

Count Down To Takeoff



You're sitting in your seat, ready to take off on a commercial jet flight. Maybe you're going across the country, or just a few cities away. Regardless of how far you'll be flying, an amazing amount of preparation has gone into making sure your flight is uneventful and smooth. Before the pilot ever boards the plane, hours of work has already been completed.

"Think of it like a big orchestra," says Doug Taylor, a commercial pilot who has spent 16 years as a pilot and 9 years flying for an international airline. "When musicians play, you don't hear individual instruments so much as you hear a combined sound. For every airline flight, there are easily 30 people behind the scenes, contributing their part to the overall success of the flight. Baggage handlers, flight crew, dispatcher, and mechanics all put in hours of work before the actual departure of a flight."

Several hours before a flight leaves the airport, the meteorologist and flight crew work to formulate a plan based on the weather, the best route, how much fuel will be required, and any potential hazards. This information goes to a computer, where it's compared with other statistics. Readings from these initial figures tells the fuel loaders how much jet fuel to put on the plane.



By the time the pilot arrives at the airport, over 2 hours of work has been invested in the flight, Taylor says. The pilot prints out the flight plan, which shows how many people are scheduled to fly, where the flight will land, and how much baggage and fuel will be loaded. With this information, the flight crew balances the weight, so that it's as evenly distributed as possible. Every time there's a last-minute change in the passenger roster, it can change the balance and require adjustments to the plan. Pilots consult charts, which are travel maps that are adjusted every 14 to 21 days. Data from the charts is loaded into the computers to guide the pilots as they proceed.



The pilot tests a number of safety systems, Taylor says. Instruments, gauges, and the actual aircraft are all closely inspected. "Pilots do a physical inspection of the airplane, inside and out," he says. "We look at the obvious things, like whether the engines are there, but we also look for more subtle factors such as tire pressure. In a car, a small variance in pressure isn't a big deal, but in a plane that weighs so much, a little change in pressure can be a major



safety issue.” Small discrepancies, such as a latch that isn’t secured correctly, are also spotted on that physical inspection. A keen eye for detail helps pilots head off potential problems.

The Crew

The people most often credited with safely delivering commercial airline passengers to their destinations are the pilot, first officer, and second officer. The pilot (or captain) commands the aircraft, and is responsible for the safety of the passengers, crew, and cargo. The first officer assists or relieves the pilot. The second officer assists in flight operations and sees that the aircraft’s mechanical and electronic devices are operational. All three officers must hold a valid commercial pilot’s license. Not all aircraft require a second officer.



A pilot’s greatest tool is experience with weather, navigation, air traffic control, aircraft loading, and regulatory requirements. In order to be a commercial captain, pilots must have 250 hours of flight time, including 100 hours as pilot, 50 hours of cross-country flight, and 10 hours of instrument instruction.

“Being a pilot is where art meets science,” Taylor says. “Studying courses with a math and scientific background helps greatly. I use trigonometry and physics every day, and while computers and calculators do the processing, it’s important to understand why these things work as they do.” Just as important, Taylor says, is an understanding of literature. “The critical thinking and analysis that comes from digging deep to read Shakespeare teaches you that there are many ways to accomplish something. Literature develops communication skills, which is make-or-break in the airline industry.”



“Many people complain about delays with commercial airline flights,” Taylor says. “But actually, delays are a good thing. Every time a plane is delayed, it can mean that someone found a potential problem and took steps to fix it before it ever became a serious safety issue.” Delays at airports pile up like dominoes, Taylor says. If a flight arriving from Chicago is late, that means the connecting flight to Atlanta will have to wait for it to arrive. But if it lands too far off schedule, there may not be an available gate to receive the plane, which adds more delays.



“People are often surprised to learn how much is involved in getting a flight safely to its destination,” says Taylor. “When someone is apprehensive about flying, it doesn’t help to tell them, ‘Oh, it’s just like riding in a car.’ If, however, they learn all the steps being taken to ensure their safety, the many redundancies built in to prevent problems, that can help them feel more at ease.”

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