





LESSON NO. 2

COAST TO COAST

AIRLINE CAREER TRAINING

A comprehensive course of instruction designed for ambitious men and women seeking a successful career in the field of Air Transportation. Prepared and edited by members of the resident teaching staff, Airlines Training Division, Central Technical Institute.

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SOMETHING FOR NOTHING?

All the worthwhile things of life require effort—nothing comes easily but slumping.

Mastering an educational program does not call for "hard labor," but it does require effort. And, it requires a few sacrifices. When we look around us, we find that most of our friends and acquaintances who have become successful achieved their stations in life because they invested generously of their time, effort, and money. They had faith in the final result of their labors, and they did not quit.

Anything acquired without effort, and without cost, is generally unappreciated and often discredited. The price of specialized education is far less than its value. If you will schedule your time, budget your finances, and attack your educational program with a definite plan of action, you will find an ever-increasing opportunity to sell your personal services in the higher salary brackets. You must convince yourself that your educational program is a personal investment—you are investing your time and money —and you expect to receive real dividends.

The investment you are now making in your career is a mere pittance compared to the dollar value that the future holds for you in the aviation industry. There can be no compromise between failure and success—you must make up your mind that you will realize your ambition, and that you will accept the responsibility of preparing for the opportunities ahead. There's no such thing as SOMETHING FOR NOTHING.

COAST TO COAST

Urgent Message

I N an office high over mid-town Manhattan, John J. Jones, a businessman as average as his name, sits at a cluttered desk, reading a telegram he has just received.

He reads it again and scowls.

ABSOLUTELY IMPERATIVE YOU MEET ME LOS ANGELES BILTMORE THURSDAY NOON WITHOUT FAIL.

Jones frowned at his boss's signature on the wire. How could he possibly get through all that work, make arrangements for a transcontinental trip, and arrive in Los Angeles in just a little over 24 hours?

He Decides

Jones realized the answer as soon as he had formed the question. He's got to fly to Los Angeles.

His mind made up, Jones crumpled the wire into a ball and tossed it in the direction of his waste basket.

He sighed as he reached for the phone book. He'd never flown before — didn't know for sure how to go about making arrangements for a trip like this. But there was that Thursday noon deadline — no way out of it.

Our Mr. Jones may not have realized it, but he was reenacting a drama that's taking place with greater and greater frequency these days. As the tempo of our living increases, air travel wins new customers daily.

That's why Aviation is such a vital part of our civilization.

Pre-Flight Influence

When Mr. Jones first found the Airlines section in his classified telephone directory, he might have been confused by the array of airlines names that appeared there. As a man who had never flown before, he wouldn't have had any preference for one line over the others. Yet almost without hesitation he selected one airline from all those listed there to make his reservation.

Why?

Because he had been influenced — by advertising, by public relations, by sales representatives — to choose one over all the others.

That's a handy point on which to sidetrack for a moment to explain some of the pre-flight influences the airlines exercise to win passengers like Mr. Jones.

When you get into Airlines work, you'll be impressed by the fact that airline people — from the Chairman of the Board to the Baggage Clerk — are completely sales-conscious.

Airline people sell all the time.

There's a logical reason for this. Generally speaking, the airlines operate on almost similar standards. Cost of fares and speed of flights are just about the same for every transcontinental airline in operation today.

That means that when more than one airline operates between two points—New York to Los Angeles, let's say—a person without previous experience in flying has very little on which to make a selection of one over another.

He has to be influenced **before the flight** to select one airline in preference to another. That's the purpose of airline advertising and passenger sales promotion.

Then this passenger has to be convinced **during the flight.** He's got to be given such excellent service — from the time he inquires about fares and routes to the time he actually arrives at his destination — that he'll never want to use another airline.

Jones Picks Central

Let's suppose that because of its excellent public relations, the name Mr. Jones associates immediately with coast-to-coast flying is that of Central Airways.

Central Airways is a line that actually doesn't exist, but for students of Central's Airline Training Division it is very handy for training purposes.



The Reservations Department is one of the most highly important divisions of the modern commercial airline. Reservation procedure is thorough, efficient, and streamlined. Photo courtesy Western Air Lines.

