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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2007-0089; Directorate Identifier 2007-NM-117-AD; Amendment 39-15546; AD 2008-12-03]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Various Transport Category Airplanes Equipped With Auxiliary Fuel Tanks Installed in Accordance With Certain Supplemental Type Certificates**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for various transport category airplanes. This AD requires deactivation of Rogerson Aircraft Corporation auxiliary fuel tanks. This AD results from fuel system reviews conducted by the manufacturer, which identified potential unsafe conditions for which the manufacturer has not provided corrective actions. We are issuing this AD to prevent the potential of ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

**DATES:** This AD is effective July 9, 2008.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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 (telephone 800-647-5527) is the Document 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:** Serj Harutunian, Aerospace Engineer, Propulsion Branch, ANM-140L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5254; fax (562) 627-5210.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to various transport category airplanes. That NPRM was published in the Federal Register on October 25, 2007 (72 FR 60600). That NPRM proposed to require deactivation of Rogerson Aircraft Corporation auxiliary fuel tanks.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

### **Request To Remove Supplemental Type Certificate (STC) From Applicability**

Southeast Aero-Tek requests that we remove STC SA1054NW from the applicability of the NPRM. The commenter states that this STC has been purchased from Rogerson and assigned to the FAA's Atlanta Aircraft Certification Office (ACO).

We disagree with the request. STC SA1054NW is not compliant with Special Federal Aviation Regulation No. 88 ("SFAR 88," Amendment 21-78, and subsequent Amendments 21-82 and 21-83), included in a regulation titled "Transport Airplane Fuel Tank System Design Review, Flammability Reduction and Maintenance and Inspection Requirements" (66 FR 23086, May 7, 2001).

In a letter dated July 30, 2007, Rogerson states that ownership of STC SA1054NW was transferred to Executive Jet Aircraft Co., Ltd. In this case, although the Atlanta Aircraft Certification Office (ACO) has geographic responsibility, the Los Angeles ACO is the appropriate office to review and approve alternative methods of compliance to the requirements of this AD. This AD is intended to require deactivation of all affected auxiliary fuel tanks for which Rogerson was the original STC holder, regardless of current ownership of the associated STCs. We have not changed the AD regarding this issue.

### **Request To Extend Compliance Time: Lack of Notification**

In a comment submitted December 5, 2007, Dallah Albaraka states that it received no FAA notification of the NPRM and discovered its existence only "recently." The commenter questions whether the outreach provisions of the Regulatory Flexibility Act were properly exercised, given the significant economic impact, and a lack of other comments posted from other affected operators, which the commenter attributes to lack of notification. Dallah Albaraka adds that the proposed December 2008 deadline is insufficient for an operator to budget and acquire alternative methods to conduct air operations. For Dallah Albaraka, the proposed deactivation will require divesting an existing airplane and acquiring a new airplane with a range that meets operational needs. Dallah Albaraka will not be able to do this by December 2008.

We infer that the commenter is requesting an extension of the compliance time. We disagree that the compliance time should be extended. The compliance time specified in this AD is necessary to prevent the unsafe condition. The outreach provisions of the Regulatory Flexibility Act to which the commenter refers apply only when a rulemaking action will have a significant economic impact on a substantial number of small businesses. Based on the estimated cost of compliance with the actions directly required by this AD, we determined that this rulemaking action will not have a significant economic impact. However, the NPRM would not prohibit extended range operations using auxiliary fuel tanks, if the tanks are compliant with SFAR 88 requirements. We have made every effort to communicate with industry and operators about the requirements of complying with SFAR 88, through FAA-sponsored seminars and regulatory amendments and provisions for compliance. We do

not individually notify persons of proposed ADs that might affect them. Instead, government agencies publish proposed rules in the Federal Register to notify the public and solicit comments. As previously stated, this AD was first published as a proposal in the Federal Register. Individuals should frequently monitor the Federal Register's publications for proposed rules that may affect them.

In most ADs, we adopt a compliance time allowing a specified amount of time after the AD's effective date. In this case, however, the FAA has already issued regulations that require operators to revise their maintenance/inspection programs to address fuel tank safety issues. The compliance date for these regulations is December 16, 2008. To provide for coordinated implementation of these regulations and this AD, we are including this same compliance date in this AD. However, ADs apply to only U.S. registered airplanes. If the commenter's affected airplanes are not registered in the U.S., the commenter may wish to discuss the requirements of this AD with the authority for the country of registry. We have not changed the final rule regarding this issue.

