AIRWORTHINESS DIRECTIVE

On the effective date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/LYC/113 Amdt 1 and issues the following AD under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Lycoming Piston Engines

AD/LYC/113
Amdt 2

ECi Cylinder Assemblies 8/2006

Applicability: Lycoming Engines (formerly Textron Lycoming) models 320, 360, and 540 series, parallel valve, reciprocating engines that are:

A. specified in Table 1 of FAA AD 2006-12-07; and

B. fitted with Engine Components Inc. (ECi) cylinder assemblies, part number (P/N) AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1; and

C. with serial numbers (SNs) 1 through 9879 installed. (SN may have an "L" prefix for a long reach spark plug).

Note 1: The set of numbers appearing on the cylinder, below and to the left of the SN, in the form of "12345-67" is not used for determining applicability.

Requirement:

Engines Not Repaired or Overhauled Since New

If your engine has not been overhauled or had any major repair since new, no further action is required.

Engines Overhauled or Repaired Since New

1. If your engine was overhauled or repaired since new, determine if ECi cylinder assemblies, P/N AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1 and SNs 1 through 9879 (SN may have an "L" prefix for a long reach spark plug) are installed on your engine, as follows:

a. Inspect the engine log books and maintenance records for reference to the subject ECi cylinder assemblies.

b. If the engine log books and maintenance records did not record the P/N and SN of the cylinder assemblies, visually inspect the cylinder assemblies and verify the P/N and SN of the cylinder assemblies.

c. If the cylinder assemblies are not ECi, P/N AEL65102 series "Classic Cast", having casting head markings EC 65099-REV-1, no further action is required.
Lycoming Piston Engines

AD/LYC/113 Amdt 2 (continued)

2. If any cylinder assembly is an ECi P/N AEL65102 series "Classic Cast", with casting head markings EC 65099-REV-1 and a SN 1 through 9879, replace the cylinder assembly. (SN may have an "L" prefix for a long reach spark plug).

**Definition of a Replacement Cylinder Assembly**

For the purpose of this AD, a replacement cylinder assembly is defined as follows:

i. A serviceable cylinder assembly made by Lycoming Engines.

ii. A serviceable FAA-approved, Parts Manufacturer Approval cylinder assembly from another manufacturer.

iii. A serviceable ECi cylinder assembly, P/N AEL65102 series, "Titan", having casting P/N AEL85099.

iv. A serviceable ECi cylinder assembly, P/N AEL65102 series “Classic cast” having casting head markings EC 65099-REV-1 that has a SN 9880 or higher. (SN may have an "L" prefix for a long reach spark plug).

3. Do not install any ECi cylinder assembly, P/N AEL65102, having casting head markings EC 65099-REV-1, that has a SN 1 through 9879 onto any engine. (SN may have an "L" prefix for a long reach spark plug).

**Note 2:** FAA AD 2006-12-07 amendment 39-14632 refers. FAA AD 2006-12-07 supersedes AD 2005-26-10.

**Note 3:** ECi Mandatory Service Bulletin 05-8 Revision 2 dated 28 February 2006 pertains to the subject of this AD.

**Compliance:**

1. Within 10 hours after the effective date of this AD, unless previously accomplished.

2. If the cylinder assembly has fewer than 800 operating hours- in-service (HIS) on the effective date of this AD, replace the cylinder assembly at no later than 800 operating HIS. No action is required until the operating HIS reaches 800 hours.

   If the cylinder assembly has 800 operating HIS or more on the effective date of this AD, replace the cylinder assembly within 60 operating HIS after the effective date of this AD.

3. After the effective date of this AD.

This Amendment becomes effective on 3 August 2006.
Lycoming Piston Engines

AD/LYC/113 Amdt 2 (continued)

Background: The FAA has approximately 30 reports of failure of the subject cylinder assemblies marketed by ECi. The requirements of this AD are to prevent loss of engine power due to cracks in the cylinder assemblies and possible engine failure caused by separation of a cylinder head.

Amendment 2 deletes reference to FAA AD 2005-26-10 which is now superseded by FAA AD 2006-12-07. The current amendment also corrects applicability errors and makes reference to the latest revision of ECi Service Bulletin.

Amendment 1 of this AD corrected a typographical error noted in the original issue of the AD and became effective on 13 April 2006.

The original issue of the AD became effective on 16 February 2006.

James Coyne
Delegate of the Civil Aviation Safety Authority

20 June 2006