[Federal Register: November 1, 2001 (Volume 66, Number 212)]
[Rules and Regulations]
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[DOCID:fr01no01-4]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 99-NM-62-AD; Amendment 39-12490; AD 2001-22-11]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-600, -700, and -800 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to all Boeing Model 737-600, -700, and -800 series airplanes, that currently requires an inspection of the power distribution panels (PDP) to verify proper installation of the power feeder terminals and associated hardware, and corrective actions, if necessary. The existing AD also requires repetitive torque checks of the terminal attachment screws. This amendment adds a requirement for repetitive replacement of the PDP rigid bus assembly with a new assembly and provides an optional terminating action for the repetitive torque checks and the repetitive replacement of the PDP rigid bus assembly. This amendment is prompted by reports of loss of electrical power from the engine-driven generators or the auxiliary power unit due to overheating, melting, and subsequent failure of the power feeder terminals at the PDPs. The actions specified by this AD are intended to prevent such conditions, which could result in increased risk of fire and the loss of electrical power from the associated alternating current power source.

DATES: Effective December 6, 2001.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of December 6, 2001.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Stephen S. Oshiro, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2793; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation **Regulations** (14 CFR part 39) by superseding AD 99-08-03, amendment 39-11107 (64 FR 15920, April 2, 1999), which is applicable to all Boeing Model 737-600, -700, and -800 series airplanes, was published in the Federal Register on June 11, 1999 (64 FR 31518). The action proposed to continue to require an inspection of the power distribution panels (PDP) to verify proper installation of the power feeder terminals and associated hardware, corrective actions, if necessary, and repetitive torque checks of the terminal attachment screws. The action proposed to add a requirement for repetitive replacement of the PDP rigid bus assembly with a new assembly.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Support for the Proposed Rule

Two commenters concur with the proposed AD.

Provide Terminating Action

Several commenters ask the FAA to revise the proposed AD to specify that replacement of the existing PDP rigid bus assemblies with new, improved assemblies terminates the repetitive torque checks in paragraph (b) and the repetitive replacements of the PDP rigid bus assemblies in paragraph (c) of the proposed AD. Three commenters point out that we have previously approved Boeing Service Bulletin 737-24-1128, dated April 29, 1999, as an alternative method of compliance (AMOC) with the repetitive torque check requirement of AD 99-08-03. That service bulletin describes procedures for replacement of existing rigid bus assemblies on the P91 and P92 PDPs with new, improved assemblies. One of the commenters states that the new, improved PDP rigid bus assemblies incorporate retaining blocks that are integral to the rigid bus cover, surround the termination assemblies, and provide a solid surface for the termination assemblies to bear on during installation and removal of power feeders, thus reducing the load transmitted through the attachment screws. The commenters state that installation of the new, improved PDP rigid bus assemblies addresses the unsafe condition in the proposed AD.

The FAA concurs. As noted by the commenters, replacement of existing rigid bus assemblies with new, improved assemblies eliminates the need for the repetitive replacement of PDP rigid bus assemblies specified in paragraph (c) of the proposed AD. Also, we have previously approved Boeing Service Bulletin 737-24-1128, and have approved that service bulletin as an AMOC for the repetitive torque checks required by AD 99-08-03, which this AD supersedes. Therefore, we have done the following in this final rule:

- Added a new paragraph (d) to this AD to state that replacement of existing PDP rigid bus assemblies with new, improved PDP rigid bus assemblies constitutes terminating action for the requirements of this AD.
- Revised paragraphs (b) and (c) of this AD to state that the requirements of those paragraphs only apply until paragraph (d) of this AD is accomplished.
- Added a new paragraph (e)(2) to this AD to state that AMOCs approved previously in accordance with AD 99-08-03 are approved for the corresponding requirements of this AD. (This provision should have been stated in the proposed rule but was inadvertently omitted.)

In a related issue, two commenters request that we revise the applicability statement of the proposed AD to remove airplanes on which improved PDP rigid bus assemblies have been installed during production.

We partially concur with this request. Airplanes equipped with the improved PDP rigid bus assemblies would not be subject to this AD. However, we must consider the possibility that some airplanes originally delivered with PDPs having the improved rigid bus assemblies may have been changed to be equipped with PDPs having rigid bus assemblies of the original design. This could occur as a result of rotation of spare parts inventories during routine maintenance replacements. Therefore, we have revised the applicability statement of this AD to state that this AD applies only to Boeing Model 737-600, -700, and -800 series airplanes equipped with PDPs bearing any of the Boeing part numbers in the "Existing Part Number" column of the table under paragraph 2.E., "Existing Parts Accountability," of Boeing Service Bulletin 737-24-1128.

