

CONTINENTAL MOTORS® AIRCRAFT ENGINE
SERVICE INFORMATION LETTER

CATEGORY 5
SIL15-9

Contains Useful Information Pertaining To Your Aircraft Engine

Supersedes M76-5R1
TECHNICAL PORTIONS
FAA APPROVED

- SUBJECT:** Remote Mounted Oil Coolers
- PURPOSE:** Evacuating air from lubrication system
- COMPLIANCE:** During engine installation, maintenance, overhaul or component repair or replacement.
- MODELS**
- AFFECTED:** All Continental Motors (CM) aviation gasoline (AvGas) engines using remote mounted oil coolers.

I. GENERAL INFORMATION

Continental Motors (CM) supports the use of remote mounted oil coolers for specific approved aircraft designs. Trapped air in the oil system can cause cavitation in the lubrication system which in turn can cause poor valve train dynamics. At the factory, all AvGas engines are pre-oiled with a pressurized system to avoid entrapped air.

WARNING

If the engine oil cooler adapter is connected to an airframe (remote) mounted oil cooler, the oil cooler and hoses may contain trapped air that oil servicing will not evacuate from the engine lubrication system. Failure to purge the air from the oil cooler and hoses prior to engine start may result in internal engine damage.

CAUTION: DO NOT use a starter to rotate the engine during an "Engine Pre-oiling." Constantly turning the engine by using the starter may exceed the duty cycle and lead to premature starter failure.

II. ENGINE PRE-OILING PROCEDURE

Any time the remote oil cooler or the oil lines are drained or removed for flushing or replacement (on an approved remote mounted oil cooler system), the following "Engine Pre-oiling" procedure is recommended to ensure any trapped air is eliminated from the system:

1. Verify lubrication lines, fittings, hoses, screens, and filters are in place prior to pre-oiling.
2. Obtain a clean, one gallon capacity bladder-type pressure pot with 50 psi output pressure (not to exceed 60 psi).
3. Connect the pre-oiler supply hose to the engine oil pressure output (fitting). It may be necessary to disconnect the airframe oil pressure sensor fitting according to the airframe manufacturer's instructions.
4. Place a catch basin below the remote mounted oil cooler adapter.

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5. Disconnect the oil return hose from the remote mounted oil cooler adapter.
6. Open the pre-oiler valve and monitor the oil return hose at the remote mounted oil cooler adapter for continuous, uninterrupted oil flow. Depending upon oil temperature, it may take several minutes to completely bleed all air from the engine lubrication system and see continuous oil flow.
7. Close the pre-oiler valve upon verification of continuous, uninterrupted oil flow at the remote mounted oil cooler adapter.
8. Attach the oil return hose to the remote mounted oil cooler adapter.
9. Disconnect the pre-oiler supply hose and cap; connect the airframe oil pressure sensor to the engine oil pressure output according to the airframe manufacturer's instructions.
10. Reference torque specifications in applicable ICAs for torque hose and pipe fitting installation instructions.

CAUTION: It is critical to follow Standard Practices to prevent applying twisting or shear loads, or over torquing hose and pipe fittings.

11. Reference hose and tubing installation instructions in applicable ICAs when installing hose fittings and/or B-Nuts.
12. Check the oil level in the sump according to your Maintenance and Overhaul Manual using the oil gauge rod (dip stick).

WARNING

Do not operate the engine unless the oil is properly serviced. Check the oil pressure frequently. Oil pressure indication must be noted within 30 seconds in normal weather. If no pressure is observed, stop the engine and investigate the cause (check connections and gauge operation).

- a. Start engine and run at 900-1000 RPM for four to five minutes.
- b. Shut engine down and verify the engine oil is at the proper level. Add oil as necessary to bring to full mark.

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