AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (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.

Propellers - Variable Pitch - McCauley

AD/PMC/48 Propeller Hub Socket Retention Threads 1/2006 DM

Applicability: McCauley Propeller Systems propeller assemblies, models 2D34C53/74E-X; D2A34C58/90AT-X; 3AF32C87/82NC-X; D3AF32C87/82NC-X; D3A32C88/82NC-X; D3A32C90/82NC-X; and 3AF34C92/ 90LF-X, with propeller hubs listed by serial number in Table 1 of this AD:

Table 1.

Hub model	**Hub serial number**
C58, C34, C49, C78, C98	030725, 030726, 030727, 030728, 030729, 030730, 030748, 030749, 030750, 030751, 030752, 030753, 030754, 030755, 030756, 030757, 030758, 030759, 030760, 050403, 050407, 050408, 050410, 050475, 050477
C53	050389
C79, C90	042206, 042207, 042208
C77, C88	042201, 042202
C87 blank index, C72, C93	042239, 042524, 042527, 042528, 042529, 050071, 050073
C92, C74, C86	050866
C87 D index	050934

Note 1: Because a propeller hub can be interchanged and re-identified as a different model with the installation of different studs or adapters, any of the affected hubs could have been re-identified as a different model. Each propeller hub model listed in Table 1 of this AD is the original hub configuration when shipped from McCauley.

Note 2: A list of aeroplanes that these hubs can be fitted to can be found in Table 2 of FAA AD 2005-24-09.

Propellers - Variable Pitch - McCauley

AD/PMC/48 (continued)

Requirement:

1. Remove from service propeller assemblies with affected propeller hubs, listed in Table 1 of this AD.

2. Propeller assemblies with affected propeller hubs listed in Table 1 of this AD must be disassembled, inspected, and have the propeller hub replaced with a serviceable propeller hub.

3. For retention nuts that were removed from an affected propeller hub, visually inspect the retention nut threads with a 10- power magnifier before assembly into a replacement propeller hub. Reject the nut for any signs of galling, heavy localized loading, thread deformation, or chipped threads that may have been caused by thread interference in the propeller hub.

4. Report the findings of any propeller hub removed during Requirement 1 of this AD to:

   Manager,
   New Technologies and Systems Section
   Manufacturing, Certification and New Technologies Office
   Civil Aviation Safety Authority,
   GPO Box 2005, Canberra, ACT 2601

   Fax (02) 6217 1903 or (02) 6217 1442

   Email: airworthiness.directives@casa.gov.au

5. Do not install hubs listed in Table 1 of this AD.

Note 3: McCauley Alert Service Bulletin No. ASB251A, dated 28 September, 2005 pertains to this AD.

Note 4: FAA AD 2005-24-09 Amdt 39-14389 refers.

Compliance: For Requirements 1, 2 and 3: Within 10 flight hours or 10 calendar days after the effective date of this AD whichever occurs first.

For Requirement 4: Within 10 calendar days after the completion of the inspection detailed in Requirement 2 of this AD.

For Requirement 5: After the effective date of this AD.

This Airworthiness Directive becomes effective on 15 December 2005.

Propellers - Variable Pitch - McCauley

AD/PMC/48 (continued)

Background: In August of 2005, McCauley Propeller Systems reported to the FAA that a repair facility had found a single, new, unused propeller hub with improperly machined socket retention threads. Further investigation revealed that McCauley Propeller Systems had improperly machined socket retention threads on 40 propeller hubs, manufactured in 2004 and 2005. Using a propeller hub with improperly machined socket retention threads could cause concentrated loading on the threads, resulting in cracking of the hub and blade separation. This condition, if not corrected, could result in failure of the propeller hub, blade separation, and loss of control of the aeroplane.

James Coyne
Delegate of the Civil Aviation Safety Authority

1 December 2005