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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

Hon. Somnath Raj Chatterjee

DECLARATION OF DAVID SMITH IN SUPPORT OF DEFENDANTS' OPPOSITION TO MOTION TO ENFORCE AND MODIFY CONSENT JUDGMENT

Date: February 4, 2025
Time: 1:30 p.m.
Reservation Number: 690015831804

Complaint Filed: October 20, 2011

DECLARATION OF DAVID SMITH

I, David Smith, declare:

1. I am the President and Chief Executive Officer at the Robinson Helicopter Company ("Robinson"). 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. Robinson is a leader in the design and manufacture of general aviation (GA) helicopters. From its headquarters and manufacturing facility in Torrance, CA, Robinson has produced over 13,800 helicopters. Robinson has enjoyed steady growth—and made direct and significant contributions to California's aviation economy—with aircraft sales of 296 helicopters in 2023 and a workforce of approximately 1,250 employees. Robinson manufactures two piston-powered helicopter models, namely the R22 and R44, which are powered by Lycoming piston engines. Our helicopters are used for a variety of flight operations, including personal use, flight training, agricultural, etc. They support small businesses and critical work to feed the country. See https://www.youtube.com/watch?v=AgBS5Kzlynk

3. Robinson fully supports ongoing GA industry efforts to remove lead from aviation gasoline ("avgas"), including the U.S. Federal Aviation Administration's (FAA) efforts to develop to safely transition GA piston-engine aircraft to an unleaded avgas by 2030 without adversely affecting the safe and efficient operation of the piston-engine aircraft fleet, to the extent practicable. *See* 2024 FAA Reauthorization Act, Pub. L. 118-63., §§827(a)(2)(A) and (E). Robinson has taken a leadership role in testing and evaluating candidate unleaded fuels to replace 100LL for over a decade.

Piston helicopters need 100LL to fly

4. Robinson R22 and R44 helicopters require the continued access, and use, of 100 Low Lead ("100LL") and similar avgas products (i.e., 100, 100 Very Low Lead ("VLL")), etc. These three fuel types, 100, 100LL, and 100VLL, adhere to ASTM standard D910. Notably, the R44 Raven 2, Robinson's most popular product for the last 20 years, requires 100LL exclusively

with no alternative fuel available. While the R22 and R44 Raven 1 and Cadet models have alternative fuels that are allowed, the three avgas products mentioned above are the only approved fuel available at most California airports, leaving 100LL and related avgas variants as a critical and necessary fuel for all Robinson piston helicopters.

G100UL cannot be used in piston helicopters

5. The General Aviation Modifications, Inc. ("GAMI") Supplemental Type Certificate (STC) SA01967WI, issued by the FAA, which approves the use of G100UL unleaded avgas in airplanes does not apply to piston-powered rotorcraft (i.e., helicopters). Attached hereto as **Exhibit** A is a copy of STC SA01967WI, which is also publicly available in the FAA Dynamic Regulatory System at https://drs.faa.gov/browse. To remain airworthy, Robinson helicopters must conform to its FAA-issued type certificate and, after inspection, be in a condition for safe operation. *See* 49 U.S. Code §44704(d)(1). An FAA type certificated aircraft must conform to its Type Certificate Data Sheet (TCDS) and cannot legally fly using an unapproved fuel. Because the GAMI G100UL STC Approved Model List does not include rotorcraft, any use of G100UL would constitute the aircraft not conforming to its type certificate, which would render the aircraft to not be in an airworthy condition.

6. Furthermore, the R22 and R44 use Lycoming engines, which has not yet been able to provide Original Equipment Manufacturer approval to operate using GAMI G100UL. Without this approval, questions remain open about the safety and reliability of the fuel for this engine application. Attached hereto as **Exhibit B** is a copy of Lycoming Engine's Unleaded Fuels advisory, which is available publicly at https://www.lycoming.com/fuels. Without approval from the engine OEM or suitable alternative testing and validation by Robinson, use of the G100UL fuel in R22 and R44 helicopters has not been proven safe for these aircraft.

No 100LL access will harm Robinson and California

7. Robinson builds approximately 200 piston helicopters each year with nearly 85% of the components manufactured and processed in California. Robinson, our local California supplier base, and organizations that operate our helicopters in California would experience significant financial harm if the only approved fuels are removed from the California

marketplace. If 100LL, etc., were to be prematurely and arbitrarily removed from Fixed Base Operators and airports, no viable alternative would exist for Robinson to develop, flight test and operate newly-produced or overhauled piston helicopters during their airworthiness certification and production process, nor would Robinson owners and operators in the state be able to reliably and safely fly the R22 and R44.

