**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-1102; Product Identifier 2017-NM-078-AD; Amendment 39-19320; AD 2018-13-08]**

**RIN 2120-AA64**

**Airworthiness Directives;** Airbus Airplanes

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

**ACTION:** Final rule.

**SUMMARY:** We are superseding Airworthiness Directive (AD) 2016-01-11, which applied to certain Airbus Model A320-211, -212, and -231 airplanes. AD 2016-01-11 required repetitive inspections for cracking of the radius of the front spar vertical stringers and the horizontal floor beam on frame (FR) 36, repetitive inspections for cracking of the fastener holes of the front spar vertical stringers on FR 36, and repair if necessary. This AD adds new thresholds and intervals for the repetitive inspections; requires, for certain airplanes, a potential terminating action modification of the center wing box area; and expands the applicability. This AD was prompted by a report that, during a center fuselage certification full-scale fatigue test, cracks were found on the front spar vertical stringer at a certain frame. This AD was also prompted by a determination that, during further investigations of the frame as part of the widespread

fatigue damage (WFD) campaign, certain inspection compliance times have to be revised and new inspections and a new potential terminating action modification have to be introduced. We are issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Airbus, Airworthiness Office–EIAS, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email account.airworth-eas@airbus.com; Internet http://www.airbus.com. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-1102.

**Examining the AD Docket**

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-1102; 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 Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Sanjay Ralhan, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3223.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2016-01-11, Amendment 39-18370 (81 FR 3316, January 21, 2016) ("AD 2016-01-11"). AD 2016-01-11 applied to certain Airbus Model A320-211, -212, and -231 airplanes. The NPRM published in the Federal Register on December 13, 2017 (82 FR 58566). The NPRM was prompted by a report that, during a center fuselage certification full-scale fatigue test, cracks were found on the front spar vertical stringer at a certain frame. The NPRM proposed to continue to require repetitive inspections for cracking of the radius of the front spar vertical stringers and the horizontal floor beam on FR 36, repetitive inspections for cracking of the fastener holes of the front spar vertical stringers on FR 36, and repair if necessary. The NPRM also proposed to add new thresholds and intervals for the repetitive inspections; require, for certain airplanes, a potential terminating action modification of the center wing box area; and expand the applicability. We are issuing this AD to address fatigue cracking of the front spar vertical

stringers on the wings, which could result in the reduced structural integrity of the airplane.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2017-0099, dated June 8, 2017 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for certain Airbus Model A318 series airplanes; Model A319 series airplanes; Model A320-211, -212, -214, -216, -231, -232, and -233 airplanes; and Model A321 series airplanes. The MCAI states:

> During centre fuselage certification full-scale fatigue test, cracks were found on the front vertical stringer at frame (FR) 36. Analysis of these findings indicated that a number of in-service aeroplanes could be similarly affected.
>
> This condition, if not detected and corrected, could lead to crack propagation and consequent deterioration of the structural integrity of the aeroplane.
>
> To address this potential unsafe condition, Airbus issued Airbus Service Bulletin (SB) A320-57-1016 to provide inspection instructions, and, consequently, [Direction Générale de l'Aviation Civile] DGAC France issued AD 97-311-105 [which corresponded to FAA AD 98-18-26, Amendment 39-10742 (63 FR 47423, September 8, 1998)] to require those repetitive [high frequency eddy current (HFEC)] inspections [for cracking]. At the same time, modification in accordance with Airbus SB A320-57-1017 was introduced as (optional) terminating action for the repetitive inspections * * *.
>
> After that [French] AD was issued, and following new analysis, modification per Airbus SB A320-57-1017 was no longer considered to be terminating action for the repetitive inspections as required by DGAC France AD 97-311-105. Aeroplanes with [manufacturer serial number] MSN 0080 up to MSN 0155 inclusive were delivered with the addition of a 5 [millimeter] mm thick light alloy shim under the

