



## 適航指令發布單

### Airworthiness Directive Issuance Form

民航局 AD 編號 AD number	CAA-2019-07-004	發布日期 Date issued	2019/7/10
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	This AD applies to Rockwell Collins, Inc. (Rockwell Collins) Flight Display System Application FDSA-6500 part numbers 810-0234-1H0001, 810-0234-1H0002, 810-0234-1H0003, 810-0234-2H0001, 810-0234-2C0001, 810-0234-2C0002, and 810-0234-4B0001. These appliances are installed on, but not limited to, Bombardier Inc. Model CL-600-2B16 (604 variant) airplanes and Textron Aviation Inc. Models 525B, B200, B200C, B200CGT, B200GT, B300, B300C, and C90GTi airplanes, certificated in any category.		
主旨摘要	Operating limitations on TCAS by revising the limitations section of the AFM or AFM supplement and installing a placard on each aircraft PFD		
民航局 CAA <input type="checkbox"/> 本國產品 Native products  <input type="checkbox"/> 其他個案 Other	設計國民航主管機構 Original Authorities <input checked="" type="checkbox"/> FAA <span style="margin-left: 150px;"><input type="checkbox"/> Germany LBA</span> <input type="checkbox"/> EASA <span style="margin-left: 150px;"><input type="checkbox"/> CAA-NL</span> <input type="checkbox"/> Brazil <span style="margin-left: 150px;"><input type="checkbox"/> UK CAA</span> <input type="checkbox"/> Transport Canada Civil Aviation <span style="margin-left: 100px;"><input type="checkbox"/> Japan CAB</span> <input type="checkbox"/> DGAC <span style="margin-left: 150px;"><input type="checkbox"/> CAA of Israel</span> <input type="checkbox"/> Other _____		
	設計國 AD 編號 Original AD number	2019-12-09	
	1. 直接採用原 AD 之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 否(No) _ a. 生效日期另訂為(Re-specify the effective date as) : _____ b. 執行時限另訂為(Re-specify the compliance time or period as) : _____ 2. 使用人是否需要將 AD 執行結果向民航局提出報告?(Do Users need to report the status of compliance to the CAA?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)		
備註 Note	None		
註： 1. AD 內容後附。 2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。 3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a> Note： 1. The AD text is enclosed. 2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval. 3. For further information, please contact Civil Aeronautics Administration on Tel:(02)2349-6331~3, Fax:(02)2545-8464, e-mail： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a>			

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[Rules and Regulations]

[Pages 32260-32263]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2019-0469; Product Identifier 2019-CE-028-AD; Amendment 39-19664; AD 2019-12-09]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Rockwell Collins, Inc. Flight Display System Application**

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

**ACTION:** Final rule; request for comments.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain part-numbered Rockwell Collins, Inc. (Rockwell Collins) FDSA-6500 flight display system applications installed on airplanes. This AD imposes operating limitations on the traffic collision avoidance system (TCAS) by revising the Limitations section of the airplane flight manual (AFM) or AFM supplement (AFMS) and installing a placard on each aircraft primary flight display. This AD was prompted by a conflict between the TCAS display indications and aural alerts that may occur during a resolution advisory (RA) scenario. The FAA is issuing this AD to require actions that address the unsafe condition on these products.

**DATES:** This AD is effective July 23, 2019.

The FAA must receive comments on this AD by August 22, 2019.

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

Fax: 202-493-2251.

Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

## **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-2019-0469; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Nhien Hoang, Aerospace Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946-4157; fax: (316) 946-4107; email: [nhien.hoang@faa.gov](mailto:nhien.hoang@faa.gov) or [Wichita-COS@faa.gov](mailto:Wichita-COS@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

The FAA was notified that a conflict may occur between the TCAS primary cockpit display indications and the aural alerts during an RA scenario on specific part-numbered Rockwell Collins FDSA-6500 flight display system applications. These applications may be installed on, but not limited to, Bombardier Inc. Model CL-600-2B16 (604 variant) airplanes and Textron Aviation Inc. Models 525B, B200, B200C, B200CGT, B200GT, B300, B300C, and C90GTi airplanes.

During testing of a full flight simulator on a development program, the TCAS fly-to/avoidance cue indication on the primary cockpit displays conflicted with other TCAS system information, such as aural cues, during an RA scenario. While the aural alert will provide the pilot with accurate information to resolve the RA, that information is not accurately represented by the TCAS fly-to/avoidance cue display. Specifically, the TCAS fly-to/avoidance cue is displayed relative to the aircraft horizon line instead of the aircraft symbol. Rockwell Collins determined that the data from the TCAS is being translated incorrectly by the FDSA-6500 software prior to display of the RA pitch indications.

