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| <b>EASA</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>AIRWORTHINESS DIRECTIVE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p><b>AD No.: 2008-0173R1</b></p> <p><b>Date: 22 October 2010</b></p> <p>Note: This Airworthiness Directive (AD) 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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p>This AD is issued in accordance with EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Type Approval Holder's Name :</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Type/Model designation(s) :</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| AIRBUS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | A330 and A340 aeroplanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| TCDS Number :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | EASA.A.004, EASA.A.015                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Foreign AD :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Revision/Supersedure :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | This AD revises EASA AD 2008-0173 dated 15 September 2008, which superseded EASA AD 2008-0017R1 dated 17 June 2008.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>ATA 24/49</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Electrical Power / Airborne Auxiliary Power – Auxiliary Power Unit (APU) Generator – Inspection / Modification</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Manufacturer(s):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Airbus (formerly Airbus Industrie)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Applicability:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Airbus A330 aeroplanes, models -201, -202, -203, -223, -243, -301, -302, -303, -321, -322, -323, -341, -342 and -343, all manufacturer serial numbers, except those on which Airbus modification 56985 has been embodied in production.</p> <p>Airbus A340 aeroplanes, models -211, -212, -213, -311, -312, -313, -541, -542, -642 and -643, all manufacturer serial numbers, except those on which Airbus modification 56985 has been embodied in production.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Reason:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>Uncontained APU generator failures on ground have occurred on Airbus A330 aeroplane in service. APU generator design is common to all A330 and A340 aeroplane.</p> <p>Preliminary investigations confirmed that these failures have resulted in structural damage to the APU compartment and, in one case, to the stabiliser compartment. Loose APU generator parts can lead to damage to the APU firewall, reducing its fire extinguishing capability and potentially leading to a temporary uncontrolled fire.</p> <p>Although the root cause has not yet been determined, the investigation showed a sequence of events where a collapse of the Drive End Bearing (DEB) leads to an uncontained failure. Evidence has also shown that the DEB failures are not instantaneous, and therefore, the detection of small debris could indicate early stage of a DEB failure.</p> <p>To address this subject, EASA issued Emergency AD 2007-0188-E, requiring repetitive inspections of the APU generator Scavenge filter</p> |

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|                                            | <p>element and filter housing and of the APU generator Drain plug for signs of small debris coming from the APU generator, allowing detection of the early stage of APU generator failure. That AD was later revised to extend the compliance time and to provide another option for the repetitive inspection.</p> <p>Subsequently, another uncontained APU generator failure occurred on ground on an A330 aeroplane, operated within the provisions of MMEL item 36-11-01, with similar structural damages as the previous APU generator burst events. The investigation of this event revealed that the inspection required by paragraph 4 of AD 2007-0188R1 before the first flight under the MMEL rectification interval had not been performed and that the APU generator had not been properly installed (two seal plates instead of one).</p> <p>Consequently, EASA issued AD 2008-0017, superseding AD 2007-0188R1 and requiring the following additional actions:</p> <ul style="list-style-type: none"> <li>- a visual inspection of the APU generator seal plate fitting,</li> <li>- an inspection following MMEL item 36-11-01 or 24-22-01 rectification and</li> <li>- an inspection each time a new or serviceable APU generator or APU is installed on an aeroplane.</li> </ul> <p>EASA issued AD 2008-0017R1 to cancel the inspection of paragraph 4 for A330 aeroplanes, when operated within the provisions of MMEL item 36-11-01 further to ETOPS certification of A330 APU.</p> <p>Finally, Airbus has developed a secondary housing for the APU generator that is designed to contain APU generator parts in the event of an APU generator burst.</p> <p>For the above described reasons, EASA AD 2008-0173 retained the requirements of EASA AD 2008-0017R1, which was superseded, and added the requirement to install a secondary housing on the APU generator. After installation of the secondary APU generator housing on an aeroplane, the repetitive inspections of this AD are no longer required for that aeroplane.</p> <p>This Revision 1 is issued to clarify that both initial and repetitive inspections are not required after the installation of a secondary APU generator housing on an aeroplane.</p> |
