Introduction to Air Freight
Created by Transportation Development Group

For more info and complete schedule of this and other classes visit:

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# DAY 1 - INTRODUCTION TO FREIGHT FORWARDING

## Learning Objectives

- The Past and Present role of the air freight industry
  - Global Transportation Before the 20th Century
  - Modern Transportation (highway, rail, vessel, air)
  - Primitive equipment
  - Air freight once was a transportation mode reserved solely for emergencies.
  - The role air freight is playing today
- Unit 1 Summary
- Unit 1 Review Questions

## Air freight – Services and Pricing

- Domestic
- International Services Offered
- Services Review
- Pricing Overview
- Typical Domestic Tariff (Example – 2 day rates)
- Example using pricing matrix
- This is a price per “hundredweight”
- Exercise: Rate the following shipments
- Break Even Weight
- Other Charges
- Summary
- Unit quiz
- Rate this shipment
- Valuation charges

## The role of transportation providers

- Types of Air Freight Carriers/Providers
- Unit Exercise
- The role that truckers play…
- Brief Review of aircraft and containers
- Unit Exercise

# DOT HAZARDOUS MATERIALS AWARENESS TRAINING

# DAY 2 -- FREIGHT FORWARDER OPERATIONS

## Learning Objectives for Day 2

## Unit: Daily Operations

- A typical day at a freight forwarder
- Station Work Flow
- AM Ops: Reviewing inbound alerts /Setting up recoveries
- Things to watch for in setting up recoveries
- Airport recovery Notes
- Delivery dispatching
### Receiving of inbound cargo

#### Taking the pickup & dispatching
- Many forwarders choose to “farm out” the work to agents
- The pickup order
- Dispatching
- Other PU&D Terminology
- Most common PU&D Problems
- End of Dispatching Unit
- Unit Exercise

#### PM Operations
- Checking in incoming freight
- Checking the “dims”
- Exercise: Evening Operations

#### Unit: Routing and using guidebooks (OAG, etc)
- Decision tree
- Managing by Delivery Due Date
- Using containers & ULDs
- ULDs
- The importance of “widebody” aircraft
- How to memorize the narrowbody and widebody aircraft types
- Loading restrictions of ULD’s
- Calculating the cubic volume of your shipment

#### Booking space with the carriers
- General Rules about booking cargo
- Cancellation Penalties

#### Manifesting
- Consolidation manifest

#### Preparing and sending alerts
- Back in the old days, alerts were sent by telex or “teletype”
- Example of computerized alerts board
- Confirming alerts
- DTC “direct to consignee” alerts

#### Updating Shipment Status in your system(s)
- Status updating

#### Processing P.O.D.S
- Advanced Systems
- Manual systems

#### Managing a “gateway” operation
- Managing the consolidation schedule for international
- Breakbulk Operations

#### Unit: Using the OAG
- There are two main types of OAGs
- Using the OAG Worldwide Cargo Edition
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Introduction and the Role of Air Freight

Course Syllabus – Intro to Forwarding

Day 1 - INTRODUCTION TO FREIGHT FORWARDING

Learning Objectives

- A brief history of the industry and basic understanding of the importance of air freight
- Basic understanding of the range of services offered from deferred to same day plus international
- Basic understanding of the range of air freight pricing
- Understand how to charge for volume weight
- Understand the different roles of companies in the industry from forwarders, to brokers, to co-loaders & truckers
- Understand the different roles of departments in a forwarders organization from accounting to sales
- An introduction into different aircraft types and containers
- DOT Hazardous Materials Training (General Awareness & Safety)
The Past and Present role of the air freight industry

Global Transportation Before the 20th Century

Before the 20th century, our world was a much larger place. A trip from New York to Sydney could take months. Today, this 10,000 mile journey is accomplished in less than a day.

Modern Transportation (highway, rail, vessel, air)

Today’s modern transportation infrastructure circumnavigates the globe.