The only points on which the airlines compete with one another are these:

1. Influencing the prospective passenger's decision before the flight.

2. Giving the passenger service once his decision is made.

You'll see much more of this as we go through these lessons.

Jones dials the number of Central Airways. A pleasant — intriguing — voice answers his call. Jones doesn't realize it, but subtle sales effort is being exerted on him even now.

Now It Starts

He's never made a flight reservation before, remember; he doesn't quite know how to ask for what he wants. Yet, in spite of his almost incoherent stammers, Central's operator quickly routes his call to the Reservations Department, where a trained, highly skilled telephone Reservation Sales Agent is waiting to serve him.

Jones is still confused by the sudden developments in his situation. He pours forth his troubles to the Reservationist — just got a wire, have to be in Los Angeles Thursday noon, and so on.

With this thread of information, the skilled Reservationist can go to work. The press of a key on her (or his) "Magnetronic Reservisor" (we'll go into that in detail later) shows her that space is available on a flight to Los Angles that will fit into Jones' schedule.



The Reservationist is friendly, courteous and highly skilled. She's an important person in an important industry. Photo courtesy United Air Lines.

She's Clever!

Quickly, skillfully, smoothly, she leads Jones through the routine of supplying the information she needs to book his flight:

His name, address, telephone number where can he be reached before flight time? Does he want to book round-trip accommodations to save money — save time? Sounds good to Jones. He agrees.

Will he need limousine service to Idlewild Airport? He hadn't thought about that. Good idea — he won't have the bother of driving from Manhattan to the airport. Jones thinks that's very thoughtful — very considerate of the Reservationist to arrange it for him.

So the reservation is completed. John Jones has booked a round-trip flight to Los Angeles from New York City on Central Airways. The Reservationist reviews the arrangements for him: He'll purchase his ticket at the airport instead of Central's City Ticket Office because he's pressed for time; the airport limousine will get him there in time for his flight.

Feels Good

John Jones replaced the telephone on its cradle and sat back, feeling pleased. If every aspect of flying is as pleasant as making the reservation, Jones thinks, I've been missing something!

That Reservationist had made him feel important. She had convinced him that his getting to Los Angeles in time for his appointment was the most significant thing she had ever handled. She certainly had helped him out of a jam by arranging his flight so quickly, so efficiently, so courteously.

Jones is a man who appreciates service like that. He makes a mental note to pick up a little gift for her in Los Angeles — a compact, perhaps some perfume — and send it to her with a note of thanks when he returns.

Before Flight

Now let's leave Jones packing his bag and go out to the vast Idlewild International Airport on Long Island, New York. There we'll investigate the pre-flight duties being performed by the Central Airways staff.

For Central Airways, New York is a "terminal" station — a station where flights begin and end. Because of this, Central Airways maintains several large hangars here, in which they can do maintenance on all the aircraft in use over its routes.

The reliability of the plane is one of the basic foundations for safety in aviation. That's why the airlines have such elaborate maintenance schedules; that's why such extensive maintenance records are kept.

Equipment Maintenance

For an automobile, you usually figure maintenance on the basis of mileage — you give a car a "thousand-mile check" or a "ten thousandmile check" and so on.

For aircraft, however, maintenance is performed according to hours of engine operation, usually like this: 25 hours it flies, it receives additional checks and whatever repair or maintenance is necessary. These inspections will vary from simple visual checks to complete dismantling jobs.

The complete engine overhaul is performed after 700 hours of flight and the complete plane overhaul, including engines, takes place after 7,000 hours of flight operations.

This 7,000-hour overhaul is really something to watch.

The Complete Treatment

A plane comes into the hangar for the complete overhaul and hardly before it stops rolling a



Careful and efficient maintenance is the key to safety in air travel. Here a plane receives a 7,000-hour check in a giant maintenance hangar. Photo courtesy Braniff International Airways.

After a plane has been in flight for ten hours, it receives a "10-hour" check. This is normally a routine visual inspection of all working parts performed by a qualified aircraft mechanic.

When a plane has flown 25 hours, it receives a more elaborate inspection; for every additional

swarm of certified mechanics and maintenance men cover it inside and out.

