Air Traffic Controller Encyclopedia Article

Air Traffic Controller

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Air Traffic Controller

Air traffic control is a fast-paced job that requires a mathematics background. The required math knowledge includes geometry and calculus. Additionally, air traffic controllers must understand geography and weather conditions, engineering, computers, aeronautics, and aviation regulations. A good air traffic controller must also possess strong communication and decisionmaking skills, the ability to read and understand symbols, and an aptitude for abstract reasoning and visualization of objects in three-dimensional space.

Air traffic controllers play an integral role in flight safety by monitoring flight plans and alerting pilots of potential problems they may experience while in the air.

Using radar, computers, and optical scanning devices, air traffic controllers measure the vertical space, or altitude, between an aircraft and the ground, the speed of the aircraft in **knots**, the direction of the aircraft through the use of compass headings, and its distance from other aircraft. The air traffic controller monitors a plane's route based on a filed flight plan and watches for any deviation that could cause a collision.

Air traffic controllers use instrument flight rules to monitor all planes as they take off, travel to their destinations, and land. Pilots navigate using a very high-frequency **omnidirectional** range beacon that denotes the pilot's magnetic course and measures the distance from the plane to ground stations monitored by air traffic controllers.

Air traffic controllers must be able to remember rapidly changing data, keep track of numerous aircraft at once, and work calmly under stressful situations. In the United States, air traffic controllers work for the Federal Aviation Administration and must pass the federal civil service examination. Around the world, all air traffic controllers speak English, use **Greenwich Mean Time**, and measure **meridians** and **longitudes** in relation to the **Prime Meridian**.

See Also

Flight, Measurement Of.

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