The interstate highway system here in the U.S. makes it possible to cross the entire country in less than three days. By rail, a stack-train loaded in Los Angeles on Monday and be ready for unloading in New York at the end of the week.

Primitive equipment

- Just after world war two, it would have taken a DC-3 carrying 6,000 pounds of cargo almost 24 hours and four stops to make it across the U.S.
- Now that trip can be accomplished in a 747 flying non-stop in about four hours and carrying over 200,000 pounds of cargo.

Air freight once was a transportation mode reserved solely for emergencies.

If an assembly line was about to shut down because of a missing part, then the cost of air freight was cheap compared to the cost of lost production.

The role air freight is playing today

Market Share

- (i.e. less than 1% of the tonnage but 33% of the value of all goods transported...)
Types of products shipped by air

High Value Products

Significant inventory carrying costs

• Each day reduced in the “pipeline” means they can spend more on transportation.
• High “value-density” is important
• The higher the value per pound, the more likely it is for an expedited logistics program, as the cost of transportation is relatively lower in relation to the carrying costs

How much money does faster transportation save?

A quick analysis of inventory costs

Inventory carrying costs for many high-tech companies average at least 25% a year. This works out to two percent a month.

This means that a company with $10,000,000 a month in inventory would pay $200,000 dollars a month for inventory costs, or about $33,333 dollars a day.

Reducing just five days of inventory a month would save over $150,000 a month! That would pay for a lot of air freight!

Fast Selling “Hot” product

The hotter the product, the more important the velocity of the logistics pipeline. It’s no use having the best selling widget if you cannot get it to market.

Cyclical sales cycle

The more “peaks and valleys” in their sales, the more value added by a third party who can smooth those out by taking on a temporary distribution center role

• Clothing / “Fashion”
• Toys
• Electronics

Local Production, Global distribution

A company that seeks to compete globally with their product, but does not have the distribution resources needs expedited logistics programs
High Product obsolescence

Any product that constantly loses value in the distribution channel is a good candidate. Laptops, cellular phones, software, all are good examples.

“Critical” products

- Medical equipment/supplies, emergency parts.
- Emergency Parts (AOG)
Unit 1 Summary

- Air freight was once reserved for emergencies and critical products
- Now air cargo is a way to reduce inventory costs and improve customer service
- Today’s modern aircraft can carry thousands of pounds of cargo just about anywhere in the world within 24 hours
- Typical air freight commodities include, high value products, time sensitive shipments, medical supplies and critical parts.
- Inventory carrying costs, which include insurance, risk of product obsolescence, finance costs, etc can account for as much as 25% of the value of the goods.
- For example, a company who cuts 120 days from their $100 million dollar inventory by using air freight can save as much as $8,000,000 dollars a year (2% a month x 4 months = 8% savings).
Unit 1 Review Questions

1. Name three commodities that are frequently air freighted and why.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Reason for air freight</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.e. “newspapers”</td>
<td>Time Sensitive</td>
</tr>
</tbody>
</table>

2. Air Freight makes up the largest percentage of the global transportation market when you consider: (Circle one answer)
   1. Total tonnage by all modes
   2. Total value of all goods shipped by all modes
   3. Total transportation expenditures by all modes

3. You are a sales rep for XYZ Air Freight, rank the following prospects.
   1 = Good Air Freight prospect
   2 = Generally, not a good prospect

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Reason for air freight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamakua Sugar Co.</td>
<td>Large quantities of raw sugar</td>
</tr>
<tr>
<td>Apple Computer</td>
<td>Laptop computers, PC’s, electronics</td>
</tr>
<tr>
<td>The Limited</td>
<td>Wearing apparel, ladies fashion</td>
</tr>
<tr>
<td>USA Today</td>
<td>Newspapers</td>
</tr>
<tr>
<td>US Steel</td>
<td>15,000 pound rolled coils of steel</td>
</tr>
<tr>
<td>Zoloff Pharmaceuticals</td>
<td>Drugs</td>
</tr>
<tr>
<td>Fidelity Investments</td>
<td>Stock prospectus, mutual fund drive info</td>
</tr>
</tbody>
</table>
Air freight – Services and Pricing

Domestic
- Same Day
- Overnight
- Second Day
- Deferred
- Time Definite
- Typical domestic pricing table

Same Day
About ten years ago, there was a real push in the industry to market same day…many ads touted “when overnight isn’t soon enough!”

