

Unit-1

Air Transport Concept and Geography of Airlines

Structure:

1.1 Objectives

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1.1 OBJECTIVES:

After studying this section, students will be able to:

- Understand the various types of Air transport services.
- Know the short-haul and long-haul journeys and routes with the help of diagrams.
- International regulations and challenges.
- Freedom of the air

1.2 INTRODUCTION:

Air transport, being the most modern and the quickest mode of transport, has been gaining popularity. However, the exorbitant rates have made it the mode of travel of the rich or of the business community, for whom time is more expensive than air travel. But the entry of private Airlines and their various schemes has reduced airfare drastically. The recent tax relaxation on air fuel and such sops will further make air travel within the reach of a greater section of the Indian Populace. Rapid economic growth in India has made air travel more affordable. Air India, India's flag carrier, presently operates a fleet of 159 aircraft and plays a major role in connecting India with the rest of the world. Several other foreign airlines connect Indian cities with other major cities across the globe. Kingfisher Airlines, Air India and Jet Airways are the most popular brands in domestic air travel in order of their market share. These airlines connect more than 80 cities across India and also operate overseas routes after the liberalisation of Indian aviation. However, a large section of the country's air transport system remains untapped, even though the Mumbai-Delhi air corridor was ranked 6th by the Official Airline Guide in 2009 among the world's busiest routes.

India's vast unutilized air transport network has attracted several investments in the Indian air industry in the past few years. More than half a dozen low-cost carriers entered the Indian market in 2009-10. Major new entrants include Air Deccan, Kingfisher Airlines, Spice Jet, Go Air, Paramount Airways and Indigo Airlines. To meet India's rapidly increasing demand for air travel, Air India recently placed orders for more than 68 jets from Boeing for US\$7.5 billion, while India placed orders for 43 jets from Airbus for US\$2.5 billion. Jet Airways, India's largest private carrier, has invested millions of dollars to increase its fleet, but this has been put on hold due to the recent economic slowdown. This trend is not restricted to

traditional air carriers in India. Indigo Airlines entered the limelight when it announced orders for 100 Airbus A320S worth US\$6 billion during the Paris Air Show; The highest by any Asian domestic carrier. Kingfisher Airlines became the first Indian air carrier on June 15, 2005 to order Airbus A380 aircraft. The total deal with Airbus was worth US\$3 billion.

1.3 INDIAN AIR TRANSPORT SERVICES

The Indian air transport services were initially developed under private initiatives. However, in 1953, under the Air Corporation Act, the operation of scheduled air services was made a public monopoly. In 1986, in the first step towards liberalisation, the air taxi scheme allowed private airlines to operate charter and non-scheduled services. The Air Corporations Act, 1994 was then repealed to allow private operators. The economic reforms implemented by the central government opened up opportunities for the private sector companies, resulting in improving facilities as well as enhancing competition. At present, the air transport sector is liberalized with both public and private sector undertakings – providing international and domestic air services together.

The Ministry of Civil Aviation is the nodal authority responsible for the formulation of national policies and programmes for development and regulation of the civil aviation industry in the country. Its functions also extend to overseeing airport facilities, air traffic services and carriage of passengers and goods by air. Two separate organizations under the ministry regulate and monitor the sector:-

Directorate General of Civil Aviation (DGCA) is the regulatory body responsible for regulation of air transport services to/from/within India and for the enforcement of civil air regulations, air safety and airworthiness standards.

Bureau of Civil Aviation Security (BCAS) is the regulator for civil aviation security in the country. Indian air transport is one of the fastest developing aviation sectors of the world. Indian air transport has witnessed a boom which has given rise to the need for improving Indian air transport infrastructure.

Traditionally, Indian air transport had been under the strict supervision of the Ministry of Civil Aviation with its domestic airline service - Indian Airlines (now Indian) and its foreign counter part, Air India. However, the Economic Reforms, implemented by the central government opened up several opportunities for private airline companies to venture into this

previously uncharted sector. The results followed thick and fast, as the enhanced competition in the market forced companies to bring down their prices of air fares and at the same time, improve facilities. This eventually recalled the necessity for improvement of the age-old Indian air transport infrastructure.

India Infrastructure Finance Company Limited (IIFCL) has been vested with the lion's share of responsibility of improving the Indian air transport infrastructure. For this, a hefty sum of US\$9 billion has been sanctioned by the central government to upgrade various airports with respect to the following:

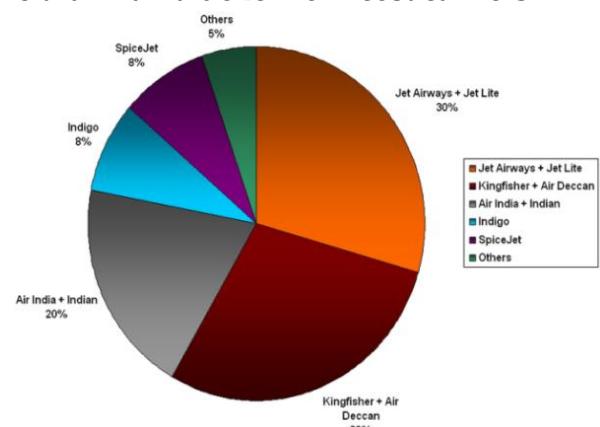
- Regulation of air traffic
- Securities
- Technological improvements
- Services to passengers
- Value added services (shops, restaurants etc.)

However, the process of modernization of Indian air transport infrastructure is not an easy task. Necessary approvals of the central and respective state governments are required at every stage of implementation which makes the developmental process cumbersome and time consuming. Hopefully, by 2012, the Indian air transport infrastructure will be able to undergo the most desired makeover.

1.4 CATEGORIES OF AIR TRANSPORT SERVICES

India's air transport network has attracted several investments in the Indian air industry in the past few years. More than half a dozen low-cost carriers entered the Indian market in 2004-05 including Air Deccan, Spice Jet, Go Air, Paramount Airways and Indigo Airlines. Air Deccan, Jet Airways, Kingfisher Airlines, Indigo Airlines and Air India are the most popular brands in domestic air travel in order of their market share. Of these, Jet, Indian and Kingfisher also operate overseas routes after the liberalization of Indian Aviation.

These airlines connect more than 80 cities across India. However, a large section of country's air transport system remains untapped, even though



the Mumbai-Delhi air corridor was ranked 6th by the Official Airline Guide in 2007 among the world's busiest routes. Pawan Hans Helicopters Limited has been providing helicopter support services to the petroleum sector including ONGC, Oil India Limited and Hardy Exploration at Chennai. Apart from these, it also provides services to certain state governments and public sector undertakings and in the northeastern states.

More than 20 international airports are located within the Republic of India. These include:

- Bengaluru International Airport, Bangalore
- Calicut International Airport, Kozhikode
- Chatrapati Shivaji International Airport, Mumbai
- Chennai International Airport, Chennai
- Cochin International Airport, Cochin
- Coimbatore Airport, Coimbatore
- Dr. Babasaheb Ambedkar International Airport, Nagpur
- Indira Gandhi International Airport, Delhi
- Mangalore International Airport, Mangalore
- Netaji Subhash Chandra Bose International Airport, Kolkata
- Raja Sansi International Airport, Amritsar
- Rajiv Gandhi International Airport, Hyderabad
- Sardar Vallabhbhai Patel International Airport, Ahmedabad
- Trivandrum International Airport, Thiruvananthapuram
- Tiruchirapalli Airport, Tiruchirapalli
- Pune International Airport, Pune
- Charan Singh International Airport, Lucknow
- Varanasi International Airport, Varanasi
- Sanganer International Airport, near Jaipur

Runways

Airports - with paved runways

- 10,000 ft (3,047 m): 18
- 8,000 to 9,999 ft (2,438 to 3,047 m): 52
- 5,000 to 7,999 ft (1,524 to 2,437 m): 75
- 3,000 to 4,999 ft (914 to 1,523 m): 84
- Under 3,000 ft (914 m): 21

Total: 250

Airports - with unpaved runways

- 10,000 ft (3,047 m) or more: 1
- 8,000 to 9,999 ft (2,438 to 3,047 m): 1
- 5,000 to 7,999 ft (1,524 to 2,437 m):
- 3,000 to 4,999 ft (914 to 1,523 m): 40
- Under 3,000 ft (914 m): 47

Total: 96

Heliports: 30

1.5 CATEGORIES OF AIR TRANSPORT SERVICES

1.5.1 Scheduled Air Transport Service

Scheduled Air Transport Service means an air transport service undertaken between the same two or more places and operated according to a published time table or with flights so regular or frequent that they constitute a recognizably systematic series, each flight being open to use by members of the public.

1.5.2 Non-Scheduled (air taxi) services

Air Taxi Operation means an air transport service other than scheduled air transport service and may be on charter basis and/or non-scheduled basis. The operator is not permitted to publish time schedule and issue tickets to passengers.

1.5.3 Air Cargo Services

An air cargo service means air transportation of cargo and mail. Passengers are not permitted to be on these operations. It may be on scheduled or non-scheduled basis. These operations are to destinations within India. For operation outside India, the operator has to take specific permission of DGCA demonstrating his capacity for conducting such operation

Procedure for Starting Air Taxi/Scheduled Air Transport Services

Aircraft Acquisition Committee set up in September, 1994, considers proposals for grant of permission to operate air taxi/scheduled air transport services. Recommendations of the Committee are submitted to

the Minister (CA) for approval. The present composition of the Committee is:

1. Joint Secretary, Ministry of Civil Aviation - Conveyer
2. Joint Secretary & Financial Advisor (FA), Ministry of Civil Aviation- Member
3. Chairman, Airports Authority India - Member
4. Director General of Civil Aviation - Member
5. Commissioner of Civil Aviation Security, Bureau of Civil Aviation Security - Member

The three stage clearance procedure laid down for starting Air Transport Services is as under:

(1) Issue of NOC for Scheduled/Air Taxi services: The competency and viability of the company to operate air transport service is considered at this stage.

(2) Import permission for aircraft: The details of specific types of aircraft, their airworthiness, seating capacity, mode of acquisition and arrangements of security programme, training facilities for crew and engineers, Operations Manual, maintenance facilities, etc. are looked into by the Committee.

Issue of permit for Scheduled/Non-Scheduled air services

Permit is issued by DGCA after completion of all requirements laid down in the regulations/guidelines.

1. Applications for stage 1 and 2 clearance as well as for import of aircraft by existing operators are required to be submitted by applicants in the prescribed forms.
2. The applications are scrutinized on receipt to find out any *prima facie* deficiency.
3. After the application is found complete in all respects, it is circulated to the Members of the Committee for comments.
4. The applications are considered in the meeting of the Committee.
5. The recommendations of the Committee are submitted to the Secretary/Minister (CA) for approval.
6. The final decision is communicated to the applicant.

7. NOC holder for Air Taxi/Scheduled Operations is given permit by DGCA after completion of all requirements laid down in the guidelines / instructions.

Permission to operate scheduled services will be granted either

1. to a citizen of India; or
2. to a company or a body corporate provided that;
 - a) It is registered and has its principal place of business within India;
 - b) Its Chairman and atleast two-thirds of its Directors are citizens of India; &
 - c) Its substantial ownership and effective control is vested in Indian nationals.
3. Foreign Financial Institutions and other entities who seek to hold equity in the domestic air transport sector, shall not have foreign airlines as their shareholders.
4. An applicant shall be required to furnish full and detailed information with regard to the shareholding of any airline in the foreign investing institution/entity, if any, and composition of the Board of Directors and senior management of the said foreign investing institution/entity.
5. An applicant who seeks permission to operate air transport services in the domestic sector shall be required to give a declaration that no foreign airline is in financial or commercial tie up with him or has the management/ownership interest in him.
6. While the foreign investing institution/entity which seeks to hold equity in the domestic air transport sector may have representation on the Board of Directors of the Company, such representation shall not exceed 1/3rd of the total
7. Any Foreign Financial Institution/entity which seeks to make investment in the domestic air transport sector shall not be a subsidiary of a foreign airline. A leasing company leasing aircraft to an operator in the domestic air transport sector shall also not be a part of an airline. However, wet leasing of an aircraft may be allowed from any source subject to the fulfillment of the guidelines issued by the Government/DGCA
8. A domestic sector air transport operator shall not have agreements such as shareholders agreements etc. with a foreign airline, containing provisions/arrangements empowering such foreign airlines or others on their behalf to have effective control in the management of the domestic

airline.

9. A domestic air transport operator shall not enter into an agreement with a foreign airline which may give such foreign airline the right to interfere in the management of the domestic operator.

10. A domestic air transport operator may enter into financial arrangements with a bank and/or other financial institutions for the purpose of lease finance, hire purchase or other loan arrangements, but such a tie up shall not be permitted with a foreign airline.

11. Management contract with a foreign airline shall also not be permitted to a domestic air transport sector operator.

xi. Marketing arrangements such as ground handling, general sales agency, code sharing, interlining will, however, be permitted.

12. A domestic air transport sector operator will also be permitted to get maintenance, overhaul, repair works done and training of pilots/engineers conducted either at the facilities available with other airlines or those certified by the Director General of Civil Aviation on such terms as may be prescribed.

13. A domestic air transport sector operator may be permitted to employ foreign pilots/engineers till he is able to train his own manpower. This shall, however, be permitted with the express approval of the competent authority and for such period and terms as may be prescribed by the said authority.

14. An applicant who seeks permission for domestic air transport operations will be required to give a declaration that he fulfills all the requirements mentioned in the above guidelines and in case of any change, he shall notify the competent authority within one month of such change. In addition, the applicant will be required to furnish such a declaration every year.

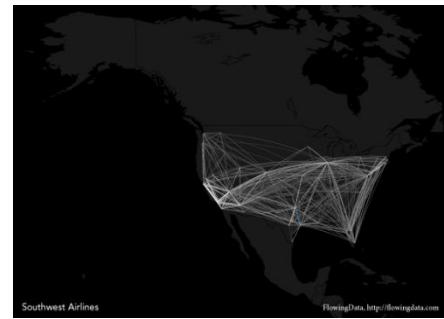
15. A domestic air transport operator, who furnishes wrong information in respect of any of the above prescribed guidelines at any stage shall be liable for suspension/cancellation of his operating permit.

1.6 AIRLINE GEOGRAPHY

Geographic breakdown: Where do major airlines fly?



All flights - February 2011



Southwest Airlines

On a quick glance you can spot where the hubs of each carrier are and flights most often flown. We start off with Southwest Airlines, which flies across the country. There's a focus obviously in the southwest.



Delta Air Lines



United Airlines

Delta Air Lines flies just about everywhere, too, but also includes flights to Alaska and Hawaii. Their largest hub is in Atlanta, which explains the focus at Hartsfield-Jackson Atlanta International Airport.

United Airlines, on the other hand, has hubs more north and on the west coast including O'Hare International in Chicago and San Francisco

International Airport. It appears they also have flights to all major Hawaiian islands.

Lots of American Airlines traffic in and out of Dallas/Fort Worth International Airport and JFK.



Continental Airlines looks similar to American Airlines, except Continental's headquarters are in Houston, Texas.

Pretty obvious where JetBlue goes. Despite some delays the past couple of times I've flown with them, they're still my favorite. One time Bill Murray was on the flight. If it's good enough for him, it must be good enough for me.



Mesa is a smaller airline that also operates United Express and US Airways Express.



US Airways' largest hub is at Charlotte/Douglas International Airport.



The Alaska Airlines connections look really interesting, streaming out of the the northwest. Most flights go through Seattle-Tacoma International, but there are also flights to and from Portland International. Oh, and of course to and from Alaska.



Atlantic Southeast lives up to its name. As does Frontier Airlines.



Hawaiian Airlines looks exactly like you'd expect. They exclusively fly to Raleigh, North Carolina.



1.7 CHALLENGES FOR A SUCCESSFUL INDIAN AIR TRANSPORT SECTOR

The International Air Transport Association (IATA) today identified five challenges for the successful development of air transport in India

- (1) Enhancing safety,**
- (2) Urgent infrastructure improvement,**
- (3) Reasonable taxation,**
- (4) Commercial freedom and**
- (5) Simplifying the Business through effective use of technology.**

"The Indian air transport sector is among the most vibrant and fastest growing in the world, but it could be a much greater catalyst for economic growth if critical bottlenecks in the system are removed.

The most urgent is infrastructure, particularly Mumbai airport. Government policy is moving in the right direction. Now we need to see some results urgently to keep pace with rapid growth.

1) Enhancing Safety: "Safety is the number one priority for aviation. India's record on safety is good, but constant attention and efforts are needed, especially at a time of rapid expansion.

2) Cost Efficient Improvement of Infrastructure: "Airport and airspace capacity must be expanded to fully gain the benefits of a vibrant airline sector. Without massive change, infrastructure will not be able to handle growth.

Airports in Delhi, Mumbai, Chennai, Kolkata and Bangalore are not adequate. Among them, Mumbai is the worst with poor service levels and insufficient capacity. A commercial centre needs an efficient airport. Delays due to bottlenecks in the air traffic control system are common.

3) Reasonable Taxation: "Recently India imposed a 10.2% service tax fee on landing, airport and air navigation fees. We are challenging the legality of this. And we believe that this reduces the competitiveness of India's air transport sector. India needs a common-sense approach to taxation. That means recognizing that we fully fund our own infrastructure, and ensuring

that any taxes or charges collected are transparent and re-invested in the sector.

4) Freedom to do Business: "Governments must let airlines run their businesses like real businesses. We need basic commercial freedoms to serve markets where they exist, to be able to access global capital markets, and to merge and consolidate where it makes commercial sense.

Liberalization is not something to be feared, but to be anticipated. We are not looking for the world to change overnight, but that is not an excuse not to get started on progressive liberalization. The open bilateral between India and Sri Lanka is a model of how liberalization results in economic growth, with increased number of services per week and the creation of employment opportunities between the two countries. We hope that India will continue to take the lead in SAARC by promoting regional liberalization.

5) Simplifying the Business: IATA launched Simplifying the Business in 2004 to improve passenger convenience and cut costs by using technology more effectively. The programme has 5 core projects aimed at achieving US\$ 6.5 billion in savings. These are: 100% e-ticketing by the end of 2009, taking the paper out of freight processing, radio frequency identification for baggage management, bar coded boarding passes and common use of self service kiosks for check-in.

"E-ticketing is the most pressing because it has a deadline of the end of 2009. At that time, we will stop printing the 340 million paper tickets that are used today. Our target was 40% global e-ticketing penetration by the end of 2007. Globally we are past 33%. Asia Pacific is near that at 30%. But India is far behind at just 5.4%. It is extremely disappointing that a country as advanced in software development as India can be so far behind. India must be a leader in this region, not the last to get on board. "The challenges that face India are enormous. Urgent decisions on infrastructure, liberalization, safety oversight and taxation are critical and we must move quickly. IATA has strengthened its presence in India to help both its members and the government at this time of great potential. The stakes are high, but the rewards for our efforts will be enormous. Governments, airlines and IATA working together will make a very positive contribution to this wonderful country.

1.8 INTERNATIONAL REGULATIONS

The framework within which commercial international air services function. It explains briefly the different types of traffic rights exercised by the scheduled carriers and describes the arrangements which exist between governments in this connection. It also defines the broad principles governs the liabilities of airlines to their passengers and air cargo in case of death, injury, loss or damage of baggage. These are described in Chicago and Warsaw Convention.

Chicago conventions: Chicago Conventions was Founded in, 1944 and his head office is situated in Montreal. Relations between two countries on both technical and commercial subjects concerning International Air Transport.

Two agreements, Bilateral agreement and MITA (Multilateral Interline Traffic Agreement) done during Chicago Conventions. The agreement between two countries to follow traffic rules and regulations.

Warsaw Convention: Warsaw Convention was founded in, 1929 in Warsaw (the capital of Poland).The main aim of Warsaw Convention is to govern all disputes (passengers and baggage related) by most international air carrier by an inter-governmental agreement, which are given below:

- 1) Death or injury to passengers
- 2) Loss of valuable items and baggage
- 3) Damage of baggage
- 4) Delay of baggage and cargo

Freedom of the Air

First freedom-The right of an airline of a country to fly across the territory of another country without landing.

Second freedom- The right of an airline of a country to land in the territory of another country for non-traffic purposes, for instance for refueling.

Third freedom- The right of an airline of a country to set down in another country passengers, mail and cargo from the home country of the airline

Fourth freedom- The right of an airline of a country to pick up another country passengers, mail and cargo destined for the home country of the airline

Fifth freedom- The right of an airline of the country to carry passengers, mail and cargo from a point of origin in a foreign country to a point of destination in another foreign country

Sixth freedom- A term sometimes applied to the fifth freedom traffic in which passengers, mail and cargo are carried from a point of origin in a foreign country to a point of destination in another foreign country via the home country of the airline

Trade Association Activities

Technical- Radio navigation and landing aids

Engineering and environment- Utilization of latest technology develop airline policies on important environmental issues including aircraft noise, Aviation fuel standard and emissions from aircraft engines.

Flight operations- Safe operation of aircraft, such as air traffic control system, fuel cost, journey time shortened by persuading authorities to allow airlines to fly the shortest possible routes, low visibility, Operational equipment to be provided at airport, Flight crew training etc.

Medical- encompassing the monitoring of health standards for flight crews, hygiene and sanitation in air craft catering

Facilitation- Meaning simplification of bureaucratic procedures. Reduce to the minimum time consuming government formalities such as Customs .Speeding up the flow of inbound and out bound passengers and cargo traffic.

Security- Property crime (theft), Revenue crime (fraud) and airport and aircraft Protection (terrorism) Interpol, local police forces, airport and airline staff etc.

Financial- En route navigation, taxation, currency etc

Check Your Progress

Q 1) Write a short notes on Indian air transport services.

Q 2) What are the trade association activities?

Q 3) What is the three stage clearance procedures laid down for starting Air Transport Services?

Q 4) Write down name of international airports of India?

Q 5) What do you mean by “Freedoms of Air”? Describe in detail with examples.

1.9 LET US SUM UP

This unit provide information about Indian air transport services and categories. Student will learn about international airports of India and various airlines of India playing between international and domestic routes. Detailed list of runways will provide information about the infrastructure of airports in India. Complete information about International regulations, freedom of air and airline geography, which gives practical outputs.

1.10 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 1.3
- 2) Refer Sec. 1.8

3) Refer Sec. 1.5

4) Refer Sec. 1.4

5) Refer Sec. 1.8

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UNIT 2

TIMESZONES AND CALCULATION OF TIME; GMT VARIATIONS

STRUCTURE

2.1 Objectives

2.2 Introduction

2.3 Ambiguity in the definition of GMT

2.4 GMT Tables

2.5 Discrepancies between legal GMT and Geographical GMT

2.6 Questions and Answers

2.7 Let's Sum up

2.8 Clues to Answers

2.9 References

2.1 OBJECTIVES

After reading this Unit you will be able to understand the:

- Concept of Greenwich Mean Time (GMT) and Universal Time (UT)
- GMT Factors of all countries with variations
- GMT Time tables and time calculation

2.2 INTRODUCTION

Greenwich Mean Time (GMT) is a time system originally referring to mean solar time at the Royal Observatory in Greenwich, London, which later became adopted as a global time standard. It is arguably the same as Coordinated Universal Time (UTC) and when this is viewed as a time zone the name Greenwich Mean Time is especially used by bodies connected with the United Kingdom, such as the BBC World Service, the Royal Navy, the Met Office and others particularly in Arab countries, such as the Middle East Broadcasting Center and OSN.

Before the introduction of UTC on 1 January 1972 Greenwich Mean Time (also known as Zulu time) was the same as Universal Time (UT) which is a standard astronomical concept used in many technical fields. Astronomers no longer use the term "Greenwich Mean Time". In the United Kingdom,

GMT is the official time only during winter; during summer British Summer Time is used. GMT is the same as Western European Time.

Noon Greenwich Mean Time is rarely the exact moment when the sun crosses the Greenwich meridian (and reaches its highest point in the sky at Greenwich) because of Earth's uneven speed in its elliptic orbit and its axial tilt. This event may be up to 16 minutes away from noon GMT (a discrepancy calculated by the equation of time). The fictitious mean sun is the annual average of this non uniform motion of the true Sun, necessitating the inclusion of *mean* in Greenwich Mean Time.

2.3 AMBIGUITY IN THE DEFINITION OF GMT

Historically the term GMT has been used with two different conventions for numbering hours. The long-standing astronomical convention dating from the work of Ptolemy, was to refer to noon as zero hours (see Julian day). This contrasted with the civil convention of referring to midnight as zero hours dating from the Romans. The latter convention was adopted on and after 1 January 1925 for astronomical purposes as well, resulting in a discontinuity of 12 hours, or half a day earlier. The term Greenwich Mean Astronomical Time (GMAT) was introduced to unambiguously refer to the previous noon-based astronomical convention for GMT. The more specific terms UT and UTC do not share this ambiguity, always referring to midnight as zero hours.

Historically the term GMT has been used with two different conventions, sometimes numbering hours starting at midnight and sometimes starting at noon. The more specific terms UT and UTC do not share this ambiguity, always referring to midnight as zero hours. Astronomers preferred the latter GMT convention in order to simplify their observational data so that each entire night was logged under a single calendar date. *Greenwich clock with standard measurements*

As the United Kingdom grew into an advanced maritime nation, British mariners kept at least one chronometer on GMT in order to calculate their longitude from the Greenwich meridian, which was by convention considered to have longitude zero degrees (this convention was internationally adopted in the International Meridian Conference of 1884). Note that the synchronization of the chronometer on GMT did not affect shipboard time itself, which was still solar time. But this practice, combined with mariners from other nations drawing from Nevil Maskelyne's method of lunar distances based on observations at Greenwich, eventually led to

GMT being used worldwide as a reference time independent of location. Most time zones were based upon this reference as a number of hours and half-hours "ahead of GMT" or "behind GMT".

Greenwich Mean Time was adopted across the island of Great Britain by the Railway Clearing House in 1847, and by almost all railway companies by the following year, from which the term "railway time" is derived. It was gradually adopted for other purposes, but a legal case in 1858 held "local mean time" to be the official time. This changed in 1880, when GMT was legally adopted throughout the island of Great Britain. GMT was adopted on the Isle of Man in 1883, Jersey in 1898 and Guernsey in 1913. Ireland adopted Greenwich Mean Time in 1916, supplanting Dublin Mean Time. Hourly time signals from Greenwich Observatory were first broadcast on 5 February 1924, rendering the time ball at the observatory obsolete in the process.

The daily rotation of the Earth is somewhat irregular and is slowing down slightly; atomic clocks constitute a much more stable time base. On 1 January 1972, GMT was replaced as the international time reference by Coordinated Universal Time, maintained by an ensemble of atomic clocks around the world. Universal Time (UT), a term introduced in 1928, initially represented mean time at Greenwich determined in the traditional way to accord with the originally-defined universal day; then from 1 January 1956 (as decided by the IAU at Dublin, 1955, at the initiative of William Markowitz) this "raw" form of UT was re-labeled UT0 and effectively superseded by refined forms UT1 (UT0 equalized for the effects of polar wandering and UT2 (UT1 further equalized for annual seasonal variations in earth rotation rate). Leap seconds are nowadays added to or subtracted from UTC to keep it within 0.9 seconds of UT1.

Indeed, even the Greenwich meridian itself is not quite what it used to be – defined by "the centre of the transit instrument at the Observatory at Greenwich". Although that instrument still survives in working order, it is no longer in use and now the meridian of origin of the world's longitude and time is not strictly defined in material form but from a statistical solution resulting from observations of all time-determination stations which the BIPM takes into account when co-coordinating the world's time signals. Nevertheless, the line in the old observatory's courtyard today differs no more than a few meters from that imaginary line which is now the Prime Meridian of the world.

2.4 GMT TABLES

Standard time, with the objective of standardizing the manner in which each country's local time is expressed .The world has been divided into 24 -times zones, each of 15 longitudes. The time difference between one zone and the next zone is exactly one hour (1 hour).Greenwich mean time (GMT) :The time zone which serves as the point of reference or origin of this system is situated between 7'30' longitude west and 7'30' longitude east of the Greenwich meridian (longitude 0)

Airline company time tables are given based on the 24 hours clock. Certain country however –such as USA, use another method called the American system. This consists of dividing the day into 2 periods as 12 hours per period.

There are two tables:

- a) AM/PM Versus Hrs**
- b) 24 Hrs versus GMT Factors**

1200 noon

1300 (1)

1400(2)

1500(3)

1600(4)

1700(5)

1800(6)

1900(7)

2000(8)

2100(9)

2200(10)

2300(11)

2400(12) 00:00 date change

2500 (13)	0100
2600(14)	0200
2700(15)	0300
2800(16)	0400
2900(17)	0500
3000(18)	0600
3100(19)	0700
3200(20)	0800
3300(21)	0900
3400(22)	1000
3500(23)	1100
3600 (24)	1200 noon
00:00	International date line Mid night
0100	-11
0200	-10
0300	-9
0400	-8
0500	-7
0600	-6
0700	-5
0800	-4
0900	-3
1000	-2

GDS in Air Ticketing and Cargo Handling		MTTM-13A
1100	-1	
1200	0	
1300	+1	
1400	+2	
1500	+3	
1600	+4	
1700	+5	
1800	+6	
1900	+7	
2000	+8	
2100	+9	
2200	+10	
2300	+11	
2400	00:00	International date line Mid night

To standardize each country's local time, the world has been divided into 24 times zone, each of 15 longitudes. The time difference between one zone and the next is exactly one hour. The standard zone which is used as reference point lies between 7 30' longitude east of the Greenwich meridian longitude,0 and the time in this zone is called Greenwich mean time or GMT.

GMT Table

-12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10
+11 +12

GMT difference

I) Condition - A

If the GMT of both the countries are positive OR if the GMT of both the countries are negative, in both case subtract higher to lower.

Example 1: If the GMT of HKG (Hong Kong) is (GMT +0800) and GMT of DEL (Delhi) is (GMT +0530) then

The GMT difference will be: 0230

(For more, please refer the table mentioned above)

Example 2: If the GMT of CHI (Chicago) is (GMT -0400) and GMT of YYC (Calgary) is (GMT -0200) then

The GMT difference will be 0200: (for more, please refer the table mentioned above)

II) Condition - B

Example 1: If the GMT of one country is positive and other country is negative or vice versa in both case add both GMT

Example 2: If the GMT of CHI is (GMT -0400) and GMT of DEL is (GMT +0530) then

The GMT difference will be: 0930

Calculation of total transportation time:

Example 1: What is the total transportation time for flight JL 428 from Zurich to Tokyo?

DEP ZRH (Zurich) Switzerland on 19th March at 1255 hours

ARR TYO (Tokyo), Japan on 20th March at 1555 hours

The calculation of total transportation time should be made as Follow:

First step: ascertain the total applicable at departure and arrival cities.

ZRH=GMT +0200 (Daylight saving time)

TYO =GMT + 0900 (Standard clock time)

Second step: Convert arrival and departure times to GMT

To convert departure and arrival times to GMT

Deduct the number of hours from the local time when it is ahead of GMT (+)

- add the number of hours to the local time when it is behind GMT (-)

ZRH 1255 AT GMT +0200= 1055 GMT

TYO 1555 AT GMT +0900 = 0655 GMT

Third step: Now with the help of common denominator i.e GMT, calculate the difference between the departure and arrival times. The result will give the total transportation time that is 2000 hours.

The following examples illustrate this time system.

Example 1 What is the time in Singapore, when it is 1200 hours GMT?

WEST *** ROTATION OF THE EARTH FROM WEST TO EAST *** EAST		SIN
Hours	1200	
-12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1	+1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12	

From the above chart you can see that Singapore is GMT +0800 which means that Singapore is 8 hours ahead of GMT. Therefore $1200 + 0800 = 2000$ hours which means it is 8 pm or 2000 hrs at Singapore when it is 1200 hours GMT.

2.5 DISCREPANCIES BETWEEN LEGAL GMT AND GEOGRAPHICAL GMT

Since legal, political, and economic criteria (in addition to purely physical or geographical criteria) are used in the drawing of time zones, it follows that actual time zones do not precisely adhere to meridian lines. The 'GMT' time zone, were it drawn by purely geographical terms, would consist of exactly the area between meridians 7°30'W and 7°30'E. As a result, there are European locales that despite lying in an area with a 'physical' UTC time, actually use another time zone (UTC+1 in particular); contrariwise, there are European areas that use UTC, even though their 'physical' time zone is

UTC-1 (e.g., most of Portugal), or even UTC-2 (the westernmost part of Iceland). Actually, because the UTC time zone in Europe is 'shifted' to the west, Lowestoft in Suffolk, East Anglia, England at only 1°45'E is the easternmost settlement in Europe in which UTC is applied. Following is a list of the 'in congruencies':

Countries (or parts thereof) west of 22°30'W ("physical" UTC-2) that use UTC

- The westernmost part of Iceland, incl. the northwest peninsula and its main town of Ísafjörður, which is west of 22°30'W, uses UTC. Bjargtangar, Iceland is the westernmost point in which UTC is applied.

Countries (or parts thereof) west of 7°30'W ("physical" UTC-1) that use UTC

- Canary Islands (Spain)
- Most of Portugal, incl. Lisbon, Porto, Braga, Aveiro, and Coimbra. (Only the easternmost part, incl. cities such as Bragança and Guarda, lies east of 7°30'W.). Portugal has since the Treaty of Windsor (1386, world's oldest diplomatic alliance) always had close ties to Britain, which possibly explains its choice of UTC. The Madeira Islands, even further to the west, also employ UTC. A more likely explanation is that during the mid-1970s, when Portugal was on Central European Time all year round, it did not begin to get light in Lisbon in winter until 8.30 A.M.
- Western part of Ireland, incl. the cities of Cork, Limerick, and Galway. If uninhabited islands or rocks, or both, are to be taken into account then Rockall (Disputed island), at 13°41'W, should also be included.
- Westernmost tip of Northern Ireland, incl. the capital of County Fermanagh, Enniskillen
- Extreme westerly portion of the Outer Hebrides, west of Scotland; for instance, Vatersay, an inhabited island in the Outer Hebrides and the westernmost settlement in the whole of Great Britain, lies at 7°54'W. If uninhabited islands or rocks, or both, are to be taken into account then St Kilda, west of the Outer Hebrides, at 8°58'W, and Rockall (Disputed island), at 13°41'W, should also be included.
- Westernmost island of the Faroe Islands (autonomous region of the Danish Kingdom), Mykines

- Spain (except for the Canary Islands which use UTC). Parts of Galicia in fact lie west of 7°30'W ('physical' UTC-1), whereas there is no Spanish territory east of 7°30'E ('physical' UTC+1). Spain's time is the direct result of Franco's Presidential Order (published in Boletín Oficial del Estado of 8 March 1940) abandoning Greenwich UTC time in favor of UTC+1 effective 23:00 16 March 1940. This is indeed an excellent example of the aforementioned political criteria used in the drawing of time zones: the time change was passed "in consideration of the convenience from the national time marching in step according to that of other European countries". The Presidential Order (most likely enacted to be in synchrony with Germany and Italy, with which the Franco regime was unofficially allied) included in its 5th article a provision for its future phase out, which never took place. Due to this political decision Spain is two hours ahead of its local mean time during the summer (one hour ahead in winter), which possibly explains the notoriously late schedule for which the country is known. However, in Portugal, which is a mere one hour behind Spain, the timetable is quite different.
- Most of France, including the cities of Paris, Marseilles and Lyon. Only small parts of Alsace, Lorraine and Provence are east of 7°30'E ("physical" UTC+1).
- Belgium
- Netherlands

2.6 QUESTIONS AND ANSWERS

Q 1. DEL local time 1200, what will be GMT time in Delhi? (+0530)

Ans: 1730hrs

Q2. HKG local time 0700, what will be GMT time in HKG? (-0300)

Ans: 0400hrs

Q 3. BKK local time 1100, what will be GMT time in BKK? (+0300)

Ans: 1400

Q 4. Q Local time in NYC is 2200/19 Mar, GMT -0400.What will be time in DEL? (+0530)

Ans: -0400 and +0530 = 0930 + 2200 or 0730/20 Mar

Q 5. Local time in NYC is 2200/19 Mar, GMT -0400.What will be time in TYO? (+0900)

Ans: -0400 and + 0900 = 1300 + 2200 or 1100/20 Mar

Q 6. Local time in NYC is 2200/19 Mar, GMT -0400.What will be time in LAX? (-0700)

Ans: -0400 and -0700 = -0300 + 2200 = 1900/19 Mar

Q 7. Local time in NYC is 2200/19 Mar, GMT -0400.What will be time in AKL? (+1200)

Ans: -0400 and + 1200 = 1600 + 2200 or 1400/20 M

Check Your Progress

Q 1) What is GMT?

Q 2) Draw GMT Tables.

Q 3) Local time in YYC is 2000/19 JUN, GMT -0330.What will be time in DEL? (+0530)

Q 4) Differentiate between legal GMT and geographical GMT with suitable examples.

Q 5) Name the Countries (or parts thereof) that use UTC.

2.7 LET US SUM UP

This chapter provides meaningful definitions of Greenwich Mean times and Universal times with GMT factors of each country. The discrepancies between legal GMT and Geographical GMT was clearly mentioned. The two tables, first based on 12 hrs /24 hrs time and second based on 24 hrs time and GMT factors. The unit provide GMT variations and their calculation with the help of tables. It is clearly mentioned that, if the local time of any country given with their GMT factors, and the GMT factor of any another country is given, we can calculate GMT variation between these two countries. This unit ends with some exercises of GMT calculations.

2.8 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 2.2
- 2) Refer Sec. 2.4
- 3) Refer Sec. 2.6
- 4) Refer Sec. 2.5
- 5) Refer Sec. 2.5

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Unit-3

Iata 3 Letter City / Airport Codes, Airline, Country and Currency Codes, Significance of Abc

STRUCTURE

3.1 Objectives

3.2 Introduction

3.3 Airport/City Codes

3.4 Airline Codes

3.5 Phonetic Codes

3.6 Currency Codes

3.7 Country Codes

3.8 Lets Sum up

3.9 Clues to Answers

3.10 References

3.1 OBJECTIVES

After going through this unit the student will be aware about:

- IATA approved three letter codes for cities/airports of the world.
- Two letter codes for the airlines of the world
- The phonetic alphabet - a mean of giving correct information such as a client's details with a much reduced possibility of error. By giving names to each letter of the alphabet it is possible to relay information accurately.
- Two letter country codes with the alphabetical name of the country.
- Three letter currency codes of important countries with the name of the country and currency names.
- Significance of ABC World Airways Guide and its application.

3.2 INTRODUCTION

This unit is based on various codes, which are very important for all types of reservation procedure basically in airlines, proper communication and designating the country. City codes are used for booking transport between cities (departure and arrival cities) by airlines, railways and road transport organizations, where as airport codes are used by airlines for making the booking for the particular airport if there are more than two airports or specified. For making airline reservation the airline codes are used for selecting the name of particular airlines. For spell the correct communication phonetic codes are used. These codes are described alphabetically. For selecting the services in a particular country, the country codes help to provide information. The rate of exchange is applicable

between the country of departure and origin. It is indicated in the country of commencement of travel.

3.3 AIRPORT / CITY CODES

The International Air Transport Association (IATA) has developed a three letter coding system for major cities and airports of the world. There are number of reason for this, the most important being that there are many places with the same or similar names and errors could occur. However, each place has its own different 3 letter code.

It is not necessary to learn these codes by heart at once as you can always refer to them in either the ABC World Airways Guide or the Air Passenger Tariff. With regular use of codes, you will become more familiar and will recognize the ones most commonly used instantly. You should try to learn as many as you can remembering each new one as you come across it.

3 LETTER CODES FOR AIRPORT / CITY

ACY	Atlantic City [Atlantic City International Airport], USA
-----	--

ADD	Addis Ababa, Ethiopia
-----	-----------------------

ADL	Adelaide, South Australia [International], Australia
-----	--

AEX	Alexandria, [Alexandria International Airport], USA
-----	---

AGR	Agra, India
-----	-------------

AKL	Auckland [International], New Zealand
-----	---------------------------------------

ALG	Alger (Algiers) [Houari Boumediene], Algeria
-----	--

AMD	Ahmedabad, India
-----	------------------

AMS	Amsterdam, Netherlands
-----	------------------------

ANK	Ankara [Etimesgut], Turkey
-----	----------------------------

STO	Stockholm [Arlanda], Sweden
-----	-----------------------------

ASQ	Austin, [Austin Airport], USA
ATH	Athens (Athinai) [Hellinikon International Airport], Greece
ATL	Atlanta, [The William B. Hartsfield Atlanta International Airport], USA
ATQ	Amritsar, India
AUH	Abu Dhabi [Nadia International Airport], United Arab Emirates
BBI	Bhubaneswar, India
BBQ	Barbuda (Codrington)
BBU	Bucharest [Baneasa], Romania
BCN	Barcelona [Aeropuerto Transoceanico de Barcelona], Spain
BDA	Bermuda [Kindley Field], Bermuda
BEG	Belgrade (Beograd) [Surcin], Yugoslavia

BER	Berlin [Metropolitan Area], Germany
BGW	Baghdad, Iraq
BHJ	Bhuj, India
BHK	Bukhoro (Bukhara), Bukhara, Uzbekistan
BHM	Birmingham, [Birmingham International Airport] , USA
BHO	Bhopal, India
BHU	Bhavnagar, India
BJS	Beijing (Peking), China
BJY	Belgrade, Yugoslavia
BKB	Bikaner, India

BKK Bangkok [Don Muang International Airport], Thailand

BLC Bali, Cameroon (Indonesia)

BLR Bangalore, India

BML Berlin, [Berlin Municipal Airport], USA

BNE Brisbane, Queensland [International], Australia

BOD Bordeaux [Merignac], France

BOM Bombay [Sahar (Santa Cruz) International Airport, India

BRU Brussels (Bruxelles) [National/Zaventem], Belgium

BSB Brasilia, [International], Brazil

BUD Budapest [Ferihegyi], Hungary

BUF Buffalo, [Greater Buffalo International Airport], USA

BUH Bucharest [Metropolitan Area], Romania

BUP Bhatinda, India

CBG Cambridge, United Kingdom

CCJ Calicut, India

CCU Calcutta [Dum Dum /Subash Chandra International Airport], India

CDG Paris [Charles de Gaulle], France

CGK Jakarta [Soekarno-Hatta International Airport], Indonesia

CHI Chicago, [Metropolitan Area], USA

CMB Colombo [Katunayake], Sri Lanka

CMH Columbus, [Port Columbus International Airport], USA

CNG Cognac, France

COK Cochin, India

CPT Cape Town, South Africa

CSI Casino, New South Wales, Australia

CSM Clinton, [Clinton-Sherman Airport], USA

CUB Columbia, [Columbia Owens Downtown Airport], USA

CUS Columbus, [Columbus Municipal Airport], USA

DAC Dhaka [Zia International], Bangladesh

DAI Darjeeling, India

DBL Panaji, India

DCA Washington, DC [Washington National Airport], USA

DED Dehradun, India

DEL Delhi [Indira Gandhi International Airport], India

DHM Dharamsala, India

DIB Dibrugarh, India

DMU Dimapur, India

DOH Doha, Qatar

DRW Darwin, Australia

DUB Dublin, Ireland

DXB Dubai, United Arab Emirates

FRA Frankfurt [Rhein-Main], Germany

GAU Guwahati (Gauhati), India

GAY Gaya, India

GOI Goa, India

GWL Gwalior, India

HAM Hamburg, Germany

HEL Helsinki, Finland

HJR Khajuraho, India

HKG Hong Kong [Kai-Tak International Airport], Hong Kong

HLP Jakarta [Halim Perdanakusuma International], Indonesia

HYD Hyderabad, India

IDR Indore, India

IXC Chandigarh, India

IXD Allahabad, India

IXE Mangalore, India

IXJ Jammu, India

IXL Leh, India

IXM Madurai, India

IXP Pathankot, India

IXR Ranchi, India

IXU Aurangabad, India

IXW Jamshedpur, India

IXZ	Port Blair, India
JAI	Jaipur, India
JFK	New York [John F. Kennedy International Airport], USA
JGA	Jamnagar, India
JKT	Jakarta, Indonesia
JLR	Jabalpur, India
JSA	Jaisalmer, India
KBL	Kabul (Khabul), Afghanistan
KNU	Kanpur, India
KTM	Kathmandu [Tribhuvan], Nepal
KTU	Kota, India
KUL	Kuala Lumpur, Malaysia
KUU	Kulu, India
KWI	Kuwait
LAX	Los Angeles, [Los Angeles International Airport], USA
LBG	Paris [Le Bourget], France
LCK	Columbus, [Rickenbacker International Airport], USA
LHE	Lahore, Pakistan
LHR	London, England [Heathrow Airport], United Kingdom
LIM	Lima [Aeropuerto International Jorge Chavez], Peru
LKO	Lucknow, India

LON London, England United Kingdom

LTN London, England [Luton Airport], United Kingdom

LUH Ludhiana, India

MAA Madras (Chennai), India

MAD Madrid [Barajas], Spain

MAN Manchester, England [Ringway International Airport], United Kingdom

MEL Melbourne, Victoria [Tullamarine International Airport], Australia

MGC Michigan City, [Michigan City Airport], USA

MIA Miami, [Miami International Airport], USA

MLB Melbourne, [Melbourne International Airport]

MPB Miami, [Watson Island International Seaplane Base], USA

MRU Mauritius [Sir Seewoosagur Ramgoolam], Mauritius

MYQ Mysore, India

NBO Nairobi [Jomo Kenyatta], Kenya

OAK Oakland, [Metropolitan Oakland International Airport], USA

ORY Paris [Orly], France

OSL Oslo, Norway

OXF Oxford, England, United Kingdom

PAR Paris, France

PAT Patna, India

PBD Porbandar, India

PDX	Portland, [Portland International Airport], USA
PEK	Beijing (Peking), China
PER	Perth, Western Australia, Australia
PEW	Peshawar, Pakistan
PFN	Panama City, [Panama City-Bay County International Airport], USA
PHL	Philadelphia, [Philadelphia International Airport], USA
PIT	Pittsburgh, [Pittsburgh International Airport], USA
PLZ	Port Elizabeth, South Africa
PNQ	Poona, India
QSF	San Francisco, USA
RAJ	Rajkot, India
RGN	Yangon (Rangoon), Myanmar
RML	Colombo, Sri Lanka
ROM	Roma (Rome), Italy
SDA	Baghdad [Saddam International], Iraq
SDU	Rio de Janeiro, [Aeroporto Santos Dumont], Brazil
SEL	Seoul [Kimpo], South Korea
SFO	San Francisco [San Francisco International Airport], USA
SHJ	Sharjah, United Arab Emirates
SHL	Shillong, India
SIN	Singapore [Changi International Airport], Singapore

SLV Simla, India

STO Stockholm [Metropolitan Area], Sweden

STV Surat, India

SXR Srinagar, India

SYD Sydney, New South Wales [Kingsford Smith], Australia

WLG Wellington, New Zealand

XXB Manchester, England [Woodford Aerodrome], United Kingdom

YMX Montreal, [Mirabel International Airport], Canada

YMY Montreal, [Victoria Stolport], Canada

YYC Calgary, [Calgary International Airport], Canada

YYJ Victoria, [Victoria International Airport], Canada

YYZ Toronto, [Lester B. Pearson International Airport], Canada

3.4 AIRLINE CODES

The International Air Transport Association (IATA) has developed a two letter coding system for major airlines of the world including domestic ones. The list mentioned below with the name of airlines (alphabetic orders) with their codes.

NAME OF THE AIRLINES OF THE WORLD WITH THEIR

TWO (2) LETTER CODES

CODE	AIRLINE
AH	AIR ALGERIE
AC	AIR CANADA

XC	AIR CARIBBEAN
CA	AIR CHINA
AF	AIR FRANCE
IV	AIR GAMBIA
GG	AIR HOLLAND
AI	AIR INDIA
UL	AIR LANKA
KM	AIR MALTA
MK	AIR MAURITIUS
OM	AIR MONGOL
SW	AIR NAMIBIA
NZ	AIR NEW ZEALAND
TC	AIR TANZANIA
CS	AIR TORONTO
UK	AIR UK
UM	AIR ZIMBABWE
AS	ALASKA AIRLINES
AZ	ALITALIA
AA	AMERICAN AIRLINES
BA	BRITISH AIRWAYS
CX	CATHAY PACIFIC AIRWAYS

CI	CHINA AIRLINES
CO	CONTINENTAL AIRLINES
DL	DELTA AIR LINES
EK	EMIRATES
ET	ETHIOPIAN AIRLINES
PC	FIJI AIR
AY	FINNAIR
CK	GAMBIA AIRWAYS
GL	GREENLANDAIR
GF	GULF AIR
HX	HAMBURG AIRLINES
IC	INDIAN AIRLINES
IR	IRAN AIR
IA	IRAQI AIRWAYS
IL	ISTANBUL AIRLINES
JL	JAPAN AIR LINES
9W	JET AIRWAYS (INDIA)
KL	KLM ROYAL DUTCH AIRLINES
KU	KUWAIT AIRWAYS
MH	MALAYSIA AIRLINES
JA	NORWAY AIRLINES

PK	PAKISTAN INT AIRLINE
PR	PHILIPPINE AIRLINES
QF	QANTAS AIRWAYS
QJ	QUEENSLAND PACIFIC AIRLINES
RJ	ROYAL JORDANIAN AIRLINE
RA	ROYAL NEPAL AIRLINES
XY	RYAN AIR (ALASKA)
SV	SAUDI ARABIAN AIRLINES
SK	SCANDINAVIAN AIRLINES
SQ	SINGAPORE AIRLINES
SD	SUDAN AIRWAYS
FD	SYDNEY AIRLINES
TG	THAI AIRWAYS INTERNATIONAL
TK	TURKISH AIRLINES
QU	UGANDA AIRLINES CORPORATION
PS	UKRAINE INTERNATIONAL AIRLINES
UA	UNITED AIRLINES
ZP	VIRGIN AIR
IY	YEMEN AIRWAYS
QZ	ZAMBIA AIRWAYS

3.5 PHONETIC CODES

Travel agency staff spends a lot of time on the telephone. Often we are dealing with crackling lines and with people whose accent is unfamiliar. In these unfavorable circumstance we are often trying to dictate, or to hear reference numbers on which somebody's travel plans depend. In order that there should be less confusion and more clarity, you will year people using a phonetic alphabet. The names given to each letter have been specially chosen because they don't sound like much else and there is little scope for error. The system is known as the phonetic Alphabet. The phonetic alphabet is a mean of giving correct information such as a client's details with a much reduced possibility of error. By giving names to each letter of the alphabet it is possible to relay information accurately.

A - Alpha

B - Bravo

C - Charlie

D - Delta

E - Echo

F - Foxtrot

G - Gulf

H - Hotel

I - India

J - Juliet

K - Kilo

L - Lima

M - Mike

N - November

O - Oscar

P - Papa

Q - Quebec

R - Romeo

S - Sierra

T - Tango

U - Uniform

V - Victor

W - Whiskey

X - X-ray

Y - Yankee

Z - Zulu

Examples: the following client's name and address needs to be transmitted accurately:

John Brown

Silver Drive

New York

Using the Phonetic alphabet it will be given in the following way:

Juliet, Oscar, hotel, November.

Bravo, Romeo, Oscar, whisky, November.

Sierra, India, Lima, victor, echo, Romeo.

Delta, Romeo, India, victor, echo.

November, echo, whisky.

Yankee, Oskar, Romeo, kilo

The ABC World Airways Guide comes in two volumes. The first volume has some general information and schedules from cities belonging with A to M. The second volume gives schedules from cities N to Z. It also has other information such as car hire directory, rates and a feature section. It also has each airport/city having 3 letter code and each airline a 2 letter code, called a designator. The ABC will give airline designator code and airport codes in alphabetical order. The ABC also contains an instruction section on how to read the ABC. When you need to use the ABC, it is important to know the layout of the information contained in it. It is presented in logical format and always follows. Here is an example of how the ABC is laid out.

Validity.....	Days of.....	Flight.....
Stops.....	From.....	
To.....	service	Dept.
.....	Arr.....	
No.	Acft.
	Class.....	

| From (NAME OF CITY OF ORIGIN) | NAME OF COUNTRY (IATA CODE) |
| Apt. (This section gives details of the airport or airports of the city of origin) | |

Str. (This section gives details of ground transportation available to and from the airport. It also details check-in times.)

Destination city Local time of dept local time of arr flight no. Aircraft type Class Stop if any

Details limitations

On schedule.

3.6 CURRENCY CODES

Country	Currency name	Currency code
Afghanistan	Afghani	AFN
Algeria	Algerian Dinar	DZD
America	US Dollar	USD
Angola	Kwaza	AOA
Australia	Australian Dollar	AUD
Austria	Euro	EUR
Bahrain	Bahraini Dinar	BHD
Belgium	Euro	EUR
Bhutan	Ngultrum	BTN
Brazil	Brazilian Real	BRL
Colombia	Colombian Peso	COP
Croatia	Kuna	HRK
Denmark	Danish Krone	DKK

Ethopia	Euthopian Birr	ETB
Finland	Euro	EUR
France	Euro	EUR
Germany	Euro	EUR
Hong Kong SAR, China	Hong Kong Dollar	HKD
India	Indian Rupee	INR
Japan	Yen	JPY
Korea	Won	KRW
Mauritious	Mauritious Rupee	MUR
Nepal	Nepalese Rupee	NPR
Oman	Omani Rial	OMR
Poland	Zloty	PLN
Qatar	Qatari Rial	QAR
Russia	Russian Buble	RUB
South Africa	Rand	ZAR
Thailand	Baht	THB
United Kingdom	Pound Sterling	GBP
Vietnam	Dong	VND
Yemen	Yemini Rial	YER
Zimbabwe	Zimbabwe Dollar	ZWD

3.7 COUNTRY CODES

Country and their two letter Codes: The name of countries and their two letter codes are listed below, based upon International Standard ISO-3166-1993

Country	Code	Code	Country
Afghanistan	AF	AD	Andorra
Albania	AL	AE	United Arab Emirates
Algeria	DZ	AF	Afghanistan
American Samoa	AS	AG	Antigua & Barbuda
Andorra	AD	AI	Anguilla
Angola	AO	AL	Albania
Anguilla	AI	AM	Armenia
Antarctica	AQ	AN	Netherlands Antilles
Antigua & Barbuda	AG	AO	Angola
Argentina	AR	AQ	Antarctica

Armenia	AM	AR	Argentina
Aruba	AW	AS	American Samoa
Australia	AU	AT	Austria
Austria	AT	AU	Australia
Azerbaijan	AZ	AW	Aruba
Bahamas	BS	AZ	Azerbaijan
Bahrain	BH	BA	Bosnia and Herzegovina
Bangladesh	BD	BB	Barbados
Barbados	BB	BD	Bangladesh
Belarus	BY	BE	Belgium
Belgium	BE	BF	Burkina Faso
Belize	BZ	BG	Bulgaria
Benin	BJ	BH	Bahrain
Bermuda	BM	BI	Burundi

Bhutan	BT	BJ	Benin	
Bolivia	BO	BM	Bermuda	
Bosnia and Herzegovina	BA	BN	Brunei Darussalam	
Botswana	BW	BO	Bolivia	
Bouvet Island	BV	BR	Brazil	
Brazil	BR	BS	Bahamas	
British Indian Ocean Territory	IO	BT	Bhutan	
British Virgin Islands	VG	BU	Burma (no longer exists)	
Brunei Darussalam	BN	BV	Bouvet Island	
Bulgaria	BG	BW	Botswana	
Burkina Faso	BF	BY	Belarus	
Burma (no longer exists)	BU	BZ	Belize	
Burundi	BI	CA	Canada	
Cambodia	KH	CC	Cocoas (Keeling) Islands	

Cameroon	CM	CF	Central African Republic
Canada	CA	CG	Congo
Cape Verde	CV	CH	Switzerland
Cayman Islands	KY	CI	Côte D'ivoire (Ivory Coast)
Central African Republic	CF	CK	Cook Islands
Chad	TD	CL	Chile
Chile	CL	CM	Cameroon
China	CN	CN	China
Christmas Island	CX	CO	Colombia
Cocos (Keeling) Islands	CC	CR	Costa Rica
Colombia	CO	CS	Czechoslovakia (no longer exists)
Comoros	KM	CU	Cuba
Congo	CG	CV	Cape Verde
Cook Islands	CK	CX	Christmas Island

Costa Rica	CR	CY	Cyprus	
Côte D'Ivoire (Ivory Coast)	CI	CZ	Czech Republic	
Croatia	HR	DD	German Democratic Republic (no longer exists)	
Cuba	CU	DE	Germany	
Cyprus	CY	DJ	Djibouti	
Czech Republic	CZ	DK	Denmark	
Czechoslovakia (no longer exists)	CS	DM	Dominica	
Democratic Yemen (no longer exists)	YD	DO	Dominican Republic	
		DZ	Algeria	
Denmark	DK	EC	Ecuador	
Djibouti	DJ	EE	Estonia	
Dominica	DM	EG	Egypt	
Dominican Republic	DO	EH	Western Sahara	
East Timor	TP	ER	Eritrea	

Ecuador	EC	ES	Spain
Egypt	EG	ET	Ethiopia
El Salvador	SV	FI	Finland
Equatorial Guinea	GQ	FJ	Fiji
Eritrea	ER	FK	Falkland Islands (Malvinas)
Estonia	EE	FM	Micronesia
Ethiopia	ET	FO	Faroe Islands
Falkland Islands (Malvinas)	FK	FR	France
Faroe Islands	FO	FX	France, Metropolitan
Fiji	FJ	GA	Gabon
Finland	FI	GB	United Kingdom (Great Britain)
France	FR	GD	Grenada
France, Metropolitan	FX	GE	Georgia
French Guiana	GF	GF	French Guiana

French Polynesia	PF	GH	Ghana	
French Territories	Southern	TF	GI	Gibraltar
Gabon	GA	GL	Greenland	
Gambia	GM	GM	Gambia	
Georgia	GE	GN	Guinea	
German Democratic Republic (no longer exists)	DD	GP	Guadeloupe	
Germany	DE	GQ	Equatorial Guinea	
Ghana	GH	GR	Greece	
Gibraltar	GI	GS	South Georgia and the Sandwich Islands	South
Greece	GR	GT	Guatemala	
Greenland	GL	GU	Guam	
Grenada	GD	GW	Guinea-Bissau	
Guadeloupe	GP	GY	Guyana	
		HK	Hong Kong	

Guam	GU	HM	Heard & McDonald Islands
Guatemala	GT	HN	Honduras
Guinea	GN	HR	Croatia
Guinea-Bissau	GW	HT	Haiti
Guyana	GY	HU	Hungary
Haiti	HT	ID	Indonesia
Heard & McDonald Islands	HM	IE	Ireland
Honduras	HN	IL	Israel
Hong Kong	HK	IN	India
Hungary	HU	IO	British Indian Ocean Territory
Iceland	IS	IQ	Iraq
India	IN	IR	Islamic Republic of Iran
Indonesia	ID	IS	Iceland
Iraq	IQ	IT	Italy

Ireland	IE	JM	Jamaica	
Islamic Republic of Iran	IR	JO	Jordan	
Israel	IL	JP	Japan	
Italy	IT	KE	Kenya	
Jamaica	JM	KG	Kyrgyzstan	
Japan	JP	KH	Cambodia	
Jordan	JO	KI	Kiribati	
Kazakhstan	KZ	KM	Comoros	
Kenya	KE	KN	St. Kitts and Nevis	
Kiribati	KI	KP	Korea, Democratic People's Republic of	
Korea, Democratic People's Republic of	KP	KR	Korea, Republic of	
Korea, Republic of	KR	KW	Kuwait	
Kuwait	KW	KY	Cayman Islands	
Kyrgyzstan	KG	KZ	Kazakhstan	

Lao People's Democratic Republic	LA	LA	Lao People's Democratic Republic
Latvia	LV	LB	Lebanon
Lebanon	LB	LC	Saint Lucia
Lesotho	LS	LI	Liechtenstein
Liberia	LR	LK	Sri Lanka
Libyan Arab Jamahiriya	LY	LR	Liberia
Liechtenstein	LI	LS	Lesotho
Lithuania	LT	LT	Lithuania
Luxembourg	LU	LU	Luxembourg
Macau	MO	LV	Latvia
Madagascar	MG	LY	Libyan Arab Jamahiriya
Malawi	MW	MA	Morocco
Malaysia	MY	MC	Monaco
Maldives	MV	MD	Moldova, Republic of

Mali	ML	MG	Madagascar	
Malta	MT	MH	Marshall Islands	
Marshall Islands	MH	ML	Mali	
Martinique	MQ	MM	Myanmar	
Mauritania	MR	MN	Mongolia	
Mauritius	MU	MO	Macau	
Mayotte	YT	MP	Northern Mariana Islands	
Mexico	MX	MQ	Martinique	
Micronesia	FM	MR	Mauritania	
Moldova, Republic of	MD	MS	Montserrat	
Monaco	MC	MT	Malta	
Mongolia	MN	MU	Mauritius	
Monserrat	MS	MV	Maldives	
Morocco	MA	MW	Malawi	

Mozambique	MZ	MX	Mexico
Myanmar	MM	MY	Malaysia
Nambia	NA	MZ	Mozambique
Nauru	NR	NA	Namibia
Nepal	NP	NC	New Caledonia
Netherlands	NL	NE	Niger
Netherlands Antilles	AN	NF	Norfolk Island
Neutral Zone (no longer exists)	NT	NG	Nigeria
New Caledonia	NC	NI	Nicaragua
New Zealand	NZ	NL	Netherlands
Nicaragua	NI	NO	Norway
Niger	NE	NP	Nepal
Nigeria	NG	NR	Nauru
Niue	NU	NT	Neutral Zone (no longer exists)

Norfolk Island	NF	NU	Niue	
Northern Islands	Mariana	MP	NZ	New Zealand
Norway	NO	OM	Oman	
Oman	OM	PA	Panama	
Pakistan	PK	PE	Peru	
Palau	PW	PF	French Polynesia	
Panama	PA	PG	Papua New Guinea	
Papua New Guinea	PG	PH	Philippines	
Paraguay	PY	PK	Pakistan	
Peru	PE	PL	Poland	
Philippines	PH	PM	St. Pierre & Miquelon	
Pitcairn	PN	PN	Pitcairn	
Poland	PL	PR	Puerto Rico	
Portugal	PT	PT	Portugal	

Puerto Rico	PR	PW	Palau
Qatar	QA	PY	Paraguay
Réunion	RE	QA	Qatar
Romania	RO	RE	Reunion
Russian Federation	RU	RO	Romania
Rwanda	RW	RU	Russian Federation
Saint Lucia	LC	RW	Rwanda
Samoa	WS	SA	Saudi Arabia
San Marino	SM	SB	Solomon Islands
Sao Tome & Principe	ST	SC	Seychelles
Saudi Arabia	SA	SD	Sudan
Senegal	SN	SE	Sweden
Seychelles	SC	SG	Singapore
Sierra Leone	SL	SH	St. Helena

Singapore	SG	SI	Slovenia	
Slovakia	SK	SJ	Svalbard & Jan Mayan Islands	
Slovenia	SI	SK	Slovakia	
Solomon Islands	SB	SL	Sierra Leone	
Somalia	SO	SM	San Marino	
South Africa	ZA	SN	Senegal	
South Georgia and the South Sandwich Islands	GS	SO	Somalia	
Spain	ES	SR	Suriname	
Sri Lanka	LK	ST	Sao Tome & Principe	
St. Helena	SH	SU	Union of Soviet Socialist Republics	
St. Kitts and Nevis	KN	SV	El Salvador	
St. Pierre & Miquelon	PM	SY	Syrian Arab Republic	
St. Vincent & the Grenadines	VC	SZ	Swaziland	
		TC	Turks & Caicos Islands	

Sudan	SD	TD	Chad	
Suriname	SR	TF	French Southern Territories	
Svalbard & Jan Mayan Islands	SJ	TG	Togo	
Swaziland	SZ	TH	Thailand	
Sweden	SE	TJ	Tajikistan	
Switzerland	CH	TK	Tokelau	
Syrian Arab Republic	SY	TM	Turkmenistan	
Taiwan, Province of China	TW	TN	Tunisia	
Tajikistan	TJ	TO	Tonga	
Tanzania, Republic of	United TZ	TP	East Timor	
Thailand	TH	TR	Turkey	
Togo	TG	TT	Trinidad & Tobago	
Tokelau	TK	TV	Tuvalu	
		TW	Taiwan, Province of China	

Tonga	TO	TZ	Tanzania, United Republic of	
Trinidad & Tobago	TT	UA	Ukraine	
Tunisia	TN	UG	Uganda	
Turkey	TR	UM	United States Minor Outlying Islands	
Turkmenistan	TM	US	United States of America	
Turks & Caicos Islands	TC	UY	Uruguay	
Tuvalu	TV	UZ	Uzbekistan	
Uganda	UG	VA	Vatican City State (Holy See)	
Ukraine	UA	VC	St. Vincent & the Grenadines	
Union of Soviet Socialist Republics	SU	VE	Venezuela	
United Arab Emirates	AE	VG	British Virgin Islands	
United Kingdom (Great Britain)	GB	VI	United States Virgin Islands	
United States Minor Outlying Islands	UM	VN	Viet Nam	
		VU	Vanuatu	

United States of America	US	WF	Wallis & Futuna Islands
United States Virgin Islands	VI	WS	Samoa
Unknown or unspecified country	ZZ	YD	Democratic Yemen (no longer exists)
		YE	Yemen
Uruguay	UY	YT	Mayotte
Uzbekistan	UZ	YU	Yugoslavia
Vanuatu	VU	ZA	South Africa
Vatican City State (Holy See)	VA	ZM	Zambia
Venezuela	VE	ZR	Zaire
Viet Nam	VN	ZW	Zimbabwe
Wallis & Futuna Islands	WF	ZZ	Unknown or unspecified country
Yemen	YE		
Yugoslavia	YU		

Zambia	ZM	
Zimbabwe	ZW	

Check your progress

Q1 Write down city/airport codes for the following:

Singapore, Bangkok, Chicago, Chennai, Frankfurt, Stockholm, Copenhagen.

Q2 Write down airline codes for the following:

Air Canada, Air China, Lufthansa, Emirates, Jet Airways, Continental airlines

Q 3 Spell the name and address given below in Phontic codes:

Vikalp Pant

711/S-12

Sector-5

Vaishali

Q 4 Write down country codes for: India, Germany, France, Australia, China, and America

Q 5 What is the significance of ABC World Airways Guide?

3.8 LETS SUM UP

All the important codes used for the purpose for transport booking/reservation by various modes of transport are given in separate tables under the heading city codes, phonetic codes, country codes, whereas airport codes are very useful for travel agents and airlines for making the correct reservation to a specified airport (if there are more than two airports in a city). The currency codes are very important and applicable in fare calculation, which are mentioned in the country of commencement of travel with that country's currency code. The ABC World Airways Guide is very helpful in aviation industry.

3.9 CLUES TO ANSWERS

Check your progress

- 1) Refer sec. 3.3
- 2) Refer sec. 3.4
- 3) Refer sec. 3.5
- 4) Refer sec. 3.7
- 5) Refer sec. 3.5

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- NCAER Report for CII (2000). "The Future of Civil Aviation in India: Structure, Policy, Regulation and Infrastructure"
- ABC World Airways Guide
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Unit-4

Travel Documentation, Baggage Regulations, Airport and Aircraft Procedures

Structure

4.1 Objectives

4.2 Introduction

4.3 Airport Procedures

4.4 Guide to Airline boarding procedures

4.5 Travel Documents

4.6 Baggage Handling

4.6.1 Weight System

4.6.2 Piece System

4.7 Let's Sum up

4.8 Clues to Answers

4.9 References

4.1 OBJECTIVES

After studying this section student will be able to:

- Understand airport and airline procedures for various types of airlines and airports.
- Know about all travel documents, which are given in Travel Information Manual (TIM) i. e Passport, Visa, Health Regulations, Custom, Tax, Foreign Exchange etc.
- Make a practice for calculation for extra baggage by Weight system and Piece system methods as per the area of operation under “Baggage Regulations”

4.2 INTRODUCTION

Airport procedure and Airline procedures are very important task for safe and secure journey, for that the airports should be of very good quality. The ground handling staff at airport must ensure for smooth movement of passengers and goods with efficient services .The procedure of check-in, issuing boarding pass, seat allocation and others supportive services by airline staff should of good quality. All the documents required at Airport, in airline and destination country should be checked and verified .Baggage handling procedure as per the journey i. e Weight system and Piece system.

4.3 AIRPORT PROCEDURE**Airport check-in**

The check-in is normally handled by an airline itself or a handling agent working on behalf of an airline. Passengers usually hand over any baggage that they do not wish or are not allowed to carry-on to the aircraft's cabin and receive a boarding pass before they can proceed to board their aircraft.

