

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

Number SA02653CH

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 23 of the Federal Aviation Regulations. See Type Certification Data Sheet No. A14CE for complete certification basis.

Original Product - Type Certificate Number: A14CE
Make: Hawker Beechcraft
Model: 99, A99, B99

Description of Type Design Change:

Installation of C&D Associates Combustion Heater Kit 31 P/N CD14190K31, and optional ram air kit CD21975, revision A, dated December 22, 2010, or later FAA approved revision, in accordance with C&D Associates Installation Instructions IN14190K31, revision B, dated December 22, 2011 or later FAA approved revision.

Limitations and Conditions:

1. Compatibility of this design change with previously approved modifications must be determined by the installer.
2. FAA Approved Flight Manual Supplement dated November 17, 2008, or later approved revision is required as part of this installation.
3. Full compliance with the C&D Combustion Heater Airworthiness Limitations, MM10001 Maintenance Manual, Second Edition, Rev E, dated October 3, 2011, or later FAA approved revision and CD14190K31 ICA revision A, dated 1/24/2012, or later FAA approved revision, is required.
4. 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: October 23, 2008

Date reissued: April 17, 2012; February 11, 2016

Date of issuance: November 19, 2008

Date amended: January 25, 2012

By direction of the Administrator




(Signature)
Timothy 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.



IN14190K31
Page 1 of 18
Date 10/23/08
Rev B dated 12/22/11

INSTALLATION INSTRUCTIONS FOR HEATER KIT, P/N CD14190K31

For Beech 99, A99, B99

READ COMPLETE INSTRUCTIONS AND VIEW DRAWING CD14190K31
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.

This kit has been approved only for its intended application. Many hours have been spent to provide you the most comprehensive installation instructions as reasonably possible. With that said, it is strongly recommended that this installation be done by skilled, licensed aircraft mechanics with a working knowledge of the following:

- Fuel lines installed in accordance with AC43.13-1B Chapter 8 section 2 paragraph 8-31.
- Electrical installation completed in accordance with AC43.13-1B Chapter 11.
- Riveting and metal work in accordance with AC 43.13-1B Chapter 4 Section 4 paragraph 4-57.

The following instructions are outlined and worded with this assumption.

1. PREPARATION:

- A. Remove cabin pilot & copilot seat. Also, in cockpit area, remove upholstery and lower kick panels from right and left sides of cabin. Remove forward most inspection panel from left side wing root area under aircraft. Remove nose baggage flooring on right side.
- B. Installation to be made in right side nose baggage compartment under flooring between stations 60 & 40. This will allow placement of the heater longitudinally.



Janitrol
10D40
location

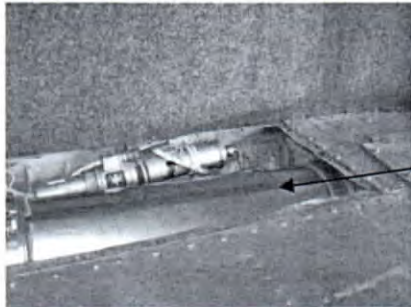
Nose Baggage Area

Remove floor panels on right side. Gain access to original Janitrol located under right side floor panel just forward of St. 90 bulkhead.

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Janitrol
 P/N 10D40

Remove Janitrol combustion chamber P/N 10D40 for access to new CD14190K31 fuel line routing from

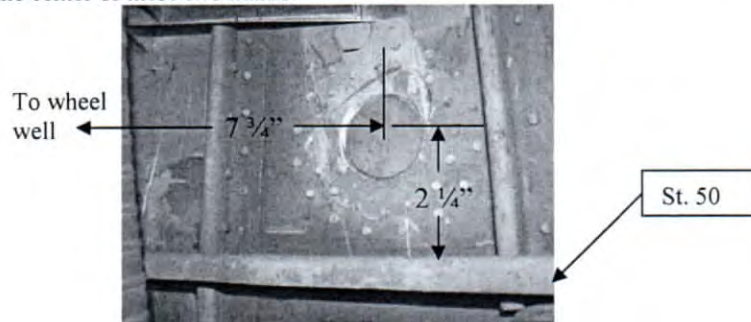


Remove ALL insulating material, bonded or otherwise, from cavity where new CD14190K31 will rest. Basically

St. 70 forward.

