This PDF contains diagrams and information related to SFO Baggage Handling Systems

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Airport Lease and Use Agreement: Section 209 – Equipment Maintenance and Operations

Airport Baggage Hygiene Policy

T1, T2, International Terminal Baggage Handling System Diagram

T2 Baggage Handling System Diagram
Section 209 Equipment, Maintenance and Operating Agreements.

A. Domestic Terminals.

(i) City-owned passenger loading bridges and baggage handling systems. Airline will be responsible for equipment maintenance functions on City-owned baggage handling systems, including high-tech maintenance, and passenger loading bridges at Preferential Use Gates either directly through Airline’s employees or through one or more owned passenger loading bridges at Common Use Gates.

(ii) Other City-owned equipment and systems. City will be responsible for equipment maintenance functions on certain other City-owned equipment and systems utilized by Airline, including but not limited to, centralized baggage handling system monitoring and control systems related to explosive detection equipment, preconditioned air, and 400Hz ground power.

B. International Terminal.

(i) City-owned passenger loading bridges and baggage handling systems. Airline will be responsible for equipment maintenance functions on City-owned passenger loading bridges and baggage handling systems either directly through Airline’s employees or through one or more Terminal Companies. Airline will not be responsible for equipment maintenance functions on City-owned equipment described in Subsection (ii) below unless otherwise agreed to by the parties.

(ii) Other City-owned equipment and systems. Unless otherwise agreed to by the parties, City will be responsible for equipment maintenance functions on certain other City-owned equipment and systems utilized by Airline, including centralized baggage handling system monitoring and control systems related to explosive detection equipment, preconditioned air, 400Hz ground power, and other equipment owned by City as of the Effective Date. City shall have sole discretion to retain or assign maintenance functions with respect to new equipment acquired by City after the Effective Date upon consultation with the applicable Terminal Company or the Signatory Airlines operating from the IT.

C. Maintenance Standards.

All equipment maintenance functions will be subject to audit and oversight by City, and will be conducted in accordance with maintenance schedules, record-keeping, reporting and quality standards established by City. Airline will submit for City’s approval a maintenance plan to meet City’s requirements. City reserves the right to assume equipment maintenance functions for City-owned passenger loading bridges and baggage handling systems following notice to Airline in the event, at City’s sole determination, Airline fails to comply with maintenance standards established by City and to cure such failure within 90 days of City's notice.
March 2013

AIRPORT OPERATIONS BULLETIN

(13 – 01 – AOB)

TO: All Airlines, Ground Handling and Baggage Servicing Companies

SUBJECT: Proper bag placement on outbound ticket counter take-away belts.

Purpose

To establish proper baggage hygiene requirements and procedures for the correct placement of checked baggage on baggage conveyor systems at San Francisco International Airport (SFO).

Background

Baggage Handling Systems are an integral part of Airport and Airline operations. Baggage conveyors transport checked baggage from the ticket counter areas through security screening/inspection areas, and out to make-up carrousels. Although our baggage handling systems are built to withstand current and future baggage activity, they are susceptible to disruptions and degraded performance as a result of poor baggage placement (hygiene).

New technologies in Explosive Detection Systems (EDS), which are integrated into our baggage handling systems, require a higher degree of compliance with baggage hygiene. Correct baggage hygiene is absolutely necessary to ensure the efficiency of baggage handling systems. Improper and careless handling of baggage may result in bag jams, partial or full system outages, and damage to security systems, ultimately affecting flight operations and causing operational delays.

The Airport is currently installing newer and faster EDS machines (CTX 9800) in several of its baggage handling systems. With faster CTX 9800 EDS’s, fewer of these machines are necessary to meet the current and future bag volumes making the need for baggage hygiene critical to moving bags from the ticket counters to the outbound make up units. An outage caused by bag jams or bag damage has a greater potential than ever before to impact and/or disrupt operations.

Action

The following baggage hygiene procedures, attached herein, must be adhered to by all Airport, Airline, and Contracted personnel at San Francisco International Airport who are directly involved in the handling and placement of checked baggage into the Airport Baggage Handling Systems, and must be included in all applicable contracts and training programs.

Effective Date: March 15, 2013

[Signature]
John L. Martin
Airport Director

Attachment
SAN FRANCISCO INTERNATIONAL AIRPORT

BAGGAGE HYGIENE POLICY

03/30/13

Prepared by

BNP ASSOCIATES, INC.

