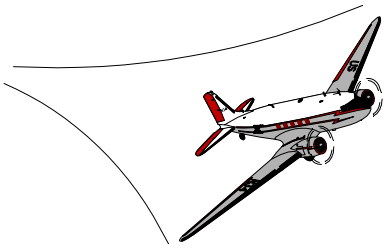
REVISED SPECIAL AIRWORTHINESS INFORMATION BULLETIN



U.S. Department of Transportation
Federal Aviation Administration

REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

No. NE-00-02R1
October 12, 1999

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This is issued for informational purposes only and any recommendation for corrective action is not mandatory.

- This Special Airworthiness Information Bulletin (SAIB) is issued to **correct** a typographical error in **fuel delivery dates** under Recommendations No. 1 below to **August 31, 1999**. All other information provided remains the same.

Applicability: LOW Octane Engines Fueled With Contaminated Fuel in Chico, California.

Introduction

The FAA has been alerted that Aviation Gasoline (AVGAS) delivered to Pacific Flight Services Inc. (PFS) of Chico, California (airport identifier CIC) was contaminated with jet fuel and was therefore not compliant with the applicable fuel specification (ASTM D910). The non-compliant AVGAS was delivered on August 31, 1999 and sales were suspended on September 21, 1999. The recommendations in this Special Airworthiness Information Bulletin (SAIB) are applicable only to aircraft that have purchased this fuel, and that are approved for operation with fuel ***octane numbers less than 100.***. A separate SAIB, No. **NE-00-03**, has been issued for aircraft identified that puchased this fuel, and that require fuel with octane numbers of 100 or greater.

Background

The contamination appears to have occurred when a fuel delivery truck (common carrier) loaded the 100LL AVGAS on top of approximately 1000 gallons of jet fuel that remained on the truck from a prior delivery. It appears that the highest concentration of jet fuel in PFS's AVGAS storage tank was 7.7% and was further diluted by subsequent deliveries of fresh (on-specification) AVGAS. Therefore, the most severe impact on octane rating occurred at the initial delivery of the contaminated fuel, and this impact lessened with each subsequent delivery of on-specification AVGAS.

The octane rating, or antiknock quality, of AVGAS is measured using laboratory engines and is expressed in terms of lean and rich ratings of the fuel. AVGAS is available with lean/rich ratings of: 80/87, 91/96, 100/130 and 115/145. Laboratory studies have shown that the lean rating is little affected by the addition of up to about 6 volume percent jet or diesel fuel, but the rich rating can be adversely affected if contaminated by these fuels. If the rich rating of the resulting contaminated fuel mixture falls below the rich rating requirement of the engine, the potential for combustion knock, or detonation, exists. However, in this case, the initial (worst case) octane rating of the AVGAS/jet fuel mixture is was estimated to be 100/115, which is sufficient to prevent detonation in ***engines rated for 80/87 or 91/96 AVGAS.***

Recommendations

1. The recommendations in the SAIB are applicable only to aircraft that meet both the following criteria:
   a. fuel requirement of 80/87or 91/96 octane
   b. fueled with AVGAS supplied by Pacific Flight Services FBO, Chico, California between August 31 and September 21, 1999.

NOTE: For aircraft not meeting criteria (a) above, but meeting criteria (b) above, please refer to SAIB NE-00-03 for recommended corrective action. However, aircraft not meeting criteria (b) are exempt from compliance with SAIB NE-00-02 and NE-00-03.

2. These aircraft are identified in distribution listing provided below.
3. The following maintenance actions are recommended for these aircraft:

a. Perform a compression check of all cylinders. Cylinders exhibiting low compression should be repaired in accordance with the engine manufacturer's maintenance instructions.

b. Completely borescope inspect the interior of cylinders, giving special attention to the combustion chamber, intake valves, and piston dome. Cylinders exhibiting evidence of overtemperature conditions or unusual damage should be repaired in accordance with the engine manufacturer's maintenance instructions.
c. Drain the engine oil and check the oil screens. Evidence of oil contamination or metal debris should be investigated in accordance with the engine manufacturer's maintenance instructions.
d. Completely drain the fuel tanks and the entire fuel system including the engine carburetor.
e. Flush the fuel system and carburetor with on-specification AVGAS and check for leaks.
f. Fill the tanks with the proper grade of on-specification AVGAS.
g. If the engine inspection was satisfactory, complete an engine runup check.

4. Please report evidence of engine damage due to detonation to the FAA contact specified below by email or fax. Include the registration number of your aircraft.

Distribution
The FAA has received reports that the following aircraft meet criteria (a) and (b) of item 1. under Recommendations. Please see NOTE if the listed registration number does not meet both (a) and (b) criteria.

N12456	**N1245S**	**N12527**	**N12714**	**N1388S**	**N1710Q**
N18697	**N2043Y**	**N20972**	**N2187G**	**N23206**	**N2326D**
N2386R	**N2421R**	**N2475X**	**N251GT**	**N288D**	**N3093X**
N3411U	**N3660J**	**N3690L**	**N370DA**	**N42279**	**N45316**
N46198	**N52562**	**N5624W**	**N5653U**	**N5719U**	**N6134B**
N63297	**N6713J**	**N680JR**	**N6825G**	**N7566X**	**N7716U**
N8372L	**N8387A**	**N84635**	**N8515S**	**N888CZ**	**N9160J**
N92460	**N92467**	**N9324G**	**N964T**	**N9854R**	**N9994V**

FOR FURTHER INFORMATION CONTACT:
Federal Aviation Administration, Mark Rumizen, ANE-110, 12 New England Executive Park, Burlington, MA 01803, Tel: (781) 238-7113, Fax: (781) 238-7199, email: mark.rumizen@faa.gov.

U.S. Department
of Transportation

**Federal Aviation
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