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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-6673; Directorate Identifier 2015-NM-092-AD; Amendment 39-18978; AD 2017-16-01]

RIN 2120-AA64

Airworthiness Directives; Ameri-King Corporation Emergency Locator Transmitters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Ameri-King Corporation emergency locator transmitters (ELTs) as installed on various aircraft. This AD was prompted by multiple reports of ELT failure and a report of noncompliance to quality standards and manufacturer processes related to Ameri-King Corporation ELTs. This AD requires repetitive inspections of the ELT for discrepancies; repetitive checks, tests, and verifications, as applicable, to ensure the ELT is functioning; and corrective actions if necessary. This AD also allows for optional replacement of affected ELTs and, for certain aircraft, optional removal of affected ELTs. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective October 24, 2017.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of October 24, 2017.

ADDRESSES: For service information identified in this final rule, contact Gilbert Ceballos, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5372; fax: 562-627-5210; email: gilbert.cebалlos@faa.gov. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6673.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6673; or in person at the Docket Management Facility between 9

a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Gilbert Ceballos, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles ACO, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5372; fax: 562-627-5210; email: gilbert.cebillos@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Ameri-King Corporation ELTs as installed on various aircraft. The NPRM published in the Federal Register on June 3, 2016 (81 FR 35657) (“the NPRM”). The NPRM was prompted by multiple reports of ELT failure. The NPRM was also prompted by a report of noncompliance to quality standards and manufacturer processes related to Ameri-King Corporation ELTs. Failure to adhere to these standards and processes could result in ELTs that do not function. The NPRM proposed to require repetitive inspections of the ELT for discrepancies; repetitive checks, tests, and verifications, as applicable, to ensure the ELT is functioning; and corrective actions if necessary. The NPRM also proposed to allow optional replacement of affected ELTs and, for aircraft on which an ELT is not required by operating regulations, optional removal of affected ELTs. We are issuing this AD to detect and correct nonfunctioning ELTs, which could delay or impede the rescue of the flightcrew and passengers after an emergency landing.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment. Alaska Seaplanes supported the NPRM. Alaska Seaplanes stated that, based on its experience with Ameri-King Corporation ELTs, “this is a good and needed AD.”

Request To Withdraw the NPRM

Richard Koehler, an FAA-certificated mechanic and pilot, requested we withdraw the NPRM. The commenter stated he is strongly opposed to issuance of the NPRM for the following reasons:

- The commenter stated the “Discussion” paragraph of the NPRM specifies that there have been 73 reported ELT failures and questioned if all were Ameri-King units or a mix of the older technical standard order (TSO)-C91 units and the newer TSO-C91a units. The commenter stated the TSO-C91a ELT was a huge technological advance over the old TSO-C91 units. The commenter noted that he replaced four defective units (TSO-C91) with AK-450 units (TSO-C91a), which, in his experience, have never had a failure. The commenter questioned how the failure rate of the AK-450 compares to other manufacturers' units.
- The commenter stated that the NPRM appears to be part of “the ongoing vendetta against Ameri-King by the 406 ELT mafia,” which is trying to force all general aviation aircraft to adopt 406 ELTs. The commenter stated that the performance of the AK-450 is at least ten times better than the old C91 units. The commenter recommended that the NPRM should “get rid of poor ELTs” by forcing the replacement of the tens of thousands of C91 units that are still available.

- The commenter stated that the inspection called out in the proposed AD is redundant to the tests required in 14 CFR 91.207(d), which requires a 12-calendar-month inspection cycle on all installed ELTs.

We do not agree to withdraw the NPRM. We find that sufficient data exist to demonstrate that Ameri-King Corporation Model AK-450-() and AK-451-() series ELTs could fail. We consider this an unsafe condition since nonfunctioning ELTs could delay or impede the rescue of the flightcrew and passengers after an emergency landing. The reported ELT failures were not a mix of TSO-C91 units and TSO-C91a units. As stated in the NPRM, we received 73 reports of ELT failures for Ameri-King Corporation Model AK-450-() series ELTs, which are approved under TSO-C91a, and AK-451-() series ELTs, which are approved under TSO-C91a and TSO-C126.

