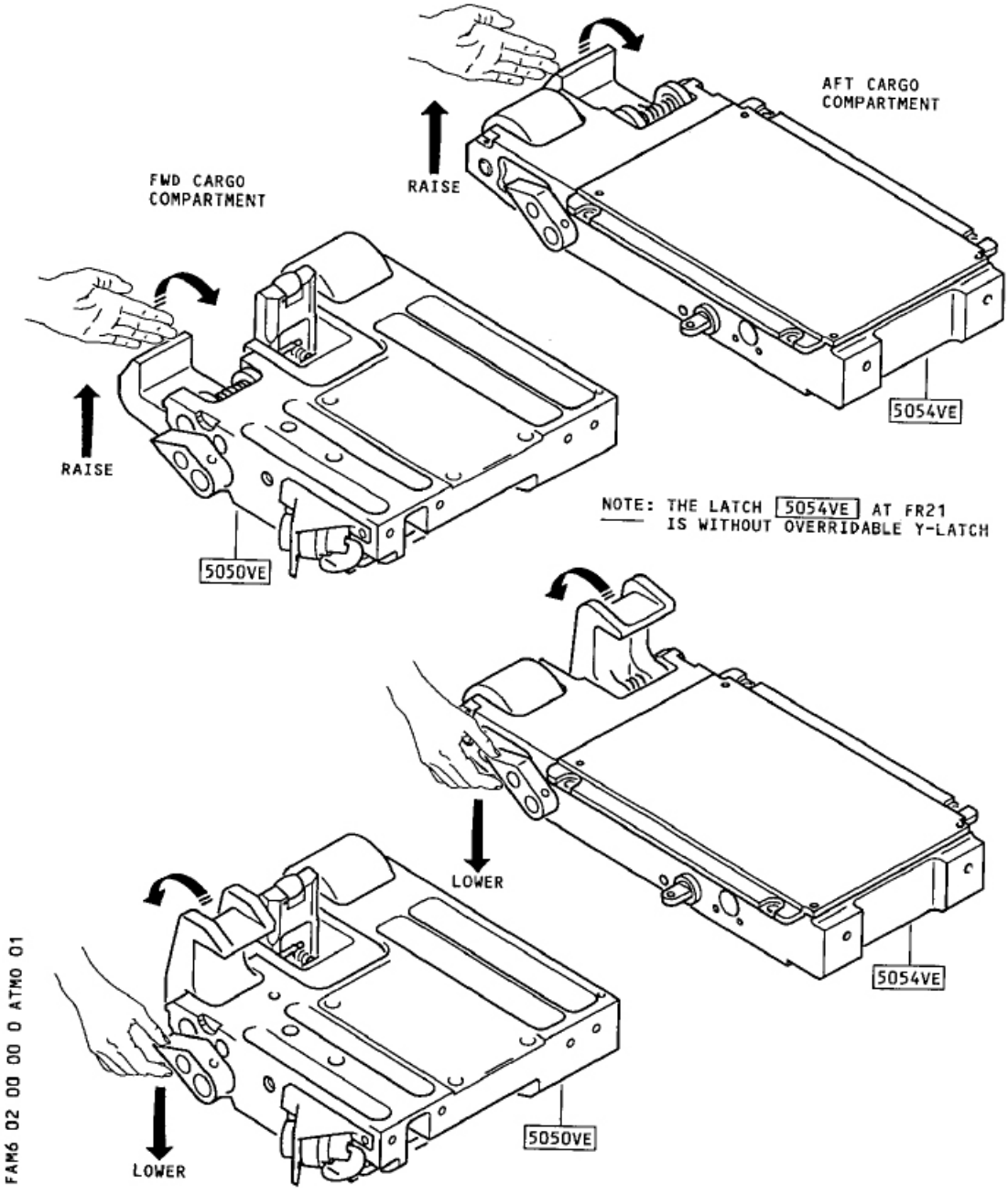



Figure 19. Manually Operated Door Sill Latches (YZ-Latches) (Item 1 of Figures 11 to 15 )

