

***AMERICAN AIRLINES***



**SCRAPBOOK**



## AMERICAN AIRLINES LOCKHEED ELECTRA 1959

American Airlines' fleet of Lockheed Electras is primarily used east of the Mississippi River, providing jet age transportation on short haul high traffic density routes. Cruising at nearly 400 miles

per hour, the Electra carries more than 60 passengers and its jet engine powered propellers (each blade is 18 inches wide) give the plane enormous power.

On the cover is an American Airlines Boeing 707 Astrojet. In January, 1959, American inaugurated coast-to-coast service with the Boeing 707, a 100-plus passenger jet which cruised at nearly 600 mph and made the

United States "five hours wide and two hours deep". In three years, all of American's 707's had been converted to fan engines, upping the speed, range and economy of the planes.



## HOW THE AIRLINES GREW



Commercial air transportation in the United States got its start in 1926 when the government awarded its first airmail contracts to private companies. During the first year the airlines carried about 250,000 lbs. of mail — and a few brave passengers. A mere 35 years later, in 1961, the domestic airlines flew 299 million ton miles of mail — and 39.8 billion revenue passenger miles. Some 58.4 million passengers were carried that year.

Most of the initial mail planes were single-engine, wood and fabric biplanes that cruised at around 100 mph. In the early 1930s the industry operated a hodgepodge of equipment: single-engine, twin-engine, tri-motored planes, some wood, some metal. Most of the planes carried passengers, but during the depression many of the trips went out without a single customer. The industry lived on its mail pay.

It was not until 1936 that an airplane was put in service that could make money carrying passengers. This was the famed DC-3, designed to American Airlines' specifications. Eventually, the Douglas Aircraft Co. built 12,000 DC-3s. Many airlines

in many countries throughout the world are still operating this fine airplane.

Commercial aircraft production halted with the advent of World War II. From war's end until 1958 manufacturers produced bigger, faster, more powerful piston-engine planes, which incorporated such technical advances as reversible pitch propellers, cabin pressurization and weather radar. American operated four-engine DC-4s, DC-6s, DC-6Bs and, finally, DC-7s, biggest and fastest of this piston-engine series. It also used a fleet of twin-engine Convair 240s on its shorter routes.

Then, American introduced the Lockheed Electra turboprop and pioneered pure jet Boeing 707 service across the United States in January, 1959. Early in 1961 AA flew the first fanjet-powered 707s, which it named Astrojets. The addition of a "fan" to the basic jet engine gave added speed, dependability and economy. Early in 1962 American again pioneered with the introduction in this country of the Convair 990 Astrojet, the most advanced jet transport in the world. Then it ordered Boeing 727

Astrojets for its shorter routes — the first three-engine airplanes to appear on the U. S. aviation scene since the early airline days. All the Astrojets fly at nearly the speed of sound.

Some 85 companies scattered over the country were brought together in the organization that became American Airlines in 1934. One of these predecessor companies, Colonial Air Transport, flew the company's first passengers on a regularly scheduled flight from Boston to New York on April 4, 1927. It took American 10 years to carry its first million passengers. In 1955 American flew its 50 millionth passenger. Only six years later, on December 28, 1961, American became the first airline in the world to have carried 100 million passengers.

Today American Airlines' routes crisscross the nation and extend into Canada and Mexico. A majority of its airplanes are jets or turboprops and its thousands of employees efficiently serve the public in the carriage of passengers, mail, freight and air express.



AMERICAN AIRLINES DH-4      1926

The DeHaviland DH-4 had been a World War I two-place attack bomber and observation plane. Flying the mail in the late 1920s, it had a single seat with the forward seat converted to a mail compartment.

