



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

Small Airplane Directorate
901 Locust St., Room 301
Kansas City, MO 64106

April 11, 2012

Exemption No. 5146B
Regulatory Docket No. FAA-2012-0054

Nathan Lachendro
Program Manager
Raisbeck Engineering Inc.
4411 S. Ryan Way
Seattle, WA 98178

Dear Mr. Lachendro:

This letter is to inform you that we have granted your request for exemption. It transmits our decision, explains its basis, and gives you the conditions and limitations of the exemption, including the date it ends.

The Basis for Our Decision

By letter dated January 17, 2012, you petitioned the Federal Aviation Administration (FAA) on behalf of Raisbeck Engineering Inc. (REI) for an exemption from Civil Aviation Regulation (CAR) § 3.242(b). The exemption would allow REI to seek an amendment to existing Exemption No. 5146A in order to extend the applicability to include Hawker Beechcraft (HBC) models C90GT and C90GTi. This will allow REI a gross weight increase to 10,500 pounds and thereby be compatible with the earlier STC. CAR § 3.242(b) requires a fuel-jettison capability; instead, the exemption would allow a positive climb gradient per 14 CFR Part 25.1001(a).

The FAA has determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to REI.

The FAA has issued a grant of exemption in circumstances similar in all material respects to those presented in your petition. In Grant of Exemption Nos. 5146 and 5146A (copies enclosed), the FAA found that by limiting this exemption to only HBC models C90GT and C90GTi aircraft equipped with four-bladed Hartzell D8990 propeller blades and

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demonstrating the climb requirements of the previous exemptions, this requirement is substantially similar to the earlier exemptions.

The petitioner supports its request with the following information:

“REI seeks amendment to existing Exemption No. 5146A in order to extend the applicability to include the HBC model C90GT and C90GTi. This will allow REI’s current gross weight increase STCs to be compatible with these aircraft. The existing exemption references Beech models B90, C90, C90A and E90. Since the issuance of this exemption, HBC has introduced the C90GT and C90GTi as new models under Type Certificate Data Sheet (TCDS) 3A20. These newer models are C90A airframes equipped with new engines, avionics and interior. The C90GT and C90GTi along with all of the 90 models listed in the exemption share the same certification basis for CAR 3.242(b). The differences of the C90GT and C90GTi do not affect the requirement of the exemption letter to incorporate part 25 climb requirements. It is important to note that the differences between the B90, C90, C90A and E90 are primarily engine type and weight limitations. The C90GT and C90GTi therefore do not change the certification assumptions as it relates to the applicability of the exemption.

The grant of the existing exemption was found to be in the public’s interest. The addition of the C90GT and C90GTi would also be in the public’s interest considering they are the current production models and by denying their applicability would incur the same undue consequences, namely and verbatim:

- (1) 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.
- (2) Dumping of fuel is not environmentally acceptable from the viewpoints 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.
- (3) 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.
- (4) 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.
- (e) The grant of the existing exemption was found not to affect safety. The addition of the C90GT and C90GTi would also not affect safety since those aircraft are essentially identical in type design, construction and certification basis as the earlier models.”

Having reviewed your reasons for requesting an exemption, I find that—

- they are similar in all material respects to relief previously requested in the enclosed Grant of Exemption Nos. 5146 and 5146A.
- the reasons stated by the FAA for granting the enclosed Grant of Exemption Nos. 5146 and 5146A also apply to the situation you present; and

- a grant of exemption is in the public interest.

Our Decision

Under the authority contained in 49 U.S.C. 40113 and 44701, which the FAA Administrator has delegated to me, I hereby grant Raisbeck Engineering Inc. an exemption from Civil Aviation Regulation 3.242(b) to the extent necessary to permit supplemental type certification of the Hawker Beechcraft (HBC) models C90GT and C90GTi equipped with Hartzell 4-bladed D8990(K)* propellers with a landing weight of less than 95 percent of the maximum takeoff weight without installing a fuel jettison system. This exemption is subject to the conditions and limitations described below.

