



FAA
Aviation Safety

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SAIB: 2025-04

Date: March 28, 2025

SUBJ: UNLEADED FUEL

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) advises aircraft operators, fixed base operators, Federal Aviation Administration (FAA) repair stations, Flight Standards District Offices (FSDO), and Foreign Civil Aviation Authorities to report to the FAA any issues (service difficulties, maintenance) related to the use of unleaded fuel when used as an alternative to any other fuels. The FAA has not identified an unsafe condition that would warrant airworthiness directive action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

In 2022, the FAA announced a government-industry initiative known as Eliminate Aviation Gasoline Lead Emissions (EAGLE), with the goal of transitioning to lead-free aviation fuels for piston-engine aircraft in the United States without adversely impacting the safe and efficient operation of the existing general aviation (GA) fleet. The FAA aims to collaborate with aviation stakeholders to collect data and understand any impacts to piston-powered GA aircraft as unleaded fuels are introduced, and usage of unleaded fuel increases.

Background

Several unleaded fuels are currently available and additional fuels are likely to be available soon. Approval for use of these unleaded fuels can be found in each make/model's Type Certificate Data Sheet (TCDS), installation manual, service instructions, or Supplemental Type Certificate (STC). As part of providing effective safety oversight, the FAA will need to differentiate between pre-existing fuel issues using 100 octane low lead (100LL) fuel and issues which may arise from using high octane unleaded fuel.

Recommendations

The FAA recommends reporting the following information regarding service difficulties or abnormal maintenance issues using unleaded fuel. The FAA is also interested in hearing from operators who have transitioned to unleaded fuel without issue. The FAA is specifically interested in the following information when reporting:

- Aircraft make/model/year of manufacture
- Manufacturer and type of unleaded fuel used
- Engine make/model and time since new or last overhaul
- Approximate volume (gallons/liters) of unleaded fuel used before issue
- Time from original transition to unleaded fuel until issue observed
- Engine total hours and approximate hours using unleaded fuel
- Any mixing of fuels (unleaded fuel with 100LL fuel, as example)

Recommendations (continued)

Additional details, as appropriate:

- Description and date of issue observed
- In describing your issue, please consider the following:
 - Recent aircraft maintenance prior to unleaded fuel use (new hoses, gaskets, fuel sealants, engine maintenance)
 - Any related issues observed before transition to unleaded fuel
 - Issues related to fuel leaks or sealant/gasket breakdown
 - Sealant type and gasket materials used
 - Internal inspection/photos of fuel tanks
 - Photos of external or substrate damage
 - Samples of fuel and/or materials submitted or collected by the local FSDO
 - Engine related issues
 - Description of any performance degradation
 - Details on parts affected or failed parts
 - Detailed photos of affected parts/engine condition or any excessive buildup, wear, or degradation
 - Fuel system issues
 - Excessive wear or degradation of components
 - Particulate or foreign object presence

Please include contact information and your preferred method of contact, should the FAA have additional questions. The FAA will not retain contact information with the reported data.

Please submit these reports to OperationalSafety@faa.gov with “Unleaded Fuel” in the subject line.

Paperwork Reduction Act Burden Statement

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0731. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information. All responses to this collection of information are voluntary; the nature and extent of confidentiality to be provided, if any. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

For Further Information Contact

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