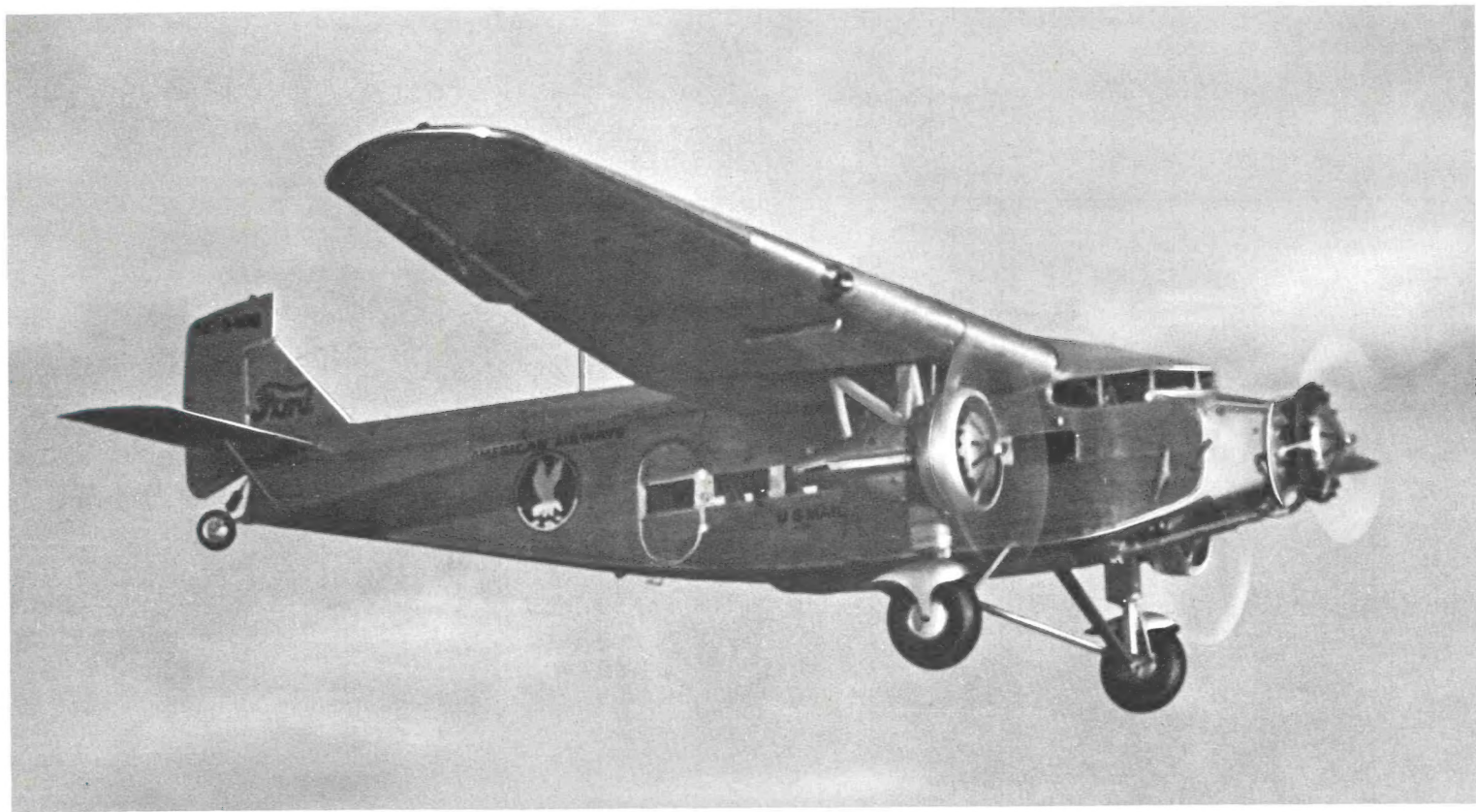
It was in this type of plane that Colonel Charles Lindbergh flew the first airmail between Chicago and St. Louis for Robertson Aircraft Corp., a predecessor of American Airlines.



### AMERICAN AIRLINES PITCAIRN 1927

The Pitcairn Mailwing also flew in the 1920s, was able to cruise at more than 125 miles per hour. It had good handling and landing char-

acteristics and could carry about 600 lbs. of mail. It was used extensively between New York City and Boston in 1927.



## AMERICAN AIRLINES FORD 1928

The Ford Tri-Motor "Tin Goose", built by Stout Metal Airplane Co., a division of the Ford Motor Co., carried 10 to 14 passengers. The all-

metal plane had corrugated skin and a two-man cockpit. Some models of this plane are still in use in various parts of the world.