Conditions and Limitations

1. The climb requirements included by reference in 14 CFR 25.1001(a) must be satisfied.
2. The maximum takeoff weight, as specified in CAR 3.242(b) may be as high as 10,500 pounds.

Sincerely,



Earl Lawrence
Manager, Small Airplane Directorate
Aircraft Certification Service

Enclosures

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. 076CE
*
for an exemption from a portion of *
§ 3.242(b) of the Civil Air *
Regulations *
*

GRANT OF EXEMPTION

By letter dated November 7, 1989, Mr. L. M. Timmons on behalf of Raisbeck Engineering, 7675 Perimeter Road South, Boeing Field International, Seattle, Washington 98108, petitioned for an exemption from a portion of § 3.242(b) of the Civil Air Regulations (CAR). Raisbeck is seeking supplemental type certification of various Beech Aircraft Corporation Model 90 series airplanes having a landing weight less than 95 percent of the maximum takeoff weight without installing a fuel jettisoning system.

Section of the CAR affected:

Section 3.242(b) requires, in pertinent part, that multiengine airplanes having a design landing weight less than 95 percent of the maximum weight comply with the fuel jettisoning system requirements of CAR § 4b.437.

The Petitioner's supportive information is as follows:

Raisbeck Engineering is seeking a supplemental type certificate to increase by up to 1000 pounds, the maximum weight of Beech Model B90, C90, C90A and E90 airplanes, as defined by Type Certificate Data Sheet (TCDS) No. 3A20. Section 3.242(b) of the CAR permits the design landing weight of multiengine airplanes to be less than 95 percent of the maximum weight if certain requirements are satisfied; among them is the

requirement for a fuel jettisoning system in accordance with CAR § 4b.437. Raisbeck is petitioning for an exemption from that portion of CAR § 3.242(b) requiring compliance with CAR § 4b.437 and offers to substitute the climb requirements incorporated by reference in § 25.1001(a) of the Federal Aviation Regulations (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 viewpoints 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 both CAR 4b.230 and FAR 25.473(a) by requiring the structure to be designed for a 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 the petition was published in the FEDERAL REGISTER for public comment on January 11, 1990 (55 FR 1135). The comment period closed January 31, 1990. 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) of the FAR 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 which is equal to that provided by the rule from which the exemption is sought.

The FAA has carefully reviewed and evaluated the information contained in Raisbeck's petition. The major thrust of Raisbeck's supportive data is: since transport category airplanes with specific climb gradients and without fuel jettisoning systems have been shown to be safe, the incorporation of such provisions (i.e., specific climb gradients in the absence of a fuel jettisoning system) will result in an equivalent level of safety for normal category airplanes.

The FAA agrees that transport category airplanes without fuel jettisoning systems have been shown to be safe. Notice 67-51 (32 FR 17487, December 6, 1967) resulted in amendment 25-18 to FAR Part 25 (33 FR 12224, August 30, 1968). Amendment 25-18 deleted the requirement for a fuel jettisoning system for transport category airplanes that can meet specific approach and landing climb requirements at maximum takeoff weight minus the weight of fuel consumed during a 15-minute takeoff, go-around, and landing at the airport of departure.

The salient difference between transport category airplanes and normal category airplanes, as it relates to this matter, is identified in the preamble to Notice 67-51, thus:

"Service experience with airplanes certificated under the current regulations and under the various exemptions to these regulations has shown that the structural design requirements applicable to transport category airplanes provide sufficient structural strength for landings at weights up to the maximum takeoff weight established for these airplanes."

In the absence of data showing that design requirements for normal category airplanes provide sufficient structural strength for landings at weights up to maximum takeoff weight, Raisbeck must substantiate the structure at a sink rate of 10 feet per second at a weight equal to maximum landing weight (per TCDS 3A20) plus 1000 pounds minus the weight of fuel consumed during a 15-minute takeoff, go-around, and landing. This is among other conditions and limitations defined below.

