course of action in that event is as follows. First, fly the aircraft! Nothing else matters if you lose control of the aircraft. Second, don an oxygen mask and make sure you have oxygen flowing. Third, pause for just a second to shake off the fear, then check the passengers to make sure they are on oxygen. Finally, begin a descent while assessing the situation and determine the best course of action based on cabin temperature, oxygen available, structural condition of the aircraft, weather, distance to the airport, wind conditions at a lower altitude, and the condition of the passengers. Don't underestimate the physiological effect of high-altitude, unpressurized operation on you or your passengers. Your best insurance policy in this type of situation is to have taken the time in advance to be familiar with applicable emergency procedures in the pilot's operating handbook. Also, be aware that a lower altitude frequently means increased turbulence, so descent should be at a reasonable speed, not at V_{ne}.

Another concern about rapid descent is existing structural damage because the airframe may not hold up under high-speed descent. Also remember that as you descend, air density increases and so will the indicated airspeed for a given deck angle.

There are other concerns related to cabin depressurization. If sitting in the freezing cold contemplating a course of action sounds like a great time for a cup of hot coffee, remember that the thermos was sealed at ground pressure, so it is a potential bomb. Don't forget to squawk 7700 on the transponder. If you are in instrument conditions and it becomes necessary to use alternate instrument air, be aware that a large hole in the fuselage can cause the cabin pressure to be lower than ambient due to a venturi effect. Perhaps most often overlooked is a passenger briefing before the flight; a little knowledge can go a long way, especially concerning the use of oxygen and the effects of smoking.

PREFLIGHT AND OPERATIONAL CONSIDERATIONS

During the preflight, make sure the door is properly sealed and the dump switch is off. After engine start, to assure the system will work while still on the ground, set the aircraft altitude controller to 500 feet below field elevation. Now pull the landing gear circuit breaker and increase the rate controller; the system should begin to pressurize the cabin because you have overridden the gear squat switch and tricked it into "thinking" it was flying above the selected altitude. Then test the dump switch to make sure it will work if you should need it in flight. You should never take off in a pressurized condition because the aircraft is not designed for it.

In preparation for takeoff in the Cessna 340, which uses the Garrett AiResearch system, the procedure is somewhat different than in the Cessna 210. AiResearch instructs pilots to select 500 feet above field elevation on the cabin altitude selector and set the cabin rate control knob to the 12 o'clock position. Then start the engines and check for airflow into the cabin to assure it will pressurize after takeoff. There are two reasons for doing this: First, it prevents the pressure "bump" sometimes felt on takeoff as a result of both the safety and outflow valves closing simultaneously. The safety valve, which closes when the gear retracts, is controlled by the squat switch. The outflow valve closes when the cabin reaches the altitude you have requested. If the controller is set to field elevation, both may slam shut simultaneously on takeoff. With the controller set to 500 feet above