



## **NATIONAL TRANSPORTATION SAFETY BOARD**

Office of Aviation Safety  
Washington, D.C. 20594

February 2, 2015

**Attachment 12 – NAL Loadmaster Training**

# **OPERATIONAL FACTORS**

**DCA13MA081**

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### A. NAL Loadmaster Training<sup>1</sup>

**National Airlines**  
**Cargo Operations Manual**  
**Ground Personnel Training**

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#### Chapter 7: Ground Personnel Training

##### 1. GENERAL

This chapter covers the Cargo Operations Training Program for non-crewmember Loading Supervisors, Ground Handling Personnel and Operations Controllers.

Training is required for any individual who:

- Determine the serviceability of ULDs,
- Handle hazmat or fragile load requirements,
- Determine cargo loading system maintenance,
- Performs repair of ULDs and cargo restraint systems,
- Performs receiving inspections for contractor repaired ULDs,
- Are responsible for the operator's records requirements
- Supervise aircraft cargo handling, and
- Is responsible for ULD build-up and aircraft loading

SRR: 121.1009(b)  
SRR: 121.135(b)(2)  
SRR: 121.135(b)(17)  
SRR: 121.135(b)(25)(i)  
SRR: 121.373

##### 2. OBJECTIVE

This training is designed to provide the employee with the knowledge for understanding the basic functions of the cargo aircraft loading and unloading procedures.

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<sup>1</sup> Source: National Airlines Cargo Operations Manual..

### 3. CARGO OPERATIONS TRAINING MODULES

SEGMENT MODULE DESCRIPTION	Initial LM	LM Recurrent	Initial CK LM	CK LM Recurrent	*Ground Handlers	*Ground Handlers Recurrent	**Ground Handlers	**Ground Handlers Recurrent	Load Planning	Load Planning Recurrent
<b>A. Introduction to Handling Principles</b>										
1. Review of FAA/NTSB Guidance	✓		✓		✓		✓		✓	
2. Systems Approach to Loading	✓		✓		✓		✓		✓	
3. Company Manual Interfaces	✓		✓		✓		✓		✓	
4. Where to Find Information	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Cargo Loading Policies	✓		✓		✓		✓		✓	
6. Carry On Baggage Program (Passenger OPS)	✓		✓		✓					
<b>B. Potential Hazards to Flight</b>										
1. Damage to Aircraft	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Ground Handling Damage	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Personal Safety	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Weight Control	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Effects of Weight on Flight Performance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. Weight and Balance Control Forms	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. Scales	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

SEGMENT MODULE DESCRIPTION	Initial LM	LM Recurrent	Initial CK LM	CK LM Recurrent	*Ground Handlers	*Ground Handlers Recurrent	**Ground Handlers	**Ground Handlers Recurrent	Load Planning	Load Planning Recurrent
<b>C. Restraint/Loading Limitations</b>										
1. Load Bearing	✓	✓	✓	✓					✓	✓
2. Cargo Handling Systems	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. General Restraint Procedures	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Calculating Restraints	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>D. Special Loads</b>										
1. Oversized Loads	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Motor Vehicles	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Animal Shipments	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Military Cargo	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>E. Proper Load Configurations</b>										
1. TSO C90(c)/TSO-C172, NAS 3610 Marking Requirements	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Proper ULD Build Up	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Identifying Unserviceable ULD's, Pallets, Nets	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. Restraint Fitting Limitations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. Deferral of Restraint Components	✓	✓	✓	✓			✓	✓	✓	✓

SEGMENT MODULE DESCRIPTION	Initial LM	LM Recurrent	Initial CK LM	CK LM Recurrent	*Ground Handlers	*Ground Handlers Recurrent	**Ground Handlers	**Ground Handlers Recurrent	Load Planning	Load Planning Recurrent
<b>F. Hazmat - Cargo Considerations</b>										
1. General Awareness	✓	✓	✓	✓					✓	✓
2. Positioning of Hazmat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Accessibility of Hazmat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>G. Aircraft Familiarization</b>										
1. Aircraft and Operations Safety	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Aircraft Dimensions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. Cargo Door Operations (Main Deck and Lower Deck)	✓	✓	✓	✓			✓	✓		
4. Use of Tall Post, Tall Stands and Nose Tethers	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. ULD and Cargo Compartment Contour	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. Packing Limitation Chart	✓	✓	✓	✓			✓	✓	✓	✓
7. Loading and Offloading Procedures	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Uses of Cargo Loading System	✓	✓	✓	✓			✓	✓		
* Ground Handlers: Non-NAL employees supervising aircraft ground handling during the absents of a NAL Loadmaster or Crewmember.										
** Ground Handlers: Non-NAL employees operating the cargo loading system and supervising aircraft ground handling during the absents of a NAL Loadmaster or Crewmember.										
Load Planning: Non-NAL employees performing the load planning of NAL aircraft										

#### **4. REFERENCE MATERIAL**

- SAE ARP 5486 Air Cargo Pallets-Utilization Guidelines
- SAE ARP 5595 Air Cargo Straps-Utilization Guidelines
- SAE 36104 Air Cargo Pallets and Nets
- ISO 16049-2

#### **5. TRAINING AIDS**

- Cargo Operations Manual
- Weight and Balance Manual
- OP-1B and OP-1C
- OP-2 and OP-2B
- OP-30 and OP-30M
- OP-31 and OP-31MC

#### **6. DOCUMENTATION**

The Instructor will complete the GROUND TRAINING ATTENDANCE RECORD (OT-17) or the CLASSROOM ATTENDANCE RECORD (OT-02) for each period of training. It is the Instructor's responsibility that the OT-17 or OT-02 is filled out properly and filed in the National Airlines Operations Training Department