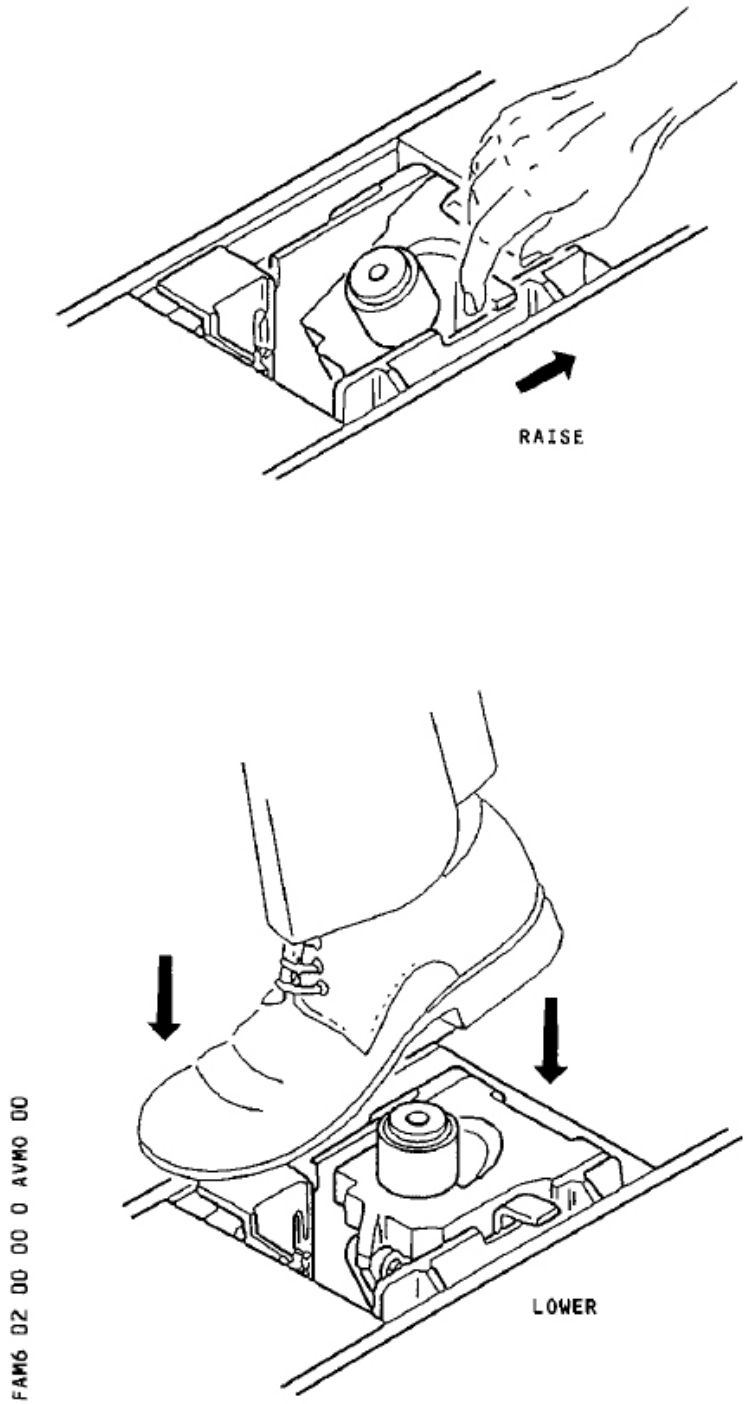



Figure 20. Overridable Y-Guide (Item 6 of Figure 11)

