


EASA	PROPOSED AIRWORTHINESS DIRECTIVE	
	<p>PAD No: 06 – 144</p> <p>Date: 06 June 2006</p>	
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.		
Type Approval Holder's Name : APEX AIRCRAFT		Type/Model designation(s): CAP 10B
TC/TCDS Number: DGAC N° 55 / 125		
Foreign AD Nr: None		
Supersedure: DGAC F-2003-375		
ATA 57	Wings - Restriction of Flight Envelope and Main Spar Inspection / Repair	
Manufacturers:	MUDRY - AKROTECH – APEX AIRCRAFT	
Applicability:	CAP10B aircraft, serial numbers 01, 02, 03, 04 and from 1 to 282 (these two numbers included), and that have not been fitted with a replacement wood/carbon-made wing through application of major change 000302.	
Reason:	<p><u>Historical background</u></p> <p>Since the issuance of the type certificate in 1972, 10 CAP10B aircraft suffered an in-flight wing fracture. These fractures came from overstress damages linked to exceeding load factors or a combination of flight gross weight and load factors. When exceeding, microscopic compression failures are created in the main wing spar. Subsequently, even if the CAP10B aircraft is still used within the flight envelope, the compression failures spread, weakening the wing, and may lead to an in-flight fracture.</p> <p>Since 1972, different inspections have been set up by the type certificate holder and enforced by Airworthiness Directives (AD) :</p> <ul style="list-style-type: none"> - French DGAC AD F-1992-240 mandated the creation of an inspection area near the wing root, and introduced visual repetitive inspections in order to inspect for compression cracks on the top spar cap. - French DGAC AD F-2001-616 and its revision 1 introduced a flick maneuvers speed limitation to 160 km/h (86kt), and repetitive inspections of the two spar caps, defined in the CAP10B Maintenance Programme (issue 1 dated April 1, 2002). 	

	<p>- French DGAC AD F-2003-375 enforced an operational limitation of the load factors as follows:</p> <ul style="list-style-type: none"> . for solo flights from -3.5 to +5; . with two persons on board from -3.5 to +4.3 <p>N.B: previous DGAC AD F-1992-240 & F-2001-616 have already been cancelled by their revision 2 and their requirements were added in the DGAC AD F-2003-375.</p> <p><u>Origins of this new AD</u></p> <p>Several detailed inspections have recently revealed that some damages could not have been detected when proceeding to the inspections defined until now.</p> <p>This AD aims to enforce the following requirements:</p> <ul style="list-style-type: none"> - check for absence of cracks each wing, the detailed inspection process must be performed by an authorised woodworker only - replace the top 15 mm (minimum) of the spar cap in the exposed area - install a recording g-meter on board of all CAP10B - for each flight, log in the airplane route logbook, the flight gross weight and the maximum and minimum load factors. - introduce both a time-limit inspection and a wing life limit. <p>This AD also maintains the flick maneuvers speed limitation to 160 km/h (86kt)</p> <p>N.B. It has appeared that improper woodworking technique when creating the inspection area in the top spar cap (execution of former SB 16) could lead to the beginning of a compression crack. Although such a maintenance problem can not lead to an AD by itself, this new inspection will deal with this possible risk.</p>
Effective Date:	Proposed 10 July 2006
Compliance:	<p>The following measures are rendered mandatory from the effective date of this AD.</p> <ol style="list-style-type: none"> 1. As of the effective date of this AD, insert the relevant revision into the Airplane Flight Manual - AFM ref. 1000976 (s/n ≤ 239) revision 16, AFM ref. 1000977 (240 ≤ s/n ≤ 282) revision 8 and AFM ref. 1000977GB revision 7 – insert the relevant revision into the Maintenance Program - English Maintenance Program ref. 1000923GB, revision 2, French Maintenance Program ref. 1000923FR, revision 2 - & enter in the airplane logbook the minimum and maximum load factors and gross weight after each flight. 2. Within 24 months after the effective date of this AD or prior to any further flight after any exceedance over +6.5 / -4.5 G, inspect the top spar cap from rib 4 left to rib 4 right, in accordance with the accomplishment instructions of the APEX AIRCRAFT Service Bulletin No 030906. Replace also the top 15 mm (minimum) of the spar cap in this exposed area. <p>This major maintenance inspection is to be done with the wing removed and may only be carried out by woodworkers authorized by their national aviation authority. (In France, this authorization is given by GSAC/AG M. Aubert, GSAC/AG, 72/78 Grande Rue, 92314</p> <p>SÈVRES CEDEX - Tel.: +33 146 904 8 28 - Fax +33 146 904 848).</p>

	<p>If any cracks or damages are found during the inspection Contact APEX AIRCRAFT for defining a repair solution. The wing shall be considered as unairworthy until the implementation of the repair solution. .</p> <p>3. Before the first flight following the implementation of the major maintenance inspection/repair as requested by the §2. of this AD, install a recording G-meter on board of each CAP10B aircraft as instructed in the APEX AIRCRAFT Service Bulletin No 030906.</p> <p>4. As long as actions required by §2. and §3. of this AD are not embodied on the airplane, the following load factors limitations are maintained: for solo flights from -3.5 to +5, and with two persons on board from -3.5 to +4.3</p> <p>Note 1: If these limits are exceeded before embodiment of actions required by §2. and §3. of this AD, and provided the exceedance ranges between +6.5G / – 4.5G, a ferry flight respecting the +2G, 0G limits and the minimum flight crew (1 pilot) may be allowed.</p> <p>Any exceedance over +6.5 / –4.5 G disallows any further flight.</p> <p>5. Repeat the major maintenance inspection as required by §2. of this AD: _After every 60 occurrences greater than 4000kg load or less than -2700kg or _Ten years after the first occurrence over 4000kg load or below -2700kg whichever comes first.</p> <p>And proceed to the replacement of the wood-made wing after any exceedance over -4.5G / +6 G load factor limits.</p> <p>Note 2: replacing the wing by a wood/carbon-made wing through application of major change 000302 is a terminating action for the requirements of this AD.</p> <p>6. As indicated in the applicable Airplane Flight Manual Revision, the airspeed for positive and negative flick manoeuvres shall never exceed 160km/h (86kt).</p>
Ref. Publications:	<p>Apex Aircraft Service Bulletin n° 030906</p> <p>Apex Aircraft Service Bulletin n° 000302</p> <p>AFM ref. 1000976 (s/n ≤ 239) in French, rev16</p> <p>AFM ref. 1000977 (240 ≤ s/n ≤ 282) in French, rev8</p> <p>AFM ref. 1000977GB in English, rev7</p> <p>English Maintenance Program Revision, ref. 1000923 GB, rev2</p> <p>French Maintenance Program Revision, ref. 1000923 FR, rev2</p> <p>or later approved revisions.</p>
Remarks:	<p>1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this PAD.</p> <p>2. The closing date for comments is 26 June 2006.</p> <p>3. Enquiries regarding this PAD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu</p>

	<p>4. For any questions concerning the technical content of the requirements in this PAD, please contact: APEX AIRCRAFT 1 route de Troyes - 21121 DAROIS - FRANCE Phone : + 33 380 352 500 - Fax : + 33 380 356 515 E-mail: airworthiness@apex-aircraft.com see also: www.apex-aircraft.com/cap10bspair</p>
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