

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

In the matter of the petition of

Northwest Turbines LLC

for exemption from § 23.973(f)
of Title 14, Code of Federal Regulations

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* Regulatory Docket No. FAA-2004-18798

DENIAL OF EXEMPTION

By letter dated March 29, 2004, Mr. Darwin Conrad, Northwest Turbines LLC, 6427 Rutter Road, Felts Field Airport, Spokane, WA 99212 petitioned for an exemption from § 23.973(f) of Title 14 of the Code of Federal Regulations (CFR) to permit type certification of the Beech Model B60 airplanes as modified under Supplemental Type Certificate (STC) ST5492SE-A with fuel tank filler connection openings smaller than the 2.95 inches specified in the rule.

The petitioner requires relief from the following regulation(s):

Section 23.973(f), in pertinent part, requires the inside diameter of the fuel filler opening to be no smaller than 2.95 inches for turbine engine powered airplanes.

The petitioner supports its request with the following information:

Statement of Requirement:

14 CFR, part 23, § 23.973(f) states, "For airplanes with turbine engines, the inside diameter of the fuel filler opening must be no smaller than 2.95 inches."

The present fuel filler inside diameter is 2.375 inches to preclude the introduction of turbine engine fuel (Jet-A or similar) into the fuel system that supplies a reciprocating engine.

Discussion:

Northwest Turbines LLC has submitted an application for a STC to install Pratt & Whitney Canada PT-6 engines in Beech Model B60 airplanes.

The certification basis was determined to be the original certification basis of the airplane as given in Type Certificate Data Sheet (TCDS) A12CE. In addition, Northwest Turbines volunteered compliance with the requirements of part 23 given in Advisory Circular (AC) 23-14, at the amendment levels in effect on December 15, 2000, the date of application. The fuel tank filler connection inside diameter requirements were imposed by amendment 23-43, and consequently are part of the certification basis for this project.

Rationale for an Exemption from this Requirement:

The requested exemption from strict compliance with the requirements of 14 CFR, part 23, § 23.973(f) is based on the following points:

1. The large filler diameter will not preclude the introduction of Av-gas in a system intended for Jet-A.
2. Av-gas is an approved emergency fuel for the PT6-21 and -35 engines installed by this project, consequently it is not possible to misfuel this aircraft.
3. All fuel tank fillers will be placarded for Jet-A, which will fulfill the goal of, providing a visual cue for the use of Jet-A fuel.
4. The modified fuel system will be tested to the pressure requirements associated with Av-gas to ensure that a mistaken introduction of this fuel will not have a detrimental effect on engine performance or safety of flight.

Equivalent Level of Safety:

Since the modified airplane will be able to use any possible fuel that is placed in the system without a performance penalty, and since the design and certification of the modification was based on the worst-case fuel (100LL), the level of safety associated with this airplane is not affected by this proposed exemption.

Public Interest:

Since the fuel tanks involved are bladder tanks, strict compliance with the requirements of 14 CFR, part 23, § 23.973(f) places a severe economic penalty on Northwest Turbines

LLC with no corresponding increase in safety. Strict compliance with this regulation, therefore, imposes an undue burden on a small business, and serves to stifle ingenuity and resourcefulness of a small business.

Comments on published petition summary:

A summary of this petition was published in the FEDERAL REGISTER for public comment on September 14, 2004 (69 FR 55488). The comment period closed October 4, 2004. No comments were received.

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

To obtain this exemption, the petitioner 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 rules from which the exemption is sought.

A similar petition for exemption to 14 CFR, part 23, § 23.973(f) for the Beechcraft A36, A36TC and B36TC airplanes was granted on June 26, 2003. Subsequent to the grant of exemption, Beechcraft Mandatory Service Bulletin (MSB) No. 2045, Rev III, dated May 1989 was discovered. The Beechcraft MSB No. 2045, Rev III, addresses the installation of fuel filler neck restrictors to reduce the fuel filler neck size to 2.375 inches. The effectivity of Beechcraft MSB No. 2045, Rev III, includes the Beechcraft Bonanza 36, A36, A36TC, B36TC as well as the Beechcraft Duke 60, A60 and B60. The airplanes cited in the Beechcraft MSB No. 2045, Rev III, were originally equipped with three inch diameter fuel filler necks. Based upon the information uncovered in the Beechcraft MSB No. 2045, Rev III, this previously granted exemption likely would not have been granted.

The FAA has carefully reviewed the information contained in the petitioner's request for exemption.

The FAA disagrees with the petitioner's argument.

- The exemption is not in the public interest, but rather only provides financial relief to Northwest Turbines, LLC.
- The exemption would require the aircraft operator to use an adapter when fueling the aircraft with turbine fuel, the primary fuel. Turbine fuel nozzles ("J" nozzles) are larger in diameter than Av-gas nozzles, hence the reason for the rule. The use of an adapter for the aircraft's primary fuel does not provide a level of safety that is equal to that provided by the rule from which the exemption is sought.
- The Beechcraft Duke 60, A60 and B60 were originally equipped with three inch diameter fuel filler necks. Beechcraft Mandatory Service Bulletin (MSB)

- No. 2045, Rev III, Dated May 1989 installed fuel filler neck restrictors to reduce the fuel filler neck size to 2.375 inches. The MSB quotes the time to install the filler neck restrictors is estimated to be 0.5 manhours, thus there will be an approximately equivalent time to remove. The Beechcraft 60, A60 and B60 Duke in their original configuration, prior to incorporation of the MSB, are compliant with 14 CFR, part 23, § 23.973(f) when using turbine fuel.

In consideration of the foregoing, I find that a grant of exemption, as requested, is not in the public interest nor maintains the level of safety required by the rule from which the exemption is sought. Therefore, pursuant to the authority contained in 49 U.S.C. §§ 40113 and 44701, as amended, delegated to me by the Administrator (14 CFR § 11.53), the petition of Northwest Turbines LLC for an exemption from 14 CFR, part 23, § 23.973(f) is hereby denied.

Issued in Kansas City, Missouri on February 15, 2005.



Nancy C. Jane
Acting Manager, Small Airplane Directorate
Aircraft Certification Service