Hoists lift the engines from their mountings; they're wheeled off to the Engine Shop where they're taken apart, examined for wear, rebuilt with new parts wherever necessary. The plane itself gets the same treatment. Out come seats, upholstery, floorboards, wiring and what have you until the plane is no more than a hollow metal skeleton. Everything is examined and tested for wear and strain. New equipment goes in wherever there's the slightest question of safety or comfort.

When an overhauled plane comes out of the repair hangar, you can be sure that it's just like a

Weather Check

The Captain and First Officer of the flight the Pilot and Co-pilot who will fly the plane are meeting with Central's Dispatcher and Meteorologist. This is an important conference, never a routine meeting.

Central Airways, like most of the lines which fly coast to coast, maintain three "Control Stations" along its east-west routes. One is in New



Flight Captain and First Officer confer with Meteorologist to make out Flight Plan. Photo courtesy Braniff International Airways.



new plane. Maintenance crews, naturally, insist that the planes they overhaul are better than new planes!

The plane that's scheduled to fly our Mr. Jones to Los Angeles is one of Central's gigantic Constellations — and it's just come from the repair hangar where it's had the complete 7,000-hour overhaul.

There are still several hours before flight time but the vast machinery of a transcontinental flight is starting to move. York City, one is in Kansas City, the third is in Los Angeles.

The New York Control Station controls flights of Central planes from New York City to Indianapolis, Indiana. The Kansas City Station controls all flights between Indianapolis and Denver, Colorado. The Los Angeles Station has jurisdiction over the area from Denver to the West Coast.

These offices are called Control Stations because they do just that — they **control** all of Central's flights in each particular area. If the Control Station grounds a flight, it stays down. If Control says "Fly!" and the Captain agrees, the flight takes off.

You can see what a responsible role these Control Stations play in promoting safety against weather conditions in flight. may be a strong south wind blowing on the ground and one blowing in a completely opposite direction at 5,000 feet.

That's why the Captain studies the Winds-Aloft charts carefully so that he can select the best altitude for his flight. Here again he doesn't



Communications play an important part in modern commercial aviation. This is a typical Teletype Communication section. Braniff photo.

That's why the Captain and First Officer of Jones' flight are engaged in such a serious discussion with the Meteorologist and Dispatcher well before the flight is scheduled to leave. Meteorology has prepared a chart for the Captain to show him the weather he'll encounter on the first leg of his flight.

The Captain examines closely the report which shows the direction and velocity of the winds at thousand-foot levels so that he can choose a cruising altitude that will give him the most favorable winds on the flight.

Did you know that the wind doesn't blow in the same direction at all altitudes? It's a fact! There

have a completely free choice. According to safety regulations, all flights traveling east or north must fly at odd thousand-foot levels, such as 3,000 feet, 5,000 feet, 7,000 feet and so on. Flights traveling west or south fly at the even levels — 2,000 feet, 4,000 feet, 6,000 feet and so on.

The Captain sees that winds at 6,000 feet are favorable, so he selects that as his cruising altitude. He confers with the Dispatcher; they agree that the flight can be made safely, comfortably and according to schedule. Unless they reach this agreement, the flight can't leave the ground.



A Radio-Telephone operator passes on a message to the Pilot of a plane flying high overhead. Photo courtesy Western Air Lines.

Flight Plan

Now the Captain draws up the Flight Plan to show the flight number, the pilot's name, the type of plane, the destination, the proposed cruising altitude, time of departure and the estimated time of arrival at the destination.

The Dispatcher initials the Flight Plan to approve it and gives it to Central's Radio Operator who transmits it to the Air Route Traffic Control — the government's "traffic cop." Air Route Traffic Control consults its flight movement board to make sure that Central's flight will not interfere with any previously scheduled flight over the same area at the same altitude. ARTC approves the flight as described in the Flight Plan.

The Flight Plan then goes into the Communications Room, where it is relayed by skilled Communicationists to the ground stations along the route. These Communicationists are qualified Teletypists; they transmit these and other vital messages to stations all along the route through the marvelous system which combines telephone and typewriter.

There's always an atmosphere of fast pace and excitement in the Communications Room. The Communicationists—Radio Operators and Teletypists alike — realize the valuable contribution they're making to aviation every minute they're on the job.

So far there hasn't been a hitch in Jones' flight to the West Coast.

