

United States of America
Department of Transportation -- Federal Aviation Administration
Supplemental Type Certificate

Number SR02562CH

This certificate issued to
Hartzell Engine Technologies LLC
2900 Selma Highway
Montgomery, Alabama 36108

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 6 of the Civil Air Regulations.
(See Helicopter Specification No. 1H4 for complete certification basis.)

Original Product Type Certificate Number: 1H4
Make: Sikorsky Aircraft
Model: S-55B, S/N 55907

Description of Type Design Change:

Installation of C&D Associates Combustion Heater Kit 28 (P/N CD14190K28), in accordance with C&D Associates Inc. Installation Instructions IN14190K28, dated April 23, 2008.

Limitations and Conditions:

1. Descriptive data pertaining to this design change are considered inadequate for duplication in other aircraft. This approval is limited to the installation in Sikorsky S-55B, S/N 55907 only.
2. Compatibility of this design change with previously approved modifications must be determined by the installer.
3. FAA Approved Rotorcraft Flight Manual Supplement dated May 22, 2008, FAA approved May 22, 2008 or later approved revision is required as part of this installation.
4. Full compliance with the C&D Combustion Heater Airworthiness Limitations, MM10001 Maintenance Manual, First Edition, Rev. none, dated January 1, 2008, or later FAA approved revision, is required.
5. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: April 23, 2008

Date reissued: February 11, 2016

Date of issuance: May 12, 2008

Date amended:

By direction of the Administrator




(Signature)

Timothy P. Smyth
Manager,
Chicago Aircraft Certification Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.



HEATER INSTALLATION INSTRUCTIONS FOR CD14190K28

For Sikorsky H-19D/S, S/N S-55B

READ COMPLETE INSTRUCTIONS BEFORE BEGINNING INSTALLATION
Accomplish all wiring in accordance with AC43.13-1B Chapter 11, Electrical Systems.
Accomplish all plumbing in accordance with AC43.13-1B Chapter 8, Section 2, par. 8-31.

1. Install the C&D Associates, Inc., TSO-C20 Approved combustion heater utilizing the existing Aircraft Service Manual or other FAA approved source where applicable.
2. INSTALLATION:
 - A. Mount heater mounting plate (P/N 20720) to stringers between stations 206 and 225.
 - B. Mount fuel pump and regulator to heater mounting plate. (P/N 20720)
 - C. Fuel for the heater is supplied from the main fuel system and is conducted from a connection at the fuel system strainer through the heater solenoid. It then travels aft to the heater fuel pump located on the heater mounting plate. (P/N 20720)
 - D. Inlet air for heater will be connected to existing air conditioning inlet air duct. The outlet air for cabin will be connected by red scheet to the existing heat outlet plenum located in the left lower heat distribution duct already existing.
3. HEATER OPERATIONAL TEST AFTER INSTALLATION:
IMPORTANT!! Please complete the followings steps after the new heater is installed in the aircraft.
 - A. Install a temperature probe (min 0-500° F) in the outlet plenum 6-8" aft of the heater. A good location would be approx. 6" aft of the heater or near the thermostat sensor.
 - B. Place a jumper wire across the heater terminal strip numbers 2 and 3, which will bypass the aircraft thermostat. (Fig. 2)
 - C. Install the fuel pressure gauge (0-15). Tee into as shown. (Fig. 1)
 - D. With the heater running, verify fuel pressure.
Preferred pressure is 8psi. (6.5psi min, 10psi max)
 - E. With the heater running, verify that the outlet plenum temp. is approx. 250°. Adjust the cycling switch if needed using a small straight slot screwdriver. Clock-wise to increase, counter-clock-wise to decrease temperature. (Fig. 3)
 - F. Remove the jumper wire and verify that the temperature is controlled by the aircraft thermostat from low (approx. 75° F) to medium to high (approx. 250° F) which is what the cycling switch is set at.
 - G. Remove the temperature probe sealing the hole with high temperature silicone.
 - H. Remove the fuel gauge installed in step 3. Leave the "tee" fitting and cap off for future pressure readings if desired.
 - I. Verify proper installation is completed in accordance with the aircraft maintenance manual.

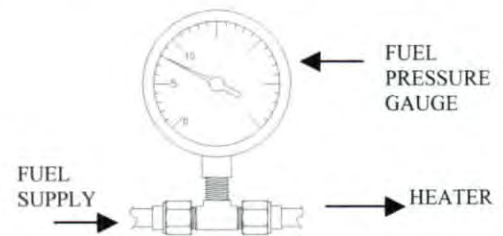


Figure 1

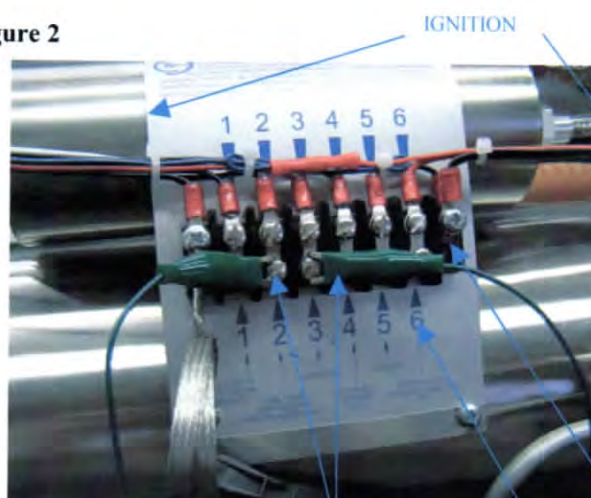
If the hoses need to be replaced, we recommend Scheet-6 (1 1/2") red from the blower to the heater and Ceet-6 (1 1/2") black from outside air to the blower.

