


<b>EASA</b>	<b>NOTIFICATION OF A PROPOSAL TO ISSUE AN AIRWORTHINESS DIRECTIVE</b>	
	<b>PAD No.: 08- 098</b>  <b>Date: 22 August 2008</b>  Note: This Proposed Airworthiness Directive (PAD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.	
In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance / cancellation of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below. All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation closing date indicated.		
<b>Type Approval Holder's Name :</b>		<b>Type/Model designation(s) :</b>
APEX AIRCRAFT		CAP 10B
TCDS Number : EASA.A.370		
Foreign AD : Not applicable		
Supersedure: This Airworthiness Directive (AD) supersedes DGAC France AD F-2003-375.		
<b>ATA 57</b>	<b>Wings - Main Wing Spar - Inspection / Replacement / Limitations</b>	
Manufacturer(s): CAARP, Avions Mudry & Cie		
Applicability:	CAP10B airplanes with serial numbers (s/n) 01, 02, 03, 04 and from s/n 1 to s/n 282 inclusive, which have not embodied Apex change 000302 (wood/carbon wing spar)	
Reason:	<p>Since the issuance of the type certificate in 1972, 10 in-flight wing fractures of CAP10B aircraft have been experienced. Overstress damage - resulting from excessive load factors or combination of flight mass and load factors - have been determined as the causal factors.</p> <p>Indeed, during those exceedances microscopic compression failures can be created in the main wing spar and therefore, although the aircraft continues to be operated within the flight envelope, the compression failures could with time propagate, reduce the structural integrity of the wing and lead up to a failure.</p> <p>To address this unsafe condition, several ADs were published. DGAC France AD F-1992-240 required an inspection opening near the wing root and recurrent inspections of the upper spar caps. AD F-2001-616 and its revision 1 introduced a speed limitation for flick manoeuvres and repeat inspections of the two spar caps. Both ADs were superseded by AD F-2003-375 that retained their requirements and added limitations of load factors, -3.5 / +5 G for solo flights and -3.5 / +4.3 G with two persons on board.</p> <p>Since the date of issuance of that AD, the data collection of detailed inspections and the continuous monitoring have revealed the existence of some damages that could pass undetected with the present defined</p>	

	<p>inspections.</p> <p>To prevent this unsafe condition, the present AD supersedes DGAC France AD F-2003-375 and introduces new compulsory actions.</p> <p>For the reasons stated above, this AD mandates an update of the Airplane Flight Manual (AFM) and of the operator's approved aircraft maintenance programme, a detailed inspection of each wing and replacement of the upper part of the spar cap in the exposed area. It also mandates installation of recording g-meters for all CAP10B aircraft and annotation in their logbook of the flight mass and the maximum (positive and negative) load factors after each flight. This follow-up takes into consideration the fact that aerobatics aircraft often go close to the flight envelope limits and that a recurrent inspection - see paragraph (7) of this AD - is therefore necessary. In addition, this AD maintains the speed limit for flick manoeuvres to 160 km/h (86kt).</p>
Effective Date:	[TBD: 14 days after final AD issue date]
Required action(s) and Compliance Time(s):	<p><b>INITIAL ACTIONS</b></p> <p>Unless already accomplished,</p> <p>(1) Prior to next flight after the effective date of this AD, update the Airplane Flight Manual with the appropriate revision given in reference.</p> <p>NOTE 1: As indicated in the applicable Airplane Flight Manual Revision, the airspeed for positive and negative flick manoeuvres must never exceed 160km/h (86kt).</p> <p>(2) Prior to next flight after the effective date of this AD, update the operator's approved aircraft maintenance programme in accordance with the appropriate revision given in reference.</p> <p>(3) After each flight from the effective date of this AD, record, the maximum positive and negative load factors and the flight mass, in the airplane logbook, and increment by one the follow-up of the total number of occurrences superior to 4 000 kg (positive load factor by total mass) or inferior to -2 700 kg (negative load factor by total mass) considered altogether as indicated in the paragraph (§) 3. of the APEX AIRCRAFT Service Bulletin (SB) 030906.</p> <p>(4) Until accomplishment of paragraph (5) and (6) of this AD, operate the aircraft with the following limits:</p> <p style="padding-left: 40px;">-3.5 / +5 G for solo flights and</p> <p style="padding-left: 40px;">-3.5 / +4.3 G with two persons on board, and</p> <p style="padding-left: 40px;">After exceeding any of these limits, refer to paragraphs (8) to (10) of this AD.</p> <p>(5) Within 24 months after the effective date of this AD inspect the top spar cap from rib 4 Left to rib 4 Right and replace the top part of the spar cap, in accordance with paragraphs I.1 to I.3. of the accomplishment instructions of the APEX AIRCRAFT SB 030906.</p> <p>This major maintenance inspection and the replacement of the spar cap top part must be done with the wing removed, and may be only carried out by woodworkers authorized by their national aviation authority.</p> <p>If ANY damage is found, before further flight, report the findings to APEX AIRCRAFT, and obtain an approved repair solution before implementing it accordingly.</p> <p>NOTE 2: Improper woodworking techniques used to create the inspection area in the top spar cap - execution of former SB 16 - have appeared to be contributory to compression cracks. Procedures and techniques for this new inspection deal with this possible risk.</p>

- (6) Before further flight after accomplishment of paragraph (5) of this AD, install a recording G-meter as instructed in the APEX AIRCRAFT Service Bulletin No 030906.