# THE AMERICAN AIRLINES PILOTS

The men who pilot American Airlines' Astrojets are seasoned aviation veterans. Many can swap yarns of open cockpit biplanes, "barnstorming" in the 1930s and the days when passengers sat on sacks of airmail in order to travel by air.

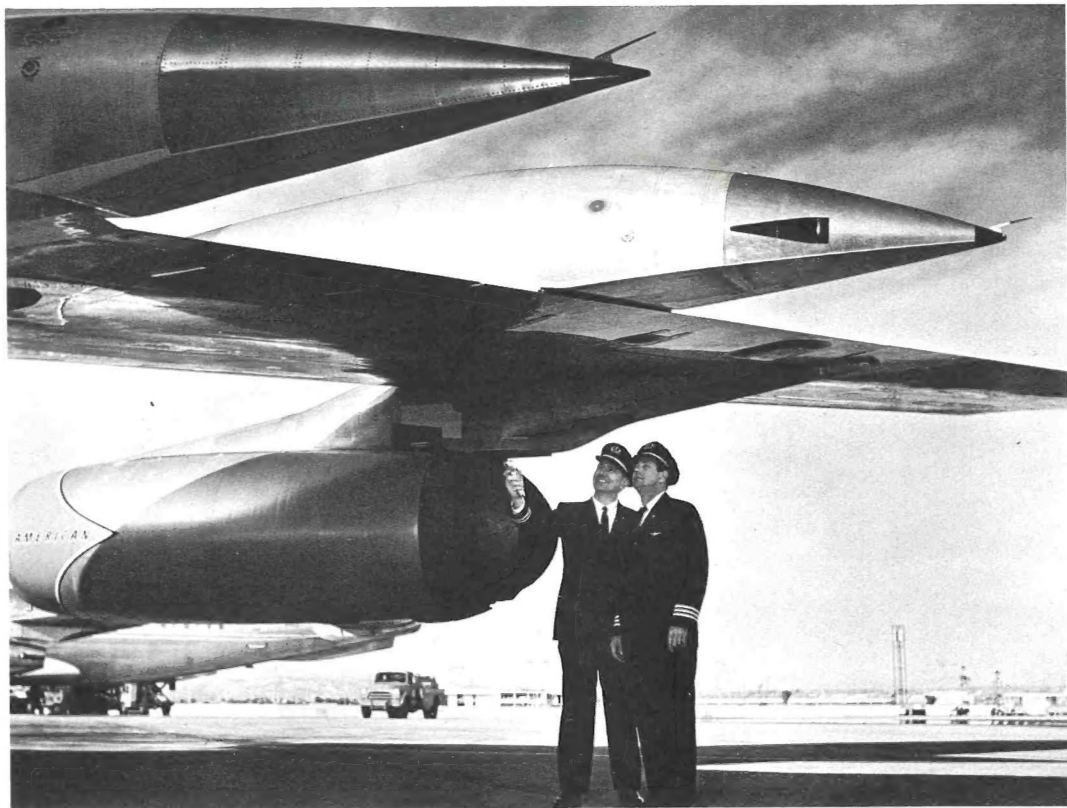
American's pilots are true professionals. All have thousands of flying hours experience and some have flown more than *five million* miles!

But that's not all. Backing up these men is an intricate network of communications and safety aids from the fabulous computers that figure out a flight plan or process a reservations in seconds to the radio beams, radar and distance measuring equipment that help the crew navigate the airplane.

