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SUPERIOR COURT FOR THE STATE OF CALIFORNIA

FOR THE COUNTY OF ALAMEDA

CENTER FOR ENVIRONMENTAL HEALTH,

Plaintiff,

v.

AERODYNAMIC AVIATION, *et al.*,

Defendants.

Case No. RG-11-600721

DECLARATION OF ROBERT KREMNITZER IN SUPPORT OF DEFENDANTS' OPPOSITION TO MOTION TO ENFORCE AND MODIFY CONSENT JUDGMENT

Date: February 4, 2025
Time: 01:30 p.m.
Reservation Number: 690015831804

Complaint Filed: October 20, 2011

DECLARATION OF ROBERT KREMNITZER

I, Robert Kremnitzer, declare:

1. I am the Head of Design Organization, at Diamond Aircraft Industries GmbH in Austria (together with its affiliates including Diamond Aircraft Industries Inc., referred to as "Diamond" in this declaration). I submit this declaration in support of Settling Defendant's Opposition to Plaintiff Center for Environmental Health's ("CEH") Motion to Enforce and Modify Consent Judgment in the above-captioned matter. I have personal knowledge of the matters set forth herein. If called and sworn as a witness, I could and would testify competently thereto.

2. Diamond has invested and is continuously investing and working with engine Original Equipment Manufacturers (OEMs) to be at the forefront of aircraft powered using sustainable aviation fuels. This includes lead-free "mogas" approvals for Rotax engine powered aircraft and lead-free jet fuel powered aircraft on Diamond's single engine 4- and 5-seat aircraft, it's twin-engine line, and continuous with evaluation of upcoming sustainable alternatives (i.e., as Sustainable Aviation Fuel, eFuels, H2, and electric propulsion).

3. Diamond's models DA 20-C1 (powered by a Continental Motors piston engine), DA40 XLT and DA 42-L360 (powered by a Lycoming piston engine) aircraft have been manufactured in large quantities and are still manufactured in limited quantity per market demand using aviation gasoline ("avgas") powered engines. Several thousand airplanes of those are in operation worldwide. Approved fuels for each of the Diamond's aircraft model are stated in the respective applicable Aircraft Flight Manuals (AFMs). These aircraft are only approved to use 100 Low Lead ("100LL"), etc., avgas; other avgas types are not approved in these aircraft. For the DA 20-C1, this is published in our AFM, DOC # DA202-C1, Operation Limitations section, at *54, which is publicly accessible at http://support.diamond-air.at/fileadmin/uploads/Canada/Tech_Pubs_DA20-C1/AFM/DA202-C1-AFM-Rev-29.pdf. For the DA 40, this is published in the AFM, Doc. # 6.01.01-E, Operation Limitations section, at *59, which is publicly accessible at http://support.diamond-air.at/fileadmin/uploads/files/after_sales_support/DA40-

180/Airplane_Flight_Manual/Basic_Manual/60101e-r10-complete.pdf. For the DA 42 L360, this is published in the AFM, Doc. # D42L-AFM-002, Operation Limitations section, at *63, which is publicly accessible at http://support.diamond-air.at/fileadmin/uploads/Canada/Tech_Pubs_DA42-L360/AFM/D42L-AFM-002-Rev-7.pdf. These avgas variants have been tested and conform to the ASTM D910 fuel standards and have been approved for use by Diamond Aircraft, our respective piston engine OEMs, and the required aviation safety regulatory authorities (i.e., the U.S. Federal Aviation Administration (FAA), the European Aviation Safety Agency, etc.)).

4. Diamond extensively collaborates with all avgas stakeholders to test and evaluate new fuels. Diamond, and its associated and partner engine companies (which includes Continental and Lycoming), actively participates in collaborative fuel committees such as ASTM, various efforts as a member of the General Aviation Manufacturers Association, and with other aerospace OEM's and the petroleum industry partners through the Eliminate Aviation Gasoline Lead Emissions (EAGLE) program. During these processes, Diamond has widely enjoyed the ability to collaboratively evaluate fuel composition, changes thereto, and testing.

5. First and foremost, any new fuel must hold an ASTM approved production specification and be approved by the engine OEM as a prerequisite before Diamond can approve it for use in the aircraft and list it as an approved fuel in the aircraft's operational documentation (i.e., the aircraft's AFM, etc.). This prerequisite approval gives Diamond the necessary information required to evaluate the fuel's chemical properties and how it may interact with the materials throughout the, including but not limited to, the airframe surface and structures, the fuel storage system (tanks, materials, sealants, gaskets, etc.), the fuel distribution system (fuel lines, gauges, fittings and other fuel system components (e.g., pumps, valves, sensors, etc.)).