For additional information see the "maintenance manual (MM10001)" included with this heater under "Testing after installation or overhaul."

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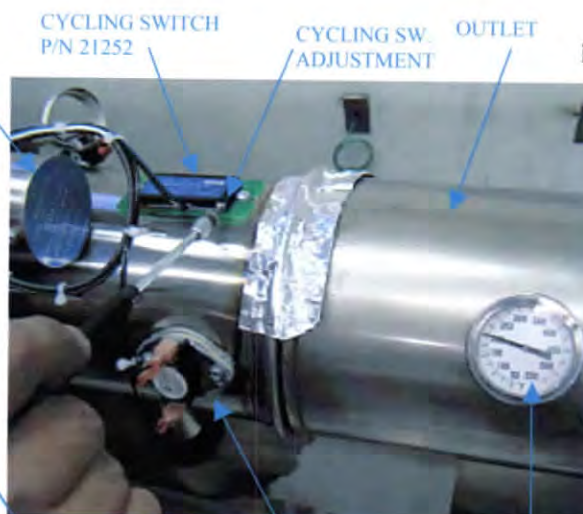
Figure 2



JUMPER WIRE BYPASSING
THERMOSTAT SENSOR
(AIRCRAFT WIRES NOT INSTALLED)

NUMBER
PLATE

Figure 3



CYCLING SWITCH
P/N 21252

CYCLING SW.
ADJUSTMENT

OUTLET

TERMINAL
STRIP

OVERHEAT
SWITCH

TEMPERATURE
GAUGE

- J. After installation, complete the operation and heat output tests specified in the C&D Associates, Inc. MM10001 Maintenance Manual for aircraft combustion heaters dated 1/1/08. Tests should be accomplished in accordance with section IX 'C' operational test, and 'D' for heat output, steps 1 and 2. Also in accordance with the "Instructions for Continued Airworthiness" step #1 "Preflight/Operational check and Shutdown Procedure."
- K. NOTE: Follow the 'Combustion Heater PREFLIGHT/OPERATIONAL CHECK AND SHUTDOWN PROCEDURE' outlined within the Combustion Heater "Instructions for Continued Airworthiness", Second Edition, Revision: none, dated 04-04-02, or later revision, included with these instructions. This FAA-approved Instructions for Continued Airworthiness must be complied with and become a permanent part of the Aircraft Operations and Procedures manual.
- L. Verify all wires are secure and free of obstruction and chaffing.

3. DOCUMENTATION:

- A. Weight & Balance. The aircraft requires a weight and balance change. Add 32 lbs at station 214 and complete a 337, attaching a copy of the STC. The logbook entry should contain the STC.
- B. Note: Insert the following statement (label 21503 provided) in the aircraft flight manual: "C&D Associates Inc. Combustion heater has been installed in this aircraft. Please follow the aircraft-operating manual for combustion heater operating sequence and/or C&D Associates Inc. "Instructions for Continued Airworthiness." Second Edition dated April 4, 2002 revision: none, or later FAA approved revision."
- C. Electrical requirements: 24VDC at 15 Amp.
- D. Fuel consumption: Maximum operation 1 gal/hour.

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DOCUMENTATION AND PARTS REQUIREMENT TABLE

DOCUMENTATION		Quantity	
1.	Installation Instructions IN14190K28	_____	
2.	Label for flight manual	_____	
3.	MM10001 Maintenance Manual	_____	
4.	Quality Assurance Certificate of Compliance #527	_____	
5.	STC #	_____	
6.	337 Form	_____	
PARTS			S/N
1.	(1) Heater	CD14190-1	_____
2.	(1) Fuel Pump	21190	_____
3.	(1) Fuel Regulator	29124	_____
4.	(1) Fuel Shutoff Assy	29135	_____
5.	(1) Combustion Air Blower	21415	_____
6.	(1ea) Strap, spacer	21410	_____
7.	(2) Bracket, Heater Mount	21670	_____
8.	(2) Clamps	60900-104	_____
9.	(1) Outlet Plenum	24016	_____
10.	(1) Plate, Heater Mount	20720	_____
11.	(1) Bracket, Mount	21191A	_____
12.	(5') Ceet Hose, Black (4")	60345	_____
13.	(4') Sceet Hose, Red (4")	60346	_____
14.	(4) Worm Drive Clamps	60900-56	_____
15.	(8') Fuel Line #4	20653	_____
16.	(7) B-Nut	60141	_____
17.	(6) Sleeve	60156	_____
18.	(1) Sleeve, Steel	60157	_____

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Initials: _____ Date: _____

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