> heads of 2 fasteners at the top end of the front spar vertical stringers (Airbus mod 21290P1546, which is the production line equivalent to in-service modification through Airbus SB A320-57-1017). Aeroplanes with MSN 0156 or higher are delivered with vertical stiffeners of the forward wing spar upper end with stiffener cap thickness increased from 4 to 6 mm (Airbus mod 21290P1547).
>
> Prompted by these findings, Airbus issued SB A320-57-1178 Revision 01 to introduce new repetitive inspections and, consequently, EASA issued AD 2014-0069 [which corresponds to FAA AD 2016-01-11], superseding DGAC France AD 97-311-105 to require the new repetitive inspections, and, depending on findings, accomplishment of applicable corrective action(s).
>
> Since [EASA] AD 2014-0069 was issued, further investigations in the frame of the Widespread Fatigue Damage (WFD) campaign identified that some repetitive inspection thresholds and intervals have to be revised or introduced, and a new [potential] terminating action modification has been designed.
>
> For the reasons described above, this [EASA] AD retains the requirements of EASA AD 2014-0069, which is superseded, revises and introduces thresholds and intervals for the repetitive inspections, [introduces a potential terminating action modification,] and expands the Applicability.

Required actions also include reporting. Although this AD does not explicitly restate the requirements of AD 2016-01-11, it retains certain requirements of AD 2016-01-11. Those requirements are referenced in Airbus Service Bulletin A320-57-1178, Revision 03, including only Appendix 03, both dated November 29, 2016.

This service information is identified in "Related Service Information under 1 CFR part 51," in this preamble and in paragraph (i)(1) of this AD. You may examine

the MCAI in the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-1102.

**Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

**Support for the NPRM**

United Airlines (UAL) stated that it agrees with the intent of the NPRM.

**Request to Change Costs of Compliance Section**

Delta Airlines (DAL) requested that the Costs of Compliance section of the proposed AD be revised to include the costs for reporting inspection findings and for modifying the airplane as specified in Airbus Service Bulletin A320-57-1200. DAL stated that the cost of reporting, in addition to the cost for the modification has been significantly underestimated in the cost section of the proposed AD. DAL noted that it takes 2 work-hours per airplane to do the steps for reporting, in addition to numerous work-hours for setup time. DAL pointed out that the proposed AD mandates two service bulletins, and the cost of both should be included in the proposed AD. DAL explained that the kit cost for the modification is $55,360 (depending on configuration), and the labor is approximately 137 work-hours. DAL stated that the cost does not reflect lost revenue due to removing the airplane from service outside of the normal maintenance schedule. Given all of these factors, DAL asserted that the true cost of the proposed AD on operators should be as follows.

- For the inspection provided in Airbus Service Bulletin A320-57-1178: $1,947,850 + $232,275 for reporting.
- For the modification provided in Airbus Service bulletin A320-57-1200: $54,609,075 + $232,275 for reporting.
- Total cost to industry is: $57,021,475.

We partially agree. We do not agree to increase the work-hours for reporting; however. We estimate only the time necessary to submit a report (per each response), since the reporting information would be obtained when accomplishing the inspection(s) in the service bulletin(s). However, we do agree to include the costs for the modification for certain airplanes specified in Airbus Service Bulletin A320-57-1200, dated November 20, 2015, which will result in a total fleet cost of $1,107,050 or $110,705 per product, for the basic requirement of this AD. We have changed the "Costs of Compliance" section of this final rule accordingly.

**Request to Clarify Certain Requirements in Table 1 to Paragraphs (g), (h), (i)(1), and (j) of the Proposed AD**

UAL asked that we revise table 1 to paragraphs (g), (h), (i)(1), and (j) of the proposed AD to clarify that Airbus modification (Mod) 21290P1546 is limited to airplanes with manufacturer serial numbers (MSN) 0080 up to MSN 0155 inclusive. UAL also asked that another clarification be added to table 1 to specify that Mod 21290P1547 is effective for airplanes with MSN 0156 or higher, which were delivered with vertical stiffeners of the forward wing spar upper end with stiffener cap thickness increased from 4 to 6 mm. UAL stated that those airplanes were delivered with the addition of a 5 millimeter (mm) thick light alloy shim under the heads of two

fasteners at the top end of the front spar vertical stringers. UAL added that Mod 21290P1546 is the production line equivalent to in-service modifications through Airbus Service Bulletin A320-57-1017.