We are also aware of the noncompliance to quality standards and manufacturer processes for Ameri-King Corporation ELTs, which could result in the failure rate of Ameri-King Corporation ELTs being higher than other manufacturers' failure rates. When comparing the data between Ameri-King Corporation and one other ELT manufacturer, the failure rate for Ameri-King Corporation ELTs is significantly higher than for the other manufacturer's ELTs. We acknowledge that 14 CFR 91.207(d) specifies compliance times for inspecting ELTs that overlap with the compliance times in this AD; however 14 CFR 91.207(d) does not specify corrective actions if any discrepancies are found. In addition, 14 CFR 91.207(d) only applies to aircraft on which ELTs are required. This AD applies to all Ameri-King Corporation Model AK-450-() and AK-451-() series ELTs, regardless of installation. Consequently, we have determined that this AD is necessary in order to address the identified unsafe condition in all affected ELTs. This AD, in conjunction with the emergency cease and desist order, dated December 28, 2015, to Ameri-King Corporation that terminated their technical standard order authorization (TSOA) and parts manufacturer approval (PMA), will ensure nonfunctioning Ameri-King Corporation ELTs are identified so that they may be eliminated from the U.S. fleet.

We might also consider further rulemaking to address other ELTs if we receive data that substantiate an unsafe condition exists for those ELTs. We have not changed this final rule in this regard.

Request To Amend Facts Regarding the Basis for the NPRM

Michael L. Dworkin, legal representative for Ameri-King Corporation (Ameri-King), submitted comments intended to serve as Ameri-King's public comments on the NPRM. Ameri-King requested that, if we go forward with the final rule, we amend the facts regarding the basis for the NPRM. Ameri-King stated it objects to the FAA's stated basis for the NPRM for the following reasons:

- Ameri-King stated that the alleged 73 reported ELT failures were never communicated to Ameri-King and Ameri-King has never been afforded the opportunity to investigate the cause(s) of such alleged failures. The commenter questioned whether they were due to design or production defects, or improper installation, maintenance, and use.
- Ameri-King stated that the number of allegedly reported failures does not comport with the FAA's service difficulty report (SDR) database, which shows only 64 reports related to service difficulties with Ameri-King ELTs. Ameri-King stated that many of these 64 reports clearly indicate failures due to factors other than design or manufacturing, and outside of Ameri-King's activities, such as improper installation, improper and inadequate maintenance, and dead batteries.
- Ameri-King noted that whether there were 64 or 73 reports, these numbers are relatively inconsequential considering that there are over 14,500 Ameri-King ELTs in the field. Ameri-King added that utilizing the FAA's number of 73 failures would evidence a failure rate of approximately one-half of one percent (0.5%). Ameri-King stated that the number of reports confined to Ameri-King's ELTs pales in comparison to the FAA's SDR database for all ELT

manufacturers (799 SDRs), further bolstering Ameri-King's quality control and performance accomplishments.

- Ameri-King also pointed out that the NPRM states that for service information, affected persons should contact Ameri-King directly. However, by the terms of the cease and desist order, dated December 28, 2015, the FAA has prevented Ameri-King from providing any assistance. Ameri-King noted that, to the extent functional tests reveal that the failures are due to dead batteries, the aircraft owner may not be able to purchase replacements. Although these batteries are “off the shelf” generic batteries that are not of Ameri-King's design or manufacture, under the terms of the cease and desist order, Ameri-King cannot sell other manufacturers' replacement batteries.
- Ameri-King stated that FAA certification guidelines classify ELTs as non-essential equipment, and that under TSO-C126a and TSO-C126b, ELT failures have been considered by the FAA to be “minor failures.”

In response to the commenter's request to amend the facts regarding the basis for the NPRM, we note that the 73 ELT failures are from reports that Ameri-King Quality Control (QC) provided to the FAA. Regarding the failure rate, SDR source data comes from operator reports and varies in completion and information detail provided. In addition, the SDR database is not a comprehensive database. It is only one of the tools used to investigate potential safety issues (e.g., Hotline reports, National Transportation Safety Board (NTSB) safety investigations, etc.). There is no basis (i.e., data substantiation) for Ameri-King's assertion that Ameri-King's failure rate is lower than other manufacturers.