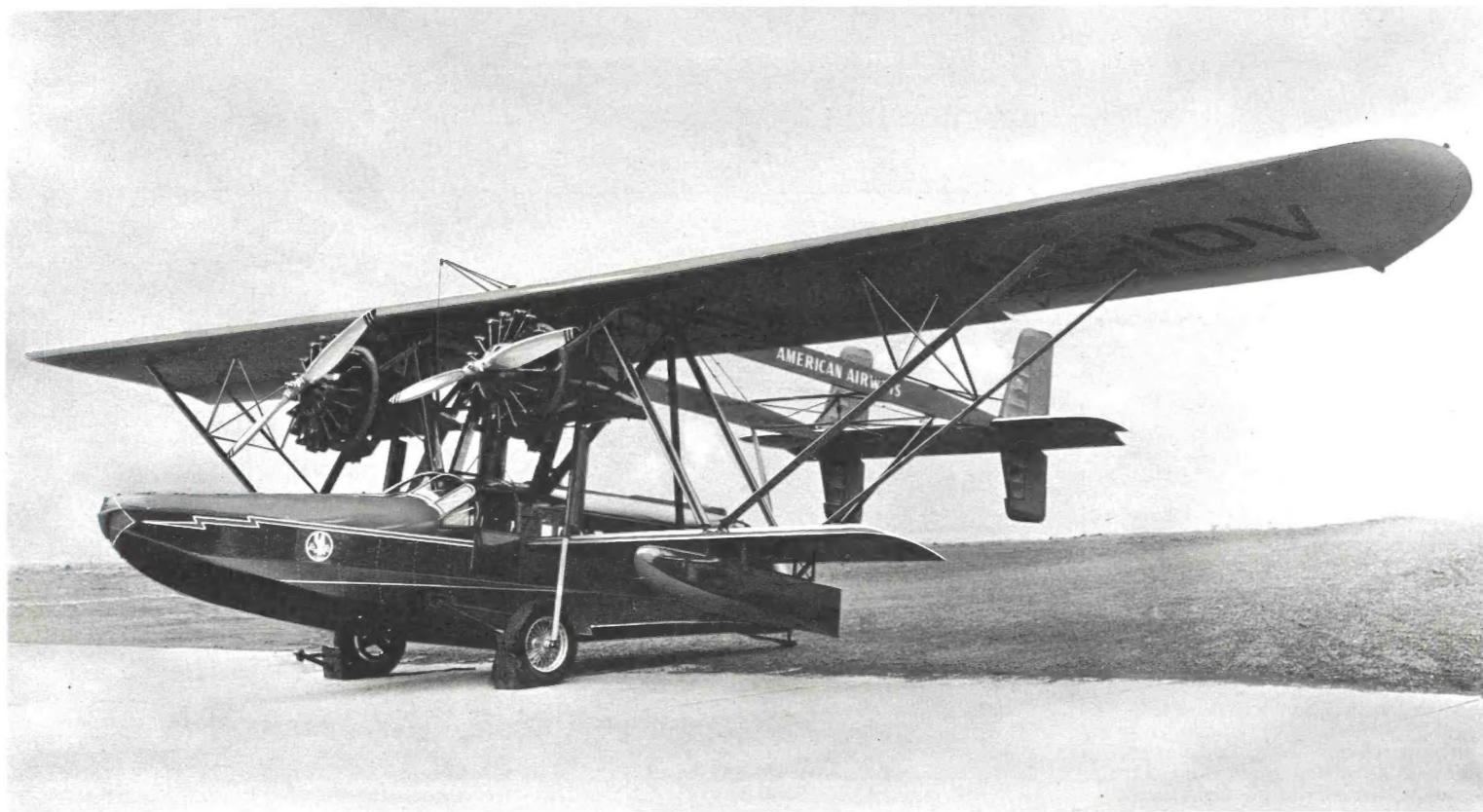
The great majority of American's pilots have military flying experience. During World War II, many flew troops and supplies all over the globe. Today, they pilot Astrojets at nearly the speed of sound.

Skilled as they are, each American Airlines' pilot receives continuous retraining and supervision. Outstanding coordination and the ability to reach quick, calm decisions characterize the flight crew.

Pilots are at home in New York or Chicago or Dallas or San Francisco or dozens of other cities in and out of the U. S. Every captain has flown American's routes for at least seven years and many have traced these flight paths for much longer than that.



Whether they are at the controls of a commuting Electra II or a transcontinental 707 Astrojet, the one aim of American's pilots is to fly with safety and dependability.