The Pilot and Co-pilot, along with the Flight Engineer, free now until flight time, drift through the terminal building. They stop at Central's Ticket Office to chat with the Reservationist on duty, visit the Communications Room, then go along to the terminal restaurant, where they drink coffee and exchange small talk with the other airline employees gathered there.

Airline people are a closely-knit group — you'll find that out before long!

Plane's Ready

Now it's an hour before flight time. A radio Maintenance man, highly skilled and certified, enters the cockpit to check the plane's radio equipment. He calls Central's Ground Radio Station and runs through the test pattern. He's satisfied that the equipment is in good condition.

Commissary stores for meals served aloft are loaded aboard. Newspapers, magazines and dozens of items needed for passenger comfort are put in position.

Now the giant plane is taxied into position on the ramp, just outside the Central Airways Ticket Counter, ready to receive its passengers, mail and baggage.

Here Comes Jones!

Just at that moment the luxurious airport limousine drives into the airport grounds. It draws up beside the entrance to the terminal building and discharges John Jones, ready for his first flight.

Jones walks through the main entrance to the terminal building—and Aviation hits him right between the eyes!

First Impression

In one glance he takes in the bustling terminal — the sleek, modern building, the luxurious Ticket Counters, the smartly-uniformed employees. He examines the waiting passengers well-dressed, courteous — eager for the departure of the planes that will take them to all parts of the country — to the far corners of the world.

With something like awe, Jones notes a celebrated movie star in earnest conversation with an up-and-coming Television comedian. They're traveling west to make a picture together. He sees high-ranking Army and Navy officers, diplomats, statesmen — people he's read about in the daily papers.

By the time he's half-way across the vast terminal building, Jones has been captured by the dynamic atmosphere that pervades the airport. He sees it in the employees, in the waiting passengers, he feels it in himself.

Mr. Jones has just discovered the Spirit of Aviation!

Gets His Ticket

There's still a little time before flight. Jones approaches the Central Airways Ticket Counter, identifies himself. Quickly and efficiently the



A skilled Aircraft Radio Maintenance Technician checks a plane's radio equipment just before flight time. Photo courtesy American Airlines.

Ticket Sales Agent prepares the ticket forms, weighs Jones' suitcase and makes an entry in the Flight Manifest. Jones receives the Customer Coupon from his ticket. The agent advises him that the flight will load in a few minutes and depart on schedule.

Jones sits, briefly, on a comfortable seat near the gate to the loading ramp, where he can watch the planes come and go.

He's learned one thing already: There's activity in Aviation — never a dull moment!

Boards the Plane

Now the public address system clicks on and a clear, well-modulated voice speaks:

"Central Airways Flight 41 the "Golden State Luxury-liner," to Chicago, Kansas City, and Los Angeles is now boarding passengers through Gate 3; all aboard, please."

This is the moment Jones has been working up to since he first made his reservation. Doing his best to appear nonchalant, he walks out on the ramp and joins the other passengers waiting to board the plane.

He walks up the steps and into the plane, where he's greeted by a dazzling smile from the Flight Hostess. She's stationed just inside the door, where she's checking passengers on her Flight Manifest form. Chic and trim in her smart uniform she checks the flight number on his ticket envelope — to make sure that he's on the right plane.

In a few minutes all the passengers listed on her Manifest are accounted for; the Hostess reports to the Station Agent working the flight that her passengers are all aboard.

Engines Ready

The Captain, First Officer and Engineer have entered the plane; now they take their places at the controls. One after another, the giant engines come to life and the plane throbs gently. The Pilot, Co-pilot and Flight Engineer check their instruments, make a final test of their radio equipment.

All the passengers are seated now. The Hostess, friendly and gracious, makes a quick trip through the plane to help passengers fasten

their seat belts. Jones is completely unfamiliar with such things, but the deft fingers of the Hostess quickly come to his aid.

He looks at his watch — exactly on schedule.

In Position

Now the giant plane moves majestically from the loading ramp and, having requested and received taxi clearance, moves slowly to the far end of the runway, where the Pilot brings its nose into the wind. He warms up the engines to full throttle, to make sure they're in perfect working order. The plane rests, poised for flight.