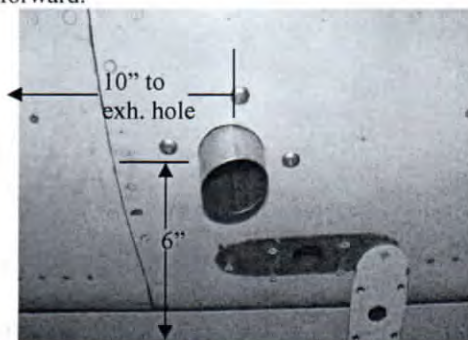
2. HEATER INSTALLATION LAYOUT:

- A. Aft of station 40 on right side under nose baggage floor, using a flexible ruler measure back from the vertical portion of station a distance of $7\frac{3}{4}$ ". Intersect this mark with one heading outboard from wheel well at $7\frac{3}{4}$ ".
- B. Create a 1.5" hole at the center of these two marks.



Locate $1\frac{1}{2}$ " hole for exhaust, $7\frac{3}{4}$ " back from St. 40 ($2\frac{1}{4}$ " forward of St. 50 as shown) and $7\frac{3}{4}$ " out from wheel well.

- C. From underside of nose, use tape measure to mark intersection between 10" forward of the 1.5" exhaust hole center, and 6" outboard of nose gear door.
- D. Create 1.5" hole at the center of these two marks.
- E. Install combustion air inlet adaptor P/N 21356B through this $1\frac{1}{2}$ " location, with scarf end out and short end of angle forward.



Combustion air inlet adaptor P/N 21356B shown 6" out from nose gear door, & 10" forward from center of $1\frac{1}{2}$ " exhaust hole previously located. Shown with $1\frac{1}{2}$ " scet connected and secured with clamp.

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- F. Under belly, install doubler P/N 21929 over 1.5" exhaust hole created in 2.B. Rivet in accordance with AC 43.13-1B Chapter 4 section 4 and paragraph 4-57. Enlarge slightly if needed for the heater exhaust extension to "drop" through when the heater is installed.

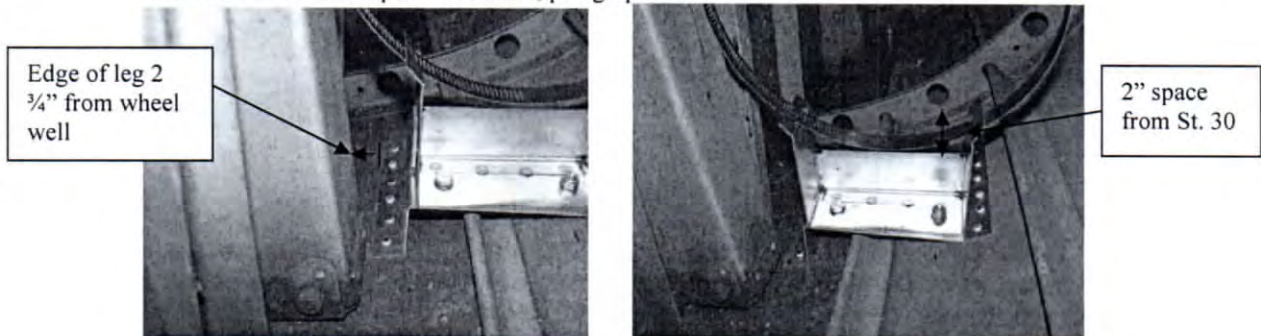


Secure exhaust doubler P/N 21929 as shown using appropriate fasteners.

NOTE: This doubler is aiding structural integrity. All 32 holes must be utilized as configured.