### **Request To Extend Compliance Time: Lack of Manufacturer Support**

Marbyia Investments requests that we extend the deadline to comply with the proposed actions. Based on Rogerson's lack of response to the SFAR 88 requirements, Marbyia and the other operators of Rogerson systems must make alternative arrangements to comply.

We disagree with the request to extend the compliance time for the reasons explained in our response to the previous comment. In addition, this commenter did not request a specific compliance time or present any data that would support use of a different method of compliance or justify an extension of the compliance time. However, ADs apply to only U.S. registered airplanes. It is our understanding that the commenter's affected airplanes are not registered in the U.S. If this is the case, the commenter may wish to discuss the requirements of this AD with the authority for the country of registry. We have not changed the final rule regarding this issue.

### **Requests To Revise Cost Estimate**

Dallah Albaraka states that we greatly underestimated the costs to comply with the proposed actions. The commenter asserts that deactivating the auxiliary tanks will have a significant detrimental impact on the long-range capabilities of each airplane. The result will be greater operational costs necessary for operators to find alternative modes of travel, incur additional takeoffs and landings, or acquire other airplanes with the necessary range. Marbyia Investments adds that the consequences of the STC suspension will create large financial and operational burdens, probably making the future use of its aircraft untenable.

Dallah Albaraka also asserts that, because of the payload detriment of hundreds of pounds of empty tanks, no operator would deactivate the tanks without removing them from the airplane. The commenter requests that we revise the cost estimate to include costs to remove and dispose of the tanks as potential hazardous materials. In addition, the commenter requests that we include the cost of developing and obtaining a "separate design approval" since this conditional burden would be borne by the operators.

Dallah Albaraka also states that deactivating the auxiliary tank would significantly decrease the value of the airplane. Without the long-range capability provided by the auxiliary tanks, Dallah Albaraka states that its Model 727 airplane would be inoperable, and attempts to market the airplane have been unsuccessful due to the potential effect of the NPRM.

Another commenter, Southeast Aero-Tek, notes that, because of the construction of the "box and bladder," accessing the bladders would necessitate removing the boxes, and removing the bladders would involve several major structural repairs and plumbing modifications.

We infer that the commenters are requesting that we revise the cost estimate in the NPRM to account for the additional costs referred to in their comments. We disagree. The cost information in an AD generally includes only the direct costs of the specific actions required by this AD. We recognize that, in doing the actions required by an AD, operators might incur incidental costs in

addition to the direct costs. Those incidental costs, which might vary significantly among operators, are almost impossible to calculate. We have not changed the final rule regarding this issue.

### **Request To Revise NPRM To Require Viable Modification**

Dallah Albaraka requests that we delay issuing the final rule until Rogerson can supply service information. Since the NPRM specifies a modification that would allow continued use of the tanks, the operator is burdened with developing an STC as an alternative method of compliance to the proposed deactivation. The commenter states that, if this is the only viable option to operators that need the extended range provided by the auxiliary tanks, we should coordinate development of the STC with Rogerson, and revise the AD to require the STC modification as the primary compliance method.

We do not agree to delay the issuance of this AD. In many cases, manufacturers do develop modifications to correct unsafe conditions. In this case, Rogerson has chosen not to do so. Our obligation is to ensure that airplanes with the subject auxiliary fuel tanks are safe to operate. In the absence of a commitment by Rogerson to develop the necessary modifications, we have no other course of action to ensure the safe operation of the affected airplanes than to require the deactivation of the tanks.

### **Request To Revise NPRM Based on Differential Use and Configuration**

Dallah Albaraka states that the NPRM does not consider the various STC configurations for the auxiliary tank installation and the corresponding levels of safety they provide. The commenter adds that the NPRM does not consider operators' varying levels of utilization of the affected airplanes.

We infer that the commenter is requesting that we revise the NPRM to provide unique requirements based on airplane configuration and utilization rates. We disagree. Regardless of utilization, the fuel tanks that are installed in accordance with the referenced STCs exhibit unsafe conditions. These unsafe conditions must be corrected to provide an acceptable level of safety. We have not changed the final rule in this regard.