Check-in is usually the first procedure for a passenger when arriving at an airport, as airline regulations require passengers check-in by certain times prior to the departure of a flight. This duration spans from 15 min to 4 hours depending on the destination and airline. During this process, the passenger has the ability to ask for special accommodations such as seating preferences, inquire about flight or destination information, make changes to reservations, accumulate frequent flyer program miles, or pay for upgrades.

The airline check-in's main function, however, is to accept luggage that is to go in the aircraft's cargo hold and issue boarding passes.

Check-in options and procedures vary per airline with some airlines allowing certain restrictions other airlines have in place, and occasionally the same airline at two separate airports may have different check-in procedures. Such differences are usually not noted by the average passenger and occasionally lead to service interruptions when one carrier refuses to abide by the procedure that another carrier normally would be willing to do.



*Check-in counters of Thai airways
Dublin airport*



*Air Lingus self check-in at
Dublin airport*

International at Suvarnabhumi Airport, Bangkok



Panorama of a modern airport check-in hall at Ezeiza International Airport in Bradford



Check-in Hall A at Leeds

hall at Ezeiza International Airport in airport

International

Buenos Aires



Check-in counters of Turkmenistan Airlines at Turkmenbashi Airport, Turkmenbashy

Airport check-in uses service counters found at commercial airports handling commercial

Passenger identity registration

At the time of check-in one of the Agent's primary duties is to check for valid documents. This includes tickets, invitation letters, passports, visas, etc. (depending on the type of visit, the arrival and destination of the trip). Some airlines, however, don't require this for domestic and intra-EU flights, allowing passengers to travel without their ID checked at any point (unless they are checking-in baggage). In countries like the United States, which has special requirements, passengers have to provide information like their name, address and contact details of places in which they live, from which they are taking the flight and in which they intend to stay once in the United

States. This information, known as Advance Passenger Information, is now usually collected online with or after the flight booking.

Baggage registration

At the time of check-in, the passenger hands over baggage which is checked by the airport security and sealed. Anything that is above the weight limit or which is not allowed to be carried by the passenger himself to the aircraft cabin is usually handed over to the agent at the time of check-in. The baggage allowance, if any, is prescribed by the airline and anything in excess will warrant additional surcharges.

Seating registration

Usually at the time of check-in, an option of selecting the seats is offered. The Agent may ask if a window or aisle seat is wanted.

Online check-in

Online check-in is the process in which passengers confirm their presence on a flight via the internet and typically print their own boarding passes. Depending on the carrier and the specific flight, passengers may also enter details such as meal options and baggage quantities and select their preferred seating. This service is generally promoted by the airlines to passengers as being easier and faster because it reduces the time a passenger would normally spend at an airport check-in counter. Some airlines, however would still require passengers to proceed to a check-in counter at the airport, regardless of preferred check-in method, for document verification (e.g., to travel to countries where a visa is required or to ensure the credit card used at purchase matches the identity of the person who made the purchase). If a passenger needs to continue the check-in process at the airport after performing an online check-in, a special lane is typically offered to them to reduce wait times. Furthermore, online check-in for a flight is often available earlier than its in-person counterpart. The process then transfers to passengers control over their check-in. Airlines may use the system because self-service is frequently more efficient to operate, with a greater ability to cope with surges in passenger numbers. It also lessens activity at the airport, saving airlines money and reducing passenger waiting times.

Alaska Airlines was the first to offer online check-in. The system was first offered on a limited basis starting in September 1999, and was available to

the general public on selected flights the following month. Since then, a growing number of airlines have introduced the system.

Typically, web based check-in for airline travel is offered on the airline's website not earlier than 24 hours before a flight's scheduled departure or 7 days for Internet Check-In Assistant. However, some airlines allow a longer time, such as Ryanair, which opens online checkin 15 days beforehand. Depending on the airline, there can be benefits of better seating or upgrades to first/business class offered to the first people to check-in for a flight. In order to meet this demand, some sites have offered travelers the ability to request an airline check-in prior to the 24 hour window and receive airline boarding passes by email when available from the airline.

Mobile check-in

In the mid-late 2000s, checking-in was made possible using a passenger's mobile phone or PDA. A GPRS or 3G-capable smart phone or an internet-capable PDA is required, and the check-in feature may be accessed by keying-in a website on the mobile phone's browser or by downloading a dedicated application. The process is then similar to that which one would expect when checking-in using a personal computer.

At the end of the mobile check-in process, some airlines send a mobile boarding pass to a passenger's mobile device, which can be scanned at the airport during security checks and boarding. However, others send an electronic confirmation with a barcode that can be presented to the staff at check-in or scanned at the kiosks to continue the check-in process (i.e., to have boarding passes issued).

Gate/Lounge check-in

Air New Zealand domestic services introduced a self-check-in process allowing passengers with bags to arrive and check-in at the self-service kiosks up to 10 min prior to departure time. Passengers then attach the baggage tag and drop the bag themselves at the baggage drop belt. However, passengers without checked luggage can go straight to the lounge (if entitled to lounge access) and check in at the kiosk there using their e-Pass (a small RFID device only for its premium customers) or proceed straight to the departure gate when boarding using either their e-Pass or m-Pass (an application which can be downloaded or installed onto mobile phones to work as an electronic boarding pass).

KLM also provides a self-service bag drop counter at Schiphol Airport.

Change of reservations

In some situations, it may be necessary to change a passenger's travel plans and the check-in counter will handle these concerns. This may involve changing itinerary, upgrading class of travel, changing to an earlier or later flight but such changes are subject to the conditions of the tickets issued.

Premium check-in and lounge access

If the passenger carries a first or business class ticket or presents a certain frequent flyer program membership card (usually the higher-level tiers), or any other arrangements with the carrier, access to the premium check-in area and/or the lounge may be offered.

Premium check-in areas vary among airlines and airports. The main airport in which an airline hub is located normally offers a more thorough and exclusive premium check-in experience, normally inside a separate check-in lounge. For example, Air New Zealand's Auckland International premium check-in lounge provides a dedicated customs clearance counter and direct shortcut access to the security checkpoints. Airlines operating in minor airports generally offer an exclusive and separate premium check-in queue lane, often combined for its first, business, and/or premium economy passengers. Singapore Airlines also offers this service to First Class and Suites passengers, whose flights depart Singapore Changi Airport's Terminal 3. These passengers have a dedicated curb side entrance and can wait at couches while staff assists them in checking-in. They are then lead to a dedicated passport control counter. **Holiday Airport Security Procedures and Suggestions for Passengers**

TSA urges passengers to plan ahead for security screening

Especially during peak travel periods, such as Thanksgiving and Christmas, the Transportation Security Administration (TSA) urges air passengers to be aware of the latest airport security checkpoint procedures and policies, and to take advantage of several tips designed to speed their clearance through security.

Currently, the security environment essentially remains unchanged since September 2004 when TSA announced it was increasing the use of explosives trace detectors, expanding the use of manual pat-down searches, and referring more passengers for additional screening based on visual observations by screeners, even if an alarm has not gone off. As always,

passengers have the right to a private screening. TSA's checkpoint protocols now require all passengers to remove outer coats and jackets for X-ray before proceeding through the metal detectors. That includes suit and sport coats, athletic warm-up jackets and blazers. If a sports coat or blazer is being worn as the innermost garment- not over a blouse or sweater, for example- it does not have to come off.

Tips for Travelers

Other important TSA travel tips to help travelers and their families be prepared for the security process include:

- As you wait in line at the security checkpoint, place all metal items in a carry-on bag and take laptops and video cameras out of their cases. To minimize the risk of damage or loss, don't pack fragile or valuable items in checked baggage. Take them with you in carry-on baggage, or ship them to your destination instead. Put undeveloped film in carry-on baggage because equipment used to screen checked baggage will damage film. Also, high-speed and specialty film should not be put through X-ray machines, so passengers may ask screeners at the checkpoint to physically inspect film.
- You are NOT REQUIRED to remove your shoes before you enter the walk-through metal detector. However, TSA screeners encourage you to remove them because many types of footwear - including boots, platform shoes, and footwear containing metal or having a thick sole or heel - will require additional screening even if the metal detector DOES NOT alarm and do not wear jewelry, shoes or clothing that may set off metal detector alarms.
- Get to the airport in plenty of time.
- Remember to put identification tags in and on all baggage including laptops.
- Everyone, even frequent fliers, should double check the contents of their pockets and bags, particularly carry-on luggage, to ensure no prohibited items were inadvertently packed.
- Passengers selected for additional screening have the right to request that it is done in a private location.
- Do not over pack bags. If screeners have to open them, closing overstuffed bags can be difficult and may result in that checked bag being delayed until a later flight.
- If TSA screeners need to open a locked bag for inspection, they may have to break the lock. There are now products on the market that have uniform locking systems that enable screeners to open and relock a bag.

Passengers without such devices may still want to consider leaving bags unlocked.

4.4 GUIDE TO AIRLINE BOARDING PROCEDURES

You know the scene. Eager passengers line up outside the gate before those on the incoming aircraft have even deplaned. They rush down the jet way, roll aboard suitcases trailing behind them. They squeeze their luggage into the overhead bin before a flight attendant can say "gate check."

Because nearly all domestic carriers have instituted checked baggage fees, passengers are carrying on more bags, making the overhead bin a hot commodity. Passengers are finding themselves fighting tooth and nail in order to be the first one to board the plane. But with a little planning, you can secure a seat that will put you in your desired boarding group.

Many airlines, including Continental, American, and JetBlue, board back to front, so try reserving a seat toward the back. If you have a tight connection, and therefore being one of the first to get off the plane is your priority, aim for an aisle seat close to the front of the plane. (But don't expect to have much space for your bag in the overhead bins.)

Outside-In boarding process

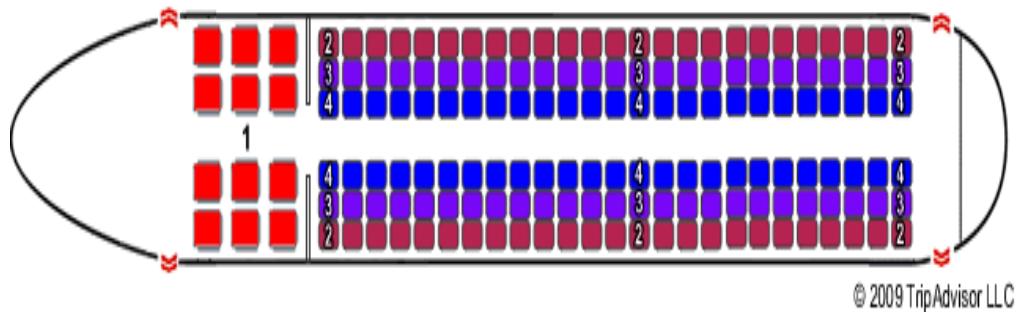
United refers to their outside-in boarding process as "WMA" (Window, Middle, Aisle). United boards Mileage plus Premier, Mileage Plus Premier Associate, Mileage Plus Premier Executive, and Mileage Plus 1K members first. After elites have boarded, United has courtesy boarding for passengers requiring extra assistance. Then, passengers board windows first, then middle seats, and finally aisles. United instituted this process to speed up boarding and to reduce clogging in the aisles. Passengers in window seats move into their seats, clearing space for middle seat passengers, who then clear space for aisle passengers.

Zones

Elite frequent flyers, passengers with disabilities, and those traveling with small children are asked to board before Zone 1.

1. First class passengers
2. Window seats

3. Middle seats
4. Aisle seats



Random

Southwest does not assign seats, so getting in the first seating group is crucial when boarding in this free-for-all style, especially if you have carry-on luggage or you want to avoid getting stuck with a middle seat. Boarding groups, which are designated by letters, are assigned at check-in. In order to get the coveted "A" seating area, check in online as early as possible. Because online check-in becomes available 24 hours before the flight is scheduled to depart, get online exactly 24 hours before takeoff for a shot at securing the "A" section.

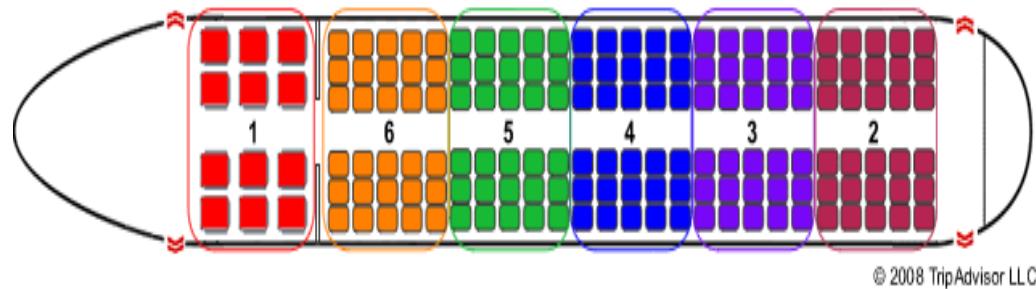
US Airways has relatively random seating, though the airline does give preference to certain passengers, including elites and those who check in online.

US Airways' Boarding Order

1. Passengers who need extra time for boarding (i.e. passengers with disabilities and those traveling with young children)
2. First class, top frequent flyers, and Star Alliance Gold elites from partner airlines
3. Silver elite members, US Airways credit card holders, and passengers who paid extra for Choice Seats
4. Economy passengers who checked in online
5. Economy passengers who checked in at the airport

Rear to Front

American, as well as most domestic and international carriers, uses the standard Rear-to-Front boarding. Elites, followed by first and business class passengers, board first. Then, seats in the back of the plane are boarded followed by the middle section and then the front area.

**Reverse Pyramid**

As of May 2009, US Airways no longer uses the reverse pyramid boarding style.

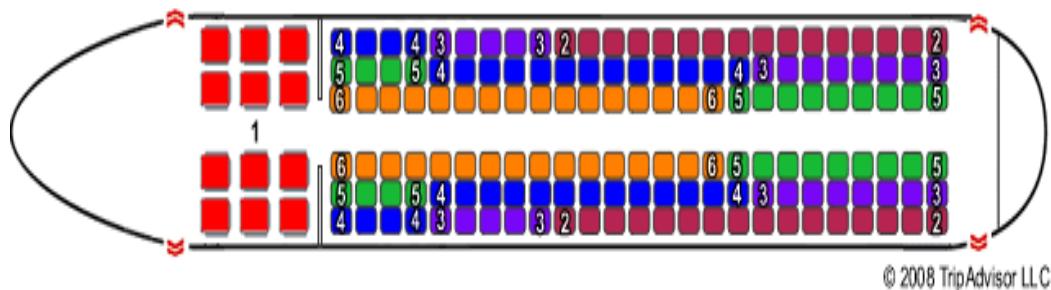
Although research shows the reverse pyramid style is an efficient boarding style, US Airways has opted to use the standard random seating order, giving preference to elite flyers and those who checked in online. Using the reverse pyramid-style, US Airways used to seat their top frequent flyers, along with Star Alliance Gold elites from partner airlines, in seating Area 1. Star Alliance Silver elites were placed in seating Area 2. Seating areas 3-5 were then designated for non-elites. After elites and passengers requiring extra assistance had boarded, US Air would board back windows first, then back middles and front windows, and so on. With the reverse pyramid, passengers simultaneously load an aircraft from back to front and outside in. Window and middle passengers near the back of the plane board first; those with aisle seats near the front enter the plane last.

Zones

1. Top Elite
2. Elite and first class
3. Back windows
4. Back middles and front windows

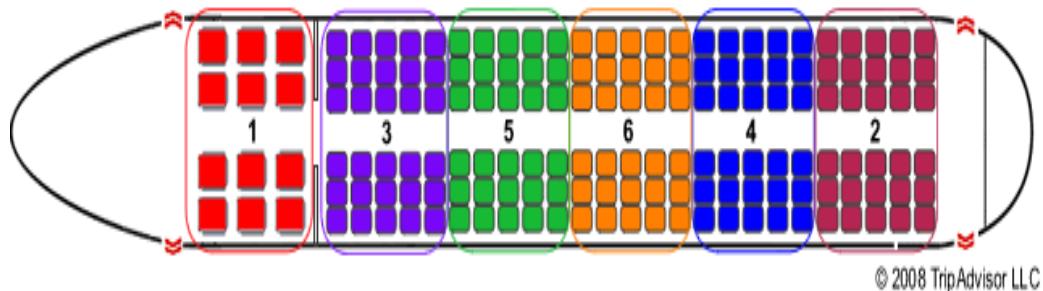
5. Back aisles and front middles

6. Front Aisles



Rotating Zone

Air Tran uses a rotating zone system. Business class passengers board first. Then, seats in the back five rows of the plane are boarded followed by the first five rows of coach, and this back-and-forth continues until all passengers have boarded.



Zone/Block Style

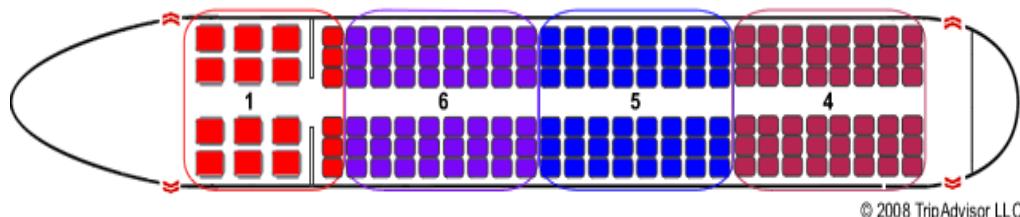
Delta groups passengers into as many as nine zones.

First class passengers and those in the first row of coach are in Zone 1. Zone 2 is for Delta/Northwest's elite frequent flier members. Zone 3 is for elite members of Delta's partner airlines. After first class and elite passengers, Zone 4+ are designated based on seating assignment, from the back of the plane to the front.

Zones

1. Top Elite, first class passengers, and first row of coach
2. Elite Delta/Northwest frequent flyers

3. Elite members of partner airlines
4. Rear
5. Middle
6. Front



Essential Guide to Airport Security Regulations & Airline Baggage: Make Flying a Breeze airport security scare you away from vacationing in the world's most spectacular spots. With Travel Sense, you'll have the right guidance to ease your way through airport security lines — often the most time-consuming part of your journey — and on the way to your destination.

This is a simplified guide to airline baggage and airport security regulation will help you pack without fear for your next big trip. Below, you'll find the airport security regulations that you'll need to know when checking your luggage and airline carry-on baggage. Also, be sure that you and your travel agent check for the most updated information for your airline as well as the Travel Security Administration (TSA).

4.5 TRAVEL DOCUMENTS

TIM has been the trusted name in the air travel industry since 1963 supplying reliable and comprehensive up-to-date country destination information on entry and health requirements as well as customs and currency regulations. The TIM booklet, which is issued on a monthly basis, offers a complete package for airline offices, travel agents, multinational, tour operators and government agencies to help travelers save time and avoid fines and delays.

TIM (Travel Information Manual) is the world's leading source for information on air travel requirements. Millions of passengers find their way to final destinations time after time with the TIM. The never-ending movement of people and commodities continues to run smoothly when players are informed of TIM's up-to-date country entry requirements

worldwide published by IATA.TIM is a practical and handy manual containing up-to date entry regulations for air travelers.TIM is the world's leading source for information on air travel requirements. Reliable and comprehensive information for people serving the travel industry. An extensive network of sources from the travel industry, immigration authorities and world health organization ensure reliability and continuity for this unique publication.

Key Benefits:

The TIM is a must for all who are involved in the travel industry. This unique manual lists rules and regulations for more than 216 countries on subject such as:

A. Passports:

Exemptions, validity, admission and transit restrictions and rules for minors crew and the military. **Indian Passports** are issued to citizens of **India** for the purpose of international travel. It is proof of Indian nationality. The Consular Passport & Visa (CPV) Division of the Ministry of External Affairs is responsible for issuance of Indian passports to all eligible Indian citizens. This document is issued from 28 locations across the country and 160 Indian missions abroad.

Types of Passport:

- Regular Passport (navy blue cover) - Issued for ordinary travel, such as vacations and business trips (36 or 60 pages)
- Diplomatic Passport (maroon cover) - Issued to Indian diplomats, top ranking government officials and diplomatic couriers.
- Official Passport (white cover) - Issued to individuals representing the Indian government on official business

Physical Appearance

Indian Passports have a navy blue cover, with the Emblem of India and the motto in Sanskrit, (read: Satyameva Jayate) translated in English as "Truth Alone Triumphs" emblazoned in the centre of the front cover. The words "PASSPORT" and "REPUBLIC OF INDIA" are inscribed above the Emblem and below the Emblem respectively. The standard passport contains 36 pages, but frequent travellers can opt for 60 pages (as noted above).

The opening cover end contains the following machine readable information

- A Digital photo of passport holder
- Signature of the passport holder
- Type of travel document ("P" or Passport)
- Country code (IND)
- Passport number
- Surname
- Given names
- Nationality
- Sex
- Date of birth
- Place of birth
- Place of issue
- Date of issue
- Date of expiry

The closing end contains the following information:

- Name of Father/ Legal guardian
- Name of Mother
- Name of Spouse
- Address
- Old Passport No. with date and place of issue
- File No.

Standard passport

- Fresh Passport (36 pages) of 10 years validity
(Including minors between 15 to 18 years of age, who wish to get a 10 years full validity passport?) - Rs. 1,000/-
- Fresh Passport (60 pages) of 10 years validity - Rs. 1,500/-
- Fresh Passport for Minors (below 15 years of Age) of 5 years validity or till the minor attains the age of 15 which ever is earlier. - Rs. 600/-
- Duplicate Passport (36 pages) in lieu of lost, damaged or stolen passport - Rs. 2500/-
- Duplicate Passport (60 pages) in lieu of lost, damaged or stolen passport - Rs. 3000/-

Languages

The data page field names, passport note, and any other endorsements and information are printed first in Hindi and then in English.

B. Visa

Exemptions, issue, re-entry permits, transit without visa, merchant seamen requirements etc. Detail given below:

Immigrant Visas (permanent residence or "Green card): Immigrant visas grant permanent resident status (or a "Green Card"), which allows foreign nationals to permanently reside and work in the United States, as well as to travel in and out of the U.S. Generally, when a foreign national obtains a green card, his or her accompanying spouse (wife or husband) and unmarried children under age 21 also obtain green cards. Depending on the way in which permanent residence was obtained, after three to five years, a person with permanent resident status may apply for citizenship.

Employment Visas: "Extraordinary" or "Exceptional" Ability Foreign nationals of exceptional or extraordinary ability in their particular field of work, outstanding professors or researchers, and members of professions holding an advanced degree may be eligible for an expedited green card process. This allows scientists, artists, physicians, university professors, researchers, musicians, etc., to obtain a green card with or without a sponsor. (See also, "O" Visa). Alien (Employment) Labor Certification Based

on unavailability of U.S. workers in the workforce, a U.S. employer may enable an alien to obtain a green card through an offer of employment. Upon approval by the Department of Labor, an immigrant petition may be filed demonstrating that the sponsor/petitioner has the ability to pay a certain prevailing wage.

Once these steps are completed, an applicant may proceed with the filing of a green card application as soon as his or her priority date becomes current.

Investor's Visa: Qualified investors and their families may be eligible to enter the United States on this type of visa if they invest \$500,000 to \$1,000,000 in an existing or new business in the United States. On the basis of the business, investors may at a later time proceed with an application for permanent residence.

Religious Worker: Religious ministers, priests and ordained religious persons may qualify for the green card through sponsorship by a congregation (e.g., Mosque, Church, Synagogue, etc.). (See also, "R" Visa)

Family-Based Sponsorship: United States citizens may sponsor spouses, parents, adult children and siblings (brothers or sisters) for permanent residence. Green Card holders can sponsor only spouses or unmarried children.

Diversity Visa Program: Through an annual "lottery" process, the United States randomly distributes 55,000 green cards to nationals of designated countries. Participants must have either 12 years (or more) of education or 2 years experience as a skilled worker. Winners' spouses and children under 21 years of age also receive green cards.

Non Immigrant (temporary) visas

H-1BVisas: Under current laws, this work visa is valid for a maximum of six years and is generally very flexible. It allows changes of employer as well as simultaneous work for two (or more) employers, provided that each employer petitions for a separate H-1B visa. To qualify for an H-1B visa, a foreign national must have a U.S. bachelor's degree or its equivalent, or substantial professional work experience.

This visa category also requires an employer sponsor. Processing time varies from region to region, but is usually relatively quick (approximately four to six weeks). Recognized occupational groups for this visa category might include, for example: computer industry; mathematics & physical science; architectural engineering & surveying; medicine & health; life

science; law & jurisprudence; commercial arts; education, museum, library & archival sciences; entertainment & recreation; administrative specializations; managers & officials; fashion models; etc

TN Visas: This visa is very similar to the H-1B visa and is available only to Canadian and Mexican nationals. It is valid for one year and renewable indefinitely.

L-1 Intra-Company Transferee Visas: Managers, executives or individuals with "highly-specialized knowledge" who are working for a company abroad may be transferred to that company's U.S. branch or affiliate for a period of up to seven years. Non-immigrant status can be converted to a green card.

E-1 / E-2-Treaty Trader/Treaty Investor Visas: Traders and investors, their families, and qualified employees may be eligible for entry under the E category. Requirements include: national of a country that has a particular commercial treaty with the United States; "substantial" investment in a company in the U.S., or regular trading with the U.S.; principal investor or "key employee" status in this company. Visas in this category can be extended indefinitely, as long as the trading or investment activity in the U.S. continues.

J-1-Exchange Visitor Visa: In general, this category is open to foreign students, au pairs, scholars, doctors, medical students, business and industrial trainees and others participating in U.S. government-approved programs for gaining experience, studying or performing research. Changing status to other non-immigrant categories may be permissible, depending upon visa restrictions.

F-1-Student Visa: Foreign nationals who have been accepted by U.S. colleges or universities and who satisfy certain other requirements may be eligible for this type of visa, which is valid for the duration of an applicant's course of study.

O & P Visa: The O visa is for foreign nationals who can exhibit "extraordinary ability" in the arts, sciences, education, business or athletics and those accompanying or assisting them. The P visa may be a viable alternative for entertainers and athletes who do not meet eligibility criteria of the Ovisa.

B-1-Business Visitors: In general, this type of visa is for individuals who can demonstrate a business-related reason for visiting the United States. Length of stay is for up to 1 year.

B-2-Tourist Visas: This visa enables foreign nationals to travel and vacation temporarily in the U.S. Such trips cannot involve employment, and the

length of stay may be up to one year. Note that nationals of countries participating in the Visa Waiver Pilot Program may enter the U.S. without a visa and stay for a period of up to 90 days. However, if one enters under the Visa Waiver program, a change of status to other non-immigrant or immigrant categories is not permitted.

Other non immigrant visas

K-1-FianceeVisas: These visas are available to those planning to marry a U.S. citizen, but are currently outside of the United States. Persons granted the K-1 visa have 90 days from the date of entry to marry; no extensions are allowed. After the marriage, a K-1 visa holder must convert the K-1 to a Green Card.

H-2B Non-Agricultural Visas: Used for nonagricultural workers coming to the U.S. to perform employment of a temporary nature. To qualify for this visa, a foreign national must be sponsored by a U. S. employer and possess requisite skills or background for the position offered. Petitioners for the H-2B must show documentation that no qualified Americans are available to fill the position. This group includes skilled workers.

H-3Training Visas: Available to foreign nationals (generally, those who do not hold a university degree) who wish to participate in a training program not available in their country of nationality. The overall length of stay is up to 2 years. Requires a U.S.sponsor.

I-Information Media Visas: This visa for representatives of information media is generally issued for one year and renewable indefinitely.

R- Religious Worker Visas: Professionals working in a religious capacity in a "bona fide" religious organization may qualify for this visa type. To qualify, one must demonstrate that s/he has worked in a religious capacity for at least for the two years immediately prior to application.

C. Health Information:

All countries offer some forms of health hazards to travelers and a good travel agent will advise on the correct precautions. Detailed advice can be found in the ABC guide to International travel. You should be aware that all health matters for travelers fall into two sections:

- i) Compulsory Vaccinations (without a certificate the traveler may not enter the country concerned) and

ii) Advisable Precautions - which are not enforced but which are for the travelers own good.

Compulsory precautions are usually well documented but a good travel agent will seek out the others and advise the client. Although no one likes injections the diseases are worse. You should find out where travelers can go area to have travel vaccinations done cleanly and at what cost.

Necessary vaccinations commonly include:

Polio

Yellow fever

Cholera

Hepatitis A and B

Plague

Diphtheria

HIV/ AIDS and other diseases

D. Airport Tax

Amount, place of payment and possible exemptions for departure tax.

E. Customs

Import and Export regulations, pets, wild flora and fauna.

F. Foreign Exchanges

Simply Rate of Exchange (ROE)

G. Travel Insurances, etc.

TIM is available by annual subscription which includes monthly issues. The annual subscription runs January to December of each year however subscribers may also order part-way through the year at a pro-rated cost. Single month's issues also available. The information found in TIM is consulted by thousands of users around the world every day, including

4.6 BAGGAGE HANDLING:

Free baggage allowances for First class: 40 kg, Business/Executive class:30 kg, Economy class:20 kg (Further depend on airline to airline)

4.6.1 Weight system:

Weight system Applicable between IATA area 1 and 3

From Brazil to Hong Kong SAR/Thailand via Atlantic Brazil to the Republic of South America via the Atlantic

To / From Canada, USA, US territories (except W. Africa)

A passenger can carry free:

A handbag, pocket book or purse.

An overcoat, Wrap or blanket.

An Umbrella or walking stick.

A small camera

A reasonable amount of reading materials for the flight.

Infant food for consumption in flight

Infants carrying basket

Wheel chair

One handbag, suitable for placing in closed overhead rack or under the passenger's seat with maximum dimensions shall not exceed 45 inches.

Dangerous goods are not allow in aircraft.

Explosive, flammable thing, burning gases, radioactive materials, Oxidizing materials, poisons etc are not allowed in aircraft.

Following items may be carried (depend airlines to airlines)

Medicine, toilet articles which are necessary during journey only maximum 2 kg or 2 litre in which single pack does not exceed 1/2 kg or 1/2 litre.

Dry ice not exceed 2.5 kg/passenger

Alcoholic beverages

Small Oxygen cylinder for medical use or small Co2 gas cylinder

Children and Infant's allowance:

Children pay 67% of adult fare

Infant pay 10% of adult fare

No free baggage allowance will be granted to infants, either those carried without charge or those for whom the fare paid is 10%.

1 fully collapsible stroller/push chair is permitted for infants paying 10% of the applicable fare and may be included in the list of carry on items.

UN checked baggage: Un checked baggage using additional seats, baggage of a fragile or valuable nature may be carried in an additional (charge of full seat of same class) but wt. should not exceed 75 kg.

Charges for PETs:

Normal excess baggage charge as per wt.

Charge for Snow skiing equipment: Wt. should not exceed 3 kg and applicable for 1 set of equipment per passenger. Normal excess baggage charges applicable.

Charges for Golf equipment: If Wt. till 15 kg we took charges for 6 kg only, but excess of 15 kg then add +1.....

Excess baggage wt. charges: 1.5 % of economy class fare for all types/class of journey.

Excess value charge: A passenger may declare a value, US\$ 20/kg in the case of checked baggage and a passenger may declare a value, US\$ 400/passenger in the case of UN -checked baggage.

4.6.2 Piece System

Area of applicable: From Brazil to Hong Kong SAR/Thailand via the Atlantic, except wt. system

Free baggage allowance:**1) First class/Executive class-**

NO. of pieces 2 size 65" wt.32 kg -each

(Total dimension 130" but equal size)

2) Economy class-

2 pieces of total dimension of 107" but one piece not exceed 65"

Means if one piece is of 65" other should be of 42"dimension

but wt. of both pieces should be 32 kg each.

Infant charges: For all class of fare only 1 piece in each class of 45"dimension.

Free items which a passenger can carry with them are same as mention in wt. system.

Other special piece of baggage which can carry by a passenger is:

1 sleeping bag or bed roll

1 back pack

1 pair of snow skis

1 golf bag

1 bicycle (single seated) not exceed 61" of dimension

Any portable musical instrument not exceeding 45 " in length.

Pets charges:

Twice the normal excess baggage charges

Un checked baggage:

For fragile or valuable items: full seat needed but weight should not exceed 75kg.

Charge for snow kit: 33.3% of the applicable excess baggage charge

Charge for golf equipment:

If in excess of permitted free baggage allowance, is charge 50% of the applicable excess baggage (1/2 charge). This charge is only for 1 golf bag per passenger .For any excess normal excess baggage charge apply.

Know the 3-1-1 for Airline Carry-On Baggage

This is the easy formula for established by TSA that mandates that you can only carry liquids, aerosols and gels in three-ounce containers, which should be safely kept inside a one-quart, plastic zip-top bag. This includes common items such as toothpaste, shampoo and food. You should be aware that extends to gift or special items including lotions, creams, scented oils, liquid soaps, perfumes and even snow globes.

The only exception to this carry-on baggage rule is if you have baby food, medications (and associated injectors) or other liquid/gel items that are for health purposes. In order to have these containers permitted, you need to declare them to an airport security officer and have them screened at the checkpoint. It's highly recommended that you label medications to make this process smoother.

Be Aware of What Not to Bring in Checked Baggage on Airlines and Airline Carry on Baggage: Along with your personal items, you are also permitted to bring corkscrews, cigar cutters, common lighters, nail cutters, safety razors and travel-sized or blunt scissors in your carry on baggage. If you are carrying any types of martial arts weapons or tools — ax, crowbar, hammer, drill pliers, saw, etc — you'll have to pack them in your checked

bags. If you pack any sharp objects in your checked suitcase, wrap them to ensure safety for the baggage handlers and transportation security officers.

To prevent unintentional short-circuiting and fires, there is a limit for packing loose lithium batteries, which are commonly used in digital cameras, cell phones, PDAs and laptop computers. For your checked airline baggage, batteries must be installed in the electronic device. You are limited to 8 grams (100-watt hours) of lithium batteries in your carry-on baggage and they must be properly protected in original packaging or a protective case.

The transportation security officer at the airport may deem certain items too dangerous to permit through the checkpoint. Be aware that the list of permitted and prohibited items will be updated as necessary.

Pack Smart & Spend Less Time in Airport Security Lines: Your travel agent will know the different airline security regulations, but for more airlines, the maximize size of your airline carry on baggage is 45 linear inches. Save yourself from extra hassles by checking anything larger and try to pack your carry on baggage as light as possible. Know that if you have a full bag, your personal items may spill out for everyone to see when the airport security officer unzips it. For both your checked and carry on baggage, try to organize its contents, so that everything is easy to see in a brief glance.

When possible, keep from overstuffing your checked suitcase to avoid additional airline baggage fees. When traveling over the holidays, ship your gifts ahead of time instead of packing them. If you insist on bringing gifts, consider wrapping them after you arrive at your destination. For travelers who still make use of a non-digital camera, don't pack film in your checked luggage, because the screening equipment will damage it. It's better if you can keep undeveloped film and cameras in your carry on baggage.

Check Your Progress

Q 1) What do you mean by “baggage handling”? Give complete procedure of baggage handling in wt. system and piece system.

Q 2) Five complete procedure of Airline handling.

Q 3) Write short notes on Travel Information manual (TIM).

Q 4) Describe Airport handling procedures.

Q 5) What is Visa? Describe its types.

4.7 LET US SUM UP

Airport procedure provides all the information about the passenger identify registration, Baggage registration, seating registration, on line check-in, mobile check-in, gate/lounge check-in, change of reservation, tips for travelers etc. Guide to airline boarding procedure as per Zones (top elite, First class passenger, first row of rear, Middle, Front). Student will know the travel documents which are described in Travel Information Manual and their requirement as per the types of journey and country. Passport and visa are the two documents ,which are compulsory for International journey except some countries .These countries are also mentioned in The

Travel Information Manual (TIM).Baggage handling procedure is very helpful and provide practical experiences to the students i. e calculate for extra weight or piece , ,Area of applicability etc.

4.8 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 4.6
- 2) Refer Sec. 4.4
- 3) Refer Sec. 4.5
- 4) Refer Sec. 4.3
- 5) Refer Sec. 4.4

4.9 References

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Unit-5

Types of Airlines and Aircraft: Passenger Capacity and Aircraft Seating Plans; Aircraft Configuration and Features

Structure

5.1 Objectives

5.2 Introduction

5.3 Types of airlines

5.4 Types of aircrafts

5.5 General Construction

5.6 Flight Characteristics

5.7 Aircraft Features

5.8 Aircraft Configuration

5.9 Lets Sum up

5.10 Clues to Answers

5.11 References

5.1 OBJECTIVES:

After studying this section student will be able to:

- Differentiate between types of airlines and aircraft.
- Passenger capacity in various types of airlines and aircrafts.
- Seating plans of aircrafts with their features.
- Aircraft configuration with customerized layouts.

5.2 INTRODUCTION

An airline provides air transport services for travelling passengers and freight. Airlines lease or own their aircraft with which to supply these services and may form partnerships or alliances with other airlines for mutual benefit. Generally, airline companies are recognized with an air operating certificate or license issued by a governmental aviation body.

5.3 TYPES OF AIRLINES

Airlines vary from those with a single aircraft carrying mail or cargo, through full-service international airlines operating hundreds of aircraft. Airline services can be categorized as being intercontinental, intra-continental, domestic, regional, or international, and may be operated as scheduled services or charters.



A Boeing 767-300ER of Delta Air Lines, one of the world's largest passenger airlines. Douglas MD-11.



A FedEx Express McDonnell

Douglas MD-11.

FedEx Express is the world's

largest airline in

terms of freight tons



flown.



Ryanair Boeing 737-800 shortly after take-off.

An Airbus A 380, the world's

largest passenger

airliner

Ryanair is the world's largest airline in terms of number of international passengers carried.

5.4 TYPES OF AIRCRAFTS

An aircraft is a vehicle that is able to fly by gaining support from the air, or, in general, the atmosphere of a planet. It counters the force of gravity by using either static lift or by using the dynamic lift of an airfoil, or in a few cases the downward thrust from jet engines.

Although rockets and missiles also travel through the atmosphere, most are not considered aircraft because they do not have wings and rely on rocket thrust as the primary means of lift.

The human activity that surrounds aircraft is called aviation. Manned aircraft are flown by an onboard pilot. Unmanned aerial vehicles may be remotely controlled or self-controlled by onboard computers. Aircraft may be classified by different criteria, such as lift type, propulsion, usage, and others.

Heavier than air - aerodynes:

Heavier-than-air aircraft must find some way to push air or gas downwards, so that a reaction occurs (by Newton's laws of motion) to push the aircraft upwards. This dynamic movement through the air is the origin of the term aerodyne. There are two ways to produce dynamic up thrust: aerodynamic lift, and powered lift in the form of engine thrust.

Aerodynamic lift involving wings is the most common, with fixed-wing aircraft being kept in the air by the forward movement of wings, and rotorcraft by spinning wing-shaped rotors sometimes called rotary wings. A wing is a flat, horizontal surface, usually shaped in cross-section as an aerofoil. To fly, air must flow over the wing and generate lift. A flexible wing is a wing made of fabric or thin sheet material, often stretched over a rigid frame. A kite is tethered to the ground and relies on the speed of the wind over its wings, which may be flexible or rigid, fixed, or rotary. With powered lift, the aircraft directs its engine thrust vertically downward. V/STOL aircraft, such as the Harrier Jump Jet and F-35B take off and land vertically using powered lift and transfer to aerodynamic lift in steady flight. A pure rocket is not usually regarded as an aerodyne, because it does not depend on the air for its lift (and can even fly into space); however, many aerodynamic lift vehicles have been powered or assisted by rocket motors. Rocket-powered missiles that obtain aerodynamic lift at very high speed due to airflow over their bodies are a marginal case.

Fixed-wing aircrafts:

The forerunner of the fixed-wing aircraft is the kite. Whereas a fixed-wing aircraft relies on its forward speed to create airflow over the wings, a kite is tethered to the ground and relies on the wind blowing over its wings to provide lift. Kites were the first kind of aircraft to fly, and were invented in

China around 500 BC. Much aerodynamic research was done with kites before test aircraft, wind tunnels, and computer modelling programs became available.

The first heavier-than-air craft capable of controlled free-flight were gliders. A glider designed by Cayley carried out the first true manned, controlled flight in 1853.

Practical, powered, fixed wing aircraft (the aero plane or airplane) were invented by the Alberto Santos-Dumont. Besides the method of propulsion, fixed-wing aircraft are in general characterized by their wing configuration. The most important wing characteristics are:

- Number of wings – Monoplane, biplane, etc.
- Wing support – Braced or cantilever, rigid, or flexible.
- Wing planform – including aspect ratio, angle of sweep, and any variations along the span (including the important class of delta wings).
- Location of the horizontal stabilizer, if any.
- Dihedral angle – positive, zero, or negative (anhedral).

A variable geometry aircraft can change its wing configuration during flight. A flying wing has no fuselage, though it may have small blisters or pods. The opposite of this is a lifting body, which has no wings, though it may have small stabilising and control surfaces.

Wing-in-ground-effect vehicles may be considered as fixed-wing aircraft. They "fly" efficiently close to the surface of the ground or water, like conventional aircraft during takeoff. An example is the Russian ekranoplan (nicknamed the "Caspian Sea Monster"). Man-powered aircraft also rely on ground effect to remain airborne with a minimal pilot power, but this is only because they are so underpowered – in fact, the airframe is capable of flying higher.

Comparison between four of the largest aircraft:



Hughes H-4 Hercules

"Spruce Goose" (aircraft with greatest wingspan)

Antonov An-225

(Aircraft with the greatest payload)

Airbus A380-800

(Largest airliner)

Rotorcraft

Rotorcraft or rotary-wing aircraft use a spinning rotor with aerofoil section blades (a rotary wing) to provide lift. Types include helicopters, autogyros, and various hybrids such as gyrodyne and compound rotorcraft.

Helicopters have a rotor turned by an engine-driven shaft. The rotor pushes air downward to create lift. By tilting the rotor forward, the downward flow is tilted backward, producing thrust for forward flight. Some helicopters have more than one rotor and a few have rotors turned by gas jets at the tips.



Autogyros have unpowered rotors, with a separate power plant to provide thrust. The rotor is tilted backward. As the autogyro moves forward, air blows upward across the rotor, making it spin. This spinning increases the speed of airflow over the rotor, to provide lift. Rotor kites are unpowered autogyros, which are towed to give them forward speed or tethered to a static anchor in high-wind for kited flight.

Compound rotorcraft have wings that provide some or all of the lift in forward flight. They are nowadays classified as powered lift types and not as rotorcraft. Tiltrotor aircraft (such as the V-22 Osprey), tiltwing, tailsitter,

and coleopter aircraft have their rotors/ propellers horizontal for vertical flight and vertical for forward flight.

Unpowered aircraft

Gliders are heavier-than-air aircraft that do not employ propulsion once airborne. Take-off may be by launching forward and downward from a high location, or by pulling into the air on a tow-line, either by a ground-based winch or vehicle, or by a powered "tug" aircraft. For a glider to maintain its forward air speed and lift, it must descend in relation to the air (but not necessarily in relation to the ground). Many gliders can 'soar' - gain height from updrafts such as thermal currents. The first practical, controllable example was designed and built by the British scientist and pioneer George Cayley, whom many recognize as the first aeronautical engineer. Common examples of gliders are sail planes, hang gliders and paragliders.

Balloons drift with the wind, though normally the pilot can control the altitude, either by heating the air or by releasing ballast, giving some directional control (since the wind direction changes with altitude). A wing-shaped hybrid balloon can glide directionally when rising or falling; but a spherically shaped balloon does not have such directional control.

Kites are aircraft that are tethered to the ground or other object (fixed or mobile) that maintains tension in the tether or kite line; they rely on virtual or real wind blowing over and under them to generate lift and drag. Kytoons are balloon-kite hybrids that are shaped and tethered to obtain kiting deflections, and can be lighter-than-air, neutrally buoyant, or heavier-than-air.

Powered aircraft (Propeller aircraft)

Propeller aircraft use one or more propellers (airscrews) to create thrust in a forward direction. The propeller is usually mounted in front of the power source in tractor configuration but can be mounted behind in pusher configuration. Variations of propeller layout include contra-rotating propellers and ducted fans.

Many kinds of power plant have been used to drive propellers. Early airships used man power or steam engines. The more practical internal combustion



piston engine was used for virtually all fixed-wing aircraft until World War II and is still used in many smaller aircraft. Some types use turbine engines to drive a propeller in the form of a turboprop or propfan. Human-powered flight has been achieved, but has not become a practical means of transport. Unmanned aircraft and models have also used power sources such as electric motors and rubber bands.

Jet aircraft

Jet aircraft use air breathing jet engines which take in air, burn fuel with it in a combustion chamber, and accelerate the exhaust rearwards to provide thrust.



Turbojet and turbofan engines use a spinning turbine to drive one or more fans, which provide additional thrust. An afterburner may be used to inject extra fuel into the hot exhaust, especially on military "fast jets".

Lockheed Martin F-22A Raptor

Use of a turbine is not absolutely necessary: other designs include the pulse jet and ramjet. These mechanically simple designs cannot work when stationary, so the aircraft must be launched to flying speed by some other method. Other variants have also been used, including the motor jet and hybrids such as the Pratt & Whitney J58, which can convert between turbojet and ramjet operation. Compared to propellers, jet engines can provide much higher thrust, higher speeds and, above about 40,000 ft (12,000 m), greater efficiency. They are also much more fuel-efficient than rockets. As a consequence nearly all large, high-speed or high-altitude aircraft use jet engines.

Rotorcraft

Rotorcraft, such as helicopters have a powered rotary wing or rotor. It obtains forward thrust by angling the rotor disc slightly forward so that a proportion of its lift is directed forwards. The rotor may, like a propeller, be powered by a variety of methods such as a piston engine or turbine. Experiments have also used jet nozzles at the rotor blade tips.

Other types of powered aircraft

- Rocket-powered aircraft have occasionally been experimented with, and the Messerschmitt Komet fighter even saw action in the Second World War. Since then, they have been restricted to research aircraft, such as the North American X-15, which traveled up into space where air-breathing engines cannot work (rockets carry their own oxidant). Rockets have more often been used as a supplement to the main power plant, typically for the rocket-assisted take off of heavily loaded aircraft, but also to provide high-speed dash capability in some hybrid designs such as the Saunders-Roe SR.53.
- The ornithopter obtains thrust by flapping its wings. It has found practical use in a model hawk used to freeze prey animals into stillness so that they can be captured, and in toy birds.

Areas of use

The major distinction in aircraft types is between military aircraft, which includes not just combat types but many types of supporting aircraft, and civil aircraft, which include all non-military types.

Military aircraft

A military aircraft is any fixed-wing or rotary-wing aircraft that is operated by a legal or insurrectionary armed service of any type.



Boeing B-17E in flight. The Allies of World War II lost 160,000 airmen and 33,700 planes during the air war over Europe

Military aircraft can be either combat or non-combat:

- Combat aircraft are aircraft designed to destroy enemy equipment using its own armament. . Combat aircraft divide broadly into fighter and bombers, with several in-between types such as fighter-bombers and ground-attack aircraft (including attack helicopters).

- Non-Combat aircraft are not designed for combat as their primary function, but may carry weapons for self-defense. Non-combat roles include search and rescue, reconnaissance, observation, transport, training, and aerial refueling. These aircraft are often variants of civil aircraft such as the Douglas DC-3 airliner.

Gliders and balloons have also been used as military aircraft; for example, balloons were used for observation during the American Civil War and World War I, and military gliders were used during World War II to land troops.

Civil aviation

Civil aircraft divide into commercial and general types, however there are some overlaps. Commercial aircraft include types designed for scheduled and charter airline flights, carrying both passengers and cargo. The larger passenger-carrying types are often referred to as airliners, the largest of which are wide-body aircraft. Some of the smaller types are also used in general aviation, and some of the larger types are used as VIP aircraft.



Agusta A109

helicopter of the Swiss air rescue service

General aviation is a catch-all covering other kinds of private (where the pilot is not paid for time or expenses) and commercial use, and involving a wide range of aircraft types such as business jets (bizjets), trainers, homebuilt, aerobatic types, racers, gliders, war birds, firefighters, medical transports, and cargo transports, to name a few. The vast majority of aircraft today are general aviation types.

Experimental aircraft

Experimental aircraft are one-off specials, built to explore some aspect of aircraft design and with no other useful purpose. The Bell X-1 rocket plane, which first broke the



sound barrier in level flight, is a famous example.

A model aircraft weighing six grams

Model aircraft

A model aircraft is a small unmanned type made to fly for fun, for static display, for aerodynamic research or for other purposes. A scale model is a replica of some larger design.

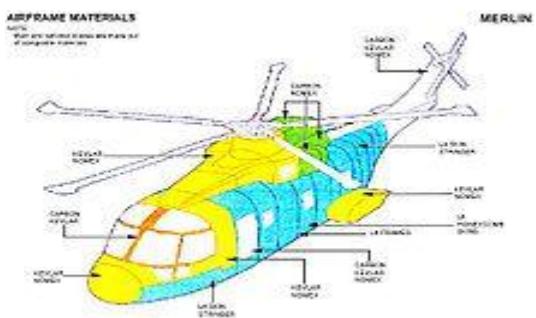
5.5 GENERAL CONSTRUCTION

The parts of an aircraft are generally divided into three categories:

- The airframe comprises the mechanical structure and associated equipment.
- The propulsion system (if it is powered) comprises the engine or engines and associated equipment.
- The avionics comprise the electrical flight control and communication systems.

Airframe

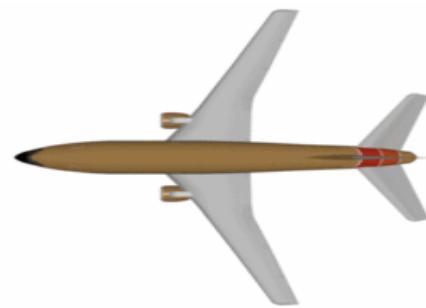
The airframe of an aircraft is its mechanical structure. Airframe design is a field of engineering that



combines aerodynamics, materials technology and manufacturing methods to achieve balances of performance, reliability, and cost. The main parts of the airframe are the fuselage, wing, stabilizing tail or empennage, and undercarriage. *Airframe diagram for a Agusta Westland AW101 helicopter*

Fuselage

The fuselage is an aircraft's main body section containing the crew cockpit or flight deck, and any passenger cabin or cargo hold. In single- and twin-engine aircraft, it will often also contain the engine or engines. The fuselage also serves to position control and stabilization surfaces in specific relationships to lifting surfaces, required for aircraft stability and maneuverability.



Fuselage of a Boeing 737 shown in brown

Wing

The wings of an aircraft produce lift. Many different styles and arrangements of wings have been used on heavier-than-air aircraft, and some lighter-than-air craft also have wings. Most early fixed-wing aircraft were biplanes, having wings stacked one above the other. Most types nowadays are monoplanes, having one wing each side. Wings also vary greatly in their shape viewed from above.

Stabilising and control surfaces

Most aircraft need horizontal and vertical stabilisers which act in a similar way to the feathers on an arrow. These stabilising surfaces allow equilibrium of aerodynamic forces to stabilise the flight dynamics of pitch and yaw. They are usually mounted on the tail section (empennage), though in the canard configuration the horizontal stabiliser is mounted towards the front of the craft. Tailless aircraft rely on other techniques to achieve stability.



The empennage of a Boeing 747-200

Flight control surfaces enable the pilot to control an aircraft's flight attitude and are usually part of the wing or mounted on, or integral with, the associated stabilising surface. Their development was a critical advance in the history of aircraft, which had until that point been uncontrollable in flight.

Undercarriage

The undercarriage, or landing gear, is the structure that supports an aircraft when it is not flying and allows it to taxi, take off and land. Most commonly, wheels are used but skids, floats, or a combination of these and other elements can be used, depending on the surface. Many aircraft have undercarriage that retracts into the wings and/or fuselage to decrease drag during flight. Flying boats are supported on water by their fuselage or hull and hence have no undercarriage beyond small stabilising floats. Amphibians have a similar floating hull and also retractable wheeled undercarriage, allowing them to take off from and alight on both land and water.

Engines

Powered aircraft have one or more engines. Most aircraft engines are either lightweight piston engines or gas turbines. In most aircraft, fuel is stored predominantly in the wings but larger aircraft also have additional fuel tanks in the fuselage.

Avionics

The avionics comprise the flight control systems and other electronic equipment, including the cockpit instrumentation, radar, and communication systems.

5.6 FLIGHT CHARACTISTICS

Flight envelope

The flight envelope of an aircraft refers to its capabilities in terms of airspeed and load factor or altitude. The term can also refer to other measurements such as maneuverability. When a plane is pushed, for instance by diving it at high speeds, it is said to be flown "outside the envelope", something considered unsafe.

Range

The Boeing 777-200LR is the longest-range airliner, capable of flights of more than halfway around the world. The range is the distance an aircraft can fly between takeoff and landing, as limited by the time it can remain airborne



For a powered aircraft the time limit is determined by the fuel load and rate of consumption.

For an unpowered aircraft, the maximum flight time is limited by factors such as weather conditions and pilot endurance. Many aircraft types are restricted to daylight hours, while balloons are limited by their supply of lifting gas. The range can be seen as the average ground speed multiplied by the maximum time in the air.

Flight dynamics

Flight dynamics is the science of air vehicle orientation and control in three dimensions. The three critical flight dynamics parameters are the angles of rotation in three dimensions about the vehicle's center of mass, known as pitch, roll, and yaw (quite different from their use as Tait-Bryan angles).



- Roll is a rotation about the longitudinal axis (equivalent to the rolling or heeling of a ship) giving an up-down movement of the wing tips measured by the roll or bank angle.
- Pitch is a rotation about the sideways horizontal axis giving an up-down movement of the aircraft nose measured by the angle of attack.
- Yaw is a rotation about the vertical axis giving a side-to-side movement of the nose known as sideslip.

Flight control

Aerospace engineers develop control systems for a vehicle's orientation (attitude) about its center of mass. The control systems include actuators, which exert forces in various directions, and generate rotational forces or moments about the aerodynamic center of the aircraft, and thus rotate the aircraft in pitch, roll, or yaw. For example, a pitching moment is a vertical force applied at a distance forward or aft from the aerodynamic center of the aircraft, causing the aircraft to pitch up or down. Control systems are also sometimes used to increase or decrease drag, for example to slow the aircraft to a safe speed for landing.

The two main forces acting on any aircraft are lift supporting it in the air and drag opposing its motion. Control surfaces may also be used to affect these forces directly, without inducing any rotation.

5.7 AIRCRAFT FEATURES

Singapore airlines A 380 First class sleepers can be folded into something that approximates a double bed. Aircraft Configuration provide clear picture about each items and their weight, cargo, cockpit and certification



As cash-strapped airlines park their geriatric jets in the desert, your odds of getting a more pleasant ride aboard a newer plane are improving. That's because the average age of a typical big airline fleet is going down just as the new generation planes break down less often, and are offering built-in features that may even reduce jet lag and other side effects of prolonged confinement in an aluminum tube.

"Airlines are finally realizing that if you build a better mousetrap, people will come," said Blake Fleetwood, of Cook/American Express Travel in New York City, which specializes in discounted premium class air travel. He said that customers often inquire about the type of a plane they'll be flying and if it has state-of-the-art features, especially on long distance flights where an extra inch of legroom can mean the difference between comfort and misery.

Of course, no one expects a return to the glory days of air travel, when planes were decked out with three-foot-wide sleeping berths and piano lounges.

Still, bars (sans live music) are making a comeback along with other communal spaces aloft. “It’s the interior architecture that drives the customer experience,” said Ken Price, a cabin interiors expert for Boeing’s commercial aircraft division. “If airplanes appear very open and spacious, people like them; if they feel claustrophobic, they try to avoid them.”

The world’s largest airplane, the European double-decker Airbus A380, claims to have 50 percent more living space than the 747-400, the second largest in the sky. Airbus has produced 13 of the behemoths so far, which are flying under the livery of three international airlines—Emirates, Singapore and Qantas—all of which have chosen to use that bounty of living space for added creature comforts rather than jamming in more coach seats. More legroom, snack areas and lounges, as well as wider windows and seats, all contribute to the sense of greater well-being that passengers are noticing, according to Airbus. *Emirates Airlines*



Qantas reserves the top deck of the A380 for business class and a new premium economy class—which gives fliers on the marathon L.A.-Sydney run a chance to upgrade out of coach for a fare that’s closer to economy than a full business ticket. While the jet could theoretically seat up to 800 in a cattle class layout, it’s flying fewer than 500 in current layouts. Emirates has even outfitted the first-class sections of its A380s with spacious restrooms featuring an unheard-of in-flight perk: a shower stall. Never mind that this might be the most expensive dousing you’ve ever experienced: Blake Fleetwood says the shower convinced one of his customers to shell out \$2,000 over what he would have paid to fly first on another plane. “That works out to about \$400 a minute”—shower time is limited to five minutes to conserve precious water. Not to be outdone, Virgin Atlantic founder Richard Branson has hinted he’s considering a gym, a casino, and private double-bed compartments when his airline gets the new planes.



planes offer ipod

Singapore airlines's new ultra - long distance connections to the aircraft's built-in entertainment system.

Some new aircraft features, though, aren't tied to the delivery of a new plane; they're showing up on existing fleets. Major airlines like Delta and American are joining their upstart rivals like JetBlue and Virgin America in rewiring their fleets to offer amenities like Wi-Fi access and better in-flight entertainment, such as live TV. And some airlines like Singapore are glitzing up their business-class cabins with iPod docking stations and the like. You don't have to fly first or business class to reap the benefits of many of these new advances, but you will have to pay: internet access costs about \$10 to \$13 a flight, about the same as at a hotel or an airport. Even the air inside the cabin is getting attention: Boeing claims that its new 787 Dream liner, which ANA and Qantas will start flying next year, will set the standard for improved cabin pressure, lighting and increased humidity, because the plane is the first to be built completely from composite materials, a more flexible substance than the aluminum airframes that permits a higher humidity level and there's more to the space question than how far you can stretch your legs. More fliers are lugging aboard their bags as carry-ons to avoid paying fees or having them go astray so airlines are putting in larger bins. That may not have the sex appeal of showers or private bedrooms, but to long suffering fliers, it feels like a perk just the same.

5.8 AIRCRAFT CONFIGURATION

Standard aircraft

The Aircraft EMBRAER 170 LR shall be manufactured according to (i) the standard configuration specified in the Technical Description TD170 Revision 9 dated November 2007.

The EMBRAER 170 LR Aircraft will also be fitted with the following options selected by Buyer:

Item	EQUIPMENT
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Version	LR (long range)
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Engine	General Electric CF34-8E5
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020J001	10 minutes Take-off Thrust
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231J002	HF (single) (model KHF-1050)
232J002	SELCAL
232J005	CMF (ACARS) with 3rd VHF datalink Mode A included
233J002	ANR Headsets (model HMEC-25-CAP) lightweight
250J011	Passenger Cabin Surveillance System (no recording)
252J001A	Movable Class Divider w/ Aisle Curtain
252J012	Pax seats coat hook (side mounted)
252J013	Pax seats life vest pouch
252J016	Pax seats life vest jacket
252J053	3rd flight attendant seat
254J002	AFT Lavatory with access for disabled - soft partition
254J004	Baby Change Table in the AFT Lavatory
324J001	Autobrake System
332J002	LED Reading Lights
343J001	2nd Radio Altimeter
344J001	Weather Radar with Turbulence Detection Mode (WU-880)
344J002	Lightning Sensor System
345J001	2nd ADF
346J001	2nd FMS / GPS
352J003	3rd oxygen masks for all RH seats
462J001	Electronic Flight Bag system (EFB) (***)
520J001	Reinforced Cockpit Door w/remote access control
521J003	Door sill doublers (scuff plates at passenger, cargo and service door

- Fuel meters with Metric indications
- Full Installation of Thales IFE (*)(**)
- QAR Full Installation
- Provisions for CAT IIIa w/ autoland
- Customised layout (single class elite seat) - 76 Pax - according to Exhibit 1 to this Attachment A1.

High Speed Data Link & Passenger Cabin Outlets

Portable ELT-Full Provision

76 Passengers (19x2+19x2)

(*) The Thales In-Flight Entertainment includes audio & video on demand (start, pause, fast forward and stop), personal touch screen (8.9" LCD monitors), games, moving map, boarding music and pre-recorded announcements.

(**) Indicates that the Thales IFE is a follow-on certification item that might not be certified at the delivery of the first EMBRAER 170 Aircraft. If this is the case, Embraer shall use its best efforts to have the Aircraft delivered with the IFE installed as completed as possible. Embraer will send to Buyer a service bulletin to liberate IFE operation as soon as the certification is concluded.

(***) In case the Electronic Flight Bag (EFB) is eliminated from the Aircraft Configuration, the adjusted Aircraft Basic Price shall be obtained by the reduction of USD 41,232 (forty one thousand, two hundred and thirty two United States dollars), in January 2008 Economic Conditions.

Design Weights

EMBRAER 170- LR

(kg) (lb)

Equipped Empty Weight 20,225 44,588

Basic Operating Weight 21,040 46,385

Maximum Zero Fuel Weight	30,140 66,447
Maximum Landing Weight	32,800 72,312
Maximum Take-off Weight	37,200 82,012
Maximum Ramp Weight	37,360 82,365
Minimum Operating Weight	21,800 48,061
Maximum Payload	9,100 20,061
Maximum Usable Fuel	9,428 20,785

(1) The EEW as presented above may vary by +/- 2.5%.

(2) Weight determined for an adopted fuel density of 0.811 kg/l.

Cargo:

The EMBRAER 170 has two under floor cargo compartments, which complies with FAR-25 "Class C" requirements.

Cockpit

The aircraft is designed with a "quiet and dark" cockpit to accommodate the pilots with comfort during all flight phases, with minimum workload and maximum safety. The cockpit is equipped with two pilot seats and a stowable flight observer seat.

Certification

The aircraft shall be initially certified by CTA-Brazil, FAA-USA, EASA and the JAA member countries. The EMBRAER 170 aircraft is designed in accordance with the following certification requirements:

RBHA 21 - Procedimentos de Homologação para Produtos e Partes Aeronáuticas (Certification Procedures for Products and Parts), latest amendment in effect.

FAR Part 21 - Certification Procedures for Products and Parts - Amendment 21-75, latest amendment in effect,

JAR-21 - Certification Procedures for Aircraft and Related Products and Parts, latest amendment in effect.

AIRCRAFT CUSTOMIZED LAYOUT

EMBRAER 170 - 76 pax

Exhibit 1 to Attachment A to Purchase Agreement COM0080-08 Page 1 of 1

Aircraft Zones

There are many different zones on Boeing & Airbus aircraft. It are divided into 6 areas.

Cabin & Upper Deck

fwd & Aft & Bulk Cargo Compartment

Wing

Nose & Main Landing Gears

Pylon & engine

Tail Area (include Fin & Rudder)

Check Your Progress

Q1) Write short notes on types of aircrafts.

Q 2) What is civil aviation? Describe various types of aircraft coming under this category.

Q 3) Give the configuration of any one aircraft.

Q 4) Describe features of aircrafts.

Q 5) What are the flight characteristics?

5.9 LET US SUM UP

This unit provide various types of airlines and aircrafts with their categories & proper diagrams.

The diagram of airframe provides a clear picture of all the part of any aircraft. Flight characteristics is important to know about Flight envelope, Range, Flight dynamics, Flight control. Aircraft features to know the facilities and comfort in the particular airline/class of service i.e the extra estate afforded by the new wide bodies may actually help you get a night's rest. Singapore airlines A 380 First class sleepers can be folded into something that approximates a double bed. Aircraft Configuration provide clear picture about each items and their weight, cargo, cockpit and certification.

5.10 CLUES TO ANSWERS

Check your progress

1) Refer Sec. 5.3

2) Refer Sec. 5.4

3) Refer Sec. 5.8

4) Refer Sec. 5.7

5) Refer Sec. 5.6

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- Lillis A.M., Abernethy M.A. (2002). Working Paper. "Costing Customer Responsiveness - An Analytical Framework", The University of Melbourne, Australia.
- Phadnis, A. (2005). As Air Traffic Soars, Airports To Take Wing. *Business Line*, 22 August 2005.

Unit-6

Flight Schedules, Flight Connections and Itinerary Planning

Structure

6.1 Objectives

6.2 Introduction

6.3 Itinerary Planning

6.4 Flight Plan

6.5 Other Flight Planning Consideration

6.6 Flight Schedules

6.7 Flight Connections

6.8 Let's Sum Up

6.9 Clues to Answers

6.10 References

6.1 OBJECTIVES:

- After studying this unit the student will be able to know that planning a basic itinerary is simple to do but requires some time and concentration. Flight plan, routing types, Navigational Aids (Navaid); Flight schedules with the help of format given in this unit by providing departure city/airport, arrival city / airport and departure time; Flight Connecting and Issues related to flight connections;
- To know about Standard Instrument Departure (SID) and Standard Terminal Arrival Route (STAR);
- Know the concept of alternate airport and fuel.

6.2 INTRODUCTION

Planning a basic itinerary is simple to do but requires some time and concentration. International Civil Aviation Organization (ICAO) is the specialized agency of the United Nations with a mandate "to ensure the safe, efficient and orderly evolution of international civil aviation." The standards which become accepted by the ICAO member nations cover all technical and operational aspects of international civil aviation, such as safety, personnel licensing, operation of aircraft, aerodromes, air traffic services, accident investigation and the environment. Aircraft routing types used in flight planning are: Airway, Navaid and Direct. A route may be composed of segments of different routing types. In general, flight planners are expected to avoid areas called Special Use Airspace (SUA) when planning a flight. There are several types of SUA, including Restricted, Warning, Prohibited, Alert, and Military Operations Area (MOA). Examples of Special Use Airspace include a region around the White House in Washington, D.C., and the country of Cuba. Government and military aircraft may have different requirements for particular SUA areas, or may be able to acquire special clearances to traverse through these areas. SIDs and STARs are procedures and checkpoints used to enter and leave the airway system by aircraft operating on IFR flight plans. There is a defined transition point at which an airway and a SID or STAR intersects.

A SID, or Standard Instrument Departure, defines a pathway out of an airport and onto the airway structure. A SID is sometimes called a Departure Procedure (DP). SIDs are unique to the associated airport.

A STAR, or Standard Terminal Arrival Route, ('Standard Instrument Arrival' in the UK) defines a pathway into an airport from the airway

structure. STARs can be associated with more than one arrival airport, which can occur when two or more airports are in close proximity (e.g., San Francisco and San Jose).

6.3 ITINERARY PLANNING

Making itinerary

Before you travel, creating a document that outlines where you'll go, when you'll arrive and how you'll get there , an itinerary is a common way to ensure that your travels go smoothly after you embark. Itineraries don't have to be binding, but they allow you to represent the proposed trajectory of your trip tangibly, which make it easier to make last-minute changes that don't affect the overall course of your travels. Planning a basic itinerary is simple to do but requires some time and concentration.

Step 1

Make an ideal outline of all the places you'd like to visit and arrange them in a sequence that makes sense with the local or regional geography. If you're traveling to India, for example, and want to visit the southeastern city of Kolkata, the southwestern city of Mumbai, the northeastern city of Agra, the northern city of Delhi and the northwest city of Jaipur, plan to travel between adjacent cities - Mumbai to Kolkata or Delhi to Jaipur, for example - rather than making long hops across the country, which will not only cause you to "backtrack" in your travels, but also cost more.

Step 2

Notate ideal travel and accommodation options on your itinerary, even if you don't end up using them. If you're traveling in Europe, download a European rail timetable and make note of two to three trains that run between cities as options to take between them. Make a list of possible hotel options in a given city, either from a travel guide like Lonely Planet or Rough Guides or from online resources like Trip Advisor or Orbitz.

Step 3

Book transport and accommodation in advance whenever your plans are set. If you're traveling internationally, for example- book a round-trip ticket to and from the foreign country before you depart. If on the other hand,

you're traveling to Thailand and know your visa runs out after 30 days, book a train to a neighboring country in advance to avoid paying a penalty.

Step 4

Plan for activities within cities and regions whenever possible, again keeping in mind that these may be subject to change plan alternates accordingly. Plan activities with the arrangement of your city and region in mind, as well as the time you'll need for an activity. The Palace of Versailles in France, for example, is about 17 miles from the center of Paris and requires not only time to get there and away, but to explore the massive extent of the palace. Plan to visit attractions within the city, such as the Eiffel Tower and Jardin de Luxembourg, on a different day.

Step 5

Remember that itineraries are often tentative and understand that your plans can change and they probably will use your itinerary not as a fixed representation of where you'll be or what you've been doing at any given time and how you'll get there but as a means of helping you make abstract travel plans concrete.