Inside the Pilots' Compartment, the First Officer picks up the microphone, calls the Control Tower and asks for permission to take off. There aren't any other aircraft in the vicinity; permission is granted.

The Captain and First Officer, working smoothly together, move the throttles forward. The Flight Engineer roars the engines into full life, a rich sound that tells Jones of the enormous power they pack. The engines go to full throttle; the huge silver plane strains against the brakes.

At the proper moment the First Officer releases the brakes and Jones involuntarily holds his breath while the plane hurtles down the runway.

Thrill of a Lifetime

Suddenly Jones realizes that the wheels are no longer bumping the runway. He looks out his window and sees the ground fall away beneath him.

In that thrilling moment of first flight, Jones was experiencing the same elation that filled Orville Wright when he first flew at Kitty Hawk.

Everyone who has ever flown has experienced it.

A slow, banking climb takes the plane high above the busy airport. Skillfully the Captain brings the silver ship around to the course for the first leg of the journey and Central Airways' Flight 41 is en route to Chicago.

The illuminated sign "Fasten Seat Belts" flickers off and the passengers settle back for the flight.





Pilot and Co-pilot of DC-6 are shown making final check of instruments before take-off. Photo courtesy American Airlines. Jones sits with his face glued to the window, so entranced that he scarcely notices the Hostess standing beside him with a selection of newspapers and magazines. He doesn't want anything to read — he's much too busy enjoying this first flight of his.

Let's leave him there for a moment.

Back at Idlewild airport, there's still plenty of activity at Central Airways.

Flight Movement Report

As soon as Flight 41 left the ground, for example, the Station Agent prepared the Flight Movement Report. This is a precise summary of everything aboard Flight 41 — passengers, destinations, accommodations, baggage, mail, cargo — what it is and where it's going.

Most of this information, you see, is compiled while the flight is making up, so there's no great difficulty in getting the Flight Movement Report ready promptly.

When the dispatch is prepared, the Communicationists take over to transmit it to the stations along the route. The basic purpose, you see, is to prepare the next station for arrival of the flight; to let them know what to expect in the way of passengers, mail, cargo, and baggage.

These Flight Movement Reports must be transmitted immediately after the flight leaves the ground. That means that the Communications Department has to be sharp, accurate and efficient!

Up Front

In the forward compartment, the Captain, First Officer and Engineer, relaxed after the take-off, keep the giant 4-engine plane on course smoothly and capably. They're mature, experienced fliers; they've passed exhaustive airlines tests before being admitted to the most exclusive flying fraternity in the world — the Airlines Flight Crew.

Normally they divide the flying duties. The Captain takes off and lands the ship; the First Officer assists and handles radio communications; the Flight Engineer keep the engines humming merrily in tune.

From time to time along this first leg to Chicago, the First Officer calls in reports of the plane's progress. These reports include information on altitude, weather, time over each check point, and estimated time of arrival over the next check point.

Communications Again

These Progress Reports are recorded on typewriters by Airlines Ground Radio Operators, who file them with the Dispatcher and the Air Route Traffic Control. Through this system, you see, both the airline and the ARTC know exactly where each of its flights is every minute the plane is in the air.

It's another factor for safety and efficiency in airlines operation, accomplished through the skill and ability of the Communications Department.

Back on Flight 41, now nearing Chicago, Mr. Jones has finally turned from the window; now he's devoting his attention to the plane and its occupants.

That Wonderful Hostess!

He's constantly amazed by the talents of the Hostess. She's everywhere at once, it seems talking pleasantly to passengers, answering questions about points of interest along the route, supplying pillows to those who want to nap along the way.

And yet, Jones notes, despite her constant activity, she's never flustered. She's a model of poise and friendliness; before the flight is an hour old, she's made friends with everyone. including — especially — our Mr. Jones.

It's easy to tell what makes this girl—like every airlines employee he's observed—so completely happy. She's in love with a wonderful job!

Jones watches as she retires to the Commissary, where she briskly prepares luncheons;; she serves them skillfully, with no effort. Lunch over, she collects trays, returns them to the Commissary and again devotes her attention to the comfort of her passengers.

Into Chicago

Before long the great plane roars into the "zone" of the airport in Chicago. The First Officer calls the Chicago Control Tower and requests landing instructions.



