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SERVICE INSTRUCTION

DATE: April 13, 2011

Service Instruction No. 1498A
(Supersedes Service Instruction No. 1498)
Engineering Aspects are
FAA (DER) Approved

SUBJECT: Recommended Engine Procedures for Purge of Vapor During Ground Operations

MODELS AFFECTED: Lycoming IO-360-L2A engines installed in Cessna C172R and 172S aircraft used in training operations

TIME OF COMPLIANCE: As necessary during aircraft operations

NOTE

Incomplete review of all the information in this document can cause errors. Read the entire Service Instruction to make sure you have a complete understanding of the requirements.

The fuel system is more susceptible to vapor formation and its effects during operation in warm weather. This Service Instruction identifies vapor symptoms and corrective action necessary to remove vapor from the fuel system.

NOTE

These procedures are in addition to Cessna's published operating procedure.

A. Symptoms of Vapor in the Fuel System

Vapor can occur in the fuel system during ground operations when the ambient temperature is more than 85°F (29.4°C). The symptoms of fuel vapor include:

1. Fluctuation of idle speed and fuel flow
2. Poor engine response to throttle movement
3. Engine will not operate when throttle is closed
4. High RPM drop (>175 RPM) during magneto check

B. Corrective Action

NOTE

When the engine is operated above 1800 RPM, fuel flow increases and fuel temperatures throughout the fuel system are greatly decreased. The increased fuel flow removes any vapor and the cooler fuel stops vaporization.



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If one or more symptoms of vapor in the fuel system occur during ground operation, do the following:

1. Advance the throttle to an engine speed of 1800 to 2000 RPM.
2. Continue operation at this speed for 1 to 2 minutes or until operation becomes smooth.
3. Make sure oil temperature stays within limits.
4. Move the throttle to idle to do a check for correct idle operation.
5. Move the throttle to 1200 RPM and operate at Lean for taxi.
6. Immediately before brake release for take-off roll:
 - a. Set the mixture to Full Rich. (For high elevation fields, fuel leaning could be necessary to smooth engine operation. Refer to the POH or AFM.)
 - b. Move to full throttle and hold the position of full throttle for 10 seconds (in coordination with ATC as necessary).

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