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# Alert Service Bulletin

## Alert Service Bulletin No. 071

### **Combustion Heater P/N CD14048 or CD14048-1 Heater Pressure Decay Test Requirement**

#### 1. Planning Information

##### A. Effectivity

- (1) All C&D Associates Inc. and Hartzell Engine Technologies LLC (HET) manufactured combustion heaters P/N CD14048 or CD14048-1 used on Piper PA-31-350 Chieftain aircraft are affected by this Alert Service Bulletin (ASB).

**WARNING:** DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THIS ALERT SERVICE BULLETIN. INFORMATION CONTAINED IN THIS ALERT SERVICE BULLETIN MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. FAILURE TO COMPLY WITH THIS ASB OR THE USE OF OBSOLETE INFORMATION MAY CREATE AN UNSAFE CONDITION THAT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE. REFER TO THE HET WEBSITE FOR THE MOST RECENT REVISION LEVEL.

##### B. Concurrent Requirements

- (1) None.

##### C. Reason

- (1) This Alert Service Bulletin is issued because recent service difficulty reports to the FAA have demonstrated significant degradation of the combustion tubes in CD14048-1 heaters that were in compliance with C&D Associates Mandatory Service Bulletin 001.
- (2) While there have been no accidents or incidents related to HET P/N CD14048 or CD14048-1 combustion heaters, the danger presented by this premature combustion chamber degradation may cause an unsafe condition.
- (3) Regulatory action is unknown.

##### D. Description

- (1) This Alert Service Bulletin provides Instructions for Continued Airworthiness (ICA) and is considered required by HET.
- (2) This Alert Service Bulletin requires an immediate inspection to identify P/N CD14048 or CD14048-1 combustion heaters installed in the Piper Model PA-31-350 Chieftain aircraft for further inspection by PDT.
- (3) Should the combustion heater fail the PDT, this Alert Service Bulletin requires the replacement of the combustion tube HET P/N T4048 or replacement of the combustion heater P/N CD14048-1 with a serviceable unit.

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#### E. Compliance

- (1) Combustion Heater P/N CD14048 or CD14048-1 as identified in 1.A Effectivity are required to perform Compliance Option 1 or Option 2 within the next ten (10) hours time in service. (HET recommends that the heater not be used during this ten flight hours.)

Option 1: Perform a complete PDT in accordance with the HET/C&D P/N MM10001 maintenance & overhaul manual.

- (a) If the combustion heater does not pass the PDT, continue with the Accomplishment Instructions or use Option 2 of this Alert Service Bulletin.
- (b) Combustion heaters that pass PDT will require a PDT test each one hundred (100) hours of heater time thereafter or use Option 2 of this Alert Service Bulletin.
- (c) Installation of a new, rebuilt or serviceable combustion heater or new combustion tube will require a PDT test each one hundred (100) hours of heater time thereafter or use of Option 2 of this Alert Service Bulletin.

Option 2: Temporarily disable Combustion Heater P/N CD14048 or CD14048-1 in accordance with instructions in Appendix A of this Alert Service Bulletin.

#### F. Approval

- (1) FAA acceptance has been obtained on technical data in this publication that affects type design.

#### G. Manpower

- (1) Two (2.0) man hours labor are required for each PDT.
- (2) If required, four (4.0) man hours of labor for the removal and reinstallation of affected combustion heater assembly. (HET P/N CD14048 or CD14048-1)
- (3) If required, two and one half (2.5) man hours of labor required in addition to 2.G(1) for replacement of the P/N T4048 combustion tube when heater is removed.

#### H. References

**CAUTION:** DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF A DOCUMENT.

- (1) Combustion Heater Overhaul Manual, HET/C&D P/N MM10001 Rev. L or later.
- (2) Piper PA-31-350 aircraft service manual and AFM or POH.
- (3) Installation Instructions P/N IN14048-1 Rev. F or later.