We do not agree with the commenter's requests. Figure 1 to paragraphs (g), (h), (i)(1), and (j) of this AD (table 1 to paragraphs (g), (h), (i)(1), and (j) of the proposed AD) defines configurations by whether or not certain modifications were done and certain service bulletins were embodied. Airbus Service Bulletin A320-57-1017 provides information regarding Mod 21290P1546 and Mod 21290P1547 that identifies the specific configuration of the airplanes. The definitions in figure 1 to paragraphs (g), (h), (i)(1), and (j) of this AD and figure 2 to paragraphs (g) and (i)(1) of this AD correspond to the airplane configuration definitions provided in Appendix 1 of EASA AD 2017-0099, dated June 8, 2017. Therefore, we have not changed this AD in this regard.

**Request to Extend Compliance Times for Configuration 003 Airplanes**

DAL asked that we extend the proposed initial compliance time for Configuration 003 airplanes identified in figure 3 to paragraph (i)(1) of the proposed AD. DAL asked that the initial inspection be extended to 24 months, or at a minimum, that the flight-hour limit be increased to 1,500 flight hours, since the initial inspection is dependent on flight cycles, not flight hours. DAL provided the following options for the proposed compliance time: 1) Next scheduled…, 2) 12-month…, or 3) 4-months…. DAL stated that it currently operates five airplanes, which are Configuration 003 on which the threshold of "Before exceeding 32,000 flight cycles or 64,000 flight hours since airplane first flight" for the initial inspection has been exceeded. DAL added that, at current fleet utilization

rates, it will require the inspections be done within approximately 85 days after the effective date of the AD, due to the flight-hour limit. DAL noted that this will necessitate a special maintenance visit. DAL also stated that its maintenance program requires a maintenance visit every 24 months, and added that most, if not all, of the airplanes will not visit a hangar within the next 3 months.

DAL asked that the compliance time be extended to 6 years after the effective date of the AD, with supplemental inspections for accomplishing the modification required by paragraph (j) of the proposed AD. At a minimum, DAL requested relief by allowing for an inspection, as specified in Airbus Service Bulletin A320-57-1178, Revision 03, dated November 29, 2016, at 2-year intervals until the heavy "H" check can be reached. DAL stated that modifications to Configuration 003 airplanes require incorporation of Airbus Service Bulletin A320-57-1200, dated November 20, 2015, prior to reaching 48,000 flight cycles or 96,000 flight hours, whichever occurs first. DAL stated that, at its current utilization rate, this modification would be required in approximately 4 years; however, its current heavy maintenance "H" checks are scheduled at 6-year intervals. DAL noted that this is a minimal risk, since Configuration 003 airplanes will receive supplemental inspections within a short time after the effective date specified in paragraph (i)(1) of the proposed AD.

We do not agree with the commenter's requests to extend the specified compliance times. The compliance times for the actions specified in this AD for addressing widespread fatigue damage (WFD) were established to ensure that affected structure is replaced before WFD develops. Standard inspection techniques cannot be

relied on to detect WFD before it becomes a hazard to flight. We will not grant any extensions of the compliance time to complete any AD-mandated service bulletin related to WFD without extensive new data that would substantiate and clearly warrant such an extension. Therefore, we have not changed this AD in this regard.

