requirements of 14 CFR part 34, and the noise-certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.101.

Novel or Unusual Design Features

The Bombardier Model BD–100–1A10 airplane, as modified by Rockwell Collins, will incorporate the following novel or unusual design feature:

Installation of the Rockwell Collins Pro Line Fusion System, which allows connection to airplane electronic systems and networks, and access from sources internal to the airplane to the previously isolated internal airplane electronic assets.

Discussion

The Bombardier Model BD–100–1A10 airplane architecture is novel or unusual for commercial transport airplanes because it allows connection to previously isolated data networks connected to systems that perform functions required for the safe operation and maintenance of the airplane. This data network and design integration creates a potential for unauthorized persons to access the aircraft-control domain and airline information-services domain, and presents security vulnerabilities related to the introduction of computer viruses and worms, user errors, and intentional sabotage of airplane electronic assets (networks, systems, and databases) critical to the safety and maintenance of the airplane.

The existing FAA regulations did not anticipate these networked airplane system architectures. Furthermore, these regulations and the current guidance material do not address potential security vulnerabilities, which could be exploited by unauthorized access to airplane networks, data buses, and servers. Therefore, these special conditions ensure that the security (*i.e.,* confidentiality, integrity, and availability) of airplane systems will not be compromised by unauthorized wired or wireless connections from within the airplane. These special conditions also require the applicant to provide appropriate instructions to the operator to maintain all electronic-system safeguards that have been implemented as part of the original network design so that this feature does not allow or reintroduce security threats.

These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

Applicability

As discussed above, these special conditions are applicable to the Bombardier Model BD–100–1A10 airplane. Should Rockwell Collins apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. T00005NY to incorporate the same novel or unusual design feature, these special conditions would apply to that model as well.

Conclusion

This action affects only a certain novel or unusual design feature on one model of airplane, as modified by Rockwell Collins. It is not a rule of general applicability and affects only the applicant.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

Authority Citation

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Bombardier Model BD–100–1A10 airplanes, as modified by Rockwell Collins, for electronic-system security protection from unauthorized internal access.

1. The applicant must ensure that the design provides isolation from, or airplane electronic-system security protection against, access by unauthorized sources internal to the airplane. The design must prevent inadvertent and malicious changes to, and all adverse impacts upon, airplane equipment, systems, networks, or other assets required for safe flight and operations.

2. The applicant must establish appropriate procedures to allow the operator to ensure that continued airworthiness of the airplane is maintained, including all post-type-certification modifications that may have an impact on the approved electronic-system security safeguards.

Issued in Des Moines, Washington, on February 9, 2021.

Suzanne Masterson,

Manager, Transport Airplane Strategic Policy Section, Policy and Innovation Division, Aircraft Certification Service.

[FR Doc. 2021–05293 Filed 3–12–21; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2020–0817; Special Conditions No. 25–779–SC]

Special Conditions: Airbus Model A321neo ACF Airplane; Dynamic Test Requirements for Single-Occupant Oblique (Side-Facing) Seats With 3-Point Restraints

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Airbus Model A321neo Cabin Flex (ACF) airplane. This airplane will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport-category airplanes. This design feature is single-occupant oblique seats with 3-point restraints. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: This action is effective on Airbus on March 15, 2021. Send comments on or before April 29, 2021.

ADDRESSES: Send comments identified by Docket No. FAA–2020–0817 using any of the following methods:

- *Federal eRegulations Portal:* Go to *http://www.regulations.gov/* and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M–30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE, Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9

a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- *Fax:* Fax comments to Docket Operations at 202–493–2251.

Privacy: Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received without change, to *http://www.regulations.gov/,* including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this proposal.

Confidential Business Information: Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this Notice contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this Notice, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as ''PROPIN.'' The FAA will treat such marked submissions as confidential under the FOIA, and the indicated comments will not be placed in the public docket of this Notice. Submissions containing CBI should be sent to Shannon Lennon, Human-Machine Interface Section, AIR–626, Transport Standards Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington 98198; telephone and fax 206–231–3209; email *shannon.lennon@faa.gov.* Comments the FAA receives, which are not specifically designated as CBI, will be placed in the public docket for this rulemaking.

