

compliance with this AD, if any, may be obtained from the Standardization Branch, ANM-113.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Issued in Renton, Washington, on October 9, 1996.

S.R. Miller,

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

[FR Doc. 96-26708 Filed 10-17-96; 8:45 am]

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## 14 CFR Part 39

[Docket No. 96-NM-242-AD]

RIN 2120-AA64

### **Airworthiness Directives; Airtell International, Inc., Centaurus Model C3-100 Ground Proximity Warning System (GPWS), as Installed in Various Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This document proposes the adoption of a new airworthiness directive (AD) that is applicable to all Airtell International, Inc., Centaurus Model C3-100 GPWS equipment that is installed on any type of airplane. This proposal would require replacement of this equipment with a similar type of equipment that meets specific performance requirements. This proposal is prompted by results of an investigation, which revealed that, under certain circumstances, the Centaurus GPWS equipment does not provide the flight crew with aural warnings to indicate that the airplane is descending. The actions specified by the proposed AD are intended to prevent failure of the GPWS equipment to provide such aural warnings. If the flight crew relies on receiving such warnings and the GPWS equipment fails to provide those warnings, the ability of the flight crew to prevent the airplane from impacting the ground may be inhibited.

**DATES:** Comments must be received by November 25, 1996.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 96-NM-242-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

Information concerning this proposal may be obtained from or examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

**FOR FURTHER INFORMATION CONTACT:** John P. Dimtroff, Aerospace Engineer, Flight Test and Systems Branch, ANM-111, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2117; fax (206) 227-1100.

#### **SUPPLEMENTARY INFORMATION:**

##### **Comments Invited**

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 96-NM-242-AD." The postcard will be date stamped and returned to the commenter.

##### **Availability of NPRMs**

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 96-NM-242-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

##### **Discussion**

Section 135.153 of the Federal Aviation Regulations (14 CFR 135.153) specifies that no turbine-powered airplane having a passenger seating

configuration (excluding any pilot seat) of 10 or more seats may be operated unless the airplane is equipped with an approved ground proximity warning system (GPWS). In order to be considered approved, GPWS equipment must meet certain minimum performance standards prescribed in Technical Standard Order (TSO) C-92b, dated August 19, 1976. That TSO references Radio Technical Commission for Aeronautics (RTCA) Document No. DO-161A, "Minimum Performance Standards, Airborne Ground Proximity Warning Equipment," dated May 27, 1976, as an additional source of information. The RTCA document indicates that the minimum performance standards are a means of ensuring that GPWS equipment will satisfactorily perform its intended function under all conditions normally encountered in routine aeronautical operations.

The FAA has received reports indicating that Centaurus Model C3-100 GPWS equipment, which is installed in various transport, commuter, and normal category airplanes, does not meet the minimum performance standards prescribed in TSO C-92b.

##### **GPWS Equipment, in General**

The GPWS equipment is an aid to the flight crew for determining the imminent occurrence of inadvertent contact of the airplane with the ground. This equipment is intended to supplement flight instrument data, which alerts the flight crew that inadvertent contact with the ground may occur. The GPWS equipment must provide indications of proximity to the ground in the following modes of aircraft operation:

Mode 1. Excessive rates of descent;  
Mode 2. Excessive closure rate to terrain;

Mode 3. Negative climb rate or altitude loss after takeoff;

Mode 4. Flight into terrain when not in landing configuration; and

Mode 5. Excessive downward deviation from an instrument landing system (ILS) glide slope.

Distinctive aural warnings must be provided for Modes 1 through 4 above. The aural warning for these modes must consist of the sound "Whoop-Whoop," followed by either "Pull Up" or "Terrain" (or other acceptable annunciation), which is repeated until the hazardous condition no longer exists.

##### **Results of FAA Testing**

Subsequent to the reports discussed previously, the FAA conducted testing of two Centaurus Model C3-100 GPWS

units in accordance with RTCA Document No. DO-161A. Results of that testing confirmed that Centaurus Model C3-100 GPWS equipment does not meet all minimum performance standards specified in TSO C-92b and RTCA Document No. DO-161A. Specifically, failures occurred in Mode 2 (excessive descent rate) and Mode 3 (descent after takeoff) of aircraft operation.