**Request to Allow Alternative Method of Compliance (AMOC) in Lieu of Contacting the Manufacturer for Repair Instructions**

DAL asked that an allowance be made under the provisions of paragraph (o)(2) of the proposed AD (and future ADs) for contacting Airbus for any deviations to the instructions contained within the service bulletins required in paragraphs (i) and (j) of the proposed AD, and to be able to use their EASA Design Organization Approval (DOA) approvals without seeking separate and redundant FAA AMOCs. DAL stated that as airplanes are scheduled for maintenance to comply with the proposed AD, the operator may discover that the Airbus service information contains errors that can affect compliance with the actions in the proposed AD. DAL did not state there are any known errors in the service information required in paragraphs (i) and (j) of the proposed AD. DAL added that, although the proposed AD provides an option to receive approval from the Manager, International Section, Transport Standards Branch, FAA; or EASA, or Airbus's EASA DOA; as specified in paragraph (o)(2) of the proposed AD, no such allowance is provided for receiving approval for deviations from the service information. DAL noted that past experience has shown that the FAA is unable to provide AMOC approvals within 2 days after receiving the request, which could result in grounding of airplanes. DAL suggested using the language in paragraph (6) of the MCAI.

We do not agree with the commenter's request. Paragraph (o)(2) of this AD, "Contacting the Manufacturer," only addresses the requirement to contact the manufacturer for corrective actions for the identified unsafe condition and does not cover deviations from the requirements of AD-mandated actions. We do not agree to expand paragraph (o)(2) of this AD to include such deviations because we need to ensure that any deviations from the requirements of AD-mandated actions are properly reviewed to adequately address the unsafe condition. Regarding paragraph (6) of the MCAI, if an operator is not able to comply with service information that is required by an AD, then the operator must request an AMOC in accordance with the procedures specified in paragraph (o)(1) of this AD.

We also note that, although we cannot guarantee AMOC approvals within 2 business days, we have provided AMOC approvals to U.S. operators, including DAL, within 24 hours of receiving the request, provided operators submit a complete AMOC package with substantiation and explanation of the urgency, such as, but not limited to, a disruption in operation. Guidance for submitting AMOCs is available in FAA Advisory Circular (AC) 39-10. We also recommend that operators work with the original equipment manufacturers to address errors in service information as part of AD planning, in addition to submitting comments to the NPRM denoting any errors in the service information, so that corrections to methods of compliance (MOC) can be addressed in the FAA final rule. Additional guidance for operators on AD management can be found in FAA AC 39-9. We have not changed this AD in this regard.

**Requests to Change or Delete Reporting Requirement**

DAL and UAL asked that the reporting of findings (positive or negative), as specified in the reporting requirement in paragraphs (n) and (o)(4) of the proposed AD, be limited to positive findings only, or be removed entirely. DAL stated that it will require a significant amount of work to collect, collate, and disseminate the requested data to Airbus, resulting in little or no benefit to the airworthiness of the airplane. DAL added that any findings will require transmission of findings to engineering from maintenance prior to submission to Airbus, which could result in a time lag and opportunities for error. DAL and UAL asserted that all positive findings are already reported to Airbus as part of the repair process and Airbus has the means to determine negative findings, so reporting is a duplicative burden on operators. Further, DAL argued that the Paperwork Reduction Act (https://www.gpo.gov/fdsys/pkg/PLAW-104publ13/html/PLAW-104publ13.htm) is meant to reduce the burden placed on public entities from government agencies when the information is obtainable from other sources, especially for the convenience of a foreign business. Additionally, DAL notes that only individuals that have the required access—controlled by Airbus—may submit reports, and provided data about what is required in order to submit a report (i.e., work-hours for the various steps in the process). DAL asserted that the cost of reporting on its operation would be $518,710, and that Airbus, EASA, nor the FAA have demonstrated in any of the service documents why the reporting requirement in this AD is necessary.

We agree to limit the reporting requirement to positive findings only for the reasons provided by the commenters. We have changed paragraph (n) of this AD accordingly.