### AMERICAN AIRLINES SIKORSKY 1929

The Sikorsky amphibian pioneered many overwater routes. It could carry several passengers and cruised at more than 100 mph. It could

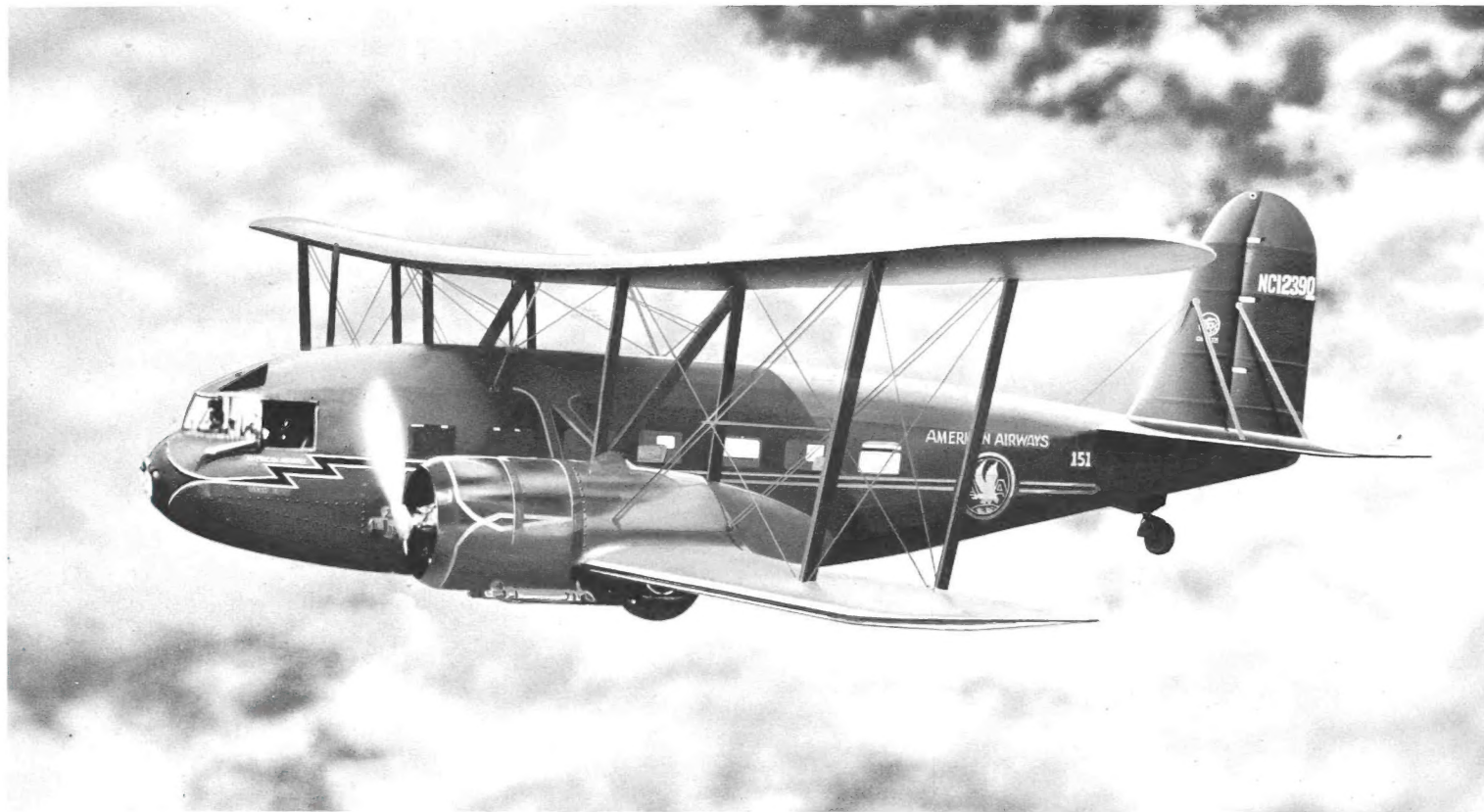
climb rapidly and maintain altitude on one engine at 100 mph, having a stall speed of 55 mph.



### AMERICAN AIRLINES PILGRIM 1931

The Pilgrim was among the first planes designed for airlines use. Pilots were pleased with its good visibility, provided by the high mounted

cockpit and windscreen. It carried up to 10 passengers and had a range of about 400 miles at more than 125 miles per hour.



### AMERICAN AIRLINES CONDOR 1933-34

The Curtiss Condor was the nation's first sleeper plane. It had a highly streamlined fuselage, fully enclosed engine nacelles and retractable landing gear. Late versions cruised at more than 150 mph. Probably

the last biplane transport to fly U. S. airways, it carried approximately 15 passengers. Stewardesses became a regular part of AA's transport crews with the advent of this plane.

