

ORDERS: 8300.10 and 8400.10

APPENDIX: 3

BULLETIN TYPE: Joint Flight Standards Handbook Bulletin for  
Airworthiness (HBAW) and Air Transportation  
(HBAT)

BULLETIN NUMBER: HBAW 97-12A and HBAT 97-12A (AMENDED)

BULLETIN TITLE: Special Emphasis Surveillance of Part 121  
Air Carrier Cargo Loading Procedures

EFFECTIVE DATE: 09-05-97

AMENDED DATE: 09-01-98

TRACKING NUMBER: N/A

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NOTE: THIS BULLETIN REQUIRES SPECIFIC PTRS INPUT. SEE ITEM #4  
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1. PURPOSE. This bulletin has two specific purposes. The first purpose is to reemphasize and expand current policy and guidance concerning weight and balance control procedures, cargo loading procedures, loading schedules and instructions. The second purpose is to validate compliance with the certificate holders approved procedures. This entails the planned surveillance of cargo loading operations aboard an aircraft, repair limitations and part identification as it pertains to cargo containers, pallets, and nets. The regulatory requirements referenced in this bulletin are applicable to both, cargo operators and passengers/cargo(combination) operators.

Note: This bulletin is intended to provide inspectors with information, guidance, and regulatory requirements to perform surveillance. However, based on national requirements for Fiscal Year (FY) 99, these inspections should continue to be performed until it is adopted in Order 8300.10, Airworthiness Inspector's Handbook.

Note: Flight standards airworthiness bulletin, FSAW 97-21, Acceptable Means of Maintaining Cargo Containers, Pallets, and Netting Installed on Transport Category Aircraft, has been incorporated into this bulletin.

2. BACKGROUND. During routine surveillance, aviation safety inspectors (ASI) observed what may be unserviceable cargo containers, pallets, netting, and other restraint devices loaded into air carrier aircraft. In many cases, the restraint systems and cargo loading personnel are provided by a freight forwarding company under a lease agreement. This has caused some confusion and concerns about who is responsible for the serviceability of the restraint systems and the training of the cargo loaders. Questions may arise regarding services which are provided by the freight forwarding company; if they are considered contract to be contracted maintenance.

A. Title 14 of the Code of Federal Regulations (14 CFR) part 121, sec. 121.665 states, each certificate holder is responsible for the preparation and accuracy of a load manifest form before each takeoff.

The form must be prepared and signed for each flight by employees of the certificate holder who have the duty of supervising the loading of aircraft and preparing the load manifest forms or by other qualified persons authorized by the certificate holder.

B. Federal Regulations require that the certificate holder must ensure that those individuals, who are not the certificate holder's employees, are directly supervised during the performance of their duties, by an appropriately qualified supervisor, either employed or qualified and authorized by the certificate holder.

C. Part 119, sec. 119.53 outlines the requirements for wet leasing of aircraft and other arrangements for transportation by air. Upon receiving a copy of the wet lease, the Administrator determines which party to the agreement has operational control of the aircraft. Once that determination is made, the appropriate principal inspector issues amendments to the operations specifications of each party to the agreement, as needed. In making that determination, weight and balance control procedures are considered relevant factors in determining operational control.

D. Part 121, sec. 121.133 requires each certificate holder to prepare and keep a current manual for the use and guidance of ground personnel. This manual will include instructions and information necessary to allow the personnel concerned to perform their duties and responsibilities with a high degree of safety (ref. sec. 121.135(a)(1).) That manual must also contain information on the methods and procedures for maintaining the aircraft weight and center of gravity within approved limits (ref. sec. 121.135(b)(20).)

E. Part 121, sec. 121.153(a)(2) states, "Except as provided in paragraph (c) of this section, no certificate holder may operate an aircraft unless that aircraft is in airworthy condition and meets the applicable requirements of this chapter, including those relating to identification and equipment."

F. Part 25, sec. 25.1501(b) states the operating limitations and other information necessary for safe operation must be made available to the crewmembers as prescribed in sec. 25.1541 through 25.1587.