### **Request To Allow Alternative Methods**

Dallah Albaraka states that the NPRM does not provide for inspections as a way to extend the compliance time. The commenter states that periodic verification of the system condition and operation would address all aspects identified as safety concerns in the proposed AD. In addition, the commenter notes that the NPRM describes safety concerns associated with "dry running" the fuel pumps. The commenter asserts that these concerns were addressed for Boeing Model 727 airplanes by simple operational limitations (including placards and AFM revisions), as specified in AD 2005-13-40, amendment 39-14177 (70 FR 37659, June 30, 2005). The commenter states that those limitations ensure that the fuel pumps are not operated when the tanks are empty. The commenter requests that we revise the AD to provide other ways to comply with the NPRM other than by deactivating the auxiliary fuel tanks.

We disagree. AD 2005-13-40 addresses one unique unsafe condition associated with the fuel pumps installed in a Boeing-designed auxiliary fuel tank system. In the case of the STCs affected by this AD, there are other potential unsafe conditions for which simple operational limitations would not be effective. We have not changed the final rule regarding this issue.

## **Request To Revise Compliance Method**

Southeast Aero-Tek disagrees with the Appendix A criteria provided in the NPRM. Service bulletins containing similar criteria have been rejected. According to the commenter, the only acceptable compliance method should involve removing the system and restoring affected airplanes to their original configuration—consistent with the service bulletins.

We partially agree. We have no record of the commenter's service bulletins being rejected. But the NPRM does provide for the complete removal of the system, when additional information is provided to and approved by the FAA. The intent of the NPRM is to prevent usage of Rogerson auxiliary tanks by their deactivation. Any approved service bulletin for complete removal would meet the intent of this AD. We have not changed the final rule regarding this issue.

## **Request for Consideration of Specific Proposal**

Southeast Aero-Tek states that the cylindrical tank system could retain its bleed air system to purge the tanks with bleed air if the vent valve were opened.

We infer that the commenter is proposing a specific solution to one issue related to tank deactivation. Such a proposal should instead be submitted to the FAA as a request for approval of an alternative method of compliance (AMOC) in accordance with the provisions of paragraph (h) of this AD. However, the commenter should note that its request is not consistent with the deactivation criteria stated in paragraph (3) of Appendix A of this AD.

## **Information Collection Approval**

Paragraph (f) of this AD has been revised to note the Office of Management and Budget's approval of the information collection requirements in this AD.

## **Request To Correct Typographical Error**

Southeast Aero-Tek notes an incorrect title in Appendix A, paragraph (4), of the NPRM, for AC 25-8. We have revised the final rule accordingly.

## **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We also determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

## **Costs of Compliance**

There are about 148 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs for the 39 U.S.-registered airplanes to comply with this AD. Based on these figures, the estimated costs for U.S. operators could be as high as \$252,720 to submit the report and prepare the deactivation procedures, and \$140,400 to deactivate the tank.

### Estimated Costs

Action	Work hours	Average labor rate per hour	Parts	Individual cost
Report	1	\$80	None	\$80, per airplane
Preparation of tank deactivation procedure	80	\$80	None	\$6,400, per airplane
Physical tank deactivation	30	\$80	\$1,200	\$3,600, per airplane

### 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), and
- (3) 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.

You can find our regulatory evaluation and the estimated costs of compliance in the AD Docket.

### List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, 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 AD:



**2008-12-03 Various Transport Category Airplanes:** Amendment 39-15546. Docket No. FAA-2007-0089; Directorate Identifier 2007-NM-117-AD.

**Effective Date**

(a) This airworthiness directive (AD) is effective July 9, 2008.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to airplanes, certificated in any category and equipped with auxiliary fuel tanks installed in accordance with specified Supplemental Type Certificates (STCs), as identified in Table 1 of this AD.

**Table 1. - Affected Airplanes**

<b>Airplanes</b>	<b>Auxiliary tank STC</b>
Boeing Model 707 airplanes	SA4053WE, SA1308NM
Boeing Model 727-100 series airplanes	SA2970WE, SA3674WE, SA3157WE, SA3319WE, SA3559WE, SA2734WE, SA3920NM, SA3810WE, SA1979NM, SA1398NM, SA3483WE
Boeing Model 727-200 series airplanes	SA3065WE, SA1051NW
Boeing Model 737-200 series airplanes	SA1082NW, SA2153WE, SA1054NW
Boeing Model 737-400 and -500 series airplanes	SA3992NM, SA3980NM
Boeing Model 767-200 series airplanes	SA5544NM
British Aerospace Model 1-11-400 series airplanes	SA1995WE, SA1626WE, SA3819WE, SA2971WE
McDonnell Douglas Model DC-9-15 and DC-9-15F airplanes	SA3558WE, SA2587WE, SA1050NW
McDonnell Douglas Model DC-9-32F (C-9B) airplanes	SA3436NM, SA3495NM

## **Unsafe Condition**

(d) This AD results from fuel system reviews conducted by the manufacturer. We are issuing this AD to prevent the potential of ignition sources inside fuel tanks, which, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane.

