

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
KANSAS CITY, MISSOURI 64106

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In the matter of the petition of *
*
RAISBECK ENGINEERING *
* Regulatory Docket No. 107CE
*
for an exemption from § 23.473(c) *
of the Federal Aviation Regulations *

GRANT OF EXEMPTION

By letter dated April 3, 1992, Mr. James D. Raisbeck, on behalf of Raisbeck Engineering, 7675 Perimeter Road South, Boeing Field International, Seattle, Washington 98108, petitioned for an exemption from § 23.473(c) of the Federal Aviation Regulations (FAR). Raisbeck is seeking supplemental type certification of various Beech Aircraft Corporation airplanes having a landing weight less than 95 percent of the maximum takeoff weight without installing a fuel jettisoning system.

The petitioner requires relief from the following regulations:

Section 23.473(c) requires, in pertinent part, that multiengine airplanes having a design landing weight less than 95 percent of the maximum weight have a fuel jettisoning system installed.

The petitioner supports its request with the following information:

Raisbeck Engineering is seeking a supplemental type certificate to increase, by up to 1000 pounds, the maximum weight of Beech Model 99, B99, C99, 100, A100, and B100 airplanes as defined by Type Certificate Data Sheet (TCDS) A14CE, and the F90 airplane, as defined by TCDS A31CE. Section 23.473(c) of the FAR permits the design landing weight of multiengine airplanes to be less than 95 percent of the maximum weight if certain requirements are met; among them is the requirement for a fuel jettisoning system to be installed. Raisbeck is petitioning for exemption from § 23.473(c) which, in pertinent part, requires a fuel jettisoning system be installed. Raisbeck offers to substitute the climb requirements incorporated by reference in § 25.1001(a) of the FAR.

The following is extracted verbatim from the petition:

"For Transport Category airplanes the fuel jettisoning requirements of 4b.437 were changed with FAR Part 25. This change removed the requirement for a fuel jettisoning system for transport airplanes as long as specific climb gradients are satisfied. This change has been shown to have resulted in an equivalent level of safety for transport category airplanes. Therefore, incorporation of these same provisions (specific approach and landing climb performance requirements in lieu of a fuel jettisoning system) for normal category airplanes will also result in an equivalent level of safety.

"Granting of this exemption is in the public interest since:

- a) Incorporation of a fuel jettisoning system, by itself, does not guarantee that a specific takeoff will have go-around capability in event of an immediate return to the field whereas requiring specific climb gradients will assure this capability.
- b) Dumping of fuel is not environmentally acceptable from the view-points of a wasted resource and air/ground/water pollution. Transport aircraft experience has shown that fuel dumping is not necessary to assure safety of the flight.
- c) The costs to the public associated with increasing the utility of the airplane (increased payload range) will be substantially lower without a fuel jettisoning system.
- d) The safety concerns in event of an inadvertent fuel dump far outweigh the potential benefit of protecting the airplane from an overweight landing in the event of an immediate return to the takeoff field.

"Any structural strength concern about overweight landings is addressed in FAR 25.473(a) by requiring the structure to be designed for sink rate of 10 ft/sec at design landing weight and 6 ft/sec at design takeoff weight. Raisbeck Engineering will substantiate the structure to these limits."

Comments on published petition summary:

A summary of this petition was published in the FEDERAL REGISTER for public comment on June 2, 1992 (57 FR 23252). The comment period closed June 22, 1992. No comments were received.

The Federal Aviation Administration's (FAA) analysis is as follows:

To obtain the exemption, Raisbeck must show, as required by § 11.25(b)(5), that: (1) granting the request is in the public interest, and (2) the exemption will not adversely affect safety, or that a level of safety will be provided that is equal to that provided by the rule from which the exemption is sought.

The FAA has reviewed and evaluated the information contained in the petition. The major thrust of Raisbeck's supportive data is:

1. Transport category airplanes with specific climb requirements have been shown to be safe without fuel jettisoning systems.
2. Incorporation of these same provisions (climb requirements incorporated by reference in § 25.1001(a) instead of a fuel jettisoning system) in normal category airplanes will provide a level of safety equivalent to that of transport category airplanes.

The FAA accepts the argument set forth in the supportive data.

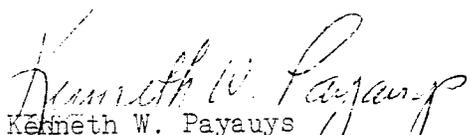
In consideration of the foregoing, I find that a grant of exemption is in the public interest and will not adversely affect safety. Therefore, pursuant to the authority contained in Sections 313(a) and 601(c) of the Federal Aviation Act of 1958, as amended, delegated to me by the Administrator (14 CFR 11.53), Raisbeck Engineering is granted an exemption from § 23.473(c) of the FAR to the extent necessary to permit supplemental type certification of Beech Model 99, B99, C99, 100, A100, B100, and F90 airplanes having a landing weight of less than 95 percent of the maximum takeoff weight without installing a fuel jettisoning system. This exemption is subject to the following conditions and limitations:

1. In the landing configuration, the steady gradient of climb may not be less than 3.2 percent with the engines at the power or thrust that is available eight seconds after initiation of movement of the power or thrust controls from the minimum flight idle to the takeoff position and a climb speed of not more than $1.3V_s$.
2. In the approach configuration corresponding to the normal all-engines-operating procedure in which V_s for this configuration does not exceed 110 percent of the V_s for the related landing configuration, the steady gradient of climb may not be less than 2.1 percent with the critical engine

inoperative, the remaining engine at the available takeoff power or thrust, the maximum landing weight, and a climb speed established in connection with normal landing procedures, but not exceeding $1.5 V_s$.

3. In addition to the structural requirements of FAR Part 23, the structure shall be shown to be adequate for landing at a sink rate of 10 feet per second at design landing weight and 6 feet per second at the design takeoff weight for the conditions identified in §§ 23.479, 23.481, 23.483, and 23.485.

Issued in Kansas City, Missouri on May 25, 1993.



Kenneth W. Payauys
Acting Manager, Small Airplane Directorate
Aircraft Certification Service