

CRITICAL SERVICE BULLETIN
Compliance Necessary to Maintain Safety

CSB04-6

TECHNICAL PORTIONS
 FAA APPROVED

**SUBJECT: INSPECTION OF TSIO-550 AND TSIOL-550 ENGINES WITH
 P/N 654867 PISTONS INSTALLED**

PURPOSE: To inspect installed pistons for heat damage and possible cracks.

COMPLIANCE: Initial inspection required within 25 hours or at the next 100 Hour or Annual Inspection, whichever occurs first. Recurring inspection required at each 100 Hour / Annual Inspection thereafter, whichever occurs first, until the pistons are replaced.

MODELS

AFFECTED: All New and Rebuilt TSIO-550-Series and TSIOL-550-Series engines shipped from the factory between 04/28/1998 and 09/11/2003, and any affected engine model which may have had P/N 654867 pistons installed during repair or overhaul.

GENERAL INFORMATION

Between 04/28/1998 and 09/11/2003 Teledyne Continental Motors installed P/N 654867 pistons in New and Rebuilt TSIO-550-Series and TSIOL-550-Series engines. (Reference Table 1 for affected engines by serial number.) During factory installation, some of the pistons may have been position-stamped above the piston pin bore. Reports from the field have indicated a small number of these pistons have cracked, generally in the area of the position stamp.

INSPECTION PROCEDURES

- (1) During the borescope portion of the routine engine inspection, visually inspect the piston upper surface for the presence of a piston position stamp. (Reference the most current revision of SB03-3 Differential Compression Test and Borescope Inspection Procedures For Cylinders.) Pistons stamped at the factory may have an 1/8" numerical stamp located over the piston pin bore approximately 1" from the piston outer edge.
- (2) If a stamp is found located over the piston pin bore, closely inspect the area surrounding the numerical stamp for evidence of excessive heat indications or cracking. Also carefully inspect the entire area noted in Figure 1 for crack indications.
- (3) If no stamp is found, carefully inspect the entire area noted in Figure 1 for excessive heat indications or cracking. Damage may be present anywhere in the noted inspection area, even in the absence of a position stamp.

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- (4) If evidence of heat damage or cracking is noted, the piston must be removed and replaced with the latest part number replacement piston, using the procedures contained in the appropriate Overhaul or Maintenance Manual. Engines with pistons being replaced due to heat damage indications must also have: (a) The fuel system adjustment verified in accordance the most current revision of Service Information Directive SID97-3 and (b) The magneto timing checked in accordance with the most current revision of Mandatory Service Bulletin MSB94-8 and the appropriate engine Maintenance or Overhaul Manual.
- (5) If no indications of excessive heat or cracking are noted, make a log book entry indicating compliance with the initial inspection requirements of Critical Service Bulletin CSB04-6. Indicate in the entry the next recurring inspection to be accomplished at the next 100 Hour/Annual Inspection, whichever occurs first.
- (6) All P/N 654867 pistons must be replaced at the next overhaul or any time a cylinder is removed. Replacement will cancel all requirements of this bulletin.
- (7) Any new uninstalled P/N 654867 pistons may be returned to TCM for exchange with the latest part number replacement piston.

WARNING

FAILURE TO COMPLY WITH THIS BULLETIN CAN LEAD TO UNDETECTED PISTON DAMAGE, WHICH CAN RESULT IN LOSS OF ENGINE POWER AND/OR ENGINE FAILURE