As stated previously, Ameri-King's failure rate is significantly higher than at least one other manufacturer. The Ameri-King failures include occurrences of inadvertent G-switch activation and premature battery replacement due to repeated inadvertent ELT self-test initialization.

We found Ameri-King's quality control records to be insufficient as they only included data covering one year. In addition, we discovered that Ameri-King would receive failed ELTs from operators, repair them, and reissue them with a new serial number, which affects quality and configuration control. Since there were noncompliance findings with quality standards and manufacturer processes, it is unknown how many future failures there may be due to manufacturing factors at Ameri-King.

We acknowledge that the NPRM should not have referred to Ameri-King for contact information for the service information. We have revised the ADDRESSES section of this final rule to specify contacting the FAA for service information. We have also specified contacting the FAA for service information in paragraph (m)(3) of this AD.

We have also revised paragraph (g) of this AD to clarify that operators are not required to get replacement batteries from Ameri-King Corporation. Ameri-King AK-450-() series ELTs use alkaline batteries. Ameri-King AK-451-() series ELTs use lithium batteries. Regarding lithium battery replacement, operators should note that replacement batteries should follow the battery standards requirements specified in TSO-C142a, Non-Rechargeable Lithium Cells and Batteries. TSO-C142a states that non-rechargeable lithium cells and batteries must meet minimum performance standards in RTCA, Inc., document RTCA DO-227, “Minimum Operational Performance Standards for Lithium Batteries,” dated June 23, 1995 (“DO-227”). As specified in DO-227, if any lithium battery replacement is necessary, all batteries should be replaced, i.e., there should not be a mixture of new and old batteries installed in an ELT. If operators have questions on lithium battery replacement, they may contact the person identified under the FOR FURTHER INFORMATION CONTACT paragraph of this AD.

Regarding Ameri-King's comment about non-essential equipment and minor failures, we acknowledge that ELTs are considered non-essential equipment for certain aircraft. However, the majority of Ameri-King ELTs (approximately 10,500 units) were sold to operators of small airplanes, certificated under 14 CFR part 23. In assessing this issue, we followed Section 4-12, “Other Structure–Occupant Protection,” of the Small Airplane Risk Analysis (SARA) Handbook, dated September 30, 2010, which contains the following statement: “An ASE [aviation safety engineer]

should consider corrective action for any defect or failure in a design feature intended to improve survivability in accidents.” As noted in Section 1-2, “Use of Risk Methods,” of the SARA handbook:

Also, airplane components intended to provide occupant protection must function as intended in a survivable incident or accident. Using a probabilistic approach in these types of situations is not appropriate for making decisions on whether airworthiness action is necessary. However, probabilistic methods can help us determine how quickly we should take an airworthiness action and how effective a proposed airworthiness action may be in reducing the risk associated with an airworthiness concern.

Thus, we find that Ameri-King ELT failures must be addressed because nonfunctioning ELTs could delay or impede the rescue of the flightcrew and passengers after an emergency landing.

Request To Remove Requirement To Repair Discrepancies

Three commenters requested that we remove repair requirements from the proposed AD. One of these commenters, Neal Dillman, noted that the existing manual does not specify that repairs be accomplished. The commenter indicated that doing a repair in order to maintain airworthiness is supported by existing advisory circulars, as well as other FAA documentation. The commenter also noted that other ELT manufacturers have documentation that does not include repairs and, therefore, requiring a repair for Ameri-King is superfluous.

Another commenter, Richard Koehler, questioned why the proposed AD specifies to repair discrepancies when 14 CFR 91.207(d) calls for an inspection of the ELT, but leaves the repair to the mechanic with an inspection authorization. The commenter questioned why we have to add overt words to repair discrepancies in the proposed AD, but not in the regulations. We infer the commenter is requesting that we not include repair requirements.

Another commenter, Michael L. Dworkin, legal representative for Ameri-King, stated that to the extent that the proposed AD requires accomplishing the actions already specified in Ameri-King's Installation & Operations Manuals, “Documents IM-450 and IM-451,” which include yearly inspections and performance of functional and operations tests, no objection is offered. However, Ameri-King stated that the requirements of the proposed AD differ from Ameri-King's Installation & Operations Manuals where it specifies corrective actions that would be required in repairing or replacing inoperative ELTs.

