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Unmanned Aerial Vehicles

The need for unmanned aerial vehicles is increasing as fast as the technology progresses to create and modify them. The uses of UAVs are expanding just as their capabilities. There are three main types of UAVs, the Global Hawk, the Predator, and the Shadow 200. Each is designed for a specific purpose but all are operated in the same general manner.

The Global Hawk is a long-range reconnaissance plane. It is jet powered and is capable of travelling distances of 13,500 nautical miles and flying for up to 36 hours. The Predator is a 27-foot long propeller driven airplane that has many uses including surveillance and attacking ground targets. The Predator can stay in flight for approximately 40 hours with out refuelling. It is only able to reach speeds between 92 and 150 miles per hour but can get as high as 25,000 feet in the air. The Shadow 200 is the slowest and smallest but may be the most useful due to its relatively cheap construction and research. The Shadow 200 was designed in Hunt Valley, MD. Its length is 11 feet and its wingspan is almost 13 feet. It only reaches an altitude of 15,000 feet and a speed of 65-85 knots.

The three main uses for UAVs are attacking ground targets, delivering supplies and reconnaissance. The Predator drone has several uses. It can be used as a surveillance plane or it can be equipped with Hellfire anti-tank missiles for attacking ground targets. If it is equipped with Hellfire missiles it carries one under each wing. If it is a surveillance plane, it has special cameras that can see targets through clouds at distances up to 3 miles.

The Shadow 200 is mainly used for delivering supplies but can also be used for surveillance. The military is currently testing designs that would allow the Shadow to drop

medical supplies to targets or personnel on the ground from heights of 15,000 feet. Engineers are working toward being able to get the supplies to ground troops within an area about the size of a tennis court. The Global Hawk is only used as a reconnaissance plane at this time but could be expanded to do other tasks in the future.

A control station, usually located some distance away, controls the UAVs. The distance depends on which type of UAV has been deployed. The control station has up to three people in it to control all functions of the drone. A payload operator controls the planes radar, camera and missiles. A pilot flies the drone by sending commands to its antenna or its satellite for flights that extend beyond the horizon. The third person can be for monitoring the planes various remote gauges and equipment. The control station is equipped with a health and safety monitor, which displays information about fuel and mechanical systems. There is also equipment that can relay video imagery to global command posts. A synthetic-aperture radar station is what allows the onboard cameras to see through clouds.

The government is putting billions of dollars into the research and development of UAVs. While they may never replace all manned aircraft, the uses of UAVs will be ever increasing. UAVs are progressing in other forms also. The government is researching submarine and watercraft types for the detection of mines and surveillance. In the future there will be more uses for unmanned missions that will save the government money and eliminate the possibility of human life loss.

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