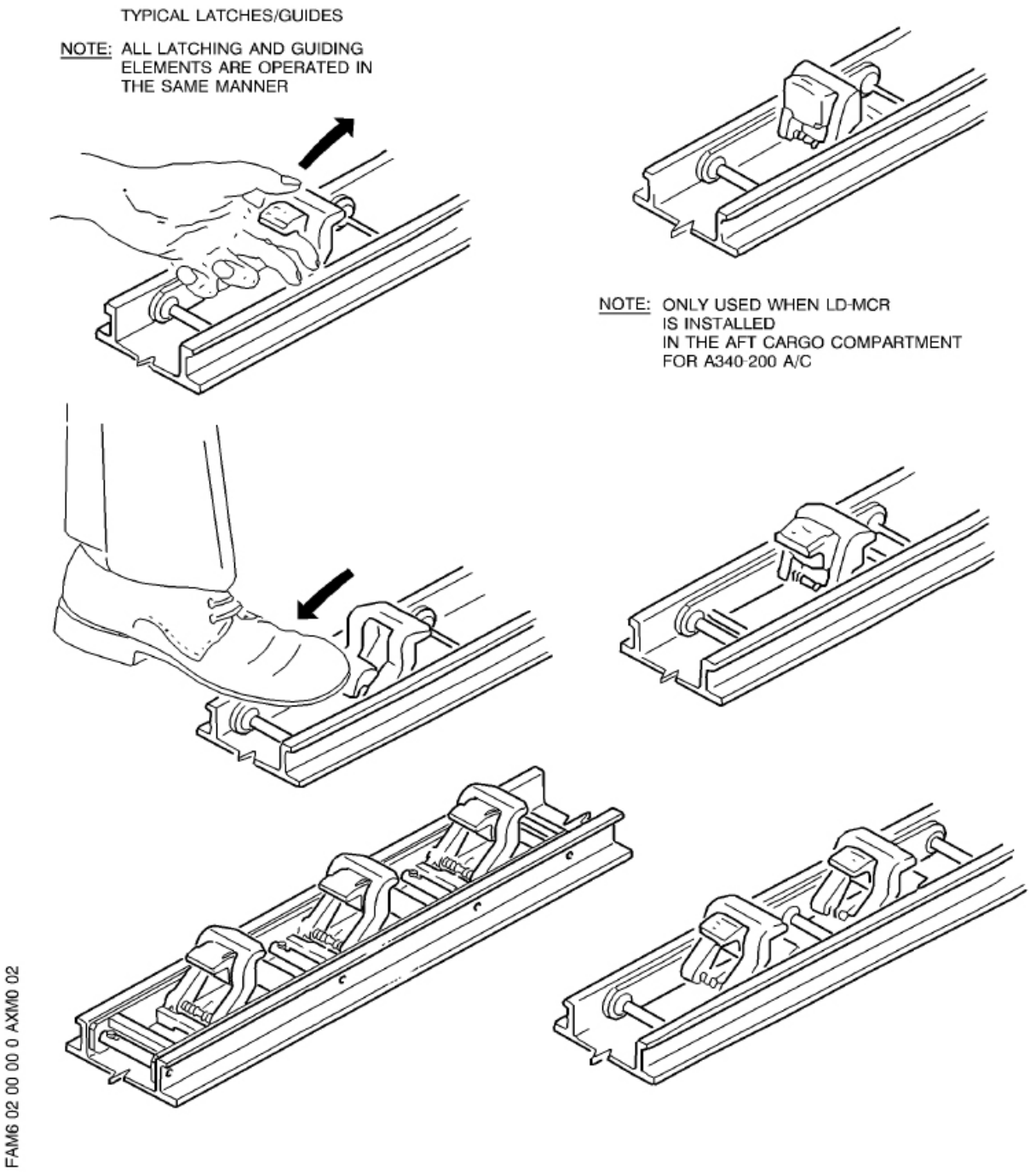



Figure 21. Pallet/Container Latches (Items 4, 5, 8 and 9 of Figure 11; and Items 2, 3, 5 and 8 of Figure 13)

