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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0298; Directorate Identifier 2007-NM-316-AD; Amendment 39-15696; AD 2008-22-01]

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.

SUMMARY: We are adopting a new airworthiness directive (AD) for various transport category airplanes. This AD requires deactivation of PATS Aircraft, LLC, auxiliary fuel tanks. This AD results from fuel system reviews conducted by the manufacturer, which identified 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 November 26, 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: Mazdak Hobbi, Aerospace Engineer, Airframe and Propulsion Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7330; fax (516) 794-5531.

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 March 14, 2008 (73 FR 13803). That NPRM proposed to require deactivation of PATS Aircraft, LLC, auxiliary fuel tanks.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received from the 22 commenters.

Withdraw NPRM

Air National Australia, Chartwell Aviation Services, Continent Aircraft Trust 720, and Boeing Executive Flight Operations (EFO) question the need for the rule. Air National Australia states that the installation of the PATS Aircraft, LLC (PATS), auxiliary fuel system (AFS) in its aircraft was completed in February 2007 and was verified to be in compliance with Special Federal Aviation Regulation No. 88 (SFAR 88). Air National Australia states that clearly the certification given to the supplemental type certificate (STC) in late January 2007 by the FAA would indicate that, at the time, the installation was compliant with the requirements of SFAR 88. Further, the guidance material in FAA Advisory Circular (AC) 25.981-1B, dated April 18, 2001, has not changed significantly since 2001. Therefore, Air National Australia concludes that the level of safety has not altered since the installation was seen to be compliant.

Chartwell states that the service history of the PATS AFS does not support the drastic action proposed in the NPRM. Continent Aircraft Trust 720 states that there have been no Boeing Business Jet (BBJ)-related AFS anomalies that would justify deactivation of the tanks in such a short time. Boeing EFO has been informed by PATS that the technical changes to the existing fuel system are safety enhancements and not an imminent safety concern. The fact that there have been no reports of in-service findings on the Boeing airplanes to support immediate safety concerns leads Boeing EFO to this conclusion. However, Boeing EFO is not opposed to installing the safety enhancements to improve system reliability and to conform the design to an improved engineering standard.

We infer that the commenters want us to withdraw the NPRM. We disagree. This AD results from fuel system reviews conducted by the manufacturer, which identified unsafe conditions that need corrective actions to prevent fuel tank explosions. Although to date there has not been an explosion in PATS fuel tanks, the types of ignition sources identified by the manufacturer have resulted in catastrophic explosions in other fuel tanks. Preventing such an explosion was the objective of SFAR 88 and is not just a "safety enhancement." However, we agree with Air National Australia that the installation for its fleet (STC ST 00936NY-D, Configuration 3) is compliant with SFAR 88. We have also revised Table 1 of this AD to specify that STC ST 00936NY-D, Configuration 3 is not affected by this AD. If an operator shows that corrective actions have been accomplished and its system complies with SFAR 88, deactivation of the auxiliary fuel tanks is not required. We find it necessary to issue the AD to address the identified unsafe condition.

Extend Compliance Date

The following commenters all request that we extend the compliance time for deactivating the auxiliary fuel tanks: Peter J. Chapman, Amiri Flight, PATS, Prime Aviation, Limited Brands, Tracinda Corporation, Chartwell, Newsflight, Dobro Ltd., Saudi Oger Ltd., Sunrider Corporation,

PrivatAir SA, Continent Aircraft Trust 720, NetJets Large Aircraft Company (LAC), Boeing, and Air National Australia. The commenters state that the compliance date in the NPRM of December 16, 2008, is disproportional to the risk. The commenters also point out, among other items that make the compliance date unworkable, that there is insufficient capacity within available overhaul facilities and an insufficient number of kits to accomplish the actions before the specified date.

We agree with the commenters' requests to extend the compliance date for deactivating the auxiliary fuel tanks and have revised paragraph (g) of the AD to extend the compliance date to December 16, 2009. This date will give operators adequate time to plan and schedule the modification in order to comply with this AD. Our intent was to coordinate the compliance time of the NPRM with the December 16, 2008, operations rule compliance date (see "Transport Airplane Fuel Tank System Design Review, Flammability Reduction and Maintenance and Inspection Requirements" (66 FR 23086, May 7, 2001)). However, as the commenters noted, the lack of availability of kits and maintenance facilities makes that date impractical. We have decided to extend the compliance date by an additional 12 months to December 16, 2009. This change does not affect any other maintenance/inspection programs addressed by the fuel tank safety rule, and the compliance date for those items remains December 16, 2008. The December 16, 2009 date for this AD was chosen to balance the safety risk with the capability of operators to comply in a reasonable timeframe.

Auxiliary Fuel Tanks Are Necessary for Operation

Air National Australia, All Nippon Airways, the U.S. Air Force, Sunrider, Chartwell, Continent Aircraft Trust 720, NetJets LAC, and Boeing EFO emphasize that the PATS AFS is necessary to their operation. The commenters state that deactivation of the AFS will result in decreased utility, diminished market value, and increased fuel consumption due to less efficient routing. The need to make more fuel stops to fly the same mission profile could increase risk. In sum, deactivation would have a dramatic effect on the range of the aircraft and defeat the purpose of operating this type of aircraft in the fleet.