We do not agree to remove the reporting requirement in this AD because the inspection reports will enable the manufacturer to obtain better insight into the nature, cause, and extent of the cracking, and eventually to develop final corrective action to address the unsafe condition. Once final corrective action has been identified, we might consider further rulemaking.

**Clarification of Actions that Prompted this AD**

We have revised the SUMMARY section of this final rule and paragraph (e) of this AD to clarify what prompted this AD. In addition to the report of cracks on the front spar vertical stringer at a certain frame, this AD was prompted by a determination that, during further investigations of the frame as part of the WFD campaign, certain inspection compliance times have to be revised and new inspections and a new potential terminating action modification have to be introduced.

**Conclusion**

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

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and

- Do not add any additional burden upon the public than was already proposed in the NPRM.

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

**Related Service Information under 1 CFR part 51**

Airbus has issued the following service information.

- Service Bulletin A320-57-1178, Revision 03, including only Appendix 03, both dated November 29, 2016. The service information describes procedures for a rototest inspection for cracking of the radius of the front spar vertical stringers on FR 36, a HFEC for cracking of the horizontal floor beam on FR 36, and an HFEC inspection for cracking of the fastener holes of the front spar vertical stringers on FR 36.

- Service Bulletin A320-57-1200, dated November 20, 2015. The service information describes procedures for modifying the center wing box area, which includes related investigative and corrective actions. Related investigative actions include an HFEC inspection on the radius of the rib flanges, a rototest inspection of the fastener holes, detailed and HFEC inspections for cracking on the cut edges, detailed and rototest inspections on all open fastener holes, and an inspection to determine if secondary structure brackets are installed. Corrective action includes reworking the secondary structure bracket and repair.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

**Costs of Compliance**

We estimate that this AD affects 815 airplanes of U.S. registry.

The actions required by AD 2016-01-11, take about 24 work-hours per inspection cycle per product, at an average labor rate of $85 per work-hour. Based on these figures, the estimated cost of the actions that are required by AD 2016-01-11 is $2,040 per inspection cycle per product.

We also estimate that it takes about 273 work-hours per product to comply with the basic requirements of this AD and 1 work-hour for reporting per response. The average labor rate is $85 per work-hour. Required parts cost about $87,500 per product. Based on these figures, we estimate the cost of this AD on affected U.S. operators of certain airplanes specified in the service information to be $1,107,050 or $110,705 per product.

We have received no definitive data that would enable us to provide cost estimates for the repair of cracking specified in this AD.

**Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. The paperwork cost associated with this AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as

completing and reviewing the collection of information. Therefore, all reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at 800 Independence Ave., SW, Washington, DC 20591, ATTN: Information Collection Clearance Officer, AES-200.

**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.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes to the

Director of the System Oversight Division.

**Regulatory Findings**

We 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 the 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) 2016-01-11, Amendment 39-18370 (81 FR 3316, January 21, 2016), and adding the following new AD:

**2018-13-08 Airbus:** Amendment 39-19320; Docket No. FAA-2017-1102; Product Identifier 2017-NM-078-AD.

**(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD replaces AD 2016-01-11, Amendment 39-18370 (81 FR 3316, January 21, 2016) ("AD 2016-01-11").

**(c) Applicability**

This AD applies to Airbus Model A318-111, -112, -121, and -122 airplanes; Model A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes; Model A320-211, -212, -214, -216, -231, -232, and -233 airplanes; and Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes; certificated in any category; all manufacturer serial numbers, except airplanes specified in paragraphs (c)(1) and (c)(2) of this AD.

(1) Model A319 and A320 series airplanes on which Airbus Modification 160000 (structural reinforcement for sharklet installation) has been embodied in production.

(2) Model A321 series airplanes on which Airbus Modification 160021 (structural reinforcement for sharklet installation) has been embodied in production.

**(d) Subject**

Air Transport Association (ATA) of America Code 57, Wings.