The FAA has determined that the effect of the deficiencies found in Modes 2 and 3 could result in an unsafe condition. Those deficiencies are as follows:

1. Mode 2A2. Using a start altitude of 2,450 feet, the FAA tested the GPWS equipment and listened for aural warnings issued at terrain closure rates from 2,500 to 7,000 feet per minute (fpm). At closure rates of 3,750 fpm and below, no warnings were received within the acceptable range. Warnings were issued at parameters outside specified minimum performance requirements.

2. Mode 2A4. Using a start altitude of 2,450 feet, the FAA tested the GPWS equipment and listened for warnings issued at terrain closure rates from 2,500 to 7,000 fpm. Valid warnings were received at closure rates within the acceptable band until descent rates decreased to less than 3,500 fpm. Descent rates of less than 3,500 fpm yielded alarms outside the prescribed minimum performance requirements.

3. Mode 2B1. Using a start altitude of 2,450 feet, the FAA tested the GPWS equipment and listened for warnings issued at terrain closure rates from 2,500 to 7,000 fpm. Valid warnings were received at closure rates within the acceptable band until descent rates decreased to less than 3,200 fpm. Descent rates of less than 3,200 fpm yielded alarms outside the prescribed minimum performance requirements.

4. Mode 3B. Simulating takeoff from zero feet radio altitude to 700 feet, the BARO rate (altitude loss) parameter was increased in 20-foot increments from 20 to 140 feet, and then to 500 and 1,000 feet. After numerous attempts, valid results could not be obtained, i.e., neither unit tested issued a warning at 140 feet (or less) altitude loss. At an altitude loss value above 140 feet, warnings were noted; however, these warnings were intermittent at times.

#### FAA's Findings

Concerning Mode 2, the FAA finds that Centaurus Model C3-100 GPWS equipment does not provide the flight crew with appropriate aural warnings of encroaching terrain when the rate of descent of the airplane is 3,750 feet per

minute or less at altitudes of 1,000 feet or below.

In addition, regarding Mode 3, when an airplane is descending after takeoff, Centaurus Model C3-100 GPWS equipment does not provide an aural warning ("DON'T SINK") when a barometric altitude loss of 140 feet or less is encountered to indicate that the airplane is descending after takeoff.

#### FAA's Conclusions

It is reasonable to assume that flight crews may come to rely on the aural warnings that should be provided by GPWS equipment during Modes 2 and 3 of aircraft operation. If the flight crew relies on receiving such warnings and the GPWS equipment fails to provide those warnings, the ability of the flight crew to prevent the airplane from impacting the ground may be inhibited.

#### Explanation of Requirements of Proposed Rule

Since an unsafe condition has been identified that is likely to exist on other products of this same type design, the proposed AD would require removal and replacement of Centaurus Model C3-100 GPWS equipment with a similar type of equipment that meets specific performance requirements. The actions would be required to be accomplished in accordance with a method approved by the FAA.

It also may be possible to correct the addressed unsafe condition by modifying the unit. However, the FAA has not identified any particular means by which such a modification may be accomplished. The FAA would consider a request for approval of an alternative method of compliance, in accordance with the provisions of this proposed AD, provided that adequate justification is presented to support such a request.

#### Cost Impact

The FAA estimates that 30 airplanes of U.S. registry would be affected by this proposed AD, that it would take approximately 20 work hours per airplane to accomplish the proposed actions, and that the average labor rate is \$60 per work hour. Required parts would cost approximately \$16,000 per airplane. Based on these figures, the cost impact of the proposed AD on U.S. operators is estimated to be \$516,000, or \$17,200 per airplane.

The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the proposed requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted.

#### Regulatory Impact

The regulations proposed herein would not have substantial direct effects 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. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation (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); and (3) if promulgated, 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. A copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption **ADDRESSES**.

#### List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

#### The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by adding the following new airworthiness directive:

Airtell International, Inc.: Docket 96-NM-242-AD.

