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# SERVICE LETTER

Service Letter No. L270

April 5, 2017

**TO:** All Owners and Operators of Lycoming Direct Drive Engines  
**SUBJECT:** Extended Maintenance Intervals for Spark-Ignited Engines Operated on Unleaded Fuels  
**NOTICE:** Incomplete review of all the information in this document can cause errors. Read the entire Service Letter to make sure you have a complete understanding of the requirements.

This Service Letter identifies extended maintenance intervals as benefits of routine exclusive use of approved unleaded fuels identified in the latest revision of Service Instruction No. SI-1070 for Lycoming engine models.

Continued and consistent use of unleaded fuel decreases the risk of lead fouling of spark plugs and contamination of engine oil with leaded combustion byproducts. As a result, engines continuously operated on unleaded fuel could realize the following advantages:

- Extended maintenance intervals for spark plug rotation/replacement
- Extended operating hours between oil changes.

**Schedule for Extended Maintenance Intervals**

Table 1 identifies both the current and extended maintenance intervals applicable for engines continuously operated on approved unleaded fuel after **first completing the required Transition Procedure in this Service Letter.**

**NOTICE:** Oil change intervals have been extended in the schedule in Table 1. Oil filter inspection and replacement and oil pressure screen inspection and cleaning intervals remain the same to ensure continued engine condition monitoring.

Although the exclusive continuous use of unleaded fuels is expected to extend spark plug life, continue to follow inspection guidance from spark plug manufacturers (Champion, etc.).

**Table 1  
Operating Hour Maintenance Intervals**

Maintenance Task	Operating Hour Maintenance Interval	
	Leaded Fuel	Unleaded Fuel
On engines with an oil filter, after the initial transition 50-hour change, complete subsequent oil change	50 hours*	100 hours*
Oil filter replacement (after initial transition change)	50 hours	
On engines with an oil pressure screen, after the initial transition changes, complete subsequent oil change	25 hours*	50 hours*
Oil pressure screen /removal/inspection/cleaning (after initial transition changes)	25 hours	
*Or every 4 months, whichever occurs first; also, remove, examine, clean and re-install/safety the oil suction screen. Refer to the latest revision of Service Bulletin No. 480 for guidance on inspection of oil filter and oil pressure screen contents.		



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**⚠ CAUTION:** IF LEADED FUEL IS USED AFTER USING UNLEADED FUEL, YOU MUST COMPLETE THE TRANSITION PROCEDURE AGAIN BEFORE RETURNING TO USE OF APPROVED UNLEADED FUEL TO ENSURE CORRECT ENGINE OPERATION.

**Transition Procedure from Leaded Fuel to Unleaded Fuel**

To transition from leaded fuel operation to unleaded fuel operation, complete the following steps prior to introduction of unleaded fuel:

1. Per instruction in the applicable Lycoming maintenance manual:
  - A. Complete an oil change with approved oil identified in the latest revision of Service Instruction No. SI-1014.
    - (1) Per the latest revision of Service Instruction No. SI-1070, use an oil additive or an equivalent finished product when using approved unleaded fuels.
    - (2) Be sure to securely torque and safety wire the oil sump drain plug(s) per the latest revision of the *Service Table of Limits SSP-1776*.

**NOTICE:** Lycoming recommends oil sample collection and analysis with each oil change to monitor trends.

- B. Either complete an oil filter change or remove, clean, and re-install the oil pressure screen. Safety the oil filter.
  - C. Remove, examine, clean, and re-install the oil suction screen.
2. Engine operation:
    - A. For engines with an oil filter, operate the engine normally for **50 hours** on an approved unleaded fuel.
    - B. For engines with an oil pressure screen, operate the engine for **25 hours**, remove, examine, clean and re-install the oil pressure screen (per the applicable Lycoming maintenance manual) and operate the engine for another 25 hours.
  3. After 50 hours of unleaded fuel operation, per the applicable engine Lycoming maintenance manual, complete a 50-hour inspection (including oil change, oil filter replacement or oil pressure screen removal/examination/cleaning and re-installation)
  4. If there was no unusual engine operation or evidence of component wear, continue engine operation using unleaded fuel and follow the extended maintenance interval schedule in Table 1.

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