

Exemption No. 10036

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-2010-0088

GRANT OF EXEMPTION

By letter dated September 23, 2009, Mr. Robert Kreminitzer, 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 for the model DA-42 NG aircraft. V_{SO} means the stalling speed or the minimum steady flight speed obtained in a specific configuration, as defined in 14 CFR part 1, § 1.2.

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)(2) 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) 23.1419-2D, paragraph 13.a.(1)(c). Some of the compensating features include the following:

1. The airplane with no ice accretions meets the 61 knot stall speed requirement of § 23.49(c).
2. The airplane with critical ice accretions (as defined in paragraph 13b of AC 23.1419-2D) complies with the stall warning requirement of § 23.207. The model DA-42 NG forward center of gravity limit was revised to comply with this requirement.
3. The Airplane Flight Manual performance data in icing conditions reflects the higher stall and operating speeds.
4. The airplane with critical ice accretions has acceptable stall characteristics and is safely controllable with normal piloting skills.

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.

The Diamond Aircraft DA-42 NG is a derivative of the Diamond Aircraft DA-42. A similar exemption request was granted for the Diamond Aircraft DA-42 (Exemption No. 9623) in 2008. A summary of the DA-42 exemption petition was published in the FEDERAL REGISTER on September 6, 2006 (71 FR 52609). A similar exemption request was granted for the Cirrus Design Corporation SR22 (Exemption No. 9849) in 2009. A summary of the SR22 exemption petition was published in the FEDERAL REGISTER on February 17, 2009 (74 FR 7534). No comments were received for either exemption request. An Equivalent Level of Safety (ELOS) (No. ACE-02-10) was granted to the Extra 400 in 2002 prior to the FAA position that an exemption, not an ELOS, is appropriate. Since the exemption request on the model DA-42 NG is the same as previous requests, and the model DA-42 NG incorporates the compensating features listed in Advisory Circular 23.1410-2D, and granting the DA-42 NG petition does not set a precedent, we determined that we should not delay action on it by republishing it for public comment.

The FAA's analysis is as follows:

The FAA finds that the model DA-42 NG, as modified by the type design change defined by FAA project TD0326CE-A, incorporates the compensating features listed in Advisory Circular 23.1419-2D, paragraph 13.a.(1)(c).

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 certification of the ice protection system on the model DA-42 NG, subject to the conditions and limitations listed below.

Conditions and Limitations

1. Production model DA-42 NG airplanes, prior to being approved for flight in icing conditions, must be demonstrated to have a minimum stall warning margin of 10 knots indicated airspeed, with no ice, and no nuisance stall warning during normal operations as described in Diamond Aircraft model DA-42 NG /M-NG production test card for "4.) Stall – Test," Form# IG.001DA42 NG /M-NG, Chapter 4, Revision 4, page 5 of 8.

Issued in Kansas City, MO on March 23, 2010.

s/

Steve Thompson
Acting Manager, Small Airplane Directorate
Aircraft Certification Service