#### CONTINUING ACTIONS

- (7) Upon every accumulation of 60 occurrences, superior to 4 000 kg (positive load factor by total mass) or inferior to -2 700 kg (negative load factor by total mass) considered altogether after the effective date of this AD, repeat the major maintenance inspection and the replacement of the top part of the spar cap that is indicated in the § (5) of this AD. Contact Apex Aircraft for the scarf joints positioning.

#### AFTER ANY EXCEEDANCE OF THE LOAD FACTOR LIMITATIONS

NOTE 3: It is reminded that the inspections in the § 4.5 of the CAP10 Maintenance Programme must be done prior to next flight after any load factor exceeding +6g or -4.5g.

- (8) Any load factor over +6.5g/ -5g prohibits any further flight.

(9) Until accomplishment of the initial replacement of the top spar cap described in § (5) of this AD:

- (a) Prior to next flight after any loads greater than 4 000kg, replace the top spar cap in accordance with paragraph I.3. of the accomplishment instructions of the APEX AIRCRAFT SB 030906 and
- (b) In any other scenarios, as listed in the table of the § IV. of the accomplishment instructions of the APEX AIRCRAFT SB 030906 perform inspections 1000913 and 1000915 and their conditional corrective actions, as defined in the CAP10 Maintenance Programme.

NOTE 4: After inspections 1000913 and 1000915, limitations as defined in paragraph (4) of this AD does still apply.

(10) After accomplishment of the initial replacement of the top spar cap described in § (5) of this AD:

- (a) When loads are included between -2 700kg and 4 000kg (bounds exclusive) no further action is required
- (b) When loads are included between -3 420kg and -2 700kg (both bounds inclusive) or between 4 000kg and 4 560kg (both bounds inclusive), increment by 1 the number of occurrences recorded per the requirements of § (7) and (2) of this AD
- (c) Prior to next flight after any loads greater than 4 560kg, perform the replacement of top spar cap in accordance with paragraph I.3. of the accomplishment instructions of the APEX AIRCRAFT SB 030906 and perform the inspections as instructed in the § 4.5 of the CAP10 Maintenance Programme.
- (d) Prior to next flight after any loads lower than -3 420kg, perform the inspections as required in §4.5 of CAP10 Maintenance Programme

	<p><b>FERRY FLIGHTS</b></p> <p>(11) Permission to ferry an airplane, to a maintenance location to accomplish actions required by paragraphs (4) to (7) and (9) to (10) of this AD, is granted provided that the exceeding load factor ranges between +6.5g / -5g and, the three following conditions are met :</p> <ul style="list-style-type: none"> <li>- Calm Atmosphere</li> <li>- No acrobatic manoeuvre</li> <li>- Only one occupant on board</li> </ul>
Ref. Publications:	<p>- APEX AIRCRAFT Service Bulletin n° 030906 original issue</p> <p>- APEX AIRCRAFT Service Bulletin n° 000302 original issue</p> <p>The use of later approved revisions of these Service Bulletins is acceptable for compliance with the requirements of this AD.</p> <p>Airplane Flight Manual updates:</p> <p style="padding-left: 40px;">Revision 17 of AFM ref. 1000976 [for s/n ≤ 239, French language]</p> <p style="padding-left: 40px;">Revision 9 of AFM ref. 1000977 [for 240 ≤ s/n ≤ 282, French language]</p> <p style="padding-left: 40px;">Revision 9 of AFM ref. 1000977GB [English language]</p> <p>Maintenance programme updates :</p> <p style="padding-left: 40px;">Maintenance Programme Revision 4, ref. 1000923 GB [English]</p> <p style="padding-left: 40px;">Maintenance Programme Revision 4, ref. 1000923 FR [French]</p> <p>All documents are available on Apex website: <a href="http://www.apex-aircraft.com">www.apex-aircraft.com</a></p>
Remarks :	<ol style="list-style-type: none"> <li>1. This Proposed AD will be closed for consultation on 26 September 2008.</li> <li>2. Enquiries regarding this PAD should be referred to the Airworthiness Directives, Safety Management &amp; Research Section, Certification Directorate, EASA. E-mail: <a href="mailto:ADs@easa.europa.eu">ADs@easa.europa.eu</a>.</li> <li>3. This PAD has previously been published as PAD 06-144 on 06 June 2006. Due to the receipt of numerous comments and the subsequent extensive changes it was deemed necessary to re-publish the PAD with a renewed consultation period before issuance of a final AD. The CRD can be found at <a href="mailto:ADs@easa.europa.eu">ADs@easa.europa.eu</a>.</li> <li>4. For any questions concerning the technical content of the requirements in this PAD, please contact: APEX AIRCRAFT</li> </ol> <p style="padding-left: 40px;">1 route de Troyes - 21121 DAROIS - FRANCE</p> <p style="padding-left: 40px;">Phone : + 33 380 352 500 - Fax : + 33 380 356 515</p> <p style="padding-left: 40px;">E-mail: <a href="mailto:airworthiness@apex-aircraft.com">airworthiness@apex-aircraft.com</a></p>