NFO or “Next Flight Out”, also known as “over the counter” airfreight
In many cases this is “same day service”.
The packages are usually limited to 70 pounds each and must be brought to the ticket counter or a special desk at the airline where it moves in the baggage system rather than the freight system.
The advantage of “over the counter” shipments are their late cutoff and early recovery times.¹

One limitation, though, is the cargo is generally limited to no more than 70 pounds, plus there are size restrictions, same as baggage.

Overnight
This market has been around a long time, but only really developed in the 1970’s by Federal Express. Freight is delivered the next business day. There are a variety of delivery commitments offered by forwarders and express companies.

Express Companies: 0800-1030, or 1200 noon
Forwarders: Many have 5:00 PM delivery deadlines, though some are 1200 p.m.

¹ The cutoff times are the airlines are also known as “closeout” or “lockout” times. Airlines need time to process the freight and normally that at least three hours prior to flight departure, and the recovery times are at least 90 minutes after arrival. Since NFO freight goes through the baggage system, it can be checked in and recovered in as little as a half an hour.
8:00 AM Delivery?

The integrators such as FedEx and UPS have had a constant seesaw battle to see who could come up with the earliest delivery commitments.

Delivery guarantees

Many markets have an 8:00 AM delivery commitment\(^2\) and some companies offer a money-back guarantee.

Many of the major forwarders and most of the express companies offer guarantees on their overnight and second day service.

The express companies are usually the most aggressive when it comes to guarantees because the freight is moving in their own network, usually on their own aircraft.

Traditional freight forwarders, who use regularly scheduled commercial carriers do not always offer guarantees because the service to them (from the carriers) is not usually guaranteed.

However, traditional forwarders can often quote the shipper a lower price for their services vs. the express companies, so as always, there are considerations to trade off.

Second Day

This has long been the mainstay of “traditional” air freight forwarders.

Freight is delivered by five PM on the second BUSINESS day following pickup. i.e. freight picked up on Tuesday delivers on Thursday.

For many years, the forwarders had the marketplace to themselves, but more than 13 years ago, UPS stepped up the pressure and offered their UPS Blue second day service. On a per package basis it was much cheaper than the forwarders minimums. However, the typical forwarder customer ships more than one package at a time, and for multiple packages, the forwarders still had a tremendous price advantage, because they were priced by the pound or “hundredweight”, and not a price per package.

UPS, FedEx and other express companies (as well as some forwarders) offer a variety of delivery times for their second day product.

“Deferred” Service

Typically three to five business days domestically, depending upon the distance.

Coast to coast transit-times are typically 4 to 5 business days.

\(^2\) A delivery “commitment” is not necessarily the same as a guarantee – a refund does not result if they don’t make it in time.
This service competes with both air freight companies and LTL truckers. However, this market is becoming very competitive as LTL truckers are increasing their service levels and decreasing their transit-times. **UPS just guaranteed their ground service**

**Charter Service**

*Many times a forwarder will help a customer charter an entire aircraft*. This means that the aircraft is completely at the customer’s disposal. Here are a few ground rules about chartering a plane:

- All charges are normally paid in advance
- Charters are usually on a round trip basis
- There is a charge for cancellation that gets higher and higher as you approach the charter flight date. Charters cancelled without sufficient notice will get no refunds.
- Charters are cheaper on “backhaul” lane segments – i.e. SFO to HKG in the fall

**International Services Offered**

- Consolidation service
- Direct Service
- Door to Airport
- Door to Door

**International: Consolidation Service**

**What is “consolidation service”**

Shipments from different shippers (generally) are grouped together and tendered to the airline as one shipment with the forwarder becoming the “shipper” in the eyes of the airline.

