



**適航指令發布單**  
**Airworthiness Directive Issuance Form**

民航局 AD 編號 AD number	CAA-2020-08-009 緊急	發布日期 Date issued	2020/8/31												
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	Sandia attitude indicator part number (P/N) 306171-10 or 306171-20. These attitude indicators may be marked as BendixKing Model KI-300 or Sandia Model SAI-340A. They may be installed on airplanes certificated in any category.														
主旨摘要	This emergency AD requires, before further flight, revising the existing Airplane Flight Manual for your airplane to prohibit operation under Instrument Flight Rules or night Visual Flight Rules and prohibit coupling the autopilot with an affected attitude indicator.														
民航局 CAA <input type="checkbox"/> 本國產品 Native products  <input type="checkbox"/> 其他個案 Other	<div style="text-align: center;">設計國民航主管機構 Original Authorities</div> <table style="width: 100%;"><tr><td><input checked="" type="checkbox"/> FAA</td><td><input type="checkbox"/> Germany LBA</td></tr><tr><td><input type="checkbox"/> EASA</td><td><input type="checkbox"/> CAA-NL</td></tr><tr><td><input type="checkbox"/> Brazil</td><td><input type="checkbox"/> UK CAA</td></tr><tr><td><input type="checkbox"/> Transport Canada Civil Aviation</td><td><input type="checkbox"/> Japan CAB</td></tr><tr><td><input type="checkbox"/> DGAC</td><td><input type="checkbox"/> CAA of Israel</td></tr><tr><td colspan="2"><input type="checkbox"/> Other _____</td></tr></table>			<input checked="" type="checkbox"/> FAA	<input type="checkbox"/> Germany LBA	<input type="checkbox"/> EASA	<input type="checkbox"/> CAA-NL	<input type="checkbox"/> Brazil	<input type="checkbox"/> UK CAA	<input type="checkbox"/> Transport Canada Civil Aviation	<input type="checkbox"/> Japan CAB	<input type="checkbox"/> DGAC	<input type="checkbox"/> CAA of Israel	<input type="checkbox"/> Other _____	
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<input type="checkbox"/> Other _____															
	設計國 AD 編號 Original AD number	2020-18-51													
	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：  
[adcaa@mail.caa.gov.tw](mailto:adcaa@mail.caa.gov.tw)

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：  
[adcaa@mail.caa.gov.tw](mailto:adcaa@mail.caa.gov.tw)



**DATE: August 28, 2020**  
**AD #: 2020-18-51**

Emergency Airworthiness Directive (AD) 2020-18-51 is sent to owners and operators of various aircraft with Sandia attitude indicator (attitude indicator) part number (P/N) 306171-10 or 306171-20 installed. These attitude indicators may be marked as BendixKing Model KI-300 or Sandia Model SAI-340A.

### **Background**

This emergency AD was prompted by a report of three failed attitude indicator P/N 306171-10 units. Following the initial report, investigation has revealed a total of 54 failed attitude indicator P/N 306171-10 units. Attitude indicator P/N 306171-20 is affected by the same unsafe condition because it is identical to P/N 306171-10. The effect of the failure was erroneous attitude data provided to the pilot and autopilot, if equipped. In some instances, the pilot is unaware that the data is erroneous or unreliable. In other instances, where the aircraft is equipped with multiple displays, the pilot may be provided with conflicting information, but will have no way to determine which display contains the correct data. This condition, if not addressed, could result in aeronautical decision-making based on erroneous attitude information, which may result in loss of control of the aircraft.

### **FAA's Determination**

The FAA is issuing this AD after evaluating all the relevant information and determining the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

### **Emergency AD Requirements**

This emergency AD requires, before further flight, revising the existing Airplane Flight Manual (AFM) for your airplane to prohibit operation under Instrument Flight Rules (IFR) or night Visual Flight Rules (VFR) and prohibit coupling the autopilot with an affected attitude indicator.

Revising the existing AFM for your airplane 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.

### **Interim Action**

The FAA considers this AD interim action. If final action is later identified, the FAA might consider further rulemaking then.

## **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.

## **Presentation of the Actual Emergency AD**

The FAA is issuing this AD under 49 U.S.C. Section 44701 according to the authority delegated to me by the Administrator.

**2020-18-51 Sandia Attitude Indicator:** Project Identifier AD-2020-01232-Q.

### **(a) Effective Date**

This AD is effective upon receipt.

### **(b) Affected ADs**

None.

### **(c) Applicability**

This AD applies to Sandia attitude indicator (attitude indicator) part number (P/N) 306171-10 or 306171-20. These attitude indicators may be marked as BendixKing Model KI-300 or Sandia Model SAI-340A. They may be installed on airplanes certificated in any category.

### **(d) Subject**

Joint Aircraft Service Component (JASC) Code: 3420, Attitude and Direction Data System.

### **(e) Unsafe Condition**

This AD was prompted by reports of 54 failed attitude indicators, which produced erroneous attitude data to the pilot and autopilot, if equipped. The FAA is issuing this emergency AD to prevent aeronautical decision-making based on erroneous attitude information, which may result in loss of control of the aircraft.

### **(f) Compliance**

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

### **(g) Required Actions**

(1) Before further flight, revise the limitations section of the existing Airplane Flight Manual (AFM) for your airplane by inserting a copy of this AD or by making a pen and ink change to add:

(i) “Operation under Instrument Flight Rules (IFR) or night Visual Flight Rules (VFR) is prohibited.”

(ii) “Coupling the autopilot with Sandia attitude indicator part number 306171-10 or 306171-20 is prohibited. These attitude indicators may be marked as BendixKing Model KI 300 or Sandia Model SAI 340A.”

(2) The action required by paragraph (g)(1) of this emergency 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 Permits**

Special flight permits are prohibited.

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

(1) The Manager, Fort Worth 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) of this AD. Information may be emailed to: 9-ASW-FWACO@faa.gov.

(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**

For further information about this AD, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays, contact: John Felton, Aerospace Engineer, Fort Worth ACO Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone 817-222-5171; email john.felton@faa.gov.

Outside these hours, contact: Jim Grigg, Manager, Fort Worth ACO Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone 817-222-5126; email jim.grigg@faa.gov.

Issued on August 28, 2020.

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