6.4 FLIGHT PLAN

Flight plans are documents filed by pilots or a Flight Dispatcher with the local Civil Aviation Authority prior to departure. Flight plan format is specified in the ICAO Doc 4444. They generally include basic information such as departure and arrival points, estimated time en route, alternate airports in case of bad weather, type of flight (whether instrument flight rules or visual flight rules), the pilot's information, number of people on board and information about the aircraft itself. In most countries, flight plans are required for flights under IFR but may be optional for flying VFR unless crossing international borders. Flight plans are highly recommended, especially when flying over inhospitable areas, such as water, as they provide a way of alerting rescuers if the flight is overdue. In the United States and Canada, when an aircraft is crossing the Air Defense Identification Zone (ADIZ), either an IFR or a special type of VFR flight plan called a DVFR flight plan must be filed (the "D" is for Defense).

Figure 6.1 Flight plan

For IFR flights, flight plans are used by air traffic control to initiate tracking and routing services. For VFR flights, their only purpose is to provide

needed information should search and rescue operations be required, or for use by air traffic control when flying in a "Special Flight Rules Area".

Routing Types:

- Aircraft routing types used in flight planning are: Airway, Navaid and Direct. A route may be composed of segments of different routing types. For example, a route from Chicago to Rome may include Airway routing over the U.S. and Europe, but Direct routing over the Atlantic Ocean.
- Airway routing occurs along pre-defined pathways called Airways. Airways can be thought of as three-dimensional highways for aircraft. In most land areas of the world, aircraft are required to fly airways between the departure and destination airports. The rules governing airway routing cover altitude, airspeed, and requirements for entering and leaving the airway (see SIDs and STARs). Most airways are eight nautical miles (14 kilometers) wide, and the airway flight levels keep aircraft separated by at least 500 vertical feet from aircraft on the flight level above and below. Airways usually intersect at Navaids, which designate the allowed points for changing from one airway to another. Airways have names consisting of one or more letters followed by one or more digits (e.g., V484 or UA419).

The airway structure is divided into high and low altitudes. The low altitude airways which can be navigated using VOR Navaids have names that start with the letter V, and are therefore called Victor Airways. They cover altitudes from approximately 1200 feet above ground level (AGL) to 18,000 feet (5,486 m) above mean sea level (MSL). The high altitude airways all have names that start with the letter J, and are called Jet Routes. These run from 18,000 feet (5,486 m) to 35,000 feet (10,668 m). The altitude separating the low and high airway structures varies from country to country. For example, it is 19,500 feet (5,944 m) in Switzerland, and 25,500 feet (7,772 m) in Egypt.

Navigational Aids (Navaid)

Navaid routing occurs between Navaids (short for Navigational Aids, see VOR) which are not always connected by airways. Navaid routing is typically only allowed in the continental U.S. If a flight plan specifies Navaid routing between two Navaids which are connected via an airway, the rules for that particular airway must be followed as if the aircraft was flying Airway routing between those two Navaids. Allowable altitudes are covered in Flight Levels.

Direct

Direct routing occurs when one or both of the route segment endpoints are at a latitude/longitude which is not located at a Navaid. Some flight planning organizations specify that checkpoints generated for a Direct route be a limited distance apart, or limited by time to fly between the checkpoints (i.e. direct checkpoints could be farther apart for a fast aircraft than for a slow one).

SIDs and STARs

SIDs and STARs are procedures and checkpoints used to enter and leave the airway system by aircraft operating on IFR flight plans. There is a defined transition point at which an airway and a SID or STAR intersect.

A SID, or Standard Instrument Departure, defines a pathway out of an airport and onto the airway structure. A SID is sometimes called a Departure Procedure (DP). SIDs are unique to the associated airport.

A STAR, or Standard Terminal Arrival Route, ('Standard Instrument Arrival' in the UK) defines a pathway into an airport from the airway structure. STARs can be associated with more than one arrival airport, which can occur when two or more airports are in close proximity (e.g., San Francisco and San Jose).

Special use airspace

In general, flight planners are expected to avoid areas called Special Use Airspace (SUA) when planning a flight. There are several types of SUA, including Restricted, Warning, Prohibited, Alert, and Military Operations Area (MOA). Examples of Special Use Airspace include a region around the White House in Washington, D.C., and the country of Cuba. Government and military aircraft may have different requirements for particular SUA areas, or may be able to acquire special clearances to traverse through these areas.

Flight levels

Flight levels (FL) are used by air traffic controllers to simplify the vertical separation of aircraft and one exists every 1000 feet relative to an agreed pressure level. Above a transitional altitude, which varies from country to country, the worldwide arbitrary pressure datum of 1013.25 millibar or the equivalent setting of 29.92 inches of mercury is entered into the altimeter.

and altitude is then referred to as a flight level. The altimeter reading is converted to a flight level by removing the trailing two zeros: for example, 29000 feet becomes FL290. When the pressure at sea level is by chance the international standard then the flight level is also the altitude. To avoid confusion, below the transition altitude, height is referred to as a numeric altitude, for example 'climb flight level 250' or 'descend 5000 feet'.

Airways have a set of associated standardized flight levels (sometimes called the "flight model") which must be used when on the airway. On a bi-directional airway, each direction has its own set of flight levels. A valid flight plan must include a legal flight level at which the aircraft will travel the airway. A change in airway may require a change in flight level.

In the USA and Canada, for eastbound (heading 0–179 degrees) IFR flights, the flight plan must list an "odd" flight level in 2000 foot increments starting at FL190 (i.e., FL190, FL210, FL230, etc.); Westbound (heading 180–359 degrees) IFR flights must list an "even" flight level in 2000 foot increments starting at FL180 (i.e., FL180, FL200, FL220, etc.). However, Air Traffic Control (ATC) may assign any flight level at any time if traffic situations merit a change in altitude.

Aircraft efficiency increases with height. Burning fuel decreases the weight of an aircraft which may then choose to increase its flight level to further improve fuel consumption. For example an aircraft may be able to reach FL290 early in a flight, but step climb to FL370 later in the route after weight has decreased due to fuel burn off.

Alternate airports:

Part of flight planning often involves the identification of one or more airports which can be flown to in case of unexpected conditions (such as weather) at the destination airport. The planning process must be careful to include only alternate airports which can be reached with the anticipated fuel load and total aircraft weight and that have capabilities necessary to handle the type of aircraft being flown.

Fuel:

Aircraft manufacturers are responsible for generating flight performance data which flight planners use to estimate fuel needs for a particular flight. The fuel burn rate is based on specific throttle settings for climbing and cruising. The planner uses the projected weather and aircraft weight as inputs to the flight performance data to estimate the necessary fuel to reach

the destination. The fuel burn is usually given as the weight of the fuel (usually pounds or kilograms) instead of the volume (such as gallons or liters) because aircraft weight is critical.

In addition to standard fuel needs, some organizations require that a flight plan include reserve fuel if certain conditions are met. For example, an over-water flight of longer than a specific duration may require the flight plan to include reserve fuel. The reserve fuel may be planned as extra which is left over on the aircraft at the destination, or it may be assumed to be burned during flight (perhaps due to unaccounted for differences between the actual aircraft and the flight performance data). In case of an in-flight emergency it may be necessary to determine whether it is quicker to divert to the alternate airfield or continue to the destination.

Flight plan timeline

Flight plans may be submitted before departure or even after the aircraft is in the air. However flight plans may be submitted up to 24 hours in advance either by voice or by data link; though they are usually filled out or submitted just several hours before departure. The minimum recommended time is 1 hour before departure for domestic flights, and up to three hours before international flights.

6.5 OTHER FLIGHT PLANNING CONSIDERATIONS

Holding over the destination or alternate airports is a required part of some flight plans. Holding (circling in a pattern designated by the airport control tower) may be necessary if unexpected weather or congestion occurs at the airport. If the flight plan calls for hold planning, the additional fuel and hold time should appear on the flight plan. **Organized Tracks** are a series of paths similar to airways which cross ocean areas. Some organized track systems are fixed and appear on navigational charts (e.g., the NOPAC tracks over the Northern Pacific Ocean). Others change on a daily basis depending on weather and other factors and therefore cannot appear on printed charts (e.g., the North Atlantic Tracks (NAT) over the Atlantic Ocean).

Description of flight plan blocks

Standard FAA flight plan form

1. Type: Type of flight plan. Flights may be VFR, IFR, DVFR, or a combination of types, termed composite.

2. Aircraft Identification: The registration of the aircraft, usually the flight or tail number.
3. Aircraft Type/Special Equipment: The type of aircraft and how it's equipped. For example, a Mitsubishi Mu-2 equipped with an altitude reporting transponder and GPS would use MU2/G. Equipment codes may be found in the FAA Airman's Information Manual.
4. True airspeed in knots: The planned cruise true airspeed of the aircraft in knots.
5. Departure Point: Usually the identifier of the airport from which the aircraft is departing.
6. Departure Time: Proposed and actual times of departure. Times are Universal Time Coordinated.
7. Cruising Altitude: The planned cruising altitude or flight level.
8. Route: Proposed route of flight. The route can be made up of airways, intersections, navaids, or possibly direct.
9. Destination: Point of intended landing. Typically the identifier of the destination airport.
10. Estimated Time Enroute: Planned elapsed time between departure and arrival at the destination.
11. Remarks: Any information the PIC believes is necessary to be provided to ATC. One common remark is "SSNO", which means the PIC is unable or unwilling to accept a SID or STAR on an IFR flight.
12. Fuel on Board: The amount of fuel on board the aircraft, in hours and minutes of flight time.
13. Alternate Airports: Airports of intended landing as an alternate of the destination airport. May be required for an IFR flight plan if poor weather is forecast at the planned destination.
14. Pilot's Information: Contact information of the pilot for search and rescue purposes.
15. Number Onboard: Total number of people on board the aircraft.

16. Color of Aircraft: The color helps identify the aircraft to search and rescue personnel.

17. Contact Information at Destination: Having a means of contacting the pilot is useful for tracking down an aircraft that has failed to close its flight plan and is possibly overdue or in distress.

Some terms and acronyms used in flight planning

Above Ground Level (AGL): A measurement of altitude above a specific land mass.

Mean Sea Level (MSL): The average height of the surface of the sea for all stages of tide; used as a reference for elevations.

International Civil Aviation Organization (ICAO): The ICAO is the specialized agency of the United Nations with a mandate "to ensure the safe, efficient and orderly evolution of international civil aviation." The standards which become accepted by the ICAO member nations "cover all technical and operational aspects of international civil aviation, such as safety, personnel licensing, operation of aircraft, aerodromes, air traffic services, accident investigation and the environment." A simple example of ICAO responsibilities is the unique worldwide names used to identify Navaids, Airways, airports and countries.

Knot (Kt): A unit of speed used in navigation equal to one nautical mile per hour.

Nautical mile (NM): A unit of distance used in aviation equal to approximately one minute of arc of latitude. It is defined to be 1852 meters exactly or approximately 1.15 statute mile.

6.6 FLIGHT SCHEDULES

Travel requires that you keep yourself updated with the latest flights status. Often, you would need to check the flights schedule of the airlines for a particular sector while planning your travel. In the age of internet, you can check the flights status and do the bookings far easily than ever before. Instead of running to the travel agent office or making frequent calls, you can get online with on-line travel agencies, which provides an easy online interface to check out which all airlines are operating flights at what all times in a particular sector. We comprehensively cover more than 550

sectors within India, providing the latest sector-based flights information about the airlines operating in the area.

Simply click on the link related to your sector of travel given on this page and you can find the different airlines operating in that segment, their flights schedule and even the flight number. Make a selection of the airline you want to travel with and book the tickets without any procedural hassles.

See when and where we fly. You can check schedules right now, or you can take them to go by downloading any flight schedules to your PC or your handheld device.

View any Flight Schedules

From airport	<input type="text"/>	To airport	<input type="text"/>	Leave	<input type="text"/> mm/dd/yyyy	<input type="button"/>
Time	<input type="button" value="Direct Flights"/>	<input type="button"/>	Max number of flights to show	All		

Go

Examples: Flight from India

From airport **New Delhi** To airport **Mumbai** Leave 08/03/2012 Time 22:45

A direct flight in the aviation industry is any flight between two points by an airline with no change in flight numbers, which may include a stop over at an intermediate point. The stop over may either be to get new passengers (or allow some to disembark) or a mere technical stop over (i.e. for refuelling purposes only). These are often confused with non-stop flights, which are flights involving no intermediate stops. When there is a change in flight number, the subsequent flight is referred to as a connecting flight.

The *Official Airline Guides* have defined the term simply as a flight(s) with a single flight number. (In earlier years "direct" in the OAG did mean "no plane change".) While so-called "direct" flights may thus involve changes in aircraft, or even an airline at the intermediate point, they are typically but not always differentiated from "connecting flights" in that the airline will enforce a dependency between multiple legs of the flight, so that leg

two cannot operate if leg one has failed to arrive at the departure airport. Direct flights involving aircraft changes are also characterised by having planes at adjoining or nearby gates, instead of being located at random anywhere around the airport.

Airlines, airports, and security authorities in a particular country enforce different policies on whether passengers may stay on the aircraft on routes which do not involve a change of aircraft. For example, flights that require stopover merely for re-fuelling usually do not permit passengers to disembark from the aircraft. On the other hand, flights where there is a change of passengers may require that passengers disembark and stay at a holding area for security reasons and a proper headcount. In relation to this, a direct flight with stopovers may or may not involve a change in the flight crew.

Airlines may also market connections to a consolidation airport, usually a hub where the continuation of the flight from multiple aircraft is to a single aircraft listed under several flight numbers. Unlike traditional direct flights, multiple legs of such 'direct' flight actually operate as individual/independent legs, such that the latter leg can operate without any dependency or consideration of the former leg. In other words, the flight that comprises the latter leg can depart even if the flight that comprised the former leg failed to arrive.

The case study records information about scheduled and planned flights for an airline and the flight reservations made by customers. The key elements in the system revolve around Planned and Actual Flights, and the reservations made by customers of actual flights.

A Planned Flight represents a forward schedule of the expected flight pattern for a flight. This is best illustrated by an example. The flights by Virgin Blue airline between Brisbane and Melbourne have the plan shown below. Each row represents a Planned Flight, for example, flight DJ306 operates at the same time from Monday to Saturday.

Brisbane-Melbourne

Flight	Departs	Arrives	Aircraft	MON	TUE	WED	THU	FRI	SAT
SUN									
DJ306	6:10am	8:25am	B767	X	X	X	X	X	
DJ312	8:50am	11:05am	A300			X	X	X	X

GDS in Air Ticketing and Cargo Handling							MTTM-13A				
DJ318	11:35am	1:50pm	B767	X	X	X	X	X	X	X	X
DJ324	2:20pm	4:35pm	B777	X	X	X	X	X	X	X	X
DJ336	5:10pm	7:25pm	B767	X	X	X	X	X	X		X
DJ342	7:50pm	10:05pm	B777	X		X	X	X	X	X	X

Table 6.1 Flight planning

Aircraft – these are the type of aircraft, A300 – Airbus; B767 & B777 Boeing.

An Actual Flight represents the flight of an aircraft on a day, according to the scheduled flight. For example, DJ306, Brisbane – Melbourne, on **Tuesday, 25 September**, departing 6:10 am is an actual flight.

Flight information display system

A **Flight Information Display system** (FIDS) is a computer system used in airports to display flight information to passengers, in which a computer system controls mechanical or electronic display boards or TV screens in order to display arrivals and departures flight information in real-time. The displays are located inside or around an airport terminal. A virtual version of a FIDS can also be found on most airport websites and tele text systems. In large airports, there are different sets of FIDS for each terminal or even each major airline. FID systems are used to assist passengers during air travel and people who want to pick-up passengers after the flight.

Table 6.2 Flight information display LCD board at Munich International Airport

Each line on FIDS indicates a different flight number accompanied by:

- the airline name/logo and/or its IATA or ICAO airline designator
- the city of origin or destination, and any intermediate points
- the expected arrival or departure time and/or the updated time (reflecting any delays)
- the gate number
- the check-in counter numbers or the name of the airline handling the check-in

- the status of the flight, such as "Landed", "Delayed", "Boarding", etc.

Due to code sharing, one single flight may be represented by a series of different flight numbers, thus lines (for example, LH474 and AC9099), although one single aircraft operates that route at that given time. Lines may be sorted by time, airline name, or city.

6.7 FLIGHT CONNECTIONS:

Connecting Flight Issues:

If you simply take one flight from point A to point B, then you are off the hook and don't have to worry about extra issues that may affect you had additional connections. Connecting flights, regardless of whether they are with the same or different airlines, entail extra rules and elements that you may want to consider.

1. The Rule of Duty Free: Buying duty free alcohol or perfume . If you are connecting flights you must pack duty free liquids in your luggage if going through security check points again - usually after customs. So if you are traveling Frankfurt - Chicago - Sacramento,

for example, you'll need to put it in your checked luggage after customs in Chicago.

2. The Gate Change Effect: Check your gate number when you arrive in your connecting airport. The airline representative may have given you a number when you checked in and it may have changed in the interim.

3. The Bad Weather Syndrome: In adverse weather check to see if you will make your connection - if not, and it is say once a day flight and you now need to overnight the airline is not required to cover your expenses for weather issues. This varies depending on where you are traveling in the world (Europe is more strict regarding weather events).

4. The Cancelled Connection Conundrum: In adverse weather check to see if your connection is operating, if not it could be a long wait at the connecting airport trying to get out.

5. The Pick-Up Line for Luggage: When you are first checking in your luggage, ask if you need to pick up luggage - i.e. clearing customs may affect time needed for your connecting flight.

6. The Terminal Switch and Run: Ask if your connection is out of the same terminal as the flight you arrive in on. It has seen lots of people miss flights even with legal connections (what the airline deems enough time - usually based on airport guidelines and airlines create minimum connection times) because of distance between terminals and gates.

7. Help is on the Way: If you need assistance to get to your gate check in as much of your luggage as possible. It not only makes it faster to help get you there whether you are on a golf cart or in a wheelchair, but safer too.

8. The Stroller Necessities: If you have checked a stroller at the gate make sure they have tagged it to be brought to the door so you have it for your connecting flight.

9. The Change of Venue and Airport: If your connecting flight is at a different airport allot extra time and money. Inter-airport connections can occur between New Delhi's Domestic airport to New Delhi's IGI airport, New York's JFK and LaGuardia, and London's Heathrow and Gatwick airports for a few examples. If you are connecting from one airport to another it can cost you not just time, but a cab or shuttle fare too.

10. Getting Through to Your Luggage: Make sure your luggage is checked through as far as possible.

If you are going from a legacy airline like United Airlines to a low cost one like Air Lingus your luggage cannot be checked through, and neither can you so you need to give yourself a lot of extra time.

Check Your Progress

Q 1) What are the basic steps for Itinerary planning ?

Q 2)What are the scheduled and non-scheduled Flight ?

Q 3) Write a short notes on Flight connections.

Q 4) Describe Flight plan in detail.

Q 5) Describe Flight information display system with proper examples.

6.8 LET US SUM UP

Part of flight planning often involves the identification of one or more airports which can be flown to in case of unexpected conditions (such as weather) at the destination airport. The planning process must be careful to include only alternate airports which can be reached with the anticipated fuel load and total aircraft weight and that have capabilities necessary to handle the type of aircraft being flown.

Aircraft manufacturers are responsible for generating flight performance data which flight planners use to estimate fuel needs for a particular flight. The fuel burn rate is based on specific throttle settings for climbing and cruising. The planner uses the projected weather and aircraft weight as inputs to the flight performance data to estimate the necessary fuel to reach the destination. The fuel burn is usually given as the weight of the fuel

(usually pounds or kilograms) instead of the volume (such as gallons or liters) because aircraft weight is critical.

6.9 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 6.3
- 2) Refer Sec. 6.4
- 3) Refer Sec. 6.7
- 4) Refer Sec. 6.4
- 5) Refer Sec. 6.6

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Unit-7

Fares: Tariff Terminology, Types of Fare and Calculation, Currency Conversation Table and Modes Of Payment

Structure**7.1 Objectives**

7.2 Introduction**7.3 Tariff Terminology****7.4 Rules for Fare Calculation****7.5 Types of Fare Calculation****7.6 Types of Fares****7.7 Mode of payment****7.8 Currency Conversation Table****7.9 Lets Sum up****7.10 Clues to Answers****7.11 References**

7.1 OBJECTIVE

After reading this Unit you will be able to understand the:

- IATA /UFTAA fare formula and tariff terminology,
- Various types of journeys and rules for fare calculations with complete fares,

- Fare calculation for one way and round trip journey with add ons ,mix class fares.
- Know how to convert currencies with the help of a sample of Currency conversation table. The student will be aware about the various modes of payments .It help how to take advance or settlement of bills by cash, credit cards, debit cards and know the procedure of Bill to Company (BTC).

7.2 INTRODUCTION

There are many different ways of establishing a correct fare for a given itinerary and some airline provide their agents with special pads containing a recommended formula to assist them in following correct calculation procedures. The format of the formula may vary from one airline to another, but they all contain the same basic information. The formula shown below has been adopted for this course and should be used throughout this unit. Use the formula in every calculation; it will not only remind you of the steps required for arriving at the correct fare, but will also save you a considerable amount of time when you have become familiar with its use.

7.3 TARIFF TERMINOLOGY

Maximum Permitted Mileage (MPM)

In general, international fares are based on mileage and North American fares are based on routing. In the international fare tariffs there is an established amount of mileage called the maximum permitted mileage (MPM) between every point A and B.

The carriers interested in the traffic between these points A and B, can use their own hubs to fly this traffic provided the maximum permitted mileage is not exceeded. In the event that the mileage is exceeded, a surcharge of 5%, 10%, 15%, 20% or 25% can be assessed for an additional 5%, 10%, 15%, 20% or 25% mileage, respectively. Beyond 25% additional mileage, the through fare must be broken.

In the MPM system backtracking is not prohibited; however there are certain other restrictions in place, such as:

1. The point of origin or the point of destination cannot be used as an intermediate point in the same fare breakdown (i.e. the following

examples would *not* be allowed: YYZ LON PAR ZRH FRA ZRH or BKK SIN HKG BKK LAX YYZ)

2. You can travel via the same intermediate point more than once but you can only stop once (i.e. the following would *not* be allowed: YYZ LON PAR FRA PAR ATH (stopping in PAR twice would require a side trip PAR FRA PAR))
3. In some fares such as round the world fares, the rules state that travel must be in the same global direction, thus preventing backtracking.

Ticketed Permitted Mileage (TPM)

Ticketed Permitted Mileage means the distance between pairs of point published in the ticketed point mileage manual. Ticketed point: means points shown in the “good for passage” section of the passenger ticket.

Higher Intermediate Point (HIP)

The HIP rules stipulate that the amount charged on each component of routine must not be less than the higher direct route normal fare in the same class of service between any 2 points on the same fare components. Travel originated in India to USA or CANADA HIP in Europe may be ignore, if stopover are made at such higher intermediate point in trans Atlantic(AT) and trans pacific (PC)journey fare and rule of carrier on which passenger under take

OR

Perform AT/PC journey-fare and rule of that carrier will applicable. This provision does not applied in AA/BA but applied in other airlines.

Example of HIP check table

DEL DEL

BOM 115 BOM

FRA 1065.10 1065.10 FRA

STO 1158.86 1158.86 671.10 STO

LON 1147.56 1147.56 386.96 603.74 LON

There is HIP in this table because the NUC of fare break point or fare construction point i.e DEL/AMS (1065.10) is less than the intermediate point i.e DEL/STO(1158.86).

Types of transaction

SITI/SOTI

- Ticket issue in the country of commencement of travel
- Applied between origin and any stop over point
- Applied between stopover point and destination
- Applied between any 2 stop over point

BOM

DEL

PAR x (no use this HIP, because it is not a stopover point)

SOTO/SITO

- Applied between origin and ticketed point
- Applied between ticketed point and destination
- Applied between any 2 ticketing point

BOM

DEL x (use this HIP, because it is a ticketed point)

SIN

- HIP check will apply only to stop over point in SITI/SOTI Transaction.
- HIP check will apply one stop over point to another stop over

point in SOTO/SITO

- Check from any ticketing point to any other ticketing point
but only one direction

BHMC: Back haul minimum check .Applicable only in One way journey. Check from origin to any ticketed point. Check after HIP

DMC: Directional minimum check. Applicable in one way journey. Check between any 2 ticketed point in any direction. Applicable of SOTI/SOTO/SITO only. Check after BHMC. Maximum NUC from any direction will be DMC

CTMC: Circle trip minimum check. Applicable for return journey only. Check from origin to any point

Over point: occurs when a passenger arrives at an intermediate point and is not scheduled to depart within 24 hrs of arrival

Non stop over point: Occurs when a passenger arrives at an intermediate point and is scheduled to depart within 24 hrs of arrival.

Add ons: When a through fare is not published in the fare can be obtained by adding the add-on amount to a published fare. A fare thus obtained must be now treated as the published fare between such two points.

Add on amount: Means an amount used only to construct an un-specified through fare.

ASC: Administrative Service Charge. Usually it's the same as the change fee, or the fee to exchange the ticket for future travel.

Inventory :Inventory is another word for available booking classes (e.g. F,P,J,C,Y,M,B,Q,H,V,L, etc.). You may see a phrase in the fare rules like "INVENTORY MUST BE AVAILABLE FOR FARE TKTD" - often in the section on Rerouting.

Co-Terminals: Co-terminals are different airports that are equivalent with respect to fare calculation. For example, if FLL - MIA are listed as co-terminals, Fort Lauderdale and Miami would be equivalent airports for fare construction under that particular fare rule. Note that cities may appear as co-terminals for a given fare rule which have nothing to do with the routing between your origin and destination. The fare rule is of a general nature,

and fares may be offered between many different city pairs under the same fare rule (e.g. a seat sale).

Direct: Used to describe a flight from A to B with the same flight number and no change of aircraft. May have one or more stops. Compare with non-stop.

A few basic, general principles apply to fare combinations.

1) The most restrictive conditions apply. For example if you are combining a fare that is 50% refundable with one that is non-refundable, the whole ticket becomes non-refundable because the non-refundable rule is the most restrictive. As another example, if you are combining a fare that requires 7 days advance purchase with one that requires 14 days advance purchase, the entire ticket must be purchased 14 days in advance. The same reasoning applies for the minimum/maximum stay, change fees, service charges and other restrictions.

2) It is virtually impossible to sort out all the combinability details yourself. Usually the online reservations system will work out all the details for you. If you need additional help, call your travel agent.

Discounts: Fare rules will commonly refer to three types of discounts: infant, child and senior. Infants under 2 usually fly free on domestic flights provided they do not occupy a seat. Some fares offer children's discounts, generally for children aged 2-11. Deeply discounted seat sale tickets may not offer a further discount for children. Many airlines offer senior citizen discounts, and some also offer discounts for a companion traveling with the senior citizen, even if the companion is not themselves a senior citizen. Different airlines have different age definitions of senior - check with your airline.

End-on-End: A special type of combination in which two round trip fares are combined to produce a complete itinerary.

From	To	Rule
AAA	BBB	Rule 1

BBB	CCC	Rule 2
CCC	BBB	Rule 2
BBB	AAA	Rule 1

Table 7.1 combination of two round trip fares for itinerary

In this example, the passenger buys a round trip ticket from AAA to BBB (Rule 1), and a separate round trip fare from BBB to CCC (Rule 2). The net effect is to travel from AAA to CCC, but breaking the fare at BBB, which may in some cases be less expensive than the round trip (through) fare from AAA to CCC. Fare rules usually specify whether end-on-end combinations are allowed. Sometimes end-on-end combinations can be used as a "trick" for finding low fares online.

End-on-end combinations are very different from back-to-back ticketing, which is expressly forbidden by most airlines.

Bankers buying rates (BBR): Means the rate at which, for the purpose of the transfer of funds through banking channels(i.e other than transactions in bank notes, traveler cheques and similar banking instruments)a bank will purchase a given amount of foreign currency in exchange for one unit(or units) of the national currency of the country in which the exchange transaction takes place.

Date of transaction: means the date of issuance of ticket MCO or PTA.

Global indicator: means the global routine applicable to the fare as shown in the fare book.

Miscellaneous charge order (MCO): means a document issued by the carrier or its agents requesting issue of an appropriate passenger ticket and baggage check or revision of services to the person named in such document.

Prepaid ticket advice (PTA): mean the notification by teletype, commercial wire or mail that a person in one city has requested issuance of prepaid transportation as described in the authority, to a person in another city.

Stop over: occurs when a passenger arrives at an intermediate point and is not scheduled to depart within 24 hours of arrival.

Tariffs: means the published fare, rates, charge and / or related condition of carriage of a carrier.

Non stop: Used to describe a flight from A to B with no en-route stops. Compare with direct.

Originating Flight: The first flight on your ticket is your originating flight.

PTA: PTA stands for prepaid ticket advice. This option allows someone other than the passenger to pay for the ticket, even if the payer is in a different city. The passenger then picks up the ticket from the airline or the travel agent in the passenger's city. Sometimes a fare rule states "PTA satisfies ticketing requirements", indicating that once the PTA is arranged, even if the ticket is not physically issued, the requirements for ticket issue (e.g. within a certain number of days after reservation and before departure) are met.

Since the advent of electronic ticketing, PTA is used far less commonly. Electronic tickets are a much better way to handle this situation. Usually the airline charges a fee for processing a PTA, unlike for electronic tickets.

Rerouting (Voluntary): If, before departure, a passenger wants to make a change to their itinerary, we call that voluntary rerouting. The term rerouting may be confusing, in that the actual route does not have to change (although it could) - i.e. any change to flights, dates, times or destinations are considered rerouting.

First, consider some background. Recall that in the Penalty section of Fare Rule Basics, I said that certain conditions would apply to the ability to change a ticket for the change fee (e.g. \$100). The rerouting rule describes conditions under which the itinerary can be changed for only the change fee.

The underlying principle is to provide the passenger with some degree of flexibility while at the same time not being unfair to passengers who have paid much higher fares (e.g. Full Coach) for maximum flexibility. For

example, suppose a business traveler bought a full coach fare from New York to L.A. for \$1680 return. She did so to provide maximum flexibility. Suppose also that a college student bought a ticket on the same route for \$318 return. If the college student could make any changes he wanted for only \$50 with no additional restrictions, then why would the business traveler pay \$1680? As you will see, the rerouting rules attempt to be fair to both parties. Rerouting rules usually are different before departure and after departure.

Before Departure...New Fare Required

At the time the passenger wants to make a change to his/her originating flight, the passenger becomes subject to the fares in effect on the date the change is made for travel on the dates desired. In other words in effect the passenger is making a new reservation, and is subject to all of the rules of the new fare, including advance purchase requirements, ticket purchase deadlines and minimum/maximum stay requirements.

The new itinerary must usually be of equal or higher value than the original itinerary. The passenger must pay the difference between the original fare and the new fare PLUS the administrative service charge (e.g. \$100). If the new fare is of lower value, you may get a refund, a credit for future travel, or neither, depending on the fare rule.

Suppose that today is March 25 and several weeks ago a college student living in New York bought a round trip ticket to L.A. with a departure date of April 1. The student now wants to leave March 26 instead of April 1. The only applicable fare at this time may be a Full Coach fare. The student would then be required to purchase a full coach fare, but he/she could use the value of his/her special fare ticket towards that purchase. The original non-refundable amount remains non-refundable. In other words one cannot "get around the system" by upgrading a discounted ticket to a full fare ticket and then getting a full refund for the full fare ticket as a way to in effect get a refund for an unused discounted ticket.

After Departure...Don't Forget to Enjoy your Saturday Night Stay

One major difference is that after departure voluntary rerouting is not permitted *except* to the dates/times of your flights. That is, once you have departed from New York to Los Angeles, it is now too late to change your itinerary and decide to stop in Indianapolis on the way home. (At least, it's too late to do so using any credit from this fare. It's never too late to do

whatever you want if you're willing to buy a new ticket!) You can change the day or time you are traveling, provided that you don't change the origin/destination/stopover points, that the change meets the minimum and maximum stay requirements of the original fare (you can't cheat and come back before the Saturday night has passed), and that applicable inventory (e.g. M class) is available on the new flight.

If the inventory (booking class) at the original fare is not available, changes can be made to change the return to any combinable fare (not all fares are combinable with each other - see the section on Combinations). For example, if M class is not available, K class can be booked on the return, provided that the restrictions mentioned apply. The difference in the fare would have to be paid as well as the applicable service fee (e.g. \$50).

As another alternative if the applicable inventory is not available, you may be able to standby at the airport. Check with your airline for details.

Revalidate: Generally airline tickets are valid for one year from date of issue. If the airline were to revalidate a ticket, its value could be extended beyond one year. Some fares specifically exclude revalidation.

Routing: The routing rule lists the allowed connecting cities for travel from A to B for a particular fare. Sometimes this rule indicates that travel must be nonstop.

Segment: A segment refers to a single flight with the same flight number. For example, if you travel from A to B, change planes at B, and then travel from B to C, you will have flown two segments. On the other hand, if you travel from A to C and the flight stops at B, but you don't change planes, then your trip from A to C is one segment from the point of view of fare rules. Note that the US federal segment tax defines both of these scenarios as two segments.

Standby: Standby allows a traveler to wait at the gate for a seat to become available, usually minutes before a flight departs. Some fares which otherwise require a change fee allow passengers to standby for earlier or later flights on the same day at no additional cost. See also waitlist.

TBM: TBM refers to Ticketing by Mail, meaning that one can order tickets from the airline to be sent in the mail.

Transfer: A transfer is a connection en route from origin to destination.

Upgrade: While most of us think of an upgrade as an opportunity to sit in First/Business class, in the world of fare rules an upgrade means something entirely different. An upgrade refers to changing your ticket to a higher fare for the same or different flights. The higher fare may still be in coach, but you may be required to upgrade if you want to make a change that does not meet the conditions of the change fee for the lower fare. See example in Rerouting.

Waitlist: Some fares allow a passenger to be put on a waiting list for the required booking class if it is sold out. Usually the deeply discounted seat sale fares do not allow waiting lists, but intermediate and higher fares usually do. A waitlist refers to making reservations only, and it has nothing to do with the standby list at the airport. You cannot usually add yourself to a waitlist using online travel reservations - call the airline or your professional travel agent.

7.4 RULES FOR FARE CONSTRUCTION

- Geographically farthest away from the origin, should be your ideal fare construction point (FCP).
- Check the MPM from the origin, the city with greater MPM will be the FCP.
- FCP rule and ticketing, fare calculation procedures are same for all types of journey.
- The fare component must meet all the three (3) indirect travel limitations. These are: A fare component **must not include** more than –
 - i) One departure from origin
 - ii) One arrival from destination
 - iii) One stopover at any ticketing point

Example: 1

BOM

DEL

FRA

AMS

LON

One component (FCP) is possible, because it has followed all three rules.

Example: 2

BOM

DEL

FRA

PAR x

AMS

FRA

LON

One component (FCP) is not possible, because it has not follow the third rule.

Example: 3

DEL

BOM

FRA x

PAR

AMS

FRA

PAR x

LON

One component (FCP) is possible, because it has follow all three rules.

7.5 TYPES OF FARE CALCULATION

A. Fare Calculation (One way Journey)

Example: Passenger wished to travel in "J" class as per the following routing:

DEL

FRA AI

CPH LH

AMS LH

LON BA

Determine **type of journey:** One Way

Fare break point (FBP): origin to destination: DEL/LON

Look for the published fare- **origin to destination: NUC 1050.50**

Global indicator: EH

MPM: 5450

Study fare **rule**, if any: NIL

Calculate the total **TPM**

DEL

FRA 3880

CPH 550

AMS 422

LON 485

Compare total TPM with MPM. We observe that the total TPM is with in the MPM.

See in EMA table: for example, this is mentioned in OAG Guide

- 1) Within IATA area 3, mileage 700 To/from Mumbai via Delhi or vice - versa.
- 2) Between area 2 and 3, mileage 700 To/from Delhi via Mumbai or vice-versa.
- 3) Within IATA area 2, mileage 518 to /from Mumbai or Delhi.
- 4) Transpacific between United States or Canada and Area 3 (except S.W. Pacific VIA Honolulu across the North central Pacific, EMA 800. After comparing with this itinerary, we found that no one EMA rule is applicable (EMA Nill)

Hence we charge the DEL/LON fare NUC 1050.50

ROE x 50.00

INR 52525.00

FROM TO		Airline from	Serial Number
DEL	Carrier	Fare Calculation	Place of issue agency
FRA	AI		
CPH	LH		

AMS	LH	M	
LON	BA	1050.50	
			ROE 50.00
Form Of Payment			INR 52525.00

Fare INR 52525.00	Equiv Amt. Pd
Tax	Total INR 52525.00

Example 2:

Calculate the "C" class fare for the routing

SFO

HNL JL

TYO JL

MNL JL

HKG PR

BOM AI

Determine type of Journey: One Way

Fare break point: origin to destination: SFO/BOM

Look for the published fare - origin to destination: **NUC 1550**

Global indicator: PA

MPM: 10980

Study fare **rule** ,if any : Rule P0100

All conditions stipulated in rule P0100 met with

Calculate the total TPM

SFO

HNL 2397

TYO 3831

MNL 1879

KHG 702

BOM 2673

11482/10782

Since total TPM exceeds MPM

See in EMA table:

- 1) Within IATA area 3, mileage 700 To/from Mumbai via Delhi or vice - versa.
- 2) Between area 2 and 3, mileage 700 To/from Delhi via Mumbai or vice-versa.
- 3) Within IATA area 2, mileage 518 to /from Mumbai or Delhi.
- 4) Transpacific between United States or Canada and Area 3 (except S.W. Pacific VIA Honolulu across the North central Pacific, EMA 800 (The 4th table is applicable here for EMA.)

Look for Extra Mileage Allowance - 800....Via HNL

We observe that the reduced total TPM is within the MPM,

Hence we charge the SFO/BOM fare:

NUC 1550

ROE x 1

USD 1550

Extra Mileage Allowance:

Transpacific Between	AND	VIA Extra Mileage Allowance
United states or Canada	Area 3 (except S.W. Pacific)	Honolulu across 800 North Central Pacific

FROM TO		Airline from Number	Serial
SFO	Carrier	Fare Calculation	Place of issue agency
HNL	JL		
TYO	JL		
MNL	JL	E/HNL	

HKG	BA	M	
BOM	AI	1550	
			ROE 1.00
Form Of Payment			USD 1550.00

Fare USD 1550.00	Equiv Amt. Pd
Tax	Total USD 1550.00

Fare calculation for Return Journey: All the steps used for calculation of one way journey are same here for RT also. The procedures of fare break points and rule of return journey will be applicable over there for fare calculation.

Return journey - the point of turnaround: You have noticed that the principle involved in calculating the fare for a return journey is the same as in the case of one way journeys. For return journeys you have to check the fare from the origin to the point of turnaround. This means that we will have to determine the point of turnaround, also called fare construction points.

Generally, the point of turnaround is the point geographically farthest away from the origin. Very often on certain routings more than one such point of turnaround can be seen with the same or different fares.

A very intelligent approach is required in selecting the point of turnaround, so that the passenger will have the advantage of getting the cheapest fare within the permissible rules, as also obtain the benefit of the most suitable mileage for the outbound and inbound routings. Check the MPM from origin to all points on the routings, the greatest MPM is your point of turnaround or fare construction point (FCP) or fare break point (FBP).

B. Fare Calculation (Circle Trip Journey)

Circle trip means travel other than round trip from one point and return to the same point by a continuous circuit air route. When no reasonable scheduled air service are available between points a break in the circle trip may be travelled by any other means of transportation. This break in journey does not affect the nature of the circle trip journey. In other words, where the outbound and inbound routings are different and the outbound fare is not equal to the inbound fare, the journey will be a circle trip journey.

Construction fares for circle trip journey: For constructing a fare for a circle trip journey, charge the applicable combination of half round trip fares calculated from the point of origin in the direction of the passenger's travel; however for the last fare component into the country of origin. The fare applicable to such fare component will be from the country of origin.

The total fare thus arrived at should not be less than the highest direct route round trip fare between the origin and any stop over point on the routing, excluding any side trip fare that may have been charged.

The circle trip minimum check will apply to all the four transactions.viz: SITI, SITO, SOTO, and SOTI

Example: To calculate the "Y" class fare for the routing:

OSA

TPE JL

BKK TG

DEL AI

BOM IC

HKG AI

OSA JK

Determine type of journey: Return Journey

Fare break point: locate point of turn around: BOM

Look for the published fare -USING ½ RT fare: OSA/BOM, NUC 1520.40

(Origin to point of turn around)

Global indicator and MPM: GI/ MPM-EH-5061

Study fare **rule**, if any: Rule-NILL

Treat inbound and outbound routing as 2 separate fares at this stage.

i) Calculate the total TPM for out bound routing

OSA

TPE 1075

BKK 1555

DEL 1825

BOM 708

5153/5061

Look for **Extra Mileage Allowance** - 700 VIA DEL

4453/5061

We observe: For out bound routing reduced TPM is within the MPM. Hence we charge: OSA/BOM fare.

ii) Calculate the total TPM for in bound routing

BOM

HKG 2673

OSA 1545

4218/5061

For inbound routing TPM is within the MPM, hence we charge OSA/BOM fare.

Now see the calculation of both (inbound and out bound routing) side by side:

OSA

BOM

1075 TPE 2673 HKG M

1555 BKK E/DEL 1545 OSA 1520.40

1815 DEL M

708 BOM 1520.40 4218/5061

M

5153

-700 Via DEL

4453/5061

Total fare: NUC 1520.40(out bound fare)

+ NUC 1520.40(in bound fare)

Total NUC 3040.80

ROE 134.01

JPY 407497.60

Rounded up fare will be JPY 407500

FROM TO		Airline from	Serial Number
OSA	Carrier	Fare Calculation	Place of issue agency
TPE	JL		
BKK	TG	E/DEL	
DEL	AI	M	
BOM	IC	1520.40	
HKG	AI	M	
OSA	JL	1520.40	
			ROE 134.00
Form Of Payment			NUC 3040.80

Fare JPY 407500	Equiv Amt. Pd
-----------------	---------------

Tax	Total JPY 407500
-----	------------------

Application of Excess Mileage Allowances percentage table

The excess mileage percentage table is used to determine how much “extra mileage” is permitted when a devious routing via ticketed points, exceed the maximum permitted mileage (MPM) shown against the published fare.

Using the table

- 1) When the total ticketed point mileage for a desired routing exceeds the maximum permitted mileage published in connection with a fare (including extra mileages permitted under fare construction rules, a surcharge becomes necessary).
- 2) When the total ticketed point mileage exceeds that permitted under a 25% adjustment, the applicable fare will be the combination of two or more fares along the desired routing which produces the lowest through fare using normal fare construction rules.
- 3) When a higher intermediate fare has been determined with the fare construction rules, the percentage surcharge is applied to such higher intermediate fare rather than the direct fare even though the surcharge direct fare would exceed the higher intermediate fare.
- 4) A fare component must be within 25% mileage surcharge.

EMS chart (values in point)

$$1.0000 - 1.0500 = 5\%$$

$$1.0600 - 1.1000 = 10\%$$

$$1.1100 - 1.1500 = 15\%$$

$$1.1600 - 1.2000 = 20\%$$

1.2100- 1.2500 = 25%

Fare Calculation (Add- ons fare)

When a through fare is not published in the tariff, the fare can be obtained by adding the 'ADD-ON amount' to a published fare. The fare thus obtained must be now treated as the "published fare" between such two points.

Note 1 Should the ADD-ON amount be published only in the local selling currency, such local selling currency can be converted to NUCs using the ROE.

Note 2 When the ADD-ON amount is published in USD, treat such USD amount as NUC.

Example: To calculate the fare for the routing

SLV

BOM IC

NBO AI

Fare calculation steps:

Type of journey: One way

Published fare from origin to destination: Not published in the OAG book.

As the SLV/NBO fare is not published in the through fares section, we use ADD-ON fares as: SLV-BOM 55.00 + BOM-NBO 470.28 =525.28

Fare Construction Points (FCP): SLV/NBO

Natural Unit Of Construction (NUC): 525.28

Global indicator & MPM: See MPM book (which shows: EH/4408

Rule: NIL (check from table)

Calculate the total TPM:

SLV

567 BOM M

3384 NBO 525.28

Compare total TPM with MPM

3951/4408

We observe that the total TPM is within the MPM, hence we charge the SLV/NBO fare of NUC 525.28

ROE 50.00

INR 26264.00

Rounded up INR 26270

FROM TO		Airline from	Serial Number
SLV	Carrier	Fare Calculation	Place of issue agency
BOM	IC	M	
NBO	AI	525.28	
			ROE 50.00
Form Of Payment		NUC 525.28	

Fare INR 26270	Equiv Amt. Pd
----------------	---------------

Tax	Total INR 26270
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Fare Calculation (Mixed Class Fare)

When a passenger travels partly in Y class and partly in F or J class, the fare to be charged will be a combination of the applicable through Y fare between origin and destination. The difference between the applicable F or J fare and the corresponding applicable Y fare for the portions of the journey on which F or J class service is used.

OR

The applicable through F or J fare from the origin to the destination.

Charge the cheaper of the two fares

7.6 TYPES OF FARES

Airfares are most often based on one-way or round-trip travel. Fares may be published, unpublished and/or negotiated fares (corporations, or government agencies/organizations may have fares negotiated with an airline at a lower rate). Unpublished fares are also known as consolidated fares and are offered by consolidators and bucket shops.

Fares are categorized as published and un-published

- a) A published fare is one that is available for purchase by anyone. You could call the airline, or check for prices online, and published fares will be immediately available for purchase. The rules of such fares are readily available and if there is more than one airline offering the same fare you can count on the rules being virtually the same. A non-refundable fare requiring an advance purchase of 14 days and a minimum Saturday night stay would be just a few of the possible rules of a published fare. Seat sales launched by airlines are considered published fares as well since (subject to seat availability) such airfares are offered to the public.
- b) Unpublished fares are an entirely different beast. They may be seats that a consolidator purchased and can offer at highly discounted rates. The fare rules could literally contain anything from absolutely no changes allowed to free changes as long as availability exists. They may

or may not allow for advance seat selection or the accumulation of frequent flyer miles.

If you called an airline looking for the rules to an unpublished fare you would be out of luck. They are not offered for sale by the airline online or over the phone with the airline.

The following is a list of the main types of published airfares - and are usually based on round-trip or one-way travel:

- **APEX fares:** are discounted international fares. Such fares usually require tickets to be purchased in advance (such as 7, 14, or 21 day minimum advance purchase), and will have other restrictions - non-refundable, change fees are just a few of the possible restrictions.
- **Discount Fares:** are fares that tend to have a smaller price tag, and are offered for a limited time (seat sales would fall into this category). They usually have a long list of restrictions such as specific travel dates, minimum and maximum stay (for example, a minimum Saturday night stay, a maximum 30 day stay), etc. Unlike most published fares, it is important to make sure that you are aware of the fare rules and restrictions on discount (seat sale) fares. Keep a copy of the rules because seat sale fares come and go quickly, and the rules and restrictions can be harder(sometimes impossible) to retrieve online.
- **Excursion Fares:** are lower priced fares that involve restrictions like advance purchase, time of year, minimum/maximum stay, etc.
- **Unrestricted, Flexible, or Full Fares:** are the titles given to the most expensive tickets. You pay for a ticket that allows you to refund or change the ticket as necessary for fares that can be purchased at any time, even the same day of travel.
- **Joint fares:** are offered by airlines that have some sort of partner relationship on select routes. They essentially give a passenger a price break when you are using more than one airline to get somewhere. Joint fares have their own set of restrictions, not unlike those already mentioned for excursion and discount fares.
- **A through fare:** is a fare to a destination reached by traveling through a gateway city. It could be combined with any of the fare types listed above, and is used to obtain a lower price when you are not simply flying from point A to point B, but are rather connecting through other points to get

to your destination. If you are traveling from Atlanta to Athens via Frankfurt, you may be offered a through fare, so that instead of paying for Atlanta to Frankfurt and Frankfurt to Athens, you pay one fare for Atlanta through to Athens.

Airlines will not offer every seat on an aircraft at seat sale fares, or excursion fares. As flights fill, the least expensive fares disappear regardless of how far in advance it is. Unless you are on a full fare ticket you can be certain that there will be any number of restrictions involved with your airfare - minimum/maximum stay; time of day; weekday, weekend price differences; change fees; mileage (on through fares you may be restricted to a certain number of miles to get you to your destination), advance purchase; youth/child/senior rule differences; etc..

7.7 MODE OF PAYMENT

- Cash (in Advance, Settlement of bills)
- Documentary payments (Travelers cheques)
- Open Account
- Letter of Credit: Issued by a bank at the buyer's request in favor of the seller. It provides the issuing bank's promise to pay a specified amount of money upon receipt by the bank of certain documents within a specified time.
- Bill to company(BTC)
- By Credit Cards

7.8 CURRENCY COVERSATION TABLE

Converters**Switch to Compact Currency Convertor****Sort****Search> Indian Rupee (INR)**

US Dollar [USD]:			
Euro [EUR]:			
British Pound [GBP]:			

Canadian Dollar [CAD]:			
Australian Dollar [AUD]:			
Japanese Yen [JPY]:			
New Zealand Dollar [NZD]:			
Switzerland Franc [CHF]:			
South African Rand [ZAR]:			
Brazilian Real [BRL]:			
Indian Rupee [INR]:			

Table 7.2 Currency Conversion Table

Check Your Progress

Q 1) Describe types of transaction.

Q 2) Describe various types of journeys with suitable examples.

Q. 3) What are the rules for fare calculation/Construction for various types of journeys?

Q 4) What do you mean by add -on fares? Describe fare calculation for add-on city.

Q 5) Give a format of fare calculation procedure for any types of journey.

Q 6) Describe various types of fare.

7.9 LET US SUM

This unit start with The IATA-UFTAA Fare Formulas ,which are used in every calculation; it was not only reminding you the steps required for arriving at the correct fare, but also save you a considerable amount of time when you have become familiar with its use with proper understanding of tariff terminology. Higher intermediate point(HIP) rules vary for various types of transactions, so you must understand the fare calculation procedures for SITI,SITO,SOTI and SOTO transactions with proper understanding of marks indicating in given itinerary i.e stop over point and ticketed points. You will understand the various types of fares with appropriate examples given in this unit.

7.10 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 7.3
- 2) Refer Sec. 7.5
- 3) Refer Sec. 7.4
- 4) Refer Sec. 7.5
- 5) Refer Sec. 7.5
- 6) Refer Sec. 7.6

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Unit-8

**Ticketing: Issuance, Cancellation and Re-Issuance;
Airline Reservations**

Structure**8.1 Objectives****8.2 Introduction****8.3 General Reservation Rule****8.3.1 Reservation of Seats****8.3.2 Cancellation of Seats****8.4 How to Make a Reservation****8.4.1 Reservations communication by telephone between Agents and Airlines****8.4.2 Re-confirmation****8.4.3 Cancellation****8.4.4 Electronic Reservation System****8.4.5 Other terms related to Reservation****8.5 Codes and Abbreviations****8.6 Ticketing****8.6.1 IATA Codes****8.6.2 Fares, Classes and other Services****8.6.3 Travel Documentation****8.6.4 Using the ABC and Other Travel Directories****8.6.5 Arranging and Checking Airline Tickets****8.7 Lets Sum up**

8.1 OBJECTIVES

After studying this section student will be able to:

- Apply the procedures for obtaining seat reservation in accordance with the “code of reservation ethics”
- Inform customers on reconfirmation and cancellation procedures.
- Handle additional services and special requirements related to air travel and the travel industry in general.

8.2 INTRODUCTION

Every carrier must have certain basic information in order to make a reservation for a passenger. Thus, the reservation form used by the travel agent should contain all the necessary information about the passengers and their journey. Most airlines have mutually agreed on certain procedures for ease and efficiency in communications. Therefore, if the reservation form is prepared following the norms used by the airlines, the contact between the airline reservation agent and the travel agent will be more efficient.

8.3 GENERAL RESERVATION RULES

It is recommended that the following rules be adhered to in order to ensure smooth handling of reservations and to avoid inconvenience to the travelling public. Accurate and complete records must be kept covering all reservations. These must include flight numbers, class of service, date of travel, departure and arrival times, reservation status of all segments, name and initials of passengers with their contact address/telephone number and ticketing status.

- a) Always adhere to standard reservation procedures.
- b) Never make duplicate reservation for the same passenger.
- c) When confirmation of a reservation request for a group can not be obtained, never attempt to secure the space by requesting the required number of seats in several individual transactions.
- d) Facilitate the handling of reservations by always establishing the itinerary, minimum connecting times, flight numbers, etc., before contacting airlines.

e) Always attempt to establish a definite contact address(es) with the passenger and advise the airline accordingly. This is particularly important as it enables airlines to better serve your customers when your office is closed.

f) Travel agents should always request all reservations for a specific itinerary and advise subsequent changes, through one airline. Where this is not practicable, each airline with which reservations have been made must be informed of reservation made with other airlines.

8.4 HOW TO MAKE A RESERVATION

8.4.1 Reservations communication by telephone between Agents and Airlines

The airline reservations agent should receive the following information in order to make the most suitable reservation. To ensure this, the best method is to adhere to the procedure below:

Procedure**Examples**

1 Your identity:
Travel

This is John Abraham of ABC

2 Purpose of call:

I wish to make - a reservation

- a cancellation
- an amendment
- a reconfirmation

3 Number of seats:

For 1 passenger

4 Flights, Class, Date:

QF 27 in Y 20 August

5 Boarding and Disembarking:

From SYD to HKG (and continuing flights, if any)

6 Hotel Reservation:
arrival
room,

Give city name, action required, and Departure dates, and types of name and category of hotel.

7 Passenger's name Initials, title and Contact: Pant V., Mr.

8 Specific requirements: assistance,	Special handling; e.g. medical
Smoking.	bassinet, smoking or non -
9 Your check action: taken, with details	Airline read-back of action
time	Of flights, dates, times and ticketing
10 Other useful information: only French)	limit date. If any..... (e.g. passenger speaks

In addition, an agreement should be reached with the clients as to when and how they will pay for their reservation. In this connection, a date should be fixed for partial or full payment to the travel agency. The travel agency's internal policy will determine the acceptance of cash, cheques or credit cards. Certain air fares require an earlier ticketing time limit and the passengers must be so advised.

A reservation does not become valid until passengers have bought their ticket or exchange order indicating the confirmed space. Most itineraries will require that passengers and their baggage make direct connection from one flight to another. The amount of time needed to make such a connection, known as the minimum connecting time, is published in airline guides. It is your responsibility to determine these when establishing and reserving an itinerary.

Do not make a double reservation for the passenger except where it is impossible to get a confirmed seat on a given flight and the carrier has waitlisted your client. Only then can a "protective reservation" be made which should be notified to the carriers. The carrier should be advised of all developments, with all space no longer required being cancelled..

All reservations for, and changes to an itinerary should be requested through one carrier only whenever possible. This will reduce the costs and

workload of the travel agent and will assure the passenger of the accurate transmission of his/her arrival times and the correct execution of reconfirmation procedures. If it is easier to make reservations through several carriers, each carrier should be given details of the whole itinerary, indicating the reservations preceding and following the segment for which it is responsible.

When making reservations for groups, a list of the names must be presented so that any seats eventually not used may be recalled. When a carrier is unable to confirm the required number of seats, you should not try to obtain these by requesting several individual reservations.

If a change or an addition is being made to an existing record, specify this before giving new details; this will help to locate the existing file and avoid duplication.

Note: Many carriers with computerized reservation system assign an identification or locator code to each individual or group file. This should be noted on the agent's record and quoted in any subsequent contact with the airlines.

Children from 2 to 12 years of age normally pay 67% of the adult fare. They are entitled to a confirmed seat and to the full adult free baggage allowance. When accompanied by an adult, an infant under 2 years of age normally pays 10% of the adult fare, but is not entitled to a seat reservation or free baggage allowances. Most airlines will accept a child of 8 years old and over travelling alone; each company should be contacted for details of acceptance and the applicable fare. Reservation for physically handicapped persons must be checked with carrier for acceptance; special handling requirements necessitated by each case, and the applicable fare will be determined at that time.

Airline alter their time tables according to traffic load problems over a given city, seasonal fluctuation, adjustment to summer time in some areas, and changes in equipment. The timetables are found in the airline guides.

8.4.2 Re-confirmation

Passengers who break their journey should be advised of the reconfirmation procedures required by the airlines involved. At each stopover point, they are requested to advise the airline concerned with the next leg of the journey of their intention to use the space reserved for them

on that segment. Time limits for reconfirmation vary according to regions and airlines; they are clearly stated in the publications of each airline.

Failure to reconfirm can result in the passenger's reservations-including those for the remainder of the itinerary-being cancelled. Therefore, it should be stressed to passengers at the time of issuing the ticket, that they confirm their reservations with the airline concerned. This may be done at the stopover point, either by contacting a travel agent or the airline on whose flight the booking was made. Instructions for reconfirmation can generally be found in the "conditions of contact" and information pages of the passenger's ticket.

8.4.3 Cancellations

If passengers can not use their reservation, they should at once advise the airline concerned, well before departure of the flight, either through their travel agent or directly with the airline. In cancelling their reservation within the prescribed time limits, they are entitled to reimbursement for their ticket or to use it for another journey (except in case of some excursion fares).

If a travel agent has made reservations for passengers who have not paid for their ticket within the time limit is the agent's responsibility to advise the airline. If passengers holding a confirmed reservation fail to present themselves for the flight concerned (no show), the rest of their journey may be cancelled.

No show and late cancellations cause the airlines loss of seating space and revenue. For this reason, certain penalties may be imposed on passengers when they claim, reimbursement or make new reservations. Cancellation time limits may vary and therefore individual airlines' manuals should be consulted for verification.

The service charge made by reason of failure of a passenger to use reserved accommodation without having cancelled this accommodation prior to the latest appropriate time for cancellation, as specified by the carrier

8.4.4 Electronic Reservation system

Today, almost all airlines using computers for all reservation work. Several airlines have developed sophisticated systems, which they also make available to their appointed sales agents. The latter are equipped with an appropriate terminal and receive the necessary instructions to carry out the

reservation procedures. The following are some of the most common terms and abbreviations used with electronic systems:

Term	Definition
VDU	Visual display unit-terminal unit supplied with a screen and keyboard. Also called a cathode ray tube (CRT)
PNR	Passenger name record – a file concerning the passenger.
TTL	Ticketing time limit –time within which tickets must be issued.
CPU entering the	Central processing unit-unit processing all transactions system.
EDP	Electronic data processing-handling information electronically.

8.4.5 Other terms related to Reservation

Add-on: When no published fare exists to a destination, the fare will be calculated to the nearest existing fare point and a specified amount will be added to that fare to complete the price for the trip.

Advance purchase: The minimum period before departure by which reservations, payment and ticketing must be completed

Airline Alliance: Commercial alliance between multiple independent airlines offering joint fares, operating joint flights, frequent flyer programs, etc. On many occasions, tickets are endorsable to airlines of the same alliance.

Allowance: Usually, the amount of baggage which may be carried without payment of a charge in addition to the fare

APEX Fare: Restrictive tickets with refund penalties, to be issued within 24 hrs of reservation and minimum 7 or 14 or 21 days before departure (depending on the ticketing rules)

Baggage Check: The portion of the ticket which provides for the carriage of the passenger's checked baggage and which is issued by **Booking Reference** or Passenger Name Record.

Charter: 1. Hire of an aircraft

2. A non-scheduled flight, such as seasonal flights to holiday destinations

Code Share: Flight commercially operated by different airlines. Mostly used in the 'hub-and-spoke' model.

Conjunction Ticket: A conventional ticket only has room for 4 flights. Whenever more flights are necessary in the routing of the passenger, several tickets can be issued "in conjunction". The conjunction tickets are viewed as a single ticket and a single contract of carriage.

Connecting Carrier: A carrier to whose services a passenger is transferred for onward connecting transportation

Connection Point: Transfer airport between the departure city and the final destination, when the lay-over does not take more than 24 hrs

Endorsable (ticket): The ticket can be transferred to another airline

E-ticket: Electronic Ticket, replacing the traditional ticket.

Euro budget: Semi-flexible ticket that can be upgraded to a full fare when necessary (open return permitted, 20% penalty for refund)

Excess Baggage: When a passenger has more than the allowed amount of baggage. As a rule of thumb, the compensation for the excess baggage is usually calculated by the "1"-rule, which goes as follows: per kilo of excess baggage, a passenger will be charged 1% of a one way fare in first class

Excursion Fare: Semi-flexible ticket with Sunday-rule or min.6days or 7 days (no min. stay between BRU and USA)

Flexibility: The freedom a certain fare give the passenger to get a refund, have the ticket re-issued, change his itinerary or routing, etc.

Flight Coupon: Each portion of a ticket that allows the passenger to board a certain flight.

FOP: Form of Payment: cash, cheque, credit card or bill to agents (any)

Frequent Flyer: Reward program for valuable travellers. Most of the airlines, car rental and hotel chains provide these.

Full Fare: Fully flexible ticket: endorsable, refundable, changes of reservations and routings allowed

Gateway: First point of arrival or last point of departure in a country or an area. Applied specifically towards the US. Ex: Brussels - Washington - Seattle. In this case, Washington is the Gateway.

Hub-and-Spoke: System whereby an airline uses its hub to provide services between two airports where it does not operate a non-stop flight. Mainly used in US. Ex.: Continental Airlines has a whole range of international flights to Newark (the hub), where passengers transfer to domestic flights within the US (spokes)

Interline Transportation: Transportation on the services of more than one carrier. Ex. Brussels-Amsterdam on SNBA, followed by Amsterdam-Tokyo on KLM

Intraline Transportation: Transportation solely via the services of one carrier.

Ex: Brussels-Amsterdam-Tokyo on KLM

Overbooking: Airlines can only be profitable if they sell a (high) percentage of seats on every flight. Because a lot of travellers make reservations for flights they don't take (e.g. double bookings, same flights on different airlines) To reduce that risk, virtually every airline 'overbooks' its flights, meaning they allow more reservations to be made than there are seats available. Most of the time, the over bookings compensate the no-shows (passengers who don't show up for the flight) or different dates...) the airline can be stuck with a number of empty seats on their flights.

8.5 CODES AND ABBREVIATIONS

8.5.1 Reservation Booking Designators

Supersonic:

R

FirstClassPremium:

P

First Class:

F

First Class Discounted:

A

Business Class Premium:

J

Business Class:

C

Business Class Discounted:

D

Coach Economy Class:

W

Coach Economy:

Y

Coach Economy Discounted:

H

Thrift:

K

Conditional Reservation:

G

Shuttle Service (No reservation needed seat guaranteed):

U

Shuttle Service (No reservation allowed seat to be confirmed at check-in): E

8.5.2 Action Codes

Cancel confirmed/requested:

XX

Cancel listing (waiting list) :

XL

Cancellation recommended:

XR

List (add to waiting list):

LL

Sold:

SS

8.5.3 Advice Codes

Confirming:

KK

Confirming from waiting list:

KL

Unable -have waitlisted:

UU

Unable-flight does not operate:

UN

Unable to accept request or sale, flight closed -have not waitlisted:

UC

Unable to accept sale-flight closed, have waitlisted:

US

8.5.4 Status Codes

Have listed (on waiting list):

HL

Have requested:

HN

Holds confirmed:

HK

Reconfirmed:

RR

8.5.5 Miscellaneous Codes

Acknowledgement Message

ACK

Additional Collection

ADC

Full Refund

RFD

Partial Refund:

PRF

Request for reply

RQR

Availability status:

AVS

No action taken on your message

NAC

No record passenger

NRC

Air taxi

ATX

Car rental

CAR

Hotel accommodation

HTL

Surface

SUR

Tour	TUR
Special service request	SSR
Cabin baggage	CBBG
Deaf passenger	DEAF
Hindu meal	HNML
Infant/baby food	BBML
Moslem meal	MOML
Vegetarian meal	VGML
Special meal requirement	SPML
Sea food meal	SFML
Seat request including specific number or preference	RQST
Smoking seat	SMST
Un accompanied Minor	UMNR
Wheel chair C for cabin seat (passenger completely immobile)	WCHC
Air conditioning	ACON
Single room	SGL
Double room	DBL
Twin room	TWN
Alternative	ALTN
Arrival unknown	ARNK
Arrival	ARR
Boarding	BRDG
Child	CHD

Departure	DEP
Emigrant	EMIG
Flight	FLT
Infant	INF
International	INTL
No show	NOSH
One way	OW
Return	RT
Passenger name record	PNR
Prepaid ticket advice	PTA
Reservation	RES
Schedule	SKED
Ticket number	TKNO
Total	TOTL
Traffic	TFC
Travel agent	AGT
Transit without visa	TWOV
Very important person	VIP
Contact	CTC
Extra seat	EXST
Miscellaneous charge order	MCO

8.6 TICKETING

Booking and issuing tickets is a major operation of the travel agency. It is essential for travel agency employees to have knowledge about Air travel in the international as well as domestic sectors. Besides ticketing this knowledge covers a variety of other aspects like reservation systems, fares and the class of travel, regulations related to baggage, forbidden items, special passengers, passports, visas and health, use of travel directories and hotel index, etc. A travel agency manager or an employee must know the various procedures related to these.

8.6.1

You are already familiar with IATA's functions. IATA divides the world into 3 geographic regions referred to as Traffic Conference (or TC) areas. The following map shows the TC areas 1, 2 and 3.

**TC- 1****TC- 2****TC- 3**

You need to know which area each country/city is in. For example, the following cities will come under the zones mentioned in front of them and you can do a similar exercise in relation to other cities also-

Bangkok: TC-3, London: TC-2, Delhi: TC-3, New York: TC-1.

Make a habit of learning as many city locations (on a map) as you can. It will help you. Each time you hear of a new place find out where it is and in which TC areas it lies. Gradually your geography will improve. Don't worry, travel agents all over the world have to learn this. We are all

terrible at Geography when we start, but must become an expert very quickly. You can see that you need access to a **good, up to date, political atlas**, for your everyday work. (A Political atlas is one which shows cities and borders clearly.) Besides, every airline publishes a map of its operational routes and a good travel agent must have access to them. You should also ensure that out of date materials (Think about Rhodesia, Ceylon, East Pakistan, and cities like Leningrad, Salisbury, and Peking and how their names have changed) are not used. - If you use the wrong name you will probably not be able to **find** an up to date fare or timetable, but it is also helpful to be aware of the old names as sometimes older clients do use them. When issuing tickets which we completed manually (i.e. tickets not automatically printed from a Computer Reservations System) everyone should:

- Use only BLOCK CAPITAL LETTERS,
- Make sure that the handwriting is clear and readable,
- Make sure that the information is clear on **all** coupons,
- Use a blue or black ball-point pen with a fine nib,
- Write the ticket in English,
- Never cross out anything on a ticket (if a mistake is made in filling out a ticket cancel

it by writing VOID across the whole ticket and send it back to the airline), and

- Never destroy an airline ticket even if mistakes are made during completion.

Manual Completion and Checking of Airline Tickets

Airline tickets are best thought of as forms. Each box on the form (ticket) has strict rules about what should be written in it and how it should be written. Full details of each box are also given in the IATA Ticketing handbook. Any variation makes the tickets useless and you will have a very unhappy customer.

You need to learn exactly what must appear in every box. Many agencies like their less experienced travel agency staff to write a ticket on a photocopy sheet first. Then this work is checked and corrected. Then it is copied carefully onto a real ticket for issue. This is a good way of learning as there is no risk and you **can** make **as** many corrections **as** you need to.

GDS in Air Ticketing and Cargo Handling

MTTM-13A

1) Name of Passenger- The surname is written first followed by a 'P and the first name or initial of the passenger **and** then Mr., Mrs., Ms. or Miss as appropriate.

If the passenger is travelling to a place where someone will not know how to address him or her then it would be helpful to underline the name by which he or she should be addressed, which is usually the family name.

If we speak English we know that this passenger has a family name of Pant and that he is a man, due to the title 'Mr. However what about a Chinese called Tan Ben Sm. Would we call him Mr. Tan?, Mr. Ben? or Mr. San? If we have underlined Tan we know that he should be addressed as Mr. Tan. Remember that air travel takes people to places where things are different. When you book the ticket ask that the family name be underlined. Make it easy for others to be as courteous to your client as you would be yourself.

Have a look at this ticket.

2) Check the cities from which the passenger will fly (**point of origin**) any places where he must change planes (**intermediate points**) and the **final destination** in the column marked 'From'.

Example:

x /o	NOT GOOD FOR PASSAGE
	FROM LONDON Heathrow
	TO PARIS Charles de Gaulle
	TO GENEVA
	TO VOID

Ensure that 'VOID' is written in any box not completed

Note that many cities have more than one airport. In this case the name of the airport to which the passenger will travel as well as the city name must have been written. If this has not been done then you must ensure that the itinerary you give to your client is very clear on this matter. At big cities there would be three or more hours by road between airports. '

3) Check the maximum **baggage allowance** which can be carried free of charge in the column marked 'Allow'.

Allow
KG
40
KG
30
KG

Example:

20

Or, if working on a piece system, 1PC, 2PC or 3PC

Ensure that the correct allowance has been given for your client and ensure that your client understands what is meant when you brief him. **Inexperienced passengers are often shocked by the cost of carrying excess baggage.**

4) The airline's name or two letter **IATA** code should be inserted in the column marked '**Carrier**'.