#### I. Other Publications Affected

- (1) Supersedes and replaces C&D Associates Inc. Mandatory Service Bulletin MSB-0001 Rev. None, dated 2/11/11.

#### J. Weight and Balance

- (1) Not affected

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#### 2. Material Information \*

- A. If required, one (1) each, Combustion Tube, new, P/N T4048 (for combustion heater HET P/N CD14048 or CD14048-1).
- B. As required to facilitate Combustion Tube Replacement:
  - (1) As required, one (1) each, O-Ring, P/N 20692.
  - (2) As required, one (1) each, Head Gasket, P/N RA-29D28.
  - (3) As required, one (1) each, Grommet, P/N 60530.
  - (4) As required, one (1) each, Grommet, P/N CD60535.
  - (5) As required, one (1) each, Washer, P/N 22014.
  - (6) As required, one (1) each, Gasket, P/N RA-14D29.
  - (7) As required, one (1) each, Wire, P/N 60617 (4 inches)
  - (8) As required, one (1) each, Rope Gasket, P/N 60890 (7 inches)

#### 3. Accomplishment Instructions

**WARNING:** THIS PROCEDURE MUST BE PERFORMED BY COMPETENT AND QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH MAINTENANCE AND OVERHAUL THAT IS SPECIFIC TO THE HEATER AND CABIN HEATING SYSTEM. FAILURE TO DO SO MAY RESULT IN ECONOMIC LOSS, EQUIPMENT DAMAGE, AND/OR PHYSICAL INJURY.

**CAUTION:** DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THIS ALERT SERVICE BULLETIN (ASB) AND THE APPLICABLE AIRCRAFT, AND COMBUSTION HEATER HET MM10001 REV. L MAINTENANCE MANUAL. INFORMATION CONTAINED IN THIS ASB OR THE MANUAL MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. FAILURE TO COMPLY WITH THIS ASB OR THE USE OF OBSOLETE INFORMATION MAY CREATE AN UNSAFE CONDITION THAT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND SUBSTANTIAL PROPERTY DAMAGE. REFER TO THE APPLICABLE AIRCRAFT, ENGINE, MAINTENANCE MANUAL INDEX AND/OR THE APPLICABLE WEBSITE FOR THE MOST RECENT REVISION LEVEL OF THESE PUBLICATIONS.

#### A. Inspection

- (1) C&D Associates Inc. manufactured combustion heaters can be identified by checking the heater data plate for P/N CD14048 or CD14048-1, all revision levels or serial numbers require compliance. Continue with 3.B Corrective Action of this Alert Service Bulletin.
- (2) Hartzell Engine Technologies LLC manufactured combustion heaters can be identified by checking the heater data plate for P/N CD14048-1, all serial numbers require compliance. Continue with 3.B Corrective Action of this Alert Service Bulletin.

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#### B. Corrective Action:

- (1) Complete a PDT in accordance with the HET/C&D Overhaul & Maintenance manual P/N MM10001 Rev. L or later.
  - (a) If the combustion heater passes PDT, refer to 1.E(1)b Compliance time.
  - (b) If the combustion heater fails PDT: Follow the installation instructions section of IN14048-1 Rev. F or later and remove the affected CD14048 or CD14048-1 combustion heater from the aircraft.
  - (c) Install a new combustion tube P/N T4048 in accordance with instructions contained in the HET/C&D MM10001 overhaul manual or replace with a serviceable combustion heater P/N CD14048-1.
  - (d) Reinstall using instructions IN14048-1 Rev. F or later (refer to original installation documentation). Give close attention to instruction steps 3 through 6.
- (2) If the combustion heater passes the PDT and was removed, continue with step 3.
- (3) Utilizing the original installation instructions IN14048-1 Rev. F and the Piper aircraft manufacturer's maintenance manual, re-install the combustion heater assembly (if removed) and proceed to 3.C "Return to Service".