Today's Hostess, in addition to being charming, gracious and attractive, has to know the technicalities of flying too. Airline passengers are always curious. Photo courtesy American Airlines.

The Chicago Tower tells him which runway to use and advises him of the direction and velocity of the wind.

In the plane itself, the Hostess prepares her passengers for landing.

Again the sign "No Smoking — Fasten Seat Belts" appears.

Jones feels the plane slow its speed as it nears the broad runways of the Chicago airport. The Practically as soon as the plane rolls to a stop, the passenger loading steps are wheeled into place. The uniformed Ramp Agent mounts the steps, opens the door and greets the Hostess who's waiting for him.

The passengers who are leaving the flight in Chicago find that the smiling Hostess has their hats and coats ready for them when they leave. Baggage, mail and cargo for Chicago are being unloaded quickly and efficiently.



The short interval between stops must be utilized to full advantage by modern airlines. Photo courtesy Braniff International Airways.

plane drops lower in a perfect approach. The wheels touch the runway smoothly and the plane taxis to a stop before the loading ramp of Central Airways in Chicago.

In The Interval

There's a twenty-minute stop here, but Jones doesn't bother to leave the plane. He's fascinated by watching the smooth teamwork of the skilled personnel who operate Central Airways. At the same time the ground crews are busy, refueling the plane, getting everything ready for immediate departure. Twenty minutes isn't a long time to do everything that has to be done; that's why they take advantage of every possible moment.

The Pilot and Co-pilot, in the meantime, are checking with the Chicago ground personnel. They pick up the latest weather and traffic information, then return to the plane and prepare for the next leg of the flight — Chicago to Kansas City.

New passengers have come aboard in Chicago. The Hostess greets them cordially, shows them to their places.

Off Again

Right on schedule, the plane taxis to the takeoff runway and, cleared by the Control Tower, roars off into the skies, en route to Kansas City.

By this time Jones feels that he's an experienced air traveler. He's having the time of his Almost before he knows it, they're into Kansas City for another twenty-minute interval — a repetition of the stop in Chicago — then back into the air for the last leg of the flight.

Time passes quickly. It's difficult for Jones to realize that in a few short hours, he's crossed the continent — from one end to the other swiftly, safely, comfortably.

Last Stop

Almost with regret — he's enjoyed his trip so much — he sees the lights of Los Angeles far



Mr. Jones gets a breath-taking view of the Kansas City skyline as his plane taxis toward the Municipal Airport ramp. Kansas City is fortunate in having its fine airport located only 5-minutes drive from downtown.

life. He enjoys the view, the speed, the comfort. He likes the people he's met through Aviation so far, and he envies the airlines employees who meet such interesting new people every day.

He dozes in solid comfort while the big plane speeds on to Kansas City. He reads, he relaxes, he enjoys the friendly conversation of his neighbor in the adjoining seat. below. The plane dips into the approach pattern, the wheels touch the ground, the powerful engines stop.

Flight 41 is completed.

The passengers wait a brief moment for their baggage to be unloaded Jones and his friends — it's hard to fly coast-to-coast without acquiring new friends along the way — board the limousine that's waiting to take them into town.



It's hard to fly coast to coast without acquiring new friends along the way. Photo courtesy Capital Airlines.

He's Converted!

Jones is sold on air travel now. He's completed a long trip; he's arrived at his destination relaxed and comfortable. No more trains; no more buses for him. From now on, when he travels, he'll fly!

Jones doesn't realize that the comfort and convenience he's enjoyed on this first flight of his was not just luck or coincidence.

His trip was the end product — the final result of years of planning, of building, of development. The comfort and safety of one John Jones is the result of the cooperation and teamwork of one of the most highly skilled groups in American industry — the Airlines employees.

You'll be joining that group, perhaps, in one of the categories we've seen at work during the flight we've just completed. You'll be serving the millions of Americans who fly every year interesting, out-of-the-ordinary people, like the principal figure in Central Airways' Flight 41 from New York to Los Angeles — the imaginary John J. Jones.



In learning to be a skilled Airline employee, you should learn some things about airplanes — what makes them fly — their important parts — some painless aeronautics. These are the interesting subjects in your next lesson TODAY's AIRCRAFT. Notes and Memos

Notes and Memos

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