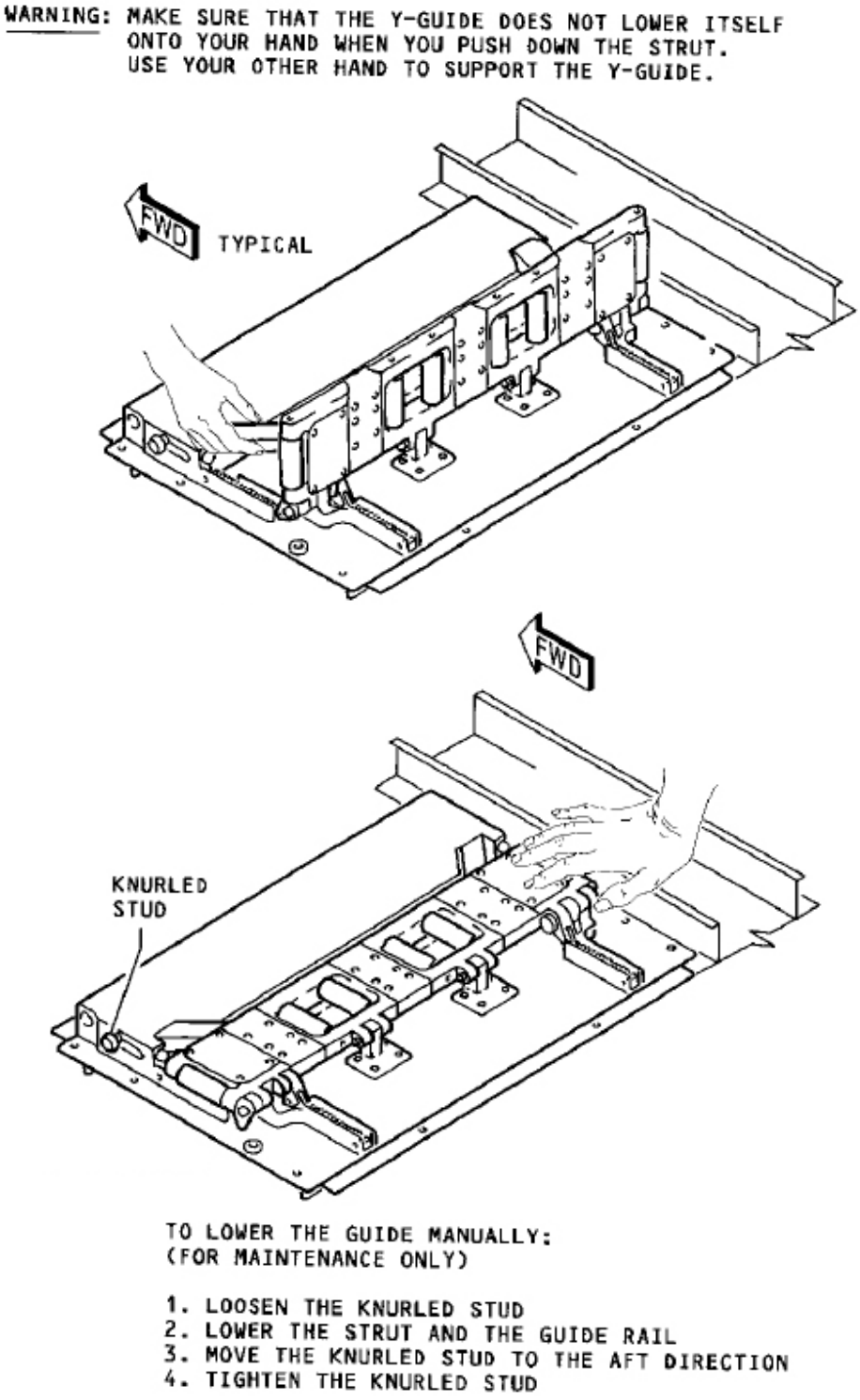



Figure 22. AFT Y-Guide – Retractable (Item 4 of Figure 13 to 15)