The forwarder gets a much lower price because of the higher volume than the shipper could get themselves by going direct to the airline.

The forwarder or “consolidator” makes their money on the difference between what they charge the individual shippers and what the airlines charge them.

*This is typically referred to as the “gross margin” or the “spread”.*

**Example of consolidation rates**

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3 There is a list of charter airlines and the types of aircraft they operate published in the OAG.
Example of consolidation rates

A freight forwarder or “consolidator” is a company who has contracts with airlines and can provide rates to the shipper that are lower than what they could get if they went to ship with the airline directly. Here is an example:

<table>
<thead>
<tr>
<th>CUSTOMERS</th>
<th>WEIGHT</th>
<th>RATE WITH AIRLINE</th>
<th>TTL</th>
<th>SAVINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHIPPER A</td>
<td>45</td>
<td>$5.00</td>
<td>$225.00</td>
<td>-</td>
</tr>
<tr>
<td>SHIPPER B</td>
<td>45</td>
<td>$5.00</td>
<td>$225.00</td>
<td>-</td>
</tr>
<tr>
<td>SHIPPER C</td>
<td>45</td>
<td>$5.00</td>
<td>$225.00</td>
<td>-</td>
</tr>
<tr>
<td>FORWAERDER</td>
<td>135</td>
<td>$3.00</td>
<td>$405.00</td>
<td></td>
</tr>
<tr>
<td>SHIPPER A</td>
<td>45</td>
<td>$4.00</td>
<td>$180.00</td>
<td>-20%</td>
</tr>
<tr>
<td>SHIPPER B</td>
<td>45</td>
<td>$4.00</td>
<td>$180.00</td>
<td>-20%</td>
</tr>
<tr>
<td>SHIPPER C</td>
<td>45</td>
<td>$4.00</td>
<td>$180.00</td>
<td>-20%</td>
</tr>
</tbody>
</table>

So you can see that because the forwarder can consolidate the shipments from several shippers they can get a less expensive rate from the airline and pass this saving on to the shippers and still make a profit themselves.
International: Direct IATA Service

These are the types of shipments that are covered in the five day IATA/FIATA training program.

In a situation where a shipper needs to send an international shipment with a forwarder to a point not serviced by a weekly “consolidation” the shipper can elect to send the shipment “direct” with an airline that services that point.

The forwarder (if they are an approved IATA agent) fills out the airline paperwork and acts as an agent for both the shipper and the airline.

The shipment moves on the airline’s paperwork (master air waybill) rather than on the forwarder’s house air waybill. The IATA Cargo Agent (forwarder) is paid a commission for filling out the paperwork and ensuring that the shipment is “ready for carriage”. The forwarder tenders the shipment to the airline and will bill the shipper separately for any “accessorial” charges such as pickup, packing, etc.

This method of shipping is much more expensive than a consolidation but offers the benefit of speedier service as the shipper will not have to wait for the weekly consolidation (usually on Wednesday and Saturday) for the freight to move.

These shipments are sent at “TACT” rates

TACT (which stands for “The Air Cargo Tariff”) rates are the common carrier published rates of the TACT participating airlines. Most of the worlds major air carriers participate in the TACT rates.

These rates and charges are the same (with some exceptions) for all TACT carriers operating on a given lane segment. For example:

LHR to HKG would be the same cargo rate for all carriers unless noted otherwise noted as an exception.

Summary of the difference between a forwarder and a cargo agent

- Nearly ALL Cargo Agents also operate as consolidators
- NOT ALL consolidators are approved as IATA Cargo Agents