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AIRSPACE AND AIR TRAFFIC CONTROL



The United States is divided into airspace zones that help air traffic controllers coordinate the movement of

the 50,000 aircraft that operate in our National airspace every day. The air traffic controllers keep the aircraft at safe distances from each other, assist pilots in safe takeoff and landings, direct pilots regarding weather, and maintain the smooth flow of traffic to minimize delays throughout the system. The Upper Midwest airspace zone (ZMP) centered at Minneapolis includes Minnesota, North and South Dakota, Eastern half of Nebraska, Northeastern Kansas, Northeastern Iowa, Wisconsin and Northern Michigan. Airspace zones (Centers) are divided into small sectors of airspace of about 50 miles in diameter called TRACON (Terminal Radar Approach Control) airspace. TRACON can have a number of airports within its airspace and each airport has its own airspace of a 5 mile radius.

Air Traffic Control Systems Command Center (ATCSCC) oversees all air traffic control and provides assistance to Centers where there are problems with bad weather conditions, traffic overload, and re-routing when runways are inoperable. Center controllers have communication links with other Centers and TRACON systems and are linked with the National Airspace System allowing for nationwide coordination of traffic flow and radar data acquisition.

Air route traffic control centers (ARTCC) are located in each Center and manages the traffic within all of the small sectors of airspace within its management center except the TRACON airspace and local airport airspace. A sector may cover a geographic area of 500 square miles and a range from the ground to 23,000 feet, and a second sector of coverage over the same geographic area covering altitudes from 23,000 to 37,000 feet. Usually an aircraft will have a destination that is in the jurisdiction of another air route traffic control center (ARTCC).

Terminal radar approach control (TRACON) manages departing and approaching aircraft within its 50 mile radius airspace. An aircraft is handed off as it approaches an adjacent traffic control center to continue onto its destination. When the aircraft arrives at its TRACON destination, ARTCC hands-off the flight to TRACON.



Air traffic control tower (ATCT) are located at airports with regularly scheduled flights and manage takeoff, landings, and ground traffic. TRACON hands-off the flight to ATCT to

guide the flight to its final landing and ground transfers at its designated flight destination.

Flight service stations (FSS) provide pilots with information on weather, route, terrain, and flight plan as well as emergencies and coordination of search and rescue. Each week FSS (air traffic control specialists) help provide services to over 80,000 members of the general aviation community that include corporate and private aircraft as well as some military and airlines. FSS services may include preflight and inflight briefings and communications, search and rescue, emergency services, meteorology and aeronautical briefings, weather observation, airport advisory service, continuous automated broadcast of hazardous weather advisories, and even support of air shows, aviation events and conventions.

Pilot in command (PIC) is the person on board an aircraft who has responsibility for the safe operation during the flight. The pilot is directly responsible and is the final authority as to the operation of the aircraft. In an in-flight emergency requiring immediate action, the pilot may react to the emergency and deviate from the governing rules of the air to meet the emergency. The pilot in command has the final authority as to the disposition of the aircraft while in command.