Ameri-King noted that corrective action is already required under the applicable Federal Aviation Regulations and established industry practices. Ameri-King considered that it should be intuitive and axiomatic that any personnel performing inspections and functional or operations tests would take appropriate corrective actions to ensure that any faults are corrected so the equipment meets and performs in accordance with specifications. As such, Ameri-King concluded that there is little, if any, need to mandate corrective action by AD.

Ameri-King also noted that Ameri-King's Installation & Operations Manuals were approved by the FAA in conjunction with the FAA having issued TSOAs and PMAs to Ameri-King, and at that time, the FAA saw no need to specify corrective actions in the event that inspection or testing revealed any problems—most likely because corrective action is already required by the Federal Aviation Regulations and standard industry practices.

We disagree with the commenter's request to remove the requirement to repair discrepancies. When we issue an AD, we must include actions that are necessary to address the unsafe condition. We acknowledge that the existing regulations provide acceptable requirements to ensure proper maintenance inspection and operation. However, we also typically include actions in ADs to ensure that operators do not overlook (unintentionally or otherwise) the necessity of accomplishing on-condition repairs or replacements related to actions that are necessary to address unsafe conditions. We have not found a similar unsafe condition on ELTs from other manufacturers. For the ELTs

identified in this AD, repairs or replacements must be done if discrepancies are found, except as provided by paragraph (j) of this AD. We have not changed this AD in this regard.

However, we have revised paragraphs (h)(1) and (h)(2) of this AD to clarify that either a repair or replacement may be done if any of the conditions identified in those paragraphs is found. Paragraphs (h)(1) and (h)(2) of the proposed AD had only specified that a replacement must be done. An ELT may be repaired using approved maintenance practices and following 14 CFR 91.207(a), 14 CFR 91.207(f), and 14 CFR 135.168, as applicable, and other applicable operating rules under subchapters F and G of 14 CFR chapter I. Repairs must be done at an authorized repair station. For clarity, we added a reference to 14 CFR 135.168 to specify the applicable regulation for rotorcraft that affects ELTs.

We have also revised paragraph (h)(3) of this AD to clarify that all discrepancies must be repaired using approved maintenance practices and to add a reference to 14 CFR 135.168. In addition, we revised paragraph (g) of this AD to include a reference to 14 CFR 135.168.

Request To Require the Use of Specific Equipment

Michael L. Dworkin, legal representative for Ameri-King, requested that we revise the requirements of the proposed AD to include requiring the use of Ameri-King compatible equipment, as currently specified in Ameri-King's Installation & Operations Manuals, for the functional and operations tests. Ameri-King stated that non-compatible equipment will damage the ELT and may produce erroneous test results.

We agree with the commenter that operators should use Ameri-King compatible equipment as identified in Ameri-King's Installation & Operations Manuals. However, this AD requires operators to do actions in accordance with section 3.4, "Periodic Maintenance," of Ameri-King Corporation Document IM-450, "INSTALLATION & OPERATION MANUAL," Revision A, dated October 18, 1995; or section 3.4, "Periodic Maintenance (Instructions for Continued Airworthiness)," Ameri-King Corporation Document IM-451, "INSTALLATION AND OPERATION MANUAL," Revision NC-4.1h, dated July 5, 2014. The steps in those sections either do not specify test equipment that must be used or specify a type of equipment "or equivalent" that must be used. Therefore, we have determined it is not necessary to revise this AD in this regard.

Request To Allow Operators To Determine if the ELT Is Functional

Michael Dunn requested that we allow operators to determine if the ELT is functional. The commenter noted his AK-451 ELT was inadvertently set off and it worked.

We disagree with the commenter's request. The service information specified in this AD provides instructions for testing the ELT, and we have determined this test is necessary to address the identified unsafe condition. We have not changed this AD in this regard.

Request To Revise Work-Hour Estimate

Richard Koehler stated the number of work-hours specified in the NPRM for the inspection is high. The commenter stated the inspection should be done in about 20 minutes, particularly when done in concert with an annual inspection. We infer the commenter is requesting that we revise the 2 work-hours specified in the "Costs of Compliance" paragraph in the preamble of the NPRM.

