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SERVICE INSTRUCTION

DATE: September 23, 2025

Service Instruction No. 1080D
(Supersedes Service Instruction No. 1080C)
Engineering design data in this service document is FAA approved.

SUBJECT: Required Maintenance Items for Specific Components

MODELS AFFECTED: All Lycoming opposed series aircraft engines.

TIME OF COMPLIANCE: During periodic inspection of the engine.

REASON FOR REVISION: Reorganized and reformatted the entire service instruction to provide clarity for inspection time intervals and required maintenance tasks. Added additional inspection items.

NOTICE: 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.

This Service Bulletin provides Instructions for Continued Airworthiness (ICA).

Table 1 in this Service Instruction identifies required maintenance to be done at routine time intervals for specified engine components on Lycoming engines to enable long engine life and correct operation

Table 1
Required Maintenance for Specific Engine Components

Component	Time Interval	Maintenance Task
Cylinder Drainback Tubes	Whenever the engine is being serviced	• Examine the cylinder drainback tubes for chafing, wear, or damage. Replace any chafed, worn, or damaged cylinder drainback tubes. • Check for clearance between all drainback tubes and other engine components or airframe items. NOTE: The clearance must not be less than 1/8 in. (3.15 mm) to prevent wear and damage to the drainback tube which can cause loss of oil.
Crankcase	Oil leak found	• Examine crankcase for cracks and leaks from the parting face • Complete a type I fluorescent dye penetrant inspection
Cylinder Baffles	After every 50 hours of operation	• Ensure cylinder baffles are securely installed and not damaged. • Tighten any loose cylinder baffle and replace any damaged cylinder baffle.

Table 1 (Cont.)
Required Maintenance for Specific Engine Components

Component	Time Interval	Maintenance Task
Intake and Exhaust Valves	Every 1000 hours of operation or when valve sticking occurs	• Sticking between the valve stem and guide can severely restrict the valve's opening and closing movements. Considering that the properly timed sequence of valve opening and closing is essential to efficient and reliable engine operation, it is a serious problem any time those valves stick for any reason. An intermittent hesitation, or a miss, in engine speed, often identifies a sticking valve condition. There can be various causes of valve sticking. The extensive use of a fuel with a lead content that is higher than recommended can intensify the formation of lead deposits. These lead deposits can interfere with the valve stem's movements. Refer to the latest revision of Service Instruction No. 1070 for further information on which grade of fuel to use with a specific engine model. Another cause of valve sticking is contaminants in the lubrication system. Refer to the latest revisions of Service Letter No. L197 and Service Instruction No. 1116 for additional information on valve sticking.
Cylinder Assembly	Every 50 hours of operation	• Examine for evidence of burned off paint. • If discoloration is found, determine the cause and correct before further operation. Identify areas where paint has scaled or peeled from the cylinder and areas where the paint has burned. Burned or overheated areas, the paint has a dark, discolored or blistered appearance. Unburned metallic surfaces are bright or clean with definite edges where the paint has chipped.
Spark Plugs	After every 100 hours of service or at each annual inspection (whichever occurs first)	• Refer to the latest revision of Service Instruction No. 1042* for spark plug selection and vendor. Refer to the vendors maintenance information
Magnetos **	After every 100 hours of service or at each annual inspection (whichever occurs first)	• Measure the magneto-to-engine timing. If the timing must be adjusted, examine and service the magnetos as per the magneto manufacturer's recommended maintenance and inspection procedures.
Exhaust System ***	Every 50 hours	• Examine the exhaust system for leaks. • Examine the mufflers for loose baffles • If leaks are found at the exhaust flange adjacent to the exhaust port, remove the exhaust manifold and regrind or lap the flange flat. (Tightening the attaching nuts will not seal the leak.)

