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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2012-0102; Directorate Identifier 2012-NM-004-AD; Amendment 39-17072; AD 2012-11-09]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Various Transport Category Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are superseding an existing airworthiness directive (AD) for certain transport category airplanes. That AD currently requires either activating all chemical oxygen generators in the lavatories until the generator oxygen supply is expended, or removing the oxygen generator(s); and, for each chemical oxygen generator, after the generator is expended (or removed), removing or restowing the oxygen masks and closing the mask dispenser door. This new AD requires installing a supplemental oxygen system in affected lavatories, which terminates the requirements of the existing AD. This AD was prompted by reports that the current design of the oxygen generators presents a hazard that could jeopardize flight safety. We are issuing this AD to eliminate a hazard that could jeopardize flight safety, and to ensure that all lavatories have a supplemental oxygen supply.

**DATES:** This AD is effective August 10, 2012.

#### **ADDRESSES:**

##### **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 (phone: 800-647-5527) is 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:** Jeff Gardlin, Aerospace Engineer, Airframe and Cabin Safety Branch, ANM-115, FAA, Transport Airplane Directorate, 1601 Lind Avenue SW.,

Renton, Washington 98057-3356; phone: 425-227-2136; fax: 425-227-1149; email: jeff.gardlin@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011). That AD applies to the specified products. The NPRM published in the Federal Register on February 27, 2012 (77 FR 11418). That NPRM proposed to continue to require either activating all chemical oxygen generators in the lavatories until the generator oxygen supply is expended, or removing the oxygen generator(s); and, for each chemical oxygen generator, after the generator is expended (or removed), removing or restowing the oxygen masks and closing the mask dispenser door. That NPRM also proposed to require installing a supplemental oxygen system in affected lavatories, which would terminate the requirements of the existing AD.

### **Change to NPRM (77 FR 11418, February 27, 2012)**

We have redesignated Note 1 of the NPRM (77 FR 11418, February 27, 2012) as new paragraph (h) of this AD, reidentified Note 2 as Note 1, and reidentified subsequent paragraphs accordingly.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal (77 FR 11418, February 27, 2012) and the FAA's response to each comment.

### **Request To Extend Compliance Time**

Airbus, Boeing, Bombardier, Embraer, American Airlines (AA), Delta Air Lines, Southwest Airlines (SWA), United Airlines (UA), and All Nippon Airways (ANA) requested that we revise the NPRM (77 FR 11418, February 27, 2012) to extend the 24-month compliance time. Airbus, Embraer, Air Line Pilots Association (ALPA) International, AA, and Boeing noted that the Lavatory Oxygen Aviation Rulemaking Committee (ARC) chartered on this subject established some notional life-cycle times from the initiation of a design through a fleet retrofit. The requested compliance time ranged from 36 to 60 months. The ARC considered even a 4-year compliance time aggressive. Commenters also noted that there are no actual designs at present; any schedule is at risk until the design is proven and validated.

We partially agree with the request. Because of the lack of a retrofit design and the magnitude of the retrofit, and new configuration(s), on such a large number of affected airplanes, we agree that the proposed compliance time of 24 months is insufficient. We also agree that the ARC's detailed assessment would not have supported a 24-month compliance time. We disagree, however, to extend the compliance time to 48 months, or longer. Some of the commenters' concerns, as identified by the ARC, have been alleviated in the AD (for example, streamlining the compliance process), and it is clear there are workable design approaches that can be implemented without taking airplanes out of service. Nonetheless, since no actual designs are yet approved, the retrofit process cannot begin until a design is approved. We have extended the compliance time in paragraph (l) of this final rule to 37 months after the effective date of the AD.

## **Request To Retain Proposed Compliance Times**

The Association of Flight Attendants (AFA) and ALPA encouraged the issuance of the final rule with the compliance times as proposed. AFA requested that we also incorporate interim measures. The commenters noted that the total time that lavatories will have been without oxygen would be about 3.5 years, even with a 24-month compliance time. AFA pointed out that the FAA's assessment of the safety risk was based on a finite time, and that we originally estimated a two- to four-year period to restore oxygen. Thus, retaining the proposed 24-month compliance time is appropriate.