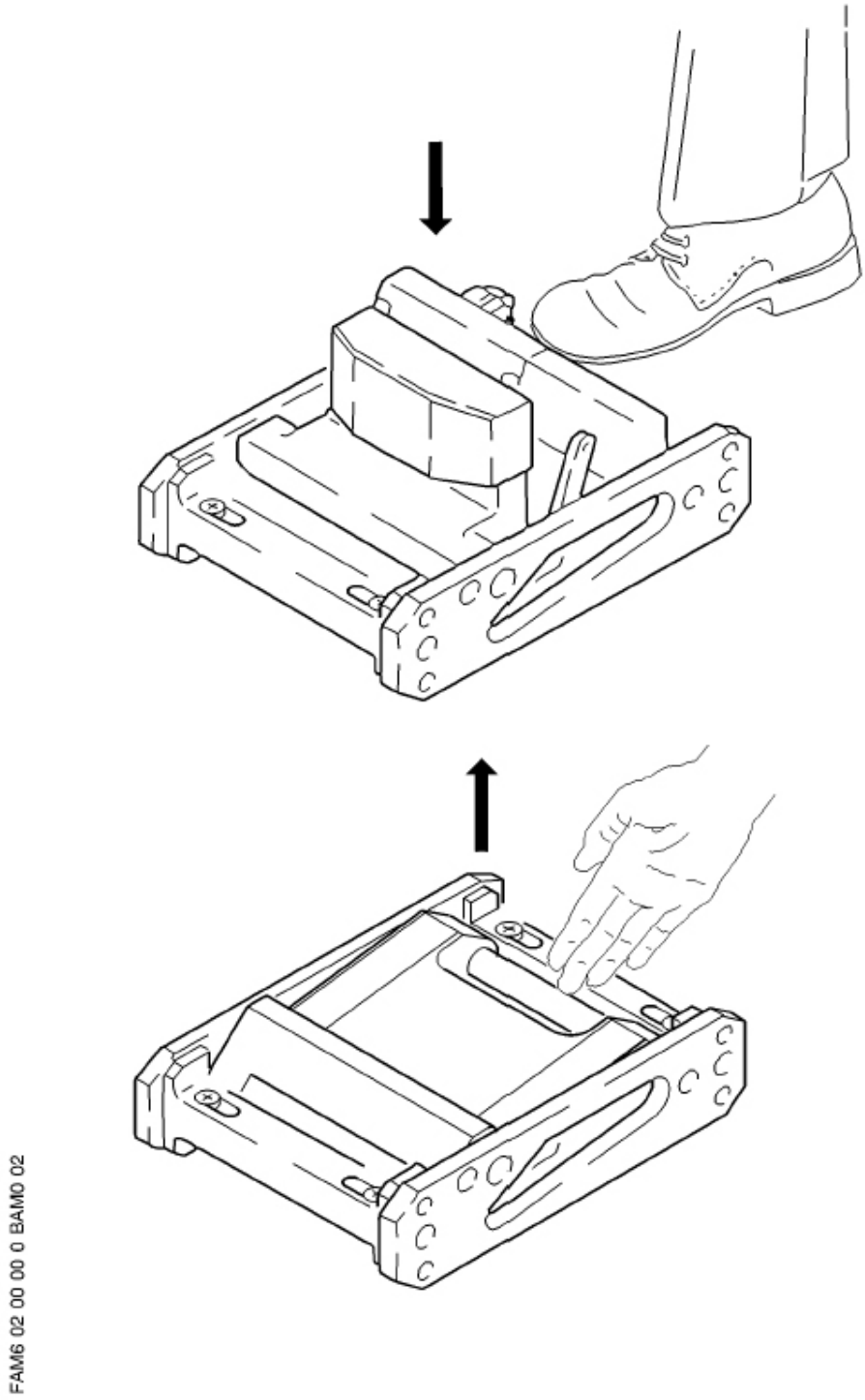



Figure 23. AFT Y-Guide – Retractable (Item 9 of Figure 13)