CAGE Inc.
CONVEYOR BAG HYGIENE OVERVIEW

The Airport baggage handling systems transport passenger bags through security screening equipment that requires bags be tracked throughout their journey from the checked baggage screening area input conveyors out to the make-up carrousels. Although the baggage handling systems are built to handle the current bag volumes, the systems have limitations and are susceptible to degraded performance if certain basic baggage hygiene rules are not followed. Poor bag hygiene results in bag jams, degraded system performance and even full system outages that affect not only the offender, but all users of the system. In order to avoid these problems a set of simple baggage hygiene procedures must be adhered to by everyone who will be using these systems. For this reason, both the TSA and SFO Airport Authority is requesting that all airlines and baggage service companies reinforce with their front line supervisors, ticket counter agents and ramp personnel the importance of following proper bag hygiene procedures and that they go over the following rules that must be practiced at all times.

PASSENGER CHECK-IN PROCEDURES

At the time of passenger check-in, airline customer service agents are requested to ask the passengers to do the following:

- **Remove Straps** – Loose straps must be removed from bags or the bags need to be placed in tubs with all straps inside the tub.

- **Remove Old Tags** – All old bag tags including tear-off (bingo) tags, cruise ship tags and tour tags need to be removed from bags.

- **Stow Wheeled Bag Handles** – Fully retract all bag handles and be sure they are locked in place. If handle cannot be stowed, agent should place bag on the Oversize line.

- **Duffle Bags and Backpacks** – All duffle bags and backpacks shall be put into tubs. When tubs are unavailable, Velcro or snap clasp together all duffel and backpack straps.

- **Backpack Hip Supports** – Backpack hip supports need to be folded back and tied down around the backpack so that they do not extend out like wings.

- **Remove Dangling Items** – All loose ribbons, belts, chains, etc. must be removed or tucked inside the bag. Utilize airline-provided ID tags as an alternative to bigger personal ID tags.

BAGGAGE CHARACTERISTICS

The table below lists the minimum and maximum baggage dimensions for standard and oversize conveyor. Items that are larger than the Oversize Conveyor Maximum are considered to be non-conveyable and must not be placed onto any conveyor, but shall be handled according to manual oversize procedure. Bags 96” long or greater must be handled according to manual oversize procedure. General Rule: If an item cannot be easily handled by one person it should not be put on a conveyor. See the Prohibited Items section for further detail on non-conveyable items. Items that are smaller than the Standard Conveyor Minimum shall be placed into tubs. See the Tubbing Policy section for more information.
TUBBING POLICY

Bag tubs should be used for any item that is irregular in shape or does not have at least one flat surface, and will have a tendency to roll around or move while being transported on a conveyor. The following guidelines shall be used for determining which items should be placed into tubs:

- **Items that are smaller than the above-listed size for Standard Conveyor Minimum** – Place into a tub.
- **Items Weighing Less than 15 Pounds** – Place into a tub with the item to the back of the tub to ensure that it will pass through the EDS machine.
- **Duffle Bags** – All duffle bags that are within standard bag size (< 54") should be placed into a tub.
- **Roller Duffle Bags** – All duffle bags that are within standard bag size (< 54") should be placed into a tub.
- **Garment Bags** – Place into a tub.
- **Child Car Seats** – Place upside down in a tub with the tag on the outside of any plastic wrap and the plastic wrap tucked under the seat (See Exhibit 3)
- **Small Boxes** – Place into a tub.
- **Shrink Wrapped Items or Items in Plastic Bags** – Place into a tub.

BAGGAGE PLACEMENT ON CONVEYORS

Proper placement of checked baggage on the conveyor system will increase the likelihood that bags travel through the system without issue. Proper placement also helps reduce the number of bags that require secondary screening which extends the bags travel time from input point to make-up carousel. The following guidelines should be adhered to whenever possible:

- **General Bag Orientation** – Baggage and baggage Tubs must be placed on conveyors such that its longest dimension is in the direction of conveyor travel and the shortest dimension is its height.
- **Bag Gapping** – A minimum 12” gap is required between any two pieces of baggage being placed on a conveyor to ensure that the system can properly track and distribute the baggage. (See Exhibits 1 & 2)
• **Two Wheeled bags** – Place onto conveyor with wheels up and with the wheels trailing (bag tag forward).

• **Four Wheeled Bags** – Place onto conveyor on its side with the wheels trailing and the bag tag forward.