Example AI (Air India), BA (British Airways), AA (American Airlines) and it will be followed by the flight number and class of service to be provided in the column marked '**Flight/Class**'.

Example:

Flight Class	
101	Y

Check that these are the flights which you requested for your clients.

Some agents get incentives from airlines to sell their services or to seats at an anti social time of day. It will do your reputation no good to send your client off in the middle of the night just because you *can* make more money from it.

5) Check the **dates of the flights** which are written using the following format:

Note that there are always 02 digits in a date, and three letters in the month abbreviation.

6) Check the **time of departure/departures of flights** which are written using the 24-hour system of expressing time. Be very careful where flights depart in the night. If a flight leaves at **1155** on **27 March**, it is at lunch time. **2355** on **27 March** is late at night. **0055** on **27 March** is only an hour later so transfer and check-in procedures will be on **27 March**.

Time	Date
0530	
1155	25 DEC.
1930	
2350	02 JAN.
VOID	

Note that times are always shown as local times and arrival times do not appear on the ticket so you must also supply them to the client on an itinerary. Air tickets show clients where they must change planes but they do not show if a plane stops for refueling or to pick up other passengers. Such short stops are a bonus on daytime flights as passengers *can* disembark and enjoy duty free shopping or just a stretch of their legs. However on night flights such stops are a nuisance as the sleeping passengers must be awoken and of course they add to the journey time. Information like this should be on your itinerary planner.

7) Check the **Status' column** giving details of the reservation. This will have been written using the following codes:

OK - The seat reservation has been confirmed by the airline.

RQ - The seat reservation has been requested by has not been confirmed by the airline.

NS - This code is used to indicate that the passenger (normally an infant) is not entitled to a seat on board the aircraft.

SA - This code is used to indicate that a certain rule which applied to a particular fare does not allow the seat to be reserved in advance.

If the passenger has RQ or SA on the ticket there is no guarantee that he or she is going to be able to fly on that flight. You must ensure that the passenger understands this.

8) In the column titled '**Additional endorsements and restrictions**' details of any restrictions, endorsements, or reimbursements are written fully. Certain cheaper fares will have rules which prevent the traveller from changing the reservations or having a refund if he or she cancels. You must ensure that they understand these restrictions fully. Some passengers prefer to pay more for a fully flexible fare (can be changed) when they understand this.

9) Certain Fares Rules may indicate restrictions on the date of flights to be taken by travellers. The column '**Not Valid Before**' should be completed to indicate such dates.

Example:

Coupons not valid before

1 2 14MAY 3 4

Coupons not valid after

1 2 3 4 24 JUNE

The above example indicates that the flight indicated in flight coupon 2 may not be taken before May 14 and that the flight indicated in flight coupon 4 may not be taken after June 24. In other words, the passenger can make some alterations to his reservations but he must stay within these parameters.

10) The '**Fare**' column shows the amount paid for the ticket in the currency of the country in which the travel starts.

Example:

Fare
Rs.17000/-

The above example indicates that the fare is Rs. 17,000/-

If your company is dealing in discounted fares you may find that the fare shown is MORE than the customer has paid. This is common but technically wrong. However, you should never accept a ticket which has a face value of LESS than the customer has paid. The passenger will soon have a complaint.

11) If taxes have been collected at the time of payment for the ticket, the 'Tax' column should have been completed indicating the currency and the amount collected. There are several different sorts of tax including departure tax, security tax, agriculture department tax and others. Each has a code. A complicated route could involve several different taxes appearing on one ticket and the client will question these.

Some countries collect departure tax with ticket payment. This saves the clients having to queue at airports and fiddle with local currency on departure. However, not **all** do so. So a client travelling LON (London, UK) to LAX (Los Angeles, USA) to NAD (Nadi, Fiji) To AKL (Auckland, New Zealand) to SYD (Sydney, Australia) could have his UK, USA and Australian taxes included in his ticket, but would have to pay Fijian and New Zealand taxes in local currency at the respective departure airports. It is your job to advise your client about this clearly on the itinerary.

12) If discounts apply to a ticket the 'Ticket Designator' column should be completed.

- This will indicate the reason for the discount.

Example:

IN - an infant paying only a percentage of the adult fare

CH - a child paying only 50% of the adult fare, etc.

check that these are correct for your passengers.

13) In the 'Tour Code' column information detailing the code of any inclusive tour should be indicated. If this column has been completed there should NOT be any price shown in the fares section.

14) In the box, 'Date and Place of Issue', the official validator of the company issuing the ticket should have been used.

Once all the boxes that are applicable to the journey have been checked against the file requesting the reservation your final task is to ensure that **all** the relevant information has been clearly and accurately reflected in the itinerary. You must also ensure that all coupons are clearly legible and **cont&** **all** the necessary information for the ticket to be accepted by the airlines.

Check Your Progress

Q 1) What is the importance of ABC Directory in travel agency business ?

Q 2) How to make a Reservation? Describe the procedure for Reservations communication by telephone between Agents and Airlines.

Q 3) Make a practice to remember the various Codes and Abbreviations used for reservation and ticketing purposes.

Q 4) Give a format of automated and manual ticket.

Q 5) Draw a world map indicating TC areas drawn by IATA.

8.7 LET US SUM UP

This unit gives ideas about general reservation rules i.e Making a reservation communication by telephone between agents and airlines ,Re-confirmation and cancellation procedures. Understanding of various Codes and abbreviations apart from that 3 letter airport/city codes and 2 letter airline codes, which are the part and parcel of the reservation procedure and ticketing. This unit ends with the complete manual practice of the ticket with various types of coupons.

8.8 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 8.6
- 2) Refer Sec. 8.4
- 3) Refer Sec. 8.5
- 4) Refer Sec. 8.6
- 5) Refer Sec. 8.6

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Unit-9

**Factor Affecting The Tour Cost and Procedure for
Cost Determination, Pricing Strategies and
Calculation of Tour Price**

STRUCTURE

9.1 Objectives

9.2 Introduction

9.3 Concept of Costing

9.4 Factor Affecting Tour Cost

9.4.1 Internal Factors

9.4.2 External Factors

9.5 Understanding Cost and Value

9.6 Prices and Demand

9.7 Pricing Objectives

9.7.1 Revenue Oriented Pricing Objective

9.7.2 Operations Oriented Pricing Objective

9.7.3 Competition Oriented Pricing Objective

9.7.4 Demand or Patronage Oriented Pricing Objective.

9.8 Price Setting in Practice

9.9 Discounting Tactics in Tourism Pricing

9.10 Tour Costing and Tour Costing Sheet

9.11 Let Us Sum Up

9.12 Clues to Answers

9.1 OBJECTIVES

After reading this Unit you will be able to understand the:

- Concept and components of costing in tourist transport business (TTB), various forms and types of costing and application of costing techniques.
- understand the factors affecting demand for products at different prices,
- understand how pricing can be used as a tool to achieve marketing objectives,
- explain how costs affect price and the significance of marginal costing in travel and tourism marketing,
- recognise that price is only one factor influencing the demand for travel, Determine key pricing policies, and
- Know how to use strategic and tactical pricing as elements in the marketing plan.

9.2 INTRODUCTION

It is important to know for every entrepreneur, manager and supervisor of a travel and tour business the concept and implications of costing your product. If your costs and prices aren't competitive enough it would be very difficult for you to sustain and operate successfully against the market forces.

Therefore, in this Unit an attempt is made to outline the components which must become constituents for costing and pricing of tourist transport products. This Unit will enable you to take into account the factors, both internal and external to offer competitive prices to your clients.

Price is as much a tool of marketing as promotion, and plays a critical role in the marketing mix the price of product or service should be seen not only as the outcome of market forces. A marketing manager should be aware that price conveys something to the consumer about the nature of the product or service. By managing price in combination with product quality and the promotional messages, sales can be activated in a new market, or market share can be increased at the expense of competitors.

In order to understand how to use: price as a tool, we need to have a clear picture of how customers interpret price of goods and services they buy or avail, tourism included. Pricing for tourism product should take into account the complexity created by seasonality of demand and the inherent

perishability of the product. This Unit deals with the different components of pricing, pricing objectives, price: setting and factors which influence pricing.

9.3 CONCEPT OF COSTING

Since the concept of net value assessment by a customer depends upon the costs he or she may have to bear, it is important to understand the costs associated with a service like transportation. The components associated with these costs are as follows:

Monetary costs: which involve the actual rupee value spent on availing benefits of transport and other components of tourism. This is often expressed as price paid.

Time: It is a valuable commodity for most people, one which always has a fixed upper limit for each individual. In addition to spending time for tourism it further involves an "**opportunity cost**", i.e., cost of value lost is by spending the time in tourism which otherwise would have been spent in alternative gainful activities.

Physical effort: To quite a lot of people, physical effort includes getting out of their established life patterns to travel and to be weary. This is a "sustainable cost".

Sensory costs: Travelling in addition to the pleasure is associated with discomfort owing to noise and pollution, excessive climate vagaries, uncomfortable modes of travel, travel delays, unpleasant tastes, smells and even sometimes unappealing environment.

Psychic costs: These are sometimes attached to the use of a service. These could be unfavorable perceptions, insecurities about certain destinations or simply a fear of taking on the uncertain. Consumers, in order to determine the net value that they are getting out of tourism, trade off the benefits against the costs associated with the package. The above description of costs in tourist transportation in addition to the monetary cost (price) undermines the fact that even a reasonable price may be viewed too high if the other cost associated with a given tourism product is high and renders the net values and a negative gain. Here we must also look at the concept of pricing.

Prices: Pricing can be explained as the concept of cost and value by saying that as all costs need to be recovered, an organisation cost of rendering the

services become the floor below which the prices cannot be set as it would not be viable. Since gross profit for you as tourist transport operator should be the difference between the price you pay for travel services plus other administrative cost and price you charge from the customers. For instance, in your case cost would include rent, water and electricity charges, telephones, salaries to the staff and marketing costs like advertising, distribution, information collection and information dissemination called, "overhead costs". These are incurred even if there is no sale.

Costs can be classified into:

- A) Fixed costs-** irrespective of whether production and selling is taking place or not, and
- B) Variable costs-** vary in relation to quantity of services produced and sold.

9.3.1 Spread over of Investments (Fixed Cost)

a) Investment and Interest Thereon: Like any other industry vehicles form the part of your capital infrastructure. This infrastructure can be financed by any financing institution which could be a bank or private financing company or a public sector finance company. It is obvious that lease financing institutions charge interest on the capital given to you for purchasing motor vehicles. The rate of interest varies from time to time depending on the market situations. The average rate of interest is 11 – 14% per annum on reducing balance.

b) Establishment Cost and Overhead Costs: These includes your expenditure on salaries to all your staff members like drivers, booking assistants, accounts personnel, marketing people, computer operator, maintenance staff, etc. It may also include your overhead expenses like communication expenses, rent, water and electricity charges, administrative expenses, etc.

c) Insurance: Taking insurance for tourist vehicle is extremely important because driving a vehicle without insurance is like walking on fire. However, at the time of taking an insurance policy from insurance company lot of care and caution is required. In our country, it is very easy to get an insurance cover but extremely difficult and cumbersome to get an insurance claim. Therefore, it is imperative that at the time of taking an insurance cover you need to understand the intricate conditions of the insurance policy so that while taking the insurance cover you know for

yourself the extent of coverage you are getting while buying the insurance policy. This will help you in taking due diligence and knowing your factual position while you exercise your operations.

For instance, some of the situations are as under:

- i) If a tourist vehicle is going beyond the geographical boundaries of India like Nepal then it is obligatory for the tourist vehicle owner to intimate the insurance company about the proposed departure of the vehicle and entry of the same in Nepal. If in case this intimation is not sent to the insurance company and there occurs an accident which may take place outside the boundary of India then the insurance company may not accept your claim.
- ii) Similarly, there are certain exclusion clauses provided in the insurance policy whereby the insurance company accepts its liability to only a certain extent and limits are prescribed in the policy. However, these limits and exclusions can be overcome by paying additional premium. Therefore, if you decide to have full and safe coverage then such additional premium need to be paid.

It is also essential that all documents of vehicles shall be as per the requirements of Motor Vehicle Act and Central Motor Vehicle Rules so that the insurance claim is accepted. Any violation or deformity in the documents may result in repudiating the insurance claims.

d) Depreciation: The reduction in the value of vehicle over a period of time is called depreciation, i.e., if the vehicle is purchased for Rs.10,000.00 today and after one year it has a value of Rs.7,000.00 then the difference being of Rs.3,000.00 is depreciation. There are two types of depreciations:

- i) Standard depreciation as allowed under the Income Tax Act.
- ii) Factual depreciation which is based on the market value. For the purpose of costing one should always take the factual depreciation. The present rate of depreciation as per Income Tax Act is 50% of written down value (for commercial vehicles only).

e) Local Taxes: Include those taxes in fixed which are payable by you irrespective of use of vehicle like Road Tax and Passenger tax of a particular state where your vehicle is registered. These local taxes vary from state to state, e.g., for a 35 seater bus which is registered in the state of UP, the road tax would amount to Rs.2,000.00 per quarter of calendar year and the passenger tax would amount to Rs.13,000.00 per quarter of calendar year.

In Rajasthan, for the same vehicle type, road tax per quarter of calendar year would be Rs.2000.00 but passenger tax for the same period would Rs.19,000.00. In Union Territories you have to pay only Road Tax and there is no levy of passenger tax.

9.3.2 Variable Costs

Variable costs are important for managing and costing of tourist transport operations you have to consider variable costs like:

- a) Fuel
- b) Maintenance
- c) Inter-state taxes

The costs of fuel should be calculated on the average consumption of motor vehicle, i.e., the number of kilometres covered in one litre of fuel. In general speaking, in case of cars and in case of coaches, fuel consumption ranges as follows:

Vehicle Types Consumption Average

Car 1 litre 10 - 14 kms. Coaches 1 litre 3.5-4 kms.

- a) **Fuel consumption:** It depends and varies form the quality of vehicle and its maintenance. It also varies according to driving habits. Therefore, it is important that you need to check and govern the fuel consumption of the vehicle. You can achieve low fuel consumption if your driver has better driving skills.
- b) **Maintenance:** In the business of tourist transport, it is advisable that the maintenance of vehicle is closely monitored. Any carelessness or non-adherence of timely maintenance schedule can result in to graver losses by breakdown of vehicles on the road. It will also result in to utter dissatisfaction of client which will reflect poorly on the quality of your service leading to severe loss of reputation. It is also advisable that the maintenance schedule as given by the manufacturer of vehicle is followed instead of the practises and norms that may be advised by roadside workshop or a mechanic. Maintenance cost consumes lion's share of running cost of operation tourist transport business. If you look around you will find that on an average 4-6 days in a month your vehicle goes to

workshop for upkeep. It, however, does not include regular services and check ups of vehicles. This naturally adds to costs of operation.

c) **Inter-State Taxes:** Commercial vehicles while plying on inter-state routes are subject to the payment of road taxes and passenger taxes of that particular state in which the vehicle is plying. These taxes vary from state to state, vehicle to vehicle. The procedure for calculating these taxes is complicated and differs in each state. Constitutionally levy of these taxes is a state subject and hence falls within the purview of respective state. Besides the passenger and road tax there are other taxes like toll tax, parking fees, etc. Recently the Government of India has introduced a new concept of rebuilding national highways. These national highways are termed as toll roads or express highways. Hence, toll is collected by the toll company from each and every vehicle using these toll roads. All these expenses should be included within the costs.

9.4 FACTOR AFFECTING TOUR COST

9.4.1 Internal Factors

Marketing Objectives, Marketing Mix Strategy and Organizational considerations

i) Internal Factors Affecting costing decision: Marketing Objectives

Survival- Low Prices to Cover Variable Costs and Some Fixed Costs to Stay in Business.

Current Profit Maximization - Choose the Price that Produces the Maximum Current Profit, Etc.

Market Share Leadership-Low as Possible Prices to Become the Market Share Leader.

Product Quality Leadership-High Prices to Cover Higher Performance Quality and R & D.

ii) Internal Factors Affecting Cost Decisions: Marketing Mix Strategy- Customer seeks product that give them the best values in terms of benefits received for the price paid.

iii) Internal Factors Affecting Cost Decisions: Organizational considerations

9.4.2 External Factors

Nature of the market and demand, Competition, Other environmental factors (economy, resellers, government)

- i) **External Factors Affecting costing decision**-Market and Demand
- ii) **External Factors Affecting costing decision** -Competitors' Costs, Prices, and Offers
- iii) **External Factors Affecting costing decision** -Other External Factors like Economic Conditions, Reseller Needs, Government Actions, Social Concerns

9.5 UNDERSTANDING COST AND VALUE

As the concept of net value assessment by a customer depends upon the costs he or she may have to bear, it is important to understand the costs associated with a service like tourism. There are several important costs that a potential tourist may incur in order to avail the pleasure of tourism. These may be:

- i) Monetary Cost: Which involves the actual rupee value spent on getting benefit of tourism? This is often referred to as price paid and expressed in Rupee term.
- ii) Time: Time is a valuable commodity for most people, one which always has a fixed upper limit for each individual. In addition spending time for tourism involves an opportunity cost i.e. cost of the value lost had the time spent in tourism been spent in alternative gainful activities.
- iii) Physical Effort: To quite a lot of people, physical effort entailed in getting out of their established life patterns to travel and be weary, is a substantial cost.
- iv) Sensory Costs: Travelling in addition to the pleasure associated has discomforts owing to noise and pollution, excessive climate vagaries, uncomfortable modes of travel, in transit delays, unpleasant tastes, smells and sometime even unappealing environment. Sometimes past experience with some of these sensory costs may actively act as an inhibitor of purchase or significantly lower the net value of the package to the customer.
- v) Psychic costs: These are sometimes attached to the use of a service. These could be unfavorable perceptions, insecurities about certain destinations or simply a fear of taking on the uncertain.

Consumers, in order to determine the net value they are getting out of tourism, trade off the benefits against the costs associated with the package. Pricing theorists try to explain\ the concept of cost and value by saying that as all costs need to be recovered, an organization's cost of rendering the services becomes the floor below which the prices can not be set as it would be non viable. The perceived value of the product in the eyes of the customer sets what can be termed as the ceiling for the prices to be charged. The prices charged by the competitor for similar or a substitute product becomes the key determinant of the level within the ceiling to floor range set by perceived value and cost parameters. Central to the issue of the price is the concept of value you think you will get out of it. The term 'value' is one that is rather loosely used. What constitutes values - even in a, single product category - appears to be highly personal and idiosyncratic. Four broad expression of value are:

- i) Value is low price,
- ii) Value is whatever I want in a product,
- iii) Value is the quality I get 'for the price I pay, and
- iv) Value is what I get for what I give.

In this Unit, we will base our definition of value on this fourth category and use the term net value, which is defined as 'The sum of all the perceived benefits (gross value) minus the sum of all the perceived costs'!

From this, it follows that the greater the positive difference between perceived benefits and perceived costs, the greater the net value. If the perceived costs of using the tourism services are less than the perceived benefits, then the service will possess negative net value and the customer won't purchase it. When customers evaluate competing services, they are basically comparing net values. However, perceptions are often highly inaccurate, because customers may be making these comparisons based upon very imperfect information. Further, perceptions of benefits and costs may vary widely from one customer to another and even from one situation to another.

9.6 PRICES AND DEMAND

In addition to the above mentioned concepts of value and cost there are two more basic concepts that you need to understand before you get down to the exercise of price setting. These concepts are related to individual demand and elasticity of demand in relation to tourism.

i) Individual Demand and the Tourism Product

When customers make individual decisions about availing tourism services these decisions, as you may have gathered from observation, are partly affected by the price for the services. Price quoted for a given tourism product enables consumers to make judgment about quality, allows comparison with like or substitute service and generally facilitates decision making. **In order to be able to generate demand for tourism, price must be perceived to be neither too low (so that it denotes questionable quality) nor too high (so that it is viewed as being unaffordable).** It is therefore clear that demand for a given tourism product at least in part is to be governed by the price that the consumer has to pay for it and the way the potential customer views this price. Also, because different people have different perceptions about a 'stated' price; **pricing may actually become a tool in attracting the type of customer** one wants to attract for a given tourism product. You may therefore, partly define the kind of demand you will face by fixing up a certain level of price.

ii) Elasticity of Demand

The aggregate demand for the tourism product results from a total of individual customers demand patterns. These are under constant change, depending upon the price, availability of time, resources at the disposal of consumers and levels of competition. The extent to which a change in price alone brings about a change in the level of aggregate demand is called price elasticity of demand. It should however be understood that not all tourism products would display an elastic demand. Take business travel for example. If the prices of the air tickets for executive class travel were to be reduced the business travellers would not suddenly increase the frequency of their travel to a certain destination just because the air ticket prices are lowered. In fact they travel to specific destinations at a specific time for specific business. You must note that in cases like this the price of the product is a relatively an unimportant variable in affecting purchase decisions.

9.7 PRICING OBJECTIVE

When firms set out to determine their prices, they must be very clear in their thinking as to what do they want their pricing to do for them and for their marketing strategy. Pricing is ultimately only a tool to achieve overall marketing objectives. Prices may be set to generate the maximum revenue or the highest profit or gain the largest share of a given tourist market. Once

the organizations select their pricing objectives it is relatively clear to them to determine the actual figure on which they would like their products to sell. Broadly the pricing objectives followed by tourism sector can be divided into the following four categories:

- i) Revenue Oriented Pricing Objective
- ii) Operations Oriented Pricing Objective
- iii) Competition Oriented Pricing Objective
- iv) Demand or Patronage Oriented Pricing Objective.

9.7.1 Revenue or Cost Oriented Pricing Objectives

The revenue oriented pricing objectives maybe related to making the largest possible surplus, minimize costs so as to maximize returns or earn a specific target level of profits. Under this objective the tourism firm would try to follow pricing strategies that give it the maximum revenue or a certain specific return on the investment made by it. A hotel offering holiday package for example may decide to earn a 20% return on investment that it has made to produce those packages and thereby sets a price which would enable its return. Similarly, a tour operator may like to set a price that lets him maximize the total revenue (units sold x price per unit). At this stage you might like to recall what you read about the elasticity of demand. The tour operator may actually find that by cutting down price per unit, he can maximize revenue as his units sold go up by slashing the prices. This would be the case where the price elasticity of a particular tourism product is high, under a given set of market condition and for the type of demand the service provided faces. There are however some problems with this approach. Maximizing revenue in the short run may sometimes harm the chances of long term market development or customer patronage development or even choosing the desirable kind of tourists for your tourism product.

Another area of difficulty, specially when you are seeking to earn a specific target return on your investment is determining the costs that can be allocated to each tourism package for which the prices are to be determined. In the example of the hotel offering package holidays, calculating the percentage of overheads like electricity, water charges, supervisor salary and indeed managerial salary that can be allocated to this package may become a difficult task. The holiday package tourists may use part of the services from the general services offered by the hotel i.e. reception floor

services, lobby, telephones etc. Calculation of all those costs and their allocation to specific heads so that the total costs per unit can be worked out on which a target return is to be calculated may be difficult if not unachievable.

9.7.2 Operations Oriented Pricing Objectives

Tourism as an industry has seasonal or fluctuating demand. Most resorts and consequently the accessory sectors like agents, operators, inland and international travels have their peak and slack seasons. On the other hand tourism, because it is a service, represents a situation of perishability of service on offer. An empty hotel room on a particular day represents unavailed services which will perish for ever if it is not availed. In order to combat the twin problem of perishability of service and fluctuating demand levels tourism marketers, often resort to operations oriented pricing objectives. In such a situation, essentially, they vary prices over time so as to ensure that demand matches available supply at any given point of time. This is done to make the most profitable use of available capacity. In addition, sometimes, new entrants in the tourism market, on finding that they have slack capacities during some part of the operation cycle, may introduce special prices during the off season to maximize patronage rather than profits.

9.7.3 Demand Oriented Pricing Objectives

While discussing value in the context of pricing we had commented upon the concept of the consumer's willingness to pay. "Demand Oriented Pricing-tries to discover through marketing research, what the market is not likely to pay for the type of tourism package in question. The service provider would thus like to charge the price which is closest to what the market would bear. You must also understand that in this case prices are being based on the consumer's capacity to pay. As the markets are made up of a variety of consumers, each group with a differential capacity to pay, the tourism marketer can actually use differential pricing to reach different consumer segments, specially if it is possible to create a differentiated package for each set of consumers. Take for example Ocean liners offering cruises. All the customers are not charged the same rate, simply because all of them, apart from the basic tourism service of the cruise, (travel and sight seeing) do not avail the same services. There may be deluxe and super deluxe, first class and economy class cabins which would be accordingly priced creating differential prices for all the classes, this allows the producer to attract a far wider section of consumers and optimizes his returns, by a

process of matching his prices to the type of demand that may exist for different tourism packages.

Hotels and holiday resorts also use the difference in the intensity of demand during weekends and weekdays or at peak and off seasons, as a basis to create different pricing for these time periods. Low prices are charged for periods which are typically low demand periods for these services to attract the sections which might like to take advantage of the special prices and avail the facility. Differential pricing, thus, is used to enhance the total returns to the organization than what would have resulted if a simple price policy was followed. It is also used to find out the fluctuations or seasonality of demand. This is important because, on account of perishability, the tourism product can not be inventorised and in periods of lower demand than capacity, the available service perishes forever.

9.7.4 Competition Oriented Pricing Objectives

In a market characterised by tough competition, tourism organisations sometimes base their pricing decision not on their own analysis of costs and value relevant to a given pricing situation but on what competition is charging, especially if they believe that price is a major determinant of consumer choice. This situation is visible in the airline sector, travel agency as well as the tour operators business. Prices charged by the competition become the limits beyond which organisations in a highly competitive market may not like to go in setting their own prices so that the objective of the pricing exercise becomes achieving competitive parity. Prices in such situation are relatively sticky in the sense that most competitors tend to follow the market rate. In the event of one organisation initiating a price reduction everyone retaliates, quickly canceling out any advantage that the change initiating firm may have envisaged. On the other hand in the event of a firm initiating a price rise, most competitors do not follow suit, unless this change is a reflection of some major shift in the industry costs hoping to get an advantage of patronage against the competitors initiating the change. In case of competition oriented pricing, generally some organisations assume the role of price leadership, where in the event of change in the cost structure for the industry, one of these organisations may raise the prices and the others follow suit. This is also referred to as '**Follow the Leader**' pricing. You must remember that the greater the similarity in the services offered by tourism providers in a given sector (airlines, travel agents, tour operator, and transport) the lower is the freedom that an individual organisation enjoys in setting up his own prices. As long as the

tourism products can be differentiated, pricing can be relatively insulated from competitive pressures.

9.8 PRICE SETTING IN PRACTICE

Now that you understand the concepts of value, cost, demand and competition in the context of pricing let us discuss how tourism organisations in practice make their pricing decisions. The major consideration of course, as pointed out earlier, remains the **cost, perceived value and competition**. The first two provide lower and upper limits while what the competition is changing decides the level which should be chosen between these two limits.

A variety of pricing practices are' followed by tourism organisations in the pursuance of their broad pricing objectives discussed earlier. Tourism organisations can attempt to attain leadership in the market by keeping their prices low or by attempting the strategy of niche marketing, by managing to differentiate their products effectively or by selecting a specific segment to tailor their marketing object to the seller.

i) Markup Pricing

This is the most elementary pricing method and involves adding up a standard markup to the cost of the service. The total cost of offering the service is estimated and a standard markup is added to this cost to arrive at the selling price. To illustrate this assume that a tour operator has the following expectation of demand and cost:

Variable Cost = Rs. 4,500 per customer

Fixed Cost = Rs. 60,000

Expected Customers = 50

These unit costs would be given by

Unit Cost = Variable Cost + Fixed Cost

+ _____

Number of Customers

= Rs.4,500 + Rs. 60,000

$$= \text{ Rs. 5,700}$$

Now, assume that the tour operator wants to earn 20% markup on his sales. The price to be charged is given by

Unit Cost

$$\text{Mark up price} = \text{_____}$$

$$1 - \text{desired return on sales}$$

$$\text{Rs. 5700}$$

$$= \text{Rs.7,125}$$

$$- 0.2$$

The tour operator would charge Rs.7,125 per person and would make a profit of Rs. 1,425 or 20%. The size of the markups tends to vary in the different segments of the tourism service providers. The higher the degree of competition, the greater is the tendency to keep lower markups to attract more consumers.

The whole exercise of markup pricing is based on the assumption that the tour operator in the above case will be able to attract 50 tourists at that price. Standard markups do not really make marketing logic, as depending upon the demand situation or competition prices, it may not be possible to attract 50 tourists at that price. As standard markups do not take into consideration current-demand, perceived value and competition, it may not lead to optimal pricing. Because of ease of calculation, however, it remains a prevalent pricing practice.

ii) Target Rate of Return Pricing

This is another revenue overhead pricing technique, examples of which are found in the accommodation sector. The marketer tries to set a price which will yield a certain target rate of return on the investment made by the organisation. The target return price is determined by the following formula:

$$\text{Desired return} \times \text{invested capital}$$

$$\text{Price} = \text{Unit Cost} + \frac{\text{Unit sales}}{\text{Unit sales}}$$

Again in this case, the marketer is assuming that the customers will be willing to buy at a price that gives him a percentage of return fixed by him. Thus pricing approach does not take into consideration the elasticity of demand and the impact of competitive prices may not give realistic results in all marketing situation.

iii) Perceived Value Pricing

You have gone through the section on understanding value **(12.2)**. In this market oriented technique of pricing marketers tries to understand the value of their product in the eyes of the consumers. In fact, products like safari tours, adventure tours, executive hotel services, etc. are planned with specific consumer segment in mind, after having an analysis of what they value most in these services. Pricing is then done on an assessment of what value does the consumer perceives in the given service offer and what would he be able to pay for the quantity and convenience offered.

iv) Value Pricing

As competition in the tourism sector has intensified, so has the tendency to offer value for money to the customer. Companies in the hotel and travel sector have started offering low prices for a reasonably good quality service. Value pricing is different from perceived value pricing as it consists in giving more value for a given price to the consumer while in perceived value pricing, the philosophy is to charge as much as consumers perceptions of the product allow.

v) Going Rate Pricing

This is a pricing technique in pursuance of the competition oriented pricing objectives discussed earlier. The organization bases its prices on the basis of what the competition is charging rather than its own demand and costs. The tourism marketer may take a conscious decision to price his product at the same or slightly higher or lower to that of a competitor. The main consideration, however, is to be within the range of the going rate. This situation, characterizes the private airline sector in India today where prices for same sectors are almost similar. When the number of producers is not very large and the service is not highly differentiated, the tendency towards going rate pricing is very high.

A slight variation of going rate pricing is Follow the Leader Pricing, where one competition (maybe the targets) assumes the role of initiator of price changes, and the rest tend to follow, to quickly reduce any advantage that this initiator may get through reducing his prices.

VI) Premium Pricing

In this case the tourism organization decides to sell its products above the prevailing market prices in order to have the image of high quality or to underline the unique nature of its offer. This may be the case where the product has a unique nature, is still very new to the market, has got status connotations or the company itself has got specific reputation in the market such that its corporate image enables it to charge a high price.

vii) Cheap Value Pricing

Usually a characteristic of highly competitive segments of the tourism markets, this pricing practice is adopted to undercut the competition. High turnover at low prices is expected to offset the low unit profits. Such low or penetrative pricing is usually adopted by a new organization trying to get a foothold in the market or a competitor seeking to rapidly expand his market share.

viii) Psychological Pricing

Tourism marketers sometimes apply inputs on consumer's psychology in addition to the economic concepts used by them in their price strategy. Most studies in connection with relationship between the pricing and quality perception of luxury cruises have shown that, higher priced tours are perceived to possess (often unfounded) images of high quality.

Understanding this, top of the line tourism marketers create a high quality product but often price it in a manner where high prices differentiates may not be proportionate to the quality differentiate for the product offered. In all cases where other information about the product is not available, as is often the case where new destination and untried locales are concerned, high pricing becomes indicator of high quality and therefore, issued as status symbol for people who buy at these prices.

We often see tour packages being priced at Rs.6999/= instead of Rs.7000/= because it is believed that the firm prices would be seen as being in the 6000 range rather than Rs.7000/= range.

ix) Promotional Pricing

Under certain circumstances tourism organizations temporarily price their products below the usual low price and sometimes even below the cost. The objective is to promote the demand and their offer in the hope that in case the consumer likes at least one purchases of the product he may go in for repeat buying. Promotional pricing may be offered in a variety of ways.

- a) Loss leader Pricing:** Restaurants, tour operators, or travel agents may sometimes price one component in their entire product mix much lower than its usual price in order to increase the consumer traffic to their product. This is done in the hope that once the customer gets exposed to the product range attracted by the low price of the loss leader .he may like to sample the other offers in the company's range of products.
- b) Special Event Pricing:** Holidays, festivals and sometimes political or sports events make tourism suppliers establish special prices to take advantage of higher propensity of people to travel for these activities. The special holiday packages or travel may be discounted lower to attract a far higher number of customers than would have otherwise travelled.

Contract Rebates

While selling corporate packages or long term travel/tourism packages tourism firms permit free travel on certain circuits after certain volume of business has been availed. In essence it is offering a lower price for a bulk purchase to the company or an individual on certain miles travelled or number of tourism package bought.

In addition to factors of demand, consumer's perception on values and the internal influence on costs there are 'some other factors affecting the pricing decisions .over which the organisation has relatively little control. The important ones among these are:

- 1) The economic health of a given region: Travel is strongly affected by the amount of disposable earnings with people at a given point of time which in turn are affected by the economic cycles of inflation, stagnation and depression. These are factors which may affect the demand for tourism in a way that the tourism organisation can do little about. The tourism providers would need to tailor their own market strategy, price strategy .included, to these cycles. .

2) The Demand elasticity for travel and tourism programmes.

3) The nature of the target market which is a determinant of the kind of travel product the people will buy, the prices at which they will buy their natural propensity for travel for non business activities, the kind of holidays or destination they will choose.

4) Level of competition in the tourism market; and the substitutability of the alternative tourism packages available.

9.9 DISCOUNTING TACTICS IN TOURISM PRICING

Owing to the highly competitive nature of the industry, discounting has become a very prevalent though controversial practice in tourism marketing. The concept of fixed price has got limited relevance in our today's tourism marketing situation where hotel reception staff is given sufficient discretion to adjust prices, where travel agents split their commission with prospective clients to allow and retain customers and tour operators negotiate for seats on flights or late bookings for holidays.

Discounting is essentially a short term tactics in the sense that it may attract a 'deal rone' consumer in a given situation. However, he or she may very easily switch to another offer which seems to be more profitable. Discounts and some form of them will always prevail but constant competitive discounting would mean that overall the whole-industry is operating at lower returns. The following kinds of discounts are most commonly found in the tourism sector.

i) Discount for Cash Payment: In all business transactions which operate on credit, discount is given for early settlement of invoice or different rates may be offered for cash and credit payment, the balance being the cash discount.

ii) Quantity Discounts or Bulk Discounts: One of the most common discounts, these offer marketers economics of scale and present the possibility of passing off some of these economies to the customer. They are most prevalent in negotiation between the tour operators and their suppliers as well as travel agent in dealing with the business clients or group travellers.

iii) Trade Discount: These represent discounts given to people employed in the trade i.e by airlines to travel agent, by hotels to airline staff, tour operators, etc.

iv) Seasonal Discount: Perishability of the service product is the reason for the widespread practice of seasonal discount in the tourism sector. Holidays, hotels, pleasure travel are by their very nature enjoy seasonally in their demand. Seasonal discounts are a way to allow consumers in the off-peak season so that at least variable cost of running the service in these periods can be offset.

v) Distressed Stock and Similar Discounts: Practices such as advance and late saver discounts are common in the accommodation sector. Early booking are beneficial to the tourism marketer as they allow him advance information on forward booking situation and if advance money is also paid in full, the possibility of using this cash in business is always there. The practice of early booking is therefore encouraged by practically all hotels, events like conferences and seminars and tour operators by giving substantial discount for such bookings. Late saver discount is a distressed stock discount, where unsold stock needs to be cleared. Examples are unoccupied hotel room, unsold airline seats, seats on a tour and so on. This has assumed importance in the travel and tourism sector as unsold stock cannot be stocked and sold later. The practice of late saver account has become very popular among experienced travellers who now tend to book travel on highly competitive sectors, very late each year in the hope of securing the most profitable bargain.

From your exposure to the Section of price elasticity of demand it must be very clear to you that any discounting scheme can only succeed in pulling customers when there is some price elasticity in a given buying situation. In other words, the market is such that lower prices would attract higher number of customers and affect the quick off take of the product. In addition, in order to be able to attract customers the quantum of discount offered must be large enough to be seen as a bargain by the consumer. Some organizations make it a practice to successively in stages reduce price till all stocks get cleared, a practice which tour operators keep experimenting with, while pricing their late savers.

Another pricing tactics, again a popular one among tourism marketers, is the practice of psychological discount. The marketer in this case has an artificially high list price, on which attractive bargains are on offer, leading the consumer to buy on account of the perceived bargain. The practice is prevalent in hotels sector where promoted rates are provided along with the possibility of various kinds of discounts offered for different service combination since that virtually no consumer ever really pays the list price. Apparent bargains are also offered by hotels where consumers are sold

accommodation at the basic price but upgraded to superior accommodation at no extra charge, subject to availability of such spare accommodation. This offers bargain due to the customers at initially no cost to the marketer. Similarly, subject to availability airlines have the discretion of upgrading the economy class ticket to business class. As the capacity of players in a competitive market, to constantly adjust the pricing tool in a variety of ways to attract consumers is limitless, there are numberable practices in discounting. Pricing and discounting therefore remain a powerful tool of market manipulation in the tourism sector as well as a way of quickly responding to any changes in the market situation or demand profile.

9.10 TOUR COSTING AND TOUR COSTING SHEET

For every one who is buying a tour, it is important what the cost is going to be. Similarly for a tour operator, it is important to analyze how much profit can be made over the cost. The cost will depend on:

- Duration of the tour
- Transport type- Air conditioned or non air conditioned, cars, jeeps, mini coach or large coach, charter etc, air travel or rail travel.
- Number of persons travelling together
- Category of hotel required
- Types of room required
- Types of services required-all meals or part of meals.
- Excursion and sightseeing required.
- Time of operation-Change of tariff, peak season or off season rates will be applicable.
- Guides and their allowances and expenses.

Note! “35” is the tour group number. When you see “divide by 35” it means that you should divide the total number by 35 tour group members.

Name of Tour: _____

I. Transportation

Net Airfare per Person _____

Tax, fees on airfare per person _____

Motor coach cost divided by tour group number (35) = _____

Parking Fees divided by tour group number (35) = _____

Tolls divided by tour group number (35) = _____

Transfer Costs (buses, taxis, etc) per person _____

Ship or Boat travel (plus tax), per person _____

Train Travel plus tax per person _____

Tour Conductor's Transportation (Cost divided by 35 people) _____

II. Lodging

Hotel (including taxes), non commissionable

Name Per night cost x No.of nights divided by 2 (dbl occu) _____

1. _____

2. _____

3. _____

III. Meals

A. Restaurants

Name

1. _____ meal cost per person _____

2. _____ meal cost per person _____

3. _____ meal cost per person _____

B. Reception Party (First Dinner or Meal)

Total Cost _____ divided by (35) _____

C. Farewell Party (Last Meal)

Total Cost _____ divided by (35) _____

D. Meals for driver or escort (if not included) divided by (35) _____

IV. Sightseeing

A. City sightseeing tours

Name of City

1. _____ Cost per person: _____

2. _____ Cost per person: _____

3. _____ Cost per person: _____

4. _____ Cost per person: _____

B. Step-On Guide Salary (overall fee basis)

Name	Cost	Divided by 35
------	------	---------------

1. _____

2. _____

3. _____

C. Attraction Admissions

Name of Attraction

1. _____ Cost per person _____

2. _____ Cost per person _____

3. _____ Cost per person _____

4. _____ Cost per person _____

V. General Costs

(35) A. Estimated Supply Costs _____ divided by _____

(35) B. Estimated Advertising Costs _____ divided by _____

(35) C. Estimated Office Overhead _____ divided by _____

(35) D. Your salary for operating the tour _____ divided by _____

(35) E. Miscellaneous _____ divided by _____

VI. Cost per Person (Subtotal- Cost to operate this tour per person) _____

Check Your Progress

Q 1) Clarify the concept of costing with components associated with these cost.

Q 2) Describe classification of costing.

Q 3) What are the Factors affecting tour cost?

Q 4) What do you understand by Market penetration?

Q 5) Write short notes on Cost Analysis.

Q 6) What constitutes value? Mention various types of costs.

Q7) What do you understand by markup in pricing?

Q8) Why discounts are given ? Mention some types of discounts.

Q9) Describe tour costing method.

9.11 LET US SUM UP

This Unit on factor affecting the tour cost have discussed about the concepts of costing and setting costs in different types of market. The classification of cost help irrespective of whether production and selling is taking place or not, and vary in relation to quantity of services produced and sold.. The Unit also describes in detail the Setting a low cost for a New Product in Order to "Penetrate" the Market Quickly and Deeply and attract a Large Number of Buyers and Win a Larger Market Share under market penetration. This unit ends with the detailed examination of the costs incurred in the organisation and administration of the sales function and its impact on sales volume. It is a fact finding analysis which relates costs volume and resultant profitability.

This Unit on pricing the tourism product explains the concept of value and costs to the consumer in respect of the tourism product, as being central to the pricing decision. The relationship between demand, elasticity of demand and prices has been explained. The Unit also describes in detail the various pricing objectives followed by tourism suppliers and the pricing

setting in practice. A common trend in tourism marketing, discounting tactics were also discussed in this Unit.

9.12 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 9.3
- 2) Refer Sec. 9.4
- 3) Refer Sec. 9.6
- 4) Refer Sec. 9.8
- 5) Refer Sec. 9.9
- 6) Refer Sec. 9.3
- 7) Refer Sec. 9.6
- 8) Refer Sec. 9.7
- 9) Refer Sec. 9.10

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Unit-10

Impact of Automation on Ticketing Business, Prevelling Scenario and Future Prospects

Structure

10.1 Objectives

10.2 Introduction

10.3 Airline reservation systems

10.4 The effect of Automation in ticket sales

10.5 Automation in Aviation

10.6 Lets Sum up

10.7 Clues to Answers

10.8 References

10.1 OBJECTIVES

To understand:

- Airline Reservation System
- Availability display and reservation (PNR)
- Summary of Historic Airline Ticket Distribution Relationships Prior to the CRS Rules among Customers, Travel Agents, CRS and Airlines.
- Summary of Payment and Fee Flows in the Current Distribution of Airline Tickets among Customers, Travel Agents, CRS and Airlines.
- Document Management System, Communication system, Teleconferencing systems and support system.
- **The effect of automation on ticket sales**
- E-ticket limitations
- Types of online reservation system

10.2 INTRODUCTION

Automation is the use of control system and information reducing the need for human intervention. Airline reservation systems are used to track and maintain records of flight schedules, passenger reservations and seat assignments, aircraft loading, flight inventory, ticket purchases and fare tariffs. The modern airline reservation system also serves customer needs from beginning to end of each customer's reserved flight, therefore laying out management tasks for each flight. Airline reservation systems used to be standalone systems. Each airline had its own system, discounted from other airlines or ticket agents and usable by a designated number of airline employees. Travel agents in the 1970s pushed for access to the airlines systems. Today, the air travel information is linked, stored and retrieved by a network of computer reservation systems (CRS), accessible by multiple airlines and travel agents. The global distribution system (GDS) makes for an even larger web of airline information not only merging the buying and selling of tickets for multiple airlines, but also making the systems accessible to consumers directly, select seats, and even book hotels and rental cars.

Of the major types of airline reservation systems, most are linked to GDS to provide information to travel agents, employees of other airlines and the passengers or potential customers, directly. The major systems include SABRE, world span, Galileo, Patheo, Apollo, Amadeus and Abacus.

10.3 AIRLINE RESERVATION SYSTEM

An airline reservation system is part of the so-called passenger service systems (PSS), which are applications supporting the direct contact with the passenger.

The **airline reservations system (ARS)** was one of the earliest changes to improve efficiency. ARS eventually evolved into the computer reservations system (CRS). A computer reservation system is used for the reservations of a particular airline and interfaces with a global distribution system (GDS) which supports travel agencies and other distribution channels in making reservations for most major airlines in a single system.

Overview

Airline reservations systems contain airline schedules, fare tariffs, passenger reservations and ticket records. An airline's direct distribution works within their own reservation system, as well as pushing out information to the GDS. A second type of direct distribution channel is consumers who use the internet or mobile applications to make their own reservations. Travel agencies and other indirect distribution channels access the same GDS as those accessed by the airlines' reservation systems, and all messaging is transmitted by a standardized messaging system that functions on two types of messaging that transmit on SITA's HLN [high level network]. These message types are called Type B [TTY] for remarks-like communications and Type A [EDIFACT] for secured information. Message construction standards are set by IATA and ICAO, are global and apply to more than air transportation. Since airline reservation systems are business critical applications, and their functionally quite complex, the operation of an in-house airline reservation system is relatively expensive.

Prior to deregulation, airlines owned their own reservation systems with travel agents subscribing to them. Today, the GDS are run by independent companies with airlines and travel agencies as major subscribers. As of February 2009, there are only three major GDS providers in the market space: Amadeus, Travelpoint (the merged Worldspan and Galileo systems), Sabre and Shares. There is one major Regional GDS, Abacus, serving the Asian market place and a number of regional players serving single countries, including Travelsky (China), Infini and Axess (both Japan) and Topas (South Korea).

Reservation systems like Navitaire hosts "ticket less" airlines such as AirTran, and previously hosted JetBlue. Virgin America is hosted by iflyRes (aiRes), which is a new generation reservation system developed and operated by IBS Software Service Pvt. Ltd. Virgin America has decided to move to Sabre now. In addition to these "standardized" GDS, some airlines have proprietary versions which they use to run their flight operations. A few examples of this kind of system are Deltamatic (built off the WorldSpan platform) and EDS SHARES. SITA Reservations remains the largest neutral multi-host airline reservations system, with over 100 airlines currently managing inventory.

Inventory management

An airline's inventory contains all flights with their available seats. The inventory of an airline is generally divided into service classes (e.g. first, business or economy class) and up to 26 booking classes, for which different prices and booking conditions apply. Inventory data is imported and maintained through a schedule distribution system over standardized interfaces. One of the core functions of the inventory management is the inventory control. Inventory control steers how many seats are available in the different booking classes, by opening and closing individual booking classes for sale. In combination with the fares and booking conditions stored in the Fare Quote System the price for each sold seat is determined. In most cases inventory control has a real time interface to an airline's Yield management system to support a permanent optimization of the offered booking classes in response to changes in demand or pricing strategies of a competitor.

Availability display and reservation (PNR)

Users access an airline's inventory through an availability display. It contains all offered flights for a particular city-pair with their available seats in the different booking classes. This display contains flights which are operated by the airline itself as well as code share flights which are operated in co-operation with another airline. If the city pair is not one on which the airline offers service it may display a connection using its own flights or display the flights of other airlines.

The availability of seats of other airlines is updated through standard industry interfaces. Depending on the type of co-operation it supports access to the last seat (last seat availability) in real-time. Reservations for individual passengers or groups are stored in a so-called passenger name

record (PNR). Among other data, the PNR contains personal information such as name, contact information or special services requests (SSRs) e.g. for a vegetarian meal, as well as the flights (segments) and issued tickets. Some reservation systems also allow storing customer data in profiles to avoid data re-entry each time a new reservation is made for a known passenger. In addition most systems have interfaces to CRM systems or customer loyalty applications (aka frequent traveler systems). Before a flight departs the so-called passenger name list (PNL) is handed over to the departure control system that is used to check-in passengers and baggage.

Reservation data such as the number of booked passengers and special service requests is also transferred to flight operations systems, crew management and catering systems. Once a flight has departed the reservation system is updated with a list of the checked-in passengers (e.g. passengers who had a reservation but did not check in (no shows) and passengers who checked in, but didn't have a reservation (go shows)). Finally data needed for revenue accounting and reporting is handed over to administrative systems.

Fare quote and ticketing

List of fares for travel on a particular Airlines from one city to another city, applicable booking classes, as well as specific restrictions such as minimum stay and advance purchase can be seen. The Fares data store contains fare tariffs, rule sets, routing maps, class of service tables, and some tax information that construct the price - "the fare". Rules like booking conditions (e.g. minimum stay, advance purchase, etc.) are tailored differently between different city pairs or zones, and assigned a class of service corresponding to its appropriate inventory bucket. Inventory control can also be manipulated manually through the availability feeds, dynamically controlling how many seats are offered for a particular price by opening and closing particular classes.

The compiled set of fare conditions is called a fare basis code. There are two systems set up for the interchange of fares data - ATPCO and SITA, plus some system to system direct connects. This system distributes the fare tariffs and rule sets to all GDSs and other subscribers. Every airline employs staff who code air fare rules in accordance with yield management intent. There are also revenue managers who watch fares as they are filed into the public tariffs and make competitive recommendations. Inventory control is

typically manipulated from here, using availability feeds to open and close classes of service.

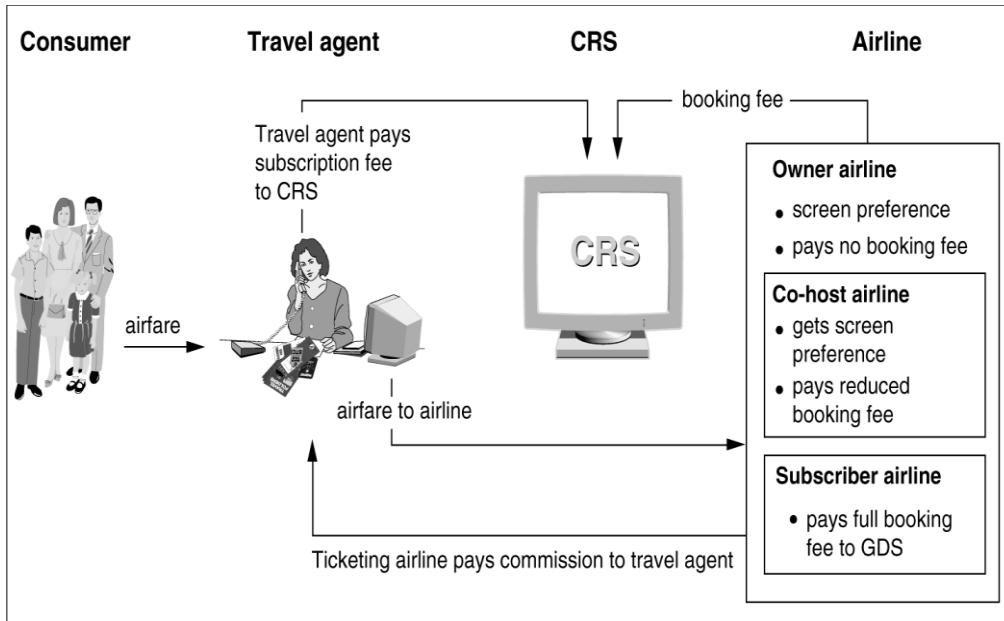
The role of the ticketing complex is to issue and store electronic ticket records and the very small number of paper tickets that are still issued. Miscellaneous charges order (MCO) is still a paper document; IATA has working groups defining the replacement document the electronic multipurpose document (EMD) as at 2010. The electronic ticket information is stored in a database containing the data that historically was printed on a paper ticket including items such as the ticket number, the fare and tax components of the ticket price or exchange rate information. In the past airlines issued paper tickets; since 2008 IATA has been supporting a resolution to move to 100% electronic ticketing. So far, the industry has not been able to comply due to various technological and international limitations. The industry is at 98% electronic ticket issuance today although electronic processing for MCOs was not available in time for the IATA mandate.

History

The history of airline reservations systems began in the late 1950s when American Airlines required a system that would allow real-time access to flight details in all of its offices, and the integration and automation of its booking and ticketing processes. As a result, Sabre (Semi-Automated Business Research Environment) was developed and launched in 1964. Sabre's breakthrough was its ability to keep inventory correct in real time, accessible to agents around the world. Prior to this, manual systems required centralized reservation centers, groups of people in a room with the physical cards that represented inventory, in this case, seats on airplanes.

The deregulation of the airline industry, in the Airline Deregulation Act, meant that airlines, which had previously operated under government-set fares ensuring airlines at least broke even, now needed to improve efficiency to compete in a free market. In this deregulated environment the ARS and its descendants became vital to the travel industry.

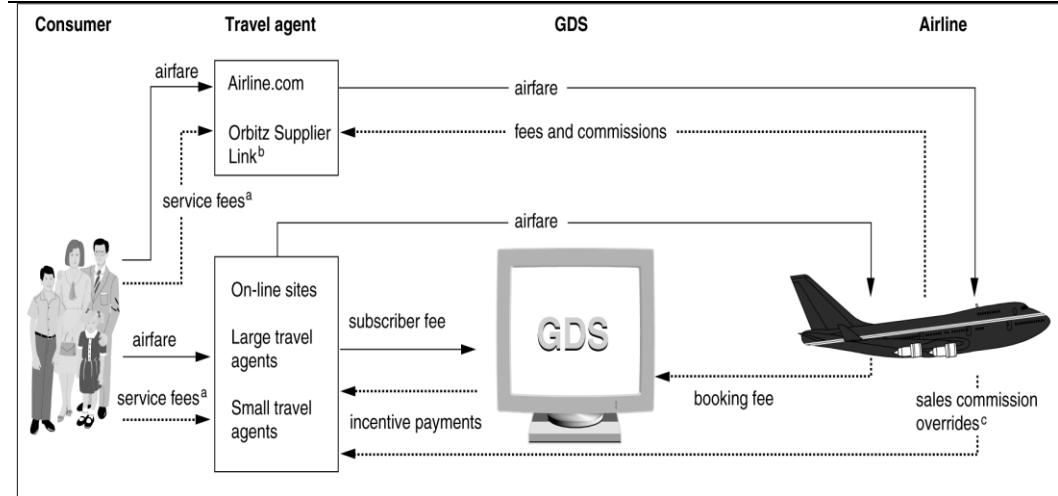
Summary of Historic Airline Ticket Distribution Relationships Prior to the CRS Rules



Source: GAO analysis.

Figure 10.1 Summaries of Historic Airline Ticket Distribution Relationships Prior to the CRS Rules

Summary of Payment and Fee Flows in the Current Distribution of Airline Tickets



Source: GAO analysis.

Figure 10.2 Summaries of Payment and Fee Flows in the Current Distribution of Airline Tickets

Automated ticketing and state-of-the-art, real-time sales reporting facilities

Airline tickets generated automatically ensure consistent, clear, accurate transactions. They also provide real-time provision of data – a vital asset for any business. Ticketing provides the software to automate any airline's ticketing operation. It generates passenger travel documents in multiple formats, including electronic tickets. Ticketing is available worldwide. Ticketing delivers automated ticketing and state-of-the-art, real-time sales reporting facilities. It complies with International Air Transport Association (IATA) and Air Transport Association (ATA) standards.

Overview

Ticketing provides comprehensive automated sales activity, electronic ticket usage, and financial reporting for individual ticket agents, independent sales offices and the entire airline.

With Ticketing, you receive:

- Up-to-date, accurate and detailed sales, activity and financial reports from the entire airline, all ticket agents and independent sales offices
- Rapid access to data and the minimization of errors – improving financial management and ultimately your bottom line

E-Ticketing

Electronic tickets, like paper tickets, document sales – but unlike paper ones, they also track the use of the ticket. The e-ticket database is separate from the airline's reservation database, and is independently accessible. E-ticketing is available for all on-line flight segments and interline flight segments (where bilaterally agreed). An e-ticket may be sold by the airline, a global distribution system (when participating at this level), or an interline partner (where bilaterally agreed). With state of the industry e-ticketing ground handling capabilities, e-tickets may also be used in airports where your flights are ground handled. An automatic daily download of all e-ticket coupon changes is provided to your financial systems; electronic tickets are included in all sales reports and financial data.

10.4 THE EFFECT OF AUTOMATION ON TICKET SALES

Automation has revolutionized the sale of ticket .Today there are online reservation systems are available ,that allowed people to book ticket for a variety of things like travel, movies, cultural events and sporting events. However the biggest beneficiary of automation is undoubtedly the travel and hospitality industry, as online booking systems have given a much needed impetus to the industry. In the mid 1990s, more people preferred to use online resources to purchase their air tickets as it was convenient and allowed them to make the purchase at their own pace. This allowed online travel sites to develop. The travel industry realized that people were looking for sites that were user-friendly and could be accessed 24/7. The first online travel sites to offer ticket booking and sales were Travelocity and Expedia, and later sites like Orbitz joined the fray. These sites allowed more people to access the Internet and purchase their tickets, sometimes well before the date of travel. In addition, the sites allow users to compare different fares and prices and then make a purchase. Slowly, these websites extended the area of their services by offering hotel bookings, travel insurance and even car bookings. Other industries also started realizing the value of online ticket sales, especially the entertainment industry. So, this led to websites that offer ticket sales for movies, theaters and sports events.

The Future of Information Technology for Ticket Sales Though customer reservation systems are still used by travel agencies, with SABRE being the market leader followed by Apollo, System One, PARS and Data II, more new networks and methods of purchasing tickets are being developed. However, airlines are promoting self ticketing to customers to further

reduce costs. They are giving out incentives and benefits to customers who make use of this facility.

History of Information Technology for Ticket Sales

In the latter half of the 1940s, American Airlines developed a reservation software called Reservisor. It was the first of its kind that helped to reduce reservation errors with constant human intervention. This was a semi-automated customer reservation system and the airline realized that with increasing demand in air travel, it would have to come up with a better and more advanced software. So, American Airlines joined hands with IBM and came up with SABRE (Semi Automatic Business Research Environment) in the 1960s. It was the first completely automated customer reservation system used by an airline. This software allowed real-time update of ticket reservations without human intervention, and paved the way for modern-day ticket booking software used by all airlines today. After the introduction of SABRE, different reservation software sprang up, like Delta Automated Travel Account System by Delta Airlines, Apollo Reservation System by United Airlines and Programmed Airline Reservation System by Trans World. In the mid 1970s, SABRE and Apollo became available for travel agents. Using these automated online booking systems, travel agents had access to tickets as well as boarding passes for passengers. This helped to streamline the way tickets were booked and sold in the airline industry.

Deregulation of the Airline Industry

In 1978, when the airline industry was deregulated, all major airlines started using SABRE or Apollo to offer real-time ticket booking facilities to their customers. This was done through travel agents. However, other airlines felt that American Airlines and United Airlines were favored. The U.S. Department of Transportation scrutinized the way bookings were done and passed a ruling that all flight information had to be listed in a neutral order. This paved the way for code sharing between different airlines.

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Online air ticket booking

Online air ticket booking is a cognitively complex task even on fully-functional internet-access devices such as desktops, representing a repetitive multi-parametric search in the flights database and then browsing long lists of flights found, consisting of different carriers, prices, dates and times, to create an optimal combination of outbound and inbound flights. We present the results of research into prospective users of mobile air ticketing, a set of domain-specific user interface design guidelines, and a wireframe design for mobile air ticket booking application.

- Air transport systems worldwide are being affected by technological developments.
- Some of these technological developments focus on designs of the aircrafts themselves.

- Others to use information technology to improve the efficiency of operations.
- The first application computer technology to airline operations was in the 1950s when computerized reservation systems were designed
- Airlines now have some of the largest computer installations in the world and are responsible for some of the largest and busiest data communication networks

Passenger reservation systems

- A passenger reservation system is the most common and necessary application of IT to an airline.
- At the core of a reservation system is a database of flight schedules, seat inventories and passenger information.

Prior to the development of computer

- Airlines used various manual methods to keep track of seat inventories.
- American airlines, in the 1930's, used a 'request and reply' system where by the reservation agents phoned a central location for availability information.
- They received responses by teletype.
- Other airlines reservation offices used the wall-sized availability boards to monitor and process seat reservations.
- When passengers or travel agents called to make bookings, the reservation agent referred to this availability board which was kept updated by manual workers.
- When a flight was sold out, a telex was sent to all reservation offices and the flight originating city to terminate the selling of that flight.

Lazy Susan

- Another manual method used was the 'LAZY SUSAN' which stored colored cards with pencil markings on them to record the bookings.

- Agents referred to these cards to respond positively or negatively to an availability request.
- American airlines used an electrical/mechanical system called a reservoir with random access memory drums to perform arithmetic calculations

Automation in travel intermediaries

- Travel intermediaries are firms who distribute the travel product to end consumer.
- There are different types of Travel intermediaries :
 - Travel agents
 - Tour operators
 - Specialty channellers.

The travel industry needs computers for the following reasons:

1. Direct access to an airlines reservation system enables an agent to see the schedules and fares of airlines worldwide and make reservation immediately.
2. The same CRS has access to data on hotels, car rental companies, trains, cruises, buses, destination, climate, currency, exchange rates etc. with the push of button, all arrangements are confirmed.
3. Besides reservation, the computer can perform routine tasks at lightning speed, i.e, changes in reservation, cancellation, etc.
4. When linked to printer, the computer can print complete airline tickets, itineraries and invoices.
5. A computer with appropriate software can summaries sales and commission income, such information permits the manager of travel agency to monitor the performance of his company.
6. Through sophisticated backroom system An agency can print invoices, record of payments made by clients, keep track of receivable accounts, Writes cheques on date specified by the agency, Keep an inventory of tour and group programmes. Track commission from hotels and car rental companies, Maintain the agency payrolls produce financial statements, Compile employees productivity reports,

10.5 AUTOMATION IN AVIATION

Automation is the use of control system and information reducing the need for human intervention. For example: The flight and traffic control operations. With the advent of modern technology the use of computer becomes inevitable in the completion and performance of particular tasks. While automation proves to improve the completion of a job. For achieving the basic functions, different types of automation systems are used. These systems can be broadly classified into following types:

Document Management System: These systems include computerized tools for generation, storage, processing and distribution of documents.

Communication system: These systems are used for sending messages, documents and data within and outside the organization.

Teleconferencing systems: An electronic means of communication for conducting seminars and training programmes in an organization is achieved through various teleconferencing systems.

Support system: Besides the above major automation systems, certain support systems for managing the activities of work groups are also used in some offices.

An electronic ticket or e-ticket is used to represent the purchase of a seat on a passenger airline, usually through a website or by telephone. This form of airline ticket has rapidly replaced the old multi-layered paper tickets (from close to zero to 100% in about 10 years) and became mandatory for IATA members as of June 1, 2008. During the last few years, where paper tickets were still available, airline frequently charged extra for issuing them. E-tickets are available for certain entertainment venues. Once a reservation is made, an e-ticket exists only as a digital record in the airline computers. Customers usually print out a copy of their receipt which contains the record locator or reservation number and the e-ticket number.

Checking in with an e-ticket: To check in with an e-ticket, the passenger usually comes to the check-in counter and presents the e-ticket itinerary receipt, which contains a confirmation or reservation code. In some airports and airlines it's not even necessary to present this document or quote the confirmation code or e-ticket number as the reservation is confirmed solely on the basis of the passenger's identity, which may be proven by a passport or the snatching credit card. After confirmation the reservation, the

passenger checks-in his/her luggage and is given a boarding pass which usually says "Electronic Ticket" or "E-ticket."

Self-service and remote check-in: The option to check-in online is available on some airline. A passenger enters their confirmation number at the airline's website, and the passenger prints the boarding pass on their home printer. Online check-in is typically permitted up to 24 hours before the flight's scheduled departure time, though this may vary by airline. On airline without assigned seating such as Southwest, it typically guarantees a passenger early boarding and a better seat. Besides identification, the boarding pass that has been printed is all that needs to be presented upon arriving at the airport. On airline without online check-in the check in may take place at a self-service kiosk in the airport or at the check-in counter. E-tickets are very popular because they allow extra services like:

- Online / telephone/self-service kiosk check-in
- Early check-in
- Printing boarding passes at airport kiosks and at locations other than airport
- Automated refunds and exchanges online, by telephone and at kiosks

Several web sites exist to help people holding e-tickets accomplish online check-ins in advance of the 24 hours airline restriction. These sites store a passenger's flight information and then when the airline opens up for online check-in the date is transferred to the airline and the boarding pass is emailed back to the customer.

E-ticket limitations: E-tickets are sometimes not available for some flights from an airline which usually offers them. This can be due to number of reasons, the most common being software incompatibility. If an airline issues tickets for a codeshare flight with another company, and there is no e-ticket interlining agreement, the operating carrier would not be able to see the issuing carrier's ticket. Therefore, the carrier that books the flight needs to provide hard copy versions of the tickets so that the ticket can be processed. Similarly, if the destination airport does not have access to the airline who booked the flight, a paper ticket needs to be issued.

Types of online reservation system: Following are the types of reservation system applicable to different services:

Airline Reservation System- Airline reservation systems are used to track and maintain records of flight schedules, passenger reservations and seat assignments, aircraft loading, flight inventory, ticket purchases and fare

tariffs .the modern airline reservation system also serves customer needs from beginning to end of each customer's reserved flight, therefore laying out management tasks for each flight. Airline reservation systems used to be standalone systems.

Each airline had its own system, discounted from other airlines or ticket agents and usable by a designated number of airline employees. Travel agents in the 1970s pushed for access to the airlines systems. Today, the air travel information is linked, stored and retrieved by a network of computer reservation systems (CRS), accessible by multiple airlines and travel agents. The global distribution system (GDS) makes for an even larger web of airline information not only merging the buying and selling of tickets for multiple airlines, but also making the systems accessible to consumers directly, select seats, and even book hotels and rental cars.

Of the major types of airline reservation systems, most are linked to GDS to provide information to travel agents, employees of other airlines and the passengers or potential customers, directly. The major systems include SABRE, world span, Galileo, Patho, Apollo, Amadeus and Abacus.

The Amadeus Central Ticketing system enables Amadeus users to control and load document stock, print tickets, make manual document registrations, and display sales reports. It includes automatic reporting of accountable documents.

The Amadeus Central Ticketing system complies with IATA ticketing regulations and the requirements of national Bank Settlement Plans (BSP) and the Airline Reporting Corporation (ARC) in the USA.

This training module describes how to do the following:

- Display and modify the document bank
- Load stock into the document bank
- Display the list of printers associated to your terminal and your office
- Display and interpret sales reports
- Manually register and cancel documents
- Use the Automated Refunds feature to make full or partial refunds
- Understand the system processing for Central Ticketing
- Display and modify the print queue
- Display the printer status
- Take necessary actions to solve a printing problem
- Display and set up the office profile for Central Ticketing

- Print to a satellite ticket print location
- Issue an automated MCO

Prerequisites

To understand the Central Ticketing system, you should be familiar with the following subjects:

- Transitional Stored Tickets (TST)
- Ticketing Fare Elements
- Ticketing Print Functions
- Temporary Ticketing Mode
- Printing Invoices

Check Your Progress

Q1) Write short notes on CRS.

Q 2) Draw “Summary of Payment and Fee Flows in the Current Distribution of Airline Tickets”.

Q 3) What do you mean by GDS ? Provide the list of GDS.

Q 4) What is the effect of automation on ticket sales?

Q 5) Write a short notes on automation in Aviation.

10.6 LET US SUM UP

A competitive airline ticket distribution industry, which includes the airline, GDSs, and travel agent industries, continues to be important because noncompetitive practices may adversely affect airlines and consumers. Originally, the CRS rules were focused on reducing the market power of airline-owned CRSs to prevent owner airlines from using the CRSs to gain a competitive advantage over non owner airlines. With the GDSs now independent from the airlines, questions have been raised regarding the GDSs' exercise of market power over all airlines. Among other things, because GDSs do not compete with each other for airline business, airlines and consumers may be subject to prices that are higher than in more competitive markets. While our limited ability to get complete booking cost and fee data from the GDSs did not allow us to independently evaluate whether GDSs currently exercise market power.

10.7 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 10.3
- 2) Refer Sec. 10.3
- 3) Refer Sec. 10.3
- 4) Refer Sec. 10.4
- 5) Refer Sec. 10.5

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Unit-11

Cargo Industry Evolution and Growth, Impact of Globalization and Automation

Structure

11.1 Objectives

11.2 Introduction

11.3 The Impact Of Air Cargo on the Global Economy

11.4 Liberalized air cargo services - Case Study

11.5 Achieving Growth

11.6 Target development

11.7 Automated Customs System

11.8 Lets Sum up

11.9 Clues to Answers

11.10 References

11.1 OBJECTIVES

The objective of this unit is to highlight the:

- The Impact of air cargo on the global economy ;
- The role of air cargo in fostering economic development;
- Liberalized air cargo services;
- Three case studies addressing liberalized air cargo services on economic development;
- Target development

11.2 INTRODUCTION

Air cargo carriers need to focus on entering new, high-potential markets and attracting customers in regions like China and North America. Trade lanes and networks should be managed based on their profitability and growth potentials first and foremost. One recent industry example is between Lufthansa and Jade Cargo International. The two airlines have an agreement that allows Lufthansa access into the Chinese market place.