As we stated in the NPRM, for operators who want to retain the long-range capability provided by these fuel tanks, we will consider approving alternative methods of compliance consisting of design changes and maintenance instructions found to comply with SFAR 88. We understand PATS might be developing such service information for at least some of the affected STCs, but it has not yet been submitted for our review and approval. We have not changed the AD in this regard.

Revise the Applicability To Remove Certain STCs

PATS, Limited Brands, Boeing, All Nippon Airways, and Amiri request that certain STCs be removed from the applicability listed in Table 1 of the NPRM. The commenters all suggest certain corrections to the list. Limited Brands states that, as written, the NPRM includes FAA-approved PATS SFAR 88-compliant STCs. Boeing points out that the STC holder has determined that the specific STCs listed in its submission were developed and approved to section 25.981, amendment 25-102, of the Federal Aviation Regulations (14 CFR 25.981, amendment 102). All Nippon Airways understands that STC ST01716NY-D is in compliance with SFAR 88 and is mistakenly listed in the NPRM. This STC is the updated version of STC ST00936NY-D, and complies with SFAR 88 and 14 CFR 25.981, amendment 102.

We agree with the commenters' request that certain STCs need to be removed from the applicability. We have determined that the following STCs listed in Table 1 of the NPRM are currently in compliance with SFAR 88 requirements:

- ST01716NY-D
- ST01650NY
- ST01713NY-D

- ST01552NY
- ST00365NY-D, Configuration 5
- SA725NE-D, Configuration 7

We have revised Table 1 of the AD to remove these STCs. Operators should note that prior configurations of ST00365NY-D and SA725NE-D are still included in the applicability unless the operator has installed ST00365NY-D, Configuration 5, or SA725NE-D, Configuration 7, as applicable.

Revise the Applicability Based on PATS Service Bulletin Implementation

PATS Aircraft, Limited Brands, Boeing, All Nippon Airways, Boeing EFO, Amiri, and Chartwell request that we remove certain STCs from the applicability listed in Table 1 of the NPRM. The commenters point out that the implementation of new PATS service bulletins would bring certain STCs into compliance with SFAR 88.

We disagree with the request to remove certain STCs based on accomplishment of certain PATS service bulletins. Although service bulletins developed by PATS might modify an airplane for SFAR 88 compliance, the New York Aircraft Certification Office (ACO), FAA, has not yet received the final version of the relevant service bulletins for approval. However, under the provisions of paragraph (h) of the AD, we will consider requests for approval of an alternative method of compliance based on these service bulletins if sufficient data are submitted to substantiate that the design change would provide an acceptable level of safety. We have not changed this AD in this regard.

Change the Description of the Auxiliary Fuel Tanks

PATS, Chartwell, and Air National Australia point out the description of the PATS auxiliary fuel tank is incorrect in the section of the NPRM titled "Supplemental Type Certificates (STCs) for PATS Aircraft, LLC, Auxiliary Fuel Tanks." The commenters point out that PATS has never designed or certified a box and bladder tank.

We infer that the commenters would like us to revise the description. We agree that the description in the NPRM requires clarification. Since that section of the preamble of the NPRM does not reappear in the final rule, no change to the final rule is necessary. However, we offer the following revision to the paragraph, suggested by PATS' comment, as clarification:

PATS' typical auxiliary fuel system (AFS) consists of several interconnected auxiliary fuel cells located in the aircraft's cargo holds. The cells are constructed of aluminum alloy with double walls and mounted on longitudinal rails attached to the aircraft's frame. The inner walls serve as the fuel storage cell, and the outer walls serve as the fuel and fume-proof shroud around the cell. The two walls are separated by an open-weave honeycomb structure bonded to the walls. The cells resemble aircraft cargo containers. The individual cells are usually arranged in two groups within the forward and aft lower cargo holds. These forward and aft fuel cell groups operate independently as two separate tanks.

Use PATS Service Bulletins for Deactivation Procedures

PATS requests that we add certain service information to the AD. PATS states that operators who do not place an order for SFAR 88 service bulletins or who elect not to bring their AFS into compliance should deactivate their system using the procedures in the service bulletins that PATS is developing.

We disagree. The service bulletins for deactivation have not been presented for review and approval by the Manager, New York ACO, FAA. Any operator who chooses to deactivate the tank

must do the deactivation in accordance with paragraph (g) of this AD. That deactivation procedure could include, for example, performing procedures specified in the installation manual or returning the airplane to the configuration it was in prior to the PATS STC modification. If PATS submits service bulletins that meet the requirements of paragraph (g) of this AD, we would approve them as alternative methods of compliance (AMOCs) in accordance with the provisions of paragraph (h) of this AD. We have not changed the AD in this regard.

Remove Reporting Requirement

Limited Brands and Tracinda question the need for the report specified in paragraph (f) of the NPRM. Limited Brands states that it seems this information has already been complied with and/or should have been used in determining the effects of the NPRM and the condition of safety, and should have been used in the risk analysis evaluation. Tracinda questions the purpose of the report and states that the information should already be known for justification of the NPRM.