G. Part 25, sec. 25.1583(c)(2) requires loading instructions necessary to ensure loading of the airplane within the weight and center of gravity limits, and to maintain the loading within these limits in flight.

NOTE: The ability to maintain the loaded cargo within the aircraft's established center of gravity limits is achieved and ensured by "approved" tie-down equipment (including containers, nets and pallets.)

H. Part 25, Appendix F, part I, (a)(2)(iv) states, "insulation blankets and covers used to protect cargo must be constructed of materials that meet the requirements of paragraph (a)(1)(ii) of part I of this appendix. Tie-down equipment (including containers, bins, and pallets) used in each cargo and baggage compartment must be constructed of materials that meet the requirements of paragraph(a)(1)(v) of part I of this appendix."

I. Part 121, sec. 121.221(a)(3), (states), each compartment must be designed so that, when used for storing cargo or baggage, it meets the following requirement: "Materials used in the construction of the compartments, including tie down equipment, must be at least flame resistant, as stated."

J. Part 121, sec. 121.285(c) states, " cargo may be carried aft of a bulkhead or divider in any passenger compartment provided the cargo is restrained to the load factors in 25.561(b)(3) and is loaded as followed: (1) It is properly secured by a safety belt or other tie-down having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions."

K. Whenever a material, part, process, or appliance is required to be "approved," it must be approved under the FAA Regulations. Cargo equipment is approved under a Technical Standard Order (TSO). TSO-C90c titled Cargo, Pallets, Nets and Containers prescribes minimum performance standards and markings for cargo pallets, nets, and containers. The standards for each TSO are those the Administrator finds necessary to ensure the article concerned will operate satisfactorily. Cargo equipment must meet a standard which is established in TSO-C90c.

L. Unlike pallets, nets and containers which must comply with TSO-C90c, cargo track system and rollers are certified under an original Type Certificate (TC) or a Supplemental Type Certificate (STC). Instructions for serviceability and maintainability are contained under the TC or STC for continued airworthiness operation. Section 21.50 states the holder of a design approval including either the type certificate or supplemental type certificate for an aircraft, aircraft engine, or propeller for which application was made after January 28, 1981, shall furnish at least one set of complete instructions for continued airworthiness.

M. Part 21, sec. 21.607 states, "each manufacturer of an article for which a TSO authorization has been issued under this part shall," adhere to prescribed procedures in sec. 21.607(d)(1)(2)(3)(4).

NOTE: The presence of the required TSO article identification markings attached to the cargo equipment validates the requirements of part 121.153(a)(2).

N. Manufactures of cargo containers, pallets, and nets have established procedures for continued airworthiness. These procedures ensure compliance with the TSO. **It is the responsibility of the certificate holder to ensure proper serviceability and maintainability for cargo equipment used aboard their aircraft, which help ensure the safe operation of the aircraft.**

### 3. ACTION.

A. Principal maintenance inspectors (PMI) and principal operations inspectors (POI) shall review the listed existing guidance material and any other guidance material pertinent to the subject matter:

(1) FAA Orders 8300.10, Airworthiness Inspector's Handbook and 8400.10, Air Transportation Operations Inspector's Handbook;

(2) Advisory Circular (AC) 120-27C, Aircraft Weight and Balance Control; AC 25-18, Transport Category Airplanes Modified for Cargo Service; AC 25-17, Transport Airplane Cabin Interiors Crashworthiness Handbook;

(3) Applicable 14 CFR; and

(4) Airworthiness Directive 93-07-15-R0, Cargo Compartment Fire Detection.

B. PMI's and POI's possess various degrees and types of expertise and experience in the area of load manifests, cargo loading procedures, and weight and balance programs. Any inspector who needs additional information or guidance should coordinate with Air Carrier personnel experienced in that particular specialty. An effective weight and balance program will require the knowledge and skills provided by both Operations and Maintenance inspectors.