G. Forward Heater Mount P/N 21960A.

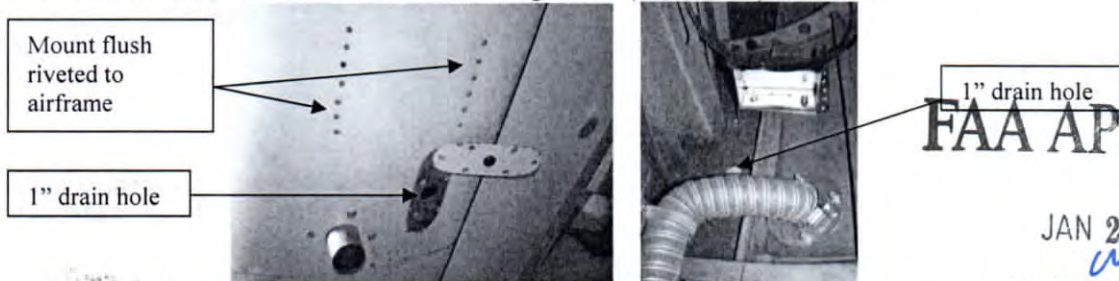
- Nose baggage area, right side, between station 40 & 30. Measure outboard from wheel well skin $2 \frac{3}{8}$ " at multiple locations. Then connect the ends of multiple lines to form one solid longitudinal line using a straight edge (This will show edge of inboard leg used to locate & mount P/N 21960A).
- Place the heater mount with arrow end forward and outer edge of inboard leg lined up with solid line marked previously $2 \frac{3}{8}$ " from wheel well. Rivet mount into place using $\frac{1}{8}$ " flush rivets in accordance with AC 43.13-1B Chapter 4 section 4, paragraph 4-57.



Forward mount P/N 21960A shown installed with inboard leg parallel to wheel well at $2 \frac{3}{8}$ " and forward edge of mount aft of St.30 at 2".

Notice how outboard angled leg narrows as it extends forward.

- Drill a 1" drain hole in the skin for the drain grommet (MS35489-6) P/N 60531.



Shown, finished prep FORWARD of St.40. 1" hole for heater drain located (picture shows location through an unused antenna mount.) 3" out from wheel well and 4" forward of St.40.

Note: forward heater mount clamp oriented and in place loosely.

1" drain hole
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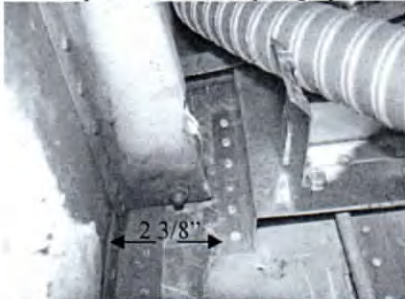
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302 POST ROAD, BUCHANAN, MI 49107 USA

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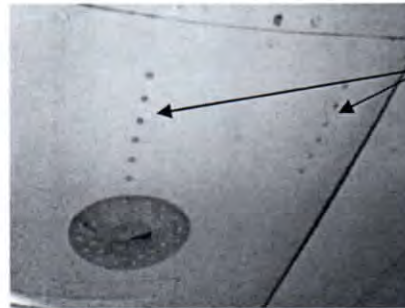
H. Aft heater mount P/N 21960B

- a. Nose baggage area, right side, between station 50 & 40. Measure outboard from wheel well skin $2\frac{3}{8}$ " at multiple locations. Then mark these as solid longitudinal lines using a straight edge (This will show edge of inboard leg used to locate & mount P/N 21960A).
- b. Place the heater mount with arrow end forward and outer edge of inboard leg lined up with solid line marked previously $2\frac{3}{8}$ " from wheel well. Rivet mount into place using $\frac{1}{8}$ " flush rivets in accordance with AC 43.13-1B Chapter 4 section 4, paragraph 4-57.



Mount clear of St. 40 by $\frac{1}{4}$ "

Aft mount P/N 21960B shown installed with inboard leg parallel to wheel well at $2\frac{3}{8}$ ", and forward edge of mount aft of St. 40 aft $1\frac{1}{4}$ ". This mount should clear St. 40 by $\frac{1}{4}$ ". Notice how outboard angled leg narrows as it extends forward.