Docket: Background documents or comments received may be read at *http://www.regulations.gov/* at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Shannon Lennon, Human-Machine Interface Section, AIR–626, Transport Standards Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington 98198; telephone and fax 206–231–3209; email *shannon.lennon@faa.gov.*

SUPPLEMENTARY INFORMATION: The substance of these special conditions previously has been published in the **Federal Register** for public comment. These special conditions have been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. Therefore, the FAA has determined that prior public notice and comment are unnecessary, and finds that, for the same reason, good cause exists for adopting these special conditions upon publication in the **Federal Register**.

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under **ADDRESSES**. Include ''Docket No. FAA–2020–0817'' at the beginning of your comments. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

The FAA will consider all comments received by the closing date and may amend these special conditions because of those comments.

Background

On December 19, 2019, Airbus applied for a change to Type Certificate No. A28NM for single-occupant oblique seats with 3-point restraints in the Airbus Model A321neo ACF airplane. This airplane, which is a derivative of the Airbus Model A321–200 airplane currently approved under Type Certificate No. A28NM, is a twin-engine, transport-category airplane with seating for 244 passengers and a maximum takeoff weight of 213,848 pounds.

Type Certification Basis

Under the provisions of title 14, Code of Federal Regulations (14 CFR) 21.101, Airbus must show that the Model A321neo ACF airplane, as changed, continues to meet the applicable provisions of the regulations listed in Type Certificate No. A28NM or the applicable regulations in effect on the date of application for the change, except for earlier amendments as agreed upon by the FAA.

If the Administrator finds that the applicable airworthiness regulations (*e.g.,* 14 CFR part 25) do not contain adequate or appropriate safety standards for the Airbus Model A321neo ACF airplane because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, or should any other model already included on the same type certificate be modified to incorporate the same novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Airbus Model A321neo ACF airplane must comply with the fuel-vent and exhaust-emission requirements of 14 CFR part 34, and the noise-certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.101.

Novel or Unusual Design Features

The Airbus Model A321neo ACF airplane will incorporate the following novel or unusual design features:

Single-occupant oblique seats with 3-point restraints.

Discussion

The FAA has been conducting and sponsoring research on appropriate injury criteria for oblique seat installations. However, the FAA research program is not complete, and the FAA may update these criteria as further research results are obtained. To reflect current research findings, the FAA issued policy statement PS–ANM–25–03–R1, ''Technical Criteria for Approving Side-Facing Seats,'' November 5, 2012, which updates injury criteria for fully side-facing seats; and policy statement PS–AIR–25–27, ''Technical Criteria for Approving Oblique Seats,'' July 11, 2018, to define injury criteria for oblique seats. These policies provide background and technical information, as well as applicable injury criteria.

The installation of obliquely oriented passenger seats is novel such that the current certification basis does not adequately address protection of the occupant's neck and spine for seat configurations that are oriented at an angle greater than 18 degrees from the airplane longitudinal centerline.

The installation of passenger seats at angles of 18 to 45 degrees to the airplane centerline is unusual in transport-

category airplanes due to the seat and occupant interface with the surrounding furniture that introduces occupant alignment and loading concerns with or without the installation of a 3-point restraint system or additional airbag restraint system. Note that, while the applicant did not specifically cite airbag systems as part of the seat restraint system, this discussion and related special conditions address airbag information in the event that an airbag system is installed as part of the seat restraint system.

FAA-sponsored research has found that an unrestrained flailing of the upper torso, even when the pelvis and torso are nearly aligned, can produce serious spinal and torso injuries. At lower-impact severities, including with significant misalignment between the torso and pelvis, the injuries did not occur. Tests with an FAA Hybrid III anthropomorphic test device (ATD) have identified a level of lumbar spinal tension corresponding to the no-injury impact severity. This level of tension is included as a limit in the special conditions. The spine-tension limit selected is conservative with respect to other aviation injury criteria because it corresponds to a no-injury loading condition.