C. Upon receipt of this bulletin, principal inspectors are to review their assigned air carrier's weight and balance control procedures. This review shall include the subject areas discussed in this bulletin, along with the appropriate air carrier's manuals, operations specifications, and wet lease agreements. It is imperative that any out-source personnel used for cargo loading are qualified and authorized by the certificate holder to perform these functions. Principal inspectors are encouraged to review any training program their certificate holder accomplishes for personnel who supervise the loading of aircraft, prepare load manifest forms, or qualify and authorize other persons to accomplish these requirements.

D. Air carriers have a statutory mandate to perform their services with the highest possible degree of safety. Achievement of that goal requires a concerted effort between the FAA and the carrier. Special emphasis ramp checks are to be conducted in order to validate the current state of weight and balance control procedures and cargo loading operations. Special efforts should be undertaken to keep all carriers apprised of the methods by which FAA inspections are carried out and any instances of non-compliance discovered in those inspections. Carriers are encouraged, in turn, to utilize such information to evaluate their own systems, programs, and operations.

NOTE: The locations of these special emphasis ramp checks are at the discretion and judgment of the respective principal inspector. However, the location should be representative of the air carrier's typical area of operations.

4. PROGRAM TRACKING AND REPORTING SYSTEMS (PTRS) INPUT. ASI's may continue to use the attached PTRS Data Sheets modified in order to focus inspector surveillance and inspection activities.

NOTE: The use of the modified forms are not intended to limit an inspector's surveillance or inspection activity, but merely to focus on certain aspects of cargo loading operations.

A. There are two special emphasis ramp check forms attached to this bulletin. Activity number 1638 is to be used by Operations inspectors and activity number 3623 is to be used by maintenance inspectors, as a checklist. Section I of the modified form contains standard transmittal information. Section IV of the modified form contains specific inspection items. There are six mandatory inspection items and ten optional inspection items.

B. Inspectors are to ensure that all six mandatory inspections items have been accomplished and then select at least five of the ten optional inspection items to report on as the situation warrants.

C. Inspectors shall complete section I of the form and the section IV "Opinion Code" for each of the Mandatory and at least five Optional Inspection Items. The "Opinion Code" summarizes the inspector's impressions about the activity. There are three opinion codes:

"I" Information, "P" Potential, "U" Unacceptable

D. Mandatory Inspection Items: Any mandatory inspection item considered "acceptable" does not require the completion of an "Opinion Code" for that inspection item. However, any mandatory inspection item coded "I, P, or U" needs to be explained with appropriate comments following the specific inspection item.

E. Optional Inspection Items: Inspectors shall pick at least five optional inspection items from the list of ten items. The optional inspection items are to be chosen by the inspector as the situation and/or event necessitates. Any optional inspection item considered "acceptable" does not require the completion of an "Opinion Code" for that inspection item. However, any optional inspection item coded "I, P, or U" needs to be explained with appropriate comments following the specific inspection item.

**Note: Any unacceptable findings noted by the inspector must be brought to the attention of the pilot-in-command and/or the air carrier, prior to further flight. These findings should be resolved according to procedures located in the air carrier's manual system.**

5. INQUIRIES. This bulletin was developed by AFS-300 and AFS-200. Any questions or comments concerning its content should be directed to Emilio Estrada (AFS-310) at (202) 267-5571, Jose Figueroa (AGL-230E) at (847) 304-9178, or Kent Stephens (AFS-200) at (703) 661-0571.

6. LOCATION. This bulletin will remain in effect until incorporated into FAA Order 8300.10, Airworthiness Inspector's Handbook; volume 2, chapter 74; and FAA Order 8400.10, Air Transportation Operations Inspector's Handbook; volume 6, chapter 2, section 2. Inspectors should make a note of this bulletin in the margin of the affected chapters.