This condition, if not addressed, could lead to the pilot over-correcting or under-correcting for aircraft separation and may result in a mid-air collision. The manufacturer is developing a software update to correct this condition. The actions required by this AD are intended to prevent conflicting TCAS information by prohibiting flight operation with RA functionality enabled. The FAA is issuing this AD to address the unsafe condition on these products.

### **Related Service Information**

The FAA reviewed Rockwell Collins Operator Bulletin OPSB 0193-19R1, Revision 1, dated April 3, 2019. The service information describes the unsafe condition and provides examples of different scenarios that could occur with the TCAS indication conflicts. The service information also contains instructions for determining the part number of the FDSA-6500 installation.

### **FAA's Determination**

The FAA is issuing this AD because it evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### **AD Requirements**

This AD prohibits operation with the TCAS in TA/RA mode by requiring a revision to the Limitations section of the AFM or AFMS and by fabricating and installing a placard on each aircraft

primary flight display. An owner/operator (pilot) may revise the AFM or the AFMS and fabricate and install the required placard, and the owner/operator must enter compliance with the applicable paragraphs of the AD into the aircraft records in accordance with 14 CFR 43.9(a)(1) through (4) and 14 CFR 91.417(a)(2)(v). A pilot may perform these actions because they can be performed equally well by a pilot or a mechanic. This is an exception to our standard maintenance regulations.

### **Interim Action**

The FAA considers this AD interim action. The operating limitation required by this AD will immediately address the unsafe condition. However, Rockwell Collins is developing a software upgrade to correct the unsafe condition and eliminate the need for the operating limitation required by this AD action. Because the operating limitation required by this AD addresses the unsafe condition, any rulemaking with a software upgrade would allow for public notice and comment. Thus, the FAA will consider future rulemaking when the software upgrade becomes available.

### **FAA's Justification and Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because a conflict between the displayed indications and the TCAS aural alert could lead to the pilot over-correcting or under-correcting for aircraft separation and result in a mid-air collision. Therefore, the FAA finds good cause that notice and opportunity for prior public comment are impracticable. In addition, for the reason stated above, the FAA finds that good cause exists for making this amendment effective in less than 30 days.

### **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, the FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under the ADDRESSES section. Include the Docket Number FAA-2019-0469 and Product Identifier 2019-CE-028-AD at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this final rule. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

The FAA will post all comments it receives, 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 it receives about this final rule.

### **Costs of Compliance**

The FAA estimates that this AD affects 932 FDSA-6500 flight display system applications installed on 311 airplanes worldwide. The number of FDSA-6500 applications installed on airplanes on the U.S. Registry is unknown.

The FAA estimates the following costs to comply with this AD:

### Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on operators worldwide
Revise the Limitations section of the AFM or AFMS	.5 work-hour × \$85 per hour = \$42.50	Not applicable	\$42.50 (per airplane)	\$13,217.50
Fabricate and install a placard	.5 work-hour × \$85 per hour = \$42.50	Negligible	\$42.50 (per primary flight display)	39,610

#### 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.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

#### Regulatory Flexibility Act

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because FAA has determined that it has good cause to adopt this rule without notice and comment, RFA analysis is not required.

#### Regulatory Findings

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, and
- (2) Will not affect intrastate aviation in Alaska.

#### 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 adding the following new airworthiness directive (AD):



**2019-12-09 Rockwell Collins, Inc.:** Amendment 39-19664 ; Docket No. FAA-2019-0469 Product Identifier 2019-CE-028-AD.

**(a) Effective Date**

This AD is effective July 23, 2019.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Rockwell Collins, Inc. (Rockwell Collins) Flight Display System Application FDSA-6500 part numbers 810-0234-1H0001, 810-0234-1H0002, 810-0234-1H0003, 810-0234-2H0001, 810-0234-2C0001, 810-0234-2C0002, and 810-0234-4B0001. These appliances are installed on, but not limited to, Bombardier Inc. Model CL-600-2B16 (604 variant) airplanes and Textron Aviation Inc. Models 525B, B200, B200C, B200CGT, B200GT, B300, B300C, and C90GTi airplanes, certificated in any category.

Note 1 to paragraph (c) of this AD: Rockwell Collins Operator Bulletin OPSB 0193-19R1, Revision 1, dated April 3, 2019, contains additional information related to the Applicability of this AD.

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 34; Navigation.

**(e) Unsafe Condition**

This AD was prompted by a conflict between the traffic collision avoidance system (TCAS) primary display indications and aural alerts during a resolution advisory (RA) scenario. The FAA is issuing this AD to prevent conflicting TCAS information. The unsafe condition, if not addressed, could result in the pilot under-correcting or over-correcting and may lead to inadequate aircraft separation and a mid-air collision.