#### C. Return to Service

- (1) After the combustion heater has been determined to be serviceable, the aircraft will be ready for "return to service".
- (2) Perform the recommended combustion heater operational tests in accordance with the applicable aircraft manufacturer's maintenance manuals and the aircraft AFM or POH.
- (3) Using the applicable aircraft manufacturer's maintenance manuals of the latest revision, install any portion of the aircraft that was removed to gain access.

#### D. Upon successful completion of this Alert Service Bulletin make an appropriate log book entry indicating compliance with this Alert Service Bulletin and noting when the next compliance action is due.

#### 4. Contact Information:

##### A. Contact HET Product Support for all communications regarding the technical content of this Alert Service Bulletin.

- (1) Phone +1.334.386.5400 (Option 2)
- (2) Fax +1.334.386.5450.
- (3) E-mail at techsupport@HartzellEngineTech.com.
- (4) Address

Hartzell Engine Technologies LLC  
2900 Selma Highway,  
Montgomery, AL 36108,  
USA.

# Alert Service Bulletin

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## Appendix A

### Instructions to Temporarily Disable/Restore Operation of Combustion Heater P/N CD14048(-1) installed in Piper PA-31-350 Chieftain Aircraft

**WARNING:** DISABLING THE AIRCRAFT HEATER AND OPERATING THE AIRCRAFT IN ADVERSE CONDITIONS IS NOT ADVISED. LOW TEMPERATURES ESPECIALLY AT HIGH ALTITUDE MAY CAUSE INJURY TO CREW AND PASSENGERS AND MAY AFFECT CREW OPERATIONAL CAPABILITY.

**CAUTION:** MANY REPAIR FACILITIES AND THE AIRCRAFT MANUFACTURER MAY HAVE THEIR OWN POLICY AND/OR PROCEDURES FOR DISABLING THE HEATER. PRIOR TO USING THE GENERIC INSTRUCTIONS BELOW, CONSULT THE AIRCRAFT MANUFACTURERS SERVICE MANUALS, AFM OR POH, AND OTHER SERVICE PUBLICATIONS TO DETERMINE IF ADDITIONAL WORK IS REQUIRED.

#### 1. Accomplishment Instructions

**WARNING:** THIS PROCEDURE MUST BE PERFORMED BY COMPETENT AND QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH MAINTENANCE AND OVERHAUL THAT IS SPECIFIC TO THE HEATER AND CABIN HEATING SYSTEM. FAILURE TO DO SO MAY RESULT IN ECONOMIC LOSS, EQUIPMENT DAMAGE, AND/OR PHYSICAL INJURY.

##### A. Description

- (1) These instructions are generic concerning aircraft combustion heater HET P/N CD14048(-1) installed in Piper Chieftain aircraft as several configurations exist in heater system, circuit breaker panel, and instrument panel. (Refer to P/N MM10001 Rev. L heater maintenance manual and Piper Chieftain Service manual as required for procedure B & D below.)

##### B. Procedure to Disable Combustion Heater Operation

- (1) Locate and disable the circuit breakers for the combustion heater system, this includes the combustion heater and the combustion air blower assembly. Place a small nylon cable tie around the shaft of the breaker so the breaker cannot be re-engaged.
- (2) Locate the electrical terminal block on the heater assembly jacket. Locate and disconnect the power supply wire coming from the aircraft electrical system.
  - (a) Insulate the wire terminals so the terminal is covered and it cannot contact ground potential (short). Identify and secure loose wire ends.
- (3) Locally manufacture and place a warning placard in aircraft cockpit, in the area of the combustion heater controls and at the circuit breakers. The placard should state that the combustion heater is not operational and INOP at the circuit breakers. Placards must be firmly affixed in place. (See Figs. 1 & 2)
- (4) Consult the AFM, POH, checklist or other aircraft operational document for any operational requirement. If found, temporarily notate "INOP" or "NOT OPERATIONAL" at that location. Use a pencil so it may be erased when the heater is restored.
- (5) Make an appropriate logbook entry indicating that the combustion heater has been disabled and made inoperative in accordance with Appendix A of ASB 071 (Compliance Option 2) and noting "INOP" entries in the AFM or POH.

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### Appendix A

#### C. Condition to Restore Combustion Heater

- (1) The Combustion Heater P/N CD14048 or CD14048-1 may be restored to service any time provided a pressure decay test is successfully performed at the restoration of combustion heater service and (Compliance Option 1) of ASB 071 is continued thereafter.

#### D. Procedure to Restore Combustion Heater Operation

- (1) Comply with the conditions of Appendix A, 3.C(1).
- (2) Before the serviceable combustion heater is tested, check the exhaust tube, air inlet(s), air outlets for obstructions, debris, and general condition.
  - (a) Clean or repair as required.
- (3) Locate the electrical terminal block on the combustion heater. Locate the disconnected power supply lead coming from the aircraft electrical system, remove applied insulation, and clean the wire terminals.
  - (a) If identification tags were placed on the wires and are legible connect the wires to the correct location on heater terminal block.
    - (i) If identification cannot be made, consult the Piper Chieftain service manual or refer to the applicable section of the HET heater maintenance manual. (P/N MM10001 Rev. L or later.)
- (4) Remove the small nylon cable ties from around the shaft of the circuit breakers on the combustion heater and the combustion air blower assembly.
  - (a) Engage the circuit breaker for operation.
  - (b) Circuit breakers are an aircraft part. Consult the Piper Chieftain illustrated parts List to obtain the proper part number.
- (5) Apply aircraft electrical power, preferably ground power to enable the combustion heater.
  - (a) Turn on the air blower(s) to assure basic operation. Do not start heater at this time.
- (6) Check to assure a serviceable heater is installed, electrical system connected and fuel connected.
  - (a) Move the aircraft to an outside location to perform a heater test.
  - (b) Consult the applicable chapter of the Piper Chieftain AFM, POH, and service manual for operational test details.
- (7) Upon a successful test of the aircraft combustion heater, remove the warning placard in the aircraft cockpit located in the area of the combustion heater controls.
- (8) Remove the "INOP" placards at the circuit breakers.
- (9) Remove any notations placed in the AFM, POH, checklist or other aircraft operational document indicating an "INOP" condition.

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### Appendix A

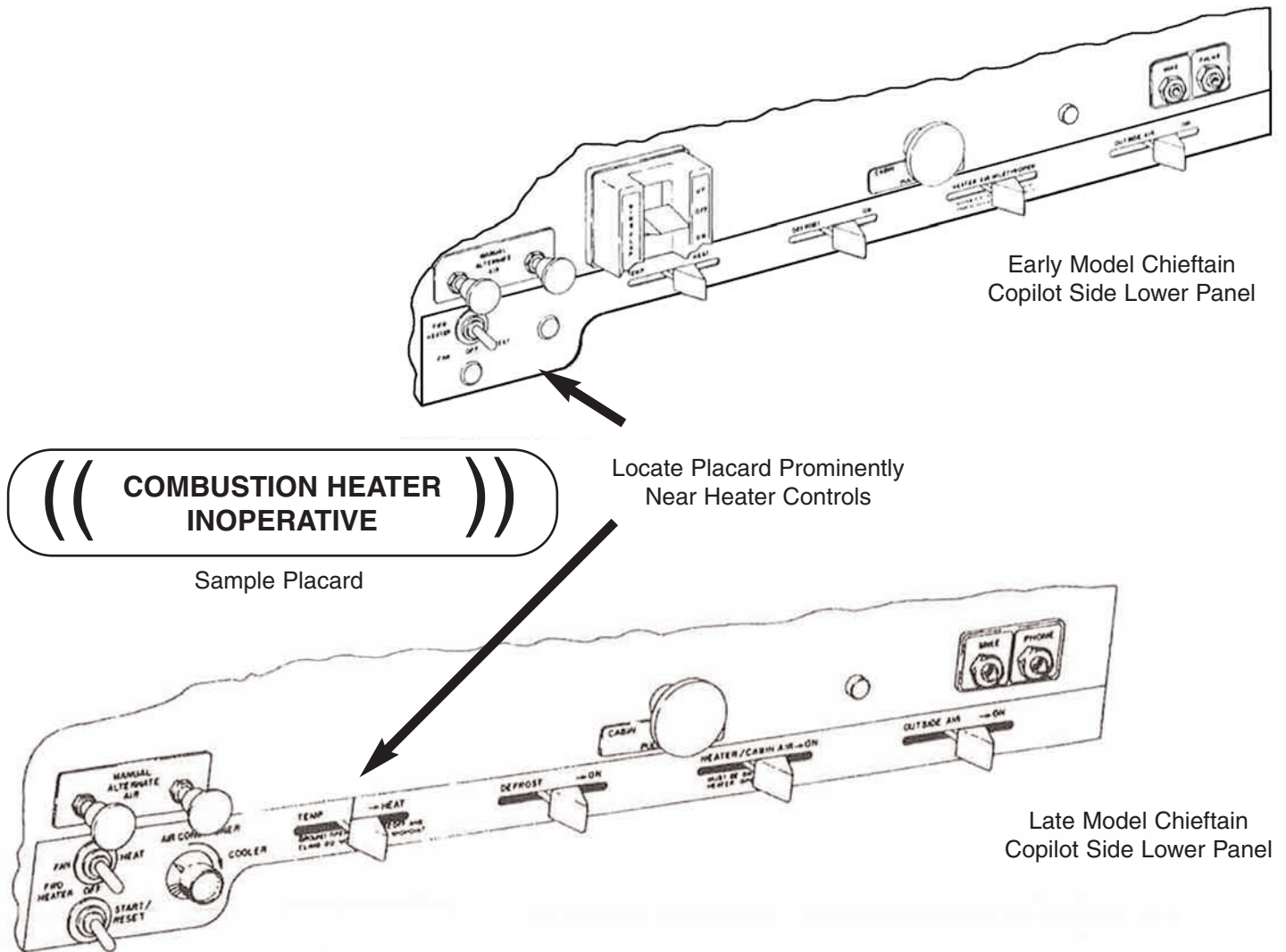
- (10) Make an appropriate logbook entry indicating that the combustion heater has been restored to operation and all note entries in the AFM or POH have been removed in accordance with Appendix A of ASB 071 and indicate the following:
  - (a) Revision of ASB 071 indicating a terminating action is complied with according to the requirements of the revised Alert Service Bulletin.
  - (b) A pressure decay test has been successfully performed at restoration of combustion heater service and (Compliance Option 1) of ASB 071 is continued hereafter.
2. Manpower
  - A. Two (2.0) man hours labor are required to disable or restore the combustion heater HET P/N CD14048 or CD14048-1 installed in Piper Chieftain aircraft.

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## Appendix A

Figure 1 - Chieftain Heater Controls Location (early & late models)

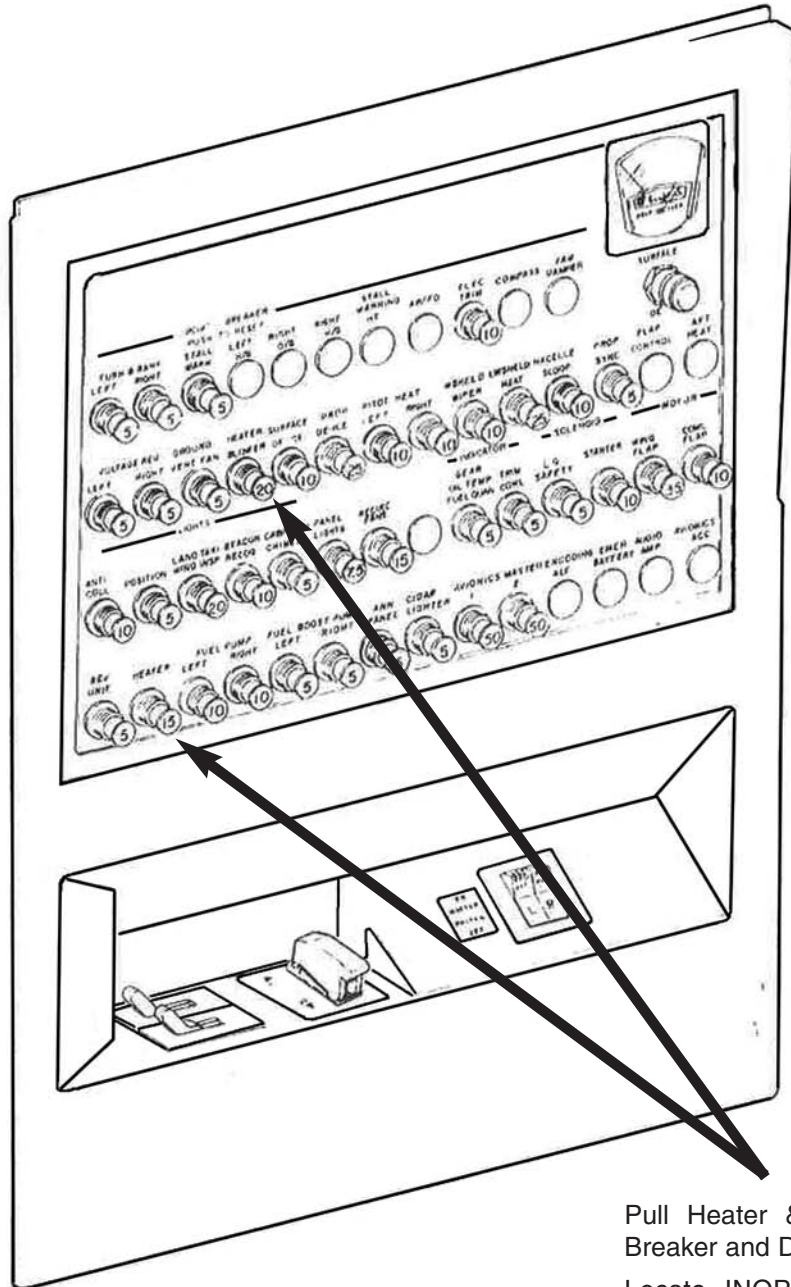




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## Appendix A



Pull Heater & Heater Blower Circuit Breaker and Disable with cable tie.

Locate INOP Placards at Heater & Heater Blower Breakers.

**INOP.**

Sample Placard

Figure 2 - Typical Chieftain Circuit Breaker Panel

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## **Appendix A**

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### C&D Style Heater P/N CD14048 or CD14048 -1 Heater Pressure Decay Test Requirement

#### 1. ELIGIBILITY:

- A. All C&D Associates Inc. and Hartzell Engine Technologies LLC (HET) manufactured combustion heaters P/N CD14048 or CD14048-1, all S/N's are eligible until expiration of the new product limited warranty. (Coverage extends to combustion heaters under limited warranty only.)

#### 2. COMMERCIAL ASSISTANCE PROGRAM:

The following will be provided with the submission of a completed ASB 071 Claim Form, copies of invoices showing breakdown of material and labor charges, and log book entries.

- A. HET will cover any Pressure Decay Test (PDT) performed outside normal maintenance as defined in C&D/HET maintenance manual MM10001 Rev L or later, section 8.6.
  - (1) Two (2.0) man hours labor is required for each PDT.
- B. For a failed PDT, HET will cover the replacement of the combustion tube in an affected P/N CD14048 or CD14048-1 combustion heater.
  - (1) Materials Required in ASB 071 Materials section 2.B.
    - (a) If required, four (4.0) man hours of labor for the removal and reinstallation of affected combustion heater assembly.
    - (b) Repair and return by HET or up to two and a half (2.5) hours labor for the installation of a new P/N T4048 combustion tube in the removed combustion heater.