Table 1 (Cont.)
Required Maintenance for Specific Engine Components

Component	Time Interval	Maintenance Task
Manual Mixture Control	Every 50 hours	• Examine the mixture control linkage for sufficient travel of the manual mixture control to let the mixture control valve on the carburetor to be set in the FULL RICH position. • Examine the mixture control linkage for freedom of movement, security, and adequate lubrication. NOTE: When making this check be certain that there is no interference between the control linkage and the web on the carburetor.
Fuel Injection System **NOTICE:** Inspection for fuel injectors in this section does not apply to the electronic fuel injectors installed on iE^2 engines (TEO-540 Series). Refer to the applicable iE^2 Engine Maintenance Manual for electronic fuel injector inspection.	1st 25-hour inspection, then every 50 hours	• Examine for tightness and safetying of all nuts and screws that fasten the injector to the engine. • Examine all fuel lines and nozzles for tightness and evidence of leakage. • Inspect throttle and mixture control rods and levers for tightness, safetying, and correct travel. • Remove and clean the injector fuel inlet strainer at the first 25-hour inspection and each 50-hour inspection thereafter. • Replace damaged strainer "O" rings. • NOTE: A slight fuel stain adjacent to the air bleed nozzles is not a cause for concern.
Turbocharger	After each 50 hours of operation	• Inspect the turbocharger mounting brackets and attaching parts for tightness and security. • Examine all connections in the induction and exhaust system for air leaks. Pay particular attention to the flexible hoses used in the induction system. • Check for dirt or carbon build-up within the turbocharger and uneven deposits on the compressor or turbine wheel. Refer to the applicable turbocharger overhaul manual for the detailed service and repair procedure. • Replace stiff or worn hoses.
Supercharger Oil Seals (GSO and IGSO Series Only)	After each 50 hours of operation or If there is erratic or increased oil consumption with discoloration of deposits in the augmenter tubes (evidence of supercharger oil seal failure)	• Remove the supercharger drain cover, at the bottom of the supercharger housing, and drain the fluid from the housing into a small container. NOTE: The drainage will usually contain fuel or fuel dye. However, if a visible quantity of oil is also found, replace the supercharger oil seal. Failure of the supercharger oil seal lets oil enter the supercharger housing where it becomes mixed with the fuel. The oil reduces the octane rating of the fuel and increases combustion chamber deposits.

Table 1 (Cont.)
Required Maintenance for Specific Engine Components

Component	Time Interval	Maintenance Task
Carburetor Air Filter (Wet or Dry)	As per aircraft manufacturer In dusty or sandy environments, clean daily	• Follow the aircraft manufacturer's recommendations. • Refer to the latest revision of Service Instruction 1002*. • NOTE: The engine must have a clean carburetor air filter. For engine operation in extreme dusty or sandy conditions, clean the air filters daily or otherwise in accordance with the aircraft manufacturer's recommendations.
Lubrication System	Refer to Table 1 in the latest revision of Service Bulletin No. 480 for frequency	For all new, rebuilt, newly overhauled engines, or for engines with newly installed cylinders, change the oil after either 25 hours or at a total of four months maximum, whichever comes first, after the first oil change. For all engines using the full-flow filtration system change the oil at every 50 hours or at a total of four months maximum between oil changes; whichever comes first (except for engine models TIO-540-AF1A and -AF1B which require 25 hour interval changes or at a total of four months maximum between oil changes; whichever comes first). For all engines using pressure screen systems, change the oil and clean the screen at every 25 hours or at a total of four months maximum between oil changes; whichever comes first. Refer the latest revisions of Service Bulletin No. 480 and Service Instruction No. 1425 for additional information.

* Latest revision

** If magneto maintenance is not done, the following can occur: Inefficient engine operation, roughness, loss of power, detonation progressing to pre-ignition.

*** Leaking connections between the exhaust system and the exhaust ports of the cylinders can cause excessive heat damage to the spark plugs, ignition cables, and the cylinder head. Burned off paint around spark plug and exhaust flange bosses or light gray deposits on surfaces near the leak are evidence of a leaky exhaust connection. Warping of the exhaust flange adjacent to the exhaust port generally causes such leaks.