**(f) Compliance**

Comply with this AD within 30 days after July 23, 2019 (the effective date of this AD), unless already done.

### **(g) Operating Limitations**

(1) Revise the airplane flight manual (AFM) or AFM supplement (AFMS) by adding the following text to the Limitations section: For TCAS II installations, during flight, do not operate TCAS in the “TA/RA” mode; TCAS may only be operated in “TA Only” mode.

Note 2 to paragraphs (g) and (h) of this AD: In “TA/RA” mode, the TA stands for traffic advisory and RA stands for resolution advisory.

(2) Fabricate a placard for each aircraft primary flight display, using at least 1/8 inch letters, with the following text: TCAS Flight Ops–TA Only mode (TA/RA mode prohibited).

(3) Install the placard on the bottom of each aircraft primary flight display bezel in the area depicted in figure 1 to paragraph (g)(3) of this AD.

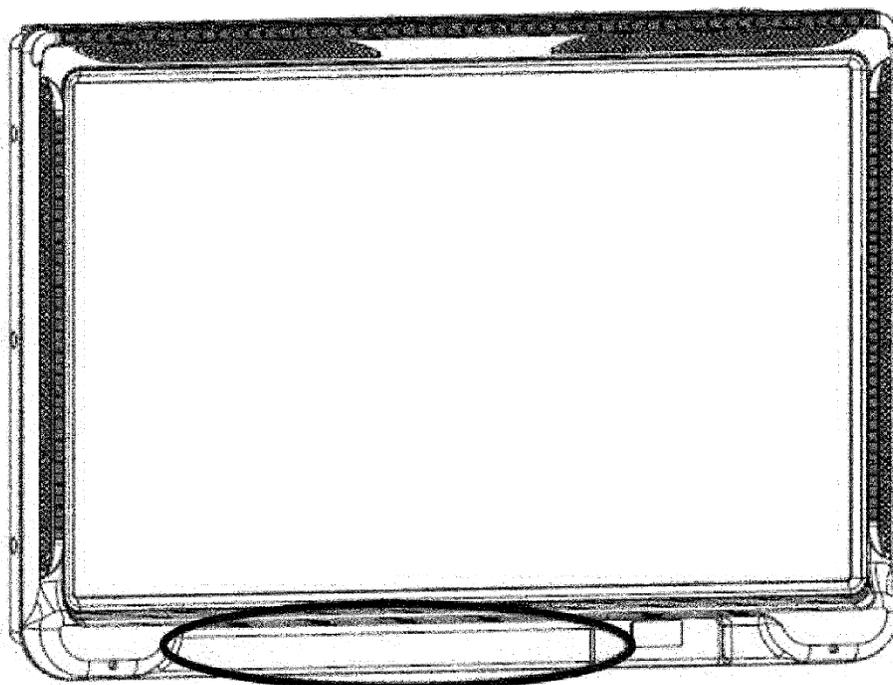


Figure 1 to paragraph (g)(3) of this AD; placard location on bezel

(4) In addition to the provisions of 14 CFR 43.3 and 43.7, the actions required by paragraph (g)(1) through (3) of this AD may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9(a)(1) through (4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417. This authority is not applicable to aircraft being operated under 14 CFR part 119.

### **(h) Special Flight Permit**

A special flight permit may be issued with the following limitation: Flight operation with the TCAS II in “TA/RA” mode is prohibited. Flight operation with the TCAS is only permitted in “TA Only” mode.

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

(1) The Manager, Wichita ACO 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 certification office, send it to the attention of the person identified in paragraph (j).

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(j) Related Information**

(1) For more information about this AD, contact Nhien Hoang, Aerospace Engineer, Wichita ACO Branch, FAA, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946-4157; fax: (316) 946-4107; email: nhien.hoang@faa.gov or Wichita-COS@faa.gov.

(2) Rockwell Collins Operator Bulletin OPSB 0193-19R1, Revision 1, dated April 3, 2019, contains additional information related to this AD. You may obtain copies of this service information by contacting Rockwell Collins, Inc. at Collins Aviation Services, 400 Collins Road NE, M/S 164-100, Cedar Rapids, IA 52498-0001; telephone: 888-265-5467 (U.S.) or 319-265-5467; fax: 319-295-4941 (outside U.S.); email: techmanuals@rockwellcollins.com; internet: [http://www.rockwellcollins.com/Services\\_and\\_Support/Publications.aspx](http://www.rockwellcollins.com/Services_and_Support/Publications.aspx).

Issued in Fort Worth, Texas, on June 28, 2019.

James A. Grigg,

Acting Deputy Director for Regulatory Operations, Compliance & Airworthiness Division, Aircraft Certification Service.

[FR Doc. 2019-14307 Filed 7-5-19; 8:45 am]