# THE AMERICAN AIRLINES STEWARDESS

Almost as many women as men fly for American Airlines. The women are the attractive and poised young ladies who serve the airline as stewardesses.

Hundreds are hired each year from thousands of applicants from all over the U. S. and outside it as well.

Stewardess recruiters have the pleasant task of finding hundreds of "All-American Girls" each year because stewardesses must be single and the very qualities that make them suitable for their jobs — appearance, personality and charm — also make them ideal candidates for marriage. American is the graceful loser each year to hundreds of young men who make stewardesses their wives.

Once screened and hired, young ladies are flown to American's million-dollar Stewardess College in Fort Worth, Texas. In the lovely and graceful surroundings of this unique institution — complete with heated swimming pool — the girls are taught for several weeks by a staff of carefully chosen experienced stewardesses.

The studies are divided into three main categories. First, there's general aviation in which American's various airliners are explained to the stewardess candidates and where they learn the basics of the theory of flight, navigation and weather. Then they are instructed in the various services they will perform for passengers. Not only does this instruction include such regular items as the serving of meals, but it also prepares the candidates for the thousand and one unexpected little services they may be called upon to perform. Finally, there's a course in beauty secrets, fashions, charm, self-assurance and the social graces.

But there is also ample time to enjoy the pool and the other recreational facilities of the college.

A stewardess flies to many cities in the course of her work. Her living expenses are paid while she is away from her base city. Free travel anywhere on the system is provided at vacation time and each stewardess is allowed a number of other free trips at other times, depending on length of service. Not only that, but stewardesses, like all American's employees, enjoy half- or quarter-fare privileges on most other U. S. and foreign airlines.





### AMERICAN AIRLINES DC-3      1936

Famed DC-3 was first “paying proposition” among early planes. American aided in design of DC-3, got the jump on competition with inauguration of service on June 25, 1936. Plane cruised at more than

180 mph, originally carrying 21 passengers, 14 as a sleeper. It cut east-bound coast-to-coast flying time to 15 hours, 50 min. Some of the DC-3s still flying today carry 32 passengers.

# AMERICAN'S MAINTENANCE

Keeping American Airlines' huge fleet of airliners in perfect flying condition is a 24-hour seven-day-a-week job. It calls on the skills of thousands of mechanics and maintenance men.

The Federal Aviation Agency imposes a set of strict maintenance rules on the airline industry — but in many cases American's own specifications are tougher. American's maintenance men don't wait until a part wears out before they replace it. Preventive maintenance makes sure that a part is replaced well before it needs replacement.

In general, FAA and American's own regulations require the periodic inspection, servicing and replacement of almost all parts of every airplane. American's airplanes are not just as *good* as new at all times. They are *better* than new. This is so because periodic overhaul is so complete it is often possible to incorporate parts and design improvements that experience has shown are better than those the airplane had when it came from the factory.

Most of American's major overhaul work is done at its maintenance base at Tulsa, Oklahoma, where thousands of skilled mechanics, technicians and engineers are stationed. But there are mechanics at every airport on American's system. The airplane gets checked before every flight. It is even given a quick check at each stop on a multiple-stop trip. Every 24 hours a more detailed check is made and still more thorough checks of each component are made at stated intervals.

Not only are scores of specialists and engineers constantly working to improve the airplanes American is flying today, but they are also working with manufacturers on the specifications of the aircraft which American will be flying tomorrow.

These are the men who helped design the famed DC-3, grandfather of all commercial airliners, and who have continued to pioneer developments through its successors to today's advanced Astrojets.





### AMERICAN AIRLINES DC-6      1947

The DC-6 was lengthened, improved and redesigned DC-4. Introduced by American Airlines in 1947, it is fully pressurized, cruises

at more than 300 miles per hour at 20,000 feet, carried 52 passengers in its original version.



AMERICAN AIRLINES CV-240      1948

The 40-passenger Convair 240 was designed as short and medium haul postwar plane, introduced by American in June, 1948. Cruising

nearly 300 mph at 15,000 ft., it has reversible pitch propellers, "orange peel" cowling for easy maintenance, and self-contained stairway.