/s/

Richard O. Gordon, Director,  
Flight Standards Service

ATTACHMENTS

Inactive Doc

| <b>PROGRAM TRACKING AND REPORTING SUBSYSTEM DATA SHEET</b><br><b>(One PTRS Record Required for Each Unit of Work as defined in the PPM)</b> |                       |                                           |                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SECTION I - Transmittal</b>                                                                                                              |                       | <b>SPECIAL EMPHASIS RAMP CHECK: CARGO</b> |                                                                                                                                                                                                                     |
| <b>LOADING OPERATIONS</b>                                                                                                                   |                       |                                           |                                                                                                                                                                                                                     |
| Inspector Name Code:                                                                                                                        |                       |                                           |                                                                                                                                                                                                                     |
| Record ID:                                                                                                                                  | Activity Number: 3623 | 14 CFR: 121                               |                                                                                                                                                                                                                     |
| Start Date:                                                                                                                                 | Status (POC):         | Callup Date:                              |                                                                                                                                                                                                                     |
| Designator:                                                                                                                                 | Results (ACEFISTX):   | Closed Date:                              |                                                                                                                                                                                                                     |
| Aircraft Reg #:                                                                                                                             | Loc/Departure Point:  | Flight #:                                 |                                                                                                                                                                                                                     |
| Make-Model-Series:                                                                                                                          |                       |                                           |                                                                                                                                                                                                                     |
| Non-Cert Activity Name/Company:                                                                                                             |                       |                                           |                                                                                                                                                                                                                     |
| <b>SECTION IV - INSPECTION ITEMS</b>                                                                                                        |                       |                                           |                                                                                                                                                                                                                     |
| Primary Area                                                                                                                                | Key Word              | Opinion Code                              | INSPECTION ITEMS<br>(Mandatory Items)                                                                                                                                                                               |
| A                                                                                                                                           | 613                   |                                           | The load manifest form is prepared and signed by <u>employees</u> of the certificate holder who have the duty of supervising the loading of aircraft and preparing the load manifest form.                          |
| A                                                                                                                                           | 899                   |                                           | The load manifest form is prepared and signed by <u>other qualified persons</u> authorized by the certificate holder who have the duty of supervising the loading of aircraft and preparing the load manifest form. |
| A                                                                                                                                           | 767                   |                                           | Cargo carried in an approved cargo rack, bin, or compartment.                                                                                                                                                       |
| A                                                                                                                                           | 603                   |                                           | Cargo secured by means approved by the Administrator.                                                                                                                                                               |
| F                                                                                                                                           | 801                   |                                           | Cargo is properly secured by an appropriate tie-down having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions.                                   |
| F                                                                                                                                           | 625                   |                                           | Cargo does not impose any load on the floor structure that exceeds the compartment placard limits of that floor structure.                                                                                          |
|                                                                                                                                             |                       |                                           | <b>(Optional Items)</b><br>Choose at least 5 of the 10 items to report)                                                                                                                                             |
| A                                                                                                                                           | 515                   |                                           | General condition of ramp area (FOD, fuel/oil spills, etc.)                                                                                                                                                         |
| H                                                                                                                                           | 853                   |                                           | Cargo compartment structural damage, liners free of tears/punctures, etc.                                                                                                                                           |
| H                                                                                                                                           | 826                   |                                           | Cargo compartment fire detection/protection for its classification                                                                                                                                                  |
| H                                                                                                                                           | 852                   |                                           | Cargo door free of fluid leaks and structural damage                                                                                                                                                                |
| F                                                                                                                                           | 825                   |                                           | Loading systems (main deck and lower deck) serviceability                                                                                                                                                           |
| H                                                                                                                                           | 803                   |                                           | Forward, aft, and side restraints serviceability                                                                                                                                                                    |
| H                                                                                                                                           | 851                   |                                           | Roller assemblies secure with no missing or broken rollers                                                                                                                                                          |
| H                                                                                                                                           | 810                   |                                           | "9G" forward restraint net serviceability (SRM Chapter 51 limits)                                                                                                                                                   |
| A                                                                                                                                           | 816                   |                                           | Unit Load Devices (ULD) serviceability                                                                                                                                                                              |
| A                                                                                                                                           | 501                   |                                           | Current calibration of cargo scales                                                                                                                                                                                 |
| <b>Date:</b>                                                                                                                                |                       | <b>Originator:</b>                        | <b>Office:</b>                                                                                                                                                                                                      |
| <b>Inspector Signature:</b>                                                                                                                 |                       |                                           | <b>Supervisor Initials:</b>                                                                                                                                                                                         |