8. Additionally, Robinson helicopters are used in public service missions. Several California law enforcement agencies, including the City of Lakewood, the Merced County Sheriff's Department, and the City of El Monte, currently fly R44 police helicopters. An inability to fly these aircraft in support of law enforcement activities would hinder their ability to effectively serve their communities and combat crime. *See* https://www.presstelegram.com/2016/08/16/new-police-helicopters-fly-in-lakewood-and-cerritos/

9. Thus, an inability to reliably and safely fly R22 or R44 models would result in significant economic harm to Robinson, its 1,250 Torrance employees, flight schools, businesses, private owners, law enforcement agencies—and thereby the communities which they serve.

Conclusion

10. Therefore, the arbitrary and premature removal of 100LL avgas from the California marketplace will cause significant harm to Robinson, its owners/operators, and multiple California communities because no viable and/or legal fuel would be commercially available.

I declare under penalty of perjury of the laws of the State of California that the foregoing is true and correct. Executed this 8th day of January, 2025, at Torrance, CA.

By: _____
David Smith
Robinson Helicopter Company

EXHIBIT A

United States of America
Department of Transportation
Federal Aviation Administration

Supplemental Type Certificate

Number: SA01967WI

This certificate issued to: General Aviation Modifications, Inc.
2800 Airport Road, Hangar A
Ada, OK 74820

Certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 23 *of* Code of Federal Regulations

Original Product
Type Certificate Number:

Make:

Model: See attached FAA Approved Model List (AML) No. SA01967WI, for all aircraft makes, models and certification basis.

Description of Type Design Change:

Use of GAMI G100UL High Octane Unleaded Avgas on aircraft listed in the attached AML.
Add the following approved fuel: unleaded aviation gasoline per GAMI Specification G100UL-12C-2, or later FAA Accepted revision. Comingling is approved with ASTM Grade 100LL aviation gasoline and other gasolines with 100 MON or less, including MoGas, where those gasolines are also approved for the same make and model engines.

See attached STC AML No. SA01967WI for all required data.

Limitations and Conditions:

1. Specific approval must be obtained for each model aircraft to ensure compatibility with its fuel system.
2. Compatibility of this design with previously approved modifications must be determined by the installer.
3. STC SE01966WI must be previously installed.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of Application: October 6, 2020 *Date Reissued:*

Date of Issuance: July 23, 2021 *Date Amended:*

By Direction of the Administrator

Signature: _____

Paul Nguyen
Manager, AIR-7K0
Title: Wichita ACO Branch

United States of America
Department of Transportation
Federal Aviation Administration

Supplemental Type Certificate

Number: SA01967WI

INSTRUCTIONS: The transfer endorsement below may be used to notify the appropriate FAA Aircraft Certification Office of the transfer of this Supplemental Type Certificate. The FAA will reissue the certificate in the name of the transferee and forward it to them.

Transfer Endorsement

Transfer the ownership of Supplemental Type Certificate Number: _____

To (Name and address of transferee):

From (Name and address of grantor):

Extent of Authority (if licensing agreement):

Date of transfer:

Signature of grantor: _____

EXHIBIT B

Learn More About Lycoming's Efforts Around Unleaded Fuels

Lycoming remains committed to finding a comprehensive fuel solution that will allow a fleet-wide transition to lead-free aviation fuels for piston-engine aircraft

TIPS

Lycoming Engines has been producing piston aviation engines for over 95 years, and we "build every engine as though we were going to fly it ourself!" Safety is an utmost priority, and we strongly support efforts to eliminate lead from aviation fuels. For this reason, Lycoming has been researching fuels for decades and is an industry leader in the Piston Aviation Fuels Initiative (PAFI) and the Eliminate Aviation Gasoline Lead Emissions (EAGLE) initiative.

As a result of these pathbreaking efforts, Lycoming has approved several unleaded fuels for use in Lycoming Engines.
Please reference our **Service Instruction 1070** for approved fuels for our aircraft engine models.

Through our progress, we remain committed to finding a comprehensive fuel solution that will allow a fleet-wide transition to lead-free aviation fuels for piston-engine aircraft that does not compromise the safety or economic health of the general aviation industry. We take our work seriously to keep our fleet safe, and our approvals process for new fuels follows strict FAA and industry standards and guidelines. This process includes both the evaluation of how fuels will perform in our engines and options for improving the design of our products to work with commercially available unleaded fuels.