Shoulder harnesses (3-point restraint systems) have been widely used on flight-attendant seats, flight-deck seats, business jets, and general aviation airplanes to reduce occupant head injury in the unlikely event of an emergency landing. The use of 3-point restraint systems on transport-category airplane passenger seats is rare; however, pertinent regulations and published guidance for this type of restraint system exist.

The existing regulations, however, do not adequately address the proposed business-class seating configuration of oblique seats with 3-point restraints because they do not consider unique occupant alignment and loading concerns due to obliquely oriented passengers. Therefore, special conditions are required.

These special conditions provide head injury criteria, neck injury criteria, spine injury criteria, and body-to-wall contact criteria. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

Applicability

As discussed above, these special conditions are applicable to the Airbus Model A321neo ACF airplane. Should Airbus apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, these special conditions would apply to that model as well.

Conclusion

This action affects only a certain novel or unusual design feature on one model of airplane. It is not a rule of general applicability.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

Authority Citation

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Airbus Model A321neo ACF airplane.

In addition to the requirements of § 25.562, passenger seats installed at an angle between 18 degrees and 45 degrees from the aircraft bow-to-stern centerline must meet the following:

1. Head Injury Criteria (HIC):

Compliance with § 25.562(c)(5) is required, except that, when an airbag device is present in addition to the 3-point restraint system, and the anthropomorphic test device (ATD) has no apparent contact with the seat or structure but has contact with an airbag, the HIC unlimited scored in excess of 1000 is acceptable, provided the HIC15 score (calculated in accordance with 49 CFR 571.208) for that contact is less than 700.

ATD head contact with the seat or other structure, through the airbag, or contact subsequent to contact with the airbag, requires a HIC value that does not exceed 1000.

2. Body-to-Wall/Furnishing Contact:

If a seat is installed aft of structure (*e.g.,* interior wall or furnishings) that does not provide a homogenous contact surface for the expected range of occupants and yaw angles, then additional analysis and tests may be required to demonstrate that the injury criteria are met for the area that an occupant could contact. For example, if an airbag device is present, and different yaw angles could result in different airbag-device performance, then additional analysis or separate test(s) may be necessary to evaluate performance.

3. Neck Injury Criteria:

a. The seating system must protect the occupant from experiencing serious neck injury. If an airbag device is present, the assessment of neck injury must be conducted with the airbag device activated, unless there is reason to also consider that the neck injury potential would be higher for impacts below the airbag-device deployment threshold.

b. The Nij (calculated in accordance with 49 CFR 571.208) must be below 1.0, where $N_{ij} = F_z/F_{zc} + M_y/M_{yc}$, and N_{ij} critical values are:

i. F_{zc} = 1530 lbs. for tension

ii. F_{zc} = 1385 lbs. for compression

iii. M_{yc} = 229 lb-ft in flexion

iv. M_{yc} = 100 lb-ft in extension

c. In addition, peak F_z must be below 937 lb. in tension and 899 lb. in compression.

d. Rotation of the head about its vertical axis relative to the torso is limited to 105 degrees in either direction from forward-facing.

e. The neck must not impact any surface that would produce concentrated loading on the neck.

4. Spine and Torso Injury Criteria:

a. The lumbar spine tension (F_z) cannot exceed 1200 lb.

b. Significant concentrated loading on the occupant's spine, in the area between the pelvis and shoulders during impact, including rebound, is not acceptable. During this type of contact, the interval for any rearward (X direction) acceleration exceeding 20g must be less than three (3) milliseconds as measured by the thoracic instrumentation specified in 49 CFR part 572, subpart E, filtered in accordance with SAE recommended practice J211/1, ''Instrumentation for Impact Test–Part 1–Electronic Instrumentation.''

c. The occupant must not interact with the armrest or other seat components in any manner significantly different than would be expected for a forward-facing seat installation.

5. Pelvis Criteria:

Any part of the load-bearing portion of the bottom of the ATD pelvis must not translate beyond the edges of the seat bottom seat-cushion supporting structure.