Vertical alliances with select strategic forwarders should be forged so that long-term and block-space contracts and joint capacity planning become a reality. Air cargo carriers need to manage their assets strategically. A study by Boeing foresees substantial investments in freighter aircraft from combination and all-cargo carriers alike. Today, mostly Middle Eastern carriers are adding freighters, with only one major US combination carrier (Northwest) following suit.

The growth that continues to rain down on the air cargo industry could leave some players in the air freight segment high and dry unless they change the way they operate—and soon. To arm themselves competitively against an increasingly fierce battle for customers, and to strive for high performance, companies need to reduce costs by simplifying their marketplace offerings.

11.3 THE IMPACT OF AIR CARGO ON THE GLOBAL ECONOMY

The evolving organizational form of the air transport industry

The air transport industry is already quite large. Korean Air, Lufthansa, Singapore Airlines, Cathay Pacific, and China Airlines are the largest

combination passenger cargo carriers, measured by tons of capacity. American Airlines and United Airlines provide substantial cargo service without the use of dedicated freighters. Several, particularly European, airlines such as, Lufthansa, Air France, and KLM, have particularly broad geographic coverage, offering service to more than 50 countries each.

British Air offers cargo service to over 100 . Atlas Air, Cargo Lux, Polar Air Cargo, Nippon Cargo Airlines, and ABX are among the major dedicated cargo airlines. Cargo airlines tend to have less extensive route networks but Cargo Lux serves over 30 countries. Approximately three-fourths of all international cargo is estimated to travel as belly freight on passenger planes and another 15 percent on all-cargo airlines.

The global air cargo industry is characterized by an implicit alliance among a network of cargo-carrying airlines, freight forwarders, airport logistics handlers, ground handlers, and others. BAX Global, Panalpina, Nippon Express, U-Freight, Yusen Air and Sea are among the largest freight forwarders but others, specializing in particular routes or types of customers, are also important. Airport logistics and ground handlers are generally local. Each industry sub-sector participant depends upon the others for its operations, growth and survival but also competes with the other sub-sectors for profits. Air cargo offers clients the benefits of secure handling, speed, geographic and temporal flexibility but, with per kilogram costs that average six times those of ocean container freight, is relatively expensive. That high cost is compensated by reduced inventory and warehousing costs but, unfortunately, air cargo often fails to fully deliver on its promise.

Although door-to-door transit time for air cargo is approximately one-fourth that of ocean freight, dwell time continues to be an issue in the air cargo industry with relatively recent studies (e.g., Air Cargo Management Group, 1999) finding little improvement in the situation over a 25 year period. Air cargo dwell times may even approach those for containerized sea freight. According to a Minneapolis study, first time importers are responsible for the lengthiest dwell times but even experienced forwarders often let air cargo wait for several days before filing import applications. The waiting time inherent in the consolidation of freight to obtain more favorable rates from airlines may account for additional delay. These delays undermine air cargo's potential advantages.

Given the division of labor in the shipping process, there are organizational and operational breaks between the shipper, the originating ground handler, the freight forwarder, the airline, the freight forwarder again, the

receiving ground handler, and the consignee, with specialized customs-clearing agencies sometimes called in to help. In addition, there might be transfers between inter-regional and local ground services. The resulting operational delays can be substantial. A large portion of the delay is due to interruptions in the flow of information between organizations. Often, the interruptions in information are serious with forwarders and airlines often attempting to out-maneuver each other to gain a marginal commercial advantage – which can be crucial to profit margins and therefore survival. Because each actor needs to optimize its own operations, no one optimizes the system.

As a result, air cargo service has become increasingly more integrated and ground linked, characterized by door-to-door service from shipper to customer, as opposed to airport-to-airport. Integrated express carriers, grew, in fact, out of the institutional failings of the airline-forwarder-handler coalitions. Express companies have thrived by reducing the reluctance to share information among participants and improved optimization because all parties except shipper and consignee are internalized within the same organization. That advantage has allowed integrated express handlers to offer time-definite service and to reduce door-to-door delivery times. That level of service has been valued by a significant segment of the air cargo market to the point that integrated express now accounts for an estimated 11 percent of the international air cargo market. In the United States, air express actually accounts for over 70 percent of all air cargo shipments, despite its premium cost, and the average weight of each shipment has now risen to approach six pounds. FedEx, UPS, and DHL are the largest integrated air express companies with operations in over 200 countries each and 952,000 employees, collectively. They own or operate 677, 577, and 420 aircraft, respectively, placing each among the largest airlines in the world and they serve over 300 airports internationally.

Transparency and time-definite services are increasingly becoming expected by shippers and consignees. In a 2003 study, The International Logistics Quality Institute found that 70 percent of the 800 companies surveyed would incur significant supply chain problems if their intercontinental air freight shipments were even one or two day late. Fully, 73 percent of respondents expected time-definite service to be common in the future. The backbone task of the air cargo industry will increasingly be in providing high-quality service for routine shipments. In an attempt to fill this demand and to answer the innovations of the integrated express carriers, the airline-forwarder-handler coalitions are now increasingly

offering time definite services. Airlines have attempted to streamline cargo services by introducing three major air cargo portals (booking platforms): Europe-focused GF-X (Global Freight Exchange), North American-oriented CPS (Cargo Portal Services), and Asian-allied Ezycargo. Airline-forwarder coalitions may be inherently unstable without an ownership (profit sharing) relationship. Accordingly, some freight forwarders, such as Nippon Yusen, and express companies, such as DHL, own substantial portions of cargo airlines - NCA Nippon Cargo Airlines and ABX, respectively. Post offices - essentially ground handlers with extensive networks - are increasingly attempting to leverage their assets in new ways and are therefore becoming increasingly involved with air cargo. The next challenge for the air transport industry may be delivering integrated express level of service to "commodity" and out-size freight at progressively increasing yields. A totally different organizational structure may evolve in the attempt to utilize airplane capacity as fully as possible. Given the difficulties airlines often have in coordinating cargo flows, it is possible that they may eventually decide it is advantageous to outsource all cargo operations except flying.

Types of goods shipped by air and the industries dependent upon air cargo

Air transport is critical to the movement of goods in national and global supply and distribution chains. From the beginning, air transport specialized in high value-to-weight products, perishable goods, emergency deliveries for unanticipated shortages, and products requiring the security of increased attention. High value-to-weight ratios imply a relatively light transportation cost burden and high inventory costs if goods are long in transit. Highly perishable goods incur a significant decrease in product value with any delay. The absence of critical components of complex supply or distribution chains means significant assets would lie idle if the components are not delivered in a timely manner.

While those features still apply, today an amazing array of goods is shipped by air from gems to bendy-buses to breeder cattle. The air cargo industry has thrived on the rise of industries incorporating high levels of knowledge into lightweight goods but the industry has been able to move down the value-to-weight ladder.

New economy products such as microelectronics, pharmaceuticals, aerospace components, medical devices, and other high value-to-weight products account for close to three-fourths of international air cargo by

value. Nevertheless, the use of air cargo is quite broad. In 35 of the 67 two-digit product categories (SITC) used to broadly classify goods, at least ten percent of the international trade is shipped by air. In 23 of the categories, at least a quarter of all trade goes via air.

Looking at product categories (SITC 4-digit classification) more closely, reveals that electronic microcircuits account for more air cargo than any other detailed product category by a factor of more than two. Aside from the sectors just mentioned, diamonds, audio and video recordings, chemicals and airplanes themselves are major products that move by air, each exceeding \$50 billion in trade. In 582 of the 1279 4- digit SITC product categories, ten percent or more of the international trade is shipped by air. In 315 of the categories, at least a quarter of all trade goes via air.

Overall, air cargo accounts for 34.6 percent of non-land international trade but only 6 percent of the weight. The average value-to-weight ratio of air shipped goods is 31 times as high as that of vessel-shipped goods. Even within detailed product classifications, goods with higher value-to-weight ratios tend to be shipped by air. On average, within the detailed 4-digit classifications the value-to-weight ratios of air shipped goods are ten times as high as they are for vessel-shipped goods. Looking across product categories, above a fairly low threshold, a small increase in the value-to-weight ratio results in a substantial increase in the average proportion of international trade in that product that travels by air.

The variation in the proportion of traded goods that are shipped by air (air-intensity) can be quite large for products with similar value-to-weight ratios, however. For example, motor vehicle bodies, valued at \$9.14 per kilogram (or specialty motor scooters valued at \$9.30 per kilogram) are shipped almost exclusively by surface freight but 60 percent of specialty chemicals, printed matter, or even specialty leathers (with a roughly equivalent value for weight) are shipped by air. The degree of variation in value-to-weight of specific products even within these detailed categories may play a role in determining the degree of air intensity but the bulkiness of the product and size of shipment may also be important. Perishability plays a role in the decision to ship by air. For example, approximately 80 percent of the international trade in cut flowers travels by air as does a similar proportion of specialty meats. Two-thirds of the fish traded internationally are shipped by air. Almost all of the trade in large live animals goes by air. Singapore, for example, imports much of its milk, non-tropical fruits, and even some types of mass marketing meat, by air.

Air cargo remains a critical aspect of supply chains even in fields that are not especially aviation-dependent. With a history of over 30 years, the garment industry was one of the first to grasp the competitive advantages of combining Asian labor with air transport in supply chains. Apparel is generally shipped by vessel but the wage advantage of Asian labor compensates for the costs of air shipment for some industry segments. That combination remains current for time-sensitive deliveries and is likely to do so well into the future.

The electronics industry, broadly considered, is heavily air-dependent, accounting for approximately 40 percent of the value of international air cargo by itself. This industry combines high value-to-weight with specialized products, leading to far-flung distribution channels, and complex, labor-intensive production processes, creating international supply chains designed to tap pools of appropriate labor. Since the electronic goods shipped by air are incorporated into apparatus used in many sectors of the economy, almost the entire economy has become air-dependent. But if the entire economy depends upon air freight, air freight depends heavily upon the air electronics industry. There is a continuing role for air freight on the leading edge of innovation as new industries, especially the broad bio-science sector, expand. With a high value-to weight, a need for security, and perishability, the basic materials, intermediate products, and finished goods for the bio-science sector all tend to be shipped by air.

Not all of the major product groups in global trade are – or ever will be – shipped by air. Very little petroleum or petroleum products are shipped by air. Few motor vehicles are shipped by air. These two general (two-digit SITC code) product groups are the second and third largest in global trade and they continue to be important to economic policy. Almost none of the trade in iron and steel is by air and these continue to be important components of international trade. Nevertheless, the product range that can be effectively shipped by air can be further deepened by improving the organizational efficiency of air transport.

Air cargo clearly has a major role in the leading edges of the global economy. Four of the top ten broad product groups (two-digit SITC) are highly air-dependent. New products seem to require new means of transportation and an emerging electronic pharmaceutical industrial complex with its own geography of supply, production, and distribution, may be super-imposing itself on the automobile-oil-chemical complex that

previously created its own water-based geography of global production and trade.

The geographic pattern of air freight

Air cargo service is spread throughout the world, covering more than 200 countries and independent territories. Air cargo is concentrated in some areas more than others, however. The U.S. alone accounts for one-fifth of global air imports and over one seventh of the air exports. Adding Germany, the U.K., Japan, China (including Hong Kong), and France accounts for half the world's air imports and exports. Singapore, Taiwan, Canada, Korea, Italy, Mexico, the Benelux, and Malaysia bring the total to over three-fourths of global air imports and close to 80 percent of global exports.

The largest international trade flows are within the three main prosperous regions of the world, Western Europe, North America, and East Asia. Both Western Europe and North America have well-developed international land routes. Moreover, much of the production of traded goods in Canada and Mexico is located near to the U.S. border. The relatively small size of European states, the increasingly integrated trucking system, and the developed highway, rail, and river-transport systems reduce the importance of air transport for intra-regional trade which is more than twice as large as any other intra- or inter-regional trade flow. In both of these regions small shifts in relative costs or performance or in approaches to supply or distribution channels can have large impacts on the level and nature of air transport.

The major countries of East Asia, on the other hand, do not share land borders. Where land transport is not possible, the proportion of international trade shipped by air tends to be well over one-third. As we note above, in some cases, depending upon the product mix, the proportion exceeds one-half. Five of the six possible flows between these three main regions follow immediately in terms of magnitude. Other regions have progressively smaller volumes of air and

Surface -shipped trade. As might be expected, the magnitude of the petroleum trade tends to decrease the air-intensity of the exports of the major petroleum-producing regions. The proportion of exports shipped by air from the less-developed regions tends to exceed 10 percent.

Air cargo is largely a northern hemisphere phenomenon. The countries accounting for 80 percent of air imports and exports are all above the

equator. North America, Western Europe, and East and Southeast Asia are the largest centers of air cargo usage. There is room to expand southward. Malaysia and Singapore, despite excellent ocean access to busy shipping routes, are heavily dependent upon air freight for their imports and exports. They have been integrated into global production to a large extent by the electronics industry. With a mix of high-quality agricultural and high technology exports, even though a small nation, Israel also relies heavily on air cargo for its trade.

Armenia, Chad the Central African Republic and other similar countries are also heavily dependent upon air cargo for their trade. The difference is that luxury items play a major role in the trade of relatively small, relatively underdeveloped economies. If that air-based trade could be deepened to include other products, these countries could become more tightly integrated into the world economy and become more prosperous. Examining data on the weight of cargo processed or carried allows us to more closely identify the types of regions that are impacted by air cargo. Although the data from different sources are not always consistent, three types of airports – or rather, cities – emerge as important in the air cargo network of traffic.

First, half of the busiest ten or 25 cargo airports are gateways of the established consumer centers of the world, Japan, Western Europe, or the U.S. These centers also not only export highly specialized products, they also serve as entry funnels for low-wage country exports.

Second, established global production platforms, mainly in China and Southeast Asia, make up over one-third of the busiest 25 cargo airports. The new emerging production platforms in India, Vietnam, and elsewhere, at the leading edge of the flying geese, have been rising in importance but are still not within the top or second tier.

Third, two airports that have emerged as intermediary hubs for the Asia-Europe trade (Dubai) and Asia-North America-Europe trade (Anchorage) are in evidence. These urban areas do not occupy fixed places in an urban hierarchy or geographic division of labor. As the volume of air cargo has increased, the position of particular cities has changed. Looking over time, the rising prominence of Asian airports is striking. Today, five of the busiest cargo airports are located in East or Southeast Asia. In 1991, two were. Economic development and air transport go hand in hand. One fourth of the busiest cargo airports are located in Asia with India developing a growing presence. Latin America and Africa can follow.

The role of air cargo in fostering economic development

Air cargo service has been a tremendous enabler for economic development. This is because air freight and integrated air express are critical to time-based competition - the frontier challenge for the world's most-advanced firms. Air freight has also facilitated specialization and allowed the most well-developed countries - their producers and consumers - to reap the benefits of ever-closer matches between demand and supply. This is due not just to the speed of air transport but to the geographic reach it allows which enlarges effective market areas to the point that increasingly small product niches reach the threshold of feasible production.

At the same time, air freight allows large pools of, especially Asian, labor to connect with the product needs of wealthy Western European, North American, and Northeast Asian markets. Using traditional ocean transportation, exporters (and their employees and suppliers) in most developing countries are at a considerable shipping time disadvantage to these markets compared to domestic producers. Air cargo, combined with the institutional mechanisms that allow the transfer of production knowledge, goes a long way towards leveling the temporal playing field for developing country producers. Air cargo potentially allows developing country producers 24- to 48-hour access to these markets, compared to the typical 30 days shipping time using traditional ocean transport.

The air cargo industry has allowed the "nimble fingers" of Asia to participate first in the apparel industry and, soon afterwards, the electronics industry. Whether producing cut flowers, fresh vegetables, milk, or fish, air cargo has also allowed otherwise remote agricultural and maritime regions to access world markets. The accessible labor force of the world has expanded as air transport has come together with reformed institutions, rethought supply and distribution processes, and human resources. Bilateral and multilateral agreements, as important as they are, ignore the static and dynamic needs of the emerging fast and flexible supply chain practices. Those practices require flexibility for air carriers. Air cargo carriers have different needs than passenger carriers. Passengers typically fly roundtrip, whereas the flow of air freight is fundamentally unbalanced. Increased liberalization would allow the more efficient use of air carrier resources. Even most "Open Skies" agreements do not allow seventh freedom rights, domestic cabotage or wet leases for international carriers. The airline industry has been pressed recently and, rather than operate less

than profitable backhauls, it might be preferable to fly to second or third countries, carrying cargo picked up along the way.

Today's supply chains involve multiple nodes that are dynamically linked - shifting with global conditions and market demand. Supply chains need to react to seasonalities and industry and event-specific needs. So do the air carriers that support the supply chains. Flexibility in air cargo service to a country and larger region has become increasingly necessary in such shifting and turbulent markets. Shippers as well as air cargo service providers must be able to adapt to changing conditions in an agile, rapidly responsive manner, shifting routes on a continuing basis.

A recent study shows that 77 percent of the statistical variance in GDP per capita and foreign direct investment cross-nationally is accounted for by just three variables measuring different aspects of aviation liberalization: legal liberalization, administrative liberalization, and operational liberalization as measured by the number of bi- and multilateral agreements signed by each country, the quality of customs service as measured by a World Bank-sponsored questionnaire survey, and the perceived level of corruption as measured by questionnaire surveys administered on behalf of Transparency International. Just as air freight and GDP per capita are mutually interdependent and causal, the economic development measures and policy variables are likely to be also. The empirical results from this regression analysis imply that legal aviation liberation, quality of customs and lower corruption contribute to greater economic development (as measured by GDP per capita and foreign direct investment).

Air rights liberalization is a key facilitation factor in the economic growth of both developed and less-developed regions. To extend a common analogy, air rights liberalization allows more of the product "iceberg" to arrive intact and thereby increases the benefits of trade. Additional extension of prosperity will also require operational reform in the air cargo industry and the extension of supply and distribution chain improvements to a wider set of industries.

11.4 LIBERALIZED AIR CARGO SERVICES - CASE STUDIES

Three case studies addressing liberalized air cargo services on economic development. We noted three types of cities that were prominent in the network of airports: central consumption area portals, production area portals, and the intermediating portals connecting them. We briefly

consider three areas a small production and consumption portal in Latin America, Belo Horizonte, a somewhat larger production platform in Southeast Asia, Ho Chi Minh City, and a large and rapidly growing cargo hub, Dubai.

By briefly considering these cities, we explore how air transport interacts with local critical mass, institutional reform, and infrastructure development in local environments.

We found that a long incubation period is behind every economic miracle. The, by far largest airport we consider here is also growing the most rapidly. It is also the oldest. The smallest is an airport that has many of the right ingredients but that has suffered setbacks since the recession of 2001. The third airport takes an intermediate position in growth but has faced a long period of being on the brink of a breakthrough, due to an uncertain commitment to institutional reform. With a population of almost 2.4 million and over 5 million in the official metropolitan area, Belo Horizonte is the third largest metropolitan area in Brazil. The capital of Minas Gerais state, located in the southeastern region of the country, Belo Horizonte is supported by a diversified agricultural and industrial complex. Minas Gerais is among the most developed States in Brazil, generating about 10 percent of Brazilian GNP, and 13 percent of its exports – including half of Brazilian coffee. Mineral extraction and processing has a major presence in the state as does coal mining which supplies the region's iron and steel industry. Accordingly, Fiat and Mercedes-Benz have plants in the state. Multinational companies like Arcelor and Toshiba have subsidiaries in the region, along with other textile, cosmetic, food, chemicals, pharmaceuticals, furnishing and refractory companies.

With an estimated population of approximately 80 million and an active labor force of approximately 38 million, Vietnam knows how long an economic take-off can wait before lift-off. Vietnam has a long history of uncertain administrative and legal reform stretching back to at least 1979 which alternately speeds and slows. Property laws have been amended; the credit system revamped; and regulations revised. Between 1988 and 1991 state-owned enterprises shed nearly 800,000 employees and possibly one million members of the armed forces were demobilized. Beginning in 1989, laws regulating private enterprise were liberalized. Few state-owned enterprises have been privatized, however, and despite nominal legal reforms, state capacity to enforce laws is questionable and observers note a continuing need for legal and administrative reform. Over the past several years, child malnutrition has fallen rapidly, unemployment is low and labor

force participation rates have risen, and poverty rates have fallen rapidly, resulting in relatively broad-based improvements in welfare. Much of that growth is centered in and around Ho Chi Minh City.

Vietnam provides a sizeable, relatively well-educated labor force but the issues just discussed work to isolate them from the global economy. By making direct connections with customers possible, air cargo service has played a major role in encouraging the development of pockets of reform to tap the export market. Aviation liberalization alone did not bring about the favorable results. Much of the export production takes place within export-oriented industrial parks that insulate operations from sometimes predatory local governments.

Geographical accident is a major factor in Dubai's success. It is located along the east - west Asia to Europe trade routes while it is also well positioned for delivery to the growing North African and Middle Eastern economies. Dubai has access to inexpensive, imported labor and has the capital to invest in facilities. Of course, several places in the region also have these advantages. Dubai's stable government and liberal commercial environment have had a role in its growth by deciding to modernize and expand the air cargo terminal at Dubai Airport and to grant 'open skies' rights to passenger and cargo airlines.

Open skies put air cargo in Dubai on a rapidly rising trajectory. By 1998, the airport was handling 300,000 tons annually in its Cargo Village, with another 120,000 tons flowing through temporary areas. Since then, cargo growth at the airport has continues its breakneck pace and construction has followed suit. A new Mega Cargo Terminal was planned, with annual capacity at completion in 2018 expected to be 5 million tons of cargo. Dubai airport's history, however, began in 1959 – long before the current well deserved media attention.

11.5 ACHIEVING GROWTH

Once air cargo companies gain ground on making their operations profitable, they can focus on growth. The areas we see as critical include: customer focus, high-potential markets, vertical alliances and strategic asset management. In terms of customer focus, air cargo carriers have a lot to learn from integrators. So what do integrators have that air cargo carriers need? They offer a level of transparency and reliability and are leaders in tracking and tracing shipments. And air cargo players will need to – at a minimum – match the level of customer focus their competitors offer to

achieve growth. One way to increase transparency is through customer portals—something integrators began employing years ago. Air cargo carriers need to first focus on shoring up profitability, and then they need to tackle growth.

Improve Growth

- Reinforce customer focus
- Enter new markets geographically
- Establish vertical alliances
- Invest in freighters Improve Profitability
- Increase profitability
- Reduce cost
- Leverage cost synergies

11.6 TARGET DEVELOPMENT

Air cargo carriers need to focus on entering new, high-potential markets and attracting customers in regions like China and North America. Trade lanes and networks should be managed based on their profitability and growth potentials first and foremost. One recent industry example is between Lufthansa and Jade Cargo International. The two airlines have an agreement that allows Lufthansa access into the Chinese marketplace.

Vertical alliances with select strategic forwarders should be forged so that long-term and block-space contracts and joint capacity planning become a reality. Air cargo carriers need to manage their assets strategically. A study by Boeing foresees substantial investments in freighter aircraft from combination and all-cargo carriers alike. Today, mostly Middle Eastern carriers are adding freighters, with only one major US combination carrier (Northwest) following suit.

Elevating performance in air cargo

The growth that continues to rain down on the air cargo industry could leave some players in the air freight segment high and dry unless they change the way they operate—and soon. To arm themselves competitively

against an increasingly fierce battle for customers, and to strive for high performance, companies need to reduce costs by simplifying their marketplace offerings.

They must also cut waste out of operations, for example through outsourcing non-core components. When the profit picture has stabilized, air cargo carriers can focus on growth, borrowing from the playbooks of their ACMI/charter and integrator rivals with an increased customer focus, by entering new markets and by establishing vertical alliances and building up assets. Air freight has not only been a useful way to distribute specialized high value-to-weight products to discerning customers, it has also been an effective way of connecting mainly Asian labor with Western European and North American markets – once particular institutional challenges have been met. The availability of unfettered air freight has therefore led to development of selected production platforms – and the diffusion of such methods of production to an ever-widening, but not yet universal, geography. Both the administrative advantages, such as partially by-passing Byzantine seaport clearance practices and technical advantages such as the ability of cargo to move swiftly between continents have been important in leading to such development. These have led to both regional development and the expansion of the air cargo industry.

The combined reforms in the operations of air cargo processing, government regulatory practices, and manufacturer supply and distribution chain processing promise to allow aviation to transport a deepening array of goods which means that a larger labor pool and broadening geography can be more effectively integrated into the global economy. At the same time, competitive pressures from other modes of transport put additional pressure on the air cargo industry to increase its own efficiency and live up to its potential.

In that regard, air rights liberalization presents the industry with a management challenge. Essentially, liberalization implies a switch from earning profits by seeking a politically-enforced monopoly to earning profits by accumulating detailed practical knowledge and expertise. Aviation liberalization both creates the motivation and opportunity to improve efficiency by increasing load factors, decreasing dwell times, and enhancing the use of assets (planes) while reducing the “frictions of trade” that decrease human welfare.

11.7 AUTOMATED CUSTOMS SYSTEM**Overview**

Automated customs systems, which allow for electronic submission of data rather than requiring the information on paper, are an important tool for improving the international trade process and are a fundamental aspect of customs modernization. An automated customs system addresses trade needs for facilitation while allowing customs authorities to be more efficient and improve control standards through risk management and sharper use of resources.

Given the rapid pace of technological innovation, it is imperative that customs authorities not only establish automation systems, but that they also maintain procedures for updating those systems regularly. It is also important to develop automated systems through a consultative process with the trading entities affected, to properly test and vet new programs, and to set realistic timeframes for automation adoption in light of resource allocations. And, perhaps most important of all, automation systems should require only those data elements that are legitimately needed to ensure compliance with pertinent regulations, and should be in standardized, harmonized formats.

According to industry forecasts, the cargo segment of the airline business will more than triple by 2025. But before industry players begin celebrating, they should consider that the boom in air freight will not deliver an automatic “bump up” in growth across the board. In fact, according to Accenture research, 5.5 billion US dollars will move from the top line of air cargo carriers to their competitors over the next five years. Now is the time for air cargo players to achieve high performance or risk disappearing from the competitive landscape completely. Industry reports repeatedly forecast that the air freight segment of the airline business will grow, surpassing passenger demand in the next two decades. (Figure1) Because of the rosy overall outlook on the industry, some players in the industry presume that they will experience growth, automatically benefiting from the overall rise in demand.

But Accenture analysis suggests that a significant re-distribution of market share will cause growth to concentrate—and move away from air cargo companies (including combination carriers) over the next five years. The magnitude of that shift: 5.5 billion US dollars. Calculating the average market share for a typical cargo carrier of 2 percent, that represents 100

million US dollars in missed revenue growth annually if measures aren't taken—and soon and who will benefit if air cargo operators miss the mark? The companies who have already "cracked the code" on lean, efficient, flexible operations that respond readily to customer demands:

ACMI (Aircraft, Crew, Maintenance and Insurance) and charter providers as well as integrators.

There are a number of reasons why air cargo players could be left out of the market boom if they don't reevaluate their current business models.

Competitive position of integrators continues to strengthen possibly the greatest competitive threat to air cargo operators are the integrators who, as the name suggests, have integrated the full transport chain into their business models. US-based integrators have increased their domestic market share from 6.5 percent to a whopping 70 percent in less than 20 years. Now that their domestic markets are nearing saturation, integrators are expanding their geographical reach. Market data shows that integrators have been successful in expanding their product portfolios to more standard, heavy-weight international cargo over the last decade. They have, in effect, begun to eat into market share that was once the sole domain of air cargo operators. Integrators will continue to consume the profits of traditional players by beefing up their capabilities. Consider DHL's 49 percent stake of Polar Air, an ACMI. The two companies are leaders in their respective market spaces. Together they promise to be the industry powerhouse of transportation—covering everything from letters to pallets across the globe. ACMI and charter carriers supplement capacity. The single largest area of growth in the ACMI and charter segment has been in long-haul, intercontinental markets serviced by wide-body freighters. Traffic carried through ACMI/charter carriers has grown 18 percent annually since 1990 so that by 2006, ACMI carriers transported ten percent of the world's air cargo traffic. What is it that these ACMI and charter companies offer that rivals can't meet?

In a word: simplicity. Consider China as an example. ACMIs and low-cost charter cargo carriers in China are multiplying. That is because traditional air cargo players, especially combination carriers, have difficulty meeting the demands required: heavy load, one-way shipments from East to West.

In recent years, Accenture has done extensive research into the characteristics, traits and tenets of high-performance businesses—companies that consistently outperform their peers across economic cycles, industry cycles and generations of leadership. We have discovered that

high-performance businesses develop distinctive capabilities that allow them to maximize differentiation. Within the air cargo industry those companies share the following characteristics:

- A focus on profitability: High performers focus on profitability to gain a strong foothold against competitors prior to initiating any growth strategies.
- A focus on customer: High performers understand the needs of their customers and implement the tools needed to create customer intimacy and insight.
- New market development and vertical alliances: High performers take advantage of new markets and develop strategic alliances to fend off competition.
- Strategic asset investments: High performers know exactly how much to invest in assets to ensure operational excellence.

The “Catch 22” for combination carriers Today, approximately 50 percent of all air freight is flown in the bellies of passenger aircrafts. But with increasingly Eastern-focused trade lanes, carriers need additional freighter capacity since freight flows do not necessarily coincide with passenger flows. Airlines also need to optimize networks and fleets growing their presence to defend their market share.

There is just one problem: air cargo companies and combination carriers in particular are not profitable. In fact, most are currently not earning their capital costs. To grow under these circumstances would mean that value would be destroyed at an even greater rate. They need to grow to become profitable; but by doing so, they will further degrade profitability. First, air cargo carriers need to increase profitability to gain a more solid foothold against competitors; then and only then should they focus on growth strategies. Based on profitability, air cargo carriers should re-assess whether belly-only operations should continue and that brings up another point about product portfolio: For a time, many companies were increasing the complexity of their products and inadvertently creating waste. Now the challenge comes in simplifying offerings with the aim of offering exactly what customers want at the price level they are willing to pay.

Another key step in shoring up the profit picture involves reducing costs in non-core areas of the business. There are significant outsourcing opportunities for the back-end functions of most air freight carriers with

cost savings available of up to 30 percent. Areas include everything from HR, to invoicing, to customer service. Those companies who strip off the non-essentials will find it easier to achieve competitive lift-off and can focus on gaining altitude through growth.

Air cargo carriers also need to leverage cost synergies. One major area for this surrounds ground handling. By adopting approaches like Bulk Utilization Programs (BUPs), and improving ground handling processes and hand-over, significant costs savings can be realized. This is another area where some companies have cut costs from 20 to 30 percent.

Check Your Progress

1) What is the role of air cargo in fostering economic development ?

Q 2) What is the geographic pattern of air freight ?

Q 3) Write short notes on Elevating performance in air cargo.

Q 4) What do you mean by Liberalized air cargo services ?

Q 5) Describe automated customs system.

11.8 LET US SUM UP

Air transport is critical to the movement of goods in national and global supply and distribution chains. From the beginning, air transport specialised in high-value-to-weight products, perishable goods, emergency deliveries for unanticipated shortages, and products requiring the security of increased attention. High value-to-weight ratios imply a relatively light transportation cost burden and high inventory costs if goods are long in transit. Highly perishable goods incur a significant decrease in product value with any delay. The absence of critical components of complex supply or distribution chains means significant assets would lie idle if the components are not delivered in a timely manner. The growth that continues to rain down on the air cargo industry could leave some players in the air freight segment high and dry unless they change the way they operate—and soon. To arm themselves competitively against an increasingly fierce battle for customers, and to strive for high performance, companies need to reduce costs by simplifying their marketplace offerings.

11.9 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 11.3
- 2) Refer Sec. 11.3
- 3) Refer Sec. 11.6
- 4) Refer Sec. 11.4

5) Refer Sec. 11.7

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Unit-12 DGR and Live Animal Regulations: Cargo Insurance Clauses

Structure

12.1 Objectives

12.2 Introduction

12.3 Dangerous goods

12.4 Hazard classification

12.5 Marking and Identification

12.6 Guidelines-Live animals and plants

12.7 Cargo insurance

12.8 Transit and forwarding risks

12.9 Lets Sum up

12.10 Clues to Answers

12.11 References

12.1 OBJECTIVES

The objective of this unit is to understand about:

- The Policy for the carriage of dangerous goods is based on the published IATA Dangerous Goods Regulations.
- Division of Dangerous Goods into nine different hazard classes. Some hazard classes are further subdivided into hazard divisions due to the wide scope of the class.
- Guidelines for transport and preparation for shipment of live wild animals and plants
- Cargo insurance covers physical damage to, or loss of your goods whilst in transit by land, sea and air and offers considerable opportunities and cost advantages if managed correctly.
- Transit and Forwarding risks.

12.2 INTRODUCTION

The dangerous goods can be accepted subject to air cargo only. All dangerous goods must be approved by telex from cargo department. All persons accepting dangerous goods must be qualified and licensed according to IATA requirements and up to date with the current IATA regulations. A handling advice for every dangerous goods material must be sent to all departments concerned. The Policy for the carriage of dangerous goods is based on the published IATA Dangerous Goods Regulations. **Marking and identification hazard labels** identifying the **primary hazard** of the dangerous goods must bear the class or division number as appropriate in the bottom corner of the label. Comprehensive liability and physical damage insurance programmes for forwarders, NVOCC's and other logistics and distribution companies including liabilities to Cargo and third parties, errors and omissions, physical damage to owned or leased containers. **All hazard labels** (primary and subsidiary hazard labels) **must show the class number**. All labels (hazard and handling labels) used on packages of dangerous goods must conform, in shape, color, format, symbol and text to the specimen designs of IATA DGR (Subsection 7.3).

12.3 DANGEROUUD GOODS

Policy for the carriage of dangerous goods is based on the published IATA Dangerous Goods Regulations. Unless otherwise stated and specified in this chapter, the IATA regulations will apply. In consideration of the basic

characteristics of LTU's flight operations - being the transportation of passengers and their baggage - the Company restricts itself from the general carriage of dangerous goods.

Several dangerous goods items may be accepted provided the following procedure is complied with:

- Dangerous goods can be accepted subject to air cargo only.
- All dangerous goods must be approved by telex from cargo department DUSFBLT.
- All persons accepting dangerous goods must be qualified and licensed according to IATA requirements and up to date with the current IATA regulations.
- a handling advice for every dangerous goods material must be sent to all departments concerned
- all dangerous goods must be properly packed
- all dangerous goods must be secured safely on board a LTU aircraft by adequate lashing material
- all dangerous goods must be inspected prior to on loading for any leakage or damage
- the proper conditions must be reported (NOTOC) to the Pilot in Command
- any package with dangerous goods which appears to be damaged or leaking must be removed from the aircraft and safe disposal arranged
- in case of leakage, it must be ensured that the remainder of the consignment is undamaged, and that no other load has been contaminated
- All dangerous goods must be inspected directly after unloading for any leakage or damage, and must be confirmed on the incoming NOTOC by the signature of the rampagent.
- A copy of all documents (TLXs, Dangerous Goods Acceptance Check Sheet, Shipper's Declaration, AWB, and NOTOC) shall be filed with all departments concerned.
- Every incident with dangerous goods must be reported immediately to the cargo department DUSFBLT and DUSOLLT, which, in turn, will inform the Civil Aviation Authorities.

The following dangerous goods will never be accepted for carriage on board of any aircraft:

- Class 7, radioactive material
- ULDs built up by the shipper shall not be accepted when containing other dangerous goods items than cosmetics and/or medicines, prepared

according to packing instruction 910, or dry ice (ICE) used for refrigerant for other than dangerous goods.

- Dangerous Goods allowed for freighters only (CAO) or packed according to the packing instructions for cargo aircraft only (CAO) shall not be transported.

If a dangerous goods shipment is limited per hold or compartment (e.g. USG/ICE/RSB), the following nomenclature for inaccessible cargo compartments apply:

A320-232/-214 FWD holds (compartment 1) AFT hold (compartment 3 and 4 incl. Bulk/5)

B757-200 FWD holds (compartment 1 and 2) AFT hold (compartment 3 and 4)

B767-300 FWD holds (compartment 1 and 2) AFT hold (compartment 3 and 4 incl. Bulk/5)

A330-200/-300 FWD holds (compartment 1 and 2) AFT hold (compartment 3 and 4 incl. Bulk/5)

Only two freight compartments/holds are available for segregation of goods or for any limitations (e.g. flights to/from USA or limit of RSB/ICE).

Notification of Dangerous Goods to the Captain (NOTOC)

When dangerous goods are loaded on board of a aircraft, the Pilot in Command is to be notified in writing about the category and hazard class of these goods, the number of packages, their weights and loading position as well as all drill codes for emergency response. **This must be signed by the Ramp Agent to confirm the proper condition of each package.** The original remains with the Captain, one copy with the issuing cargo department, one copy with the originating station file, and one copy with the arrival file. **Additional copies (three blue) are available for every transit station or for planned crew changes.**

Figure 12.1 Dangerous goods notification to Captain

Aircraft will also accept computerized NOTOCs when issued in recommended IATA format. A NOTOC is not required for dangerous

goods in excepted quantities. The reverse side of the Notification to Captain (NOTOC) shows all IMP codes (load codes) concerning dangerous goods:

Responsibilities of Issuing and Handling of NOTOC

The NOTOC shall be prepared by cargo department completely except the loading position. For shipments with planned connecting flights or crew changes the appropriate amount of NOTOCs should be prepared for the entire transportation. All documents shall be handed over to **load control**, which in turn complete the loading position according the loading instruction.

The ramp agent at originating station must make a final visual check and shall confirm with his signature that there is no evidence that any damaged or leaking packages containing dangerous goods have been loaded on the aircraft. This NOTOC shall be presented and signed by the PIC. All further NOTOCs for connecting flights and/or joining crews shall be handed over also to the PIC. **After arrival the ramp agent will get a copy of the NOTOC from the PIC. He shall confirm the proper conditions during offloading.** No further action is required at transit stations without cargo reloading and remaining crew. At station where a new crew takes over flight duties or a reloading becomes necessary, the already prepared NOTOC must be completed with the loading position and the proper conditions must be confirmed (off- as well as on loading).

Note: If a prepared NOTOC is not available the informations shall be obtained from the incoming NOTOC and a **new NOTOC must be issued**.

Dangerous Goods in Excepted Quantities

Very small quantities of dangerous goods may be transported, as described below, in such a manner that the may be **accepted from the marking, loading and documentation requirement** of the IATA DGR. When they are transported under these provisions, such goods are called "**dangerous goods in excepted quantities**".

Dangerous goods in excepted quantities are not permitted in or as checked or carry-on baggage nor in mail.

It is the shipper's responsibility, to ensure before offering to the operator that a package containing **dangerous goods in excepted quantities** will withstand normal conditions of air transport and **will not require any special handling**, stowage or storage conditions which might necessitate

shading from direct sunlight, ventilation, storage away from heat or segregation requirements, etc.

Note: Depending of the class or division and packing group of the article or substance the:

- Inner packaging limit is 1 g or 1 ml to 30 g or 30 ml and the
- Outer packaging limit is 300 ml or 300 g to 1 kg or 1 l.

A package containing dangerous goods in excepted quantities must not contain other dangerous goods that require a shipper's declaration.

DANGEROUS GOODS IN EXCEPTED QUANTITIES

This package contains dangerous goods in excepted small quantities and is in all respects in compliance with the applicable international and national government regulations and the IATA Dangerous Goods Regulations.

Signature of Shipper

Title _____ Date _____

Name and address of Shipper _____

This package contains substance(s) in Class(es)
(check applicable box(es))

Class:	2	3	4	5	6	8	9
	<input type="checkbox"/>						

and the applicable UN Numbers are:

Figure 12.2 Dangerous goods in expected quantities

Dangerous goods in excepted quantities are identified by a **Excepted Quantities Label**, which replaces all other marking, labelling and documentation requirements.

Shippers Declaration for Dangerous Goods and NOTOC are not required (except AWB).

The label must be completed by the shipper and must have a minimum dimension of 100 x 100 mm, also the package must have at least two of the three outside dimension of 100 mm, in case of a cylinder the minimum height and diameter must be 100 mm.

12.4 HAZARD CLASSIFICATION

Dangerous Goods are divided into nine different hazard classes. Some hazard classes are further subdivided into hazard divisions due to the wide scope of the class.

The order in which they are numbered is for convenience and does not imply a relative degree of danger.

Class 1 Explosives

Division 1.1 - articles and substances having a mass explosion hazard

Division 1.2 - articles and substances having a projection hazard but not a mass explosion hazard

Division 1.3 - articles and substances having a fire hazard, a minor blast hazard and/or a minor projection hazard but not a mass explosion hazard

Division 1.4 - articles and substances presenting no significant hazard

Division 1.5 - very insensitive articles having a mass explosion hazard

Division 1.6 - extremely insensitive articles which do not have a mass explosion hazard

Class 2 Gas

Division 2.1 - flammable gas

Division 2.2 - non-flammable, non-toxic gas

Division 2.3 - toxic gas

Class 3 Flammable Liquid

Class 4 Flammable Solids; Substances liable to Spontaneous Combustion; Substances which, in contact with Water, emit Flammable Gases

Division 4.1 - flammable solids

Division 4.2 - substances liable to spontaneous combustion

Division 4.3 - substances which, in contact with water, emit flammable gases

Class 5 Oxidizing Substances and Organic Peroxides

Division 5.1 - oxidizers

Division 5.2 - organic peroxides

Class 6 Toxic (poisonous) and Infectious Substances

Division 6.1 - toxic substances

Division 6.2 - infectious substances

Class 7 Radioactive Material

Class 8 Corrosives

Class 9 Miscellaneous Dangerous Goods

12.5 MARKING AND IDENTIFICATION

Hazard Labels

The label identifying the **primary hazard** of the dangerous goods must bear the class or division number as appropriate in the bottom corner of the label. Until 30 June 2001 a label identifying a **subsidiary risk** must not show the class or division number and this number must be obliterated if already included.

Effective 1 July 2001 all hazard labels (primary and subsidiary hazard labels) must show the class number. All labels (hazard and handling labels) used on packages of dangerous goods must conform, in shape, color, format, symbol and text to the specimen designs of IATA DGR (Subsection 7.3). Text on hazard labels is not required but may be additionally printed on the lower half of the label.

Class 1 - Explosive (Division 1.1, 1.2, 1.3, 1.4 (except 1.4S), 1.5, and 1.6); cargo IMP code: REX, RCX, RGX, RXB, RXC, RXD, RXE, RXG as applicable; minimum dimensions: 100x100mm color: orange

Note: forbidden for air transportation or allowed only on cargo aircraft (CAO)

Class 1 - Explosive (Division 1.4S); Explosive in Division 1.4 Compatibility Group S (substances and articles which present no significant hazard); cargo IMP code: RXS; minimum dimensions: 100x100mm; color: orange

Note: the numerals "1.4" printed on the label must be at least 30 mm in height and 5 mm wide

Class 2 - Flammable Gas (Division 2.1); cargo IMP code: RFG; minimum dimensions: 100x100mm; color: red

Class 2 - Non-Flammable, Non-Toxic Gas (Division 2.2); cargo IMP code: RNG, RCL as applicable; minimum dimensions: 100x100mm; color: green

Note: RCL packages must be labelled with an additional cryogenic liquid handling label

Class 2 - Toxic Gas (Division 2.3); cargo IMP code: RPG; minimum dimensions: 100x100mm; color: white

Class 3 - Flammable Liquid; cargo IMP code: RFL; minimum dimensions: 100x100mm; color: red

Class 4 - Flammable Solid (Division 4.1); cargo IMP code: RFS; minimum dimensions: 100x100mm; color: red/white

Class 4 - Substance Liable to Spontaneous Combustion (Division 4.2); cargo IMP code: RSC; minimum dimensions: 100x100mm; color: white/red

Class 4 - Substance which in Contact with Water emit Flammable Gases; (Division 4.3); cargo IMP code: RFW; minimum dimensions: 100x100mm; color: blue

Class 5 - Oxidizing Substance (Division 5.1); cargo IMP code: ROX; minimum dimensions: 100x100mm; color: yellow

Class 5 - Organic Peroxide (Division 5.2); cargo IMP code: ROP; minimum dimensions: 100x100mm; color: yellow

Class 6 - Toxic Substance (Division 6.1); cargo IMP code: RPB; minimum dimensions: 100x100mm; color: white

Note: For packages containing solid or liquid poisonous or toxic substances.

Class 6 - Infectious Substance (Division 6.2); cargo IMP code: RIS; minimum dimensions: 100x100mm; color: white

Note: for small packages the label dimensions may be 50 x 50 mm

Class 7 - Radioactive (Category I - White); cargo IMP code: RRW; minimum dimensions: 100x100mm; color: white

Class 7 - Radioactive (Category II - Yellow); cargo IMP code: RRY; minimum dimensions: 100x100mm; color: yellow/white

Class 7 - Radioactive (Category III - Yellow); cargo IMP code: RRY; minimum dimensions: 100x100mm; color: yellow/white

Class 8 - Corrosive; cargo IMP code: RCM; minimum dimensions: 100x100mm; color: white/black

Class 9 - Miscellaneous Dangerous Goods; cargo IMP code: RMD, RSB, ICE as applicable; minimum dimensions: 100x100mm; color: white/black

Magnetized Material (MAG); cargo IMP code: MAG; minimum dimensions: 90x110mm; color: blue/white

Note: This handling label replaces the "MISCELLANEOUS DANGEROUS GOODS" hazard label for a package with magnetized material.

Cargo Aircraft Only (CAO); cargo IMP code: CAO; minimum dimensions: 110x120mm; color: orange/black

Package Orientation (This Way Up); minimum dimensions: 74x105mm; color: red or black on a contrasting background

Note: for liquid dangerous goods in combination packaging (on two opposite sides)

Cryogenic Liquid (RCL); cargo IMP code: RCL; minimum dimensions: 74x105mm; color: green

Note: This handling label must be affixed to a package containing cryogenic liquids (refrigerated liquefied non flammable gases) additionally to the "NON-FLAMMABLE GAS" hazard label.

12.6 GUIDELINES - LIVE ANIMALS AND PLANTS

Guidelines for transport and preparation for shipment of live wild animals and plants

The 'Guidelines for transport and preparation for shipment of live wild animals and plants' were adopted by the Conference of the Parties to CITES at its second meeting (San José, 1979).

In Resolution Conf. 10.21 (Rev. CoP14), on Transport of live specimens, the Conference of the Parties recommends *inter alia* that:

- a) suitable measures be taken by the Parties to promote the full and effective use by Management Authorities of the Live Animals Regulations (for animals) and the Perishable Cargo Regulations (for plants) for the preparation and transport of live specimens and that they be brought to the attention of exporters, importers, transport companies, carriers,

freight forwarders, inspection authorities and international organizations and conferences competent to regulate conditions of carriage by air, land and sea or inland waterways;

- b) Parties invite the above organizations and institutions to comment on and amplify the Live Animals Regulations (for animals) and the Perishable Cargo Regulations (for plants), so as to promote their effectiveness;
- c) for as long as the CITES Secretariat and the Standing Committee agree, the Live Animals Regulations (for animals) and the Perishable Cargo Regulations (for plants) be deemed to meet CITES air transport requirements;
- d) Where appropriate, the Live Animals Regulations (for animals) and the Perishable Cargo Regulations (for plants) be used as a reference to indicate suitable conditions for carriage by means other than air.

These Guidelines can be viewed in the separate sections below or downloaded as one single PDF file (2.9 MB). In the hope that the Guidelines can be improved, the Secretariat would welcome comments, which should be addressed to the Scientific Support.

Packer's Guidelines

Mm /1 Terrestrial mammals except elephants and ungulates

Mm/2 Terrestrial mammals - elephants and ungulates

Mm/3 Sloth, bats, flying lemurs

Mm/4 Marine mammals-Whales, Dolphins, Tortoises, Dugongs, Manatees

Mm/5 Marine mammals-Seals

Mm/6 Mice, Rats, Cavies and other small mammals

Av/1 Water birds and large birds of non-perching habit

Av/2 Parrots, pigeons, passerines, near passerines

Av/3 Birds of prey and owls

Rp/1 Freshwater terrapins and turtles, marine turtles

Rp/2 Crocodiles, alligators, caimans, gavials

Rp/3 Tortoises and land turtles, snakes, lizards

Aph/1 Amphibians, aquatic forms

Aph/2 Amphibians, terrestrial forms

Ps/1 Fishes, except those species that cannot be contained in polythene bags

Ps/2 Fishes that would damage polythene bags

Inv/1 Aquatic invertebrates

Inv/2 Terrestrial invertebrates

Guidelines for transportation of live plant specimens

Parties should also note that the two publications by IATA Live Animals Regulations and Perishable Cargo Manual may be ordered from this website.

Note: In compliance with Resolution Conf. 10.21 (Rev. CoP14), the CITES Animals Committee conducts a systematic review of the scope and causes of the mortality and injury or damage to health of animals during the shipment and transport process and of means of reducing such mortality and injury or damage to health. "Transport of live specimens" is consequently a standing agenda item at meetings of the Animals Committee.

Live Stock

However, the following regulations apply to loading live animals:

- It must be accepted that live animals are delivered for shipping in proper cages, complying with the IATA Live Animal Regulations.
- Mollusks (worms etc.), amphibians (frogs etc.), fish (except tropical fish) and snakes may be loaded in all cargo compartments without restrictions.
- All other live animals shall be loaded in the prescribed compartments.
- Live animals shall generally be treated as wet freight. The cages shall always be tied down or lashed to avoid any movements during takeoff, flight or landing.
- Cages shall be stowed with sufficient space between them and other loads to guarantee sufficient supply of air.
- Pallets with live animals (except fish and mollusks) must not be covered with plastic foil.
- Cages must not be stowed directly in front of air ventilation outlets or in direct contact with outer compartment walls.
- Live animals shall not be loaded in the same compartment with edible cargo (EAT), catering supplies (CSU), human remains (HUM) or dry-ice (ICE) in larger quantities.

- Live animals shall always be stowed well above the stowage level of dry ice, even in small quantities.
- Special care must be taken not to stow live animals which are natural enemies in the same cargo compartment. If unavoidable, sufficient space shall be left between them to avoid mental stress.
- Cargo compartment lights shall generally be switched off, except when carrying birds on long-haul flights. Then the light shall be left switched on, if possible, to allow the birds to pick-up their feed during the flight.
- Animals with an intensive odour shall not be loaded on a predominantly passenger flight.
- The doors of cargo compartments with live animal loads shall be closed as late as possible and opened at transit and/or destination stations first; special care must be taken in case of strong winds, heavy rain, snow fall and extreme local temperature conditions.
- Information to crew. The cockpit crew shall be informed about the transportation.

Due to their sensibility against low temperatures and special handling requirements, the shipper is held responsible for insulated packing according to IATA Live Animal Regulations.

Transportation of tropical fish is subject of the following conditions

- Transportation to and from aircraft shall be performed as quickly as possible. In case of low ground temperatures, heated transport shall be used (ramp vehicle).
- Tropical fish shall principally be loaded in heated compartments. The transportation in unheated compartments in excess of one hour flying time is prohibited.
- Shipments of tropical fish shall always be stowed on top of loads.
- Shipments of tropical fish shall be kept in heated premises during ground time, particularly in average medium or low temperature areas.

12.7 CARGO INSURANCE

Cargo insurance (also called marine cargo insurance) covers physical damage to, or loss of your goods whilst in transit by land, sea and air and offers considerable opportunities and cost advantages if managed correctly. Unfortunately, many UK traders do not want to become involved in arranging this type of insurance because they feel they do not have sufficient knowledge. They see it as an unnecessary expense involving extra administration, and make the mistake of allowing suppliers or customers

to control this vital area of business. This loss of control not only increases the difficulties of implementing an effective trade risk management strategy, but can also have far reaching effects on profitability. Fortunately, this attitude is changing, with more and more companies following the lead of many of the 'blue-chip' manufacturing and trading giants of the UK economy who tend to take full control of this type of insurance. When you are looking at the types of cargo insurance available, you may come across the term General Average.

This is one of the oldest principles of cargo insurance and relates only to ocean and sea voyages but is still relevant in today's trading environment. General Average covers the situation where damage or loss of certain goods occurs so that the remaining cargo and the means of transport are saved. For example goods may sustain water damage during fire fighting. In this situation, if General Average is declared, all the parties involved must contribute to covering the loss.

Cargo insurance is usually provided by the means of one of three Institute Cargo Clauses - A, B or C, plus War Clauses and Strikes Clauses. Simply put Cargo Clauses A provide the most cover with B and C giving less coverage which is reflected in reduced premiums for the lower cover (somewhat similar to car insurance cover with comprehensive, third party, fire and theft, and third party policies).

Also there is an Institute Cargo Clauses (Air) for movement by air, which is equivalent to the A clauses. Your insurance company or broker will be able to give details of exactly what cover is given by each clause so you can choose the most appropriate for your business needs and trading patterns.

Why do traders need cargo insurance?

Exports

Many major UK exporters and trading companies sell on Cost Insurance and Freight (CIF) or similar terms, which allows them to arrange marine cargo insurance in the UK - usually on an 'open cover' basis. Because this insurance cost is legitimately passed on to the customer, who also gets the benefit of the insurance, this virtually amounts to free insurance which the exporter controls.

Many foreign buyers see this as essential service provided by the exporter, given that cargo insurance rates in UK are often cheaper than those available to the overseas customer in his local market. Indeed, exporters

who do not provide a 'package' which includes insurance, can lose business to competitors who do.

The other side of the coin is where UK exporters allow their customers to arrange the insurance.

This can range from selling on Ex Works terms to exporting on Free on Board (FOB) or Cost and Freight (CFR) terms. An Ex Works sale represents the minimum obligation for the seller, who has merely to make the goods available at his premises for collection by the buyer's designated carriers.

However, what tends to be overlooked is that the exporter is totally reliant on the buyer arranging adequate insurance on goods which has probably not been paid for. If the goods arrive damaged or if the buyer's insurance does not cover the loss, the exporter may not receive payment. Additionally if the goods or shipping documents are rejected on arrival at destination, the insurance risk can often revert to the exporter who may not have taken out any insurance.

Imports

Many importers assume that the suppliers are including the marine cargo insurance for free when, in fact, the cost is included in the purchase price. In addition, obtaining information from suppliers about these costs and whether they are being loaded can prove difficult. Another important issue is the type of cover being provided - is it comprehensive 'all risks' or just 'total loss' only? Is it on a warehouse to warehouse basis or just warehouse to UK port? Without this information, importers may not realise they are paying too much for insurance which does not meet their needs, and may leave them with uninsured exposure.

SITPRO Management Guide: Cargo Insurance

A further issue is who is actually insuring the goods? The security of some overseas insurers may not compare favourably with the security of insurers in the highly regulated UK market. In the event of goods arriving damaged in the UK, the importer will probably deal with the UK agent of the overseas insurance company - an agent who will be working for the insurer, not the importer. This can lead to delays in processing and settling claims.

If the importer takes control of cargo insurance they can arrange the necessary cover in the UK market, which is often more comprehensive and price competitive than in overseas markets.

What types of cargo insurance are available?

Open Cover

This is the most usual type of cargo insurance, where a policy is drawn up to cover a number of consignments. The policy can be either for a specific value that requires renewal once the insured amount is exhausted or an permanently open policy that will be drawn up for an agreed period, allowing any number of shipments during this time.

Specific (Voyage) Policy

Although not the norm for cargo insurance, you may from time to time need to approach an insurance company (or broker, or other intermediary) to request an insurance policy for a particular consignment. This is usually referred to as Voyage Policy as the insurance covers only that specific shipment.

Contingency (seller's interest) insurance

As an exporter you may often sell goods on terms where your customer (as the importer) is responsible for insuring (or at least bearing the risk of damage or loss to) the goods, for example under FOB and CFR Incoterms 2000. In these cases you are exposed to the risk of damage to the goods while in transit and your customer refusing to accept them. In the worse case your customer may not have insured the goods.

If this happens and your customer attempts to avoid liability, you could seek redress through the legal system. However, this can prove very expensive, and may often be pointless. Seller's interest insurance, usually for a small premium, will cover you for this contingency. For valid commercial reasons you may not wish your customer to know you have taken out such a policy.

Where can I get cargo insurance?

You can obtain cargo insurance direct from an insurance company, or some freight forwarders and other trade service intermediaries. Also you may find that your bank will offer cargo insurance as part of a trade finance package. However, best practice adopted by many companies has shown that using a specialist (marine) cargo insurance broker provides value-

SITPRO Management Guide: Cargo Insurance added services when arranging cover and gives additional benefits when dealing with any claims and settlement procedures. The British Insurance Brokers' Association (BIBA) has a search tool to help you to identify insurance brokers at <http://www.biba.org.uk/consumer/findbroker.asp>. SITPRO does not sell cargo insurance or recommend insurers.

What other options are open to me?

There are several other ways to approach the risk involved in the physical movement of the goods you trade across international borders do nothing and carry the risk yourself. If an incident occurs resulting in damage or loss to the goods you could take action against the carrier. But you should remember that carrier liability is strictly limited by internationally agreed conventions. Also you will need the expertise and perseverance to sustain a successful claim. This could have an impact on your business;

- As an exporter you can let your customer insure the goods;
- As an importer you can let your supplier insure the goods.

The factors you must consider for either of the final two options have been described earlier in this Briefing;

How much will it cost me?

Like all insurance cover (premises, employer's liability, credit) you will have to pay for your cargo insurance services. Premium is usually calculated according to the value of the consignment (plus a percentage mark up for profit margin), the type of goods (danger or hazard) and other specific risks (mode of transport, route, destination, etc.) from the insurer's perspective. As with all insurance cover, you should spend time researching the market and getting quotes from a range of cargo insurance providers.

12.8 TRANSIT AND FORWARDING RISKS

- Comprehensive liability and physical damage insurance programmes for forwarders, NVOCC's and other logistics and distribution companies including liabilities to Cargo and third parties, errors and omissions ,physical damage to owned or leased containers.
- Trade disruption and Consequential loss

- Contingent insurances individually designed to address specific financial exposures relating to a marine peril faced by companies trading anywhere in the world. This might typically involve additional costs or expenses arising from the delayed arrival of goods and would generally be integrated into larger cargo insurance programmes.
- Protection against open account and letter of Credit exposures as well as political and political Violence or Terrorism risks in relation to the maritime industries.
- Credit ,Financial and Political risks
- Fine art, specie and exhibition risks
- Insurance programmes for fine art, specie, antiques and valuable whilst in transit and on exhibition.
- Trade Finance

Comprehensive Cargo insurance programmes for trade financing transactions which can include covers for extended, non-incidental pre and post-shipment storage, war on land, and confiscation.

Check Your Progress

Q1) What do you mean by DGR ? Support with suitable examples.

Q 2) What is the procedure of Marking and identification of Hazard goods?

Q 3) Write a short notes on “Cargo insurance”.

Q 4) What are the guidelines for transport and preparation for shipment of live wild animals and plants ?

Q 5) What are the Transit and Forwarding Risks ?

Q 6) Give complete lists of Hazard labels indicating Class, Group, Cargo IMP Codes and minimum dimensions.

12.9 LET US SUM UP

All dangerous goods must be approved by telex from cargo department. Dangerous goods can be accepted subject to air cargo only. All persons accepting dangerous goods must be qualified and licensed according to IATA requirements and up to date with the current IATA regulations. A handling advice for every dangerous goods material must be sent to all departments concerned. The Policy for the carriage of dangerous goods is based on the published IATA Dangerous Goods Regulations. Marking and identification hazard labels identifying the primary hazard of the dangerous goods must bear the class or division number as appropriate in the bottom corner of the label. Comprehensive liability and physical damage insurance programmes for forwarders, NVOCC's and other logistics and distribution companies including liabilities to Cargo and third parties, errors and omissions ,physical damage to owned or leased containers. All hazard labels (primary and subsidiary hazard labels) must show the class number.

12.10 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 12.3
- 2) Refer Sec. 12.5
- 3) Refer Sec. 12.7
- 4) Refer Sec. 12.6
- 5) Refer Sec. 12.8
- 6) Refer Sec. 12.5

References

- Combat Cargo operations Handbook (2002), Department of the Navy, Headquarters United States Marine Corps., Washington, D.C.
- Gupta. R.C (2011), Tourism administration and management, *travel agency and tour operators business*, p.p 161-197. Ramesh Publishing House, New Delhi.
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Unit-13

Aircraft Configuration, Capacity Familiarisation and Limitations

Structure

13.1 Objectives

13.2 Introduction

13.3 Cargo capacity

13.4 Aircraft Familiarization sheet (non-model specific)

13.5 Aircraft Familiarization Test

13.6 Aircraft Configuration

13.7 Aircraft Customized Layout

13.8 Lets Sum up

13.9 Clues to Answers

13.10 References

13.1 OBJECTIVES

After reading this unit the student will be able to understand the cargo capacity and its determinants. Seating plan for understanding wingspan, length, Cruising speed, Max range, Average seat pitch, World business class, Economy class, Economy comfort zones. Aircraft familiarization sheet to help Fuel, Oil, Weight and balance, Air speed, Engine, Performance etc.

Aircraft Familiarization Test- this exam is to be used as a tool to help a pilot become familiar with the fundamental specifications, mechanical systems, and specific procedures that will be required to safely operate of any aircraft. Aircraft Configuration to know the items and the equipments types.

13.2 INTRODUCTION

The cargo capacity of a vehicle needs to be known in order to determine what kind of vehicle will meet your needs. If you know that you will be hauling musical equipment such as my brother does with his electronic keyboard, you'll definitely need to have specific measurements in order to make sure that whatever you would like to "carry" in your vehicle will actually fit. In my brother's case, when he was actually looking for a new car, he took his keyboard with him and placed it within the vehicles that he was looking at to determine whether or not it would fit. Actually doing a size test may not be necessary in your case, but a thorough detailed description of the dimensions of the vehicle's luggage capacity will need to be known in order for you to determine whether or not items will fit in your vehicle. Just the knowledge of how many "cubit feet" of storage may not be enough information in your case to make an accurate decision on the actual cargo capacity you will require for your needs.

13.3 CARGO CAPACITY

Cargo Capacity: How It's Determined and What This Means to You?

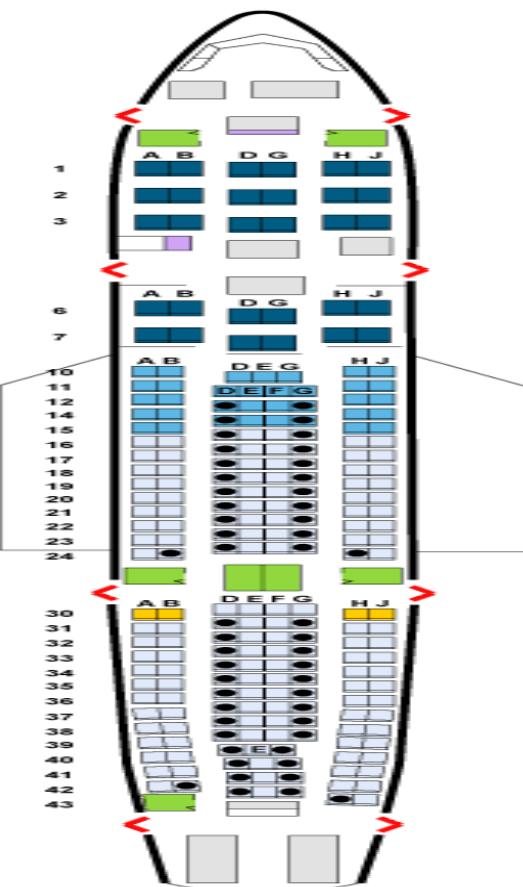
Cargo capacity is a very confusing and misunderstood concept. Because this concept on opinions should be described for assisting in purchasing a new car or truck, I will attempt to explain in simple language what a lot of the numbers mean for cargo capacity as well as other "volume" elements used to classify vehicles. Cargo capacity is also defined as luggage volume. With automobiles, this is the trunk space. With station wagons, SUVs, and vans, this is determined by the size of the area behind the second seat. When

automobile manufacturers talk about cargo capacity of station wagons, SUVs and vans they often talk about cargo capacity with two different numbers. This would include one set of numbers with the seats up and another set of numbers with the seats down. This is why there are often two sets of numbers shown on the advertisement for vehicles. Because trunks are sized irregularly, the luggage volume is determined by putting different shaped suitcases within the trunk and then adding up the total volume of the suitcases.

Trucks are determined differently when it comes to cargo capacity. Because these are open bed vehicles, there's no "luggage" space definition that can be used to determine maximum "space". So, in this case, trucks are classified as being able to haul a certain weight capacity. These are used in concordance with the dimensions of the bed of the truck to determine the type of cargo that can be hauled. The addition of the maximum weight cargo capacity as well as the weight of the truck itself determines the classification of truck. The vehicle weight rating of a truck is determined by combining the weight of the truck itself with the maximum weight that it is classified to carry. For instance, small pickup trucks have a vehicle weight rating of less than 4,500 pounds. Standard sized pickup trucks have a vehicle weight rating of between 4,500 and 8,500 pounds. The classification of automobiles combines the luggage or cargo capacity of the vehicles with the passenger capacity of the vehicle to determine what official "classification" the vehicle has according to the Federal government. Passenger volume room is the size of the interior of the vehicle. These dimensions include the height, width, and length dimensions of the passenger section of the vehicle that includes the seat width, head room, and foot room of the automobile.

Seating plan Airbus A330-200 facts:

Figure 13.1 Seating plan

	Wingspan:	60.30 m
	Length: 58.37 m	
	Cruising speed:	880 km/h
	Max. range:	10.700 km

	Max. passengers:	243
	Average seat pitch	
	World Business Class:	60 inch
	Average seat pitch	
	Economy Class:	31 inch
	Average seat pitch	
	Economy Comfort zone:	35 inch

Adding all of these numbers together with the cargo capacity of the vehicle determines whether or not the government classification of the vehicle is either a two-seater, a mini-compact, a subcompact, a compact, a mid-sized, or a large automobile. There are also classifications of small, mid-sized, and large station wagon as well. The government uses these calculations to help run testing procedures comparing similar cars for EPA testing.

For the consumer though, the cargo capacity of a vehicle needs to be known in order to determine what kind of vehicle will meet your needs. If you know that you will be hauling musical equipment such as my brother does with his electronic keyboard, you'll definitely need to have specific measurements in order to make sure that whatever you would like to "carry" in your vehicle will actually fit. In my brother's case, when he was actually looking for a new car, he took his keyboard with him and placed it within the vehicles that he was looking at to determine whether or not it would fit. Actually doing a size test may not be necessary in your case, but a thorough detailed description of the dimensions of the vehicle's luggage capacity will need to be known in order for you to determine whether or not items will fit in your vehicle. Just the knowledge of how many "cubit feet" of storage may not be enough information in your case to make an

accurate decision on the actual cargo capacity you will require for your needs.

Aircraft limitations

All aircraft have specific structural/aerodynamic limitations. If you do not heed these heed these limitations, you could damage the aircraft and endanger yourself. It mandatory that you know all the aircraft limitations and emergency procedures.

13.4 AIRCRAFT FAMILIARIZATION SHEET (NON MODEL SPECIFIC)

Pilot: _____

Date: _____

FUEL

Total Each Tank at Collar (tabs): Min Fuel Grade and Color:

Number of Drains: Drain Locations:

OIL

Oil Grade and Type:

WEIGHT & BALANCE

Max T/O Gross Wt: Basic Empty Weight: Useful Load:

Max Landing Gross Wt: 15,000 lbs Max Payload w/ Full Fuel:CG Range:

Max Payload with Fuel at tabs (if applicable):

Max. Fuel with 4 170-lb occupants in aircraft:

AIRSPEEDS

Va-Maneuvering Speed:	Vx-Best Angle of Climb:
Vy-Best Rate of Climb:	Vfe-Flaps Extended:
Vno-Max Rough A/S:	Vne-Never Exceed:
Vs-Stall Speed:	Vso-Stall Speed Landing config:
Best Glide:	Normal Approach:
Normal Climb:	
Short Field T/O:	Short Field Landing:
Soft Field T/O:	Soft Field Landing:
10deg Flap speed:	Full Flap speed:

ENGINE

Type (description):	
Max RPM:	Max Manifold Pressure (if applicable):

PERFORMANCE

Cruise @ 75% Power, 8500 Feet, Std. Temperature.

MP: RPM: Fuel Flow (GPH): KTAS:

(if applicable)

Total takeoff distance over 50' obstacle (no wind)

Max Gross Wt, 3500 Feet Pressure Alt., 85 F, over 50' obstacle:

Max Gross Wt, Sea Level, 100 F, over 50' obstacle:

Total landing distance over 50' obstacle (no wind)

Max landing wt, 1,500' pressure altitude, Std Temperature, Full Flaps:

Max landing wt, 5,500' pressure altitude, 100 F, Full Flaps:

PROVIDE ANSWERS FOR THE FOLLOWING:

Describe the go-around procedure. Include aircraft configuration changes (if any), pilot technique, and target airspeeds.