Lycoming will continue to strive to support a future unleaded fleet while working to ensure that our products remain safe and reliable.

Q: What is PAFI?

A: The Piston Engine Aviation Fuels Initiative (PAFI) program was established in 2014 to support the evaluation of candidate-unleaded fuels to replace approved leaded gasoline, with the objective of ultimately qualifying a fleet-wide solution.

To learn more about PAFI, visit their website at www.faa.gov.

Q: What is the EAGLE initiative?

A: According to their website, Eliminate Aviation Gasoline Lead Emissions (EAGLE) is a broad and collaborative initiative among the Federal Aviation Administration (FAA), the general aviation (GA) community, fuel suppliers and distributors, airports, engine and aircraft manufacturers, research institutions, associations, local communities, environmental groups and other key stakeholders. EAGLE partners are committed to ensuring the GA sector can safely transition to a lead-free future by the end of 2030 (at the latest) without affecting the safe and efficient operation of the piston-engine fleet. EAGLE's initiative has four pillars: address the unleaded fuel evaluation and authorization; research, development, and innovation; supply chain infrastructure and deployment; and regulation policy and programmatic activities.

To learn more about EAGLE, visit their website at www.flyeagle.org.

Q: How are PAFI and EAGLE different?

A: PAFI was established in 2014 to support the evaluation of candidate-unleaded fuels to replace approved leaded gasoline, with the objective of ultimately qualifying a fleet-wide solution. Once a candidate fuel formulation is qualified for PAFI testing, the FAA tests it using methods created through collaboration with industry. In 2022, the FAA and industry groups (GAMA, AOPA, etc) recognized a need to implement a comprehensive cross-sector approach to safely eliminate leaded aviation fuel by the end of 2030 without impacting the safe and efficient operation of the piston-engine fleet. PAFI became an integral part of one of the four critical EAGLE pillars tasked with evaluation and authorization of the unleaded fuel (UL).

In addition to PAFI, EAGLE recognizes that the FAA has allowed an alternative pathway for unleaded fuels to become approved via the traditional Supplemental Type Certificate (STC) process.

Q: Why is Lycoming a proponent of PAFI versus STC?

A: Fuel manufacturers can pursue approval either via PAFI or through a traditional aftermarket STC process. As an OEM, Lycoming is committed to supporting PAFI because it provides for a holistic evaluation of the candidate fuels through the collaboration of government and industry partners. This evaluation includes material compatibility, evaluation of toxicity, engine testing for detonation, endurance, flight testing and operability; as well as review of operational concerns to determine that a fuel is fit-for-purpose. Safety is of utmost importance, and Lycoming wants to align with the collective industry expertise. Upon final testing, PAFI allows for the FAA administrator to grant fleet-wide approval for fuel.

Alternatively, Type Certificate (TC) holders like Lycoming do not typically support the STC process, and there is no FAA guidance or established industry process for a TC holder to evaluate an STC candidate fuel. Instead, a fuel manufacturer applying for a STC works directly with the FAA and without the benefit of TC holders like Lycoming. Often TC holders are not provided critical technical information that they would need to determine if the candidate fuel is safe. As a result, per 14 CFR 21.115, the STC holder is ultimately and exclusively responsible for demonstrating that its fuel meets the FAA's airworthiness requirements.

Because Lycoming believes that the flying public is best served by a transparent, collaborative, documented, and cross-industry process to ensure that each candidate fuel is safe, we urge each candidate fuel maker to pursue approval via PAFI.

Q: What is ASTM?

A: ASTM International states, "The high quality of ASTM International standards is driven by the expertise and judgment of members who represent industry, governments, academia, trade groups, small and medium size enterprises, consumers, and others. Their contributions, and the consensus process, are why ASTM international standards are known for high quality and market

relevance across many industries." ASTM is broad reaching internationally accepted technical standards for a wide range of materials and products utilized by major industries, beyond just fuels and aviation.

When a fuel has received an ASTM specification, the industry can be assured that the specification is well conditioned, addressing the key facets of the fuel performance characteristics, compositional requirements, and that the tests for those pieces have been vetted for precision and accuracy. This is especially important for the novel ingredients of fuels offerings. Lycoming applies ASTM and other voluntary consensus specifications to identify potential fuels for approval. Learn more about ASTM at their website, www.astm.org.

