

Exemption No. 17118

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, DC 20591

In the matter of the petition of

**Diamond Aircraft Industries
GmbH**

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

Regulatory Docket No. FAA 2016-7399

GRANT OF EXEMPTION

By letter dated June 2, 2016, Mr. Robert Kremnitzer, Chief, Office of Airworthiness, Diamond Aircraft Industries GmbH (Diamond Aircraft), N.A. Otto-Straße 5, A-2700 Wiener 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 exempt the Diamond Aircraft model DA 62 airplane from the 61-knot maximum landing configuration stall speed requirement with ice accretions.

The petitioner requests relief from the following regulation:

Section 23.1419 prescribes, in pertinent part, that—

“If certification with ice protection provisions is desired, compliance with the requirements of this section and other applicable sections of this part must be shown:

(a) An analysis must be performed to establish, on the basis of the airplane's operational needs, the adequacy of the ice protection system for the various components of the airplane. In addition, tests of the ice protection system must be conducted to demonstrate that the airplane is capable of operating safely in continuous maximum and intermittent maximum icing conditions, as described in appendix C of part 25 of this chapter. As used in this section, “Capable of operating safely,” means that airplane performance, controllability, maneuverability, and stability must not be less than that required in part 23, subpart B.”

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 installed ice protection system and no ice accretions meets the 61 knot stall speed requirement of § 23.49(c).

2. By means of flight tests, it has been shown the airplane with its heated stall warning device and with critical ice accretion and pre-activation ice complies with the warning requirements of § 23.207. No bias in the stall warning schedules to maintain adequate stall warning margins is necessary.

3. The Airplane Flight Manual operational and performance data in icing conditions reflects the higher stall and operating speeds.

4. Most importantly the airplane with critical ice accretions has acceptable stall characteristics and is safely controllable with normal piloting skills as required by § 23 .201.

The petitioner added that the DA 62 offers the public an additional variant to an airplane with safety enhancing features, including new technologies such as advanced avionics and simplified engine controls, which should reduce the number of fatal accidents in general aviation based on loss of situational awareness or pilot high workload. The twin-engine reliability and approval for flight into known icing conditions would also increase the airplane's utility usable by operators in the United States

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 August 2, 2016 (81 FR 50784). No comments were received.

The FAA's analysis is as follows:

The FAA finds that the DA-62, as modified by the type design change defined by FAA project AT00755CE-A, is a derivative of the models DA-42, DA-42 NG, and DA-42 M-NG. Similar exemptions were granted for the DA-42,¹ DA-42 NG,² and DA-42 M-NG.³ The difference is that the DA-62 landing configuration stall speed with no ice exceeds 61 knots. However, this higher stall speed was used to comply with the emergency landing dynamic conditions of § 23.562(d), and therefore, the DA-62 with no ice complies with § 23.49(d) and the exception defined in § 23.49(c).

¹ Exemption No. 9623, February 22, 2008

² Exemption No. 10036, March 23, 2010

³ Exemption No.10037, March 29, 2010

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. §§ 106(f), 40113 and 44701, delegated to me by the Administrator, Diamond Aircraft Industries GmbH is granted an exemption from 14 CFR § 24.1419(a) to the extent necessary to allow Diamond Aircraft to certify the ice protection system on the DA-62, subject to the conditions and limitations listed below.

Conditions and Limitations

1. Production model DA 62 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 62 production test card for "4) Stall - Test, " Form# IG.001 DA62, Chapter 4, Revision 1, page 5 of 8, or later revision.

Issued in Kansas City, MO, on October 3, 2016.

//SIGNED//

Pat Mullen
Acting Manager, Small Airplane Directorate
Aircraft Certification Service