Clarify Appropriate Replacement Parts

Two commenters ask us to revise paragraph (c) of the proposed AD to clarify appropriate replacement parts. The commenters question whether we intend paragraph (c) to require replacement of existing PDP rigid bus assemblies with identical parts (i.e., parts with the same part number as the existing parts), or with new, improved parts (as described in the previous section above). Both commenters note that replacement of existing PDP rigid bus assemblies with new, improved assemblies should eliminate the need for the repetitive replacement specified in paragraph (c).

We concur that we need to clarify under what circumstances it is necessary to repeat the replacement of the PDP rigid bus assembly required by paragraph (c) of this AD. Therefore, we have revised paragraph (c) of this final rule to require repetitive replacement of the PDP rigid bus assembly with a new assembly having the same part number as the removed part. As stated above, we have also added paragraph (d) to this AD to state that replacement of existing PDP rigid bus assemblies with new, improved rigid bus assemblies terminates the requirements of this AD.

Ascertain Parts Availability

One commenter requests that we confirm the availability of replacement parts from the manufacturer prior to issuance of this final rule. The commenter states that, as of the time of its comment, sufficient replacement parts have not been available to support replacement schedules. We have confirmed that the manufacturer can support replacement according to the schedule required by this AD, and no change to the final rule is necessary in this regard.

Revise Boeing 737 Configuration Maintenance and Procedures (CMP) Document

One commenter requests that we revise the Extended Twin Engine Operations (ETOPs) coverage in the Boeing 737 CMP Document to be consistent with the provisions of the proposed AD. The commenter notes that, while the proposed AD would require repetitive torque checks of the attachment screws of the power feeder terminals every 1,000 flight hours, and replacement of the PDP rigid bus assembly with a new assembly within 1,000 flight hours after every eighth torque check, the Boeing 737 CMP Document requires repetitive torque checks every 400 flight hours, with replacement of the PDP rigid bus assembly after every fourth check. The commenter notes that revision of the ETOPs information in the Boeing 737 CMP Document would provide consistency for all Boeing 737 "Next Generation" airplanes.

We do not concur. The torque check and replacement at the intervals required by this AD are intended to ensure that an adequate level of safety is maintained. However, the more conservative torque check and replacement intervals specified in the Boeing 737 CMP Document are necessary for airplanes performing ETOPS. No change to the final rule is necessary in this regard.

Explanation of Changes Made to Proposed Rule

Paragraph (a) of the proposed AD specifies accomplishment of a "general visual" inspection. To clarify this inspection requirement, we have added a note to this final rule that defines that type of inspection.

Also, the inspection procedure included in paragraph (a) of AD 99-08-03, which is restated in paragraph (a) of this AD, contains several references to Boeing 737-600, -700, -800, -900 Airplane Maintenance Manual (AMM) Section 24-21-71/401, Figure 401. These references have been clarified in this final rule to refer specifically to relevant page numbers in AMM Section 24-21-71, Figure 401.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Interim Action

This is considered to be interim action. The FAA is considering further rulemaking to require accomplishment of the optional terminating action described in this AD. However, the planned compliance time for this action is sufficiently long so that notice and opportunity for prior public comment will be practicable.

Cost Impact

There are approximately 153 Model 737-600, -700, and -800 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 56 airplanes of U.S. registry will be affected by this AD.

The actions that are currently required by AD 99-08-03 take approximately 2 work hours per airplane to accomplish, at an average labor rate of $60 per work hour. Based on these figures, the cost impact of the currently required actions on U.S. operators is estimated to be $6,720, or $120 per airplane.

The new replacement required by this AD will take approximately 6 work hours per airplane to accomplish, at an average labor rate of $60 per work hour. Required parts will be provided by the manufacturer at no cost to the operators. Based on these figures, the cost impact of the replacement required by this AD on U.S. operators is estimated to be $20,160, or $360 per airplane, per replacement cycle.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Regulatory Impact

The regulations adopted herein 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

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

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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.

Sec. 39.13 [Amended]

2. Section 39.13 is amended by removing amendment 39-11107 (64 FR 15920, April 2, 1999), and by adding a new airworthiness directive (AD), amendment 39-12490, to read as follows:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2001-22-11 Boeing: Amendment 39-12490. Docket 99-NM-62-AD. Supersedes AD 99-08-03, Amendment 39-11107.