With respect to the compliance time, we disagree with the request. Based on the number of affected airplanes and the lack of a design solution yet approved for any of them, a 24-month compliance time is not feasible. On the other hand, we acknowledge that compliance will be due later than the original estimate of a maximum of 4 years. But the adjusted compliance time is still within the confidence level of the risk assessment—which was conservative—conducted in support of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011). As explained previously, we have extended the compliance time to 37 months. With respect to interim measures, we understand the rationale for the request, and operators may, in fact, elect to employ some interim measures. However, any interim measures that would be required would take resources away from implementing the terminating action, and we believe available resources should be directed at restoring oxygen to the lavatories. We have therefore determined that interim measures should not be mandated, and that a 37-month compliance time will provide an adequate level of safety.

## **Request To Delay AD Issuance Pending Service Information Issuance**

ANA and AA requested that we delay issuing the AD until service information is available. ANA stated that, considering lead time for parts and preparation for the modification, the compliance time should be determined after the service information is released. ANA suggested it would need at least 36 months for appropriate maintenance planning after the service information is released.

We disagree with the request. Although there are no specific designs available for the affected airplanes, there are system types in service that will satisfy the requirements of the AD. Airframe manufacturers and aftermarket modifiers are working on acceptable designs, and we expect that there will be more than one solution available. The FAA's goal is to retrofit supplemental oxygen systems as quickly as practical. Waiting for service information would unnecessarily delay that retrofit. We therefore find it necessary to proceed with issuing this final rule.

## **Request To Mandate Development of Service Information and Parts**

Delta Air Lines requested that we require design approval holders to develop and make available the necessary modification instructions and hardware. Delta noted that other large-scale retrofit projects have been complicated by a lack of readily available modification hardware and service instructions.

We disagree with the request. At this point, the FAA is confident that there will be several modification options available to operators. All affected airframe manufacturers, as well as oxygen system suppliers and airplane modifiers, have discussed their intended approaches with the FAA and appear to have viable solutions. In addition, Section 21.99 of the Federal Aviation Regulations (14 CFR 21.99) already requires design approval holders to make design information available to correct an unsafe condition. Thus, the additional regulatory burden of tracking and enforcing a design approval holder requirement is not justified in this case. But if this situation changes, we may consider additional rulemaking to extend the time to comply with the requirements of the AD. We have not changed the final rule regarding this issue.

## **Request To Revise Applicability**

Boeing requested that we revise the applicability of the NPRM (77 FR 11418, February 27, 2012). Specifically, Boeing requested removing airplanes that have systems without chemical oxygen generators (COGs) installed in the lavatory, and by limiting the applicability to airplanes modified in accordance with AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011), those with COGs not installed per Special Federal Aviation Regulation (SFAR) 111, Amendment Nos. 21-94, 25-133, 121-354, and 129-50 (76 FR 12550, March 8, 2011), and those with COGs installed in the lavatory. Since AD 2011-04-09 already proposed to permit installation of non-COG systems using normally available approval means, Boeing considered the continued tracking of AD compliance for that type of system unwarranted. Further, Boeing stated there might be confusion as to whether AD 2011-04-09 would apply to any airplane with such a system installed.

We partially agree with the request. We agree that continued tracking of the non-COG installation as an AD-related action is overly burdensome. Such systems were not the subject of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011) (which required removal of the supplemental oxygen). We disagree, however, to change the applicability of this AD, because the AD already captures the intent of the request in terms of identifying affected airplanes based on whether they are in compliance with AD 2011-04-09 or have a chemical oxygen generator installed in any lavatory. An operator wishing to install a COG system at a later date will need to use the alternative method of compliance (AMOC) process. But we agree that, with appropriate limitations, subsequent modifications to a non-COG system can be handled under part 43 of the Federal Aviation Regulations (14 CFR part 43). We have added a provision in paragraph (1)(2) in this final rule that permits alterations and repairs to an approved non-COG system in accordance with 14 CFR part 43, provided the operator's maintenance program contains an airworthiness limitation that prohibits the installation of COGs in lavatories.

## **Request To Utilize Alternative Oxygen Dosage Measurement**

AVOX Systems (AVOX) requested that we build in a streamlined process for oxygen systems using the blood oxygen saturation level (SaO<sub>2</sub>) as the means of determining adequate oxygen dosage. This method will likely result in somewhat smaller oxygen supplies, which will in turn allow the systems to more easily fit into the existing spaces, with little or no modification.

