

United States Department of Agriculture
Forest Service

TECH BULLETIN

OPERATIONS

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DISTRIBUTION: Aviation Operations, Fire and Aviation Personnel, Contract Pilots

SUBJECT: Performance Data for Multi-Engine Airplanes

Discussion: The Accident Investigation of the Aero Commander in Las Vegas 2005 revealed a discrepancy in the use of aircraft performance data. It was discovered that actual temperature at the airport at takeoff exceeded the aircraft manufacturer's performance data that was available to the pilot for preflight planning. Technically, in the case of the AC 680, that flight should not have departed until temperatures returned to within the parameters of the published aircraft performance data, at or under 100 degrees F., in accordance with FAR 135.397 Small Transport Category Airplane Performance Operating Limitations.

It has recently been identified that the AC 500S also has a 40-degree C. (104 degrees F.) limitation in at least one of its performance charts. For that particular aircraft where outside air temperatures exceeds 40 degrees C., FAR 135.397 must be complied with.

Federal Aviation Regulation CFR 14 FAR 135.83 **Operating Information Required** also states: (a) The operator of an aircraft must provide the following materials in current and appropriate form, accessible to the pilot at the pilot station, and the pilot shall use them: (a) .5 "For multi-engine aircraft, one engine inoperative climb performance data.

Additionally, the FAR goes on to require compliance with FAR 135.181 when operating multi-engine airplanes under IFR conditions. That regulation states; "No person may operate a multi-engine aircraft carrying passengers over-the-top or in IFR conditions at a weight that will not allow it to climb, with the critical engine inoperative, at least 50 feet a minute when operating at the MEAs of the route to be flown or 5000 feet MSL, whichever is higher". **Note that many reciprocating engine aircraft commonly used in firefighting may be operationally restricted by this performance requirement.**

These regulations must be complied with in accordance with the specifications of USDA Forest Service and Department of Interior contract requirements that stipulate compliance with the contractor's FAR 135 Operations Specifications.

ACTION NEEDED:

1. All contracted multi-engine airplane pilots should review the performance data for the make/model aircraft they fly to determine if similar anomalies exist in the available POH data.
2. Aircraft that are required to operate in accordance with the contractor's FAR 135 Operations Specifications **must be** operated within the scope of the data provided by the manufacturer's operating handbook.
3. Missions will not be conducted when performance data cannot be produced in accordance with FAR 135.83 (a) (5) and 135.397; or when IFR aircraft, critical engine out performance cannot meet the requirement of FAR 135.181.

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