• **Overstuffed Bags** – Overstuffed baggage with rounded surfaces must be placed on the largest flat surface of the bag, or in a tub.

• **Large Boxes** – Place on conveyor such that the longest dimension is in the direction of conveyor travel and the shortest dimension is its height.

• **Golf Clubs** – Place onto the Oversize conveyor line.

• **Items Weighing More than 120 Pounds** – Place onto the Oversize conveyor line.

**PROHIBITED ITEMS – Not Conveyable**

The following items are not allowed to be placed directly onto any conveyor. These items, and items with similar characteristics, must be handled by the current manual oversize procedures. This list of prohibited items is not all-inclusive, but serves as an example of non-conveyable items:

• Surf boards
• Skim boards
• Skis and snow boards
• Guitars
• Gun & Rifle Cases
• Hockey sticks
• Baseball bats
• Shovels
• Crutches
• Walkers
• Any item less than 6 inches in height unless it will fit in and is placed into a tub.
• Any item longer that 96” (Note: that the 96” calculation includes straps, handles tags and any other items that would add to the length of the bag.

**CHECKED ITEMS SUSCEPTIBLE TO DAMAGE**

The baggage handling system transports baggage from the input points through security screening process and out to the make-up carousels in a manner that does not damage the contents of the
average checked bag. This does not mean however that baggage is not jostled and transported in a manner that may cause damage to the bags contents. The following items if placed directly on the conveyor or packed in baggage cannot be guaranteed to make it through the system without damage and therefore should be handled, at the airlines discretion, as oversized or non-conveyable:

- Glassware
- Porcelain objects
- Glass beverage containers including those for wine and hard alcohol
- Electronics
- Musical instruments
- Anything warranting a “Fragile” or “Handle with Care” tag.

BAG TAG PROCEDURES

The baggage handling system depends on being able to read airline generated bag tag bar codes for tracking the bag through the screening process and delivering it to the correct make-up unit. Following certain basic bag tag procedures helps increase the likelihood that the tag will be read correctly and they are as follows:

- **Clearly Present Barcodes** – Bag tags must be placed on the bag and then onto the conveyer in such a manner that the tag is clearly presented and the bar codes are unobstructed. This means tags cannot be wrapped around handles, placed under bags in tubs or covered up by any part of the bag.

- **Remove Old Bag Tags** – All old bag tags and tear-offs (bingo) tags must be removed to avoid the automatic tag reader getting conflicting bar code information.

- **Place Tags Outside Plastic Bags** – Protective plastic bags can be placed over baggage and placed directly on the conveyor system on the condition that the bag tag is either applied to the outside of the plastic bag or is attached to the item inside the plastic bag and then pulled out through a hole in the plastic bag so that the tag is not obstructed by the opaque plastic bag.

- **Limit Use of Expedite Tags** – Expedite tags generally do not conform to IATA standards and therefore can’t be read and properly processed by the baggage handling system.

- **Report Poor Tag Print Quality** - Poor quality barcodes on tags with incomplete printing or streaking reduces the probability that the barcode can be read or is even valid. When poor quality tags are noticed a service call should be made to have the printer serviced.

- **Tear Off or “Bingo” Tags** – Do **not** place tear off tags on the bags. They do not increase the barcode read rate and they litter the system and can damage the screening equipment.

- **Use Fallback Tags** – The use of locally printed IATA compliant fallback tags is recommended whenever an airline loses the ability to print tags from its corporate system. These tags are properly formatted to be read by the baggage handling system and ensure the highest level of system performance. When fallback tags are used on bags in tubs, do not place the fallback
tags directly onto tubs.

**PROBLEM ITEM EXAMPLES**

**Photo 1** – “Unrecognized Tag” caused by multiple barcodes.

**Photo 2** – “Jam” caused by one bag being detected as two as a result of gap under bag.
Photo 3 – “No Read” caused by poor barcode presentation and partially blocked barcode.

Photo 4 – “No Read” caused by COMAIL barcode not fitting sort parameters and unreadable barcode.
Photo 5 – “No Read” caused by poor tag print quality.

Photo 7 – “No Read” caused by tag being wrapped around handle.
Photo 8 – “No Read” caused by barcode being blocked by object on bag.
Exhibit 1 – Improper baggage gapping.

Incorrect

No Gap

Exhibit 2 – Proper baggage gapping of at least 12 inches.

Correct

12" Gap
Exhibit 3 – Proper placement of child car seats into tubs.
Exhibit 4 – Bag Hygiene Placard