We disagree with the request to revise the work hours. The specified number of work hours is only an estimate. The estimate does not assume operators will do the required inspection concurrently with other actions that are not mandated by this AD. Operators may accomplish required actions concurrently with other actions, provided the AD actions are done within the specified compliance time. We have not revised this AD in this regard.

Explanation of Removal of Paragraph (h)(4) of the Proposed AD

Paragraph (h)(4) of the proposed AD is an exception to the service information and provides specific instructions to replace non-functioning batteries. We have determined that this AD does not need to specify those instructions as an exception to paragraph (g) of this AD. Replacing affected batteries as required by paragraph (g) of this AD addresses the identified unsafe condition for ELTs with non-functioning batteries. Therefore we have not included paragraph (h)(4) of the proposed AD in the regulatory text of this AD.

Request To Correct the Number of Replacement Batteries

Leon Rinke stated that paragraph (h)(4)(i) of the proposed AD specifies to use four “D” cell batteries, but the AK-450 ELT uses six “D” cell batteries, as specified in the maintenance manual. We infer the commenter is requesting that we revise paragraph (h)(4)(i) of the proposed AD to correct the number of replacement batteries.

We agree with the commenter's statement for the reasons provided. However, we have not revised this AD because paragraph (h)(4)(i) of the proposed AD is not included in the regulatory text of this AD.

Explanation of Change to Table 1 to Paragraph (c) of This AD

We have confirmed with Ameri-King that Bell Helicopter Textron Canada Limited rotorcraft did not receive Ameri-King ELTs. Therefore, we have removed Bell Helicopter Textron Canada Limited rotorcraft from table 1 to paragraph (c) of this AD, which lists known aircraft that might have the affected ELTs installed. However, if an affected ELT is installed on any Bell Helicopter Textron Canada Limited rotorcraft, this AD applies to that rotorcraft.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information Under 1 CFR Part 51

We reviewed section 3.4, “Periodic Maintenance,” Ameri-King Corporation Document IM-450, “INSTALLATION & OPERATION MANUAL,” Revision A, dated October 18, 1995; and section 3.4, “Periodic Maintenance (Instructions for Continued Airworthiness),” Ameri-King Corporation Document IM-451, “INSTALLATION AND OPERATION MANUAL,” Revision NC-4.1h, dated July 5, 2014. The service information describes procedures for inspections of the ELT for discrepancies; checks, tests, and verifications to ensure the ELT is functioning; and corrective actions. Corrective actions include replacing affected parts. These documents are distinct because they apply to different Ameri-King Corporation ELT models. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 14,500 ELTs installed on various aircraft of U.S. registry. We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Cost per product	Cost on U.S. operators
Inspections, checks, tests, and verifications	2 work-hours × \$85 per hour = \$170 per inspection cycle	\$170 per inspection cycle	\$2,465,000 per inspection cycle.

We estimate the following costs to do any necessary replacements that would be required based on the results of the inspections, checks, tests, and verifications. We have no way of determining the number of aircraft that might need these replacements.

On-Condition Costs

Action	Labor cost	Parts cost	Cost per product
Replacement	4 work-hours × \$85 per hour = \$340	Between \$600 and \$1,500	Between \$940 and \$1,840.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):



AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

2017-16-01 Ameri-King Corporation: Amendment 39-18978; Docket No. FAA-2016-6673; Directorate Identifier 2015-NM-092-AD.

(a) Effective Date

This AD is effective October 24, 2017.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Ameri-King Corporation Model AK-450-() and AK-451-() series emergency locator transmitters (ELTs). This appliance is installed on, but not limited to, aircraft identified in table 1 to paragraph (c) of this AD.

Table 1 to Paragraph (c) of This AD—Certain Aircraft That Might Have Affected ELTs Installed

Aircraft	ELT model
Airbus rotorcraft	AK-451.
American Champion Aircraft Corp. airplanes	AK-450 and AK-451.
Aviat Aircraft Inc. airplanes	AK-450.
Beechcraft Corporation airplanes	AK-451.
Bombardier Inc. airplanes	AK-451.
Cessna Aircraft Company airplanes	AK-451.
Cirrus Design Corporation airplanes	AK-451.
Diamond Aircraft Industries Inc. airplanes	AK-450 and AK-451.
Eclipse Aerospace Inc. airplanes	AK-451.
Embraer S.A. airplanes	AK-451.
KitFox Aircraft LLC (formerly SkyStar Aircraft Corporation and also Denney Aerocraft Company) airplanes	AK-450.
Luscombe Aircraft Corporation airplanes	AK-450 and AK-451.
Mooney Aircraft Corporation airplanes	AK-450.