Mount flush riveted to airframe.

Shown, finished prep AFT of St. 40. Notice routing of $1\frac{1}{2}$ " scееt, secured with adell clamp to vertical stringer & wrapped with fiber glass tape were chaff could occur.

3. COMBUSTION AIR BLOWER ASSEMBLY INSTALLATION:

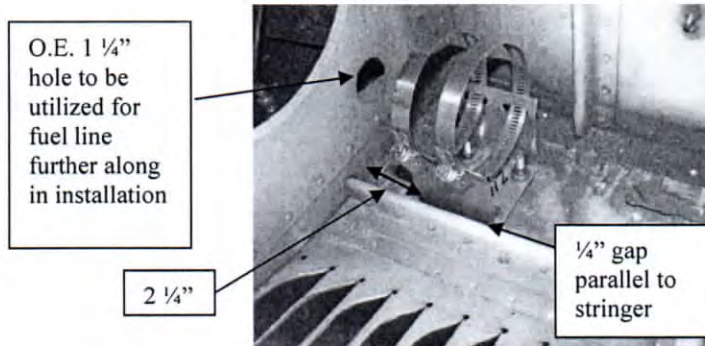


Showing location & orientation of combustion air blower assembly mount.

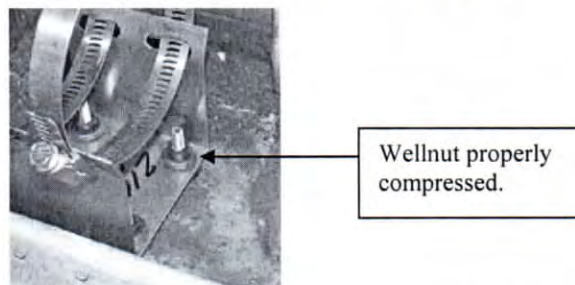
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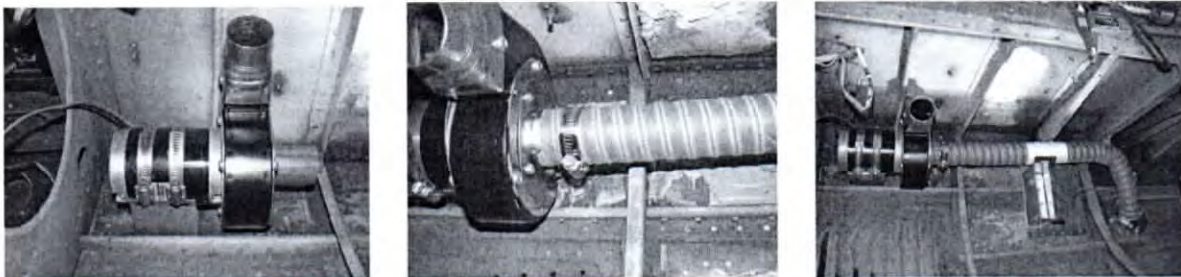
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- ❑ Utilize mount P/N 21191C by removing from combustion air blower assembly, in addition remove clamps and shock mounts.
- ❑ Position mount parallel to stringer as shown, maintaining a 1/4" gap.
- ❑ Position aft side of mount 2 1/4" forward of St. 70.
- ❑ Transfer center of 4 holes in the mount base and open to .219.
- ❑ Reinsert wellnut/shock mounts into bottom of mount and secure to airframe using 4 ea 10/32 X 1 1/2" panel screws.



Note: DO NOT over tighten shock mounts! Looking from inside nose compartment, tighten screws until the 3/8" diameter end of the shock mount doubles in diameter or "bulges" out to around 1/4".



- ❑ Secure combustion air blower assembly to mount.
 - ❑ Orient as shown, using previously removed clamps (be sure not to pinch wires under clamps).
 - ❑ Connect previously run 1 1/2" scet to inlet (forward facing port) of blower & secure with clamp.
- NOTE: Some trimming of hose may be required to ensure a fit with limited slack.