By law, when must passengers wear seatbelts?

What logged inspections are required for this aircraft?

What documents must be onboard during flight?

What personal documents must you carry on board to act as PIC for student, private, and above?

Who is responsible for ensuring that all inspections have been complied with prior to flight, and that the aircraft is airworthy?

How far can you glide if you lose the engine at 8000 Feet AGL?

List the engine failure in flight procedure:

List the forced landing (engine out) procedure:

List the procedure for a failed alternator:

This sheet has been satisfactorily reviewed by

Instructor:

Date:

(Print CFI name and instructor certificate # : _____)

13.5 AIRCRAFT FAMILIARIZATION TEST

This exam is to be used as a tool to help a pilot become familiar with the fundamental specifications, mechanical systems, and specific procedures that will be required to safely operate of any aircraft. The pilot should utilize all available resources, including each aircraft's Pilot Operating Handbook, the Pilot Information Manual, placards, etc., to aid in this review. After the exam has been completed and corrected to 100% with his instructor, it will be kept on file.

1. What documents must be on board the aircraft?

2. How would you deal with Inoperative Equipment?
3. What is the rated horsepower of the engine?
4. What is the total/useable fuel capacity?
5. What grades of fuel are approved for use?
6. What colors are the approved grades of fuel?
7. Where is the fuel sumps located?
8. When are they normally drained?
9. Approximately how many gallons of fuel does this plane burn in an hour?
10. Describe the fuel system in this aircraft.
11. How many fuel pumps are installed?
12. How is each fuel pump driven?
13. How do you detect carburetor ice (if applicable)?
14. If you detect carburetor ice what should you do (if applicable)?
15. Why is the use of carburetor heat only allowed for short periods of time in the Warrior (if applicable)?
16. What is the minimum oil quantity required for dispatch?
17. What grade of oil is typically used?
18. How would you determine if your alternator has failed?
19. What is the normal output of the alternator?
20. What is the normal output of the battery?
21. Can you determine battery discharge on the ammeter?
22. What is the normal operating range of the vacuum system?
23. Where is the pilot tube located?

24. Where is the static port located?

25. Where is the alternate static source located?

26. What are the procedures for a loss of power in-flight?

27. What are the procedures for an electrical fire in flight?

28. What would the short-field takeoff and obstacle clearance distances be for the following:

i) Field pressure altitude 500'

ii) Temperature 85F

iii) Calm winds

29. What would the landing distance required with an obstacle be for the following:

i) Field pressure altitude 100'

ii) Temperature 85 F

iii) 5kt Headwind

30. What is the aircraft empty weight?

31. What is the useful load?

32. What is the approved range of the center of gravity?

33. What is the Max Gross Takeoff Weight?

34. What is the Max Landing Weight?

35. What would the center of gravity be with in the following scenario:

Front seats: 2 pax @ 180 1bs

Rear seat; 1 pax @ 165 1bs

Baggage: 501bs

Fuel: Topped Off

36 What is the normal Approach speed? _____

37 What is the recommended speed for a short field approach? _____

38 What is the Maximum Demonstrated Crosswind Component? _____

39 What is the best glide speed? _____

I certify that I have received ground instruction on this aircraft's Operating Handbook and Operating Procedures,

Pilot's Name _____ Cert.

Number_____

Date _____

Flight Instructor _____ Cert.

Number_____

13. 6 AIRCRAFT CONFIGURATION

Standard aircraft

The Aircraft EMBRAER 170 LR shall be manufactured according to (i) the standard configuration specified in the Technical Description TD170 Revision 9 dated November 2007.

The EMBRAER 170 LR Aircraft will also be fitted with the following options selected by Buyer:

Item	EQUIPMENT
Version	LR (long range)
Engine	General Electric CF34-8E5
020J001	10 minutes Take-off thrust
231J002	HF (single) (model KHF-1050)
232J002	SELCAL
232J005	CMF (ACARS) with 3rd VHF datalink Mode A included

GDS in Air Ticketing and Cargo Handling		MTTM-13A
233J002	ANR Headsets (model HMEC-25-CAP) lightweight	
250J011	Passenger Cabin Surveillance System (no recording)	
252J001A	Movable Class Divider w/ Aisle Curtain	
252J012	Pax seats coat hook (side mounted)	
252J013	Pax seats life vest pouch	
252J016	Pax seats life vest jacket	
252J053	3rd flight attendant seat	
254J002	AFT Lavatory with access for disabled - soft partition	
254J004	Baby Change Table in the AFT Lavatory	
324J001	Autobrake System	
332J002	LED Reading Lights	
343J001	2nd Radio Altimeter	
344J001	Weather Radar with Turbulence Detection Mode (WU-880)	
344J002	Lightning Sensor System	
345J001	2nd ADF	
346J001	2nd FMS / GPS	
352J003	3rd oxygen masks for all RH seats	
462J001	Electronic Flight Bag system (EFB) (***)	
520J001	Reinforced Cockpit Door w/remote access control	
521J003	Door sill doublers (scuff plates at passenger, cargo and service doors)	
-	Fuel meters with Metric indications	
-	Full Installation of Thales IFE (*)(**)	

- QAR Full Installation
- Provisions for CAT IIIa w/ autoland
- Customised layout (single class elite seat) - 76 Pax - according to Exhibit 1 to this Attachment A1.

High Speed Data Link & Passenger Cabin Outlets

Portable ELT-Full Provision

76 Passengers (19x2+19x2)

(*) The Thales In-Flight Entertainment includes audio & video on demand (start, pause, fast forward and stop), personal touch screen (8.9" LCD monitors), games, moving map, boarding music and pre-recorded announcements.

(**) Indicates that the Thales IFE is a follow-on certification item that might not be certified at the delivery of the first EMBRAER 170 Aircraft. If this is the case, Embraer shall use its best efforts to have the Aircraft delivered with the IFE installed as completed as possible. Embraer will send to Buyer a service bulletin to liberate IFE operation as soon as the certification is concluded.

(***) In case the Electronic Flight Bag (EFB) is eliminated from the Aircraft configuration, the adjusted Aircraft Basic Price shall be obtained by the reduction of USD 41,232 (forty one thousand, two hundred and thirty two United States dollars), in January 2008 Economic Conditions.

Design Weights

EMBRAER 170- LR

(kg) (lb)

Equipped Empty Weight 20,225 44,588

Basic Operating Weight 21,040 46,385

Maximum Zero Fuel Weight 30,140 66,447

Maximum Landing Weight 32,800 72,312

Maximum Take-off Weight 37,200 82,012

Maximum Ramp Weight 37,360 82,365

Minimum Operating Weight 21,800 48,061

Maximum Payload 9,100 20,061

Maximum Usable Fuel 9,428 20,785

(1) The EEW as presented above may vary by +/- 2.5%.

(2) Weight determined for an adopted fuel density of 0.811 kg/l.

Cargo

The EMBRAER 170 has two under floor cargo compartments, which complies with FAR-25 "Class C" requirements.

Cockpit

The aircraft is designed with a "quiet and dark" cockpit to accommodate the pilots with comfort during all flight phases, with minimum workload and maximum safety. The cockpit is equipped with two pilot seats and a stowable flight observer seat.

Certification

The aircraft shall be initially certified by CTA-Brazil, FAA-USA, EASA and the JAA member countries. The EMBRAER 170 aircraft is designed in accordance with the following certification requirements:

RBHA 21 - Procedimentos de Homologação para Produtos e Partes Aeronáuticas (Certification Procedures for Products and Parts), latest amendment in effect.

FAR Part 21 - Certification Procedures for Products and Parts - Amendment 21-75, latest amendment in effect,

13.7 AIRCRAFT CUSTOMIZED LAYOUT

EMBRAER 170 - 76 pax

Exhibit 1 to Attachment A to Purchase Agreement COM0080-08 Page 1 of 1

Aircraft Zones

There are many different zones on Boeing & Airbus aircraft. It is divided into 6 areas.

Cabin & Upper Deck

fwd & Aft & Bulk Cargo Compartment

Wing

Nose & Main Landing Gears

Pylon & engine

Tail Area (include Fin & Rudder)

Fixed-wing

Aircraft	First flight	Note
Antonov An-225	21 December 1988	The longest and heaviest aircraft in the world (max. takeoff weight greater than 600 t)
Aero Spacelines Super Guppy	31 August 1965	Radical cargo aircraft based on the Boeing 377
Airbus Beluga	13 September 1994	Airbus replacement for the Super Guppy. Based on the A300-600
Airbus A340-600	23 April 2001	World's second longest passenger aircraft at 75.36m
Airbus A380	27 April 2005	Largest mass-produced aircraft in the world and the highest-capacity passenger aircraft
Antonov An-70	16 December 1994	First large transport aircraft to use prop fan engines
Antonov An-124	1982	The second largest mass-produced aircraft in the world since the Airbus A380 was produced. Remains the World's largest military aircraft.
Antonov An-22	27 February 1965	World's largest turboprop-powered airplane

	Aircraft	First flight	Note
	Boeing 314Clipper	7 June 1938	One of the largest flying boats
	Boeing 377Stratocruiser	8 July 1947	Large propeller-powered airliner based on the B-50 bomber aircraft
	Boeing 747	9 February 1969	Highest-capacity passenger aircraft until surpassed by Airbus A380
	Boeing 747-8	8 February 2010 (F variant)	World's longest passenger aircraft at 76.3m.
	Boeing 747 LCF (Dreamlifter)	9 September 2006	747 with enlarged fuselage for 787 parts transport (65,000 cubic feet)
	Airbus A330-300	2 November 1992	-
	Boeing 777	12 June 1994	Largest twin-engined aircraft in the world and third largest Commercial Passenger aircraft.
	Boeing Shuttle Carrier Aircraft	1976	Derivative of the 747, used to transport the Space Shuttle
	Bristol Brabazon	4 September 1949	Large piston engined airliner, comparable in size to the Boeing 767

Aircraft	First flight	Note
Dornier Do X	12 July 1929	Largest aircraft in the world from 1929 until 1942 when the even heavier Boeing B-29 Superfortress first flew.
Ilyushin Il-86	22 December 1976	First wide-bodied aircraft produced in the Soviet Union
Ilyushin Il-96	28	-
Junkers G.38	6 November 1929	4 engined airliner
McDonnell Douglas DC-10	29 August 1970	-
McDonnell Douglas MD-11	9 March 1988	-
Saunders-Roe Princess	22 August 1952	A large flying boat.
Tupolev Tu-114	15 November 1957	Passenger derivative of the Tu-95 bomber
Martin JRM Mars	1941	Large flying boat used from 1945-56 as a transport by the US Navy and as a water bombers since then.

Military:

	First flight	Note
Blohm + Voss BV 222	7 September 1940	Very large German World War II seaplane
Blohm + Voss BV 238	11 March 1944	Largest aircraft in the world 1944 to 1946 when the even heavier Convair B-36 first flew. Very large seaplane.
Boeing Superfortress B-29	21 September 1942	Largest aircraft in the world from 1942 to 1943 when the even heavier Junkers Ju-390 first flew.
Boeing Stratofortress B-52	15 April 1952	Strategic bomber used for more than 50 years, largest military aircraft ever to have scored an air-to-air kill
Boeing C-17 Globemaster III	15 September 1991	Current USAF strategic airlifter
Boeing E-6 Mercury	February 1987	Military derivative of the Boeing 707 used as an airborne command post and communications relay
CANT Z.511	October 1940	4 engined WW2 Italian seaplane
Convair Peacemaker B-36	8 August 1946	Largest aircraft in the world

		First flight	Note
Convair XC-99		23 November 1947	Developed from B-36, largest piston-engined land-based transport aircraft ever built
Douglas C-124		27 November 1949	USAF strategic airlifter
Douglas C-133 Cargo master		Circa 1956	USAF strategic airlifter
Handley Page V/1500	1918		Large 4 engined British bomber introduced at the end of World War I
Kawanishi H8K	January 1941		Largest WWII aircraft produced by Japan in any quantity
Linke-Hofmann R.II	1919		Largest aircraft ever to fly with only one propeller, used largest airplane propellor ever used.
Lockheed Hercules C-130	23 August 1954		Military transport
Lockheed Starlifter C-141	1963		USAF jet strategic airlifter that replaced piston-engined aircraft such as the C-124

	First flight	Note
Lockheed C-5 Galaxy	30 June 1968	Largest USAF strategic airlifter and one of the largest military aircraft in the world
Lockheed R6V Constitution	9 November 1946	Was largest fixed-wing aircraft operated by the US Navy
McDonnell Douglas KC-10 Extender	1981	Inflight refuelling tanker derivative of the DC-10
Martin JRM Mars	1941	Largest flying boat to enter production
Messerschmitt Me 323 "Gigant"	1941	Biggest land-based cargo airplane during World War II
Myasishchev VM-T	1981	Derivative of the M-4 as outsized cargo aircraft
Northrop B-2 Spirit	17 July 1989	Large strategic stealth bomber
Northrop YB-35	June 1946	First bomber utilizing the concept of a "flying-wing"
Northrop YB-49	21 October 1948	Jet-powered version of the YB-35
Tupolev ANT-20 "Maxim Gorky"	Circa 1934	One of the largest aircraft of the 1930s, 8 engined Soviet propaganda aircraft

	First flight	Note
Tupolev Tu-95	12 November 1952	Longest serving Tupolev bomber
Tupolev Tu-160	18 December 1981	Heaviest combat aircraft ever built
Zeppelin Staaken R.VI	Circa 1917	Largest aircraft to see regular squadron service in World War I

	First flight	Note
Airbus A380-900	-	Announced in 2006 as a derivative of the Airbus A380-800. World's highest-capacity passenger aircraft in history
Beriev Be-2500	-	Will be the largest aircraft ever if built, development started in the 1980s
Boeing XB-15	15 October 1937	Nicknamed the "Old Grand pappy", wing design for it used on the Boeing 314 Clipper flying boat
Boeing Pelican	-	Concept only
Boeing 2707SST	Design begun in the early 1960s. A mockup was built but no prototype.	Planned as an answer to the European Concorde Supersonic Transport. At 306 feet (93 m) long it would have been one of the longest airframes ever flown. Problems with the weight of the swing-wing mechanism and air friction heating in Mach 3 flight provoked a drastic redesign, by which time airline interest in SSTs was dropping because of environmental concerns. The U.S. Congress cut
Caproni Ca.60	4 March 1921	Featured triple set of three wings, destroyed on first flight
Douglas XB-19	27 June 1941	Government funding and airlines began canceling orders.

		First flight	Note
Hughes H-4 Hercules "Spruce Goose"		2 November 1947	Largest aircraft in the world 1947 to 1952 when the even heavier Boeing B-52 Stratofortress first flew. World's largest flying boat, and largest wingspan of any aircraft. Only one was ever built and it performed only one short flight.
Junkers Ju 488	1944		Proposed heavy bomber, never flown
Junkers Ju 390	20 October 1943		Largest aircraft in the world 1943 to 1944 when the even heavier Blohm & Voss BV 238 first flew. Selected and further developed as the Amerika Bomber
Kalinin K-7	11 August 1933		Large experimental bomber developed during the 1930s, crashed 4 months after first flight.
Nakajima G10N1 Fugaku	1943		Proposed long range bomber, never flown
North American XB-70	21 September 1964		Experimental bomber capable of 3 times the speed of sound. Before the first prototype was ever built it was determined by the Kennedy Administration that no matter how high and how fast the bomber, Soviet surface to air missiles would eventually catch up in capability, and it was dropped in favor of ICBMs.

	First flight	Note
Sukhoi KR-860	The concept for the super large transport aircraft which began in the 1990s	KR-860 (Kryl'ya Rossii or Wings of Russia) early named as SKD-717 is super large transport aircraft with weights about 650 tonnes (Antonov An-225 weight is 600 tonnes), payload about 300 tonnes (An-225 payload is 250 tonnes) and 860 to 1000 passengers, a proposed Double decker wide-body Superjumbo jet by Russian aerospace company Sukhoi.
Reaction Engines Skylon	-	Hydrogen space plane concept
A2 plane	-	Concept antipodal hypersonic hydrogen passenger plane
Strato launch Carrier Aircraft	13 December, 2011 Announcement	a proposed aircraft being developed by Scaled Composites to provide air-launch capability for Strato launch Systems
CH-47 Chinook	21 September 1961	Mass-produced heavy-lift helicopter
Fairey Rotodyne	6 November 1957	Advanced autogyro, prototype only
Hughes H-17 Sky Crane	1952	Heavy-lift helicopter with the largest rotor flown

		First flight	Note
V-22 Osprey	19 March 1989	One of the largest VTOL helicopters and the first tiltrotor helicopter	
Mil Mi-6	July 1957	Mass-produced heavy-lift helicopter	
Mil Mi-10	15 June 1960	Heavy-lift "sky crane" developed from Mi-6	
Mil V-12 or Mi-12	10 July 1968	Largest helicopter ever built; not put into production	
Mil Mi-26	14 December 1977	Heaviest and most powerful helicopter in production	
Sikorsky S-64 Sky crane	9 May 1962	Heavy-lift "sky crane"	
Eurocopter EC725 Super Cougar	2005	Largest helicopter in service with the French armed forces	
Sikorsky CH-53E Super Stallion	1981	Largest helicopter in service with the US armed forces	
Westland Westminster	June 15, 1958	British prototype of heavy-lift helicopter	

Q1) Write a short notes on Cargo capacity. How it is determined?

Q 2) Draw a Seating plan for Airbus A330.

Q 3) Give an Aircraft configuration for Standard aircraft.

Q 4) What is the purpose of Aircraft familiarization sheet and test?

Q 5) Give a Aircraft customized layout for Civilian aircrafts.

13.8 LET US SUM UP

The classification of automobiles combines the luggage or cargo capacity of the vehicles with the passenger capacity of the vehicle to determine what official “classification” the vehicle has according to the Federal government. Passenger volume room is the size of the interior of the vehicle. These dimensions include the height, width, and length

dimensions of the passenger section of the vehicle that includes the seat width, head room, and foot room of the automobile.

For the consumer though, the cargo capacity of a vehicle needs to be known in order to determine what kind of vehicle will meet your needs. All aircraft have specific structural/aerodynamic limitations. If you do not heed these limitations, you could damage the aircraft and endanger yourself. It is mandatory that you know all the aircraft limitations and emergency procedures.

13.9 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 13.3
- 2) Refer Sec. 13.3
- 3) Refer Sec. 13.6
- 4) Refer Sec. 13.4 & 13.5
- 5) Refer Sec. 13.7

References

- ABC Worldwide flight guide (2011)
- Bhargava, A. (2005). "Danger in the Air", *Business world*, 29 August 2005.
- Hermann, W (2004). Aviation in Germany – the Green Position, Board of airline representatives in Germany (BARIG), Sept 16, 2004.
- OAG Flight guide (2011), OAG Worldwide, Dunstable, U.K

Unit-14

IATA Cargo Agent, Consolidator, Flight Forwarder, Cha's Break Bulk Agents

Structure:

14.1 Objectives

14.2 Introduction

14.3 IATA Cargo agents

14.4 Airline consolidator

14.5 Freight forwarders

14.6 Custom house agents

14.7 Break bulk agent

14.8 Lets Sum up

14.9 Clues to Answers

14.10 References

14.1 OBJECTIVES

To understand about:

- The Air Cargo Agents and Guidelines for Air Cargo Agent, Registration, Qualifications and Retention;
- Airline consolidator and their roles in air cargo transfer;
- Freight Forwarder or Freight forwarding agents and their roles in different countries;
- Custom House Agents, Liabilities on a CHA, duties and obligations of a CHA.

14.2 INTRODUCTION

Cargo Agent means a person or organization authorized by an airline to receive shipments, execute Air Waybills and collect charges. An IATA cargo agent is one that is recognized by IATA as having met its requirements for an IATA registered cargo agent. Airlines consolidators do not buy the seats in bulk for resale; they sell the available inventory at contracted rates. The consolidator gets the ticket rates at a less rate and they can sell it within a maximum limit (putting an adequate profit to it). The consolidator rates are usually lesser than or equal to the net fare. A **freight forwarder, forwarder, or forwarding agent** is a person or company that organizes shipments for individuals or corporations to get large orders from the manufacturer or producer to market or final point of distribution. Forwarders will contract with a carrier to facilitate the movement of goods.

A forwarder is not typically a carrier, but is an expert in supply chain management. **Customs House Agent (CHA)** is a person who is licensed to act as an agent for transaction of any business relating to the entry or departure of conveyances or the import or export of goods at any Customs station. Break bulk agents offers services like -Follow up of purchase orders with the suppliers and to provide feedback to the consignee in Malaysia on a regular basis, Pickup of Consignments from the suppliers' location, Completion of custom formalities at the port of origin, Forwarding the consignments by air/sea freight as required by the consignee, Pre-Advise to consignee with copies of shipping documents, Collection of freight etc.

14.3 IATA CARGO AGENTS

Any person involved in international airfreight and complying with appropriate license and legal requirements may apply for registration as an

IATA cargo agent. Affording benefits to both airlines and agents, IATA accreditation provides agents with industry recognition of their financial and professional competence and airlines with a worldwide distribution network of approved agents to sell their product.

The relationship between member airlines and their registered cargo agents is administered under a set of IATA resolutions. These government-approved rules establish the rights and obligations of the parties, as well as the procedures and requirements for agents who wish to obtain and to maintain industry accreditation, thus becoming part of the airlines global cargo distribution network. Accreditation procedures and conditions are subject to regional requirements.

Guidelines for Air Cargo Agent, Registration, Qualifications and Retention

This Indian Advisory Circular (IAC) describes and provides guidance for Requirements of Air Cargo Agent for Registration, Qualifications, training and Retention for operation under Indian Civil Aviation Regulations. Compliance with these guidelines is not, in itself, mandatory and does not constitute a regulation. This IAC is issued for guidance purposes to outline a method of compliance with the regulations. An applicant may elect to follow an alternate method, provided that alternate method is found acceptable by the Indian Civil Aviation Authority (ICAA).

a) Definitions: Cargo Agent: means a person or organization authorized by an airline to receive shipments, execute Air Waybills and collect charges. An IATA cargo agent is one that is recognized by IATA as having met its requirements for an IATA registered cargo agent.

b) Certification: There are five phases in the certification process. Each phase is described in sufficient detail to provide a general understanding of the entire certification process. The five phases are:

- (1) Pre-application form
- (2) Formal Application form
- (3) Document Compliance
- (4) Inspection and Investigations
- (5) Approval

i) Pre-application Form: Have provided information on the requirements and procedures that apply for Applicants wishing to become an approved Air Cargo Agents.

ii) Formal Application Form: Each Applicant is required to complete an application form designed to determine the identification, ownership, facilities, staff, legal entity, financial standing, sales and promotion of Applicant.

The following documents should accompany the application:

- (a) Checklist of documents (copies only) that should accompany this application;
- (b) Articles of Incorporation/association/Organization/registration and license to trade;
- (c) Current financial statements and balance sheet certified by chartered accountant, certified public accountant or certified general accountant;
- (d) Evidence of introductory cargo and dangerous goods training courses completed by staff handling cargo operations; and
- (e) Appropriate fees.

Application form should be submitted in duplicate. Each set of the answer script must be fully supported by the requisite documentary evidence except for the financial statements where only two sets are required

iii) Document Compliance: All applications, with full supporting documentation and applicable fees should be sent directly to the ICAA, Accreditation Services-, at the FSS Office identified at the end of this IAC. All applications are acknowledged and Applicants are informed should any element be incomplete or, initially do not appear to meet the established criteria.

iv) Inspection and Investigations: Inspectors and Investigators, neutrally acting on behalf of ICAA, will visit the sites indicated by the applicant. This visit seeks to ascertain that all the criteria are met. Particular attention is paid to ensure that the premises, staff meet the requirements and cargo handling equipment in order to prepare air cargo ready for carriage on behalf of Airlines. At the same time, the financial standing of the Applicant will be assessed, based on the previously supplied accounts and financial information.

When satisfactory site visits and financial reports are received, then details of the Applicant are published to all Member Airlines. The rules provide Member Airlines with thirty (30) days in which to protest by filing evidence indicating why an Applicant, who in their opinion, fails to meet the criteria. If the applicant meets all qualifications and no protest is received, then promptly thereafter approval will be given. The approval decision is notified to all Member Airlines and to the Applicant within forty-five (45) days of publication.

v) Approval: A successful Applicant will be sent an approval letter advising of the assigned ICAA numeric code and effective date of approval/registration. The Agent's duplicate copy of the Cargo Agency Certificate, counter-signed by ICAA and Air Cargo Agent's manager in charge. The newly registered Air Cargo Agent must keep in the agency office the latest edition of the IATA Cargo Agent's Handbook, Dangerous Goods Regulations Manual and the TACT Rules. Disapproved Applicants will be notified of the grounds for disapproval. A rejected Applicant may, within thirty (30) days, request reconsideration of the decision by the ICAA or, following reconsideration, may invoke the procedures for review by the ICAA. A re-application may be made as soon as the grounds for disapproval have been corrected.

In order to ensure that all registered Cargo Agents on the official Cargo Agency List continue to meet the criteria, periodic reassessments are conducted. In addition, any registered Agent undergoing changes to its financial or legal structure, name, ownership or premises is required to promptly notify ICAA. Certain changes may affect the registered status of an Agent and may be subject to review procedures under the Air Cargo Agency Rules.

c) Qualifications/Criteria Required for Approval of an Air Cargo Agent: Successful Applicants must meet certain minimum criteria in order to be listed as registered ICAA approved Air Cargo Agents and, continue to meet these standards in order to be retained in the official ICAA approved Air Cargo Agency List Data Base.

i) Staff requirements and Qualifications: The Applicant shall employ at all places where cargo is prepared ready for carriage full-time staff competent and qualified to provide the services and handling functions necessary to make air cargo ready for carriage. Evidence, in the form of training certificates, should be submitted showing that:

ii) Financial Requirements: Applicants and registered as an Air Cargo Agents are expected to have satisfactory financial and credit standing. An evaluation is conducted on the Applicant's independently produced financial statements. These should consist of a current audited Profit and Loss Statement and Balance Sheet, prepared in accordance with local accounting practices, as well as an Aging Analysis of Account Receivables and Payables. An Applicant may be required to provide additional information as may be necessary to complete the financial evaluation. Financial statements meeting certain established criteria, such as a positive liquidity and a net profit before tax, may be considered satisfactory. Should one of established criteria not be met, then additional financial support may be necessary. This support may take the form of a bank or insurance guarantee/bond equal to average turnover for a period as determined appropriate for each country. Also, there are countries where bank or insurance guarantee/bond is a requirement. Agents failing to meet any of the standards or failing to supply financial support where requested will not be considered as financially satisfactory. Insolvent companies will also not be considered as financially satisfactory. The financial standing of Agents is reviewed periodically.

iii) Suitability of Premises & Cargo Handling Equipment: Suitable premises are to be maintained and operated by an Applicant for the promotion or sale of international air cargo transportation over the lines of Members, "Operators or Carriers" and for the handling of consignments. The operator should have Warehouse Facilities pursuant to part 113 which comply with National Security Standards and which are equipped to prepare airfreight ready for carriage.

iv) Processing and Handling: The applicant's premises, staff and equipment should be capable of performing the following functions as a minimum:

- (a) Quoting Member Airlines' rates, charges and related conditions;
- (b) Assisting customers regarding the formalities for transportation of cargo by air, including reservation service;
- (c) General acceptance of all consignments for carriage and delivery to a Member Airline at an airport ready for carriage
- (d) Including restricted articles in accordance with the applicable Dangerous Goods regulations; and
- (e) Collecting charges from customers and remitting monies due to carriers.

(f) Adhering to security control measures as prescribed by the responsible authority (ies),

d) License to Trade and Other Requirements: An applicant shall have a valid license to trade and comply with any other national legal requirements in the operation; and The Applicant's insurance should be adequate to cover its liability for loss or damage to shippers' cargo whilst in its charge or custody.

An Applicant may not be approved if a director or shareholder or person of general management has been found guilty of business violations or is an undercharged bankrupt. Nor if any such person has held a similar position with an Air Cargo Agent in default or with outstanding debts to Member Airlines. However, if ECAA is satisfied that such person did not cause such default and can be relied upon in future to comply with the terms of the Cargo Agency Agreement the Applicant may be approved.

e) Accreditation - Cargo Agents: Any person involved in international airfreight and complying with appropriate license and legal requirements may apply for registration as an IATA cargo agent.

f) The Cargo Accounts Settlement System (CASS): Is an industry settlement scheme for the computerized processing of accounting between Cargo Agents and Airlines. The CASS simplifies airline/agent reporting and remittance, saves costs and improves cash flow.

Freight forwarders settle amounts due to the various Airlines they do business by means of one payment made to a single central accounting office in a country operated neutrally by IATA. At the beginning of 1999, twenty-six CASS Offices are already in operation worldwide, with several others planned for implementation in the near future.

DG Training Course Recognized Programs designed and monitored by training specialists from major international airlines and freight forwarders, are aimed at helping cargo agents in their efforts to train their staff. The IATA/FIATA home-study courses are available worldwide and diploma examinations are held twice yearly in all countries of operation. The following courses are available in English:

- Introductory Course Cargo.
- Advanced Module 1 TACT Cargo.
- Advanced Module 2 Dangerous Goods.
- Refresher Dangerous Goods Course

Leading to the IATA/FIATA Introductory Course Diploma, the IATA/FIATA Introductory Course is one of the requirements for accreditation as an IATA Cargo Agent. The Introductory Course takes into account a number of changes in the air cargo industry and the evolution of the industry towards the adoption of the Montreal Protocol.

g) Change in Agency: Under the terms of the Cargo Rules, Freight Forwarders/ Agents are required to notify the Agency Administrator of any proposed change in the ownership, legal status, name or address of their agency and such changes are subject to the provision of section 5 of the Cargo Agency Rules.

i) Change of Ownership and/ or Legal status: Agents are reminded that they shall not assign any of their rights or obligations under their Cargo Agency Agreement without the consent of Members. Therefore, if a change of ownership and/or legal status is proposed, notice of such change must be given to IATA at least 30 days prior to its effective date.

ii) Change of Ownership and/ or Legal status: If a Cargo Agent wishes to change its name or address, prior notice has to be given to the ECAA in order that an application for approval of the change may be properly processed and all Members thereby advised.

The consequences of overlooking the requirements for giving prior notice could be detrimental to the continuation of an Agency status as a Cargo Agent and the importance of advising all Members of any change ahead of time cannot be overstressed.

h) Security Requirements: The Cargo Agent shall adhere to all relevant security requirements.

14.4 AIRLINE CONSOLIDATOR

An **airline consolidator** is a specific kind of airline ticket reseller. Consolidators work through contracts with major carriers to sell at reduced prices which are for niche ethnic markets. The main benefit being that fares through consolidators will be lower than published rates available from the airlines themselves.

Airlines consolidators do not buy the seats in bulk for resale, they sell the available inventory at contracted rates. The consolidator gets the ticket rates at a less rate and they can sell it within a the maximum limit (putting an

adequate profit to it). The consolidator rates are usually lesser than or equal to the net fare.

Consolidators are most beneficial in international markets. For domestic U.S. markets, typically, they are only advantageous for business class and first class fares. Tickets purchased through consolidators may have very different fare rules than typical published fares, and sometimes frequent flyer credit may not be accrued.

Even though many consolidators are online, most consolidators still work only through bona fide retail travel agents. Many consolidators also act as Host agencies for local travel agencies. Today many of the online OTA use consolidators to increase margins on sales since airlines do not pay commissions.

14.5 FREIGHT FORWARDER

A **freight forwarder, forwarder, or forwarding agent** is a person or company that organizes shipments for individuals or corporations to get large orders from the manufacturer or producer to market or final point of distribution. Forwarders will contract with a carrier to facilitate the movement of goods. A forwarder is not typically a carrier, but is an expert in supply chain management. In other words, a freight forwarder is a "travel agent," for the cargo industry, or a third-party (non-asset-based) logistics provider. A forwarder will contract with asset-based carriers to move cargo ranging from raw agricultural products to manufactured goods.

Freight can be booked on a variety of carrier types, including ships, airplanes, trucks, and railroads. It's not unusual for a shipment to move along its route on multiple carrier types.

International freight forwarders typically arrange cargo movement to an international destination. International freight forwarders, have the expertise that allows them to prepare and process the documentation and perform related activities pertaining to international shipments. Some of the typical information reviewed by a freight forwarder is the commercial invoice, shipper's export declaration, bill of lading, and other documents required by the carrier or country of export, import, or transshipment. Much of this information is now processed in a paperless environment.

The FIATA short-hand description of the freight forwarder as the 'Architect of Transport' illustrates clearly the commercial position of the forwarder

relative to his client. In Europe there are forwarders that specialize in 'niche' areas such as rail-freight and collection and deliveries around a large port. The latter are called Hafen (port) Spediteure (Port Forwarders). A forwarder in some countries may sometimes deal only with domestic traffic and never handle international traffic.

Freight Forwarder roles in different countries:

- **Australia**: In Australia most licensed Customs Clearance Agents (now more commonly referred to as Customs Brokers), operate under a freight forwarder.
- **Bangladesh**: In order to start as a freight forwarder a person needs a government license.
- **Canada**: Transport Canada is the federal department responsible for the implementation and enforcement of the transportation policies and programs of the Government of Canada. The Canadian freight forwarding industry falls under the regulatory guidance of Transport Canada. The Canadian Border Services Agency is charged with enforcing the majority of the regulations that international freight forwarders are required to follow. International security measures are the dominant concern of freight forwarders and customs brokers. The Canadian International Freight Forwarders Association was established in 1948 to support and protect the character, status, and interest of foreign freight forwarders by establishing uniform trade practice and regulations. CIFFA also holds an educational role by providing a certificate and advanced certificate programs.
- **Ireland**: Even in smaller markets, such as Ireland, the role of freight forwarders is strategically important. International merchandise trade is worth €148 billion to the Irish economy .82% of manufactured products are exported, further highlighting the importance of the freight forwarders to a nations' economy. Associations like the Irish International Freight Association and FIATA help maintain the professionalism of this industry through educational and representative roles. The FIATA Diploma in Freight Forwarding is an example of how this can be achieved.
- **Nigeria**: Freight-forwarding in Nigeria has been in place since the exporting of groundnut as a cash crop since 1914, though not initially as freight forwarding but as the means of transportation of both goods and services from one country to another. Following the methodology of their British forebears, agents were used to facilitate the transport of goods and services.

- **UK:** In the U.K., freight forwarders are not licensed, but many are members of the British International Freight Association. Freight forwarders in the UK consolidate various goods from different consignors into one full load for road transport to Europe, which is often known as groupage. Some freight forwarders offer additional related services like export packing.
- **USA:** In the U.S., companies that handle domestic U.S. freight must be registered with the U.S. Department of Transportation's Federal Motor Carrier Safety Administration. Such forwarders are "carriers" who accept freight for transportation and are liable for transporting the freight from origin to destination, under their own bill of lading. The legal definition at 49 USC 13102 (8) is: FREIGHT FORWARDER. – the term "freight forwarder" means a person holding itself out to the general public (other than as a pipeline, rail, motor, or water carrier) to provide transportation of property for compensation and in the ordinary course of its business – (A) assembles and consolidates, or provides for assembling and consolidating, shipments and performs or provides for break-bulk and distribution operations of the shipments; B) assumes responsibility for the transportation from the place of receipt to the place of destination; and (C) uses for any part of the transportation a [surface carrier] carrier subject to jurisdiction [of the Department of Transportation] of under this subtitle.

International ocean freight forwarders arranging for shipments to and from the US must be licensed by the Federal Maritime Commission as Ocean Transportation Intermediaries. An Ocean Transportation Intermediary is either an ocean freight forwarder or a non-vessel operating common carrier (NVOCC). An ocean freight forwarder is an individual or company in the United States that dispatches shipments from the United States via common carriers and books or otherwise arranges space for those shipments on behalf of shippers. Ocean freight forwarders also prepare and process the documentation and perform related activities pertaining to those shipments. An NVOCC is a common carrier that holds itself out to the public to provide ocean transportation, issues its own house bills of lading or equivalent document, but does not operate the vessels by which ocean transportation is provided. Companies may obtain both licenses and may act in both capacities even on the same shipment. The U.S. legal distinction between the two is that a freight forwarder acts as the agent of a principal (typically a shipper or consignee) and the NVOCC is a transportation company (carrier) that is physically responsible for the carriage of goods and acts as its own principal. Companies acting strictly as an Ocean Freight Forwarder typically do not issue their own

contract of carriage (bill of lading) and as agent are generally not liable for physical loss or damage to cargo except in cases of errors in judgment or paperwork or fiduciary responsibility. NVOCC's act as ocean freight carrier and issue their own bill of lading and are legally responsible for physical loss or damage in accordance with the terms and conditions of their bill of lading and tariff. Similar to other countries, freight forwarders that handle international air freight will frequently be accredited with the International Air Transport Association (IATA) as a cargo agent however they must obtain an Indirect Air Carrier (IAC) certification from the Department of Homeland Security (DHS).

History of Freight Forwarding

One of the earliest freight forwarders of record is the now defunct Thomas Meadows and Company Limited of London, England. The firm was established in 1836 and was acquired by Rockwood International Freight Inc. in 1989. Rockwood was acquired by Delmar International of Montreal, Quebec, Canada in 1990.

According to "Understanding the Freight Business," written and published by the executive staff of Thomas Meadows and Company in 1972, the advent of reliable rail transport and steamships created the demand for the then fledgling freight forwarding industry. New world trade patterns developed between Europe and North America, creating additional demand. The first international freight forwarders were actually inn keepers in London who held and re-forward the personal effects of their hotel guests.

The original function of the forwarder was to arrange for the carriage of his customers' goods by contracting with various carriers. His responsibilities included advice on all documentation and customs requirements in the country of destination. His correspondent agent overseas looked after his customers' and kept him informed about matters that would affect movement of goods.

In modern times the forwarder still carries out those same responsibilities for his client. He still operates either as a domestic US carrier, or otherwise with a corresponding agent overseas or with his own company branch-office. In a single transaction, it can happen that the forwarder may be acting as a carrier (principal) or as an agent for his customer or both.

International Freight Forwarders and NVOCC's and customs brokers often charge a fee for transferring documents to another transportation company at destination. This fee is a part of the ocean freight charges, being paid by the importer at the port of discharge in the incoterm FOB (Free On Board), and by the exporter at the origin in the incoterms CFR (Cost and Freight) and CIF (Cost, Insurance and Freight).

There are many other incoterms; these are the most common. This fee is separate from documentation fees charged by steamship carriers and NVOCCs as part of the freight charges on a bill of lading and is separate from other fees for document preparation or for release of cargo. Some companies may call this an admin fee, doc fee, doc transfer or other name, but it exists in some form in most destinations around the world and is well known to most importers and exporters. Steamship carriers do not have this fee.

Typical day for a Freight Forwarder

A typical day for a freight forwarder would primarily consist of talking with clients and warehouse around the world. Taking this information and passing it along to the appropriate party whether that is an SSL (Steamship Line), Customs or the customer themselves. Along with making sure that the freight the client is importing or exporting gains entry into the country a freight forwarder must (most of the time) arrange for said freight to be picked up and delivered to the final consignee's place of business. This requires contacting trucking companies, rail lines and even sometimes exporting the goods to a different country for final delivery. A lot of this is now done over the Internet and phones. A typical freight forwarder will spend most of the day at a desk in front of a computer.

For Freight Forwarders and IATA cargo agents, managing each detail of the air Freight Forwarding process is key, directly influencing customer satisfaction as well as their own revenue flows. Air Freight Forwarders can manage all aspects of the air cargo operations with ease and speed with the help of complete automation software. Complete automation software for Air Freight Forwarders and IATA cargo agents, offers unique benefits like:

- Comprehensive management of operations with ease and speed
- Effective monitoring and management of revenue flows
- Ensuring customer delight by efficiently handling and tracking consignments

- Compliance with all IATA requirements

Increase in profitability due to effective cargo Consolidation is specially mapped to the needs of Air Freight Forwarders with a number of features:

- Complies with all IATA requirements
- Generates House Airway Bills, Master Airway Bills and maintains Airway Bill stocks
- Manages the master database for Shipper, Consignee, Airlines, Commodity, Port, Country, etc.
- Can provide balance stock position of Airway Bills of various airlines
- Maintains incentive registers, payment registers, CSR, etc.
- Can track every consignment until it reaches its final destination based on pre-defined milestones
- Maintains flight schedules and tabulates freight rates for each airline for different ports
- Can generate many important reports like Airway Bill Register, Work Volume Register, Agent / Sub-Agent Report, Daily Airway Bill Report etc.
- Is compatible with Softlink's Visual Accounts or alternatively an additional module for invoicing can be used
- Provision to Block, Void or Return a set of Airway Bills
- Provision for user definable reports, allows users to generate customized reports
- Manages import shipments by generating CAN, DO, receipts, etc.
- Prepares consol manifest for filing with Indian customs through ICEGATE
- Generates profitability report
- Provision for graphical MIS reports for easy decision making
- Online client registration for software updates and support

- Regular software updates, downloadable online
- Keeps track of buying and selling freight rates
- Manages consignment consolidation and generates manifest

14.6 CUSTOM HOUSE AGENTS

Customs House Agent (CHA) is a person who is licensed to act as an agent for transaction of any business relating to the entry or departure of conveyances or the import or export of goods at any Customs station.

Liabilities on a CHA: Section 146 of the Customs Act is the enabling provision, which allows agents of importers and exporters to act on behalf of importers and exporters. This is necessitated by the highly involved and technical nature of the work to be done in connection with clearance of imports into and exports out of country. The importers and exporters themselves may have neither time nor the requisite knowledge on their own. Therefore, agents are allowed to act on their behalf. The work of the agents is governed by the Customs House Agents Licensing Regulations, 1984 framed under this section read with Section 157.

There are certain liabilities fastened on the agent of the importer or exporter under Section 147. Some of these liabilities are in the nature of extension of and exceptions to the liability of an agent under the Indian Contracts Act, 1872. Sub-section (1) empowers the agent to do everything that an importer or an exporter can do. Filing a bill of entry, shipping bill, submitting supporting documents therewith, helping in examination of goods, payment of duty on behalf of the principal, warehousing of goods, removal from warehouse and the like. The common law principle that an agent's actions bind the principal is given the status of a legal presumption. The consequences of all actions of a CHA will bind the importers and exporters on whose behalf they act. An agent who is authorized to act on behalf of the importer or exporter is treated as the owner of imported or exports goods. In respect of that particular transaction, a notice could be given to that agent. This does not normally extend to recovery of duty not paid or short paid by the owner, importer or exporter of goods. As an exception, this is permissible when the Deputy/Assistant Commissioner is of the opinion that such recovery from the owner, importer or exporter of goods is not possible.

1. No ceiling for number of CHAs who can be appointed in a Customs House.
2. Issue of regular licence is preceded by a period of grant of temporary licence.
3. Prescribing criteria of experience and financial soundness for appointment.
4. Grant of regular licence is subject to passing examination, satisfying minimum volume of business and complying with obligations under Regulation No.14.
5. Change in the constitution of partnership or firm not to affect the operations of CHA.
6. Commissioners have been empowered to prescribe fees to prevent excess billing by the CHAs

Application for licence

Under Regulation 4, every January, the Commissioner of Customs has to notify, advertise and call for applications from persons for acting as CHAs within his jurisdiction. Individuals, firms and companies can act as CHAs. In case of firms and companies, the application has to give the particulars of partner or director who will actually do the work of clearance of goods at the Customs station. Application is made in Form A.

Applications made by the firms or companies should contain full details of the directors or partners.

Qualifications of an applicant

The applicant individual working for a firm or a company should be:

- A graduate from a recognized University.
- Should hold a pass in Form G as employee of the firm / company.
- Should have engaged in Customs clearance work for three years.
- Should possess assets of Rs.1 lakhs or Rs.50,000/- as certified by a scheduled bank.

- Reliability of the applicant and soundness of financial status are very important criteria.
- If there are too many applicants than the licenses that can be granted, the Commissioner has to select persons for licensing by seniority of holding G pass. If there are two persons of same seniority, the older person will be preferred [Regulation 8 (3)].

Relaxations, which can be granted by the Commissioner: An applicant need to possess pass in Form G for one year only if permitted by the Commissioner for reasons to be recorded in writing.

Departmental clarifications

Qualification: Various Custom Houses and Commissionerate prescribe certain volume of business as qualification for considering application for regular licences:

1. 150 documents per year (for ex: shipping bill or bill of entry)
2. Clearance or shipment 1500 packages per year.
3. Clearance or shipment of packages of value not less than Rs.60 lakhs.

A G-Pass holder with one year experience may also appear for examination if permitted by the Commissioner for reasons to be recorded in writing.

Other clarifications as to qualification

1. Diploma in "Customs clearance and freight forwarding" offered by Bombay University is not considered as graduation for the purpose of eligibility.
2. An employee or partner or director of a CHA licensee authorized to take examination under Regulation 9(5) is allowed to take three examinations in a period of two years from the date of application by the licensee for examination.
3. Level of knowledge of local language has to be determined by the Commissioners as the Regulations do not prescribe any requirement. Knowledge of local language by the authorized representative is considered sufficient.
4. A person who passes examination under Regulation 9(5) can apply for independent CHA licence when applications are called for, subject to possessing other qualifications.

5. Persons who were granted CHA licence before the amendment of 1997 prescribing graduation as qualification would continue to qualify for renewal of licence.

Multimodal transport operators as CHAs

Multimodal transport operators (MTOs) are appointed under Multimodal Goods Transportation Act, 1993 by the Ministry of Surface Transport. Their work involves carriage of goods by more than one mode of transport between India and any place abroad. They handle export cargo stuffing and destuffing. This does not automatically confer any right on them to obtain appointment as steamer agents or CHAs unless are otherwise qualified for such appointment. Their role is different from that of a CHA or a steamer agent.

Temporary licence

After scrutinizing and accepting the application a temporary license for a period of one year is granted under Regulation 8 in Form B.

Before receiving the temporary or regular license, the applicant has to go through another important step. He is required to execute a bond and give a surety or bank guarantee in Forms D and E. For major ports, the surety amount is Rs.25000/- For other ports, it is Rs.10000/- Surety may also be given in the form of National Savings Certificates or postal security. In the last two forms of surety, these should be pledged in the name of the Commissioner.

Curriculum [Regulation 9(3)]

1. Preparation of various kinds of bill of entry and shipping bill.
2. Arrival entry and clearance of vessels.
3. Tariff classification and rates of duty.
4. Determination of value for assessment.
5. Conversion of currency.
6. Nature and description of documents to be filed with various kinds of bills of entry and shipping bill.
7. Procedures for assessment and payment of duty.

8. Examination of merchandise at the Customs stations.
9. Provisions of the Trade and Merchandise Marks Act,1958.
10. Prohibitions on imports and exports.
11. Bonding procedure and clearance from bond.
12. Re-importation and conditions for free re-entry.
13. Drawback.
14. Offences under the Act.
15. Provisions of allied Acts including Customs Tariff Act,1975, Foreign Trade (Development and Regulation) Act, 1992, Foreign Exchange Regulation Act,1973, Indian Explosives Act,1884, Arms Act,1959, Opium Act, 1878, Drugs and Cosmetics Act,1940, Destructive Insects and Pests Acts, 1914, Dangerous Drugs Ac 1930 insofar as they relate to the clearance of the goods through Customs.
16. Refund procedures, appeals and revision petitions.

Although not a part of curriculum, the Commissioner has to satisfy himself that the applicant-candidate has good knowledge of English and local language of Customs station. For a person working exclusively in docks, knowledge of English is not compulsory. But, knowledge of Hindi will be considered as advantageous.[Regulation9(4)].

Examinations

Regulation 8 itself refers to two opportunities to a temporary licence holder for writing and passing the examinations. A third opportunity may be given by the Commissioner if the temporary licence holder has met with the minimum work criteria (number of package, value, tonnage, Duty amount etc). This extension of time is granted for minimum six months and maximum one year. If this extension of time is refused by the Commissioner, a representation can be made to the Chief Commissioner.

The candidate will have three opportunities to pass the examination within two years. One may take examinations as soon as temporary licence is granted. The examination fee is Rs.500/-per appearance. There will be two examinations each year. There will be both oral and written examinations.

A person who passes written examination but fails in oral examination is treated as failed. But, he need not write examination again.

The reference to applicant or candidate or temporary licence holder or regular licence holder must be correctly understood. Where the applicant is an individual, it is the same person who holds the temporary licence and also writes the examination. On the other hand, if the applicant is a firm or company, the person who writes the examination is an employee of the firm or company. But the temporary or regular licence may be issued in the name of the firm or company. This position is clear from Regulations 5 and 6.

Regulation 9(5) allows a CHA to permit one of the employees, or partners or directors to appear in the examination conducted under Regulation 9. This would be in addition to the person already present and who has passed this examination. The person so permitted to appear for examination must be a graduate. But, he need not be a G pass holder or have experience in the capacity of a G pass holder

Regular licence

An application for regular licence can be made by a person who has passed the examinations. Application for regular licence is made in Form C. Form A and Form C are almost identical except that while the first form is issued under Regulation 5, the latter form is issued under Regulation 10. Licence fee is Rs.5000/- . Regular licence is granted in Form D. The applicant for regular licence has to satisfy following conditions:

- A) The applicant must satisfy the norms regarding quantity or value of cargo cleared from the Custom House. This is determined by the Commissioner.
- B) The conduct of the applicant during the period of holding temporary licence must be business like. There should be no delay in clearance of goods or in payment of duty on account of conduct of the applicant. There should be no complaint of misconduct of the applicant. There also should not be any complaint of non-compliance of provision of Regulation 14, which casts some important obligations on the CHAs.

Disqualifications for regular licence

Regulation 10(1) specifies that only a person who qualifies in the examination can apply for a regular license, Nevertheless, sub-regulation

(3) provides that the Commissioner may reject the application of a person who fails to qualify in the examination. It further provides that if performance criteria is not satisfied (regarding quantity and value of clearances or conduct), the application may be rejected. A representation can be made against an order of rejection within 30 days to Chief Commissioner. The Chief Commissioner is also empowered to review the procedure of grant of regular licence within one year. Regular licence granted to a person cannot be transferred [Regulation 13].

Validity of licence

Under Regulation 12 (1), the validity of licence is for a period of five years.

Extension of licence

An applicant seeking revalidation or extension of licence has to apply before the validity expires, to the Commissioner. It will be renewed for a period of five years either from the date of expiration of licence or from the date of last renewal of licence. A CHA seeking renewal has to satisfy the Commissioner that he has conformed to the norms fixed by the Commissioner regarding minimum quantity and value of cargo clearance and that he is not guilty of misconduct or that he has not been the cause of delayed clearance of goods or delayed payment of duty. There should also be no complaint that he has violated the obligations cast on him under Regulation 14 read with Regulation 12. The renewal fee payable is Rs.3000/-[Regulation 12(3)]

A person who has passed examination can act on behalf of another firm or company which is holding a regular licence. But, at any time, he can act for only one such firm or company. A CHA who has been granted licence cannot acquire a right to obtain office accommodation in the Custom House [Regulation 24].

Working in other Customs Stations

A person holding regular licence can work in all Customs stations as a CHA. If a place has both sea port and international air port, there is no need to seek the facility of separate licence from each place. Otherwise, for this purpose a separate application has to be made to the concerned Commissioner of Customs. The applicant should satisfy the commissioner that he has the financial soundness as prescribed under Regulation 6 [see under "Qualifications of applicant", above]. Such an applicant has to satisfy

the Commissioner that he has sufficient clients, that he can provide warehousing and transport facilities. Separate bond and bank guarantee should be given as is given to his regular Customs station, in Forms D and E.

Departmental clarification

Regular licensees working in other Custom Houses

In terms of the Regulations, a person who is regular licence holder and intends to work in another Custom House will be eligible to obtain a regular licence at any other Customs station from the concerned Commissioner subject to his fulfilling the requirements specified in Regulation 10 (2). There is no requirement under this sub-regulation that an employee qualified under Regulation 9 should be available at branch office of the licensee where he intends to obtain regular licence under Regulation 10(2).

Suspension or revocation of licence

A CHA licence may be suspended or revoked within the jurisdiction of Commissioner if there is failure of condition of bond executed by the CHA. Misconduct on the part of CHA or failure to comply with regulations will also result in suspension or revocation of licence. Suspension may be ordered in cases requiring immediate action, pending enquiry. [Regulation 21].

Procedure for suspension/revocation of licence

The Commissioner of Customs has to issue a show cause notice to the delinquent CHA and give him forty-five days time to reply to it. The reply has to be made to an Deputy/Assistant Commissioner nominated by the Commissioner for this purpose. The reply should state whether a personal hearing is desired.

The Deputy/Assistant Commissioner has to conduct inquiry into grounds which are not admitted by the CHA in his reply. For this purpose, both oral and documentary evidence may be taken by him. He may question any person for ascertaining the correct position. The CHA can cross-examine the departmental witness. If opportunity of cross-examination is denied, the Deputy/Assistant Commissioner has to record his reasons for doing so.

At the end of proceedings, the Deputy/Assistant Commissioner will submit a report to the Commissioner.

The Commissioner has to serve a copy on the delinquent CHA requiring him to make representation against that report, within atleast 60 days. The Commissioner has to pass an order after considering the report and the representation.

Appeal against Commissioner's order

Regulation 23(8) provides an appellate remedy against the above order to the CEGAT. A CHA aggrieved by the order of the Commissioner can appeal to the Tribunal. Though the regulations do not so provide, it may be noted that the provisions of Sections 129A to 130 of Customs Act, 1962, would apply to an appeal filed under this sub-regulation.

Employment of Persons

A CHA may employ one or more persons for assisting him in his work as CHA. The appointed person should have atleast passed X standard examination. The appointment of a person has to be approved by the Deputy/Assistant Commissioner designated for this purposes by the Commissioner. The antecedents of the person and his character are considered before granting approval. A new appointee has to pass an examination within six months which is conducted by a committee of Customs officers, for ensuring that the appointee has adequate working knowledge of the provisions of statutes. Upon failure of the candidate, the Deputy/Assistant Commissioner may grant permission for another appearance. Maximum four such permissions can be granted. A person who has passed this examination while working under a CHA will not be required to appear for examination when he works for another CHA. If a CHA authorizes his employee to sign documents, he must file a letter approving such authorization with the Deputy/ Assistant Commissioner. If there is any change in the authorization, it should also be communicated in writing to the Deputy/Assistant Commissioner. The CHA will be responsible for the conduct of his employees and acts of omissions and commissions by them.

Identity cards in Form G

All employees of CHAs are given identity cards in Form G after passing the examination. Till he passes examination, the identity card will be in Form

H. At all times during work at Customs station, the person should carry his identity card and produce it on demand. [Regulation 20].

Departmental clarification

Person with experience in Customs Clearance who do not possess minimum qualification of passing 10th standard examination will not be considered for issuing G pass. However, persons who were given such G pass before introduction of minimum educational qualification in 1997 would continue to be eligible for renewal of such pass.

Service charges

Every CHA has to enroll himself as a member of a CHA association registered with the Custom House and recognized by the Commissioner. Regulation 25 confers power on the Commissioner to fix rates which may be charged to the client for services rendered by the CHA. This is done in consultation with a recognized association of CHAs. The CHAs are required to strictly adhere to these rates.

Import and Export

Customs duty redemption fine; penalties, AAI, Railway, CWC charges Sea & Air Freight, overtime, general averages bonding and debonding, expenses for escorting Bond Cargo sundries loading, conveyance and transport charges, fork lift charges, packing and lashing expenses, telephone, telegram, postage and telex charges, Xerox expenses, cost of stamp paper, special adhesive stamps, Bill of lading issuing expenses, GSP fee, Chamber of Commerce Fee, AEPC, Export inspection agency expenses, container rent, container movement expenses, stuffing and destuffing charges, any other charges, payable to steamer detention charges, truck detention charges, all statutory demurrage charges, shipment and delivery expenses, adjudication formalities, amendment expenses, unforeseen expenses, and all reimbursable expenses, etc.

The above-said charges will be collected from Importers & Exporters on actual basis. It is further directed that a certificate from a Chartered Accountant certifying that the rates charged by the CHA are strictly in accordance with the rates prescribed should be furnished at the time of renewal/extension/regularization of CHA Licence.

Records to be maintained by the CHA

CHAs have to maintain detailed, itemized and upto date books of accounts. The accounts should reflect all financial transactions entered into as a CHA. A copy of all documents such as shipping bill, bill of entry, transhipment application etc. filed must be maintained by the CHA for atleast five years. These records should be made available for inspection by the officers of the department.

Duties and Obligations of a CHA

Clearances only against authorization

A CHA is required to clear goods for import or export only against specific authorization from the principal and must produce it whenever required by the Deputy/ Assistant Commissioner.

Method of transacting business

The CHA has to either personally clear the goods or clear it through an employee who is approved by the Deputy/ Assistant Commissioner who is designated for this purpose by the Commissioner. All the documents prepared by him should prominently bear the CHAs name at the top of the document. The CHA should not attempt to influence the conduct of Customs officers in matters pending before him or his subordinates. There should be no threats, false accusations or duress against such officers. No promise of advantage or benefit or gift should be made or bestowed on such officers. Duty of CHA should be discharged with utmost speed and avoid delays. He cannot charge for his services in excess of rates approved by the Commissioner.

Personal interests of CHA

If the CHA is a former officer of the department, he cannot represent any matter before a Customs officer, which he had personally considered as such officer. He cannot also use facts which came to his knowledge when he was an officer.

Duty to tender correct advise

The CHA is duty-bound to advise the client to comply with the provisions of the Act and the regulations. If there is non-compliance of provisions by any client, he is required to bring it to the knowledge of the Deputy/Assistant Commissioner. This regulation requires the CHAs to act as source of information to the department. The CHA has to exercise diligence and ensure that he passes on correct information to the client, ensure that all information relevant for clearance or cargo or baggage is passed on to the client if it is relevant for clearance of cargo or baggage.

Accounting for money received

The CHA has a duty to promptly pay to Government all money received from client for payment of duties and taxes. Similarly, any money received by him from the client or from the Government should be promptly and fully accounted to the client.

Liability as to information

CHA should not attempt to gather information from Government records if it is not granted by the proper officer. Access to record maintained by him should not be denied, nor removed or concealed when sought by the Commissioner. There is a duty to maintain records and accounts as directed by the Deputy/Assistant Commissioner and produce them before that officer for inspection. All documents have to be prepared strictly in accordance with the rules and orders. If the license granted to a CHA is lost, it should be promptly reported to the Commissioner. If there is failure in complying with obligations under Regulation 14, the Commissioner may prohibit a person from acting as a CHA within his jurisdiction.

Change in constitution of firms, companies, concerns

Any change in the partners or directors should be informed to the Commissioner [Regulation 15]. If there is any change in the constitution of the firm or company, an application for grant of temporary and regular licence should be made within 30 days of such change. If there is nothing adverse against the firm or company, the Commissioner will grant licence of the category held by the firm or company earlier. In the meantime, the concern may be allowed to continue its business as a CHA if an application to that effect is made to the Commissioner. If the concern is not a firm or company, in case of any change in the constitution of the concern,

permission will be granted to continue the business as CHA by the Commissioner, If the change occurs due to death of person who was licenced to act as a CHA, his legal heir who was assisting him in his work as CHA under Regulation 20 may be granted licence if there is nothing adverse against that person and he also passes the examination.

If there is any change of qualified person acting on behalf of the firm or company, such information should be immediately given to the Deputy/ Assistant Commissioner.

14.7 BREAK BULK AGENT

Break bulk agent's offers following services:

- Follow up of Purchase Orders with the suppliers and to provide feedback to the consignee in Malaysia on a regular basis.
- Pickup of Consignments from the suppliers' location.
- Completion of custom formalities at the port of origin.
- Forwarding the consignments by air/sea freight as required by the consignee.
- Pre-Advise to consignee with copies of shipping documents.



- Collection of freight.

Figure 14.1 Collections of freight

Figure 14.2 Collections of freight

The buying habit of the customer changes very fast and due to market trends, the customer importing his merchandise from a country today will buy them from another country tomorrow. The question arises as to the most effective way of importing the merchandise.

Membership

Travel Professionals / Freight Forwarders

IATA formal membership is only applicable for airlines operating air services. Travel Professionals and Freight Forwarders can benefit from IATA Accreditation programmes, and become IATA-approved.

Travel & Tourism - Accreditation and code services

- Full Accreditation Travel Agents (including airline ticket issuance): Allocation of a unique code for Travel agents and other tourism sales intermediaries (not issuing tickets):
- Allocation of a unique code for online travel service providers
- Full Accreditation Cargo Agents
- Contents of the IATA Dangerous Goods Regulations Manual
- Dangerous goods classes and divisions
- Identification
- Pacing requirements
- Marking and labeling - Documentation
- Radioactive materials
- State and operator variations
- Checking procedures
- Expected quantities

Check Your Progress

Q1) What is the role of Airline Consolidator?

Q 2) How are the Air Cargo agents ? Describe guidelines for Air Cargo agent, Registration, Qualifications and Retention.

Q 3) Write a brief notes on Freight Forwarders .List out the roles of Freight Forwarder in different countries.

Q 4) What do you mean by CHA's? Give essential features of CHA Licensing Regulations.

Q 5) How are the Break Bulk Agents?

14.8 LET US SUM UP

An IATA cargo agent is one that is recognized by IATA as having met its requirements for an IATA registered cargo agent. Airlines consolidators do not buy the seats in bulk for resale; they sell the available inventory at contracted rates. The consolidator gets the ticket rates at a less rate and they can sell it within a maximum limit (putting an adequate profit to it). Freight Forwarders will contract with a carrier to facilitate the movement of goods. A forwarder is not typically a carrier, but is an expert in supply chain management. Customs House Agent (CHA) is a person who is licensed to act as an agent for transaction of any business relating to the entry or departure of conveyances or the import or export of goods at any Customs station. Break bulk agents offers services like-Follow up of purchase orders with the suppliers and to provide feedback to the consignee in Malaysia on a regular basis, Pickup of Consignments from the suppliers' location, Completion of custom formalities at the port of origin, Forwarding the consignments by air/sea freight as required by the consignee, Pre-Advise to consignee with copies of shipping documents, Collection of freight etc.

14.9 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 14.4
- 2) Refer Sec. 14.3
- 3) Refer Sec. 14.5
- 4) Refer Sec. 14.6
- 5) Refer Sec. 14.7

References

- ABC Worldwide flight guide (2011)
- Combat Cargo operations Handbook(2002), Department of the Navy, Headquarters united States Marine Corps., Washington, D.C.
- Federal Maritime Commission, Office of Transportation Intermediaries.

- OAG Flight guide (2011), OAG Worldwide, Dunstable, U.K
- <http://www.businessdictionary.com/definition/general-cargo-rate.html#ixzz23sBRvCfM>

**Unit 15: Rules for Cargo Acceptance: Rounding Off
Weights/Dimensions/Currencies; Volume-Weight
Concept; Chargeable Weight; Valuation Charges**

Structure

15.1 Objectives

15.2 Introduction

15.3 Cargo acceptance

15.4 Determination of weight

15.5 Cargo loading

15.6 Cargo load planning

15.7 Lets Sum up

15.8 Clues to Answers

15.9 References

15.1 OBJECTIVES

The objective of this unit is to know the:

- General Acceptance of cargo, Reservation, Cut-off time, Obtaining weight, Volume weight and Chargeable Weight.
- Loading Principles
- Determination of Weight
- Dimensional Weight Calculator
- Cargo loading and planning
- Volume Calculator for chargeable Weight in air freight

15.2 INTRODUCTION

Every employee in charge of cargo acceptance is obliged to check carefully all shipments for goods which are subject to the IATA Dangerous Goods Regulations. Same applies to shipments being transferred by other carriers to LTU. Goods may only be carried if it has been made certain that, either these are not subject to the Dangerous Goods Regulations or, if dangerous, that the package(s) and accompanying documents fully meet the requirements of the IATA Dangerous Goods Regulations.

Cargo loading compartments differ in size, contour, size of access doors, compartment equipment, and floor bearing strength, restraint possibilities and positions. The differences are between aircraft types, sometimes even within aircraft series, always depending on the manufacturers or the operators requirements. For load planning purposes, the passengers and their baggage as checked in take overall priority.

Loading accessories, such as tie-down rings, tie-down straps, lashing rope, supporting planks and platforms, roller platform plastic bags, plastic foil, net bags, pouches and seals for valuable cargo, dry ice boxes, pot kennels, but also pallets and containers etc. are held available at the stations DUS/MUC and must be requested in case of need in good time before the intended date of shipping. The load shall normally be secured by a pallet net. The net will be attached to the pallet by net attachment fittings, which will be snapped into the track profile at marked points.

15.3 CARGO ACCEPTANCE

General Acceptance: A shipment may be accepted on behalf of any carrier which cargo services is appointed as the GCA for said carrier subject to the

availability of services to the final destination and suitable equipment and shipments must meet local government regulations and handling cargo services.

Reservation: Reservation should be made prior to acceptance of cargo. In case, respective airline office carriers out cargo reservation, it must be ensured that all necessary details for the acceptance and carriage of the shipment are provided well ahead of time. Such details should include flight details for multi-sector connections and also load plan with respect to aircraft types in case of handling special cargo. A pre-alert should be sent to cargo service providers six hours ahead of schedule departure.

Cut-off time

General Cargo = 03 hours before schedule departure

Perishable Cargo (PER) and live animals (AVI) = 02 hours before schedule departure

Diplomatic Mail (DIP) / Express cargo/P.O mail = 02 hours before schedule departure

Transshipment Cargo = 24 hours before schedule departure

Quick Ramp Transfer Cargo = 01 hour 30 minutes before schedule departure

Obtaining weight: All shipments must be accepted after obtaining the weight shipments can be weighted at Cargo warehouse.

Volume weight: The cubic volume of a consignment is established by applying the greatest length, the greatest width and the greatest height of the consignment or its packages.

Chargeable Weight: The chargeable weight is the actual gross weight or volume weight, whichever, provided that where a lower charge for a higher minimum weight applies, the greater shall be retained as chargeable weight

Loading Principles: International standards and recommended practices for the clearance of aircraft crew, passengers and cargo are laid down in Annex 9 "Facilitation" to the Convention of the International Civil Aviation Organisation, Chicago 1944, as amended from time to time. Deviations from those standards and recommended practices as laid down in this Annexure 9 are only possible if the respective government has notified

ICAO accordingly. The variations will be published in a valid supplement to Annex 9. For all cargo items the cargo label shall be completed and affixed to every package.

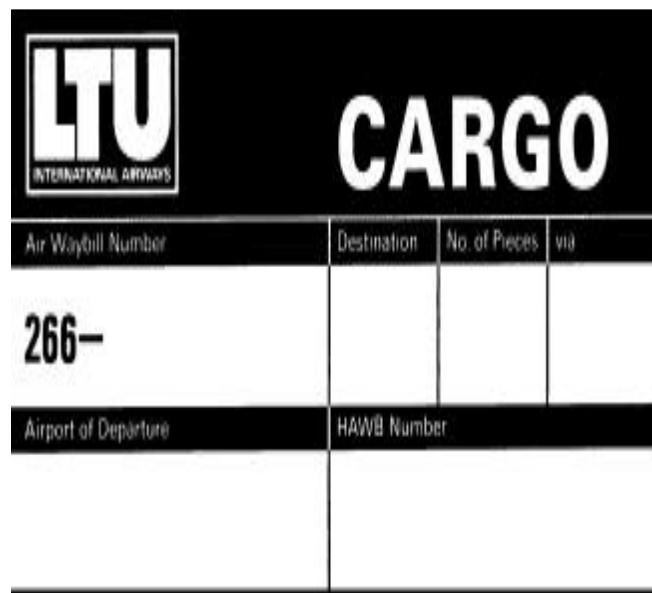


Figure 15.1 Cargo label

Cargo personnel must note that cargo load could be excluded from transportation

- If it is not properly packed and/or may cause damage to the aircraft and/or other load,
- If the weight of the load is not properly determined,
- If it may contaminate the compartment and/or other load (wet freight, dirty pallets, dirty tarpaulin, etc.),
- If it is not packed according to the applicable packing requirements (e.g. For dangerous articles, human remains, live animals, etc.),
- If special handling instructions cannot be observed,
- If necessary loading accessories and gear are not supplied or are not held available,
- If cargo documentation is not complete or incorrect.

15.4 DETERMINATION OF WEIGHT

LTU base and all other stations and/or contracted agents guarantee that the weights of cargo and mail loads to be loaded into an aircraft and transmitted to the aircraft handling department are correct. For

determination of cargo and/or mail weights the following methods may be applied:

Weighing and adding up of weights of individual cargo and/or mail shipments (consignments) Weighing and adding up of weights of made up parts of positioned cargo and/or mail load, i.e. ULDs, trolleys, pallets, etc.