| Effective Date:                            | 05 November 2010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Required action(s) and Compliance Time(s): | <p>Required as indicated:</p> <ol style="list-style-type: none"> <li>(1) Unless accomplished previously, within 450 flight hours (FH) or 200 APU operating hours after the last inspection as required by paragraph 1, 2 or 3 of EASA AD 2008-0017R1, or since the aeroplane first flight, whichever occurs later, accomplish the inspections and corrective actions in accordance with the instructions of paragraph 4.2.2 of Airbus All Operator Telex (AOT) A330-24A3044 Revision 03, or AOT A340-24A4057 Revision 03, or AOT A340-24A5021 Revision 02, as applicable to aeroplane model.</li> <li>(2) Thereafter, at intervals not exceeding 450 AFH or 200 APU operating hours, whichever occurs later, repeat the inspections as required by paragraph (1) of this AD and apply the associated corrective actions.</li> <li>(3) <b>Each time an APU Generator or an APU is installed on an aeroplane:</b> <ol style="list-style-type: none"> <li>(3.1) From 05 February 2008 [effective date of AD 2008-0017R1], perform the inspection in accordance with paragraph 4.2.1 of AOT A330-24A3044 Revision 03 or AOT A340-24A4057 Revision 03 or AOT A340-24A5021 Revision 02, as applicable to aeroplane model.</li> </ol> </li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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|                    | <p>(3.2) Within 450 aeroplane FH or 200 APU operating hours, whichever occurs later, after the inspection performed as per paragraph (3.1) of this AD, apply the requirements of paragraph (2) of this AD.</p> <p><b>(4) For A330 aeroplane operated within the provisions of MMEL item 24-22-01'AC Main Generation':</b></p> <p>When the aeroplane is dispatched with APU operating during the entire flight in accordance with MMEL requirement, perform the inspection required in paragraph (1) of this AD:</p> <ul style="list-style-type: none"> <li>- before the first flight of the MMEL rectification interval and</li> <li>- before the first flight following MMEL rectification,</li> </ul> <p>unless the APU Generator is removed or deactivated (quill shaft removed) as per MMEL item.</p> <p><b>(5) Alternative to postpone the inspection required by paragraph (1) or (2) of this AD:</b></p> <p>Aeroplane dispatch is authorised provided one of the options is applied (APU Gen removal, APU Gen deactivation or APU inoperative) as described in paragraph 4.3 of the relevant AIRBUS AOT A330-24A3044 Revision 03 or AOT A340-24A4057 Revision 03 or AOT A340-24A5021 Revision 02, as applicable to aeroplane model. The deferred inspection must be performed before the first flight after reactivation of the system.</p> <p><b>(6) Terminating Action - Modification</b></p> <p>Unless accomplished previously, not later than 31 March 2009, install a secondary housing Line Replaceable Unit (LRU) over the end of the APU generator in accordance with instructions given in Airbus SB A330-24-3045 or SB A340-24-4058 or SB A340-24-5022, as applicable to the aeroplane model.</p> <p>After embodiment of the modification as required by paragraph (6) of this AD, the initial and repetitive inspections of this AD are no longer required.</p> |
| Ref. Publications: | <p>Airbus AOT A330-24A3044 Revision 03<br/> Airbus AOT A340-24A4057 Revision 03<br/> Airbus AOT A340-24A5021 Revision 02</p> <p>Airbus SB A330-24-3045 at original issue<br/> Airbus SB A340-24-4058 at original issue<br/> Airbus SB A340-24-5022 at original issue.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Remarks :          | <ol style="list-style-type: none"> <li>1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.</li> <li>2. The original issue of this AD was posted on 19 August 2008 as PAD 08-095 for consultation until 02 September 2008. The Comment Response Document can be found at <a href="http://ad.easa.europa.eu">http://ad.easa.europa.eu</a>.</li> <li>3. Enquiries regarding this AD 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>4. For any question concerning the technical content of the requirements in this AD, please contact AIRBUS – Airworthiness Office – EAL, Fax: + 33 5 61 93 45 80 or + 33 5 61 93 44 51. E-mail: <a href="mailto:airworthiness.A330-A340@airbus.com">airworthiness.A330-A340@airbus.com</a> .</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |