



CIVIL AVIATION AUTHORITY  
CZECH REPUBLIC  
Airworthiness Division  
Airport Ruzyně, 160 08 Prague 6  
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## AIRWORTHINESS DIRECTIVE

**Number: CAA-AD-101/2004**

Supersedes CAA-AD-1-001/97

Date of issue: October 05, 2004

**Kelly Aerospace Power Systems  
(Formerly Janaero Devices, Janitrol,  
C/D, FL Aerospace, and Midland-Ross  
Corporation)  
Combustion Heater**

*This AD has been issued in accordance with Decision No.: 2/2003 of the Executive Director of the EASA (ADs issued by the state of design are automatically adopted in EU member states).*

### AIRCRAFT – COMBUSTION HEATER – INSPECTION

**Applicability:** This AD affects Kelly Aerospace Power Systems B-Series Combustion Heaters, Models B1500, B2030, B2500, B3040, B3500, B4050, and B4500, marked as meeting the standards of TSO-C20, that are installed on, but not limited to, the following aircraft (all serial numbers), and are certificated in any category:

Manufacturer	Models
Raytheon Aircraft Company	58, 58P, 58TC, 60, A60, 76, and 95-B55 Series.
Bombardier Inc	CL-215-1A10 (Water Bomber) CL215-6B11 (CL-215T Variant) (CL415 Variant) .
The Cessna Aircraft Company	208, 310F, 310G, 310H, 310I, 310J, 310K, 310L, 310N, 310P, 320C, 320D, 320E, 320F, 337 Series, 340, 340A, 414, 414A, 421, 421A, 421B, and 421C.

**Effective date:** December 23, 2004

**Compliance:** Required as indicated in FAA AD 2004-21-05.

*Remarks: The compliance of this AD must be recorded in Aircraft Logbook, where applicable the requirements of this AD must be integrated into Aircraft Technical Documentation. Address inquiries concerning this AD to: Civil Aviation Authority, Airworthiness Division, Ruzyně Airport, 160 08 Prague 6, Czech Republic, tel: 420 233320922, fax: 420 220562270.*

**Ing. Pavel MATOUŠEK**  
director

**2004-21-05 Kelly Aerospace Power Systems (Formerly Janaero Devices, Janitrol, C/D, FL Aerospace, and Midland-Ross Corporation):** Amendment 39-13826; Docket No. FAA-2004-19118; Directorate Identifier 2004-CE-25-AD; Supersedes AD 96-20-07; Amendment 39-9773.

**When Does This AD Become Effective?**

(a) This AD becomes effective on November 19, 2004.

**Are Any Other ADs Affected by This Action?**

(b) This AD supersedes AD 96-20-07, Amendment 39-9773.

**What Airplanes Are Affected by This AD?**

(c) This AD affects Kelly Aerospace Power Systems B-Series Combustion Heaters, Models B1500, B2030, B2500, B3040, B3500, B4050, and B4500, marked as meeting the standards of TSO-C20, that are installed on, but not limited to, the following aircraft (all serial numbers), and are certificated in any category:

Manufacturer	Models
Raytheon Aircraft Company	58, 58P, 58TC, 60, A60, 76, and 95-B55 Series.
Bombardier Inc	CL-215-1A10 (Water Bomber) CL215-6B11 (CL-215T Variant) (CL415 Variant) .
The Cessna Aircraft Company	208, 310F, 310G, 310H, 310I, 310J, 310K, 310L, 310N, 310P, 320C, 320D, 320E, 320F, 337 Series, 340, 340A, 414, 414A, 421, 421A, 421B, and 421C.

**Note 1:** B-Series Combustion Heaters Models B2500, B3500, and B4500 incorporate a new combustion air pressure switch, P/N 94E42. Airplanes that are equipped with P/N 94E42 do not need to conduct an operational test of the combustion air pressure switch. The part number is ink-stamped on the side of these combustion air pressure switches.

**What Is the Unsafe Condition Presented in This AD?**

(d) This AD is the result of reports that the new ceramic-coated combustion tubes are subject to the same distress as the non-ceramic coated combustion tubes. We are issuing this AD to prevent combustion by-products (carbon-monoxide exhaust) and fuel leakage from the combustion heaters caused by failure of the combustion heater system. This failure could result in fire or explosion in the airplane and possible carbon monoxide poisoning of the crew and passengers in the cabin.