Piper Aircraft Inc. airplanes	AK-451.
Robinson Helicopter Company rotorcraft	AK-451.
Sikorsky Aircraft Corporation rotorcraft	AK-451.
SOCATA, S.A., Socata Groupe Aerospatiale airplanes	AK-450.
Twin Commander Aircraft LLC airplanes	AK-451.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 2562, Emergency Locator Beacon.

(e) Unsafe Condition

This AD was prompted by multiple reports of ELT failure. This AD was also prompted by a report of noncompliance to quality standards and manufacturer processes related to Ameri-King Corporation ELTs. Failure to adhere to these standards and processes could result in ELTs that do not function. We are issuing this AD to detect and correct nonfunctioning ELTs, which, if not corrected, could delay or impede the rescue of the flightcrew and passengers after an emergency landing.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Repetitive Actions and Corrective Actions

Within 12 months after the effective date of this AD, do general visual inspections of the ELT for discrepancies; checks, tests, and verifications, as applicable, to ensure the ELT is functioning; and all applicable corrective actions; in accordance with section 3.4, "Periodic Maintenance," of Ameri-King Corporation Document IM-450, "INSTALLATION & OPERATION MANUAL," Revision A, dated October 18, 1995; or section 3.4, "Periodic Maintenance (Instructions for Continued Airworthiness)," Ameri-King Corporation Document IM-451, "INSTALLATION AND OPERATION MANUAL," Revision NC-4.1h, dated July 5, 2014; as applicable; and as required by paragraph (h) of this AD. Do all applicable corrective actions following 14 CFR 91.207(a), 14 CFR 91.207(f), and 14 CFR 135.168, as applicable, and other applicable operating rules under subchapters F and G of 14 CFR chapter I (hereafter referred to as "other applicable operating rules") after accomplishing the inspections, checks, tests, and verifications. Repeat the inspections and applicable checks, tests, and verifications thereafter at intervals not to exceed 12 months until the terminating action specified in paragraph (j) of this AD is done. Operators are not required to get replacement batteries from Ameri-King Corporation.

(h) Additional Corrective Actions

(1) If, during any action required by paragraph (g) of this AD, any ELT fails the functional test specified in step 6., the verification specified in step 7., or the activation check specified in step 8., of section 3.4, "Periodic Maintenance," of Ameri-King Corporation Document IM-450, "INSTALLATION & OPERATION MANUAL," Revision A, dated October 18, 1995, do the actions specified in paragraph (h)(1)(i) or (h)(1)(ii) of this AD.

(i) Replace the affected Model AK-450-() ELT with a serviceable FAA-approved ELT as specified in paragraph (i) of this AD ("Definition of Serviceable FAA-approved ELT"), following 14

CFR 91.207(a), 14 CFR 91.207(f), and 14 CFR 135.168, as applicable, and other applicable operating rules.

(ii) Repair the ELT using approved maintenance practices and following 14 CFR 91.207(a), 14 CFR 91.207(f), and 14 CFR 135.168, as applicable, and other applicable operating rules.

(2) If, during any action required by paragraph (g) of this AD, any ELT fails any of the actions specified in paragraphs (h)(2)(i) through (h)(2)(v) of this AD: Replace the affected Model AK-451-() ELT with a serviceable FAA-approved ELT as specified in paragraph (i) of this AD (“Definition of Serviceable FAA-approved ELT”), following 14 CFR 91.207(a), 14 CFR 91.207(f), and 14 CFR 135.168, as applicable, and other applicable operating rules; or repair the ELT using approved maintenance practices and following 14 CFR 91.207(a), 14 CFR 91.207(f), and 14 CFR 135.168, as applicable, and other applicable operating rules.