Acceptance of weights stated on air waybills, AV-7s or other recognized weighing documents, provided that it has been ascertained, for instance by spot checks, that the stated weights can be accepted as correct. The department responsible for aircraft handling is advised to familiarize itself with the methods of weight determination applied at its stations.

Unit Loading Devices (ULDs): For ULDs, the determined weight shall be entered in the ULD tag.

Bulk Load: The determined net weight shall be entered in the column "Net Weight in kg" in the trolley tag.

Confirmation of Weight Determination: The entries of weight in ULD and/or trolley tags shall be confirmed by the signature of the person responsible for the weight determination. The determined weight shall be transmitted to aircraft operations in form of a written statement, according to local arrangements and facilities. EDP-printouts, cargo manifests or ULD and/or bulk load statements can be used.

A copy of the form used for transmission of weights shall be filed with the trip file.

Table 15.1 Dimensional Weight Calculator

Dimensional	Weight	Calculator
Pieces:	<input type="text"/>	
Length*:	<input type="text"/> Width*: <input type="text"/> Height*: <input type="text"/>	
Dimensional Unit:	<input type="text"/>	<input type="button" value="▼"/>

Services:	<input type="button" value="▼"/>

Fractions of less than $\frac{1}{2}$ will be dropped and fractions of $\frac{1}{2}$ or more will be rounded up to the net inch or centimeter. United Cargo's rates are calculated based on the weight or space that a shipment occupies. The space that a shipment occupies is known as dimensional weight. This utility will help you determine the dimensional weight of your shipment. This utility is dependent upon the accuracy of the information you provide. Each aircraft has its own size constraints. Shipments on wide-body aircraft are restricted by the size of the containers they hold. Shipment on narrow-body aircraft are restricted by the size of the opening on the pit of the aircraft.

Volume Calculator for chargeable Weight in air freight

- Dimensions should always be " length x width x height"
- Dimensions should always be presented in centimeters.
- Dimension should always be taken at the extreme limit of each and as though the article was perfectly square and even (a drum should be considered as a box with the length and width being equal to the total diameter) .This is done to simplify calculations and the airline correctly consider any space between round drum being lost.
- The normal calculation for volume weight in air freight is 6 cubic meters per metric ton.

1 cubic meter = 166.667 kg chargeable weight

The chargeable weight of a shipment is always calculated to the 'advantage of the airlines'. As an example, If the gross weight of a shipment is 65 kg and volume weight resulting from the above calculations to 105 kg, the AWB(airway bill) must be established for 105 kg chargeable weight. You must calculate the volume for each parcel, and then totalized the volume in cubic meters before multiplying the resulting total volume by 166.667 Kg in order to find the chargeable weight for the entire shipment.

The chargeable weight is always rounded off to the next $\frac{1}{2}$ kg (500 grams). As an example 15.3 kg= 15.5 kg and 34.7 kg = 35 kg

Whenever you are confronted with dimensions going beyond the classic size of a 10 foot aircraft pallet (305 cm long x 228 or 244 cm wide), you must ask your forwarders to establish a special quote directly with the airline before giving a price estimate or cutting an AWB. These sorts of dimensions may require special handling by charter department of the airline and a special chargeable weight may be required based upon the procedure for "BIG" shipment.

An example: 4 parcels /135 kg gross, including:

1 parcel 15 kg of 102 x 85 x 72 cm

2 drums weight 32 kg, height 110 cm, diameter 45 cm (each)

1 pallet 56 kg ,120 x 80 x 80 cm

One time 1.02 x 0.85 x 0.72 meter0.650 cubic meters.

Two time 1.10 x 0.45 x 0.45 meter0.446 cubic meters.

One time 1, 02 x 0.85 x 0.85 meter.0.768 cubic meters.

Thus total volume = 1.864 cubic meters.

Chargeable weight by volume (1.864 cubic meters X 166.667 kg = 310.6 kg

Being higher than the actual than the gross weight (135 kg), we tax the AWB on the basis of 311 kg

Volume weight round off to the next higher 1/2 kg)

Calculating Cost and Volume Calculator for chargeable weight in Air freight

Freight costs are normally quoted on a port to port basis. When calculating your freight cost considers:

- Actual weight or volume weight of your consignment (quoted in cubic meters or tones)
- Mode of transport
- Weight of the pallet used for transport your units
- Loading and unloading cost involved in multimode transport
- Port or terminal fees

- Bill of lading (shipment documentation) fees

You may also incur additional charges relating to your terms of trade. These include:

- Cost of moving the goods to and from the port
- Handling the cargo
- Port Costs
- Documentations
- Finance

There are yet further charges and constraints to consider if transporting your goods by air. Air freight cost will vary according to the following factors:

- Tariff classification
- Competitions in routing
- Space availability

15.5 CARGO LOADING

Cargo loading compartments differ in size, contour, size of access doors, compartment equipment, and floor bearing strength, restraint possibilities and positions. The differences are between aircraft types, sometimes even within aircraft series, always depending on the manufacturers or the operators requirements.

It is therefore essential to consider aircraft types, their equipment and facilities for carriage of cargo, apart from individual operating characteristics of flight category for the make up of cargo loads. This refers equally to special commodities and layout of aircraft for bulk load and Unit Loading Devices (ULDs) and pallets. The carriage of passenger baggage, crew baggage, mail, service freight and company cargo as well as special commodities may demand commodity separation, e.g. live animals, human remains, perishable commodities or chemicals, etc.

Unit Load Devices - ULD Procedures

To obtain the weight and the center of gravity of an aircraft, among other items the real weight of cargo and/or mail load shall be determined. Responsibility for the application of correct cargo and mail weights in the weight and balance calculation and documentation remains entirely with

LTU department in charge of aircraft handling and/or its agents and contractors at other stations.

 LTU INTERNATIONAL AIRWAYS		Container/Pallet	
ID-CODE: _____			
Contents			
			
Remarks			
Loaded at		Flight No.	LOADED:
			Full <input type="checkbox"/> 3/4 <input type="checkbox"/> 1/2 <input type="checkbox"/> 1/4 <input type="checkbox"/>
Transfer at		Flight No.	
Destination			



Figure 15.2 ULD tag - cargo loaded

Figure 15.3 ULD DG tag

ULD Tags

After completion of loading and weighing of pallets and/or containers, an ULD tag shall be completed for each individual ULD. The reverse side of the container/pallet cargo ULD tag is intended or may be used for empty ULD's.

Loading Devices and Accessories

Loading accessories, such as tie-down rings, tie-down straps, lashing rope, supporting planks and platforms, roller platform plastic bags, plastic foil, net bags, pouches and seals for valuable cargo, dry ice boxes, pot kennels, but also pallets and containers etc. are held available at the stations DUS/MUC and must be requested in case of need in good time before the intended date of shipping. The request must contain the following data:

- Part number or IATA ID code of the requested item
- The required quantities in units
- Latest arrival date of the material
- Flight number and date for which the material will be used - if known.

Provision of Unit Load Devices

All stations served with containerized aircraft hold a standard stock of unit load devices corresponding to the effective scheduled requirements.

Possible changes shall be reported to LTU headquarters container tracing (DUSOCLT).

Control of Unit Load Devices

Stocks of unit load devices exceeding the stations' presumed stock shall be returned to DUS/MUC immediately or forwarded to stations as directed by DUSOCLT.

Circulation of Loading Material (UCM/LUC)

The described procedure serves the purpose of a centralized circulation and stock control of loading material with the intention to dispose the material

to the best operational and economical requirements and to protect valuable company owned/leased property from loss/damage.

All changes of stock of loading material of LTU added to or removed from station inventory will be recorded by an "ULD Control Message" (UCM). LTU material received from or transferred to Third Parties (other airlines, agents or customers) will be controlled by an ULD Control Receipt ("ULD Receipt") together with a telex "Load Unit Control Message"(LUC).

The circulation and stock control are based on IATA Identification Codes, except for pallet nets. It is, however, understood that each pallet is accompanied by the appropriate net. This refers also to pallets where the load is secured by tie-down straps in place of the net. In these cases, the net must be added to the load in order to keep the load unit complete.

If and when loading material with its own IATA ID code is carried, but not permanently attached to the base pallet (e.g. motorcycle pallet, etc.), the ID code of the respective loading material shall be recorded in addition to the code of the base pallet.

ULD Control Message (UCM)

For every flight operated with containerized aircraft (with ULD Loading System, also in case of cargo trucking, for every truck where ULDs are carried), stock changes of loading material added to or removed from station stock shall be reported to **DUSOCLT** by means of ULD Control Message (UCM). Details for the UCM shall be entered in the form "ULD Control Message" and shall be dispatched immediately after arrival/departure of aircraft or truck. The responsibility for the correct transmission of the UCM remains with the dispatching station. Therefore, written and transmitted messages shall be cross-checked to avoid discrepancies. In case of discrepancies, correction messages shall be transmitted immediately.

ALWAYS INSERT ULD IDENTIFICATION NUMBER WHICH IS SHOWN ON THE SIDES OF CONTAINERS OR ENGRAVED IN THE RIM OF A PALLET

MAKE SURE THAT THE LAST TWO POSITIONS ARE THE 2 CHARACTER CODE OF THE OWNER CARRIER

INSERT AIRLINE DESIGNATOR, IF TRANSFERRING PARTY NOT AN AIR CARRIER, INSERT YY FOLLOWED BY NAME OF TRANSFERRING PARTY

INSERT 3-LETTER CODE OF TRANSFER POINT

INSERT DAY THEN MONTH THEN YEAR
e.g. 12 JAN 79

INSERT TIME OF TRANSFER
(24 HOUR CLOCK)

INSERT AIRLINE DESIGNATOR IF RECEIVING PARTY NOT AN AIR CARRIER, INSERT YY FOLLOWED BY NAME OF RECEIVING PARTY

INSERT THE APPLICABLE CODE
NOTE:
THE USE OF SER IS OPTIONAL

INSERT 3-LETTER CODE OF FINAL DESTINATION

IF ULD IS
EMPTY, INSERT
XXX

ADDRESS		COPY TO		ULD CONTROL RECEIPT	
ORIGINATOR		* = AIRLINE NAME AND LOGO		RECEIVED BY	
L U C *					
DATA ID CODE	TYPE CODE	SERIAL NO	OWNER	DATE OF TRANSFER	TIME LOCAL
0				DAY / MONTH / YEAR	24 HOUR CLOCK
1					
2					
TRANSFERRED BY				TRANSFER POINT	REMARKS
ULD RELEASED				AIR WAYBILL NUMBER	
Empty					
Loaded					
ULD SUPPORT EQUIPMENT (Write in amount)					
NETS		DOORS		STRAPS FITTINGS	
ULD RETAINED				AIR WAYBILL NUMBER	
Empty					
Loaded					
ULD SUPPORT EQUIPMENT (Write in amount)					
NETS		DOORS		STRAPS FITTINGS	
CUSTOMER				ACCOUNT NUMBER	
ADDRESS					
CUSTOMER - PLEASE NOTE					
DEMURRAGE BEGINS → Date Time 0001					
PART 1. TRANSFERRING CARRIER CONTROL CENTRE (WHITE)					
PART 2. FOR RECEIVING CARRIER OR CUSTOMER (GREEN)					
PART 3. TRANSFERRING CARRIER FIELD OFFICE (FILE COPY) (PINK)					

Figure 15.4: load unit control message (LUC)

Load Unit Control Message (LUC)

For short releases of ULDs to customers or agents, a "ULD Control Receipt" shall be completed for the purpose of local control. A telex LUC message shall not be sent.

Stock Control of Unit Load Devices (ULD)

All stations holding Load LTU, ULDs in stock are requested to send once a week (on Sunday or Monday) a station inventory to DUSOCLT by telex. These telexes are the basis of a computerized ULD Control System.

Damage of Unit Load Devices

In case of damaged ULDs, inform **DUSOCLT** and send ULDs ASAP to DUS or as directed by DUSOCLT.

Pallet Loading

Loading Principles for Pallet Build-up

A complete ULD consists of the pallet and the net. The net is an integral part of the aircraft restraint system. The pallet and the net are approved by the airworthiness authority as one unit, therefore only those nets approved with specified pallets may be used together. Before loading pallet units, the serviceability of the material shall be checked. Pallets shall be build-up only, placed on pallet dollies or on other roller equipped loading form.

All shipments loaded on one pallet must be bound for the same station of unloading. As far as possible, transfer cargo should be loaded on separate pallets to avoid sorting at the point of unloading. All pieces of one shipment shall be loaded on one platform, if possible. Heavy and/or strongly packed items shall be placed on the bottom. They should be stowed as near to the center of the pallet as possible. Lighter items shall be distributed over heavy cargo. This arrangement will decrease the possibility of damage and ensures that the center of gravity of the pallet remains within the prescribed limits.

All parts of the load shall be stowed as evenly as possible on top of each other to prevent slipping of the whole load. Small items shall be properly secured on the pallet to avoid sliding through the pallet net meshes. The loading area of a pallet is confined by the contour unit or by the tie-down track at the edge of a pallet respectively. The net attachment fittings shall always be kept free from load and shall be easily accessible. Aircraft related limitations (compartment cross section, door height, maximum capacity) as well as load limitations of unit load devices shall be considered accordingly

for pallet loading. For details see chapter 1.1. A320-214, 1.3. (B767-300ER) or 1.4. (A330-200/A330-300).

When pallet build-up is completed, the load has to be secured to the pallet by means of a pallet net and/or straps. Each fitting for attaching the net to the pallet is designed to take a certain load. Therefore, all fittings must be secured to their corresponding place on the pallet. Tension of tie-down equipment must be sufficient; over tension must be avoided as it may cause the pallet edge rails to bend up, which eventually complicates transport and locking with the aircraft loading system.

In order to avoid damage caused by water, loads on pallets susceptible to moisture shall be covered with plastic foil. Pallets containing live animals (other than fish and mollusks), flowers, fruit or vegetables are except from this regulation. These shipments may be protected from rain during the transport to and from the aircraft, using plastic foil drawn over the net. However, the foil sheet has to be removed before loading the pallet into the aircraft.

The bottom of the pallets shall be covered with plastic foil if the first layer of loaded goods should be susceptible to moisture. The sheet of foil shall be large enough to wrap the first layer. **Accumulation of water or snow shall be removed from the pallet load before loading into the aircraft.**

Contour of Pallet Load

Pallet load shall be shaped in a way that it suits the compartment cross section. This is guaranteed with special contour units respectively pallet contour frames. The maximum height of 64" shall never be exceeded. The installed fire fighting system requires the remaining space.

Securing of Pallet Load

The load shall normally be secured by a pallet net. The net will be attached to the pallet by net attachment fittings, which will be snapped into the track profile at marked points. Instead of pallet nets, straps or ropes may also be used for an individual lashing. However, the following dispositions must be observed:

- The straps or ropes must be attached in the area of the marked net attachment point at the edge rail of the pallet.
- In the area of a net attachment point, only one strap or rope for each directional force may be attached.

- The unused net shall be forwarded together with the secured load.

Pallet Stacks

Pallet stacks can be carried according to the following procedure:

- Locking of bottom pallet by means of regular aircraft locking devices.
- Tie-down to base (bottom) pallet:
 - a) For stacks up to 24 pallets including bottom pallet use eight straps, four across and four longitudinally in order to prevent individual pallets from turning free.
 - b) For stacks from 25 to 40 pallets including the bottom pallet use a pallet net.
 - c) Cargo loads on pallet stacks have to be secured additionally under observation of the tie-down procedures to the bottom pallet.
- Supporting of the pallet stack on the base pallet by means of either: four stacks with three supporting planks each or three stacked supporting platforms positioned in the center (heavy item pallets) or three adjacent Euro-Pallets or any other equivalent supporting material in order to allow proper locking in the aircraft.

Container Loading

Loading Principles for Containers

Container doors put on the roof shall be secured against falling down by attaching the hook on the strap to the ring fitted on the container roof. A container shall be exclusively filled with baggage, cargo or mail. Mixing of loads must be avoided. A LMC container may be the only exception.

Heavy items should be loaded on pallets or, if unavoidable, on the bottom of a container. Containers with heavy loading must be handled with extreme care in order to avoid damage to the container. The outer loading limit in the door area is indicated by the metal edge of the base.

After loading has been finished, the container doors shall be closed and locked. In case of flexible reinforced doors, each strut must be checked for proper fitting in the lock.

**The height of the containers does not permit further loading on their top.
Never attempt to stow flat cargo on top of a container!**

Securing within Load Container

Inside lashing is required if:

- Pieces with high individual weight or cargo which is sensitive against jolts and tilting are loaded as single items,
- The container is not filled up to 2/3 of its loading height and mainly small pieces with a comparatively high individual weight (high density cargo) are loaded. In this case, planks shall be spread across all items in order to ensure an efficient lashing of the total load.

In case of doubt, a decision should always be made in favor of lashing.

Inside lashing is performed by means of tie-down track segments positioned at the base and the interior side panels of the container. For lashing the standard capacity tie-down equipment is applicable.

Inside lashing is not required for:

- Completely filled containers, applicable even if heavy items are stored amongst the load,
- Containers which are at least loaded up to 2/3 of their loading height. They are considered as completely filled.
- Containers which are not completely filled, provided the load consists mainly of large pieces with a comparatively low individual weight (low density cargo).

Cabin Load

LTU will generally not accept cabin load of commercial or non-commercial cargo while carrying passengers, with the exception of: stretchers under special circumstances and only with proper stretcher equipment, live animals as baggage up to published weights and sizes, live human organ (LHO), Co Mail in small quantities (care of CDC/purser)

Cabin Load of Bulk Cargo

LTU may, carry cargo in the cabin, provided the seat units can be restored in the cabin and space made available for bulk load of cargo. In such

exceptional cases, the floor load restrictions and restraint point capacities must be strictly observed. The performance department of flight operations (SITA: **DUSNVLT** ATTN Performance) is to be consulted for advice and instructions in each case before the date of shipping.

Acceptance of Dangerous Goods

Any request for the transportation of dangerous goods must be directed to cargo DUS (DUSFBLT). *Only the cargo department is authorized to give the approval for the acceptance of dangerous goods under the Company provisions.*

If solid, liquid or gaseous materials with hazardous characteristics or items containing such materials are offered for air transportation, the acceptability has to be checked with the help of the alphabetical list in the current section 4 of the IATA Dangerous Goods Manual. If this type of commodity is not specifically named there, the applicable "n.o.s." entry, as explained exactly in the IATA regulations, has to be taken.

If an article or substance contains a chemical which could be suspected of being dangerous, but does not meet the criteria for any of the hazard classes or divisions, it may be transported as not restricted if the words "Not Restricted" (no abbreviations) are included in the description of the article or substance on the Air Waybill to indicate that it has been checked. You may be confronted with an article or package showing a warning symbol or consumer warning label. The article or substance contained in the package may not necessarily meet the criteria for classification defined by the IATA Dangerous Goods Regulations. Clarifications should be obtained from the shipper, if required, before accepting the package as "not restricted".

The Shipper's Declaration must show the UN-number and proper shipping name, the net quantity per package, hazard class, packing instruction and the used packing material as well as complete addresses of the shipper and consignee. The acceptance control must not be confined to the check of the documentation. The packages have to be checked as well. They must be checked for proper labeling (hazard label(s), markings, handling label(s) as required and their condition). Damaged or not properly packed shipments must be refused.

Every employee in charge of cargo acceptance is obliged to check carefully all shipments for goods which are subject to the IATA Dangerous Goods Regulations. Same applies to shipments being transferred by other

carriers to LTU. Goods may only be carried if it has been made certain that, either these are not subject to the Dangerous Goods Regulations or, if dangerous, that the package(s) and accompanying documents fully meet the requirements of the IATA Dangerous Goods Regulations.

Staff accepting dangerous goods must be **qualified and licensed** according to IATA requirements and up-to-date with the current IATA Dangerous Goods Regulations. **In case of doubt, shipments must not be accepted.** As an aid or guidance for the acceptance or refusal of dangerous goods shipments, the "Dangerous Goods Acceptance Check Sheet" has to be used. If LTU is handled by other airlines which are member of IATA or by an IATA Handling Agent, equivalent check sheets are acceptable. A copy of the completed check sheet has to accompany the shipping documents during the entire period of transport.

Handling Advice for Dangerous Goods

For every Dangerous Goods item accepted and approved by LTU cargo DUSFBLT, a handling advice must be sent to all concerned departments of origin, transit stations and destinations.

The handling advice for dangerous goods must include:

- date and flight number of shipment
- number of AWB
- proper shipping name and UN/ID number
- number of pieces and net weights
- for operations with a containerized aircraft, type and number of ULD
- IMP Code
- drill code
- special handling, if required

15.6 CARGO LOAD PLANNING

For load planning purposes, the passengers and their baggage as checked in take overall priority. Planning of cargo load is generally based on the number of passengers booked for each individual flight, but also the following factors have to be considered:

- The number of passengers booked
- The estimated baggage for booked passengers

- The actually booked amount of excess and oversize baggage (e.g. live animals, bicycles, surf boards, large sports gear, etc.)
- The contracted mail load (if any)
- Booked cargo load, incl. service cargo
- Estimated cargo from free sale with guaranteed carriage.

The operational requirements for the flight take precedence over other considerations. For load planning or estimated calculations, the following average figures shall be used:

Passenger baggage, short/medium range - 17 kg/head

Passenger baggage, long range - 20 kg/head

Baggage - 170 kg/m³, 1 - 2 pieces

Mixed mail - 170 kg/m³

Letter mail - 230 kg/m³

Parcel mail - 130 kg/m³

Booked oversize baggage or special commodities - actual known weights

Booked cargo - actual weights

Unbooked cargo - 180 kg/m³

Financial Instruments

Terms of Sale- Buyer's and Seller's division of cost and risk

Responsibilities

Who will arrange and pay for carriage of the goods from one point to another?

Who will bear the risk if these operations cannot be carried out?

Who will bear the risk of loss of or damage to the goods in transit?

Frequently used Terms of Sale

Free on Board (FOB)

Cost and Freight (C&F)

Cost, Insurance and Freight (CIF)

Check Your Progress

Q1) Write a short note on Cargo acceptance.

Q 2) What should consider when calculating your freight cost?

Q 3) Define Cargo loading. What is the loading Principles for Containers?

Q 4) Write a short note on Pallet Loading.

Q 5) To whom should priority be given in Cargo load planning?

15.7 LET US SUM UP

Staff accepting dangerous goods must be qualified and licensed according to IATA requirements and up-to-date with the current IATA Dangerous Goods Regulations. In case of doubt, shipments must not be accepted. As an aid or guidance for the acceptance or refusal of dangerous goods shipments, the "Dangerous Goods Acceptance Check Sheet" has to be used. If LTU is handled by other airlines which are member of IATA or by its Handling Agent, equivalent check sheets are acceptable. In order to avoid damage caused by water, loads on pallets susceptible to moisture shall be covered with plastic foil. Pallets containing live animals (other than fish and molluscs), flowers, fruit or vegetables are exempt from this regulation. These shipments may be protected from rain during the transport to and from the aircraft, using plastic foil drawn over the net.

15.8 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 15.3
- 2) Refer Sec. 15.4
- 3) Refer Sec. 15.5
- 4) Refer Sec. 15.5
- 5) Refer Sec. 15.6

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Unit-16

**Cargo Rating and Documentation, GCR, CCR and
SCR**

Structure:

16.1 Objectives

16.2 Introduction

16.3 Different types of rates

16.4 Key Shippers letter of instruction - Airfreight

16.5 Key forwarding instruction - Sea freight

16.6 Basic Cargo documents

16.7 Sea Cargo report (SCR)

16.8 Cargo control room

16.9 Let's Sum up

16.10 Clues to Answers

16.11 References

16.1 OBJECTIVES

To understand about:

- Class Commodity rates(CCR), General Cargo Rate (GCR), Specific Commodity rates (SCR)
- Key Shippers letter Of Instruction -airfreight
- Key Forwarding Instruction-Sea freight
- Basic Cargo Documents for Air Waybill (AWB) and Cargo Manifest
- Cargo control room

16.2 INTRODUCTION

Different types of rates are applicable as per the cargo categorization. Key Shippers letter of Instruction for airfreight and key forwarding Instruction for sea freight are very important to understand and to follow. Various cargo documents are listed over here to understand airway bills and cargo manifest.

Air Waybill means the document entitled "Air Waybill/Air Consignment Note" made out by or on behalf of the shipper to evidence the contract between the shipper and the carrier(s) for transportation of freight over routes of the carrier(s).

The Cargo Manifest is the document required for the clearance of cargo as agreed between national governments being members of ICAO, and published in Annex 9 "facilitation". It is generally accepted by all countries served by LTU. Within the Company, the Cargo Manifest is an essential working paper and accounting document. The use of computers in the cargo control room began in the 1980s. As technology developed, computerized systems began to centralize tasks such as cargo control per se, tank level monitoring, and real-time computation of hull stress information in the cargo control room.

16.3 DIFFERENT TYPES OF RATES

A) General Cargo Rate (GCR): The basic tariff category which was introduced to cover most air Cargo now covers only a minority, the remainder being under SCR or class rates. Rate charged by a carrier to transport cargo when it doesn't qualify for a discounted special class fee or a commodity fee from the carrier.

B) Specific Commodity rates (SCR): Specific Commodity Rates (SCR) are rates applicable to certain class of commodities listed below

- Human Remains (including discounted Cremated Remains)
- Tropical Fish and/or Aquatic Plants
- Fishing Bait
- Cut Flowers, Nursery Stock and Growing Plants
- Foodstuffs, including dairy products, meats, poultry, fruits and vegetables
- Newspapers, Magazines and Periodicals and parts thereof, N.E.S.
- Alcohol Beverage (for Zone 2 only)

All Rates subject to dimensional weight (except where noted) and minimums.

The following special commodity rates have been established for items that are significant to the livelihood of people living and working in the North.

a) Aboriginal Art

Available Discount- Aboriginal art can be sent at a 60% discount from the one kilo general cargo rate. This special rate includes hides, pelts or skins that are not dressed or tanned.

Special notes or restrictions- Must be labeled as fragile and properly packaged internally and externally. Declared Value cannot be applied.

b) Cars and Trucks

Available Discount- Pricing is rated by the inch, bumper to Bumper

Special notes or restrictions- Any loose items contained in vehicle at time of tender must be removed and shipped separately. Refer to Dangerous Goods.

c) Recreational Vehicles

Available Discount- Special rates apply to the air cargo shipment of snowmobiles and ATVs to northern points. These special rates are based on the weight of the vehicle times 115 per cent.

Special notes or restrictions- Must be properly crated on all jet routes.

d) Engines, Motors and Electrical or Mechanical Equipment-

Available Discount- There are special reduced rates for the shipment of engines, motors and electrical or mechanical equipment to southern locations.

Special notes or restrictions- Must be properly crated, leak proof and able to be moved with a lifting device.

e) Kayaks and Canoes

Available Discount - There are special rates for canoes and kayaks that are based on dimensional weight.

Special notes or restrictions- Plastic or tarp wrapped recommended. Oars and paddles must be packaged separately.

f) Empty Cylinders

Available Discount There are special rates for the south bound shipment of empty propane, acetylene, chlorine, helium, nitrogen or oxygen cylinders.

Special notes or restrictions - Refer to Dangerous Goods.

g) Recycled Material

Available Discount- There is an 80% discount from the one kilo general cargo rate to send recyclable materials to the south from Iqaluit and Kuujjuaq.

Special notes or restrictions- Must be palletized and properly packaged to prevent leakage and easy handling.

h) Blank Containers

Available Discount- Retailers can ship kegs, cardboard boxes and plastic bread and milk receptacles to southbound locations. This saves money for retailers and helps reduce community waste.

Special notes or restrictions-- No criteria requirements.

i) Food Shipments

Available Discount- There are special rates when food shipments are made from Montreal, Ottawa, Winnipeg, Edmonton and

Special notes or restrictions- Inner and outer packaging must be leak proof, able to maintain internal temperatures and be of adequate strength to protect the contents, taking into consideration the weight and nature of the items.

j) Country Food

Available Discount- Inter-community and southbound shipments of fish, caribou, seal, whale, polar bear meat, etc. for personal consumption only are shipped at a flat rate of \$1.19 per kilo plus taxes and surcharges, no minimum requirements.

Special notes or restrictions- Inner and outer packaging must be leak proof, able to maintain internal temperatures and be of adequate strength to protect the contents, taking into consideration the weight and nature of the items. Permits may be required. Not applicable for commercial purposes.

C) Class Commodity rates (CCR): In order to book you export cargo, you will need to present the following documentation:

Air Freight

1. SLI (Shipper Letter of Instruction) – A blank template & instruction sheet is provided for you.
2. A photocopy of your passport
3. A Packing List/Inventory report of your goods

If you wish to send your cargo, please consider the following question:

- Will you pack the goods yourself?
- If so, please ensure that you have adequate packing for export. If in doubt, be over cautious.
- VTI Logistics can offer a crating and packing service for you.

When our drivers come to collect your goods, please make sure that each box carton and or crate is open. Our driver must inspect your goods for airline security purposes.

1. FI (Forwarding Instruction) - A blank template & instruction sheet is provided for you.
2. A photocopy of your passport
3. A Packing List/Inventory report of your goods

If you wish to send your cargo, please consider the following question:

- Will you pack the goods yourself?
- If so, please ensure that they are adequately packed for export. If in doubt, be over cautious.
- VTI Logistics can offer a crating and packing service for you.

16.4 KEY SHIPPERS LETTER OF INSTRUCTION - AIRFREIGHT

1. Your Name/Company, Address and Contact details in Australia.
2. Your reference number.
3. Your Name/Company, Address and Contact details overseas.
4. Any other party that needs to be notified on arrival of goods.
5. Airport your goods are being exported from.
6. Airport and country your goods are being exported to.
7. Please sign and date.
8. Number of packages.
9. Approximate weight of goods.
10. Approximate cubic measurement of goods.
11. The markings and numbers that are on your goods.
12. Detailed description of the goods.
13. Please tick the boxes as to where you will pay the said charges.
14. Value of the goods for custom purposes.
15. Please advise if you require insurance.

16. Export Clearance number if known.

17. Do you require VTI Logistics to arrange your Customs Clearance at destination?

18. Please sign.

16.5 KEY FORWARDING INSTRUCTION - SEA FREIGHT

1. Your Name/Company, Address and Contact details in Australia.

2. Your reference number.

3. Your Name/Company, Address and Contact details overseas.

4. Any other party that needs to be notified on arrival of goods.

5. The type of transportation service required -

Door to Door = Door to Door

CFS to CFS = Depot to Depot

Port to Port = Port to Port

Or any combination of the above

6. The vessel and voyage number your cargo is being transhipped, if known.

7. Australian port your goods are being exported from.

8. If you require VTI to arrange cartage, please advise suburb.

9. Are you paying for the service in Australia or at destination?

10. The discharge port of the country you are sending your goods to, or if the cargo is transshipped via another country/port please add this port.

11. Port and country your goods are being exported to.

12. Final place of delivery.

13. Export Clearance number if known.

14. Number of pieces and packaging type, eg carton, pallet.
15. Approximate weight of goods.
16. Approximate cubic measurement of goods.
17. The markings and numbers that are on your goods.
18. Detailed description of the goods.
19. If insurance is required and value of goods.
20. Who will be paying for the transportation cost?
21. If cartage is required, please advise the pick up address and contact details.
22. Any special instructions.
23. Are the goods hazardous?
24. Please date.
25. Please date and sign.

16.6 BASIC CARGO DOCUMENTS

a) Dangerous Goods: The policy for carriage of dangerous goods is based on the published IATA Dangerous Goods Regulations. Unless otherwise stated and specified in this chapter, the IATA regulations will apply.

Several dangerous goods items may be accepted provided the following procedure is complied with:

- dangerous goods can be accepted subject to air cargo only
- all dangerous goods must be approved by telex from cargo department DUSFBLT
- all persons accepting dangerous goods must be qualified and licensed according to IATA requirements and up to date with the current IATA regulations
- a handling advice for every dangerous goods material must be sent to all departments concerned (from DUSFBLT)
- all dangerous goods must be properly packed

- all dangerous goods must be secured safely on board a LTU aircraft by adequate lashing Material
- all dangerous goods must be inspected prior to on loading for any leakage or damage
- the proper conditions must be reported (NOTOC) to the Pilot in Command
- any package with dangerous goods which appears to be damaged or leaking must be removed from the aircraft and safe disposal arranged
- in case of leakage, it must be ensured that the remainder of the consignment is undamaged and that no other load has been contaminated
- all dangerous goods must be inspected directly after unloading for any leakage or damage and must be confirmed on the incoming NOTOC by the signature of the rampagent
- a copy of all documents (TLXs, Dangerous Goods Acceptance Check Sheet, Shipper's Declaration, AWB, and NOTOC) shall be filed with all departments concerned
- Every incident with dangerous goods must be reported immediately to the cargo department DUSFBBLT and DUSOTLT, which, in turn, will inform the Civil Aviation Authorities

The following dangerous goods will never be accepted for carriage on board of any aircraft:

- Class 7, radioactive material
- ULDs built up by the shipper shall not be accepted when containing other dangerous goods items than cosmetics and/or medicines, prepared according to packing instruction 910, or dry ice (ICE) used for refrigerant for other than dangerous goods.
- Dangerous Goods allowed for freighters only (CAO) or packed according to the packing instructions for cargo aircraft only (CAO) shall not be transported.

If a dangerous goods shipment is limited per hold or compartment (e.g. USG/ICE/RSB), the following nomenclature for inaccessible cargo compartments apply:

- **A320-232-214** FWD holds (compartment 1) AFT hold (compartment 3 and 4 incl. Bulk/5)
- **B757-200** FWD holds (compartment 1 and 2) AFT hold (compartment 3 and 4)

- **B767-300** FWD holds (compartment 1 and 2) AFT hold (compartment 3 and 4 incl. Bulk/5)
- **A330-200/-300** FWD holds (compartment 1 and 2) AFT hold (compartment 3 and 4 incl. Bulk/5)

Only two freight compartments/holds are available for segregation of goods or for any limitations (e.g. flights to/from USA or limit of RSB/ICE)

b) Heavy Items (HEA): Heavy Items (HEA) are considered as heavy if the individual item weighs 150 kg or more. Heavy items must be secured against any movement. This applies likewise to packages not marked with "Heavy Item" label but are recognized as such due to their weight indication on the packages or are supposed to be "Heavy Items" due to other indications.

Heavy items (HEA) shall preferably be loaded on pallets. Loading of heavy items in containers shall be performed with special care to avoid damage to the container.

Before acceptance of heavy items for carriage respective requests shall be addressed DUSFBLT. Published maximum weights must **never** be exceeded. For loading heavy items in bulk compartments, the following shall be observed:

- Heavy items will have to be loaded and unloaded without risk of damage to the aircraft.
- In any case, heavy items must be lashed properly.
- Compartment restrictions as published in chapter 1.2. (Boeing B757) - 1.4. (A330-300)
- Heavy items weighing more than 700 kg are only acceptable for ULD loading. In case of bulk loading of HEA weighing more than 400 kg, but less than 700 kg, additional restrictions may apply.

c) Pipes, Bars, Beams: Tubes, bars, beams or similar small cross-section items are to be loaded as single pieces or in bundles. Small cross-section might penetrate or slip through the meshes of pallet nets, crash nets or compartment bulkheads. They shall be loaded transverse to the flight direction whenever possible.

If transverse loading is not possible, the goods must be secured against forward or aft movements by supporting platforms, planks of similar means fitted in their position by straps or rope.

d) Human Remains (HUM): Should the unfortunate case occur, that a LTU passenger dies at a station, and the tour operator or the travel agency at the station requests LTU to transport the Human Remains, the following instructions are applicable:

Transportation Request: Requests for transportation shall be directed to DUSOGLT and the contents of the requests shall include the following information:

- passenger's name, date of birth and death
- reason of death
- the LTU flight number and date of the passenger's arrival flight and of the originally booked return flight
- flight number, date and routing for the transportation requested
- the undertaker's address and telephone number at the destination

Acceptance: Human remains shall be contained in a coffin with a hermetically sealed inner container of bronze, lead or zinc. In case of cremated remains, the casket must be packed in a sealed outer box or case.

Documentation: The handling agent at the outstation must obtain a certificate of death issued by the Civil Registrar. In case of cremated remains, an official Certificate of Cremation must be obtained. Certificates should be legalized, where necessary, by the local consul of the country of destination. Cargo manifest must be issued by station of departure. *All certificates and the passport shall be attached to the cargo manifest.*

e) Wet Freight (WET): Loads containing liquids or from which liquids may ooze out because of their nature (other than dangerous goods) are considered as Wet Freight (e.g. live animals, fresh or frozen meat, fish shipments cooled with water, ice, etc.). When handling and loading wet freight, special care shall be taken that:

- the floor of the compartment and/or the unit load device as well as other load is protected.
- containers are stowed in upright position, i.e. the seal is always at the top to prevent dripping.
- the special handling advice "This Way Up" is strictly adhered to and the label affixed.
- damaged packages or packages suspected to be damaged must not be carried.

f) Live Stock (AVI): LTU will not accept live animals as commercial cargo, except when a special approval by DUSFBLT is granted. However, the following regulations apply to loading live animals:

- It must be accepted that live animals are delivered for shipping in proper cages, complying with the IATA Live Animal Regulations.
- Mollusks (worms etc.), amphibians (frogs etc.), fish (except tropical fish) and snakes may be loaded in all cargo compartments without restrictions.
- All other live animals shall be loaded in the prescribed compartments.
- Live animals shall generally be treated as wet freight.

The cages shall always be tied down or lashed to avoid any movements during takeoff, flight or landing.

- Cages shall be stowed with sufficient space between them and other loads to guarantee sufficient supply of air.
- Pallets with live animals (except fish and mollusks) must not be covered with plastic foil.
- Cages must not be stowed directly in front of air ventilation outlets or in direct contact with outer compartment walls.
- Live animals shall not be loaded in the same compartment with edible cargo (EAT), catering supplies (CSU), human remains (HUM) or dry-ice (ICE) in larger quantities.
- Live animals shall always be stowed well above the stowage level of dry ice, even in small quantities.
- Special care must be taken not to stow live animals which are natural enemies in the same cargo compartment. If unavoidable, sufficient space shall be left between them to avoid mental stress.
- Cargo compartment lights shall generally be switched off, except when carrying birds on long-haul flights. Then the light shall be left switched on, if possible, to allow the birds to pick-up their feed during the flight.
- Animals with an intensive odour shall not be loaded on a predominantly passenger flight.
- The doors of cargo compartments with live animal loads shall be closed as late as possible and opened at transit and/or destination stations first; special care must be taken in case of strong winds, heavy rain, snow fall and extreme local temperature conditions.
- Information to crew. The cockpit crew shall be informed about the transportation.

Due to their sensibility against low temperatures and special handling requirements, the shipper is held responsible for insulated packing according to IATA Live Animal Regulations.

Transportation of tropical fish is subject of the following conditions

- Transportation to and from aircraft shall be performed as quickly as possible. In case of low ground temperatures, heated transport shall be used (ramp vehicle).
- Tropical fish shall principally be loaded in heated compartments. The transportation in unheated compartments in excess of one hour flying time is prohibited.
- Shipments of tropical fish shall always be stowed on top of loads.
- Shipments of tropical fish shall be kept in heated premises during ground time, particularly in average medium or low temperature areas.

g) Valuable Cargo (VAL): To provide adequate security, special handling procedures are required for valuable cargo. Information on value, contents, routing and/or storage must be kept strictly confidential; the details, absolutely necessary for handling purposes shall be made available only to the personnel directly involved. From the time of acceptance until loading into the aircraft respectively after unloading from the aircraft until delivery to the consignee, proper and close control of valuable cargo will be performed by cargo services. Shipments of valuable cargo shall principally be stowed in valuable-cargo pouches with attached seal.

h) Perishable Cargo (PER): Perishable goods are such, whose conditions or suitability for its original or prime purpose may deteriorate below its useable condition if exposed to undue changes in temperature and humidity or delayed in transportation (e.g. fresh fruit and vegetables, flowers, meat and fish shipments, vaccines, medical supplies etc.).

Due to individual procedures being applicable for different perishable goods, the following different load information codes are used:

- Foodstuffs - food for human or animal consumption (EAT)
- Hatching eggs (HEG)
- Live human organs (LHO)
- Flowers/plants (PEF)
- Meat (PEM) and seafood/fish (PES) shall be handled as WET
- Fruits and vegetables (PEP)
- All perishable goods other than flowers, meat, seafood or fish (PER)

Perishable cargo requiring special attention during flight, e.g. recommended temperatures and/or ventilation, shall be entered in the remarks box of the Load and Trimsheet.

In case of thermographs (shipper owned) being used in temperature sensitive loads, the cargo department shall inform the aircraft handling department accordingly, a respective remark for enroute transit, and destination stations shall be entered in LDM, ALI or CPM, showing the code "TMG" and loading position.

i) Film and Press Shipments: Delays in transportation of press and TV-film material may impair the news value of the material. In order to achieve an expeditious transportation without delay, the following shall be observed: Film and press consignments

- are accepted by cargo services and handling units qualified to do so even after cargo acceptance deadline.
- are specially marked by a bold sticker "Press Materials".
- shall be positioned for onload in an easily identifiable net sack.
- must be forwarded separately to the handling station's office after unloading.
- shall be loaded in the collecting net for small items, but never in a container or on a pallet.
- on German domestic flights, only films and press shipments may be stowed in the ships pouch, provided the dimensions permit it.

j) Air Mail: Air mail is exclusively handled by the Cargo Department. In case of uncertainties, refer the matter to the Cargo Department for clearance and advice. Air mail must not be manifested on the Cargo Manifest, as separate documents (AV-7) are used. The Universal Postal Union Convention forbids the carriage of dangerous goods in mail except as permitted in DGR 2.4.1.



Figure 16.1 Air Mail Label (AV-8)

Office of exchange of destination			Date of departure			Flight No.			Time		
Airport of direct transhipment (Art. 181, B 2)			Airport of offloading								
Number of the mail	Office of origin	Office of destination	Number of				Gross weight of bags, etc.			Classification	
			Bag LC	Covers LC	Bag AD	Bags of parcels	LC	AD	CP		
1	2	3	4	5	6	7	8	9	10	11	
Total											
Stamp of dispatching office Signature of official			The official of the airport or airline				Stamp of office of destination Signature of official				

Figure 16.2 Delivery Bill AV-7

k) Service Cargo (SVC): Service Cargo is property of LTU or a subsidiary company being shipped on a LTU aircraft from one station to another. The shipment might contain:

- Technical spares, technical goods, technical property,
or
- Catering goods, catering containers,
or
- Sales publicity, literature, station material.

In all instances, where service cargo is to be carried internationally from one station to another, an LTU, Air Waybill must be issued.

The air waybill must not be issued (signed and) before the complete shipment has been received and is accepted for carriage. All known entries

on the air waybill must be inserted at time of issue and all copies must be issued identical. Only one air waybill must be used for each shipment and it must cover all parts of the shipment. No shipment or part thereof may be carried until an air waybill is issued and executed.

Air Waybill means the document entitled "Air Waybill/Air Consignment Note" made out by or on behalf of the shipper to evidence the contract between the shipper and the carrier(s) for transportation of freight over routes of the carrier(s).

The AWB serves as:

- proof of receipt of goods for carriage a dispatch note (borderau) on which the documents to accompany and the shipper's special instructions are noted
- an invoice for transportation charges
- an insurance certificate if insurance coverage has been obtained through the intermediary of carrier
- the document for export, transit and import to meet the requirements of custom authorities
- a guide to the carrier's personnel for purposes of handling, dispatching and delivering the consignment

The Cargo Manifest is the document required for the clearance of cargo as agreed between national governments being members of ICAO, and published in Annex 9 "facilitation". It is generally accepted by all countries served by LTU. Within the Company, the Cargo Manifest is an essential working paper and accounting document.

A Cargo Manifest for airmail is not required (see Chapter 6.12. Air Mail on page 71). In all cases when no cargo is transported, a "NIL Manifest" must be prepared and carried with the other aircraft documents pertaining to the flight. The manifest heading is filled in as normal, the column "Nature of Goods" carries the "NIL" declaration (no items listed). The manifest will be prepared according to the following instructions. Deviations according to "Inbound Clearance Procedures of Countries" have to be observed. All entries are made by typewriter or in block letters. Corrections must not interfere with the legibility.

Figure 16.3 Cargo Manifest

Operator (1)

Registration of Aircraft (2)

Flight Number (3)

Date (4)

Point of Lading (5) place of loading station giving full airport name and country

Point of Unloading (6) place of unloading giving full airport name and country

Air Waybill (AWB) Number (7) complete AWB number (prefix and serial number). Segregate serial number in two blocks for better identification by one space

Number of Packages (8)

Nature of Goods (9) the goods must be described in such a way that they can be clearly recognized. Considering the limited space available, abbreviations must be distinctive in their description; e.g.

Machine Parts (not mach.pts.)

Food Samples (not samples)

Typewriters (not off. mach.)

for specifying the contents regarding dangerous goods (DGR), the IATA Dangerous Goods Regulations must be observed, i.e. the same description as shown in the corresponding AWB must be entered.

For Use by Operator Only (10)

- a) gross weight [kg] in left part of column. some states require certain statements
- b) origin and destination in three letter code acc. to the AWB.
- c) for special loads use load codes.

For Official Use Only (11)

IATA Equipment Code No. (12)

Prepared By (13)

Page .. of .. Pages (14)

16.7 WHAT IS A SEACARGO REPORT (SCR)

A Sea Cargo Report (SCR) is a statement made to customs by a cargo reporter, about cargo being carried on board a vessel arriving from a place to another (outside) place. The SCR is one of the key documents in the import cargo reporting chain and contains critical information for customs to perform risk assessment and to account for cargo.

In relation to a vessel making a particular journey the customs act 1901 defines a cargo reporter as : the operator or charterer of the vessel; or a freight forwarder or slot charterer responsible for goods carried on the vessel.

A cargo reporter may engage a third party (such as a bureau) to report their cargo, however the legal responsibility for making the report remains with the cargo reporter.

Air Cargo Rating (ACR)-Persons holding the IATA-FIATA International Air Cargo Rating Diploma are considered qualified under the terms of the IATA Resolutions applicable to IATA's accreditation of Cargo Agents.

- Review of basic cargo rating principles: The air cargo Tariff (TACT)- IATA areas and sub-areas, chargeable weight, rates and charges, Air Waybill completion.
- Currency regulations: conversion rates: rounding off procedures
- Construction rates (general cargo, specific commodity and class rates)
- Combination of rates and charges (international general cargo rates, specific commodity and class rates)
- Mixed consignments, declaration of the goods - rating - Air Waybill completion
- ULD's definitions, specifications, classifications and identifications of ULD's - general rules governing the use of ULD's - ULD charges.

Flammable Liquids - Liquids having a flash point below 100 degrees F and do not meet one of the compressed gas definitions.

Corrosive Liquids - Acids, alkaline, and other liquids that, when brought into contact with living tissue, will cause severe damage by chemical action. Incase of leakage, these substances will materially damage the aircraft structure (in case of air shipment), or will destroy other freight, or cause fire when in contact with organic matter or with certain chemicals. Corrosive liquids include nitric acid, sulfuric acid, battery fluid, etc.

Poisonous Materials - Poisonous materials are divided into three classes as follows
1. Class A, Extremely dangerous.
2. Class B, Less dangerous.
3. Class C, Imitating or dangerous to health. The label for poisonous materials is the same size and shape as the other labels.

HAZARDOUS RADIOACTIVE MATERIALS are identified by labels shown in figure 14-7. HAZARDOUS MAGNETIC MATERIALS are

identified by labels shown in figure 14-7. INDUSTRIAL CHEMICALS/MATERIALS are identified by MIL-STD Symbol 1341. The MIL-STD symbol is a square label within which is centered a large diamond symbol, segmented into four parts. The top three parts reflect the type of hazard with respect to health, flammability, and reactivity and the lower fourth part reflects the specific hazard of the material, when not specifically describable by any or all of the other three parts. In addition, the categories of health, flammability, and reactivity show numerical degrees of hazard varying from zero (0) through 4 to signify no hazards, slightly dangerous, moderately dangerous, dangerous or extremely dangerous, respectively.

16.8 Cargo Control Room

The **cargo control room**, CCR, or **cargo office** of a tank ship is where the person in charge (PIC) can monitor and control the loading and unloading of the ship's liquid cargo. Prevalent on automated vessels, the CCR may be in its own room, or located on the ship's bridge. Among other things, the equipment in the CCR may allow the person in charge to control cargo and stripping pumps, control and monitor valve positions, and monitor cargo tank liquid levels.



Figure 16.4 A modern CCR gives the PIC access to numerous monitoring and control systems

History

Cargo control rooms began to appear on U.S.-flag tankers in the mid-1960s. Prior to this time, valves were operated manually on deck by reach rods and liquid levels were monitored by a roving watch consisting of the mate and seamen on watch. The use of computers in the cargo control room began in the 1980s. As technology developed, computerized systems began to centralize tasks such as cargo control per se, tank level monitoring, and real-time computation of hull stress information in the cargo control room.

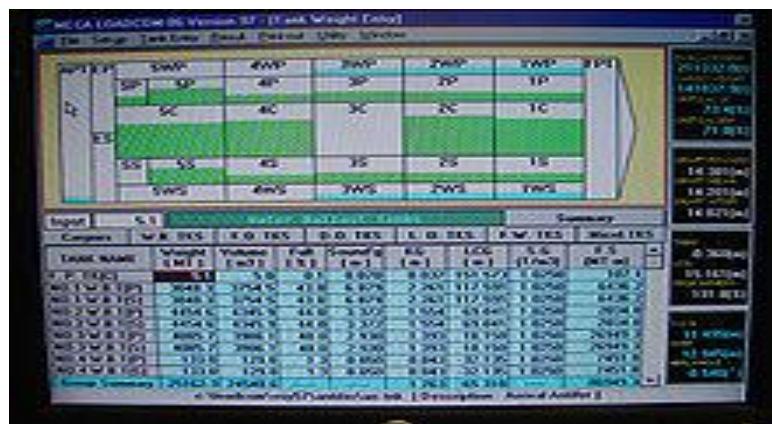


Figure 16.5 Many systems allow the PIC to monitor the ballast system and ship's stability during load and discharge

Characteristics

The design and layout of an individual cargo control room is determined by the ship's design, owner's requirements and the capabilities of the shipyard in which the ship is built. Modern cargo control rooms offer some or all of these components: main cargo pump and stripping pump control, valve control, tank level monitoring, and auxiliary functions.

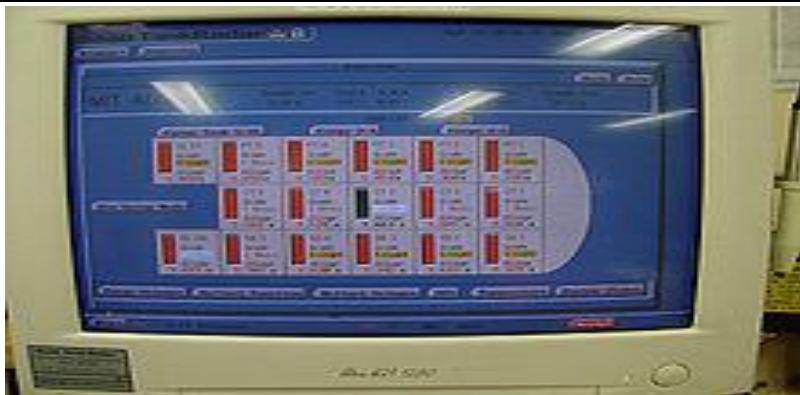


Figure 16.6 Schematic showing various cargoes loaded, trim, and list

Main cargo pumps and stripping pumps are used to discharge cargo from the ship. From the cargo control room, the person in charge of the discharge can typically turn pumps on and off, set pump speeds, and monitor pipeline pressures on the suction- and discharge-sides of pumps.



Figure 16.7 Monitoring systems that do not use computers are still often seen

By actuating cargo valves, the person in charge can control where cargo is pumped from, where it is pumped to, and in systems that use throttle valves, can control the relative flow rates of cargo through the valves. Modern cargo control rooms allow the person in charge to remotely control some or all of the valves in the cargo system and monitor the state of all valves. Valve indicators are typically laid out on a "mimic panel" which displays the cargo system piping, valves and pumps in a schematic diagram.

Tank level monitoring is another key functionality often provided in modern cargo control rooms. One aspect of tank level monitoring is overfill

alarms, which sound throughout the ship when cargo levels exceed the ship's design specifications. Many systems allow the person in charge to monitor tank levels at all tank levels. Tank level monitoring allows the person in charge to take early action to avoid oil spills, especially when loading the ship. Tank level information is often sent to computers that calculate hull stresses such as shear forces and bending moments.

Various other functions are available in some cargo control rooms. Many offer the person in charge additional monitoring and control systems, the ability to monitor inert gas systems, and tank pressures. Modern cargo control rooms typically allow the person in charge to control ballast pumps and valves, and monitor oil content of ballast water by the use of oily water separators. In cases where ships carry specialty products, specialized monitoring systems are available in the cargo control room.

Check Your Progress

Q1) What do you mean by GCR , SCR , CCR ?

Q 2) Write down Key forwarding instruction for sea freight.

Q 3) What are the basic cargo documents?

Q 4) What is a sea cargo report (SCR)?

Q 5) Describe the function of Cargo control room.

16.9 LET US SUM UP

This unit provide various types of airlines and aircrafts with their categories & proper diagrams. The diagram of airframe provides a clear picture of all the part of any aircraft.

A flight characteristic is important to know about Flight envelope, Range, Flight dynamics, Flight control. Aircraft features to know the facilities and comfort in the particular airline/class of service i. e the extra estate afforded by the new wide bodies may actually help you get a night's rest. Singapore airlines A 380 First class sleepers can be folded into something that approximates a double bed. Aircraft Configuration provide clear picture about each items and their weight, cargo, cockpit and certification.

16.10 CLUES TO ANSWERS

Check your progress

- 1) Refer Sec. 16.3
- 2) Refer Sec. 16.5
- 3) Refer Sec. 16.6
- 4) Refer Sec. 16.7
- 5) Refer Sec. 16.8

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Unit-17

**Procedure Related to Packing, Marking, Labelling,
Export-Import Documentation, Shipping Bill,
Landing Bill**

Structure

17.1 Objectives

17.2 Introduction

17.3 Cargo Packing and labelling requirement

17.4 Packing of Goods

17.5 Cargo Marking

17.6 Procedure for Clearance of Imported and Exported goods

17.7 Key - Shipper's letter of Instruction Airfreight

17.8 Bill of lading

17.9 Let's Sum up

17.10 Clues to Answers

17.11 References

17.1 OBJECTIVES

To understand about:

- To understand about Cargo packing and labeling requirement
- Providing complete pictures of Packing of various types of goods
- Know how to mark the Cargo for shipping, Information and handling instructions
- Requirements to Cargo Marking and Contents of Marking
- Procedure for clearance of imported and exported goods. Bill of entry for cargo Declaration for import and registration formalities for export
- Bill of lading - Functions, Roles and Uses, Legal Tool and transportation document
- Profile of a Shipment – Export Profile and Import profile

17.2 INTRODUCTION

Packing of dangerous cargo to be shipped by air should meet the requirements, established standards and Regulations on shipment of dangerous cargoes by air transport. Packing of dangerous cargoes together with other cargo types is prohibited. Adequate marking is an indispensable component of the package. If the marking is at variance with the details on the shipping documents, objections may be raised by the Customs authorities. If handling marking is inadequate, those parties whose actions during transport, handling or storage of the cargo have caused damage may be excluded from liability. Each cargo package should have shipment markings, and special cargo should have special markings. Shipment markings, except the markings of a shipping company, are put by a consignor prior to submitting cargo for shipment. Marking of dangerous goods must comply with the requirements of Technical instructions on safe air shipment of dangerous goods. The importer clearing the goods for domestic consumption has to file bill of entry in four copies; original and duplicate are meant for customs, third copy for the importer and the fourth copy is meant for the bank for making remittances. The exporters are also required to register authorised foreign exchange dealer code (through which export proceeds are expected to be realised) and open a current account in the designated bank for credit of any drawback incentive.

17.3 CARGO PACKING AND LABELING REQUIREMENT

Cargo shipped by air should have proper packing in accordance with Standards currently in force and technical conditions. If there are no special

standards and technical conditions concerning packing of some particular cargoes, these cargoes should be properly packed to provide their safe effective shipment. The other cargoes, technical equipment etc. can be shipped without packing under agreement with carrier. Packing of dangerous cargoes to be shipped by air should meet the requirements, established standards and Regulations on shipment of dangerous cargoes by air transport. Packing of dangerous cargoes together with other cargo types is prohibited.

Package of cargoes to be shipped by air should be dry and clean, cargo must not have sharp angles, impacts or anything that can soil or damage A/C compartments, equipment and also mail and baggage. Metal, glass, ceramic, wooden, plastic and other packages in which wet and other cargo types are packed for air shipment should sustain internal excess pressure which depends on the cruising altitude and temperature and also should completely guarantee safety of contents from leakage or scattering. Agricultural produce can be accepted for shipment in non-standard package, which provides cargo safety during shipment.

Cargo with soft package must be tied by tough ropes; the package should be sewed by similar threads without angles. In the ends of threads there should be standard seals of consignor applied with fair prints of letters and numbers. Packages or containers for shipment with declared value should be sealed. Seals should have fair prints of letters or numbers. The fact of cargo sealing and the names of consignor's seals are indicated in cargo invoice. Perishable fruits and vegetables can be shipped by air in a package acceptable for other means of transportation, considering the requirements given before, concerning cargo safety and conditions of A/C operations.

Cargo which packing doesn't meet the given requirements is not acceptable for shipment by air. For A/C flights security and avoiding damage or soiling of A/C compartments or cargo/mail/baggage packages it is prohibited to accept the following types of cargo (with or without package):

- Abrasive and emery discs or laps;
- Domestic and electric equipment, refrigerators, gas cookers, televisions, radio sets, motorcycles, bicycles and radio lamps;
- Goods or subjects made of ferrous and non-ferrous metals: electric engines and pumps, pipes, rides, wire, sheet metal, metal tape in stripes, spare parts and other similar freights;
- Goods of synthetic pitch, plastic etc.;

- Friable goods packed in paper package (craft-sacks): press powder, polyethylene, chemical and mineral fertilizers, dyestuff, whitewash, graphite, soda, glue, cement etc.;
- Bulky and long-measuring packages, sheet iron, heavy cargoes not equipped with proper devices for safe mooring in a/c compartments or exceeding static load on floor area of the compartments without any shelves or pallets for equal loading distribution as well as cargoes with configuration unsuitable for convenient settling of mooring;
- Other cargoes which packing, mooring or configuration does not guarantee safety of air shipment.
- Will your product withstand damage if other, heavier packages are stacked on top of your en route
- Stabilize your goods within the packaging - use filling material, ie bubble wrap, peanuts
- Pallets and wood packaging from foreign countries require treatment for infestation and marked to this effect
- Size of package - narrow body aircraft vs wide body aircraft

17.4 PACKING OF GOODS



Figure 17.1 Well packed with the pallet base

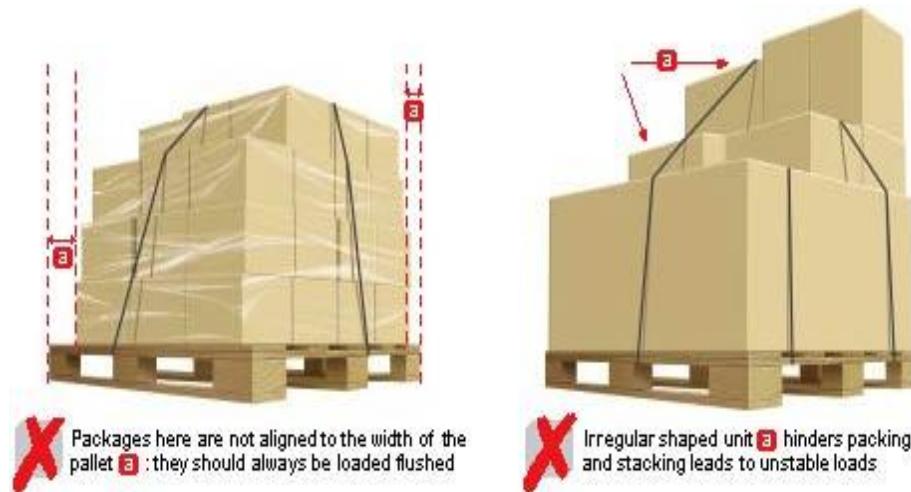


Figure 17.2 Packaging for irregular shaped unit Fig 17.3 Packaging for more irregular shaped units

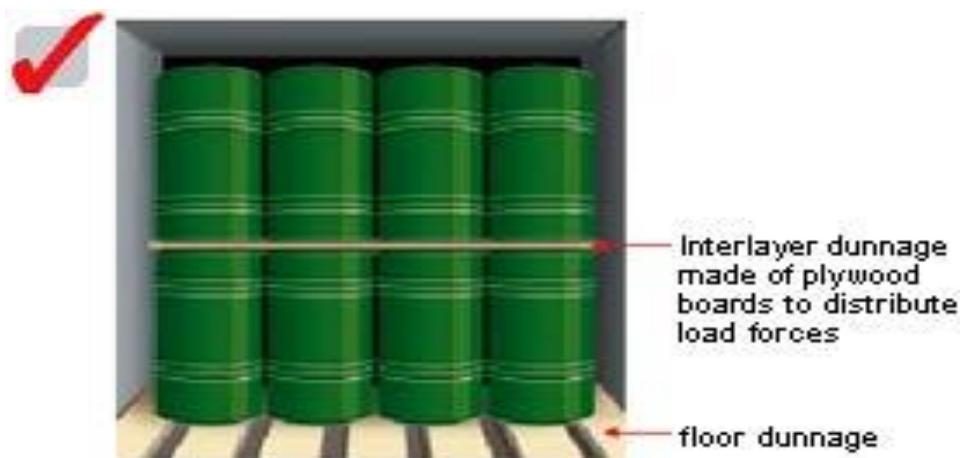


Fig 17. 4 Floor dunnage

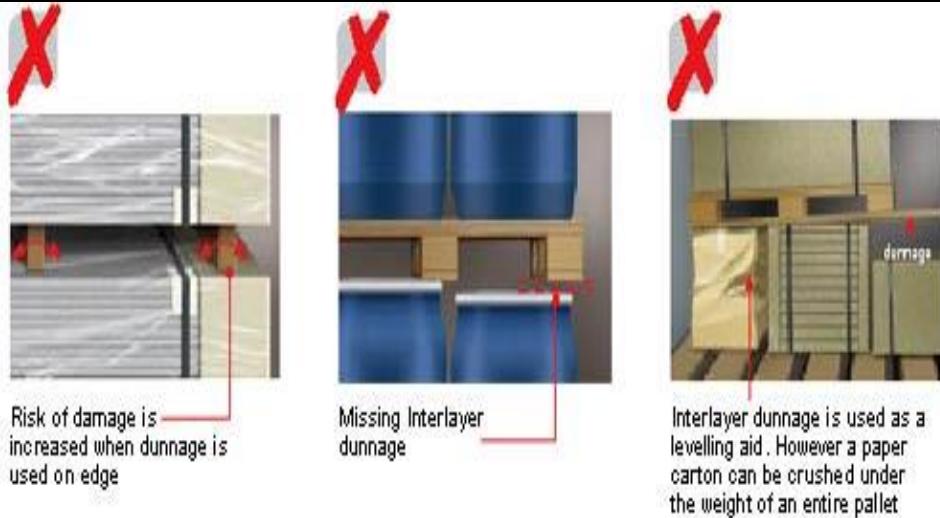


Figure 17.5 Risk of damage (Missing interlayer dunnage)



Fig. 17.6 Reefer packaging requirements

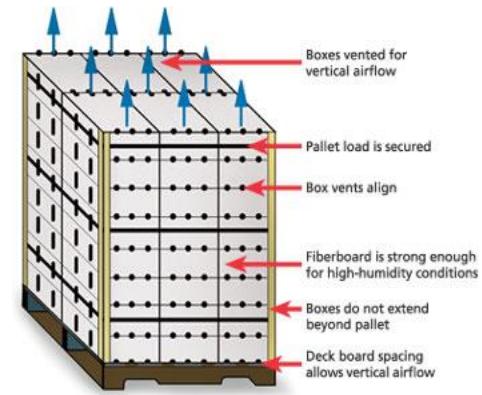


Fig. 17.7 Reefer stowage

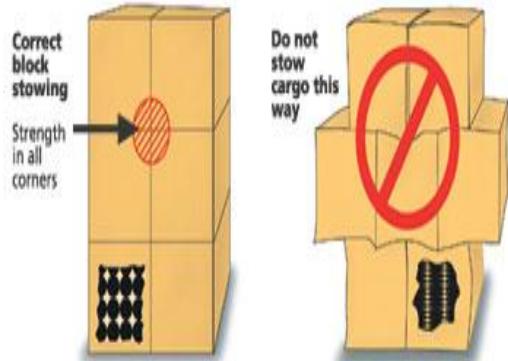


Fig. 17.8 Block stowing procedures load

Fig. 17.9 Securing



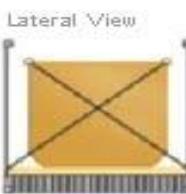
Horizontal lashing with longitudinal component



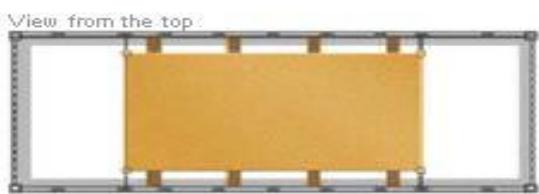
Vertical lashing with slight horizontal transverse components



Diagonal lashing with horizontal longitudinal and transverse components and vertical components



Cross lashing with horizontal and vertical components



Horizontal lashing with transverse component

17.5 CARGO MARKING

Correct and complete marking of packages helps to prevent incorrect handling, accidents, incorrect delivery, losses of weight, volume and Customs fines. Marking must be clear and precise. Its color should stand out clearly from that of the package; it is usually black in color. Alternatively, it may also be applied on adhesive labels. Where possible, black symbols on a white background should be used. Both when the marking is applied directly onto the package and when adhesive labels are used, care must be taken to ensure that marking is applied in a legible and durable manner. Adequate marking is an indispensable component of the package. If the marking is at variance with the details on the shipping documents, objections may be raised by the Customs authorities.

If handling marking is inadequate, those parties whose actions during transport, handling or storage of the cargo have caused damage may be excluded from liability.

Complete marking must comprise the following three parts:

1. Shipping mark

- Identification mark: e.g. initial letters of receiver or shipper or of receiver's company name
- Identification number: e.g. receiver's order number
- Total number of items in the complete consignment
- Number of the package in the consignment, e.g. 5/12 or 5 – 12
- Place and port of destination

2. Information mark

- Country of origin: The country of origin must be stated in accordance with the provisions of the particular countries. Statement of the country of origin is often mandatory. In some cases it is not desired and, if contractually agreed, may even have to be omitted. Failure to comply with such agreements entails a risk of blacklisting.
- Indication of weight of package: from a gross weight of 1000 kg, packages must be marked with details of weight. With regard to ease of transport, handling and storage, the relevant standards also recommend indicating weight from a lower threshold.

- Dimensions of packages: standards specify that dimensions be stated in centimeters.

3. Handling instructions

"Handling marks" help to ensure that greater care is taken with cargo handling. It must be possible to tell,

- whether the package is sensitive to heat or moisture
- whether it is at risk of breakage
- where the top and bottom are and where the center of gravity is located
- where loading tackle may be slung

The symbols for package handling instructions are internationally standardized in ISO R/780 (International Organization for Standardization) . The symbols must never be omitted as they are self-explanatory and so overcome language problems in international transport operations.

Requirements to Cargo Marking

Each cargo package should have shipment markings, and special cargo should have special markings. Shipment markings, except the markings of a shipping company, are put by a consignor prior to submitting cargo for shipment. Marking of dangerous goods must comply with the requirements of Technical instructions on safe air shipment of dangerous goods.

Contents of Marking

Shipment marking should include manipulation signs, basic, additional and informational records. Basic records should include:

- Full or conventional duly registered name of consignee;
- name of a destination;
- Quantity of cargo packages in a consignment and a number of a package (indicated in fraction: quantity of packages in consignment is a numerator; package number is a denominator).

Quantity of cargo packages and a package number should be indicated at shipment of the following cargo types:

- different cargo types in similar containers or similar cargo types in different containers when mixture of sorts in consignments of heterogeneous cargo is not allowed;
- sets of equipment;
- with reloading during the way;
- with declared value.