6. Femur Criteria:

Axial rotation of the upper leg (about the z-axis of the femur per SAE Recommended Practice J211/1) must be limited to 35 degrees from the nominal seated position. Evaluation during rebound does not need to be considered.

7. ATD and Test Conditions:

Longitudinal tests conducted to measure the injury criteria above must be performed with the FAA Hybrid III ATD, as described in SAE 1999–01–

1609. The tests must be conducted with an undeformed floor, at the most-critical yaw cases for injury, and with all lateral structural supports (*e.g.,* armrests or walls) installed.

Note: Airbus must demonstrate that the installation of seats via plinths or pallets meet all applicable requirements. Compliance with the guidance contained in policy memorandum PS–ANM–100–2000–00123, ''Guidance for Demonstrating Compliance with Seat Dynamic Testing for Plinths and Pallets,'' dated February 2, 2000, is acceptable to the FAA.

8. Inflatable Airbag Restraint Systems Special Conditions:

If inflatable airbag-restraint systems are also installed, the airbag systems must meet the requirements in the airbag (inflatable restraint) special conditions applicable to the Airbus Model A321 series airplanes.

Issued in Des Moines, Washington, on January 11, 2021.

Suzanne Masterson,

Manager, Transport Airplane Strategic Policy Section, Policy and Innovation Division, Aircraft Certification Service.

[FR Doc. 2021–05307 Filed 3–12–21; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2020–1206; Special Conditions No. 25–781–SC]

Special Conditions: Rockwell Collins, Bombardier Model BD–100–1A10 Airplane; Electronic-System Security Protection From Unauthorized External Access

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Bombardier Model BD–100–1A10 airplane. This airplane, as modified by Rockwell Collins, will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. This design feature is the installation of a system that allows connection to airplane electronic systems and networks, and access from aircraft external to the previously isolated internal airplane electronic assets. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: This action is effective on Rockwell Collins on March 15, 2021. Send comments on or before April 29, 2021.

ADDRESSES: Send comments identified by Docket No. FAA–2020–1206 using any of the following methods:

- *Federal eRegulations Portal:* Go to *http://www.regulations.gov/* and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M–30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE, Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to Docket Operations at 202–493–2251.

Privacy: Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received without change, to *http://www.regulations.gov/,* including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this proposal.

Confidential Business Information: Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this Notice contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this Notice, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as ''PROPIN.'' The FAA will treat such marked submissions as confidential under the FOIA, and the indicated comments will not be placed in the public docket of this Notice. Send submissions containing CBI to the person indicated in the Contact section below. Comments the FAA receives, which are not specifically designated as CBI, will be placed in the public docket for this rulemaking.

Docket: Background documents or comments received may be read at *http://www.regulations.gov/* at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Varun Khanna, Aircraft Information Systems Section, AIR–622, Technical Innovation Policy Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington 98198; telephone and fax 206–231–3159; email *varun.khanna@faa.gov.*

SUPPLEMENTARY INFORMATION: The substance of these special conditions has been published in the **Federal Register** for public comment in several prior instances with no substantive comments received. Therefore, the FAA finds, pursuant to 14 CFR 11.38(b), that new comments are unlikely, and notice and comment prior to this publication are unnecessary.

Comments Invited

The FAA invites interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

The FAA will consider all comments received by the closing date for comments. The FAA may change these special conditions based on the comments received.

Background

On May 3, 2019, Rockwell Collins applied for a supplemental type certificate for installation of the Rockwell Collins Pro Line Fusion System in the Bombardier Model BD–100–1A10 airplane, requiring security protection from unauthorized external access. The Bombardier Model BD–100–1A10 airplane is a twin-engine, transport-category airplane with a passenger capacity of 19 and a maximum takeoff weight of 40,600 pounds.

Type Certification Basis

Under the provisions of title 14, Code of Federal Regulations (14 CFR) 21.101, Rockwell Collins must show that the Bombardier Model BD–100–1A10