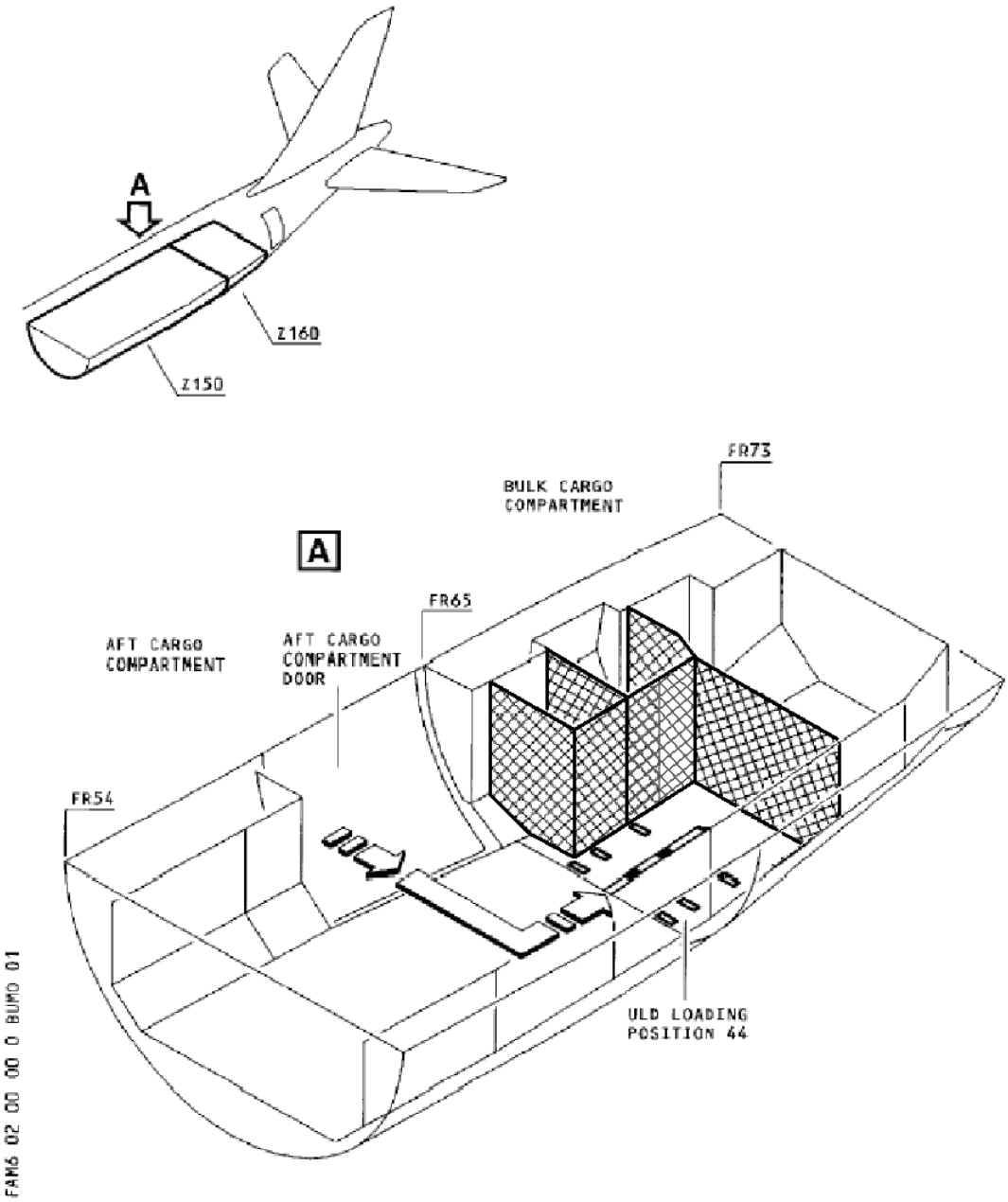



Figure 24. Loading Position 44 in Bulk Cargo Compartment


Fwd CC right hand side placards

Fwd CC left hand side placards

Figure 25. Placards in side panels showing the position numbering and separation

## 4.3. TEST REQUIREMENTS

Tests they shall consist on:

1. Check that the pallet does not get jammed during its movement along the cargo hold.
2. Check that all latches to lock/unlock the pallets/ULDs works properly and securely.
3. Check that the PDU associated to a XZ latch is isolated when the latch is lift.

# 5. SPECIAL CONDITIONS

1. No persons, other than the handling personnel must be present inside the cargo compartment. Cargo handling personnel must stay clear of moving pallets. Injury can result from impact with pallets, or from being caught between pallets or pallets and compartment wall. Ensure that the ballmat area is clear of personnel prior to cargo movement.

2. Turn the Power switch of control panel to OFF during the test procedure to avoid any accidental pallet movement with persons in the FWD CC and AFT CC.

3. Do not open the door if the wind speed is more than 40 knots to prevent damage to the door or to the aircraft structure.

4. The door must be closed before the wind speed is more than 60 knots to prevent damage to the door or to the aircraft structure.

5. If a latch does not work correctly, lower it and follow with the test. After finished the test, repair the latch and repeat the test only in the position of that latch.

# 6. TEST PROCEDURES

Refer to Figure 6 for the Test Configurations.

## 6.1. TEST CONFIGURATION A (AFT CARGO COMPARTMENT FULLY LOADED WITH 4 MILITARY PALLETS AND 1 LD3)

| ITEM | OPERATING PROCEDURE |
|---|---|
| **1. Loading of one military pallet at position 22P in the Forward Cargo Compartment** | - |
| 1) Open FWD CC door. | 4.1.1. |
| 2) Load the military pallet at position 22P | 4.2.1. |
| 3) Check that the latches grab the pallet. | - |
| 4) Check that there is no jam during the loading process. | - |
| 5) Close the FWD CC door | 4.1.2. |
| 6) Check that the PDU associated to the XZ latches are isolated when the latches are lift. | - |
| **2. Loading of a LD3 at position 44 in the Aft Cargo Compartment.** | - |
| 1) Open AFT CC door. | 4.1.1. |
| 2) Load the LD3 at position 44. | 4.2.1. |
| 3) Check that there is no jam during the loading process. | - |
| 4) Check that the latches grab the LD3. | - |
| 5) Check that the PDU associated to the XZ latches are isolated when the latches are lift. | - |
| **3. Loading of 4 military pallets at positions 31P, 32P, 41P and 42P** | |
| 1) Load the 4 military pallets at locations in the following sequence: 31P, 32P, 41P and 42P | 4.2.1. |
| 2) Check that there is no jam during the loading process. | - |
| 3) Check that the latches grab the pallets. | - |
| 4) Check that the PDU associated to the XZ latches are isolated when the latches are lift. | - |

