

**EASA PAD No. 07-168**  
**COMMENT RESPONSE DOCUMENT**  
**[officially closed for comments on 26 September 2007]**

PAD / DOC PARAGRAPH COMMENTED	COMMENT / PROPOSAL	AUTHOR OF THE COMMENT	DATE OF COMMENT	PCM RESPONSE
	<p>We have issued a pre-lim EO for the rudder inspections. The EO is going thru final approval right now for 96 affected FedEx A300-600 and A310 aircraft equipped with the pre-mod 8827 composite rudder.</p> <p>Rudder issues were discussed by the Structures Working Group in Hamburg, Germany on 3-7 SEP 07.</p> <p>We all agreed that a special inspection at the leading edge, trailing edge, and around the hoist points is needed due to factory tooling issues (possible lack of pressure at the front spar Z-profile) and possible water ingress at the trailing edge screws and hoist points.</p> <p>I can't speak for all operators. However, after going through the training for ultrasonic and thermography NDT inspection techniques, it became clear that the inspection figures in the SB need to point out the areas where inspection is not possible based on the NTM 55-30-02 graphics. The clarified SB figures are shown on the attached preliminary EO on page 15 and 33 of the attached pdf. NDT inspection is not possible at the intersection of the Lightning Protection Plates (LPPs), and core splices and thickness changes.</p> <p>The UT and Thermographic inspection (X-ray optional) is applicable and effective in finding disbond, water ingress, and core damage on rudder side panel structure. It should be fully accepted by the FAA that after a familiarization course the Thermography can be accomplished by a NDT inspector without full NAS410 certification. This is stated in the NTM Part 10, but would be helpful if this statement was recognized by the AD.</p>	Rolf Onjukka FedEx Engineering	18/9/2007	<p>1/ NTM correct reference is 55-40-02 (and not 55-30-02).</p> <p>2/ The Airbus approach was presented to FDX during the July training at Memphis:  SB's show the general areas to be covered (Z-profile strips, hoist points and trailing edge screws surrounds),  SB refers to relevant NTM for detailed procedure and states for each SB area ("to be inspected except otherwise stated by NTM"),  The NTM clearly identifies local features that are not to be inspected (for UT: GFRP blocks, LPP plates, bottom corner).  So, both SB and NTM are complementary documents and should be used as sources for the engineering order, as correctly done by FDX.</p>

	<p>It was more or less agreed that the trailing edge and hoist point should be inspected at 6 year intervals for both pre and post mod 8827 rudders. This is still under investigation by Airbus.</p> <p>As the finding along the front spar Z-profile (Ref. SB A300-55-6043 and A310-55-2044) are more potentially more serious than the moisture ingress (Ref. SB A300-55-6044 and A310-55-2045), it is requested that consideration be given to a longer grace period for the rudder hoisting points and trailing edge screw areas.</p> <p>A grace period of 1000FC or 12 months for the rudder hoisting points and trailing edge screw areas would be more practical in dealing with this less critical failure mode based on experience so far with the rate of moisture ingress in rudders.</p> <p>Disposition of findings by referring to SRM 55-41-00-100 repair limits, and repair per SRM 55-41-12 should be mentioned in the reference SBs. If water ingress is found without core damage or disbond, then drill/dry out (using vacuum and controlled heat), and filling with potting compound is standard practice. This is not mentioned in the SBs. (Ref. SRM 51-77-12 Figure 214). It would be a great help for these standard composite SRM repair references to be included in the SBs or AD. The SRM is considered approved data to disposition damage found. Contact with Airbus for repair should only be needed if the damage is beyond SRM limits for disposition or repair.</p>			<p>Investigations led on hoisting point area and trailing edge area showed that a one time inspection was sufficient to assess integrity of these areas, and that no damage initiation was expected during further operation. Nevertheless, this one-time thorough inspection needs to be carried out in a short timeframe to assess the in-service rudders condition.</p> <p>Airbus position is to cover any repair by individual Technical Disposition and RAS. No SRM repair is allowed in the area covered by the two ISB's until more data are available.</p>
	<p>With reference to PAD 07-168, Monarch would like to comment that compliance time is very restrictive as aircraft will have to take special inputs to carry out inspections as thermographic method is not readily available in the UK and X-ray requires staging to be erected or rudder removal. This would not be possible during a hangar A check interval timescale and not all our C check inputs are due in next six months.</p>	Neil McArthur Monarch Aircraft Engineering Limited	19/9/2007	<p>Thermo kits have been defined and are readily available for loan. Specific training for rudder thermographic techniques is offered to airlines. After this training session, a certificate for training completion is delivered and is to be used accordingly faced with Airworthiness Authorities.</p>
	<p>On behalf of our member airlines, we submit the following suggestion that relates to EASA Proposed Airworthiness Directive 07-168, dated September 12, 2007:</p> <ul style="list-style-type: none"> <li>• The compliance time should be re-evaluated and extended to 1000 flight cycles or 1 year.</li> <li>• The extended compliance time results from a lack of delamination</li> </ul>	Craig Fabian, ATA	25/9/2007	<p>Compliance time, for embodiment of ISB 55-2044, 55-2045, 55-6043 and 55-6045, of 500 Flight Cycles or 6 months has been established with an appropriate conservatism. As it is today, investigations do not</p>

	findings in the past as well as introduction of a new thermographic procedure.			<p>allow to relax this compliance time.</p> <p>Furthermore, it must be noted that the previous dispositions through EASA AD 2006-0066 should have been considered as temporary - as written in the paragraph Reason of the PAD 07-168, awaiting the development of thorough investigation methods, which are now in place with the thermography and ultrasonic inspections.</p> <p>For that reason, no particular exemption to new AD compliance time could be taken from the compliance with the AD 2006-0066.</p>
	<p>References:</p> <p>/A/ EASA PAD 07-168</p> <p>/B/ Airbus SB A300-55-6043, Revision No. 00, July 23, 2007</p> <p>/C/ Airbus SB A300-55-6044, Revision No. 00, July 23, 2007</p> <p>/D/ Airbus SB A300-55-6028, Revision No. 00, April 19, 2002</p> <p>/E/ EASA AD 2006-0066</p> <p>American Airlines has reviewed ref /A/, and finds that this proposed rule is currently effective to 33 of 34 A300-600s in the AAL fleet. Ref /B/ and ref /C/ both reference all American A300-600s, however MSN 0513 underwent a vertical stabilizer replacement with a post-modification rudder in accordance with ref /D/. American Airlines is currently accomplishing ref /B/ and ref /C/ in accordance with the basic revisions of those service bulletins. American Airlines has already accomplished ref /E/ which will be superseded by ref /A/. Due to lack of findings of delamination in the past as well as the introduction of a new thermographic procedure, American requests that the compliance time be re-evaluated and extended to 1000 flight cycles or 1 year.</p>	Harry Demarest, American Airlines Engineering	21/9/2007	Same answer as for ATA.