We infer that the commenters are requesting that we remove the reporting requirement from this AD. We disagree. The submittal of reports by operators will assist the FAA in determining whether additional actions are needed to address the identified unsafe conditions and to determine whether the scope of corrective actions that might be proposed by PATS or others is adequate. The required information can be obtained fairly easily and submitted without further cost to the operator. We have not changed the AD regarding this issue.

Re-Evaluate Costs of Compliance

Limited Brands requests that we revise the Costs of Compliance section of the NPRM. The commenter states that the cost estimates appear extremely low, and that the cost to each operator both in money and in loss of usage should be considered. The costs should also address other items like the cost to revise the manuals and support data, and access to areas of the airplane for deactivation.

We disagree with the commenter's request to include the additional items in the cost estimate. 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 AD regarding this issue.

Change AC Reference

Boeing and Chartwell point out an incorrect title in Appendix A, paragraph (4), of the NPRM, for FAA AC 25-8. We have revised the AD to correct the title.

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

The following table provides the estimated costs for the 59 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 \$382,320 to prepare and report the deactivation procedures, and \$212,400 to deactivate tanks.

Estimated Costs

Action	Work hours	Average labor rate per hour	Parts	Individual cost
Report	1	\$80	None	\$80, per STC
Preparation of tank deactivation procedure	80	\$80	None	\$6,400, per STC
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:



2008-22-01 Various Transport Category Airplanes: Amendment 39-15696. Docket No. FAA-2008-0298; Directorate Identifier 2007-NM-316-AD.

Effective Date

(a) This airworthiness directive (AD) is effective November 26, 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

Airplanes	Auxiliary tank STC(s)
Boeing Model 727 series airplanes	SA62NE, SA392NE, SA530NE
Boeing Model 727-100 series airplanes	SA62NE, SA387NE, SA392NE, SA530NE, ST00466NY
Boeing Model 727-200 series airplanes	SA84NE, SA387NE, SA450NE, SA496NE
Boeing Model 737-200 series airplanes	SA83NE, SA725NE (unless installed with SA725NE-D, Configuration 7), SA1078NE, SA1265EA
Boeing Model 737-200C series airplanes	SA725NE (unless installed with SA725NE-D, Configuration 7)
Boeing Model 737-300 series airplanes	SA500NE, SA542NE, SA553NE, SA714NE, SA725NE (unless installed with SA725NE-D, Configuration 7)
Boeing Model 737-400 series airplanes	SA553NE, SA725NE (unless installed with SA725NE-D, Configuration 7)
Boeing Model 737-500 series airplanes	SA725NE (unless installed with SA725NE-D, Configuration 7), ST00040NY, ST01337NY
Boeing Model 737-700 series airplanes (increased gross weight)	ST00936NY-D (unless installed with Configuration 3), ST01650NY-D
Boeing Model 737-800 series airplanes	ST01384NY, ST01384NY-D
Boeing Model 757-200 series airplanes (without overwing doors)	SA979NE

Boeing Model 767-200 series airplanes	ST00840NY
Bombardier Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes	ST00365NY, ST00365NY-D (unless installed with Configuration 5)
McDonnell Douglas Model DC-8-62 airplanes	SA936NE
McDonnell Douglas Model DC-9-33F airplanes	ST00605NY
McDonnell Douglas Model DC-9-81 (MD-81) airplanes	ST00409NY
McDonnell Douglas Model DC-9-82 (MD-82) airplanes	ST00409NY
McDonnell Douglas Model DC-9-83 (MD-83) airplanes	ST00218AT, ST00409NY
McDonnell Douglas Model DC-9-87 (MD-87) airplanes	ST00523NY

Unsafe Condition

(d) 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.

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, New York Aircraft Certification Office (ACO), FAA. The report must include the information listed in paragraphs (f)(1) and (f)(2) of this AD. Under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements contained in this AD, and assigned OMB Control Number 2120-0056.

(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 per year for which the auxiliary tank is used.

Prevent Usage of Auxiliary Fuel Tanks

(g) Before December 16, 2009, deactivate the auxiliary fuel tanks, in accordance with a deactivation procedure approved by the Manager, New York 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 must 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 Manager, New York ACO, as soon as possible to ensure timely review and approval.

Note 2: For technical information, contact Mazdak Hobbi, Aerospace Engineer, Airframe and Propulsion Branch, ANE-171, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7330; fax (516) 794-5531.

Alternative Methods of Compliance (AMOCs)

(h)(1) The Manager, New York ACO, FAA, ATTN: Mazdak Hobbi, Aerospace Engineer, Airframe and Propulsion Branch, ANE-171, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7330; fax (516) 794-5531; has the authority to approve AMOCs for this AD, if requested using 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.

(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 Auxiliary Fuel System 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) Revise the instructions for continued airworthiness, as required, after deactivation.

(11) 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 October 9, 2008.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E8-25055 Filed 10-21-08; 8:45 am]