**(e) Reason**

This AD was prompted by a report that, during a center fuselage certification full-scale fatigue test, cracks were found on the front spar vertical stringer at frame (FR) 36. This AD was also prompted by a determination that, during further investigations of the frame as part of the widespread fatigue damage (WFD) campaign, certain inspection compliance times have to be revised and new inspections and a new potential terminating action modification have to be introduced. We are issuing this AD to address fatigue cracking of the front spar vertical stringers on the wings, which could result in the reduced structural integrity of the airplane.

**(f) Compliance**

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

**(g) Definition of Airplane Configurations**

For the purposes of this AD, airplane configurations are defined in figure 1 to paragraphs (g), (h), (i)(1), and (j) of this AD and figure 2 to paragraphs (g) and (i)(1) of this AD.

**Figure 1 to Paragraphs (g), (h), (i)(1), and (j) of this AD –** *Definition of Airplane Configurations (Config.) 001, 002, 003, 005, 006, and 007*

| Config. | Airbus Modification (Mod) embodied in production / Service Bulletin (SB) embodied | | | | Affected Airplanes | | | |
|---|---|---|---|---|---|---|---|---|
| | **Mod 21290P1546** | **Mod 21290P1547** | **Mod 36993P9963** | **SB A320-57-1017** | **A320 Series** | **A321 Series** | **A319 Series** | **A318 Series** |
| 001 | No | No | No | No | X | | | |
| 002 | No | No | No | Yes | X | | | |
| 003 | Yes | No | No | No | X | | | |
| 005 | No | Yes | No | No | X | | | |
| | No | Yes | No | No | | | X | |
| | No | Yes | No | No | | | | X |
| 006 | No | Yes | Yes | No | X | | | |
| | No | Yes | Yes | No | | | X | |
| | No | Yes | Yes | No | | | | X |
| 007 | No | No | No | No | | X | | |

**Figure 2 to Paragraphs (g) and (i)(1) of this AD –** *Definition of Airplane Configurations (Config.) 004, 008, 009, and 010*

| Config. | Airbus Modification (Mod) embodied / not embodied in production / Service Bulletin (SB) embodied | Affected Airplanes | | |
|---|---|---|---|---|
| | | A319 Series | A320 Series | A318 and A321 Series |
| 004 | Not applicable (N/A) | N/A | N/A | N/A |
| 008 | Airplanes on which Mod 28162, 28238 and 28342 have been embodied ("Corporate Jet"), and Mod 36993P9963 is not embodied | X | | |
| 009 | Airplanes on which Mod 28162, 28238 and 28342 have been embodied ("Corporate Jet"), and Mod 36993P9963 is embodied | X | | |
| 010 | Airplanes post-SB A320-57-1200 | | X | |

**(h) Actions Required for Previously Inspected Airplanes**

For Configuration 001, 002, or 003 airplanes, as identified in figure 1 to paragraphs (g), (h), (i)(1), and (j) of this AD, on which the inspections specified in Airbus Service Bulletin A320-57-1178, dated October 29, 2013, have been accomplished before the effective date of this AD; but the additional work specified in Airbus Service Bulletin A320-57-1178, Revision 01, dated May 28, 2014, including Appendix 01, dated May 28, 2014, has not been accomplished before the effective date of this AD: Before accomplishing the initial inspection required by paragraph (i)(1) of this AD, contact the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or Airbus's EASA Design Organization Approval (DOA) for further instructions and accomplish those instructions accordingly.

**(i) Repetitive Inspections**

(1) Within the compliance time defined in figure 3 to paragraph (i)(1) of this AD, as applicable to airplane configuration as identified in figure 1 to paragraphs (g), (h), (i)(1), and (j) of this AD and figure 2 to paragraphs (g) and (i)(1) of this AD, accomplish a special detailed inspection (SDI) for cracking of the radius of the front spar vertical stringers and the horizontal floor beam and the fastener holes on FR 36, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-57-1178, Revision 03, including only Appendix 03, both dated November 29, 2016.