On shipping cargo in shipping packages there should be a fraction marking on each package; package number and gross weight of the package in numerator; number of packages in the shipping package and net weight of the package in denominator. Additional records should include:

- full or conventional duly registered name of consignor;
- name of destination;
- Information of shipping companies transport specified by the airport of origin.
- Record of the origin airport should include the number of Cargo way bill;
- code of destination airport; number of packages in cargo consignment.
- Three-letter codes of cities and settlements of RF for marking procedures
- Information should include the following data:
- gross and net weight of a cargo package, kg;
- Dimension of a cargo package, cm (length, width, height; or diameter and height); cargo package volume, cm³.
- When marking cargo with declared value, the weight of each package and declared value amount are indicated.
- It is allowed to apply the placards if the signs cannot express the type of cargo handling. For example: Don't put on the top!, Open here!, Governmental!, Sowing!, Selected etc.

Place and ways of Cargo Marking

Shipment signs can be applied directly on a package or on metal, plastic, plywood and other labels. At air shipment of cargo it is prohibited to use paper, pasteboard labels and also labels made of wooden fibrous block.

Shipment markings should be applied on one of the sides of a box or any other parallelepiped/cube/tetrahedron package. Latticed boxes and boxes with external laths should have places to apply markings on (lath fixation, blocking of gaps between planks etc.). At shipment of cargo marked as Top, handle with care the marking should be applied additionally on the upper side of the package. Markings are applied:

- for barrels and drums - on the bottom; markings can also be applied on the cowling;
- for sacks - on top, near the stitch
- for bales - on one of the sides;
- for piles – on the upper side; markings can also be applied on the sides;
- for other types of package (balloons etc.),
- for cargo in shipment package – on the best convenient and visible parts.
- Manipulation signs are applied on each side of cargo and placed in upper left corner on two adjoining sides of the package.
- Markings with information about the packed goods are applied under the main records.
- It is allowed to put shipment markings and information about the packed goods together on one label if cargo length is less than 1 meter and height is less than 0,5 meters.
- Markings are put with the help of typographic, lithographic, electrolytic methods; by means of stencil, pressing, printing and marking machines.
- It is also allowed to manually specify the name of a consignee and destination/origin airport on the label if this information stays secure until receiving.
- Labels are attached to a package by means of glue, screws, wire, packthread and other materials that would provide safety of cargo and markings.
- Ink used for markings should not be sticky and washable. If necessary it would be water/salt/light- resistant, etc.). Resistant against tropical climate, high and low temperatures, fast drying and firm (not washable or getting smeared). It is prohibited to use paints which can spoil the quality of packed cargo.
- Painting materials should be water resistant, fast drying and light resistant (if cargo is exposed to light for a long time), resistant to low temperatures (at cargo shipment to Northern regions), salt resistant (at shipment of cargo by sea), resistant to smearing.

- Manipulation signs and records should be dark-coloured on a light background and light if the background is dark. Sign № 6 is painted blue on a white background, sign № 13 painted red.
- Necessity of applying the manipulation signs should be stated in standards or any other technical regulative documentation on the product.
- It is allowed to print general and additional records on each cargo surface during shipment in containers completed and packed by the consignor for the address of one consignee. Dimensions of cargo labels, manipulation signs and records.

17.6 PROCEDURE FOR CLEARANCE OF IMPORTED AND EXPORTED GOODS

1) Import

Bill of Entry - Cargo Declaration:

1. Goods imported in a vessel/aircraft attract customs duty and unless these are not meant for customs clearance at the port/airport of arrival by particular vessel/aircraft and are intended for transit by the same vessel/aircraft or transshipment to another customs station or to any place outside India, detailed customs clearance formalities of the landed goods have to be followed by the importers. In regard to the transit goods, so long as these are mentioned in import report/IGM for transit to any place outside India, Customs allows transit without payment of duty. Similarly for goods brought in by particular vessel aircraft for transshipment to another customs station detailed customs clearance formalities at the port/airport of landing are not prescribed and simple transshipment procedure has to be followed by the carrier and the concerned agencies. The customs clearance formalities have to be complied with by the importer after arrival of the goods at the other customs station. There could also be cases of transshipment of the goods after unloading to a port outside India. Here also simpler procedure for transshipment has been prescribed by regulations, and no duty is required to be paid. (Sections 52 to 56 of the Customs are relevant in this regard).
2. For other goods, which are offloaded importers, have the option to clear the goods for home consumption after payment of the duties leviable or to clear them for warehousing without immediate discharge of the duties leviable in terms of the warehousing provisions built in

the Customs Act. Every importer is required to file in terms of the Section 46 an entry (which is called Bill of entry) for home consumption or warehousing in the form, as prescribed by regulations.

3. If the goods are cleared through the EDI system no formal Bill of Entry is filed as it is generated in the computer system, but the importer is required to file a cargo declaration having prescribed particulars required for processing of the entry for customs clearance.
4. The Bill of entry, where filed, is to be submitted in a set, different copies meant for different purposes and also given different colour scheme, and on the body of the bill of entry the purpose for which it will be used is generally mentioned in the non-EDI declaration.
5. The importer clearing the goods for domestic consumption has to file bill of entry in four copies; original and duplicate are meant for customs, third copy for the importer and the fourth copy is meant for the bank for making remittances.
6. In the non-EDI system along with the bill of entry filed by the importer or his representative the following documents are also generally required: -
 - Signed invoice
 - Packing list
 - Bill of Lading or Delivery Order/Airway Bill
 - GATT declaration form duly filled in
 - Importers/CHA's declaration
 - License wherever necessary
 - Letter of Credit/Bank Draft/wherever necessary
 - Insurance document
 - Import license
 - Industrial License, if required
 - Test report in case of chemicals
 - Adhoc exemption order

- DEEC Book/DEPB in original
- Catalogue, Technical write up, Literature in case of machineries, spares or chemicals as may be applicable
- Separately split up value of spares, components machineries
- Certificate of Origin, if preferential rate of duty is claimed
- No Commission declaration

7. While filing the bill of entry and giving various particulars as prescribed therein the correctness of the information given has also to be certified by the importer in the form a declaration at the foot of the bill of entry and any mis-declaration/incorrect declaration has legal consequences, and due precautions should be taken by importer while signing these declarations.

8. Under the EDI system, the importer does not submit documents as such for assessment but submits declarations in electronic format containing all the relevant information to the Service Centre. A checklist is generated for verification of data by the importer/CHA. After verification, the data is submitted to the system by the Service Centre Operator and system then generates a B/E Number, which is endorsed on the printed checklist and returned to the importer/CHA. No original documents are taken at this stage. Original documents are taken at the time of examination. The importer/CHA also need to sign on the final document after Customs clearance.

9. The first stage for processing a bill of entry is what is termed the noting of the bill of entry, vis-à-vis, the IGM filed by the carrier. In the non-EDI system the importer has to get the bill of entry noted in the concerned unit which checks the consignment sought to be cleared having been manifested in the particular vessel and a bill of entry number is generated and indicated on all copies. After noting the bill of entry gets sent to the appraising section of the Custom House for assessment functions, payment of duty etc. In the EDI system, the Steamer Agents get the manifest filed through EDI or by using the service centre of the Custom House and the noting aspect is checked by the system itself – which also generates bill of entry number.

10. After noting/registration of the Bill of entry, it is forwarded manually or electronically to the concerned Appraising Group in the Custom

House dealing with the commodity sought to be cleared. Appraising Wing of the Custom House has a number of Groups dealing with earmarked commodities falling under different Chapter Headings of the Customs Tariff and they take up further scrutiny for assessment, import permissibility etc. angle. Assessment:

11. The basic function of the assessing officer in the appraising groups is to determine the duty liability taking due note of any exemptions or benefits claimed under different export promotion schemes. They have also to check whether there are any restrictions or prohibitions on the goods imported and if they require any permission/license/permit etc., and if so whether these are forthcoming. Assessment of duty essentially involves proper classification of the goods imported in the customs tariff having due regard to the rules of interpretations, chapter and sections notes etc., and determining the duty liability. It also involves correct determination of value where the goods are assessable on ad valorem basis. The assessing officer has to take note of the invoice and other declarations submitted along with the bill of entry to support the valuation claim, and adjudge whether the transaction value method and the invoice value claimed for the basis of assessment is acceptable, or value needs to be redetermined having due regard to the provisions of Section 14 and the valuation rules issued there under, the case law and various instructions on the subject. He also takes note of the contemporaneous values and other information on valuation available with the Custom House.
12. Where the appraising officer is not very clear about the description of the goods from the document or as some doubts about the proper classification, which may be possible only to determine after detailed examination of the nature of the goods or testing of its samples, he may give an examination order in advance of finalisation of assessment including order for drawing of representative sample. This is done generally on the reverse of the original copy of the bill of entry which is presented by the authorized agent of the importer to the appraising staff posted in the Docks/Air Cargo Complexes where the goods are got examined in the presence of the importer's representative.
13. On receipt of the examination report the appraising officers in the group assesses the bill of entry. He indicates the final classification and valuation in the bill of entry indicating separately the various duties such as basic, countervailing, anti-dumping, safeguard duties etc., that may be leviable. Thereafter the bill of entry goes to Assistant

Commissioner/Deputy Commissioner for confirmation depending upon certain value limits and sent to comptist who calculates the duty amount taking into account the rate of exchange at the relevant date as provided under Section 14 of the Customs Act.

14. After the assessment and calculation of the duty liability the importer's representative has to deposit the duty calculated with the treasury or the nominated banks, whereafter he can go and seek delivery of the goods from the custodians.
15. Where the goods have already been examined for finalization of classification or valuation no further examination/checking by the dock appraising staff is required at the time of giving delivery and the goods can be taken delivery after taking appropriate orders and payment of dues to the custodians, if any.
16. In most cases, the appraising officer assesses the goods on the basis of information and details furnished to the importer in the bill of entry, invoice and other related documents including catalogue, write-up etc. He also determines whether the goods are permissible for import or there are any restriction/prohibition. He may allow payment of duty and delivery of the goods on what is called second check/appraising basis in case there are no restriction/prohibition. In this method, the duties as determined and calculated are paid in the Custom House and appropriate order is given on the reverse of the duplicate copy of the bill of entry and the importer or his agent after paying the duty submits the goods for examination in the import sheds in the docks etc., to the examining staff. If the goods are found to be as declared and no other discrepancies/mis-declarations etc., are detected, the importer or his agent can clear the goods after the shed appraiser gives out of charge order.
17. Wherever the importer is not satisfied with the classification, rate of duty or valuation as may be determined by the appraising officer, he can seek an assessment order. An appeal against the assessment order can be made to appropriate appellate authority within the time limits and in the manner prescribed. EDI Assessment:
18. In the EDI system of handling of the documents/declarations for taking import clearances as mentioned earlier the cargo declaration is transferred to the assessing officer in the groups electronically.

19. The assessing officer processes the cargo declaration on screen with regard to all the parameters as given above for manual process. However in EDI system, all the calculations are done by the system itself. In addition, the system also supplies useful information for calculation of duty, for example, when a particular exemption notification is accepted, the system itself gives the extent of exemption under that notification and calculates the duty accordingly. Similarly, it automatically applies relevant rate of exchange in force while calculating. Thus no comptist is required in EDI system. If assessing officer needs any clarification from the importer, he may raise a query. The query is printed at the service centre and the party replies to the query through the service centre.

20. After assessment, a copy of the assessed bill of entry is printed in the service centre. Under EDI, documents are normally examined at the time of examination of the goods. Final bill of entry is printed after 'out of charge' is given by the Custom Officer.

21. In EDI system, in certain cases, the facility of system appraisal is available. Under this process, the declaration of importer is taken as correct and the system itself calculates duty which is paid by the importer. In such case, no assessing officer is involved.

22. Also, a facility of tele-enquiry is provided in certain major Customs stations through which the status of documents filed through EDI systems could be ascertained through the telephone. If any query is raised, the same may be got printed through fax in the office of importer/exporter/CHA. Examination of Goods:

23. All imported goods are required to be examined for verification of correctness of description given in the bill of entry. However, a part of the consignment is selected on random selection basis and is examined. In case the importer does not have complete information with him at the time of import, he may request for examination of the goods before assessing the duty liability or, if the Customs Appraiser/ Assistant Commissioner feels the goods are required to be examined before assessment, the goods are examined prior to assessment. This is called First Appraisement. The importer has to request for first check examination at the time of filing the bill of entry or at data entry stage. The reason for seeking First Appraisement is also required to be given. On original copy of the bill of entry, the Customs Appraiser records the examination order and returns the bill of entry to the importer/CHA with the direction for examination, who is to take it to the import shed

for examination of the goods in the shed. Shed Appraiser/Dock examiner examines the goods as per examination order and records his findings. In case group has called for samples, he forwards sealed samples to the group. The importer is to bring back the said bill of entry to the assessing officer for assessing the duty.

24. The goods can also be examined subsequent to assessment and payment of duty. This is called Second Appraisement. Most of the consignments are cleared on second appraisement basis. It is to be noted that whole of the consignment is not examined. Only those packages which are selected on random selection basis are examined in the shed.
25. Under the EDI system, the bill of entry, after assessment by the group or first appraisement, as the case may be, need to be presented at the counter for registration for examination in the import shed. A declaration for correctness of entries and genuineness of the original documents needs to be made at this stage. After registration, the B/E is passed on to the shed Appraiser for examination of the goods. Along-with the B/E, the CHA is to present all the necessary documents. After completing examination of the goods, the Shed Appraiser enters the report in System and transfers first appraisement B/E to the group and gives 'out of charge' in case of already assessed Bs/E. Thereupon, the system prints Bill of Entry and order of clearance (in triplicate). All these copies carry the examination report, order of clearance number and name of Shed Appraiser. The two copies each of B/E and the order are to be returned to the CHA/Importer, after the Appraiser signs them. One copy of the order is attached to the Customs copy of B/E and retained by the Shed Appraiser. Green Channel facility:
26. Some major importers have been given the green channel clearance facility. It means clearance of goods is done without routine examination of the goods. They have to make a declaration in the declaration form at the time of filing of bill of entry. The appraisement is done as per normal procedure except that there would be no physical examination of the goods. Only marks and number are to be checked in such cases. However, in rare cases, if there are specific doubts regarding description or quantity of the goods, physical examination may be ordered by the senior officers/investigation wing like SIIB. Execution of Bonds:
27. Wherever necessary, for availing duty free assessment or concessional assessment under different schemes and notifications, execution of end

use bonds with Bank Guarantee or other surety is required to be furnished. These have to be executed in prescribed forms before the assessing Appraiser. Payment of Duty:

28. The duty can be paid in the designated banks or through TR-6 challans. Different Custom Houses have authorized different banks for payment of duty. It is necessary to check the name of the bank and the branch before depositing the duty. Bank endorses the payment particulars in challan which is submitted to the Customs.
29. Whenever mistakes are noticed after submission of documents, amendments to the of entry is carried out with the approval of Deputy/ Assistant Commissioner. The request for amendment may be submitted with the supporting documents. For example, if the amendment of container number is required, a letter from shipping agent is required. Amendment in document may be permitted after the goods have been given out of charge i.e. goods have been cleared on sufficient proof being shown to the Deputy/ Assistant Commissioner.
30. For faster clearance of the goods, provision has been made in section 46 of the Act, to allow filing of bill of entry prior to arrival of goods. This bill of entry is valid if vessel/ aircraft carrying the goods arrive within 30 days from the date of presentation of bill of entry.
31. The importer is to file 5 copies of the bill of entry and the fifth copy is called Advance Noting copy. The importer has to declare that the vessel/ aircraft is due within 30 days and they have to present the bill of entry for final noting as soon as the IGM is filed. Advance noting is available to all imports except for into bond bill of entry and also during the special period.
32. Often in case of goods coming by container ships they are transferred at an intermediate port (like Ceylon) from mother vessel to smaller vessels called feeder vessels. At the time of filing of advance noting B/E, the importer does not know as to which vessel will finally bring the goods to Indian port. In such cases, the name of mother vessel may be filled in on the basis of the bill of lading. On arrival of the feeder vessel, the bill of entry may be amended to mention names of both mother vessel and feeder vessel Specialized Schemes.
33. The import of goods are made under specialized schemes like DEEC or EOU etc. The importer in such cases is required to execute bonds with the Customs authorities for fulfillment of conditions of respective

notifications. If the importer fails to fulfill the conditions, he has to pay the duty leviable on those goods. The amount of bond would be equal to the amount of duty leviable on the imported goods. The bank guarantee is also required along with the bond.

34. A separate form of bill of entry is used for clearance of goods for warehousing. All documents as required to be attached with a Bill of Entry for home consumption are also required to be filed with bill of entry for warehousing. The bill of entry is assessed in the same manner and duty payable is determined. However, since duty is not required to be paid at the time of warehousing of the goods, the purpose of assessing the goods at this stage is to secure the duty in case the goods do not reach the warehouse. The duty is paid at the time of ex-bond clearance of goods for which an ex-bond bill of entry is filed. The rate of duty applicable to imported goods cleared from a warehouse is the rate in-force on the date on which the goods are actually removed from the warehouse.

II) Export

For clearance of export goods, the export or his agents have to undertake the following formalities:

(a) Registration:

35. The exporters have to obtain PAN based Business Identification Number(BIN) from the Directorate General of Foreign Trade prior to filing of shipping bill for clearance of export goods. Under the EDI System, PAN based BIN is received by the Customs System from the DGFT online. The exporters are also required to register authorized foreign exchange dealer code (through which export proceeds are expected to be realized) and open a current account in the designated bank for credit of any drawback incentive.
36. Whenever a new Airline, Shipping Line, Steamer Agent, port or airport comes into operation, they are required to be registered into the Customs System. Whenever, electronic processing of shipping bill etc. is held up on account of non-registration of these entities, the same is to be brought to the notice of Assistant/Deputy Commissioner in-charge of EDI System for registering the new entity in the system.

(b) Registration in the case of export under export promotion schemes

37. All the exporters intending to export under the export promotion scheme need to get their licences/DEEC book etc. registered at the Customs Station. For such registration, original documents are required.

(c) Processing of Shipping Bill-Non-EDI

38. under manual system, shipping bills or, as the case may be, bills of export are required to be filed in format as prescribed in the Shipping Bill and Bill of Export (Form) regulations, 1991. The bills of export are being used if clearance of export goods is taken at the Land Customs Stations. Different forms of shipping bill/bill of export have been prescribed for export of duty free goods, export of dutiable goods and export under drawback etc.

39. Shipping Bills are required to be filed along with all original documents such as invoice, AR-4, packing list etc. The assessing officer in the Export Department checks the value of the goods, classification under Drawback schedule in case of Drawback Shipping Bills, rate of duty/cess where applicable, exportability of goods under EXIM policy and other laws inforce. The DEEC/DEPB Shipping bills are processed in the DEEC group. In case of DEEC Shipping bills, the assessing officer verifies that the description of the goods declared in the shipping bill and invoice match with the description of the resultant product as given in the DEEC book. If the assessing officer has any doubts regarding value, description of goods, he may call for samples of the goods from the docks. He may also call for any other information required by him for processing of shipping bill. He may assess the shipping bill after visual inspection of the sample or may send it for test and pass the shipping bill provisionally.

40. Once, the shipping bill is passed by the Export Department, the exporter or his agent presents the goods to the shed appraiser (export) in docks for examination. The shed appraiser may mark the document to a Custom officer (usually an examiner) for examining the goods. The examination is carried out under the supervision of the shed appraiser (export). If the description and other particulars of the goods are found to be as declared, the shed appraiser gives a 'let export' order, after which the exporter may contact the preventive superintendent for supervising the loading of goods on to the vessel.

41. In case the examining staffs in the docks finds some discrepancy in the goods, they may mark the shipping bill back to export department/DEEC group with their observations as well as sample of goods, if needed. The export department re-considers the case and decide whether export can be allowed, or amendment in description, value etc. is required before export and whether any other action is required to be taken under the Customs Act, 1962 for mis-declaration of description of value etc.

(d) Processing of Shipping Bill-EDI

42. Under EDI System, declarations in prescribed format are to be filed through the Service Centers of Customs. A checklist is generated for verification of data by the exporter/CHA. After verification, the data is submitted to the System by the Service Center operator and the System generates a Shipping Bill Number, which is endorsed on the printed checklist and returned to the exporter/CHA.

(e) Quota Allocation and Other certification for Export Goods:

43. The quota allocation label is required to be pasted on the export invoice. The allocation number of AEPC is to be entered in the system at the time of shipping bill entry. The quota certification of export invoice needs to be submitted to Customs along-with other original documents at the time of examination of the export cargo. For determining the validity date of the quota, the relevant date needs to be the date on which the full consignment is presented to the Customs for examination and duly recorded in the Computer System. In EDI System at Delhi Air cargo, the quota information is automatically verified from the AEPC/TEXPROCIL system.

(f) Arrival of Goods at Docks

44. The goods brought for the purpose of examination and subsequent 'let export' is allowed entry to the Dock on the strength of the checklist and other declarations filed by the exporter in the Service Center. The Port

authorities have to endorse the quantity of goods actually received on the reverse of the Check List.

(g) System Appraisal of Shipping Bills

45. In many cases the Shipping Bill is processed by the system on the basis of declarations made by the exporters without any human intervention. In other cases where the Shipping Bill is processed on screen by the Customs Officer, he may call for the samples, if required for confirming the declared value or for checking classification under the Drawback Schedule. He may also give any special instructions for examination of goods, if felt necessary.

(h) Status of Shipping Bill

46. The exporter/CHA can check up with the query counter at the Service Center whether the Shipping Bill submitted by them in the system has been cleared or not, before the goods are brought into the Docks for examination and export. In case any query is raised, the same is required to be replied through the service center or in case of CHAs having EDI connectivity through their respective terminals. The Customs officer may pass the Shipping Bill after all the queries have been satisfactorily replied to.

(i) Customs Examination of Export Cargo

47. After the receipt of the goods in the dock, the exporter/CHA may contact the Customs Officer designated for the purpose present the check list with the endorsement of Port Authority and other declarations as aforesaid along with all original documents such as, Invoice and Packing list, AR-4, etc. Customs Officer may verify the quantity of the goods actually received and enter into the system and thereafter mark the Electronic Shipping Bill and also hand over all original documents to the Dock Appraiser of the Dock who may assign a Customs Officer for the examination and intimate the officers' name and the packages to be examined, if any, on the check list and return it to the exporter or his agent.

48. The Customs Officer may inspect/examine the shipment along with the Dock Appraiser. The Customs Officer enters the examination report in the system. He then marks the Electronic Bill along with all original

documents and checklist to the Dock Appraiser. If the Dock Appraiser is satisfied that the particulars entered in the system conform to the description given in the original documents and as seen in the physical examination, he may proceed to allow "let export" for the shipment and inform the exporter or his agent.

(j) Variation between the Declaration & Physical Examination

49. The check list and the declaration along with all original documents is retained by the Appraiser concerned. In case of any variation between the declaration in the Shipping Bill and physical documents/examination report, the Appraiser may mark the Electronic Shipping Bill to the Assistant Commissioner/Deputy Commissioner of Customs (Exports). He may also forward the physical documents to Assistant Commissioner/Deputy Commissioner of Customs (Exports) and instruct the exporter or his agent to meet the Assistant Commissioner/Deputy Commissioner of Customs (Exports) for settlement of dispute. In case the exporter agrees with the views of the Department, the Shipping Bill needs to be processed accordingly. Where, however, the exporter disputes the view of the Department principles of natural justice is required to be followed before finalization of the issue.

(k) Stuffing/ Loading of Goods in Containers

50. The exporter or his agent should hand over the exporter copy of the shipping bill duly signed by the Appraiser permitting "Let Export" to the steamer agent who may then approach the proper officer (Preventive Officer) for allowing the shipment. In case of container cargo the stuffing of container at Dock is done under Preventive Supervision. Loading of both containerized and bulk cargo is done under Preventive Supervision. The Customs Preventive Superintendent (Docks) may enter the particulars of packages actually stuffed in to the container; the bottle seal number particulars of loading of cargo container on board into the system and endorse these details on the exporter copy of the shipping bill presented to him by the steamer agent. If there is a difference in the quantity/number of packages stuffed in the containers/goods loaded on vessel the Superintendent (Docks) may put a remark on the shipping bill in the system and that shipping bill requires amendment or changed quantity. Such shipping bill also may not be taken up for the purpose of sanction of Drawback/DEEC logging, till the shipping bill is suitably amended for the changed quantity. The Customs Preventive Officer supervising the loading of container and general cargo in to the vessel

may give "Shipped on Board" endorsement on the exporter's copy of the shipping bill.

(l) Drawal of Samples:

51. Where the Appraiser Dock (export) orders for samples to be drawn and tested, the Customs Officer may proceed to draw two samples from the consignment and enter the particulars thereof along with details of the testing agency in the ICES/E system. There is no separate register for recording dates of samples drawn. Three copies of the test memo are prepared by the Customs Officer and are signed by the Customs Officer and Appraising Officer on behalf of Customs and the exporter or his agent. The disposals of the three copies of the test memo are as follows: -

- Original - to be sent along with the sample to the test agency.
- Duplicate - Customs copy to be retained with the 2nd sample.
- Triplicate - Exporter's copy.

52. The Assistant Commissioner/Deputy Commissioner if he considers necessary, may also order for sample to be drawn for purpose other than testing such as visual inspection and verification of description, market value inquiry, etc.

(m) Amendments

53. Any correction/amendments in the checklist generated after filing of declaration can be made at the service center, provided, the documents have not yet been submitted in the system and the shipping bill number has not been generated. Where corrections are required to be made after the generation of the shipping bill No. or after the goods have been brought into the Export Dock, amendments is carried out in the following manners.

- If the goods have not yet been allowed "let export" amendments may be permitted by the Assistant Commissioner (Exports).
- Where the "Let Export" order has already been given, amendments may be permitted only by the Additional/Joint Commissioner, Custom House, in charge of export section.

54. In both the cases, after the permission for amendments has been granted, the Assistant Commissioner/Deputy Commissioner (Export) may approve the amendments on the system on behalf of the Additional /Joint Commissioner. Where the print out of the Shipping Bill has already been generated, the exporter may first surrender all copies of the shipping bill to the Dock Appraiser for cancellation before amendment is approved on the system.

(n) Export of Goods under Claim for Drawback

55. After actual export of the goods, the Drawback claim is processed through EDI system by the officers of Drawback Branch on first come first served basis. There is no need for filing separate drawback claims. The status of the shipping bills and sanction of DBK claim can be ascertained from the query counter set up at the service center. If any query has been raised or deficiency noticed, the same is shown on the terminal. A print out of the query/deficiency may be obtained by the authorized person of the exporter from the service center. The exporters are required to reply to such queries through the service center. The claim will come in queue of the EDI system only after reply to queries / deficiencies are entered by the Service Center.

56. All the claims sanctioned on a particular day are enumerated in a scroll and transferred to the Bank through the system. The bank credits the drawback amount in the respective accounts of the exporters. Bank may send a fortnightly statement to the exporters of such credits made in their accounts.

57. The Steamer Agent/Shipping Line may transfer electronically the EGM to the Customs EDI system so that the physical export of the goods is confirmed, to enable the Customs to sanction the drawback claims.

(o) Generation of Shipping Bills

58. After the "let export" order is given on the system by the Appraiser, the Shipping Bill is generated by the system in two copies i.e. one Customs copy, one exporter's copy (EP copy is generated after submission of EGM). After obtaining the print out the appraiser obtains the signatures of the Customs Officer on the examination report and the representative of the CHA on both copies of the shipping bill and examination report. The Appraiser thereafter signs & stamps both the copies of the shipping bill at the specified place.

59. The Appraiser also signs and stamps the original & duplicate copy of SDF. Customs copy of shipping bill and original copy of the SDF is retained along with the original declarations by the Appraiser and forwarded to Export Department of the Custom House. He may return the exporter copy and the second copy of the SDF to the exporter or his agent.

60. As regards the AEPC quota and other certifications, these are retained along with the shipping bill in the dock after the shipping bill is generated by the system. At the time of examination, apart from checking that the goods are covered by the quota certifications, the details of the quota entered into the system needs to be checked.

(p) Export General Manifest

61. All the shipping lines/agents need to furnish the Export General Manifests, Shipping Bill wise, to the Customs electronically within 7 days from the date of sailing of the vessel.

62. Apart from lodging the EGM electronically the shipping lines need to continue to file manual EGMs along with the exporter copy of the shipping bills as per the present practice in the export department. The manual EGMs need to be entered in the register at the Export Department and the Shipping lines may obtain acknowledgements indicating the date and time at which the EGMs were received by the Export Department.

63. The above is the general procedure for export under EDI Systems. However special procedures exist for specified schemes, details of which may be obtained from the Public Notice/Standing Orders issued by the respective Commissionerates.

In order to book you export cargo, you will need to present the following documentation

Air Freights

1. SLI (Shipper Letter of Instruction) - A blank template & instruction sheet is provided for you.
2. A photocopy of your passport
3. A Packing List/Inventory report of your goods

- If you wish to send your cargo, please consider the following question:
- Will you pack the goods yourself?
- If so, please ensure that you have adequate packing for export. If in doubt, be over cautious. VTI Logistics can offer a crating and packing service for you.

When our drivers come to collect your goods, please make sure that each box carton and or crate is open. Our driver must inspect your goods for airline security purposes.

Sea Freights

1. FI (Forwarding Instruction) – A blank template & instruction sheet is provided for you.
2. A photocopy of your passport
3. A Packing List/Inventory report of your goods

If you wish to send your cargo, please consider the following question:

- Will you pack the goods yourself?

If so, please ensure that they are adequately packed for export. If in doubt, be over cautious.

VTI Logistics can offer a crating and packing service for you.

17.7 KEY SHIPPERS LETTER OF INSTRUCTION - AIRFREIGHT

1. Your Name/Company, Address and Contact details in Australia.
2. Your reference number.
3. Your Name/Company, Address and Contact details overseas.
4. Any other party that needs to be notified on arrival of goods.
5. Airport your goods are being exported from.
6. Airport and country your goods are being exported to.
7. Please sign and date.

8. Number of packages.
9. Approximate weight of goods.
10. Approximate cubic measurement of goods.
11. The markings and numbers that are on your goods.
12. Detailed description of the goods.
13. Please tick the boxes as to where you will pay the said charges.
14. Value of the goods for custom purposes.
15. Please advise if you require insurance.
16. Export Clearance number if known.
17. Do you require VTI Logistics to arrange your Customs Clearance at destination?
18. Please sign.

Profile of a Shipment - Export Profile

- Shipper
 - Book shipments
 - Marks cargo plainly
 - Prepares B/L for movement of cargo to terminal
 - Make arrangements with Trucker
- Motor Carrier or Trucker
 - Accepts cargo for transit to Port
- Forwarder (if applicable)
 - Provides Dock Receipt and special permits, if any to delivering motor carrier
- Terminal operator

- Ingates container against booking number
- Steamship company
 - Issues Ocean Bill of Lading to shipper or agent

Profile of a Shipment – Import Process

- Steamship Company
 - Notifies consignee prior to ship's arrival
- Consignee or Broker
 - Obtains customs release, freight release, Dept. of Agriculture clearances before contacting trucker
- Motor Carrier or Trucker
 - Obtains container(s)
- Terminal Operator
 - Verifies cleared documents and issues container

17.8 BILL OF LADING

Bill of Lading

- B/L Functions: Roles and Uses
- Legal Tool
- Transportation document

 Matson® NAVIGATION COMPANY, INC.											
SHIPPER/EXPORTER											
CONSIGNEE											
NOTIFY PARTY											
VESSEL VOYAGE PORT OF LOADING											
PORT OF DISCHARGE FOR TRANSHIPMENT TO											
PARTICULARS FURNISHED BY SHIPPER											
CONTAINER / SEAL / TEMP		NO. OF PKGS DESCRIPTION OF PACKAGES AND GOODS		GROSS WEIGHT	MEASUREMENT						
<small>THESE COMMODITIES, TECHNOLOGY, OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE UNITED STATES EXPORT ADMINISTRATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.</small>											
<small>TEMPERATURE SETTING No temperatures lower than -15 degrees F on 24-H, and -15 degrees F on 40-H, container can be supplied by carrier.</small>											
<small>FREIGHT CHARGES PAYABLE IN U.S. DOLLARS TO: MATSON NAVIGATION COMPANY, INC. 1026 CABRAS HIGHWAY, SUITE 115, PITI, GUAM 96925</small>											
ITEM		DESCRIPTION OF CHARGES	RB	QUANTITY	RATE						
					PREPAID						
					COLLECT						
<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 33.33%;">MONTH</td> <td style="width: 33.33%;">DAY</td> <td style="width: 33.33%;">YEAR</td> </tr> <tr> <td colspan="3">B/L NO.</td> </tr> </table>						MONTH	DAY	YEAR	B/L NO.		
MONTH	DAY	YEAR									
B/L NO.											
<small>F-225 (8/96)</small>											

Figure 17.11 Bills of Lading - Legal Tool

 Matson® NAVIGATION COMPANY, INC.	
SHIPPER/EXPORTER	
CONSIGNEE	
NOTIFY PARTY	
VESSEL VOYAGE PORT OF LOADING	
PORT OF DISCHARGE FOR TRANSHIPMENT TO	

Figure 17.12 Bill of Lading - Financial Proviso



Matson. NAVIGATION COMPANY, INC.

FBIFF R. FC10

SHIPPER/EXPORTER

TARIFF

LOAD/DISCHARGE SERVICE

BOOKING NUMBER

EXPORT REFERENCES

CONSIGNEE

FORWARDING AGENT / THIRD PARTY

NOTIFY PARTY

POINT AND COUNTRY OF ORIGIN

ALSO NOTIFY PARTY

VESSEL

VOYAGE

PORT OF LOADING

DOMESTIC ROUTING EXPORT INSTRUCTIONS

PORT OF DISCHARGE

FOR TRANSHIPMENT TO

Figure 17.13 Bills of Lading - Transportation Document

Air Cargo Containers Fall into Four Basic Categories

1. Air Cargo Pallets: Designed for use with conveyor systems in terminals and in aircraft. The low-profile flat pallet is equipped with fittings for securing the pallet firmly to the main deck of an all-cargo aircraft. Cargo is normally secured to the pallet by use of cargo nets, tightened over cargo by the application of tensioned straps.

2. Contoured Air Cargo Containers: Contoured, semi-structural covers called Type "A" are used to provide protection for cargo and keep cargo within safe dimensions for loading in aircraft. These containers may have one side (front) open, with cargo secured by nets or have metal or fiberglass removable doors, which are capable of being sealed.

3. Lower Deck Containers: Developed for use in the lower deck cargo spaces of high-capacity aircraft, they are fully structured and completely enclosed. Cargo is loaded into the container, which may be equipped with shelves for accommodation of small or irregularly shaped cargo. The

container doors of metal, fabric or a combination of both are closed and sealed. Containers are locked directly into air-craft restraint systems without need for nets or tie-downs. Provide dunnage or shelving to prevent crushing of cargo at recessed end of lower deck container.

4. Box-Type Containers: Developed in standard sizes to facilitate establishment of uniform shipping rates, they are used to consolidate shipments. Box-type containers are often used by freight forwarders to consolidate shipper's cargo into one easily handled and rated unit. These containers are constructed of wood, fiberglass, plywood, fiberboard, metal or combinations of these materials.

Air/Land Containers- Introduction of the 747-class freighter has permitted adding an air dimension to the intermodal container. Lightweight 20- and 40-foot containers permit land and air transportation without rehandling or reloading.

Check Your Progress

Q1) What is the requirement for cargo packing and labeling?

Q 2) What are the key shippers letter of instruction for air freight ?

Q 3) What is the procedure for clearance of imported and exported goods?

Q 4) Write a short notes on cargo marking.

Q 5) What are the basic categories of air cargo containers?

17.9 LET US SUM UP

Package of cargoes to be shipped by air should be dry and clean, cargo must not have sharp angles, impacts or anything that can soil or damage A/C compartments, equipment and also mail and baggage. Metal, glass, ceramic, wooden, plastic and other packages in which wet and other cargo types are packed for air shipment should sustain internal excess pressure which depends on the cruising altitude and temperature and also should completely guarantee safety of contents from leakage or scattering. Agricultural produce can be accepted for shipment in non-standard package, which provides cargo safety during shipment. Cargo with soft package must be tied by tough ropes; the package should be sewed by similar threads without angles. In the ends of threads there should be standard seals of consignor applied with fair prints of letters and numbers. Packages or containers for shipment with declared value should be sealed. Seals should have fair prints of letters or numbers. The fact of cargo sealing and the names of consignor's seals are indicated in cargo invoice. Perishable fruits and vegetables can be shipped by air in a package acceptable for other means of transportation, considering the requirements given before, concerning cargo safety and conditions of A/C operations. Cargo which packing doesn't meet the given requirements is not acceptable for shipment by air. For A/C flights security and avoiding damage or soiling of A/C compartments or cargo/mail/baggage packages it is prohibited to accept the following types of cargo (with or without package): abrasive and emery discs or laps; domestic and electric equipment, refrigerators, gas cookers, televisions, radio sets, motorcycles,

bicycles and radio lamps; goods or subjects made of ferrous and non-ferrous metals: electric engines and pumps, pipes, rides, wire, sheet metal, metal tape in stripes, spare parts and other similar freights; goods of synthetic pitch, plastic etc.; friable goods packed in paper package (craft-sacks): press powder, polyethylene, chemical and mineral fertilizers, dyestuff, whitewash, graphite, soda, glue, cement etc.; bulky and long-measuring packages, sheet iron, heavy cargoes not equipped with proper devices for safe mooring in A/C compartments or exceeding static load on floor area of the compartments without any shelves or pallets for equal loading distribution as well as cargoes with configuration unsuitable for convenient settling of mooring; other cargoes which packing, mooring or configuration do not guarantee safety of air shipment.

17.10 CLUES TO ANSWERS:

Check your progress

- 1) Refer Sec. 17.3
- 2) Refer Sec. 17.7
- 3) Refer Sec. 17.6
- 4) Refer Sec. 17.5
- 5) Refer Sec. 17.8

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Unit-18

Import- Export Flow Chart, Airway Bill Completion

Structure

18.1 Objectives

18.2 Introduction

18.3 Profile of a Shipment

18.4 Import - Export Flow Chart

18.5 Airway Bill

18.6 Function of Airway Bill

18.7 The Validity Of the air way bill

18.8 Let Us Sum Up

18.9 Clues To Answers

18.10 References

18.1 OBJECTIVES

The student will understand:

- Profile of a Shipment for Import process and export process;
- Import-export Flow Chart ;
- Approval documents required in Customs declaration for Imports of Special Commodities
- Function of Airway Bill
- The Validity of the Air Way Bill
- Read Air Way bill Number, which has 11 digits and 3 parts.

18.2 INTRODUCTION

Air Waybill (AWB) or air consignment note refers to a receipt issued by an international airline for goods and an evidence of the contract of carriage, but it is not a document of title to the goods. Hence, the AWB is non-negotiable. When the shipper delivers goods to be forwarded, he will get a receipt. The receipt is proof that the shipment was handed over in good order and condition and also that the shipping instructions, as contained in the Shipper's Letter of Instructions, are acceptable.

The format of the air waybill has been designed by IATA and these can be used for both domestic as well as international transportation. These are available in two forms, viz. the airline logo equipped air waybill and the neutral air waybill. As long as the air waybill is neither dated nor signed twice, the goods do not fall within the terms of the conditions of contract and therefore the carrier will not accept any responsibility for the goods. The validity of the air waybill and thus the contract of carriage expires upon delivery of the shipment to the consignee.

18.3 PROFILE OF A SHIPMENT

Profile of a Shipment - Export Process

- Shipper
 - Book shipments
 - Marks cargo plainly
 - Prepares B/L for movement of cargo to terminal

- Make arrangements with Trucker
- Motor Carrier or Trucker
 - Accepts cargo for transit to Port
- Forwarder (if applicable)
 - Provides Dock Receipt and special permits, if any to delivering motor carrier
 - Terminal operator
 - Ingates container against booking number
 - Steamship company
 - Issues Ocean Bill of Lading to shipper or agent

Profile of a Shipment – Import Process

- Steamship Company
 - Notifies consignee prior to ship's arrival
- Consignee or Broker
 - Obtains customs release, freight release, Dept. of Agriculture clearances before contacting trucker
- Motor Carrier or Trucker
 - Obtains container(s)
- Terminal Operator
 - Verifies cleared documents and issues container

18.4 IMPORT - EXPORT FLOW CHART

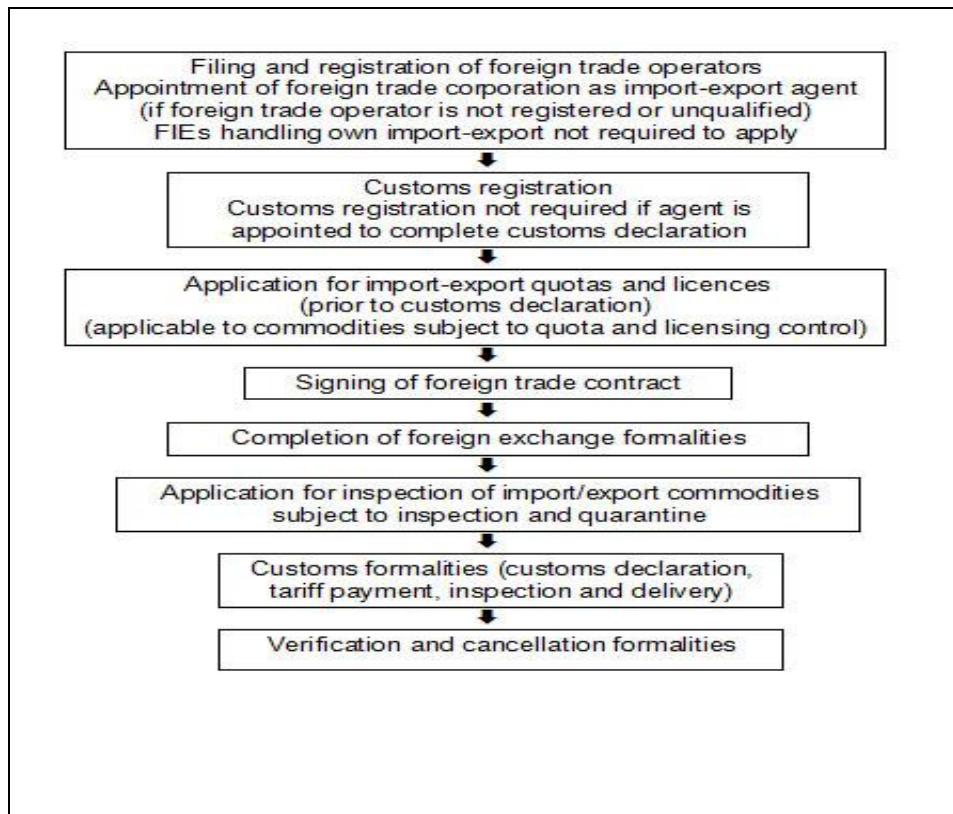


Figure 18.1 Import-export Flow Chart

Acceptance for Various Types Of Cargos

Bulk cargos: The transportation of bulk cargos (unpacked) has below mentioned risks. Minimum requirement from CONTQC is proper setting of bulkhead to protect container door, but the risks should be well considered upon booking. TMO may restrict the cargo by their own judgment.

- Container doors and panels would receive strong pressure and easily bulge out by the cargo weight which could be further increased by rolling and pitching movement during navigation.
- Consequently the locking devices of the container doors might break and the cargoes spill over.

- Even if not broken, the bulge out itself would bring about handling difficulties.
- In case of hole/cut damage, the cargo would easily suffer wet damage.

Chemicals with strong odor

Certain chemicals have strong odor, which lingers for months and can not be removed easily, thus it causes huge extra cost for cleaning and deodorizing treatment, and in the worst case, total disposal of the unit.

Following two products have been identified strong odor chemicals and prohibited without any exception.

- (1) Trichloroisocyanuric Acid (Class 5.1 UN2468)
- (2) Crude, Refined Naphthalene (Class 4.1 UN1334)

Cold wave container

We sometimes receive inquiry about so called 'cold wave container' (container filled with dry ice to create ultra-freezing condition) and would reconfirm that Kline's policy would not allow to accept such containers (neither Kline's, SOC nor Partner's) in any occasion due to not fully analyzed technical information, possible damage to containers and continuous outflow of CO₂, which may threaten labor's safety.

Hide

Hide is basically categorized into two types;

- (1) Chrome hide: This is half-finished products, which would not produce so-called 'hide juice'. This is mainly transported in 40' containers.
- (2) Wet salted hide: This is hide treated with salt and brine and would sometimes cause hide juice and leave strong odor in container. 20' containers are normally used, as wet salted hide is much heavier than chrome hide.

Perfect packing and lining is prerequisite condition for acceptance in order to avoid juice/odor problem.

In general, hide requires extra cleaning and 7-10days waiting time (due to remaining odor problem) after being devanned. We do not apply overall prohibition policy on this commodity, but characteristics mentioned above

and problems have to be reminded when accepting booking. Certain TMO prohibit this cargo as their own trade management policy.

Hot cargo (1)

Hot cargo or hot stuffing can be simply defined as reefer cargo that has not been sufficiently frozen or cooled down to match the setting temperature of the reefer upon stuffing.

What is sometimes not understood by shippers is **the fact that reefer units are only designed to maintain temperatures and are not designed / able to freeze or cool down rapidly to the setting temperature**. Therefore shippers should be reminded that it is their responsibility to ensure that potential cargoes are of a suitable temperature prior to being stuffed into reefers. General procedures are not to accept hot cargoes , or when it is required to be loaded by shippers, their Letter of Guarantee should be obtained before shipment.

Hot cargo (2) (Exceptional treatment for certain Asian countries)

Despite our general rule stated in item *Hot cargo (1)*, certain Asian countries express their difficulty to implement our rules perfectly because shippers are not fully accustomed to freezing or cooling down their cargo to the setting temperatures (partly due to lack of freezing facility) and unwilling to issue L/G.

After interviewing with our Asian colleagues, we have compromised and established a practical rule, according to which L/G should be obtained without fail when the difference between the actual temp and setting temp is more than 5C (for frozen cargo only).We realize this is not legally recommended and subject to immediate review when we encounter certain problems.

In order to avoid any unit disorder which is often reported concerning hot cargo stuffing, you are requested to advise to your shippers that unit should be always shut down during cargo stuffing and restarted upon (temporary) door closing. You may further have to suggest the necessity of manual defrosting, but this has to be done after fully consulting with IEC(ECNT) or other authorized experts.

Logs/Lumber

Logs should not be accepted, because they cause serious damage to containers during stuffing, transporting and un-stuffing.

Lumber also has risks of container damage, therefore it could be only accepted when their method of stowage and lashing is established and approved by TMO. If the lumber has been treated in any way (i.e. Creosote), then the container must be lined or the cargo is to be packed

Magnetic cargoes

Magnetic cargoes with strong magnetism may seriously affect nautical instruments on board. In this regard, before booking magnetic cargo, please obtain following information from actual supplier.

(1) Magnetism leaking out of package. (The maximum magnetism to be accepted is 1 gauss)

(2) Packing style and material (Magnet shield packing is required)

Malt

Malt shipments to Japan have been regarded as very important base cargoes for various trade lanes. Due to the sensitivity of this cargo, **Malt Task Force** was set up in April, 2003 and **General Guidelines for Malt / Hop shipments** were issued.

(Basic policy)

Container's condition: Food grade status (no foul / toxic odor, no bird droppings, oil stain on exterior of container, No sharp objects which may tear liner bags, etc)

Container's age: Not younger than 12months and not older than 8 years

Liner bags: Properly fitted inside container

Stowage: Under deck stowage

(For more in depth details, please refer to the Malt Task Force General Guidelines (latest issue: May 31, 2004).

Military goods

Weapons, ammunitions and other military goods have never been permitted under Kline policy and we would like to make it clear that this policy remains stringently in force. The range of goods, which have or potentially could have, a military or para-military application is of course wide and you are therefore required to take great care and exercise due diligence in this respect upon your accepting cargoes. The fact of the shippers and/or consignees being governmental bodies does not by itself amend this policy.

The consequences for the carriage of prohibited or suspicious commodities can be severe, which could include a vessel being refused entry to port, heavy fines and potential claims for loss of hire, loss of credit, etc.

Overweight containers

Overweight (in excess of max payload) containers must not be accepted nor loaded in any event, as it may cause serious physical damage to the containers and, as its result, might injure people who handle them. POD terminal may reject discharging them or require L/G for even slight excess of weight due to safety reason. Overweight containers must be detected through verification of booking office between manifested cargo weight and max payload of the containers. In case shipper's manifestation is not correct, it also can be detected at Terminal gate or somewhere else, where the containers are actually weighed. Any shippers who are producing overweight containers without taking proper measures should be blacklisted and their cargoes should be excluded.

Reefer as dry (RAD)

Reefer container as dry use (Reefer as dry) has been promoted to save empty repositioning cost. While this policy would be maintained, please be reminded that high-priced freezer or complicated structure inside the reefer containers might be easily damaged when the cargoes are not chosen nor stuffed into our containers properly. Please refer to the attached technical guidelines for acceptable RAD commodities and securing method to be observed during cargo operation.

Scrap (Metal, Plastic, etc)

Scrap metal, plastic, etc are often confused with 'Waste' by unscrupulous shippers and tend to cause troubles at POD. Therefore it is very important to take similar steps described in the item 'Waste' in this guideline. Once it is proved to be non-waste, the cargo is still needed to be well secured in order not to damage our containers. Scrap in bulk must not be accepted without exception. 'To order B/Ls' should not be accepted.

In 2002, we are involved in metal scrap case which was contaminated with radioactivity. This is a health hazard to all who handle the cargo and resulted in rejection at POD. All the scrap metal should be checked and ensured radioactivity free by shippers. In 2003, we are involved in the plastic scrap case, which was finally ordered to be shipped out by POD authority after staying almost two years in the terminal. In both cases, Kline had to bear extra cost and exert a lot of efforts to solve the problem.

Shippers own containers (SOC)

When a booking is received and the cargo is to be loaded and shipped in a SOC container, then the container should be verified to have a valid CSC plate and class certificates (minimum of six months validity) and be suitable for ocean transport in all respects. It is also highly recommendable to sign an indemnity agreement with shippers, who indemnify Kline harmless from any and all consequences that may arise as a result of Kline's accepting the SOC.

Stone products

All stone products can potentially damage the container and in the case of slabs and blocks and stone products in bulk, the damage can be excessive. They are also often proved to have exceeded our vanning restrictions (stated in 'Standard vanning policy' of this guideline) at later inspection at POD.

Steel product (pipe/sheet/plate)

Steel (metal) product such as pipes/ sheets/ plates/ingot often causes serious damage to our containers due to their particular shape and high density, therefore strict observation of our standard vanning policy in this guideline is required in order to protect our containers from any potential physical damage.

When you receive booking of the cargo made of steel or other metals, please do not fail to obtain cargo details (dimension, weight, packing style, etc) and securing method for TMO's approval.

Steel coil

Steel coils are not suitable for closed van container transportation due to its particular shape and heavy weight. It would easily lead to heavy container damage or even more serious accident involving other containers, vessel, etc.

Exception may be granted by CONTQC or TMO, provided

- Weight of each coil should be less than 4kt.
- Weight/m² should be less than 2kt.
- Choking, securing method should meet Kline's requirement.

Booking offices are required to send application to TMO with cargo and securing details and obtain their approval in advance.

Used parts, machinery

Commodities such as used auto parts and used machineries, which may contain oil, would often cause serious leakage problem during navigation. It would not only damage our ships and other adjacent containers, but also possibly pollute our ocean. Besides, unscrupulous shippers may confuse them with unauthorized 'Waste' (please refer to item 'Waste' in this guideline).

These commodities are only accepted, provided;

- (1) Shippers and consignees are environmentally conscious and reliable parties, who take full responsibility for any repercussions, environmental or equipment-related, that may result. 'To order B/Ls' should not be accepted.
- (2) Anti-oil leakage treatments should be arranged. These include the removal of all oil, the complete plugging of drain outlet and general examination of any sign of leakage.
- (3) Other anti-pollution treatments should be arranged. These include the laying of plastic sheets (strong enough for folk lift or other vanning

/devanning machinery to be operated upon it), and the scattering absorbent such as saw dust on the plastic sheets and the making necessary arrangement to prevent oil from spilling out from plastic sheets to containers' floor board.

Valuable cargo

For any valuable cargo which includes but is not limited to platinum, gold, silver, jewelry, precious stones, precious metals, precious chemicals, bullion, specie, currency, negotiable instruments, securities, writings, documents, pictures, works of arts, curios, heirlooms, collection of every nature or any other valuable goods whatsoever including goods having particular value only for Merchant, you must seek approval from TMO in advance.

It should be noted that Kline is not covered under its normal insurance policy for any claims for valuable cargo, therefore it is necessary for Kline to obtain special insurance cover for these types of cargo. TMO is requested to contact GALG for insurance coverage before accepting the cargo. It should be also noted that proper security measures must be worked out and implemented while the cargo is under our custody.

Waste

Waste often causes serious problems, as international conventions such as the Basel Convention and national regulations are not fully recognised by concerned parties. Besides a waste, which is accepted today, might be banned tomorrow, because of change of regulations as a consequence of ardent environmentalist movement. It is perfectly possible for the carriage of certain types of this class of cargo to reflect negatively on Kline.

Therefore if you have to take waste cargo, you must obtain TMO's approval after confirming following points.

- The commodity is non-hazardous and lawful in all respects for POL country/ Transit ports countries /POD country. This has to be proved by written confirmation of competent authorities.
- Shippers and consignees are well known, reliable parties.

'To order B/Ls' should not be accepted.

- The commodity is fully secured and do not cause any damage to our containers.

Approval Documents Required in Customs Declaration for Imports of Special Commodities**Table 1 Custom declaration sheet**

Commodity	Item	Approving Authorities	Approval Documents
Endangered wild animals and plants		Application should be made by the importer to the provincial wild animals and plants administration which should prepare a recommendation within 10 working days of the application and submit it together with all application materials to the State Council's wild animals and plants administration department for approval.	Import and Export Approval Certificate
Food products	Labelling	Application should be made prior to imports by the distributor or agent of imported food products for food labelling examination to the designated inspection and quarantine authorities, which should submit the application materials together with preliminary examination results to the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) for approval.	Imported Food Labelling Examination Certificate

Cosmetics	Labelling	Application for cosmetics labelling examination should be made by the distributor or agent of imported cosmetics to inspection authorities designated by AQSIQ 90 working days before submitting the goods for inspection.	Imported Cosmetics Examination Certificate
Drugs	Anabolic agents and peptide hormones	Application should be made by the importer to the State Food and Drug Administration (SFDA), which should decide within five days on whether the application is accepted and decide within 10 days of the acceptance of application whether imports are allowed.	Special Drugs Import Licence
	Narcotic drugs and psychotropic drugs	Application should be made to the SFDA.	Narcotic Drugs Import Licence or Psychotropic Drugs Import Licence



DANGEROUS GOODS ACCEPTANCE CHECK SHEET

A. Documentation

a) Air Waybill

1. Dangerous Goods as per attached Shipper's Declaration?

2. Is the applicable DGR fee correctly marked under "other charges" and added to the "total other charges Due Carrier" – amount on LT-AWB's?

b) Shipper's Declaration

3. Shipper's Declaration in duplicate and at least one of the used languages is English?

4. Are the shipper's and consignee's names and addresses shown?

5. If the AWB-number, the number of pages and the full name of Airport or City of Departure and Destination are not shown, enter them.

6. Is the "Cargo Aircraft Only" box deleted?

7. Is the shipment type box "radioactive" deleted?

8. Correct proper shipping name(s) used for each article?

9. Correct Hazard Class and (if relevant) Division number?

10. Correct UN/ID number for each article preceded by the prefix?

11. Corresponding subsidiary risk (if additional labeling is required)?

12. (If relevant) Indication of use of overpack?

13. Correct number of Packing Instruction and Packing Group?

14. Correct number and type of packages?

15. Quantity (net or gross, as applicable) per package?

16. If required are all requested government permits included?

17. Name/title, place, date and signature?

YES NO N/A **B. Packages**

18. Correct label(s) affixed to each package?

19. Does the primary hazard label show the UN-Class number?

20. Is no Cargo Aircraft Only (CAO) handling label affixed?

21. Are arrow labels (This Side UP) affixed for all liquid dangerous goods?

22. Are the names and addresses of the shipper and consignee and the proper shipping name and the corresponding UN/ID number marked?

23. Is the package marked with all appropriate specification package markings and have all irrelevant marks and labels been removed?

24. If overpack is used is it marked with "Inner Packages comply with prescribed Specifications"?

25. Are the packages in proper condition and in compliance with the packing instruction used?

C. Others

26. Compliance of all docs, package marking(s) and label(s) with all applicable government variations?

27. Does the Emergency Response Telephonenummer as required by USG-17 appear on the Shipper's Declaration?

Shipper/Agent:

After checking all 27 items this shipment is:

acceptable: not acceptable
 please return a copy of this sheet to the shipper

Comments/additional information:

checked by: department:

signature: <input type="text"/>	date: <input type="text"/>	
AWB-No. <input type="text"/>	Orig. <input type="text"/>	DEST. <input type="text"/>

Distribution key:
 attached to Shipper's Declaration
 Cargo Department
 Station File
 Original:
 Copy: gelb
 Copy: rosa

Figure 18.2: Dangerous goods acceptance check sheet

18.5 AIRWAY BILL

Air Waybill (AWB) or air consignment note refers to a receipt issued by an international airline for goods and an evidence of the contract of carriage, but it is not a document of title to the goods. Hence, the AWB is non-negotiable.

Description:

The Air Waybill (AWB) is the most important document issued by a carrier either directly or through its authorised agent. It is a non-negotiable transport document. It covers transport of cargo from airport to airport. By accepting a shipment an IATA cargo agent is acting on behalf of the carrier whose air waybill is issued.

AWBs have eleven digit numbers which can be used to make bookings, check the status of delivery, and current position of the shipment. The number consists of:

- The first three digits are the airline prefix. Each airline has been assigned a 3-digit number by IATA, so from the prefix we know which airline has issued the document.
- The next seven digits are the running number/s - one number for each consignment
- The last digit is what is called the check digit. It is arrived at in the following manner:

The seven digits running numbers are divided by 7, by using a long division calculation. The remainder becomes the check digit. That is why no AWB number ends with a figure greater than 6. Air waybills are issued in sets of different colours. The first three copies are classified as originals. The first original, blue in colour, is the shipper's copy. The second, coloured blue, is retained by the issuing carrier. The third, coloured orange, is the consignee's copy. A yellow copy acts as the delivery receipt or proof of delivery*. The other copies are all white.

18.6 FUNCTION OF AIRWAY BILL

There are several purposes that an air waybill serves, but its main functions are:

- Contract of Carriage. Behind every original of the AWB are conditions of contract for carriage

- Evidence of Receipt of Goods

When the shipper delivers goods to be forwarded, he will get a receipt. The receipt is proof that the shipment was handed over in good order and condition and also that the shipping instructions, as contained in the Shipper's Letter of Instructions, are acceptable. After completion, an original copy of the air waybill is given to the shipper as evidence of the acceptance of goods and as proof of contract of carriage

- **Freight Bill**

The air waybill may be used as a bill or invoice together with supporting documents since it may indicate charges to be paid by the consignee, charges due to the agent or the carrier. An original copy of the air waybill is used for the carrier's accounting

- **Certificate of Insurance**

The air waybill may also serve as an evidence if the carrier is in a position to insure the shipment and is requested to do so by the shipper.

- **Customs Declaration**

Although customs authorities require various documents like a commercial invoice, packing list, etc. the air waybill too is proof of the freight amount billed for the goods carried and may be needed to be presented for customs clearance. The format of the air waybill has been designed by IATA and these can be used for both domestic as well as international transportation. These are available in two forms, viz. the airline logo equipped air waybill and the neutral air waybill. Usually, airline air waybills are distributed to IATA cargo agents by IATA airlines. The air waybills show:

- The carrier's name
- Its head office address
- Its logo
- The pre printed eleven digit air waybill number

It is also possible to complete an air waybill through a computerised system. Agents all over the world are now using their own in-house computer systems to issue airlines' and freight forwarders' own air waybills. IATA cargo agents usually hold air waybills of several carriers. However, it gradually became difficult to accommodate these pre-numbered air waybills with the printed identification in the computer

system. Therefore a neutral air waybill was created. Both types of air waybills have the same format and layout. However, the neutral air waybill does not bear any pre-printed individual name, head office address, logo and serial number.

18.7 THE VALIDITY OF THE AIR WAY BILL

We have seen earlier that the air waybill is a contract i.e. an agreement enforceable by law. To become a valid contract it has to be signed by the shipper or his agent and by the carrier or its authorized agent. Although the same individual or organization may act on behalf of both the carrier and the shipper, the air waybill must be signed twice one each in the respective carrier and shipper boxes. Both signatures may be of the same person. This also implies that the air waybill should be issued immediately upon receipt of the goods and letter in instructions from the shipper.

As long as the air waybill is neither dated nor signed twice, the goods do not fall within the terms of the conditions of contract and therefore the carrier will not accept any responsibility for the goods. The validity of the air waybill and thus the contract of carriage expires upon delivery of the shipment to the consignee (or his authorized agent).

Responsibility for Completion

The AWB as we have seen is a contract - an agreement between the shipper and the carrier. The agent only acts as an intermediary between the shipper and carrier. The air waybill is also a contract of good faith. This means that the shipper will be responsible for the haul also be liable for all the damage suffered by the airline or any person due to irregularity, incorrectness or incompleteness of insertions on the air waybill, even if the air waybill has been completed by an agent or the carrier on his behalf.

When the shipper signs the AWB or issues the letter of instructions he simultaneously confirms his agreement to the conditions of contract.

Definition of the term Not Negotiable

Waybills are non-negotiable documents unlike bills of lading which are negotiable. The words non-negotiable are printed clearly at the top of the air waybill. This means that the air waybill is a contract for transportation only and does not represent (the value of) merchandise mentioned in the box nature and quantity of goods. The ocean bill of lading, if negotiated may represent (the value of) the goods and must be endorsed by the party

ultimately accepting the goods. Although the AWB is a non-negotiable document, it can be used as a means of payment. This can be done only through the intermediary of a bank and only when the carriage is subject to a letter of credit. The air waybill executed according to the terms of a letter of credit allows the shipper to present the original of the air waybill to the bank and collect the billed value of the shipped goods from the bank. The amount paid by the bank to the shipper will be debited to the consignee who ordered the goods. At the destination the carrier will only hand over the goods to the consignee on receipt of a bank release order from the consignee's bankers.

The goods in the air consignment are consigned directly to the party (the consignee) named in the letter of credit (L/C). Unless the goods are consigned to a third party like the issuing bank, the importer can obtain the goods from the carrier at destination without paying the issuing bank or the consignor. Therefore, unless a cash payment has been received by the exporter or the buyer's integrity is unquestionable; consigning goods directly to the importer is risky. For air consignment to certain destinations, it is possible to arrange payment on a COD (cash on delivery) basis and consign the goods directly to the importer. The goods are released to the importer only after the importer makes the payment and complies with the instructions in the AWB.

In air freight, the exporter (the consignor) often engages a freight forwarder or consolidator to handle the forwarding of goods. The consignor provides a Shipper's Letter of Instructions which authorizes the forwarding agent to sign certain documents (e.g. the AWB) on behalf of the consignor.

The AWB must indicate that the goods have been accepted for carriage, and it must be signed or authenticated by the carrier or the named agent for or on behalf of the carrier. The signature or authentication of the carrier must be identified as carrier, and in the case of agent signing or authenticating, the name and the capacity of the carrier on whose behalf the agent signs or authenticates must be indicated. International AWBs that contain consolidated cargo are called master air waybills (MAWB). MAWBs have additional papers called house air waybills (HAWB). Each HAWB contains information of each individual shipment (consignee, contents, etc.) within the consolidation. International AWBs that are not consolidated (only one shipment in one bill) are called **simple AWBs**. A house air waybill can also be created by a freight forwarder. When the shipment is booked, the airline issues a MAWB to the forwarder, who in turn issues their own house air waybill to the customer.

A freight forwarder offering a consolidation service, will issue its own air waybill or bill of lading. From now on AWB will be used to refer to both. This is called a Forwarder's or House AWB with its equivalent House BL. These act as contracts of carriage between the shipper and the forwarder, who in this case becomes a Deemed Carrier. The forwarder in turn enters into contracts with one or more carriers, often using more than one mode of transportation. The contract of carriage between the forwarder and carrier is called a Master Air Way Bill (MAWB or MBL). A House Air Waybill (HAWB) or Bill of Lading (HBL) could act as a multimodal transport document.

18.8 AIR WAY BILL NUMBER

Air Way bill Number has 11 digits and 3 parts.

- The first 3 digits are the Airline Prefix
- The next 7 digits is the Serial Number of the AWB
- The last digit is the Check digit

The check digit is derived by dividing the 7 digit Serial Number by 7. The remainder determines the Check Digit. Example: Serial Number 8114074 divided by 7 is 1159153 **remainder 3**. Therefore the Serial Number + Check Digit is 81140743.



Figure 18.3 Cargo Flow – at port (Port of Guam Terminal)



Figure 18.4 Cargo Flow - Container Availability (Port Free Time - Demurrage)



Figure 18.5 Cargo Flow - Container Availability (Carrier Free Time- Detention)

Air Waybill(s) accompanying dangerous goods consignment(s) must include one of the following statements in the "handling information" box:

For a passenger aircraft shipment:

Airport of Destination		Flight/Date	For Carrier Use Only	Flight/Date	Amount of Insurance	INSURANCE – If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".	
Handling Information							
Dangerous Goods as per attached Shipper's Declaration							
SGI							
No. of Pieces RCP	Gross Weight kg lb	Rate Class Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (incl. Dimensions of Volume)	
						Chemicals	

Figure 18.6 AWB handling information - dangerous goods as per attached shipper's declaration

For a shipment containing dangerous goods and non-dangerous goods:

Airport of Destination		Flight/Date	For Carrier Use Only	Flight/Date	Amount of Insurance	INSURANCE – If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".	
Handling Information							
5 Packages Dangerous goods as per attached Shipper's Declaration							
SGI							
No. of Pieces RCP	Gross Weight kg lb	Rate Class Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (incl. Dimensions of Volume)	
25						Household goods	

Figure 18.7 AWB handling information - dangerous goods and non-dangerous goods

For a consolidated shipment containing dangerous goods:

Airport of Destination		Flight/Date	For Carrier Use Only	Flight/Date	Amount of Insurance	INSURANCE - If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".	
Handling Information							
Dangerous goods as per attached Shipper's Declaration 7 Pkgs							5CI
No. of Pieces RCP	Gross Weight kg lb	Rate Class Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (incl. Dimensions of Volume)	
30						Consolidated shipment as per attached list.	

Figure 18.8 AWB handling information - dangerous goods in a consolidated shipment

Consignment containing dangerous goods for which a shipper's declaration is not required:

Airport of Destination		Flight/Date	For Carrier Use Only	Flight/Date	Amount of Insurance	INSURANCE - If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".	
Handling Information							
Dangerous Goods - Shipper's Declaration not required							5CI
No. of Pieces RCP	Gross Weight kg lb	Rate Class Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (incl. Dimensions of Volume)	
						Frozen Fish Carbon dioxide, solid 9 UN 1845 III 2 x 40 kg 904	

Fig 18.9 AWB handling information - shipper's declaration not required

Consignment containing dangerous goods in excepted quantities:

Airport of Destination		Flight/Date	For Carrier Use Only	Flight/Date	Amount of Insurance	INSURANCE - If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".	
Handling Information							
SGI							
No. of Pieces RCP	Gross Weight kg	Rate Class Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (Incl. Dimensions of Volume)	
Dental Kit - Dangerous Goods in Excepted Quantities							

Fig 18.20 AWB nature and quantity of goods - dangerous goods in excepted quantities

Note: consignments for cargo aircraft (CAO) - dangerous goods as per attached shipper's declaration - cargo aircraft only - are strictly prohibited.

Check Your Progress

Q1) Give a Profile of a shipment.

Q 2) Draw an Import – export flow chart.

Q 3) What are the functions of airway bill?

Q 4) Write a short notes on the validity of the air way bill.

Q 5) How to write Air way bill numbers?

18.9 LET US SUM UP

Air Waybill (AWB) refers to a receipt issued by an international airline for goods and an evidence of the contract of carriage, but it is not a document of title to the goods. Hence, the AWB is non-negotiable. Although customs authorities require various documents like a commercial invoice, packing list, etc. the air waybill too is proof of the freight amount billed for the goods carried and may be needed to be presented for customs clearance.

The format of the air waybill has been designed by IATA and these can be used for both domestic as well as international transportation. These are available in two forms, viz. the airline logo equipped air waybill and the neutral air waybill. Usually, airline air waybills are distributed to IATA cargo agents by IATA airlines. The air waybills show: the carrier's name; its head office address; its logo; the pre printed eleven digit air waybill number

18.10 CLUES TO ANSWERS**Check your progress**

- 1) Refer Sec. 18.3
- 2) Refer Sec. 18.4
- 3) Refer Sec. 18.6
- 4) Refer Sec. 18.7
- 5) Refer Sec. 18.8

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