6. Furthermore, Diamond has an obligation to monitor and, when necessary, take proactive action(s) to ensure the continued airworthiness of its fleet. Diamond is aware that there are certain aviation fuels that were granted a Supplemental Type Certification (STC) by FAA for use in certain piston engines and aircraft—which differed from the normal ASTM fuel committee approaches. Specifically, the General Aviation Modifications, Inc. ("GAMI") G100UL unleaded avgas is the first-ever avgas to receive an STC from the FAA for a fuel which does not hold an

ASTM production specification. Because the STC process, unlike the aforementioned consensus standard and collaborative programs, does not involve broad aviation industry participation, neither Diamond nor its engine suppliers, Lycoming and Continental Motors, have had the opportunity to conduct the type of comprehensive assessment and wide-ranging performance, compatibility, and operational testing of the G100UL fuel, which is critically necessary data to enable Diamond Aircraft to make the business risk decision to provide OEM warranty, continued operational support and/or approval for use in Diamond's fleet of aircraft.

7. The GAMI G100UL fuel has not been assessed, tested, or approved by any of the OEM engine manufacturers. Until these manufacturers approve G100UL for use in their respective engines, and Diamond has had the opportunity to assess the use of a new fuel in our airplanes, Diamond cannot safely approve the fuel for use in our aircraft.

8. Diamond is aware of at least one other aircraft OEM, Cirrus Aircraft, that conducted some testing of GAMI's G100UL in their aircraft—specifically with a Continental piston engine. Attached hereto as **Exhibit A** is Cirrus' Advisory SA24-12R1. Diamond has also been made aware of issues with fuel tank sealant degradation following exposure to the G100UL fuel. Any reports of materials incompatibility, that likely results from fuels which have not been comprehensively tested by Diamond or our engine OEMs, gives rise to potential safety and aircraft continued airworthiness concerns.

9. Therefore, Diamond has not evaluated and approved the GAMI G100UL fuel for use in any model of Diamond aircraft, and currently has no plans to do so until the fuel is approved by its engine suppliers, sufficient information on the composition of the fuel to do a thorough evaluation have been received, and has also undergone testing to confirm its airframe fuel systems performance, compatibility, and operational safety.

I declare under penalty of perjury of the laws of the state of California that the foregoing is true and correct. Executed this 09 day of January, 2025, at Wiener Neustadt, Austria.

By: _____
Robert Kremnitzer
Diamond Aircraft Industries

EXHIBIT A

Number: **SA24-14R1**
Issued: 18 Jun 2024
Revised: 05 Nov 2024

SUBJECT: Transition to Unleaded Fuel and Use of Non-Cirrus Approved Fuel in SR Series Aircraft

As part of our proactive participation in the unleaded fuel initiative, Cirrus has been collaborating with potential fuel producers conducting materials compatibility and on-aircraft fuel performance testing for over a decade.

Cirrus is engaged in a comprehensive testing and evaluation program of the GAMI G100UL fuel. Working in coordination with GAMI, our key powerplant partners (Continental and Lycoming), and the FAA during this process, the goal is to ensure operational safety of both the powerplant and airframe fuel systems. **While some aspects of the initial Cirrus testing of the GAMI G100UL fuel are encouraging, Cirrus has identified specific concerns regarding material compatibility. Lab and on-aircraft testing, in coordination with FAA representatives, revealed degradation of tank sealant when in contact with GAMI G100UL fuel that could result in airworthiness concerns. At this time, Cirrus does not approve the use of GAMI G100UL fuel in any Cirrus SR Series airplanes.** Additionally, Cirrus currently does not warrant or represent in any way an operator's use of the GAMI G100UL fuel in SR Series airplanes.

Per Continental and Lycoming, only approved fuels may be used for an engine to be covered by warranty. **As the GAMI G100UL fuel is a non-approved fuel per Continental and Lycoming, engines known to have run this fuel may not be covered by the current OEM engine warranty.** For specific details, please refer to the respective Continental and Lycoming engine warranty documents.

Cirrus is dedicated to proactively addressing the evolving landscape of sustainability regulations, particularly the shift away from leaded aviation fuels. We continue to actively support industry efforts to develop, evaluate, and advance new fuels while supporting a safe industry transition to a future unleaded fuel environment.

These efforts include working directly with industry associations and all stakeholders including AOPA, GAMA, the FAA, and the FAA-Industry EAGLE program through the PAFI certification program. EAGLE is actively pursuing three potentially viable alternatives/replacements for 100LL: GAMI G100UL, LyondellBasell/VP Racing UL100E, and Swift 100R. Cirrus is dedicated to supporting all major fuel companies in their pursuit to bring alternative high-octane fuels to market.

Shell recently announced that 100VLL will be shipping to airports in Europe beginning in April 2024. Cirrus confirms this fuel can be used in all Cirrus SR Series airplanes as it complies with the ASTM D910 standard specification for leaded aviation gasoline. Please refer to FAA SAIB NE-11-55 “Grade 100VLL Aviation Gasoline,” for additional details.

The continued safe operation of all Cirrus aircraft around the world remains our top priority. As progress continues, we will provide updates as soon as they are available. We look forward to ensuring a safe and smooth transition to unleaded fuel for all Cirrus SR Series owners.