#### 3. COMMERCIAL ASSISTANCE ADMINISTRATION:

- A. Complete the Alert Service Bulletin ASB 071 Claim Form attached to this appendix.
  - (1) Mail, e-mail, or fax the ASB 071 Claim Form to the attention of Product Support as indicated on the Alert Service Bulletin Claim Form.
- B. Upon receipt of the Alert Service Bulletin Claim Form, HET will:
  - (1) If required by the Alert Service Bulletin, ship the material required by section 2.B(1) or 2.B(2), to the service provider indicated.
  - (2) The service provider must return proof of service within thirty (30) days or the service provider shall be invoiced for the HET supplied materials.
- C. For labor and material charges:
  - (1) Aircraft/engine service facility must submit an invoice up to the amount specified in section 2, copies of logbook entries, and a completed ASB 071 Claim Form for reimbursement.

#### 4. WARRANTY STATEMENT:

- A. The sole warranty for the actions of ASB 071 are contained in the HET Limited Warranty Policy issued with the purchase of each new/overhauled fuel pumps (see terms and conditions therein).
- B. Commercial assistance may apply as stated in this Appendix.
- C. Issuance of ASB 071 in no way constitutes an implied or expressed warranty of any kind.
- D. This publication does not imply or state any responsibility for the workmanship of any person or entity performing work or maintenance on the engine or aircraft fuel system.

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## C&D Style Heater P/N CD14048 or CD14048 -1 Heater Pressure Decay Test Requirement

### 5. CONTACT INFORMATION:

A. Contact **HET Product Support** for all communications regarding the technical content of this Alert Service Bulletin.

- (1) Phone +1.334.386.5400 (Option 2)
- (2) Fax +1.334.386.5450.
- (3) E-mail at techsupport@HartzellEngineTech.com.
- (4) Address

Hartzell Engine Technologies LLC  
2900 Selma Highway,  
Montgomery, AL 36108  
USA

# Alert Service Bulletin Appendix

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C&D Style Heater P/N CD14048 or CD14048 -1 Heater Pressure Decay Test Requirement

## ASB 071 CLAIM FORM

### Owner information

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Tel: \_\_\_\_\_ Fax: \_\_\_\_\_  
Company Name: \_\_\_\_\_ E-mail: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Postal Code: \_\_\_\_\_  
Country: \_\_\_\_\_

### Aircraft/Engine Service Facility information

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Tel: \_\_\_\_\_ Fax: \_\_\_\_\_  
Company Name: \_\_\_\_\_ E-mail: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Postal Code: \_\_\_\_\_  
Country: \_\_\_\_\_  
Aircraft Mfg: \_\_\_\_\_ Model: \_\_\_\_\_ Time in Service: \_\_\_\_\_ S/N: \_\_\_\_\_  
Engine: \_\_\_\_\_ Model: \_\_\_\_\_ Time in Service: \_\_\_\_\_ S/N: \_\_\_\_\_

### Payment Information

Same as Owner:  Same as Facility:  Other  \_\_\_\_\_ Name  
\_\_\_\_\_ Address

### Component Information

Nomenclature: \_\_\_\_\_ Part Number: \_\_\_\_\_  
Serial Number: \_\_\_\_\_ (Heater) Date Removed: \_\_\_\_\_  
Part Time in Service: \_\_\_\_\_ (Heater) Original Date Installed: \_\_\_\_\_

For RMA Number

Send this ASB 071 Claim Form to:

Hartzell Engine Technologies Product Support  
Fax: +1.334.386.5450  
E-mail: techsupport@hartzellenginetech.com

### RMA Number:

(write in HET assigned RMA number)

**Hartzell Use Only - do not write below this line.**

Warranty No: \_\_\_\_\_ Authorized by: \_\_\_\_\_