DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2016–9297; Special Conditions No. 25–648–SC]

Special Conditions: Textron Aviation Inc. Model 700 Airplane; 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 Textron Aviation Inc. (Textron) Model 700 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 airplane electronic systems and networks that allow access from external sources (e.g., wireless devices, Internet connectivity) to the airplane’s internal electronic components. 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 Textron on March 17, 2017. We must receive your comments by May 1, 2017.

ADDRESSES: Send comments identified by docket number FAA–2016–9297 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: The FAA will post all comments it receives, without change, to http://www.regulations.gov/, including any personal information the commenter provides. Using the search function of the docket Web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT’s complete Privacy Act Statement can be found in the Federal Register published on April 11, 2000 (65 FR 19477–19478), as well as at http://DocketsInfo.dot.gov.

Docket: Background documents or comments 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:


SUPPLEMENTARY INFORMATION: The FAA has determined that notice of, and opportunity for prior public comment on, these special conditions is impracticable because these procedures would significantly delay issuance of the design approval, and thus delivery, of the affected airplane. In addition, the substance of these special conditions has been subject to the public-comment process in several prior instances with no substantive comments received. The FAA therefore finds that good cause exists for making these special conditions effective upon publication in the Federal Register.

Comments Invited

We invite 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.

We will consider all comments we receive by the closing date for comments. We may change these special conditions based on the comments we receive.

Background

On November 20, 2014, Textron applied for a type certificate for their new Model 700 airplane. The Textron Model 700 airplane is a twin-engine, transport-category executive airplane with seating for 2 crewmembers and 12 passengers, and a maximum takeoff weight of 38,514 lbs.

Type Certification Basis


If the Administrator finds that the applicable airworthiness regulations (i.e., 14 CFR part 25) do not contain adequate or appropriate safety standards for the Textron Model 700 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, these special conditions would also apply to the other model under §21.101.

In addition to the applicable airworthiness regulations and special conditions, the Textron Model 700 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 §21.17(a)(2).

Novel or Unusual Design Features

The Textron Model 700 airplane will incorporate the following novel or unusual design feature: A digital-systems network architecture composed of several connected networks. This network architecture and network configuration will have the capability to allow access to or by external network sources, and may be used for or
interfaced with a diverse set of functions, including:

- Flight-safety-related control, communication, and navigation systems (airplane-control domain);
- Operator business and administrative support (operator-information domain); and
- Passenger information and entertainment systems (passenger-entertainment domain).

Discussion

The Textron Model 700 airplane allows connection to airplane electronic systems and networks, and access from airplane external sources (e.g., operator networks, wireless devices, Internet connectivity, service-provision satellite communication, electronic flight bags, etc.) to the airplane’s previously isolated, internal, electronic components. These airplane internal electronic components include electronic equipment and systems, instruments, networks, servers, software and electronic components, field-loadable software and hardware applications, and databases. This proposed design may otherwise result in network security vulnerabilities, if not appropriately protected, from intentional or unintentional corruption of data and systems required for the safety, operation, and maintenance of the airplane. The existing regulations and guidance material did not anticipate this type of system architecture, nor external wired and wireless electronic access to airplane electronic systems. Furthermore, regulations, and current system safety-assessment policy and techniques, do not address potential security vulnerabilities that could be caused by unauthorized access to airplane electronic systems and networks.

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 Textron Model 700 airplane. Should Textron apply at a later date for a change to the type certificate to include another model of airplane. It is not a rule of general applicability.

The substance of these special conditions has been subjected to the notice and comment period in several prior instances and has 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, because a delay would significantly affect the certification of the airplane, the FAA has determined that prior public notice and comment are unnecessary and impractical, and good cause exists for adopting these special conditions upon publication in the Federal Register. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 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 Textron Model 700 airplanes.

1. The applicant must ensure that the airplane electronic systems are protected from access by unauthorized sources external to the airplane, including those possibly caused by maintenance activity.

2. The applicant must ensure that electronic system-security threats are identified and assessed, and that effective electronic system-security protection strategies are implemented to protect the airplane from all adverse impacts on safety, functionality, and continued airworthiness.

3. 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.


Michael Kaszycki,
Assistant Manager, Transport Airplane Directorate, Aircraft Certification Service.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2016–9296; Special Conditions No. 25–647–SC]


AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Bombardier Inc. (Bombardier) Model BD–700–2A12 and BD–700–2A13 series airplanes. These airplanes 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 lateral-directional and longitudinal stability, and low-energy awareness, provided through an electronic flight-control system (EFCS). 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 Bombardier on March 17, 2017. We must receive your comments by May 1, 2017.

ADDRESSES: Send comments identified by docket number FAA–2016–9296 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.
- 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.

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