## 6.2. TEST CONFIGURATION B (COMBINATION LOADS IN AFT CARGO COMPARMTENT)

| ITEM | OPERATING PROCEDURE |
|---|---|
| **1. Unloading of 3 military pallets at positions 42P, 41P and 32P in the Aft Cargo Compartment.** | - |
| 2) Unload the military pallets in the following sequence: 42P, 41P and 32P | 4.2.2. |
| 3) Check that there is no jam during the unloading process. | - |
| Note: Keep one military pallet in the position 31P . | - |
| **1. Loading of a 96x125 container at position 32P in the Aft Cargo Compartment.** | - |
| 1) Load the 96x125 container at position 32P | 4.2.1. |
| 2) Check that there is no jam during the loading process. | - |
| 3) Check that the latches grab the container. | - |
| 4) Check that the PDU associated to the XZ latches are isolated when the latches are lift. | - |
| **2. Loading of a LD6 at position 42 in the Aft Cargo Compartment.** | - |
| 1) Load the LD6 at position 42 | 4.2.1. |
| 2) Check that there is no jam during the loading process. | - |
| 3) Check that the latches grab the container. | - |
| 4) Check that the PDU associated to the XZ latches are isolated when the latches are lift. | - |
| **3. Move the LD3 at position 44 to position 43L** | - |
| 1) Lower the latches number 8 in Figure 13 | |
| 2) Hold the joystick in the FWD position until the LD3 is at position 43 | |
| 3) Hold the joystick in the IN position until de LD3 is at position 43L | |
| 4) Raise the latches 2, 5 and 8 in Figure 14. | |
| 5) Check that there is no jam during the loading process. | - |
| 6) Check that the latches grab the container. | - |
| 7) Check that the PDU associated to the XZ latches are isolated when the latches are lift. | - |

## 6.3. TEST CONFIGURATION C (COMBINATION LOADS IN FWD CARGO COMPARMTENT)

| ITEM | OPERATING PROCEDURE |
|---|---|
| **1. Unloading all the containers/pallet in the Aft Cargo Compartment.** | - |
| 1) Unload the containers and pallet in the following sequence: 43L, 42, 32P and 31P | 4.2.2. |
| 2) Check that there is no jam during the unloading process. | - |
| 3) Close the AFT CC door | 4.1.2. |
| **2. Loading of a military pallet at position 21P in Fwd Cargo Compartment** | - |
| 1) Open de FWD CC door | 4.1.1. |
| 2) Load the military pallet at position 21P | 4.2.1 |
| 3) Check that there is no jam during the loading process. | - |
| 4) Check that the latches grab the pallet. | - |
| 5) Check that the PDU associated to the XZ latches are isolated when the latches are lift. | - |
| **3. Loading of a LD6 at position 14 in Fwd Cargo Compartment.** | - |
| 1) Load the LD6 at position 14 | 4.2.1. |
| 2) Check that there is no jam during the loading process. | - |
| 3) Check that the latches grab the container. | - |
| 4) Check that the PDU associated to the XZ latches are isolated when the latches are lift. | - |
| **4. Loading of a 96x125 container at position 12P in Fwd Cargo Compartment.** | - |
| 1) Load the 96x125 container at position 12P | 4.2.1 |
| 2) Check that there is no jam during the loading process. | - |
| 3) Check that the latches grab the container. | - |
| 4) Check that the PDU associated to the XZ latches are isolated when the latches are lift. | - |

## 6.4. TEST CONFIGURATION D (FWD CARGO COMPARTMENT FULLY LOADED WITH 4 MILITARY PALLETS AND 1 LD3)

| ITEM | OPERATING PROCEDURE |
|---|---|
| **1. Unloading of containers and pallet at position 12P and 14 in the Fwd Cargo Compartment** | - |
| 1) Unload the containers and pallet in the following sequence: 12P and 14 | 4.2.2. |
| 2) Check that there is no jam during the unloading process. | - |
| Note: Keep the two military pallets in the positions 22P and 21P. | - |
| **2. Loading of 2 military pallets at positions 13P and 12P** | |
| 1) Load the 2 military pallets in the following sequence: 13P and 12P | 4.2.1 |
| 2) Check that there is no jam during the loading process. | - |
| 3) Check that the latches grab the pallets. | - |
| 4) Check that the PDU associated to the XZ latches are isolated when the latches are lift. | - |
| **3. Loading of a LD3 at position 11L in Fwd Cargo Compartment.** | - |
| 1) Load the LD3 at position 11L | 4.2.1 |
| 2) Check that there is no jam during the loading process. | - |
| 3) Check that the latches grab the container. | - |
| 4) Check that the PDU associated to the XZ latches are isolated when the latches are lift. | - |
| **4. Unloading all the pallets and the LD3 in the Fwd Cargo Compartment.** | - |
| 1) Unload the LD3 and the military pallets in the following sequence: 11L, 12P, 13P, 21P and 22P | 4.2.2. |
| 5) Check that there is no jam during the unloading process. | - |
| 3) Close the FWD CC door | 4.1.2. |

# 7. TEST DATA SHEET

TEST DATE: TIME:

