


<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>	
	<p><b>AD No.: 2014-0188R4</b></p> <p><b>Date: 15 July 2015</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 EU 748/2012, Part 21.A.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 AD applies, except in accordance with the requirements of that AD, 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>		
<p><b>Design Approval Holder Names:</b></p> <p>AIRBUS HELICOPTERS</p> <p>AIRBUS HELICOPTERS DEUTSCHLAND GmbH</p> <p>AGUSTAWESTLAND S.p.A.</p>	<p><b>Type/Model designation(s):</b></p> <p>SA 365, AS 365, EC 155, AS 332 and EC 225 helicopters</p> <p>MBB-BK117 helicopters</p> <p>AB 212 and AB 412 helicopters</p>	
<p>TCDS Numbers: EASA.R.002, EASA.R.010, EASA.R.105 and ENAC Italy A 157.</p>		
<p>Foreign AD: Not applicable</p>		
<p>Revision: This AD revises EASA AD 2014-0188R3 dated 08 July 2015.</p>		
<b>ATA 25</b>	<b>Equipment &amp; Furnishings – Emergency Flotation System – Rotorcraft Flight Manual (Supplement)</b>	
<p>Manufacturer(s):</p>	<p>Airbus Helicopters (formerly Eurocopter, Eurocopter France, Aerospatiale)</p> <p>Airbus Helicopters Deutschland (formerly Eurocopter Deutschland, Eurocopter Hubschrauber GmbH, Messerschmitt-Bölkow-Blohm GmbH)</p> <p>AgustaWestland S.p.A. (formerly Agusta S.p.A)</p>	
<p>Applicability:</p>	<p>SA 365 N, SA 365 N1, AS 365 N2, AS 332 C, AS 332 C1, AS 332 L, AS 332 L1, AS 332 L2 and EC 225 LP helicopters, all serial numbers (s/n),</p> <p>MBB-BK 117 A-1, MBB-BK 117 A-3, MBB-BK 117 A-4, MBB-BK 117 B-1, MBB-BK 117 B-2 and MBB-BK 117 C-1 helicopters, all s/n,</p> <p>and AB 212, AB 412 and AB 412EP helicopters, all s/n,</p> <p>if equipped with Emergency Flotation System (EFS), all part numbers, as approved optional kit for ditching provision from the helicopter Manufacturer or by a Supplemental Type Certificate (STC).</p> <p>AS 365 N3 helicopters, all s/n, if equipped with EFS, all part numbers, as approved optional kit for ditching provision from the helicopter Manufacturer or by an STC, except helicopters modified in accordance with Airbus Helicopters modification (MOD) 365ABN0353.</p> <p>EC 155 B and EC 155 B1 helicopters, all s/n, if equipped with EFS, all part numbers, as approved optional kit for ditching provision from the helicopter Manufacturer or by an STC, except helicopters modified in accordance with Airbus Helicopters MOD 365ABN0354.</p>	

Reason:	<p>For the vast majority of the time during public transport and commercial air offshore operations, operational regulations require the helicopter to be equipped with an approved EFS to allow ditching, in case any technical failure of the helicopter would prevent continued safe flight.</p> <p>The EFS is certificated against airworthiness standards that require demonstrated helicopter ditching performance (i.e. water entry and flotation stability) under “reasonably probable water conditions”. This is defined as at least “Sea State 4” water conditions and this has been the performance level to which many EFS designs have been substantiated. More recent designs have been demonstrated to meet the required performance in more severe sea state ranges.</p> <p>Although a demonstrated sea state limit is inherent to any certificated EFS, some operators perform offshore flights without operational restrictions, sometimes operating over sea conditions which are beyond the maximum demonstrated ditching performance of the EFS installed on the helicopter.</p> <p>These demonstrated limits, if unknown or disregarded at the time of planning a flight over water, could potentially result in an unsafe condition, should the aircraft ditch with a sea state beyond its demonstrated capabilities and possibly capsize.</p> <p>The EFS is usually described in the applicable Rotorcraft Flight Manual (RFM), or in a RFM Supplement (RFMS).</p> <p>EASA conducted a review of the RFM of European large rotorcraft primarily operated for offshore or other over-water operations to determine the information they contain pertaining to the various certificated EFSs. The results of that review identified that a disharmonized status existed before 2006, as the certification guidance material (Advisory Circular AC 29-2C) did not contain reference to any EFS sea state condition in the Limitations Section of the RFM(S).</p> <p>For some more recently certificated helicopters, the maximum ditching sea state demonstrated during EFS certification is referenced in the Limitations Section of the RFM. For some type designs, there is information in different sections of the RFM to indicate either an accurate sea state value or more general sea water surface description. However, for various other helicopter types, no EFS pertinent sea state information has been found.</p> <p>Prompted by this review, EASA issued AD 2014-0188 requiring amendment of the applicable RFM or RFMS to incorporate information pertaining to the sea state conditions demonstrated during EFS certification as helicopter ditching provisions.</p> <p>After that AD was issued, EASA received several questions on the meaning for the demonstrated sea state information as incorporated in the Limitations Section of the applicable RFM(S). These triggered the need to clarify that this is not intended as a new prohibiting airworthiness instruction. In line with AC 29-2C regulatory material, the information goes in the Limitations Section of the RFM(S). It aims however at being on one side mandatorily known by all operating those aircraft as specified in the AD, and on the other side to be accounted for by the operators when assessing safety of helicopter dispatch on any sea-state conditions. Prompted by these developments EASA issued AD 2014-0188R1 to update the RFM(S) texts included in the Appendices of the AD.</p> <p>After EASA AD 2014-0188R1 was issued, Airbus Helicopters developed MOD 365ABN0353 for AS 365 N3 helicopters and MOD 365ABN0354 for EC 155 B and EC 155 B1 helicopters to improve the EFS installations of these helicopters. Both MODs provide better overall ditching performance for these Dolphin helicopters and concurrently update their RFM(s) with the texts as specified in the Appendixes of this AD.</p> <p>Consequently, EASA issued AD 2014-0188R2 to exclude from the applicability helicopters modified in accordance with Airbus Helicopters MOD 365ABN0353 or MOD 365ABN0354, as applicable to the helicopter model.</p>
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	<p>Since EASA AD 2014-0188R2 was issued, Airbus Helicopters Deutschland demonstrated improved overall ditching performance of the EFS installation of MBB-BK 117 C-2 helicopters and their RFM(S) was updated and approved accordingly.</p> <p>EASA issued AD 2014-0188R3 to exclude from the applicability MBB-BK 117 C-2 helicopters, however, incorrect reference was made to a related modification which does not exist and several operators requested clarification.</p> <p>For the reasons described above, this AD is revised to exclude from the applicability all MBB-BK 117 C-2 helicopters.</p>																																	
Effective Date:	<p>Revision 4: 22 July 2015</p> <p>Revision 3: 22 July 2015</p> <p>Revision 2: 25 March 2015</p> <p>Revision 1: 07 November 2014</p> <p>Original issue: 01 September 2014</p>																																	
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) For helicopters equipped with EFS <b>as approved optional kit from the helicopter manufacturer</b>, within 3 months after 01 September 2014 [the effective date of this AD at original issue], amend the Limitations Section of the RFM(S) of the EFS by inserting a copy of Appendix 1 or 2 of the original issue of this AD (or its text), as applicable, and as specified in Table 1 of this AD.</p> <p>This can also be accomplished by amendment of the Limitations Section of the RFM(S) of the EFS by inserting a copy of Appendix 1 or 2 (or its text), as applicable, of this revised AD, or by incorporating a later applicable RFM(S) approved revision containing text of equal effect to that in Appendix 1 or 2, as applicable, of this AD.</p> <p style="text-align: center;">Table 1 - RFM(S) demonstrated Sea State</p> <table border="1" data-bbox="550 1243 1428 1892"> <thead> <tr> <th>Helicopter Type / Model</th> <th>Demonstrated Sea State</th> <th>Appendix</th> </tr> </thead> <tbody> <tr> <td>SA 365 N, SA 365 N1 and AS 365 N2</td> <td>4</td> <td>1</td> </tr> <tr> <td>AS 365 N3 without MOD 365ABN0353</td> <td>4</td> <td>1</td> </tr> <tr> <td>EC 155 B and EC 155 B1 without MOD 365ABN0354</td> <td>4</td> <td>1</td> </tr> <tr> <td>AS 332 C, AS332 C1 and AS 332 L</td> <td>4</td> <td>1</td> </tr> <tr> <td>AS 332 L1 without MOD OP.26277</td> <td>4</td> <td>1</td> </tr> <tr> <td>AS 332 L1 with MOD OP.26277</td> <td>6</td> <td>2</td> </tr> <tr> <td>AS 332 L2</td> <td>6</td> <td>2</td> </tr> <tr> <td>EC 225 LP</td> <td>6</td> <td>2</td> </tr> <tr> <td>MBB-BK 117 A-1, MBB-BK 117 A-3, MBB-BK 117 A-4, MBB-BK 117 B-1, MBB-BK 117 B-2 and MBB-BK 117 C-1</td> <td>4</td> <td>1</td> </tr> <tr> <td>AB 212, AB 412 and AB 412EP</td> <td>4</td> <td>1</td> </tr> </tbody> </table> <p>Note 1: For the purpose of this AD, “sea state” is a reference to the sea state codes from the World Meteorological Organization: sea state 4 describes a “Moderate” sea with significant wave height between 1,25 and 2,5 metres; sea state 6 describes a “Very Rough” sea with significant wave height between 4 and 6 metres.</p>	Helicopter Type / Model	Demonstrated Sea State	Appendix	SA 365 N, SA 365 N1 and AS 365 N2	4	1	AS 365 N3 without MOD 365ABN0353	4	1	EC 155 B and EC 155 B1 without MOD 365ABN0354	4	1	AS 332 C, AS332 C1 and AS 332 L	4	1	AS 332 L1 without MOD OP.26277	4	1	AS 332 L1 with MOD OP.26277	6	2	AS 332 L2	6	2	EC 225 LP	6	2	MBB-BK 117 A-1, MBB-BK 117 A-3, MBB-BK 117 A-4, MBB-BK 117 B-1, MBB-BK 117 B-2 and MBB-BK 117 C-1	4	1	AB 212, AB 412 and AB 412EP	4	1
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	<p>(2) For helicopters equipped with EFS <b>as optional kit approved by an STC</b>, within 3 months after 01 September 2014 [the effective date of this AD at original issue], accomplish the following actions concurrently:</p> <p>(2.1) Review the applicable RFM(S) of the EFS of the helicopter to determine if the Limitations Section includes the range of demonstrated sea state conditions.</p> <p>(2.2) If, during the review as required by paragraph (2.1) of this AD, it is determined that the RFM(S) of the EFS does not include any sea state information, amend the Limitations Section of the RFM(S) by inserting a copy of Appendix 1 of the original issue of this AD (or its text) to include “sea state 4” information (see Note 1 of this AD).</p> <p>This can also be accomplished by amendment of the Limitations Section of the RFM(S) of the EFS by inserting a copy of Appendix 1 of this revised AD (or its text), or by incorporating a later applicable RFM(S) approved revision containing text of equal effect to that in Appendix 1 of this AD.</p> <p>Note 2: In case it can be demonstrated (e.g. by certificated data) that helicopter ditching performance for the installed EFS is higher than the sea state condition(s) quoted in the Appendices required to be inserted in the RFM(S) by this AD, EASA can approve an Alternative Method of Compliance (AMOC) to this AD to allow different RFM(S) information.</p>
Ref. Publications:	None
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 30 May 2014 as PAD 14-089 for consultation until 20 June 2014. 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 Safety Information 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 the applicable design approval holder, or the modification design (STC) approval holder, as applicable: <ul style="list-style-type: none"> <li>Airbus Helicopters – Aéroport de Marseille Provence 13725 Marignane Cedex, France Tel.: +33 (4) 42 85 97 97, Fax: +33 (4) 42 85 99 66 E-mail: <a href="mailto:Directive.technical-support@eurocopter.com">Directive.technical-support@eurocopter.com</a>.</li> <li>Airbus Helicopters Deutschland GmbH, Industriestrasse 4, 86607 Donauwörth, Federal Republic of Germany Tel.: + 49 (0) 151 1422 8976, Fax: + 49 (0) 906 71 4111.</li> <li>AgustaWestland S.p.A, Customer Support &amp; Services – Italy, Product Support Engineering Dpt., Via del Gregge, 100, 21015 Lonate Pozzolo (VA) – Italy Tel.: +39 0331 664905, Fax: +39 0331 664684. E-mail: <a href="mailto:absereing@agustawestland.com">absereing@agustawestland.com</a>.</li> </ul> </li> </ol> <p>Note: At the time of issuance of this AD, EASA does not have information concerning existing EFS STC approvals that are validated for installation on helicopters registered in an EASA Member State.</p>

## Appendix 1: RFM(S) Amendment - Sea State 4 information

## Emergency Flotation System (EFS)

The EFS performance has been demonstrated for ditching up to **Sea State 4**.

The helicopter is certificated for ditching provided the following additional equipment is fitted and approved in accordance with relevant airworthiness requirement:

- Life rafts with survival equipment,
- Life preservers,
- Survival type emergency locator transmitter.

NOTE: The above information must be accounted for when assessing the helicopter dispatch on any sea-state conditions.

World Meteorological Organization standards describe **Sea State 4** as a “Moderate” sea with significant wave height between 1,25 and 2,5 metres.

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**CAUTION**

**THIS PAGE MUST NOT BE REMOVED FROM THE FLIGHT MANUAL (RFM) UNTIL AN ALTERNATIVE RFM REVISION IS APPROVED AND INCORPORATED IN THE FLIGHT MANUAL**

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## Appendix 2: RFM(S) Amendment - Sea State 6 Information

**Emergency Flotation System (EFS)**

The EFS performance has been demonstrated for ditching up to **Sea State 6**.

The helicopter is certificated for ditching provided the following additional equipment is fitted and approved in accordance with relevant airworthiness requirement:

- Life rafts with survival equipment,
- Life preservers,
- Survival type emergency locator transmitter.

NOTE: The above information must be accounted for when assessing the helicopter dispatch on any sea-state conditions.

World Meteorological Organization standards describe **Sea State 6** as a “Very Rough” sea with significant wave height between 4 and 6 metres.

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