Applicability: Model 737-600, -700, and -800 series airplanes, equipped with power distribution panels (PDP) bearing any of the Boeing part numbers in the "Existing Part Number" column of the table under paragraph 2.E., "Existing Parts Accountability," of Boeing Service Bulletin 737-24-1128, dated April 29, 1999; certificated in any category.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e)(1) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent overheating, melting, and subsequent failure of the power feeder terminals, which could result in increased risk of fire and the loss of electrical power from the associated alternating current power source, accomplish the following:

Restatement of Requirements of AD 99-08-03, Amendment 39-11107

Initial Inspection

(a) Within 90 days after April 19, 1999 (the effective date of AD 99-08-03, amendment 39-11107): Perform a one-time general visual inspection to verify proper installation of the power feeder terminals and associated hardware located in power distribution panels (PDP) P91 and P92, in accordance with the following procedures: Using a flashlight, inspect each of the six power feeder terminals by looking into the access holes located in the plastic cover of the rigid bus assembly. The holes are located on the aft face of PDPs P91 and P92. (Refer to the Boeing 737-600, -700, -800, -900 Airplane Maintenance Manual (AMM), Section 24-21-71, Page 402, Figure 401 (Sheet 1), for the location of PDP P91 and P92.) On PDP P91, the holes are adjacent to terminal blocks TB5001 and TB5002. On PDP P92, the holes are adjacent to terminal blocks TB5005 and TB5006. There are a total of six holes per PDP. (Refer to the Boeing 737-600, -700, -800, -900 AMM, Section 24-21-71, Page 403, Figure 401 (Sheet 2), for the location of the access holes on the PDPs.) Note that although each PDP has nine power feeder terminals, only the six terminals adjacent to the access holes require inspection. Verify that the power feeder terminal is properly installed and held in place on the busbar

by the No. 8 socket head cap screw, and verify that the cap screw is inserted into the hole in the terminal. For the proper power feeder terminal and screw buildup, refer to the Boeing 737-600, -700, -800, -900 AMM, Chapter 24-21-71, Page 405, Figure 401 (Sheet 4). The subject power feeder terminal is identified as item (7) and the cap screw as item (12). This visual inspection does not require loosening or removing any fasteners. The inspection may require looking through the access hole at a slight angle to see the terminal clearly. The terminal can be identified by its shiny metal finish; the current transformer behind the terminal block is made of plastic with a flat black finish. If the power feeder terminal and No. 8 socket head cap screw are not assembled as shown in Boeing 737-600, -700, -800, -900 AMM, Section 24-21-71, Page 405, Figure 401 (Sheet 4): Prior to further flight, replace the rigid bus assembly with a new assembly, in accordance with the procedures specified in Boeing 737-600, -700, -800, -900 AMM, Section 24-21-22.

Note 2: For the purposes of this AD, a general visual inspection is defined as: "A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or drop-light, and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked."

Repetitive Torque Check

(b) Concurrent with the accomplishment of the requirements of paragraph (a) of this AD: Perform a torque check of the attachment screws of the power feeder terminals in accordance with the procedures specified in Boeing Maintenance Tip 737 MT 24-003, dated May 14, 1998. Repeat the torque check thereafter at intervals not to exceed 1,000 flight hours, in accordance with the maintenance tip, until paragraph (d) of this AD is accomplished.

New Requirements of This AD

Repetitive Replacement

(c) Within 1,000 flight hours after accomplishment of the eighth torque check required by paragraph (b) of this AD: Replace the PDP rigid bus assemblies with new assemblies having the same part numbers as the removed assemblies, in accordance with the procedures specified in Boeing 737-600, -700, -800, -900 AMM, Chapter 24-21-22. Repeat the replacement thereafter within 1,000 flight hours after every eighth torque check required by paragraph (b) of this AD, in accordance with the procedures specified in the AMM, until paragraph (d) of this AD is accomplished.

Optional Terminating Action

(d) Replacement of existing PDP rigid bus assemblies with new, improved PDP rigid bus assemblies having part number 1032181-2 or 1032185-2, as applicable, according to Boeing Service Bulletin 737-24-1128, dated April 29, 1999, constitutes terminating action for the requirements of this AD.

Alternative Methods of Compliance

(e) (1) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

(2) Alternative methods of compliance, approved previously in accordance with AD 99-08-03, amendment 39-11107, are approved as alternative methods of compliance for the corresponding requirements of this AD.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

Special Flight Permits

(f) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(g) The actions required by paragraph (b) of this AD shall be done in accordance with Boeing Maintenance Tip 737 MT 24-003, dated May 14, 1998. The optional terminating action, if accomplished, shall be done in accordance with Boeing Service Bulletin 737-24-1128, dated April 29, 1999. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(h) This amendment becomes effective on December 6, 2001.

Issued in Renton, Washington, on October 23, 2001.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 01-27187 Filed 10-31-01; 8:45 am]
BILLING CODE 4910-13-U