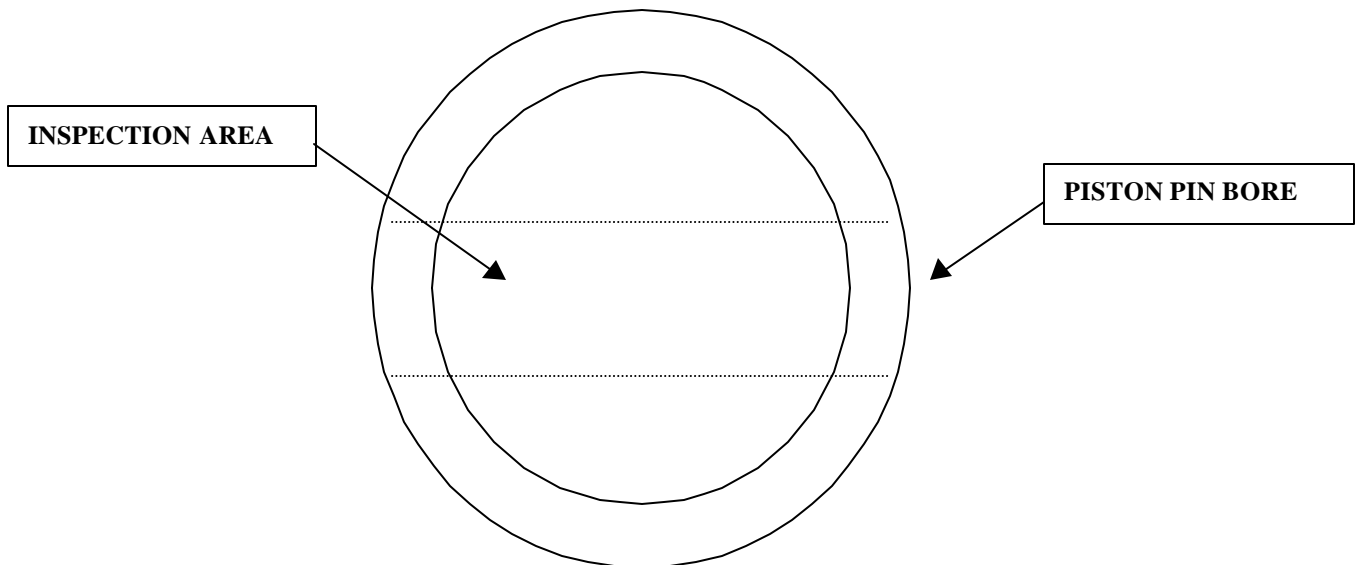


FIGURE 1
P/N 654867 PISTON

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TABLE 1
Engine Models and Serial Numbers

Column 1		Column 2		Column 3		
Engine Model Number	Engine Serial Number	Engine Model Number	Engine Serial Number	Engine Model Number	Engine Serial Number	
TSIO550C1B	802581	TSIO550C1B	814532	TSIO550E1B	803095	
	820582		814533		803097	
	802586		814535		803099	
	802587		814536		803104	
	802589		814537		803106	
	802590		814538		803107	
	802591		814539		803108	
	802593		814540		803109	
	802596		814541		803110	
	802597		814542		803112	
	802598		814543		803113	
	802599		814545		803114	
	802601		814546		803115	
	802602		814548		803119	
	802603		814550		803125	
	802604		814552		803127	
	802605		814553		803128	
	802608		814554		803131	
	802611		814555		803132	
	802613		814556		803135	
	814503		814557		803136	
	814504		814558		803137	
	814505		814559		803141	
	814506		814560		803142	
	814507		814561		803144	
	814508		814562		803146	
	814509		814563		803148	
	814510		814564		803149	
	814511		814565		803151	
	814512		TSIO550C3B		802607	803153
	814513				814547	803154
	814514		TSIO550C5B		802609	803159
	814515		TSIO550C6B		802614	803160
	814517		TSIO550E1B		803601	803168
	814518				803065	803182
	814520				803069	803197
	814521				803077	TSIO550E2B
	814524				803078	803060
	814525				803079	803121
	814526				803081	803147
	814527				83082	803155
	814528				803087	803184
814529		803088	803186			
814530		803090	TSIO550E3B			
814531		803091	803064			
			803068			
			803084			

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Column 4		Column 5		Column 6		
Engine Model Number	Engine Serial Number	Engine Model Number	Engine Serial Number	Engine Model Number	Engine Serial Number	
TSIO550E3B	803085	TSIO550E3B	803163	TSIO1550A9B	800653	
	803086		803164	TSIOL550C1B	803259	
	803089		803165		803260	
	803093		803166		803261	
	803094		803170		803262	
	803098		803171		803263	
	803100		803173		803264	
	803101		803174		803265	
	803102		803177		803266	
	803103		803179		803267	
	803105		803180		803268	
	803116		803190		803269	
	803120		803192		803270	
	803126		803193		803271	
	803129		803194		803272	
	803130		803196		803273	
	803133		803198		803274	
	803134		TSIO550E4B		803195	803275
	803138		TSIO550E5B		803071	803276
	803139				803073	803297
	803140	803075		803298		
	803143	829751		803300		
	803150	TSIOL550A1G	800651	803301		
	803157		800652	803302		
	803158		809259	803303		
	803161		809261	803304		
	803162	TSIOL550A9B	800648			

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WARRANTY

(1) TCM will cover up to 5 hours labor under warranty to perform the initial inspection. The completed, signed compliance form and labor invoice must be submitted to TCM for warranty consideration.

(2) Contact TCM Warranty Services at 1-888-826-5465 Option 2 or 1-251-438-3411 if pistons are found to be damaged as explained in items (2), (3) and (4) above, or if you have new unused P/N 654867 pistons in stock.

On completion of this Critical Service Bulletin, complete the Compliance form below. Failure to complete this form and submit it to TCM may result in a delay in processing your warranty claim. You may mail this form to:

**Teledyne Continental Motors
P.O. Box 90
Mobile, AL 36601
Attn: Bill Ross or Joe Barton**

COMPLIANCE FORM

Owner Name:		Date:
Address:		
City:	State/Country:	Zip Code:
FBO Name:		
Address:		
City:	State/Country:	Zip Code:
Aircraft Registration #:	Make/Model:	S/N:
Engine Model:	Serial Number:	Date Installed:
Engine Total Time:		
<u>Inspection Results / Comments:</u>		

Signature: _____

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