

## CJ2-CJ3 Cabin Heat Issues

In the past 12 months West Star Aviation has had several instances where CJ2-CJ3 operators have had issues controlling the cabin temperature. The common problem has been lack of heat output at altitude which can lead to an uncomfortable flight for both passengers and crew. The system in both models is designed to operate automatically with slight adjustments in cabin temperature and distribution from the crew to maintain optimum cabin temperature in both the cabin and cockpit.

This article discusses the temperature controlling function, and what West Star has discovered as the solution to this common problem. First, when operating the system, Cessna has advised operators to warm the cabin prior to takeoff. When the aircraft is cold soaked, this prevents the cabin temperature from chasing the selected temperature.

The automatic temperature control system consists of a cabin temperature sensor, a duct temperature sensor, a temperature controller, an automatic temperature switch (rheostat) and a ram air valve. During operation in automatic mode the controller tries to maintain the same resistance between the cabin sensor and the duct sensor and adjusts the ram air valve accordingly to achieve the selected temperature. The ram air valve can be also operated by a manual temperature control switch when desired or if the automatic mode operation is not required.

The model specific maintenance manual has several tasks to check the function of the temperature control system to aid in troubleshooting using thermometers, decade boxes and multi-meters. One thing to keep in mind is the goal of this system is to change the ram air valve position in order to change the temperature of the conditioned air entering the cabin. If the operator is having problems in both modes, manual and automatic, the ram air valve may be suspect. Upon reviewing the CESCO 50 report for both models West Star has learned that more than 30 percent of these models have had an unscheduled removal of the ram air valve which is the highest rate of any part in this system. For more information contact Pat Welch (ALN) 618-258-4751.