## **Compliance**

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

## **Report**

(f) Within 45 days after the effective date of this AD, submit a report to the Manager, Los Angeles Aircraft Certification Office (ACO), FAA. Information collection requirements in this AD are approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.) and are assigned OMB Control Number 2120-0056. The report must include the following information:

- (1) The airplane registration and auxiliary tank STC number installed.
- (2) The usage frequency in terms of total number of flights per year and total number of flights for which the auxiliary tank is used.

## **Prevent Usage of Auxiliary Fuel Tanks**

(g) On or before December 16, 2008, deactivate the auxiliary fuel tanks, in accordance with a deactivation procedure approved by the Manager of the Los Angeles ACO. Any auxiliary tank component that remains on the airplane must be secured and must have no effect on the continued operational safety and airworthiness of the airplane. Deactivation may not result in the need for additional instructions for continued airworthiness.

**Note 1:** Appendix A of this AD provides criteria that should be included in the deactivation procedure. The proposed deactivation procedures should be submitted to the Los Angeles ACO as soon as possible to ensure timely review and approval.

**Note 2:** For technical information, contact John Cox, Director of Engineering, Rogerson Aircraft Corporation, 16940 Von Karman, Irvine, California 92606; phone (949) 442-2381; fax (949) 442-2311.

## **Alternative Methods of Compliance (AMOCs)**

(h)(1) The Manager, Los Angeles ACO, FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

## **Material Incorporated by Reference**

- (i) None.

## Appendix A–Deactivation Criteria

The auxiliary fuel tank deactivation procedure required by paragraph (g) of this AD should address the following actions.

(1) Permanently drain auxiliary fuel tanks, and clear them of fuel vapors to eliminate the possibility of out-gassing of fuel vapors from the emptied auxiliary tank.

Note: If applicable, removing the bladder might help eliminate out-gassing.

(2) Disconnect all electrical connections from the fuel quantity indication system (FQIS), fuel pumps if applicable, float switches, and all other electrical connections required for auxiliary tank operation, and stow them at the auxiliary tank interface.

(3) Disconnect all pneumatic connections if applicable, cap them at the pneumatic source, and secure them.

(4) Disconnect all fuel feed and fuel vent plumbing interfaces with airplane original equipment manufacturer (OEM) tanks, cap them at the airplane tank side, and secure them in accordance with a method approved by the FAA; one approved method is specified in AC 25-8 Fuel Tank Systems Installations. In order to eliminate the possibility of structural deformation during cabin decompression, leave open and secure the disconnected auxiliary fuel tank vent lines.

(5) Pull and collar all circuit breakers used to operate the auxiliary tank.

(6) Revise the weight and balance document, if required, and obtain FAA approval.

(7) Amend the applicable sections of the applicable airplane flight manual (AFM) to indicate that the auxiliary fuel tank is deactivated. Remove auxiliary fuel tank operating procedures to ensure that only the OEM fuel system operational procedures are contained in the AFM. Amend the Limitations Section of the AFM to indicate that the AFM Supplement for the STC is not in effect. Place a placard in the flight deck indicating that the auxiliary tank is deactivated. The AFM revisions specified in this paragraph may be accomplished by inserting a copy of this AD into the AFM.

(8) Amend the applicable sections of the applicable airplane maintenance manual to remove auxiliary tank maintenance procedures.

(9) After the auxiliary fuel tank is deactivated, accomplish procedures such as leak checks and pressure checks deemed necessary before returning the airplane to service. These procedures must include verification that the airplane FQIS and fuel distribution systems have not been adversely affected.

(10) Include with the operator's proposed procedures any relevant information or additional steps that are deemed necessary by the operator to comply with the deactivation and return the airplane to service.

Issued in Renton, Washington, on May 29, 2008.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E8-12413 Filed 6-3-08; 8:45 am]