**What Must I Do To Address This Problem?**

(e) For airplanes with an affected B-Series combustion heater that does not incorporate an extended-life ceramic-coated combustion tube, do the following:

Actions	Compliance	Procedures
(1) Perform the following:  (i) Using a pressure decay test, inspect the combustion tube of the heater; and  (ii) Conduct an operational test of the combustion air pressure switch. In some applications, the air pressure switch is remotely mounted on the airframe and not on the heater. Regardless of where the air pressure switch is located, the operational test	<i>For airplanes with 450 or more heater hours time-in-service (TIS) accumulated on an installed heater since new installation or since the last overhaul:</i> Within the next 50 hours TIS or 12 calendar months after November 14, 1996 (the effective date of AD 96-20-07), whichever occurs first, unless already done.  <i>For airplanes with less than 450 heater hours TIS accumulated on an installed heater since new installation</i>	Follow the applicable instructions in Janitrol Maintenance and Overhaul Manual 24E25-1.

<p>requirements of this AD still apply.</p> <p>(iii) If an air pressure switch, part number 94E42 is currently installed, the operational test is not required.</p>	<p><i>or since the last overhaul:</i> Upon the accumulation of 500 heater hours TIS or within the next 12 calendar months after November 14, 1996 (the effective date of AD 96-20-07), whichever occurs first, unless already done.</p> <p><i>After doing the initial inspection and operational test:</i> Repetitively inspect the combustion tube and perform the operational test of the air pressure switch thereafter at intervals not-to-exceed 100 heater hours TIS or 24 calendar months, whichever occurs first.</p>	
<p>(2) After each inspection required in paragraph (e)(1) of this AD, if the heater does not pass the pressure decay test, overhaul the heater and replace the combustion tube with a serviceable tube or replace the heater assembly.</p>	<p>Prior to further flight after the inspection required in paragraph (e)(1) of this AD in which the combustion tube fails. After the heater is overhauled or replaced with a new heater assembly, the inspection cycle starts over upon the accumulation of 500 heater hours TIS with the repetitive inspection intervals thereafter not-to-exceed 100 heater hours TIS or 24 calendar months, whichever occurs first.</p>	<p>Follow the applicable instructions in Janitrol Maintenance and Overhaul Manual 24E25-1.</p>
<p>(3) After each operational test required in paragraph (e)(1) of this AD, if any air pressure switch does not pass, replace the switch with one of the same design or with a P/N 94E42.</p>	<p>Prior to further flight after the operational test required in paragraph (e)(1) of this AD in which the switch failed. After installing a new switch, repetitively test the air pressure switch thereafter at intervals not-to-exceed 100 heater hours TIS or 24 calendar months, whichever occurs first. Replacing the combustion air pressure switch with a P/N 94E42 switch terminates the repetitive operational testing required in paragraph (e)(1) of this AD.</p>	<p>Follow the applicable instructions in Janitrol Maintenance and Overhaul Manual 24E25-1 and JanAero Devices Service Bulletin # A-103, dated September 1995.</p>
<p>(4) As an alternative method of compliance to the requirements of this AD, you may disable the heater by doing the following:</p> <p>(i) Cap the fuel supply line;</p> <p>(ii) Disconnect the electrical power and ensure that the connections are properly secured to reduce the possibility of electrical spark or structural damage;</p> <p>(iii) Inspect and test to ensure that the cabin heater system is disabled;</p>	<p>As of November 14, 1996 (the effective date of AD 96-20-07).</p>	<p>Not applicable.</p>

<p>(iv) Ensure that no other aircraft system is affected by this action;</p> <p>(v) Ensure that there are no fuel leaks; and</p> <p>(vi) Fabricate a placard with the following words: "System Inoperative". Install this placard at the heater control valve within the pilot's clear view.</p>		
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**Note 2:** You may use a heater hour meter to determine heater hours time-in-service (TIS). Also, you may divide aircraft hours TIS in half to calculate heater hours TIS.

(f) For airplanes with an affected B-Series combustion heater that does incorporate an extended-life ceramic-coated combustion tube, do the following:

Actions	Compliance	Procedures
<p>(1) Perform the following:</p> <p>(i) Using a pressure decay test, inspect the combustion tube of the heater; and</p> <p>(ii) Conduct an operational test of the combustion air pressure switch. In some applications, the air pressure switch is remotely mounted on the airframe and not on the heater. Regardless of where the air pressure switch is located, the operational test requirements of this AD still apply.</p> <p>(iii) If an air pressure switch, part number 94E42 is currently installed, the operational test is not required.</p>	<p>Upon the accumulation of 500 heater hours TIS or within the next 100 hours TIS after the November 19, 2004 (the effective date of this AD), whichever occurs later. Repetitively inspect the combustion tube and perform the operational test of the air pressure switch thereafter at intervals not-to-exceed 100 heater hours TIS or 24 calendar months, whichever occurs first.</p>	<p>Follow the applicable instructions in Janitrol Maintenance and Overhaul Manual 24E25-1.</p>
<p>(2) After each inspection required in paragraph (f)(1) of this AD, if the heater does not pass the pressure decay test, overhaul the heater and replace the combustion tube with a serviceable tube or replace the heater assembly.</p>	<p>Prior to further flight after the inspection required in paragraph (f)(1) of this AD in which the combustion tube fails. After the heater is overhauled or replaced with a new heater assembly, the inspection cycle starts over upon the accumulation of 500 heater hours TIS with the repetitive inspection intervals thereafter not-to-exceed 100 heater hours TIS or 24 calendar months, whichever occurs first.</p>	<p>Follow the applicable instructions in Janitrol Maintenance and Overhaul Manual 24E25-1.</p>
<p>(3) After each operational test required in paragraph (f)(1) of this AD, if any air pressure switch does not pass, replace the switch with one of the same design or with a P/N 94E42.</p>	<p>Prior to further flight after the operational test required in paragraph (f)(1) of this AD in which the switch failed. After installing a new switch, repetitively test the air pressure switch thereafter at intervals not-to-exceed 100 heater hours TIS or 24 calendar months, whichever occurs first. Replacing the combustion air</p>	<p>Follow the applicable instructions in Janitrol Maintenance and Overhaul Manual 24E25-1 and JanAero Devices Service Bulletin # A-103, dated September 1995.</p>

	pressure switch with a P/N 94E42 switch terminates the repetitive operational testing required in paragraph (f)(1) of this AD.	
(4) As an alternative method of compliance to the requirements of this AD, you may disable the heater by doing the following:  (i) Cap the fuel supply line;  (ii) Disconnect the electrical power and ensure that the connections are properly secured to reduce the possibility of electrical spark or structural damage;  (iii) Inspect and test to ensure that the cabin heater system is disabled;  (iv) Ensure that no other aircraft system is affected by this action;  (v) Ensure that there are no fuel leaks; and  (vi) Fabricate a placard with the following words: "System Inoperative". Install this placard at the heater control valve within the pilot's clear view.	As of the November 19, 2004 (the effective date of this AD).	Not applicable.

**May I Request an Alternative Method of Compliance?**

(g) You may request a different method of compliance or a different compliance time for this AD by following the procedures in 14 CFR 39.19. Unless FAA authorizes otherwise, send your request to your principal inspector. The principal inspector may add comments and will send your request to the Manager, Atlanta ACO, FAA. For information on any already approved alternative methods of compliance, contact Kevin L. Brane, Aerospace Engineer, Atlanta Aircraft Certification Office, FAA, One Crown Center, 1985 Phoenix Boulevard, Suite 450, Atlanta, GA 30349; telephone: (770) 703-6063; facsimile: (770) 703-6097.

**Does This AD Incorporate Any Material by Reference?**

(h) You must do the actions required by this AD following the instructions in JanAero Devices Service Bulletin A-103, dated September 1995.

(1) On November 14, 1996 (61 FR 51357, October 2, 1996), and in accordance with 5 U.S.C. 552(a) and 1 CFR part 51, the Director of the Federal Register approved the incorporation by reference of JanAero Devices Service Bulletin A-103, dated September 1995.

(2) You may get a copy from Kelly Aerospace Power Systems, PO Box 273, Fort Deposit, Alabama 36032; telephone: (334) 227-8306; facsimile: (334) 227-8596; Internet: <http://www.kellyaerospace.com>. To review copies of this service information, go to the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html) or call (202) 741-6030. To view the AD docket, go to the Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-001 or on the Internet at <http://dms.dot.gov>. The docket number is FAA-2004-19118.

 **Footer Information**

Issued in Kansas City, Missouri, on October 13, 2004.  
William J. Timberlake,  
Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.  
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