

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

In the matter of the petition of

**DIAMOND AIRCRAFT
INDUSTRIES GmbH,
(DIAMOND AIRCRAFT)**

for an exemption from § 23.1419(a)
of Title 14, Code of
Federal Regulations

Regulatory Docket No. FAA-2006-25568

GRANT OF EXEMPTION

By letter dated August 7, 2006, Mr. Manfred Reichel, Chief, Office of Airworthiness, Diamond Aircraft Industries GmbH, (Diamond Aircraft), N.A. Otto-Strasse 5, A-2700 Weiner-Neustadt, Austria, petitioned the Federal Aviation Administration (FAA) on behalf of Diamond Aircraft for an exemption from § 23.1419(a) of Title 14, Code of Federal Regulations (14 CFR). The proposed exemption, if granted, would allow a stall speed above 61 knots in the landing configuration (V_{SO}), in icing conditions.

The petitioner requests relief from the following regulation:

Section 23.1419(a) prescribes that airplane performance, controllability, maneuverability, and stability must not be less than that required in part 23, subpart B, in the icing conditions defined in part 25, Appendix C. Section 23.49 is included in subpart B performance, and 23.49(c) requires V_{SO} to be 61 knots or less for the Diamond Aircraft model DA-42.

The petitioner supports its request with the following information:

The petitioner states that compensating features in support of the requested exemption are listed in FAA Advisory Circular (AC) 23.1419-2C. The guidance in the AC is written for single engine airplanes, however the petitioner states this guidance should also be applicable to multi-engine airplanes. The petitioner states granting the

exemption would benefit the public by increasing the utility of an airplane that incorporates new technologies which enhance safety, such as avionics that increase situational awareness. The utility of the airplane in icing would be reduced if the exemption were not granted because the weight of the airplane, and therefore the payload, would be reduced. The petitioner states safety is not adversely affected because the model DA-42 has all the compensating features listed in the AC.

Although the petitioner requested that action on its petition not be delayed for publication in the Federal Register, the FAA found that the petition, if granted, would set a precedent. Therefore, to allow an opportunity for the public to comment on the petition, a summary of this petition was published in the Federal Register on September 6, 2006 (71 FR 52609). No comments were received.

The FAA's analysis is as follows:

The FAA finds that the model DA-42 incorporates the compensating features listed in Advisory Circular 23.1419. However, in order to assure the model DA-42 complies with the 5 knot minimum margin of 14 CFR § 23.207(c), with critical ice accretions, the stall warning margin on the airplane with no ice accretions must be above 9 knots indicated airspeed. The stall warning margin must be less than 12 knots indicated airspeed to comply with the maneuver margin requirements in 14 CFR § 23.207(d).

The FAA's Decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. §§ 40113 and 44701, delegated to me by the Administrator, Diamond Aircraft Industries GmbH is granted an exemption from 14 CFR § 23.1419(a) to the extent necessary to allow Diamond Aircraft to certificate the ice protection system on the model DA-42, subject to the conditions and limitations listed below.

Conditions and Limitations

1. Production model DA-42 airplanes, prior to being approved for flight in icing conditions, must be demonstrated to have a stall warning margin of 9 to 12 knots indicated airspeed, with no ice, as described on either:
 - a. Pages 18 and 20-22 of Work Instruction WI-OSB-42-015 "Ice Protection System" in Diamond Aircraft Optional Service Bulletin OSB-42-015/3 (revision 3), dated January 16, 2008.
 - b. Diamond Aircraft model DA-42 production test card for "4.)Stall – Test," Form# IG.001DA42 D, Chapter 3, Revision 11, page 5 of 8.

Issued in Kansas City, MO, on February 22, 2008.

S/

Patrick R. Mullen, Acting Manager
Small Airplane Directorate
Aircraft Certification Service