



Airworthiness Directive

AD No.: 2021-0148

Issued: 21 June 2021

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 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 [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

Type/Model designation(s):

SIKORSKY AIRCRAFT CORPORATION

S-76 and S-92A helicopters

BELL HELICOPTER TEXTRON, Inc.

212, 214B, 214ST and 412 helicopters

BELL HELICOPTER TEXTRON CANADA Ltd.

222, 230 and 430 helicopters

Effective Date: 05 July 2021

TCDS Number(s): EASA.IM.R.113, EASA.IM.R.001, EASA.IM.R.106, H6SW, H10SW and EASA.IM.R.114.

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2014-0244 dated 07 November 2014.

ATA 25 – Equipment & Furnishings – Emergency Flotation System – Rotorcraft Flight Manual (Supplement)

Manufacturer(s):

Sikorsky Aircraft Corporation (Sikorsky), Bell Helicopters Textron, Inc. (BHTI), (formerly Bell Helicopters, Inc.), Bell Helicopter Textron Canada Limited (BHTC)

Applicability:

Sikorsky S-76A, S-76B, S-76C and S-92A helicopters, all serial numbers (s/n), BHTI 212, 214B, 214B-1, 214ST, 412 and 412EP helicopters, all s/n, BHTC 222, 222B, 222U, 230 and 430 helicopters, all s/n, if equipped with an Emergency Flotation System (EFS), all part numbers, as approved optional kit for ditching provision from the helicopter design approval holder, or by installation through a Supplemental Type Certificate (STC).

Reason:

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 Emergency Flotation System (EFS) to allow ditching, in case any technical failure of the helicopter would prevent continued safe flight.



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.

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.

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.

The EFS is usually described in the applicable Rotorcraft Flight Manual (RFM), or in an RFM Supplement (RFMS).

EASA conducted a review of the RFM of non-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).

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.

Prompted by this review, EASA issued AD 2014-0189 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.

After that AD was issued, some typographical errors were reported from Table 1 of the AD as regards the S-92A helicopter model. In addition, EASA received several questions on the meaning for the demonstrated sea state information as incorporated in the Limitations Section of the 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 that development EASA issued AD 2014-0244, which retained the requirements of EASA AD 2014-0189, which was superseded, corrected the requirements for S-92A helicopters, and updated the RFM(S) texts of the Appendices of the AD.



Since that AD was issued, EASA was made aware of conflicting information incorporated in Table 2 and Appendix 2-B of that AD.

For the reasons described above, this AD retains the requirements of EASA AD 2014-0244, which is superseded, and updates the Appendix 2-B of the AD.

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

- (1) For helicopters, except as specified in paragraph (2) of this AD, equipped with an EFS as approved optional kit from the helicopter manufacturer, within 3 months after 01 September 2014 [the effective date of EASA AD 2014-0189], amend the Limitations Section of the RFM(S) of the EFS by inserting a copy of Appendix 1 or 3 of EASA AD 2014-0189 (or its text), as applicable, and as specified in Table 1 of this AD.

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 3 (or its text), as applicable, of this AD, or by incorporating a later applicable RFM(S) approved revision containing text of equal effect to that in Appendix 1 or 3, as applicable, of this AD.

Table 1 - RFM(S) Demonstrated Sea State

Helicopter Type / Model	Demonstrated Sea State	Appendix
Sikorsky S-76A, S-76B and S-76C	4	1
BHTI 212, 412 and 412EP	4	1
BHTI 214B, 214B-1 and 214ST	4	1
BHTC 222, 222B, 222U, 230 and 430	6	3

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 5 describes a “Rough” sea with significant wave height between 2,5 and 4 metres; sea state 6 describes a “Very Rough” sea with significant wave height between 4 and 6 metres.

- (2) For Sikorsky S-92A helicopters equipped with an EFS as approved optional kit from the helicopter manufacturer: Within the compliance time as required by paragraph (2.1) or (2.2) of this AD, as applicable to helicopter configuration, amend the Limitations Section of the RFM(S) of the EFS by inserting a copy of Appendix 2-A or 2-B of this AD (or its text), as applicable, and as specified in Table 2 of this AD.

(2.1) For helicopters equipped with 3 floats: Within 20 days after 10 November 2014 [the effective date of EASA AD 2014-0244].

(2.2) For helicopters equipped with 5 floats: Within 30 days after the effective date of this AD.



For helicopters equipped with 3 floats, amendment of the RFM(S) of the EFS, before the effective date of this AD, by inserting a copy of Appendix 2-A of EASA AD 2014-0244 is acceptable to comply with requirement of this paragraph.

Amendment of the RFM(S) can also be accomplished by incorporating a later applicable approved RFM(S) revision containing text of equal effect to that in Appendix 2-A or 2-B, as applicable, of this AD.

Table 2 - Sikorsky S-92A RFM(S) Demonstrated Sea State

Helicopter Configuration	Demonstrated Sea State (depending on aircraft weight)	Appendix
3 floats	4 or 5	2-A
5 floats	4 or 6	2-B

- (3) For helicopters equipped with EFS **as optional kit approved by an STC**, within 3 months after 01 September 2014 [the effective date of EASA AD 2014-0189], accomplish the following actions concurrently:
- (3.1) 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.
- (3.2) If, during the review as required by paragraph (3.1) 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 EASA AD 2014-0189 (or its text) to include “sea state 4” information (see Note 1 of this AD).

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 its text) of this AD, or by incorporating a later applicable RFM(S) approved revision containing text of equal effect to that in Appendix 1 of this AD.

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 Alternative Methods of Compliance (AMOC) to this AD to allow different RFM(S) information.

Ref. Publications:

None.

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication.



3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
5. For any question concerning the technical content of the requirements in this AD, please contact:
Sikorsky Aircraft Corporation, Commercial Product Support, 6900 Main Street, P.O. Box 9729, Stratford, Connecticut 06497-9129, USA,
Tel.: +1-203-416-4299, E-mail: sikorskywcs@sikorsky.com.

Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, Texas 76101, USA.
Tel.: +1-817-280-3391, Fax: +1-817-280-6466.

Bell Helicopter Textron Canada, Engineering Department, 12800 rue de l'Avenir, Mirabel, Québec J7J 1R4, Canada, Tel.: +1-450-971-6500, Fax: +1-450-437-6382.

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.



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.

CAUTION

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



Appendix 2-A: RFM(S) Amendment - S-92A with 3 floats - Sea State Information

Emergency Flotation System (EFS) S-92A with 3 floats

For planned flight conditions at aircraft weights less than 18.590 lb/8.432 kg, the EFS performance has been demonstrated for ditching up to **Sea State 4**.

For planned flight conditions at aircraft weights equal to or more than 18.590 lb/8.432 kg, the EFS performance has been demonstrated for ditching up to **Sea State 5**.

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 and **Sea State 5** as a “Rough” sea with significant wave height between 2,5 and 4 metres.

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Appendix 2-B: RFM(S) Amendment - S-92A with 5 floats – Sea State Information

Emergency Flotation System (EFS)**S-92A with 5 floats**

For planned flight conditions at aircraft weights less than 18.590 lb/8.432 kg, the EFS performance has been demonstrated for ditching up to **Sea State 4**.

For planned flight conditions at aircraft weights equal to or more than 18.590 lb/8.432 kg, 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 4** as a “Moderate” sea with significant wave height between 1.25 and 2.5 metres and Sea State 6 as a “Very Rough” sea with significant wave height between 4 and 6 meters.

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Appendix 3: 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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