The regulations characterize oxygen dosage in terms of tracheal partial pressure, an indirect method of determining adequate oxygen supply. We infer that AVOX requested this because the FAA has approved SaO<sub>2</sub> via equivalent level of safety findings in accordance with Section 21.21(b)(1) of the Federal Aviation Regulations (14 CFR 21.21(b)(1)), but this has required extensive testing on the part of the applicants to show that the approach meets the intent of the requirements. It appears that AVOX would like the FAA to use the knowledge gained from those actions to allow approval of future projects in an expedited manner, without the same level of testing. We agree that, in this case, use of the SaO<sub>2</sub> method can be useful; this method is specifically discussed in FAA Policy Statement PS ANM-25-04—which was mentioned in the NPRM (77 FR 11418, February 27, 2012) as a possible method of compliance with the requirements of this AD. FAA Policy Statement PS-ANM-25-04, issued December 21, 2011 (<http://rgl.faa.gov/RegulatoryandGuidanceLibrary/rgPolicy.nsf/0/06EE1CEFE9804A2F8625796E005C017F?OpenDocument&Highlight=ps-anm-25-04>), is based on the recommendations of an Aviation Rulemaking Committee (ARC) and provides guidance to applicants that want to begin restoring oxygen to lavatories in advance of rulemaking. This policy will be used in making approvals of COG installations that will be used to comply with this AD. The FAA may also propose new airworthiness standards for the safe installations of COGs using the ARC recommendations. It is not necessary to change the AD because the information that we can provide is already available in the policy statement. We have not changed the final rule regarding this issue.

## **Request To Clarify Certain References**

Boeing noted that not all regulations affecting a supplemental oxygen system are identified in paragraph (k) of the NPRM (77 FR 11418, February 27, 2012), and could lead operators to conclude that only the identified paragraphs need to be complied with. Boeing requested that we revise paragraph (k)(2) of the NPRM to refer to all of part 25 and part 121 (14 CFR part 25 and 14 CFR part 121), rather than specific sections.

We partially agree with the request. We agree that the current listing of rules could be misinterpreted, because there is already regulatory relief provided, and the listing is not complete. The listing matches the regulations for which relief was granted, both in AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011), and Special Federal Aviation Regulation No. 111, Amendment Nos. 21-94, 25-133, 121-354, and 129-50 (76 FR 12550, March 8, 2011), and so in that sense this list is consistent. But to avoid any confusion, we have revised paragraph (l) in this final rule (which was paragraph (k) in the NPRM (77 FR 11418, February 27, 2012)) to refer to "all applicable" regulations. In actual practice, this will not change the compliance requirements, so there is no additional burden on any operator to comply with the requirements of this AD.

## **Request To Include Training Requirements**

AFA requested that we revise the NPRM (77 FR 11418, February 27, 2012) to include additional requirements that mandate communication and training for crewmembers on the proper procedures to follow in the event of a rapid decompression before the AD-mandated actions have been accomplished on the airplane. AFA also recommended that crew members be notified of the progress of operators toward showing compliance; many operators have already done something similar, but a number have not.

We disagree with the request. As previously determined, the risks are very low for the time periods involved. The resources needed to implement AFA's recommended interim steps could be better used in rapidly incorporating a final design solution. We have not changed the final rule regarding this issue.

## **Request To Revise Cost Estimate**

Delta Air Lines requested that we revise the cost analysis to be more specific to different airplane types and system options, and to characterize the costs per lavatory. The current cost estimate is an average over the entire fleet, and so by definition is not accurate for each affected airplane.

We disagree with the request. The variation in cost per airplane over the fleet is typical of any cost assessment. While the costs could be presented on a per-lavatory basis, this would also be an average, and not necessarily correct for any given lavatory. In addition, the cost estimates are based on the forecasted most cost-effective approach. An operator can use a more expensive approach, but the cost estimate would not account for that increased cost. We have not changed the final rule regarding this issue.

## **Request To Clarify Configuration**

ANA noted that paragraph (k) of the NPRM (77 FR 11418, February 27, 2012) would allow operators to choose between two methods of compliance: with or without chemical oxygen generators. ANA requested that we clarify what configuration will be selected on production airplanes.

We disagree with the request. The decision on which configuration to use is up to the operators and their suppliers. The FAA has criteria for either approach, and either is acceptable. We have not changed the final rule regarding this issue.

## **Request To Clarify Certain AMOC Provisions**

AA requested that paragraph (k)(2)(i) of the NPRM (77 FR 11418, February 27, 2012) be revised to include a provision relieving the need for AMOC approval for non-COG installations. AA interprets the existing provisions as meaning that an AMOC is not required and wants this stated explicitly.

We disagree with the request. Information regarding AMOCs related to non-COG installations was provided in paragraph (k)(2)(ii) of the NPRM (77 FR 11418, February 27, 2012) and is retained in this final rule (in redesignated paragraph (l)(2)(ii)). There is therefore no need to change the final rule regarding this issue.