A/C MODEL & S/N: TEST SITE:

| | NAME | SIGN |
|---|---|---|
| CLS operator | | |
| Observer | | |

| *TEST CONFIGURATION A (AFT CARGO COMPARTMENT FULLY LOADED WITH 4 MILITARY PALLETS AND 1 LD3)* | | | | | | |
|---|---|---|---|---|---|---|
| Type of incident | Latch* | Reason | Necessary to finish the test? (Y/N) | Solution taken | PALLET POSITION | Comments |
| CARGO HOLD | | **Fwd Cargo Compartment** | | | | |
| CONTAINER TYPE and QTY | | **1 Military pallet** | | | | |
| **Loading process** | | | | | | |
| The pallet crashes with latches and produces a jam. | | | | | | |
| Latch does not grab according to drawings. | | | | | | |
| PDU associated to XZ latch is not isolated | | | | | | |
| CARGO HOLD | | **Aft Cargo Compartment** | | | | |
| CONTAINER TYPE and QTY | | **4 Military pallets + 1 LD3** | | | | |
| **Loading process** | | | | | | |
| The pallet crashes with latches and produces a jam. | | | | | | |
| Latch does not grab according to drawings. | | | | | | |
| PDU associated to XZ latch is not isolated | | | | | | |

| *TEST CONFIGURATION B (COMBINATION LOADS IN AFT CARGO COMPARMTENT)* | | | | | | |
|---|---|---|---|---|---|---|
| Type of incident | Latch* | Reason | Necessary to finish the test? (Y/N) | Solution taken | PALLET POSITION | Comments |
| CARGO HOLD | | **Aft Cargo Compartment** | | | | |
| CONTAINER TYPE and QTY | | **3 Military pallets** | | | | |
| **Unloading process** | | | | | | |
| The pallet crashes with latches and produces a jam. | | | | | | |
| Latch does not grab according to drawings. | | | | | | |
| Other | | | | | | |
| CONTAINER TYPE and QTY | | **1LD3+1LD6+one 96X125 container** | | | | |
| **Loading process** | | | | | | |
| The pallet crashes with latches and produces a jam. | | | | | | |
| Latch does not grab according to drawings. | | | | | | |
| PDU associated to XZ latch is not isolated | | | | | | |

| *TEST CONFIGURATION C (COMBINATION LOADS IN FWD CARGO COMPARMTENT)* | | | | | | |
|---|---|---|---|---|---|---|
| Type of incident | Latch* | Reason | Necessary to finish the test? (Y/N) | Solution taken | PALLET POSITION | Comments |
| CARGO HOLD | | **Aft Cargo Compartment** | | | | |
| CONTAINER TYPE and QTY | | **1 Military pallet +one 96x125 container+1LD6+1LD3** | | | | |
| **Unloading process** | | | | | | |
| The pallet crashes with latches and produces a jam. | | | | | | |
| Latch does not grab according to drawings. | | | | | | |
| (Other) | | | | | | |
| CARGO HOLD | | **Fwd Cargo Compartment** | | | | |
| CONTAINER TYPE and QTY | | **1 Military pallet + 1 LD6+ one 96x125 container** | | | | |
| **Loading process** | | | | | | |
| The pallet crashes with latches and produces a jam. | | | | | | |
| Latch does not grab according to drawings. | | | | | | |
| PDU associated to XZ latch is not isolated | | | | | | |

| *TEST CONFIGURATION D (FWD CARGO COMPARTMENT FULLY LOADED WITH 4 MILITARY PALLETS AND 1 LD3)* | | | | | | |
|---|---|---|---|---|---|---|
| Type of incident | Latch* | Reason | Necessary to finish the test? (Y/N) | Solution taken | PALLET POSITION | Comments |
| CARGO HOLD | | **Aft Cargo Compartment** | | | | |
| CONTAINER TYPE | | **1 LD6+ one 96x125 container** | | | | |
| **Unloading process** | | | | | | |
| The pallet crashes with latches and produces a jam. | | | | | | |
| Latch does not grab according to drawings. | | | | | | |
| (Other) | | | | | | |
| CONTAINER TYPE | | **2 Military pallets + 1 LD3** | | | | |
| **Loading process** | | | | | | |
| The pallet crashes with latches and produces a jam. | | | | | | |
| Latch does not grab according to drawings. | | | | | | |
| PDU associated to XZ latch is not isolated | | | | | | |

| Type of incident | Latch* | Reason | Necessary to finish the test? (Y/N) | Solution taken | PALLET POSITION | Comments |
|---|---|---|---|---|---|---|
| CONTAINER TYPE | | **4 Military pallets + 1 LD3** | | | | |
| **Unloading process** | | | | | | |
| The pallet crashes with latches and produces a jam. | | | | | | |
| Latch does not grab according to drawings. | | | | | | |
| (Other) | | | | | | |

***LATCH IDENTIFICATION:**
In order to easy identify the latches, use the following criteria: