STANDARD PRACTICE MAINTENANCE MANUAL

SPARK IGNITED ENGINES

Technical Portions Accepted by the Federal Aviation Administration

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CAUTION: Disassemble and thoroughly inspect the entire engine before assembly and return to service following a foreign object contamination event. Minimum inspection requirements are provided in step b if the owner/operator determines no foreign material remains in the engine and elects to not perform a complete inspection. Continental assumes no responsibility for engine operation or airworthiness after a contamination event.

b. If 100% of the foreign material is retrieved from the oil sump and no further material is discovered, clean the sump according to "Engine Cleaning" instructions in the Chapter 12; install the oil sump, service the engine oil and return the engine to service. Perform the next three oil changes at ten hour intervals to confirm lack of foreign material in the oil.

3. Correct discrepancies discovered during the inspection. Do not return the engine to service until the contamination is eliminated and appropriate repairs are made to correct any discrepancies discovered during the inspection.

6-5.8. Sticking or Stuck Valves

Engines operated infrequently or engines consistently serviced with fuel containing high levels of lead are prone to deposit buildup in the valve guide and/or the valve stem. If the condition is ignored, the buildup may lead to sticking valves, or valve train damage.

If one or more valves in the valve train are sticking:

CAUTION: Removing cylinder flange nuts relieves the through-bolt clamping force on the crankcase. Do not remove cylinder flange nuts from more than one cylinder at a time. Do not turn the crankshaft with through-bolt nuts removed. A rotational check will be performed after cylinder installation to verify crankshaft main bearing integrity in the crankcase.

1. Remove the cylinder from the engine according to the "Cylinder Removal" instructions in Section 10-6.1.1.

   a. Remove the valve keepers, springs, seats, and valves from the cylinder according to the primary engine ICA.

   b. Thoroughly clean the cylinder assembly and valve train components with mineral spirits according to the instructions in Section 12-1.1.

   c. Perform a visual and dimensional inspection of the valve guides according to the service limits in the primary engine ICA.

   d. Perform a visual and dimensional inspection of the valve face and stem according to the service limits in the primary engine ICA. Verify the valve stem runout is within service limits.

   e. Perform a visual and dimensional inspection of the rocker arms according to the service limits in the primary engine ICA. If the rocker arms meet the service limits, perform a magnetic particle inspection on the rocker arms to verify the sticking valves did not stress the rocker arms.

f. Perform a visual and dimensional inspection of the pushrods according to the service limits in the primary engine ICA. Inspect the pushrods for runout by rolling them across a surface plate. Runout may not exceed service limits published in the primary engine ICA.

g. Inspect the remaining cylinder parts according to the primary engine ICA.

2. Reassemble the cylinder components with new or serviceable parts, as applicable, according to the instructions in the primary engine ICA.

3. Install and torque the cylinders according to the to the "Cylinder Installation" and "Cylinder Torque" instructions in Section 10-6.1.2 and Section 10-6.1.2.

4. If cylinders are replaced, follow the "Engine Operation after Cylinder Replacement and/or Major Overhaul" instructions in Section 7-2.3 for the first 25 hours of operation after cylinder replacement.