## **Request To Standardize Application of Certain Provision**

AA supports the provision specified in paragraph (k)(2)(ii) of the NPRM (77 FR 11418, February 27, 2012) (redesignated as paragraph (l)(2)(ii) in this final rule), but is concerned that, because the provision is unusual, it may not be uniformly applied in the field.

We agree that this is an unusual provision. To that end, we have prepared an Information for Operators (InFO) bulletin 12LAV to help explain this provision, as well as other outreach measures to help ensure standardization. We find it is not necessary to change the final rule to provide further explanation.

## **Approval Process for Compliance With AD, Using Chemical Oxygen Generators**

Because of the issues addressed by AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011), COG installations will require new considerations in order to be found acceptable as methods of compliance with this AD. The approval for COG installations will therefore be in a manner approved by the FAA as discussed below.

## **Approval Process for Compliance With AD, Using Other Systems**

Chemical oxygen generators are one type of system used to provide supplemental oxygen. While the majority of transport category airplanes use this system in lavatories, there are other systems as well. If another system type is used to meet this AD, the original unsafe condition is not a concern. In that case, the means of compliance is straightforward, and we have determined that the approval method could be more flexible than is usually the case for an AD. For example, delegated organizations cannot normally make compliance findings for ADs; service information associated with ADs must be adhered to exactly, or else an AMOC must be approved. For this AD, if the type of system is other than a COG, then we have determined that these restrictions could be relaxed. Therefore, paragraph (l)(2) of this AD contains provisions to permit existing approval processes to be used, as long as the means of compliance is other than a COG. This provision takes precedence over current limitations in operators' authority to use their organizational delegations when showing compliance with an AD. In addition, if an operator uses service information that is approved for such installations, deviations from the service information can be addressed using the operator's normal procedures without requiring an AMOC.

## **Oversight Office**

Paragraph (l) of this AD refers to the FAA oversight office responsible for approval of modifications used to show compliance. This will typically be the aircraft certification office having geographic oversight of the applicant. In the case of service instructions from design approval holders of other countries, this would be the Transport Standards Staff. We anticipate that modifications to meet this AD will require either supplemental type certificate or amended type certificate approval.

## Minimum Equipment List (MEL)

Although there were no comments on this issue, the FAA has identified a potential conflict with the minimum equipment list provisions of Sections 121.628 and 129.14 of the Federal Aviation Regulations (14 CFR 121.628 and 14 CFR 129.14). Since any equipment mandated to be operative by airworthiness directive is excluded from the MEL unless the airworthiness directive specifically provides such allowance, we have revised this final rule to add a new paragraph (m) to allow the use of the MEL, as applicable. We have re-identified subsequent paragraphs 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—and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (77 FR 11418, February 27, 2012) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (77 FR 11418, February 27, 2012).

## Costs of Compliance

We estimate that this AD affects 5,500 airplanes of U.S. registry. We estimate the following costs to comply with the actions specified in this AD.

### Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Activate COG/expend oxygen supply [actions retained from AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011)]	Up to 2 work-hours X \$85 per hour = up to \$170	\$0	Up to \$170	Up to \$935,000
Oxygen system installation (new action)	24 work-hours X \$85 per hour = \$2,040	\$6,000	\$8,040	\$44,220,000

## 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**

We have determined that 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 removing airworthiness directive (AD) 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011, and adding the following new AD:



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**2012-11-09 Transport category airplanes:** Amendment 39-17072; Docket No. FAA-2012-0102; Directorate Identifier 2012-NM-004-AD.

**(a) Effective Date**

This airworthiness directive (AD) is effective August 10, 2012.

**(b) Affected ADs**

This AD supersedes AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011).

**(c) Applicability**

This AD applies to transport category airplanes, in passenger-carrying operations, as specified in paragraph (c)(1) or (c)(2) of this AD.

(1) Airplanes that are in compliance with the requirements of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011).

(2) Airplanes equipped with any chemical oxygen generator installed in any lavatory and are:

- (i) Operating under 14 CFR part 121; or
- (ii) U.S.-registered and operating under 14 CFR part 129, with a maximum passenger capacity of 20 or greater.

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 35, Oxygen.

**(e) Unsafe Condition**

This AD was prompted by the determination that the current design of chemical oxygen generators presents a hazard that could jeopardize flight safety. We are issuing this AD to eliminate this hazard and ensure that all lavatories have a supplemental oxygen supply.