**PROGRAM TRACKING AND REPORTING SUBSYSTEM DATA SHEET**  
**(One PTRS Record Required for Each Unit of Work as defined in the PPM)**

**SECTION I - Transmittal  
LOADING OPERATIONS**

**SPECIAL EMPHASIS RAMP CHECK: CARGO**

|                                 |                       |              |
|---------------------------------|-----------------------|--------------|
| Inspector Name Code:            |                       |              |
| Record ID:                      | Activity Number: 1638 | 14 CFR: 121  |
| Start Date:                     | Status (POC):         | Callup Date: |
| Designator:                     | Results (ACEFISTX):   | Closed Date: |
| Aircraft Reg #:                 | Loc/Departure Point:  | Flight #:    |
| Make-Model-Series:              |                       |              |
| Non-Cert Activity Name/Company: |                       |              |

**SECTION IV - INSPECTION ITEMS**

| Primary Area | Key Word | Opinion Code | INSPECTION ITEMS<br>(Mandatory Items)                                                                                                                                                                               |
|--------------|----------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A            | 613      |              | The load manifest form is prepared and signed by <u>employees</u> of the certificate holder who have the duty of supervising the loading of aircraft and preparing the load manifest form.                          |
| A            | 899      |              | The load manifest form is prepared and signed by <u>other qualified persons</u> authorized by the certificate holder who have the duty of supervising the loading of aircraft and preparing the load manifest form. |
| A            | 767      |              | Cargo carried in an approved cargo rack, bin, or compartment.                                                                                                                                                       |
| A            | 603      |              | Cargo secured by means approved by the Administrator.                                                                                                                                                               |
| F            | 801      |              | Cargo is properly secured by an appropriate tiedown having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions.                                    |
| F            | 625      |              | Cargo does not impose any load on the floor structure that exceeds the compartment placards limits of that floor structure.                                                                                         |
|              |          |              | <b>(Optional Items)</b><br>Choose at least 5 of the 10 items to report)                                                                                                                                             |
| A            | 515      |              | General condition of ramp area (FOD, fuel/oil spills, etc.)                                                                                                                                                         |
| A            | 721      |              | Pallet locks checked by load supervisor to ensure locks are in locked position                                                                                                                                      |
| A            | 609      |              | Cargo weights furnished by freight forwarders are spot checked for accuracy                                                                                                                                         |
| A            | 711      |              | Cargo loaded in accordance with the air carrier's approved policies and procedures                                                                                                                                  |
| H            | 809      |              | All compartments and other loading stations are properly marked and the identification used corresponds with the instructions established for computing weight and balance of the aircraft                          |
| A            | 605      |              | Flightcrew has either properly computed actual weight and balance of aircraft prior to takeoff or has received this information through approved means.                                                             |
| A            | 105      |              | Contract personnel load the aircraft in accordance with air carrier's approved procedures                                                                                                                           |
| A            | 621      |              | Information relative to maximum capacities and other pertinent limitations affecting the weight or balance of the aircraft is provided and known by the flightcrew.                                                 |
| A            | 517      |              | Cargo doors and loading equipment secured prior to aircraft movement                                                                                                                                                |
| A            | 641      |              | Review load manifest for hazardous cargo procedures (report discrepancies to appropriate FAA PSI)                                                                                                                   |

|                             |                    |                             |
|-----------------------------|--------------------|-----------------------------|
| <b>Date:</b>                | <b>Originator:</b> | <b>Office:</b>              |
| <b>Inspector Signature:</b> |                    | <b>Supervisor Initials:</b> |