(i) The operational test specified in step 3.4.6 of section 3.4, “Periodic Maintenance (Instructions for Continued Airworthiness),” of Ameri-King Corporation Document IM-451, “INSTALLATION AND OPERATION MANUAL,” Revision NC-4.1h, dated July 5, 2014.

(ii) Any check specified in step 3.4.7 of section 3.4, “Periodic Maintenance (Instructions for Continued Airworthiness),” of Ameri-King Corporation Document IM-451, “INSTALLATION AND OPERATION MANUAL,” Revision NC-4.1h, dated July 5, 2014.

(iii) The digital message verification specified in step 3.4.8 of section 3.4, “Periodic Maintenance (Instructions for Continued Airworthiness),” of Ameri-King Corporation Document IM-451, “INSTALLATION AND OPERATION MANUAL,” Revision NC-4.1h, dated July 5, 2014.

(iv) The registration verification specified in step 3.4.9 of section 3.4, “Periodic Maintenance (Instructions for Continued Airworthiness),” of Ameri-King Corporation Document IM-451, “INSTALLATION AND OPERATION MANUAL,” Revision NC-4.1h, dated July 5, 2014.

(v) The verification of the ELT and global positioning system (GPS) interface specified in step 3.4.10 of section 3.4, “Periodic Maintenance (Instructions for Continued Airworthiness),” of Ameri-King Corporation Document IM-451, “INSTALLATION AND OPERATION MANUAL,” Revision NC-4.1h, dated July 5, 2014.

(3) If, during any action required by paragraph (g) of this AD, any of the discrepancies specified in paragraphs (h)(3)(i) through (h)(3)(vi) of this AD are found, repair all discrepancies using approved maintenance practices and following 14 CFR 91.207(a), 14 CFR 91.207(f), and 14 CFR 135.168, as applicable, and other applicable operating rules.

(i) Any unsecured fastener or mechanical assembly.

(ii) Any cuts or abrasions on the coaxial cable outer jacket.

(iii) Any corrosion on the “BNC” connectors and mating plug on the antenna and the ELT main unit.

(iv) Any wear or abrasion on the modular cable outer jacket.

(v) Any corrosion on the jack and plug of the modular connecting cable.

(vi) Any corrosion on the battery compartment.

(i) Definition of Serviceable FAA-Approved ELT

For the purposes of this AD, a serviceable FAA-approved ELT is any FAA-approved ELT other than a Model AK-450-() and AK-451-() series ELT produced by Ameri-King Corporation.

(j) Optional Terminating Action

Doing the applicable action specified in paragraph (j)(1) or (j)(2) of this AD terminates the actions required by paragraphs (g) and (h) of this AD.

(1) For aircraft required by operating regulations to be equipped with an ELT: Replace the ELT with a serviceable FAA-approved ELT as specified in paragraph (i) of this AD (“Definition of Serviceable FAA-approved ELT”).

(2) For aircraft not required by operating regulations to be equipped with an ELT: Replace the ELT with a serviceable FAA-approved ELT as specified in paragraph (i) of this AD (“Definition of Serviceable FAA-approved ELT”). The ELT may be removed as an alternative to the ELT replacement; if an ELT is re-installed, it must be a serviceable ELT as specified in paragraph (i) of this AD (“Definition of Serviceable FAA-approved ELT”).

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Los Angeles Aircraft Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (l) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(l) Related Information

For more information about this AD, contact Gilbert Ceballos, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5372; fax: 562-627-5210; email: gilbert.cebillos@faa.gov.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Section 3.4, “Periodic Maintenance,” Ameri-King Corporation Document IM-450, “INSTALLATION & OPERATION MANUAL,” Revision A, dated October 18, 1995.

(ii) Section 3.4, “Periodic Maintenance (Instructions for Continued Airworthiness),” Ameri-King Corporation Document IM-451, “INSTALLATION AND OPERATION MANUAL,” Revision NC-4.1h, dated July 5, 2014.

(3) For service information identified in this AD, contact Gilbert Ceballos, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles Aircraft Certification Office (ACO), 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: 562-627-5372; fax: 562-627-5210; email: gilbert.cebillos@faa.gov.

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on July 19, 2017.
Michael Kaszycki,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.