**(f) Compliance**

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

**(g) Retained Oxygen Generator**

This paragraph restates the requirements of paragraph (g) of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011). Within 21 days after March 14, 2011 (the effective date of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011)), do the actions specified in paragraphs (g)(1) and (g)(2) of this AD.

(1) Activate all chemical oxygen generators in the lavatories until the generator oxygen supply is expended. An operator may also remove the oxygen generator(s), in accordance with existing maintenance practice, in lieu of activating it.

(2) For each chemical oxygen generator, after the generator is expended (or removed), remove or re-stow the oxygen masks and close the mask dispenser door.

Note 1 to paragraph (g) of this AD: Design approval holders are not expected to release service instructions for the action specified in paragraph (g) of this AD.

**(h) Retained Information About Hazardous Material**

This paragraph restates the information in Note 1 of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011). Chemical oxygen generators are considered a hazardous material and subject to specific requirements under Title 49 CFR for shipping. Oxygen generators must be expended prior to disposal but are considered a hazardous waste; therefore, disposal must be in accordance with all Federal, State, and local regulations. Expended oxygen generators are forbidden in air transportation as cargo. For more information, contact 1-800-HMR-4922.

**(i) Retained Compliance With Federal Aviation Regulations of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011)**

This paragraph restates the requirements of paragraph (h) of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011). Notwithstanding the requirements of Sections 25.1447, 121.329, 121.333, and 129.13 of the Federal Aviation Regulations (14 CFR 25.1447, 121.329, 121.333, and 129.13), operators complying with this AD are authorized to operate affected airplanes until accomplishment of the actions specified in paragraph (l) of this AD.

**(j) Retained Parts Installation of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011)**

This paragraph restates the requirements of paragraph (i) of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011). After March 14, 2011 (the effective date of AD 2011-04-09), and until accomplishment of the actions specified in paragraph (l) of this AD, no person may install a chemical oxygen generator in any lavatory on any affected airplane.

**(k) Retained Special Flight Permit of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011)**

This paragraph restates the requirements of paragraph (j) of AD 2011-04-09, Amendment 39-16630 (76 FR 12556, March 8, 2011). Special flight permits, as described in Section 21.197 and Section 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199), are not allowed for the accomplishment of the actions specified in paragraph (g) of this AD.

**(l) New Requirements of This AD: Oxygen System Restoration**

Within 37 months after the effective date of this AD, install a supplemental oxygen system that meets all applicable sections of parts 25 and 121 of the Federal Aviation Regulations (14 CFR part 25 and 14 CFR part 121) in each lavatory, as specified in paragraph (l)(1) or (l)(2) of this AD, as applicable.

(1) If compliance with paragraph (l) of this AD is achieved using a chemical oxygen generator, the actions specified in paragraph (l) of this AD must be done in accordance with a method approved by the Manager of the responsible FAA oversight office having responsibility over the modification.

For a method to be approved, it must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(2) If compliance with paragraph (1) of this AD is achieved without a chemical oxygen generator, the specifications of paragraphs (1)(2)(i) and (1)(2)(ii) of this AD apply. Any repairs or alterations to a system installed and approved in accordance with this paragraph may be accomplished in accordance with 14 CFR part 43, provided the operator's maintenance program contains an airworthiness limitation that prohibits the installation of chemical oxygen generators in lavatories.

(i) The modification must receive FAA approval in accordance with 14 CFR part 21 as a major design change. Notwithstanding operations specification restrictions to the contrary, organizational approval holders may exercise their full authority in approving installations that meet the installation requirements of this AD.

(ii) Deviation from approved service instructions and subsequent modifications may be handled by normal operator procedures without requiring approval of an alternative method of compliance.

**(m) Minimum Equipment List (MEL)**

Notwithstanding the requirements of 14 CFR 121.628(b)(2) and 14 CFR 129.14, the equipment required by paragraph (1) of this AD may be included in the Minimum Equipment List, as applicable.

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

(1) The Manager, Transport Standards Staff, ANM-110, 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 Transport Standards Staff, send it to the attention of the person identified in the Related Information section 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.

**(o) Related Information**

For more information about this AD, contact Jeff Gardlin, Aerospace Engineer, Airframe and Cabin Safety Branch, ANM-115, FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-227-2136; fax: 425-227-1149; email: jeff.gardlin@faa.gov.

**(p) Material Incorporated by Reference**

None.

Issued in Renton, Washington, on May 23, 2012.  
Michael Kaszycki,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.