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 § 3.242(b) of the Civil Air Regulations to the extent necessary to permit supplemental type certification of Beech Model B90, C90, C90A, and E90 airplanes having a landing weight less than 95 percent of the maximum takeoff weight without installing a fuel jettisoning system. For Beech Model B90, C90, C90A, and E90 airplanes, this exemption is subject to the following conditions and limitations:

1. The climb requirements included by reference in FAR § 25.1001(a) must be satisfied.
2. The maximum weight as specified in CAR § 3.242(b) shall be the maximum takeoff weight identified on TCDS 3A20 plus 1000 pounds.

3. The weight to be used in place of design landing weight specified in CAR § 3.242(b) shall be the maximum landing weight identified on TCDS 3A20 plus 1000 pounds minus the weight of fuel consumed during a 15-minute takeoff, go-around, and landing.

Issued in Kansas City, Missouri on February 20, 1990.



Barry D. Clements, Manager
Small Airplane Directorate
Aircraft Certification Service

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

*
In the matter of the petition of *
*
RAISBECK ENGINEERING *
* Regulatory Docket
for an exemption from a portion of * No. 076CE
*
Section 3.242 of the Civil Air *
*
Regulations *

GRANT OF AMENDMENT TO 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 amendment to remove a condition in the grant of exemption from a portion of Section 3.242(b) of the Civil Air Regulations (CAR). Raisbeck is seeking supplemental type certification of various Beech Aircraft Corporation Model 90 series 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 3.242(b) of the CAR requires, in pertinent part, that multiengine airplanes having a design landing weight less than 95 percent of the maximum weight comply with the fuel jettisoning system requirements of CAR Section 4b.437.

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 B90, C90, C90A, and E90 airplanes, as defined by Type Certificate Data Sheet (TCDS) No. 3A20. Section 3.242(b) of the CAR permits the design landing weight of multiengine airplanes to be less than 95 percent of the maximum weight if certain requirements are satisfied; among them is the requirement for a fuel jettisoning system in accordance with CAR Section 4b.437. Raisbeck petitioned

for an exemption from that portion of CAR Section 3.242(b) requiring compliance with CAR Section 4b.437 and offered to substitute the climb requirements incorporated by reference in Section 25.1001(a) of the Federal Aviation Regulations (FAR).

Exemption No. 5146 granted the petitioner's request subject to the following conditions:

1. The climb requirements included by reference in FAR Section 25.1001(a) must be satisfied.
2. The maximum weight as specified in CAR Section 3.242(b) shall be the maximum takeoff weight identified on TCDS 3A20 plus 1000 pounds.
3. The weight to be used in place of design landing weight specified in CAR Section 3.242(b) shall be the maximum landing weight identified on TCDS 3A20 plus 1000 pounds minus the weight of fuel consumed during a 15-minute takeoff, go-around, and landing.

The petitioner contends that condition nos. 1 and 2 are sufficient to provide the requisite level of safety and that condition no. 3 adds unnecessary stringency. The petitioner asks the FAA to amend exemption no. 5146 to remove condition no. 3.

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:

The FAA has reviewed and re-evaluated exemption No. 5146.

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

The FAA, thus, has determined that condition nos. 1 and 2 of

exemption no. 5146 are sufficient to provide the requisite level of safety and that condition no. 3 adds unnecessary stringency.

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

In consideration of the foregoing, I find that a grant of amendment to exemption no. 5146 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 Section 3.242(b) of the Civil Air Regulations to the extent necessary to permit supplemental type certification of the Beech Model B90, C90, C90A, and E90 airplanes, having a landing weight less than 95 percent of the maximum takeoff weight without installing a fuel jettisoning system. For Beech Model B90, C90, C90A, and E90 airplanes, this exemption is subject to the following conditions:

1. The climb requirements included by reference in FAR Section 25.1001(a) must be satisfied.
2. The maximum weight, as specified in CAR Section 3.242(b) shall be the maximum takeoff weight identified on TCDS 3A20 plus 1000 pounds.

Issued in Kansas City, Missouri on August 21, 1992.

/s/ Barry D. Clements, Manager
Small Airplane Directorate
Aircraft Certification Service