**Figure 3 to Paragraph (i)(1) of this AD –** *Initial Inspection, A or B, Whichever Occurs Later*

| Configuration | A (Flight Cycles (FC) or Flight Hours (FH), whichever occurs first) | B (Calendar time, FC or FH, whichever occurs first) |
|---|---|---|
| 001 | Before exceeding 25,100 FC or 50,200 FH since airplane first flight | Within 8,800 FC or 17,700 FH, since the last SDI performed in accordance with the instructions of Airbus Service Bulletin A320-57-1178 |
| 002 | Within 8,800 FC or 17,700 FH after embodiment of Airbus Service Bulletin A320-57-1017 without prior accomplishment of Airbus Service Bulletin A320-57-1016 or Airbus Service Bulletin A320-57-1178, and before exceeding 32,000 FC or 64,000 FH since airplane first flight | Within 15,900 FC or 31,900 FH since last SDI performed in accordance with the instructions of Airbus Service Bulletin A320-57-1178; or within 12 months, or 2,500 FC or 5,000 FH, after the effective date of this AD; whichever occurs first |
| 003 | Before exceeding 32,000 FC or 64,000 FH since airplane first flight | Within 4 months or 750 FC or 750 FH after the effective date of this AD |
| 005 and 006 | Before exceeding 48,000 FC or 96,000 FH since airplane first flight | Within 4 months or 750 FC or 750 FH after the effective date of this AD |
| 007 | Before exceeding 44,400 FC or 88,900 FH since airplane first flight | Within 4 months or 750 FC or 750 FH after the effective date of this AD |
| 008 and 009 | Before exceeding 26,880 FC or 115,580 FH since airplane first flight | Within 30 days after the effective date of this AD |
| 010 | Within 48,000 FC or 96,000 FH after embodiment of Airbus Service Bulletin A320-57-1200 | Within 4 months or 750 FC or 750 FH after the effective date of this AD |

(2) If no cracking is found during any inspection required by paragraph (i)(1) of this AD, repeat the inspection required by paragraph (i)(1) of this AD thereafter at intervals not to exceed the inspection interval values defined in figure 4 to paragraphs (i)(2) and (l) of this AD, except as provided by paragraph (l) of this AD.

**Figure 4 to Paragraphs (i)(2) and (l) of this AD –** *Repetitive Inspections, A or B, Whichever Occurs Later*

| Configuration | A<br>Interval (FC or FH, whichever occurs first) | B<br>(Calendar time, FC or FH, whichever occurs first) |
|---|---|---|
| 001 | Within 8,800 FC or 7,700 FH | None |
| 002 and 003 | Within 15,900 FC or 31,900 FH | Within 12 months or 2,500 FC or 5,000 FH after the effective date of this AD, without exceeding 24,900 FC or 49,800 FH since last inspection (for the first inspection only) |
| 005 and 006 | Within 11,500 FC or 23,000 FH | None |
| 007 | Within 10,200 FC or 20,500 FH | None |
| 008 and 009 | Within 6,240 FC or 26,830 FH | None |
| 010 | Within 11,500 FC or 23,000 FH | None |

**(j) Modification**

For A320 series airplanes, Configuration 001, 002, or 003 as identified in figure 1 to paragraphs (g), (h), (i)(1), and (j) of this AD: Within the compliance time defined in figure 5 to paragraph (j) of this AD, as applicable, modify the center wing box area, including doing all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-57-1200, dated November 20, 2015, except as required by paragraph (k) of this AD. Do all applicable related investigative and corrective actions before further flight.

