



# Service Instruction

ENGINE COMPONENTS, INC.

S.I. No.: 04-3

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**Title: CONTINUING AIRWORTHINESS DATA FOR ECi TITAN™ O-200 CYLINDER ASSEMBLIES WITH CHT BAYONET PROBE BOSS**

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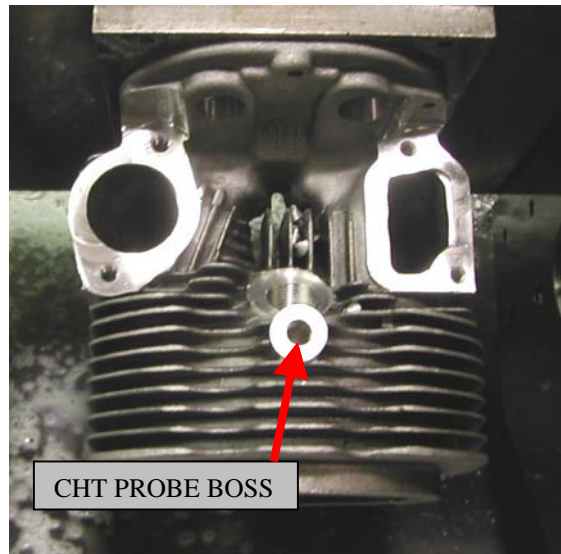
*Technical Portions are FAA DER Approved.*

- 1.0 SCOPE:** This Service Instruction provides continued airworthiness instructions for new ECi TITAN™ Cylinder Assemblies for the C-75, C-85, C-90, O-200, C-125, C-145, O-300 and GO-300 series of engines.
- 2.0 MODELS AFFECTED:** The O-200 series cylinder assembly is manufactured using the GO-300 head to barrel interface geometry. Because of this, the engines using these cylinders are eligible for installation on all C and O series engines. This eligibility and illustrations were addressed in TCM Service Bulletin M63-1, which is no longer active.
- 3.0 ENGINE TIMING:** The O-200 engines incorporating the Titan cylinder assemblies are eligible to use the original 28° BTDC timing of the original engines that were changed to 24° by TCM Service Bulletin 77-12, addressed in Service Bulletin 94-8A and further addressed in FAA AD 96-12-06.

- 4.0 BAYONET PROBE PROVISIONS IN NEW ECi TITAN™ O-200 CYLINDERS:** ECi has revised the casting tooling to provide a Cylinder Heat Temperature (CHT) probe boss below the lower spark plug similar to the probe bosses for other cylinders. This probe boss is machined to accept a probe or receptacle with a 3/8-24 thread.

The new CHT probe boss has been tested under FAA Project PM7600SC-E to verify that there is no degradation of the cooling and to compare the temperatures measured at this probe with the spark plug locations (washer type thermocouple under the spark plug). The testing accomplished revealed that the new CHT boss had insignificant (immeasurable) effect on cooling. Additionally, calibrated probe type thermocouples recorded temperatures of 20 to 25 °F lower than the lower spark plug, and almost the same amount hotter than the top spark plug.

- 5.0 NEW MAXIMUM CYLINDER TEMPERATURES:** Because the probe type thermocouples measure between 20 and 25 °F lower temperatures than temperatures measured at the lower spark plug, ECi recommends that the maximum operating temperature when using thermocouples installed in this location should be maintained below 500 °F. ECi further recommends that cruise temperatures be maintained below 415 °F for longer cylinder life.



O-200 Series Cylinder Head With CHT