



100 Years of Flight

## UNDERSTANDING THE LINGO

In order to be clearly understood and to be able to distinguish between letters that sound alike, air traffic controllers use words to represent letters. When you hear them use one of these words, they mean the letter with which it's associated.

### Call Sign

Each airline has a three letter code to tell the controller the call sign. Controllers must memorize them all. Many are easy – US Airways is USA, American is AAL. Others are more difficult. For example, America West's call sign is cactus and its three letter code is AWE, Air Lingus' code is EIN and call sign is Shamrock, and Atlas' code is GTI and call sign is Giant.

A	Alpha
B	Bravo
C	Charlie
D	Delta
E	Echo
F	Foxtrot
G	Golf
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

**Flight Number**

Always preceded by an airline's call sign. Some of the flight numbers have a longstanding association with specific routes and airlines. The FAA works to avoid similar sounding numbers.

**Altitude**

Expressed in hundreds and thousands of feet. It describes the altitude above "mean sea level," not above ground. Thus, a plane on the ground in Denver would be at 5,000 feet. Altitudes of 18,000 feet and above are spoken as "flight level one-eight-zero" and so forth.

**Speed**

Measured in knots, not miles per hour. 100 knots equals 115.2 miles per hour. At high altitudes, speed is measured in Mach number, a percentage of the speed of sound. For example a 747 may travel at Mach .84, or 84 percent of the speed of sound.

**Direction Or Heading**

The number spoken reflects the direction of the aircraft in relation to a compass. North is 360, south is 180.

**Airways**

Just like on the ground, there are routes in the sky that help aircraft get to their destinations. "J" or jet routes are like super highways and are at higher elevations, where commercial jets travel. "V" or victor airways are more like local highways and are used more by general aviation and smaller planes at lower altitudes. Airways were built on a series of ground-based navigations aids (NAVAIDS) The most modern equipped aircraft navigate point-to-point using the Global Positioning Satellite system (GPS).

**Runways**

Runway numbers are expressed in two digits that reflect their direction according to the compass. "Runway three six" faces north and reflects a heading of 360. But because the runway number reflects the direction in which the runway is approached, runway 36 is also runway 18.

**Wake Turbulence**

A vortex of air shaped like a sideways tornado that trails behind an aircraft when lift is generated by the wing. Takeoffs and landings generate more wake turbulence — also called "wing-tip vortices" — because aircraft flaps are extended.

The largest aircraft, known as "Heavy," generate the most wake turbulence.