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DATE: 6/26/75

ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

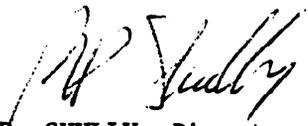
SUBJECT: UNRELIABLE AIRSPEED INDICATIONS

1. **PURPOSE.** The purpose of this Advisory Circular is to alert pilots to the possibility of erroneous airspeed/Mach indications that may be caused by blocking or freezing of the pitot system, and corrective action to be taken.
 2. **BACKGROUND.** Unreliable airspeed/Mach indications may have contributed to one recent serious incident and a fatal accident. A frozen or blocked pitot system may have caused the unreliable indications. These erroneous readings can be so subtle, that a pilot may not detect the problem until it is too late for adequate corrective action. Many pilots may associate a frozen pitot head with symptoms of a rapidly decreasing or zero airspeed indication. This is not always the case, especially when operating high performance aircraft at high altitudes.
 3. **DESCRIPTION.** When blocking or freezing of the pitot system occurs, two situations can develop as follows:
 - a. If the ram air input to the pitot head is blocked, the indicated airspeed may drop to zero; and
 - b. If the ram air input plus the drain hole is blocked, the pressure is trapped in the system and the airspeed indicator may react as an altimeter; e.g.:
 - (1) During level flight, airspeed indication will not change even when actual airspeed is varied by large power changes;
 - (2) During climb, airspeed indication will increase; and
 - (3) During descent, airspeed indication will decrease.
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4. RECOMMENDATIONS. Due to the critical nature of this in-flight problem, pilots should be aware of indications symptomatic of a frozen or blocked pitot system and take the following corrective action:
- a. Emphasis should be on attitude flying when these symptoms are recognized.
 - b. Check position of pitot heat switches and associated circuit breakers.
 - c. If conditions during or shortly after takeoff are conducive to pitot system icing, pitot heat should be on prior to flight.


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