**Figure 5 to Paragraph (j) of this AD –** *Airbus Service Bulletin A320-57-1200 Modification Threshold*

| Airplane Mod-Status | Compliance time (whichever occurs later, A or B, C or D, as applicable to mod-status) | |
|---|---|---|
| Pre-mod 21290P1546 | A | Before exceeding 37,700 FC or 75,400 FH, whichever occurs first since airplane first flight, but not before reaching 28,000 FC and 56,000 FH since airplane first flight |
| | B | Within 12 months after the effective date of this AD |
| Post-mod 21290P1546 | C | Before exceeding 48,000 FC or 96,000 FH, whichever occurs first since airplane first flight, but not before reaching 28,000 FC and 56,000 FH since airplane first flight |
| | D | Within 12 months after the effective date of this AD |

**(k) Corrective Action**

If any crack is found during any inspection required by this AD: Before further flight, repair using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the EASA; or Airbus's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature. Where Airbus Service Bulletin A320-57-1178, Revision 03, including only Appendix 03, both dated November 29, 2016; and Airbus Service Bulletin A320-57-1200, dated November 20, 2015; specify to contact Airbus for appropriate action, and specify that action as "RC" (Required for Compliance), accomplish corrective actions in accordance with this paragraph.

**(l) Previous Repairs**

For airplanes that have been repaired in the inspection area specified in paragraph (i)(1) of this AD before the effective date of this AD using a method approved

by the Manager, International Section, Transport Standards Branch, FAA; or the EASA; or Airbus's EASA DOA: Accomplish repetitive SDIs within the compliance time defined in those repair instructions for repetitive SDIs. If no compliance time is identified in the repair instructions for repetitive SDIs, accomplish the repetitive SDIs required by paragraph (i)(2) of this AD at the compliance times defined in figure 4 to paragraphs (i)(2) and (l) of this AD.

**(m) No Terminating Action**

Modification or repair of an airplane, as specified in paragraph (j) or (k) of this AD, does not constitute terminating action for the repetitive inspections required by this AD, unless it is specified otherwise in a repair method approved by the Manager, International Section, Transport Standards Branch, FAA; or the EASA; or Airbus's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

**(n) Reporting Requirement**

Submit a report of the positive findings of the inspections required by paragraphs (i) and (j) of this AD to "Airbus Service Bulletin Reporting Online Application" on Airbus World (https://w3.airbus.com/), at the applicable time specified in paragraph (n)(1) or (n)(2) of this AD.

(1) If the inspection was done on or after the effective date of this AD: Report within 30 days after that inspection.

(2) If the inspection was done before the effective date of this AD: Report within 30 days after the effective date of this AD.

**(o) Other FAA AD Provisions**

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International Section, Transport Standards Branch, 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 International Section, send it to the attention of the person identified in paragraph (p)(2) of this AD. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. 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.

**(2) Contacting the Manufacturer:** As of the effective date of this AD, for any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the EASA; or Airbus's EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

**(3) Required for Compliance (RC):** Except as specified in paragraph (k) of this AD, if any service information contains procedures or tests that are identified as RC, those procedures and tests must be done to comply with this AD; any procedures or tests that are not identified as RC are recommended. Those procedures and tests that are not identified as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC,

provided the procedures and tests identified as RC can be done and the airplane can be put back in an airworthy condition. Any substitutions or changes to procedures or tests identified as RC require approval of an AMOC.

**(4) Reporting Requirements:** A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 1 work-hour per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at 800 Independence Ave. SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

**(p) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA AD 2017-0099, dated June 8, 2017, for related information. This MCAI may be found in the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-1102.

(2) For more information about this AD, contact Sanjay Ralhan, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3223.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (q)(3) and (q)(4) of this AD.

**(q) Material Incorporated by Reference**

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

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

(i) Airbus Service Bulletin A320-57-1178, Revision 03, including only Appendix 03, both dated November 29, 2016.

(ii) Airbus Service Bulletin A320-57-1200, dated November 20, 2015.

(3) For service information identified in this AD, contact Airbus, Airworthiness Office– EIAS, Rond-Point Emile Dewoitine No: 2, 31700 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email account.airworth-eas@airbus.com; Internet http://www.airbus.com.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

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

Issued in Des Moines, Washington, on June 12, 2018.

Michael Kaszycki,
Acting Director,
System Oversight Division,
Aircraft Certification Service.

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