### AMERICAN AIRLINES DC-7 1953

The Douglas DC-7 was introduced by American in late 1953, the first plane to offer transcontinental non-stop service in either direction. It can cruise at more than 360 miles per hour at 20,000 feet, with a

maximum range of more than 4,000 miles. Plane carries 60 or more passengers and represents the peak in performance to be gained from piston engined transports.

**ENGINE START PANEL**

**LANDING LIGHT PANEL**

**STABILIZER TRIM CONTROLS**

**RADAR and  
RADAR CONTROLS**

**THROTTLES**

**FUEL CONTROLS**

**CAPTAIN'S CHAIR**

**RUDDER and  
AILERON TRIM CONTROLS**

**CIRCUIT BREAKERS**

**FLIGHT INSTRUMENTS**

**LANDING GEAR HANDLE**

**ENGINE INSTRUMENTS**

**RADIO and  
AUTO-PILOT PANELS**

**1st OFFICER'S CHAIR**

**INSTRUMENT PANEL**





# SPECIFICATION CHART

|                                                         | BOEING<br>707-123B<br>(Astrojet) | BOEING<br>707-720B<br>(Astrojet) | CONVAIR<br>CV-990<br>(Astrojet) | LOCKHEED<br>ELECTRA<br>(Turboprop) | BOEING<br>727<br>(Astrojet) |
|---------------------------------------------------------|----------------------------------|----------------------------------|---------------------------------|------------------------------------|-----------------------------|
| Length                                                  | 145 ft., 1 in.                   | 136 ft., 9 in.                   | 134 ft., 9 in.                  | 104 ft., 6 in.                     | 115 ft., 10 in.             |
| Wing Span                                               | 130 ft., 10 in.                  | 130 ft., 10 in.                  | 120 ft.                         | 99 ft.                             | 108 ft., 7 in.              |
| Height                                                  | 41 ft., 5 in.                    | 40 ft., 11 in.                   | 39 ft., 4 in.                   | 32 ft., 9 in.                      | 34 ft.                      |
| Maximum Takeoff Weight                                  | 257,000 lbs.                     | 221,000 lbs.                     | 240,000 lbs.                    | 113,000 lbs.                       | 142,000 lbs.                |
| Maximum Landing Weight                                  | 185,000 lbs.                     | 175,000 lbs.                     | 202,000 lbs.                    | 95,650 lbs.                        | 131,000 lbs.                |
| Fuel Capacity<br>Gallons<br>Pounds                      | 15,516<br>103,957                | 13,536<br>90,961                 | 15,173<br>101,659               | 5,520<br>36,984                    | 7,000<br>46,900             |
| Engine Type                                             | Forward Fan<br>Turbofan          | Forward Fan<br>Turbofan          | Aft-fan<br>Turbofan             | Turboprop                          | Forward Fan<br>Turbofan     |
| Manufacturer                                            | Pratt & Whitney                  | Pratt & Whitney                  | General Electric                | Allison                            | Pratt & Whitney             |
| Engine Designation                                      | JT3D-1                           | JT3D-1                           | CJ805-23                        | 501-D13                            | JT8D-1                      |
| Takeoff Thrust (each engine)                            | 17,000 lbs.                      | 17,000 lbs.                      | 16,000 lbs.                     | 3,750 ESHP*                        | 14,000 lbs.                 |
| Cruise Speed (at normal<br>landing weight and altitude) | 611 mph<br>25,000 ft.            | 612 mph<br>22,500 ft.            | 624 mph<br>21,000 ft.           | 410 mph<br>16,000 ft.              | 587 mph<br>25,000 ft.       |

\*Equivalent shaft horsepower



### AMERICAN AIRLINES BOEING 727 ASTROJET 1963

Powered by three fan-jet engines, one of which is mounted in the plane's tail, the 727 is designed to bring true jet service to short haul

The back cover shows the Convair 990 Astrojet. This latest addition to American's fleet is designed for medium-range jet schedules. Carrying 100 passengers, the 990 cruises at 600 mph. The distinctive speed cap-

routes and smaller communities than those served by jets today. Scheduled for delivery in 1963, it will carry nearly 100 passengers.

sules on its wings help break up the shock wave created as the plane nears sonic speed at high altitudes. This is probably the last large jet transport to be built before supersonic transport.