*Applicability:* Centaurus Model C3-100 ground proximity warning system (GPWS) equipment, as installed in, but not limited to, the following airplanes, certificated in any category:

Beech 99 series airplanes;  
Beech 200 series airplanes;  
Dassault Aviation Model Mystere-Falcon 200 series airplanes;  
EMBRAER (Empresa Brasileira de Aeronautica S.A.) EMB-110 series airplanes;

Fairchild Aircraft Model SA226-TC series airplanes;  
Fairchild Aircraft Model SA227-AT series airplanes; and  
Grumman Model G-73 Mallard airplanes.

**Compliance:** Required as indicated, unless accomplished previously.

To prevent failure of the GPWS equipment to provide certain aural warnings, which could inhibit the ability of the flight crew to prevent the airplane from impacting the ground, accomplish the following:

(a) Within 60 days after the effective date of this AD, remove and replace Centaurus Model C3-100 GPWS equipment with a similar type of equipment that meets minimum performance standards specified in Technical Standard Order (TSO) C-92b, dated August 19, 1976. Accomplish the actions in accordance with a method approved by the Manager, Flight Test and Systems Branch, ANM-111, FAA, Transport Airplane Directorate.

(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Flight Test and Systems Branch, ANM-111. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Flight Test and Systems Branch, ANM-111.

Note: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Manager, Flight Test and Systems Branch, ANM-111.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Issued in Renton, Washington, on October 9, 1996.

Darrell M. Pederson,

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

[FR Doc. 96-26707 Filed 10-17-96; 8:45 am]

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## 14 CFR Part 39

[Docket No. 96-NM-26-AD]

RIN 2120-AA64

### Airworthiness Directives; British Aerospace Model BAe 146 and Avro 146-RJ Series Airplanes

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This document proposes the superseding of two existing airworthiness directives (AD), applicable to British Aerospace Model BAe 146 and Avro 146-RJ series airplanes, that currently require

inspections to detect cracking of the upper main fitting of the nose landing gear (NLG), and replacement or repair of cracked parts, if necessary. Those actions were prompted by reports of cracking in the main fittings of the NLG. This action would require that, for certain airplanes, the inspections be accomplished at reduced intervals. This proposal is prompted by the results of new analyses of the cracking that were conducted by the manufacturer of the NLG. The actions specified by the proposed AD are intended to prevent failure of the main fitting, which could lead to collapse of the NLG during landing.

**DATES:** Comments must be received by November 25, 1996.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 96-NM-26-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from British Aerospace Holding, Inc., Avro International Aerospace Division, P.O. Box 16039, Dulles International Airport, Washington DC 20041-6039. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

**FOR FURTHER INFORMATION CONTACT:** Tim Backman, Aerospace Engineer, Standardization Branch, ANM-113, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2797; fax (206) 227-1149.

#### SUPPLEMENTARY INFORMATION:

##### Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments

submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 96-NM-26-AD." The postcard will be date stamped and returned to the commenter.

#### Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 96-NM-26-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

#### Discussion

On August 23, 1993, the FAA issued AD 93-17-04, amendment 39-8674 (58 FR 47036, September 7, 1993), applicable to British Aerospace Model BAe 146 series airplanes, to require repetitive inspections to detect cracking of the upper main fitting of the nose landing gear (NLG), and replacement or repair of cracked parts, if necessary. That action was prompted by reports of cracking of the upper main fitting of the NLG. The requirements of that AD are intended to prevent failure of the main fitting, which could lead to collapse of the NLG during landing.

On February 15, 1995, the FAA issued AD 95-04-06, amendment 39-9158 (60 FR 12413, March 7, 1995), applicable to British Aerospace Model Avro 146-RJ series airplanes. That AD is similar to AD 93-17-04 in that it requires repetitive inspections to detect cracking of the upper main fitting of the NLG, and replacement or repair of cracked parts, if necessary. Likewise, that action was prompted by reports of cracking of the upper main fitting of the NLG. The requirements of that AD are intended to prevent failure of the main fitting, which could lead to collapse of the NLG during landing.

#### Action Since Issuance of Previous AD's

Since the issuance of those AD's, a fatigue analysis and a review of the service reports were conducted by the manufacturer of the NLG. The results of the analysis and review indicate that crack growth can occur at a faster rate than what was considered previously. The repetitive inspection interval should be reduced for NLG part number