Q: What fuels are approved by Lycoming Engines?

A: Approved fuels are identified in the most current revision of Service Instruction 1070: Specified Fuels for Spark-Ignited Gasoline Aircraft Engine Models.

Q: How does a fuel get added to Service Instruction 1070 as an approved fuel?

A: Safety of the Lycoming engine fleet is of the utmost importance. Before it approves a fuel for use in its engines, Lycoming must first undertake a rigorous evaluation to ensure that the fuel will operate predictably within the engine's entire operating regime. This evaluation includes a full certification plan & data package that is ultimately provided to the FAA. Once approved, the fuel becomes part of the engine's TC and is listed in SI 1070.

Q: Who decides which fuels are approved for use in Lycoming Engines?

A: After rigorous evaluation to demonstrate that the fuel will perform predictably and safely in all aspects of the engine's operating envelope, Lycoming submits its data and certification package to the FAA for review and approval. Please reference SI 1070 for the latest list of FAA approved fuels for use in Lycoming engines.

Q: Has Lycoming tested GAMI's G100UL fuel?

A: No. GAMI chose not to participate in the collaborative PAFI process and instead chose to pursue approval via a direct STC process. Because GAMI submitted its data direct to the FAA, Lycoming was not involved in the certification or testing of GAMI's G100UL fuel. In addition, because there is no method for a TC holder to obtain technical information related to an STC, Lycoming does not have the technical information necessary to make any determination as to the airworthiness of G100UL fuels when used in Lycoming engines.

Q: Why hasn't Lycoming approved GAMI's G100UL fuel?

A: Because STCs are separately approved by the FAA without TC holder involvement, holders like Lycoming do not typically separately approve them after the fact. In essence, GAMI chose to pursue an aftermarket approval instead of collaboratively working with industry partners through the PAFI process.

Notwithstanding GAMI's decision to pursue an STC, Lycoming is committed to finding an unleaded solution in any form, and we strongly encourage GAMI to resubmit its fuel for testing through the collaborative PAFI process.

In addition, Lycoming has remained willing to test any candidate fuel, including those submitted to PAFI or approved via STC (like G100UL), so long as we can ensure our testing supports the safety of the flying public. To do this, Lycoming must be provided with appropriate technical documentation so we know what we are testing, and we must be able to provide appropriate guidance to the FAA, the industry, and the flying public regarding the use of any tested fuel in our engines. To date, GAMI has advised that it will not provide Lycoming with access to any technical information related to G100UL fuel unless we agree that we will not disclose our findings. In other words, GAMI has demanded that as a condition to allowing Lycoming to test its fuel, Lycoming must agree to conditions that would limit our ability to disclosure.

To ensure the safety of the flying public and to meet its obligations as a TC holder, Lycoming has refused this "gag-restriction." If we determine that any candidate fuel creates a safety issue when used in our engines, we must be able to appropriately warn the public and the FAA. We hope that

GAMI will drop its gag-restriction and join the collaborative industry process so that G100UL can be evaluated and approved in a manner that ensures the safety of the flying public.

Q: What happens if I run GAMI's G100UL (or any fuel that is not listed in SI1070 as an approved fuel) in my Lycoming Engine?

A: G100UL has been approved via STC and not via PAFI. As a result, customers should contact GAMI as the STC holder for guidance regarding use of G100UL, including warranty coverage. Because we do not have technical information associated with the STC, Lycoming cannot provide guidance on use of G100UL.

Lycoming evaluates warranty claims on a case-by-case basis in accordance with the terms of its Limited Warranty. However, customers should be aware that Lycoming's Limited Warranty excludes damage associated with operations outside Lycoming's published specification, including the use of non-approved fuels. In addition, use of any STC approved fuel constitutes modification of the engine in a manner not approved by Lycoming, and the engine no longer meets its original type design.

Lycoming recommends customers use fuels identified in ***Service Instruction 1070***.

Stop back to this webpage for the most up-to-date information around Lycoming's unleaded fuel efforts.

Last Updated: July 18, 2024

Advanced Technology

Lycoming offers advanced technology services to learn how your engine is running including manufacturing, engine testing, diagnostics & material analysis.
Send your engine to our advanced facilities to undergo advanced testing or receive metallurgical analysis to diagnose your engine. Our flight simulators ensure a high degree of flight readiness are used to serve customers worldwide.

LEARN MORE