



U.S. Department
of Transportation
**Federal Aviation
Administration**

Memorandum

Subject: ACTION: Equivalent Level of Safety
Beech 1900D Instrument Arrangement;
ACE-90-5

Date: **DEC 18 1990**

From: Manager, Wichita Aircraft Certification
Office

Reply to
Attn. of: Sorensen
316-946-4433

To: Manager, Small Airplane Directorate
Aircraft Certification Services, ACE-100

Background:

Beech Aircraft Corporation, manufacturer of the Model 1900D proposes to locate their airspeed and altimeter instruments slightly below a horizontal line through their attitude instrument.

Applicable Regulation:

The applicable Federal Aviation Regulation (FAR) paragraph states:

23.1321....

(d)...

(2) The instrument that most effectively indicates airspeed must be adjacent to and directly to the left of the instrument in the top center position,

(3) The instrument that most effectively indicates altitude must be adjacent to and directly to the right of the instrument in the top center position;...

Applicant's Position

Based upon guidance from our office (ACE-115W), the instrument panel has been designed with the criteria that the altimeter and airspeed instruments may be located no more than 10° above or 15° below (+10°/-15° deviation from) a horizontal line through the center of the attitude instrument.

Arrangements with these limits have been accepted in Beech Model 300, B300, 1900 and 1900C airplanes by grants of equivalent levels of safety.

FAA Position

The Beech proposal is consistent with earlier approved designs. It is also in compliance with the November 4, 1988, memo, Manager ACE-100 to Manager ACE-115W, which recognizes up to +10°/-15° deviation from the horizontal as acceptable from satisfactory service experience and research.

Recommendation

We concur that the Beech proposal of limiting altimeter and airspeed instruments to a +10°/-15° deviation or less from the horizontal as providing an equivalent level of safety as envisioned in the regulations and thus meets the requirements of paragraph 23.1321 (d) of the FAR.

Concurred by

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