through the wings and fuselage, flow control valves to channel airflow to the boots, regulators to control both pressure and vacuum level, and pressure-relief valves.

The boots are fabric-reinforced rubber sheeting bonded and stitched so as to produce parallel, inflatable tubes that may run along the span or the chord. All rows may inflate simultaneously, or they may inflate alternately, but all systems are essentially the same. If you are not experienced at flying in icing conditions, be warned that some dual instruction is necessary before tackling it alone. Handling icing is not as easy as turning on the boots and autopilot. You need to let about a half-inch of ice build up before activating the boots for maximum effectiveness.

For many years there was a concern that activating the boots too often would cause "bridging," a condition where the ice would build up over the extended boots and then become impossible to break up. According to BFGoodrich there is no test data or in-field reports substantiating that concern. Their experience has been that it may take the de-icer more cycles to remove ice, because not enough buildup has occurred, but the ice eventually builds up sufficiently and is removed by cycling.

Preflight

Preflight the boots by visually inspecting them for cracks, rips, tears, bubbles, holes, or separation from the airframe. You are looking for the general condition of the rubber. During the cockpit check, with the engines at runup power and brakes locked, activate the boots. If your system is so equipped, watch the vacuum pressure gauge as the boots inflate. There will be a momentary drop in pressure, but the needle should always stay

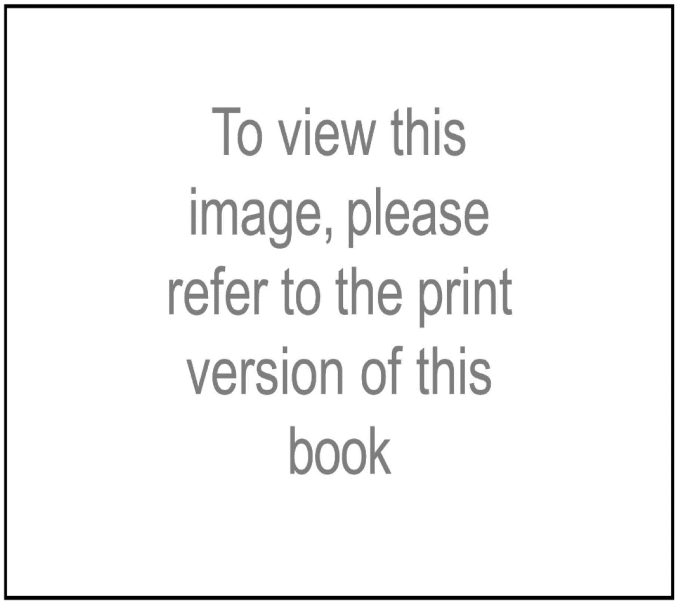

Fig. 13-3. *Pneumatic de-icing system.*