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Pressurization Systems

THE MAIN REASON FOR PRESSURIZING AN AIRCRAFT IS FLEXIBILITY. Being able to select a higher altitude may give you the option of a smoother ride, shorten your flying time, and/or provide an alternative to flying in severe weather or icing conditions. A pressurized aircraft can provide a comfortable cabin environment at significantly higher altitudes than one that is unpressurized, in which the passengers are required to wear oxygen masks.

Pressurization was originally developed in support of the WW-II effort and particularly for use in the high-altitude Boeing B-29 Superfortress bomber. Pressurization allowed the crew to move about the cockpit and passenger compartments in relative comfort while being able to take advantage of the benefits of high-altitude operation, such as more favorable winds, greater wing efficiency, and turbo-supercharged engines.

Today there are a number of light aircraft that feature pressurization systems that result in shorter flying times, lower fuel burns, higher endurance, and weather avoidance. Many pilots feel that they can reap the same benefits simply by having oxygen onboard the aircraft and breathing through individual masks, but there are some subtle physiological drawbacks to doing so.

For one, oxygen masks are both cumbersome and uncomfortable. Using a microphone with a mask is challenging. Having a simple conversation with someone else is difficult enough, as the mask muffles what you are saying. Overall, the effect