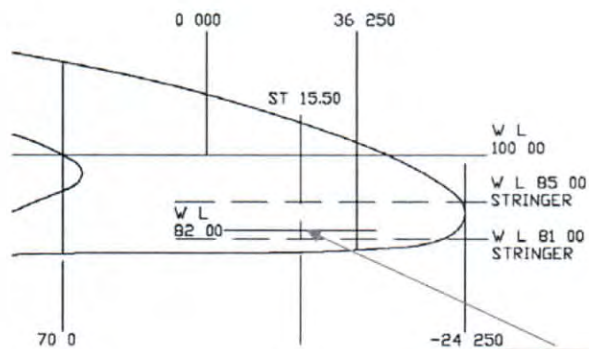
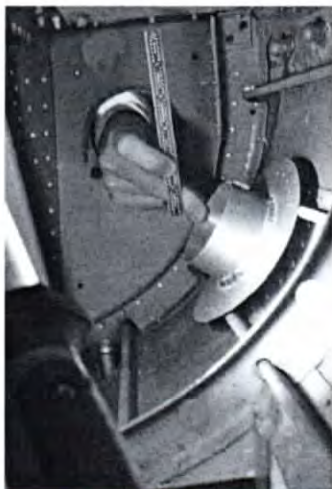
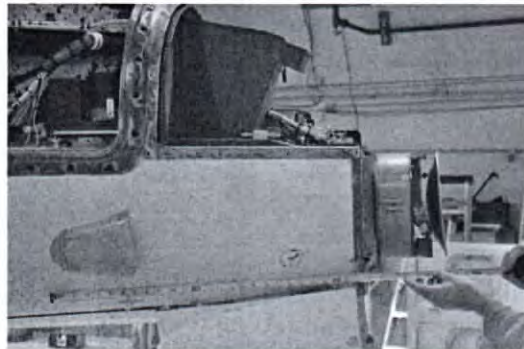
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4. RAM AIR INSTALLATION (OPTIONAL)

A. Install Ram Air Kit as shown below:

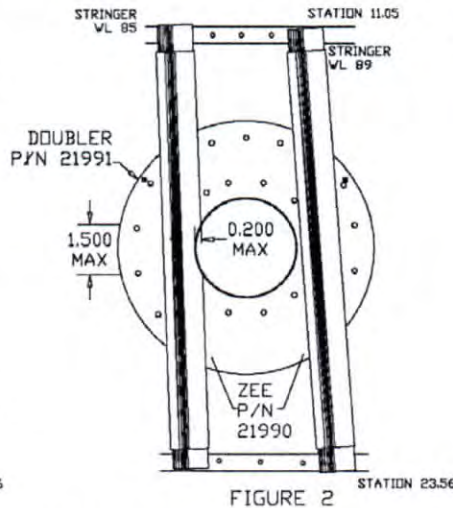
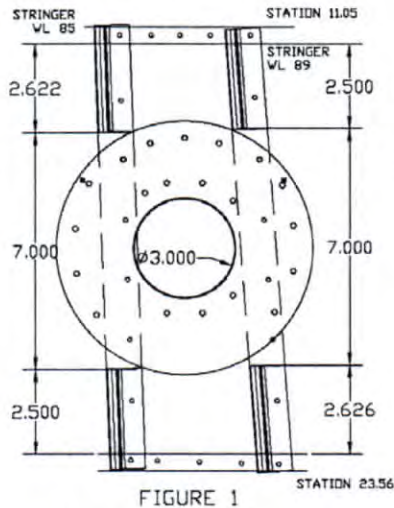


CENTER OF 3"
 HOLE IN SKIN AT
 STN 15.50 AND
 WL 82.0

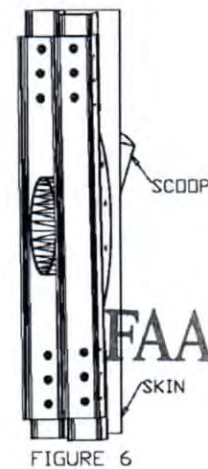
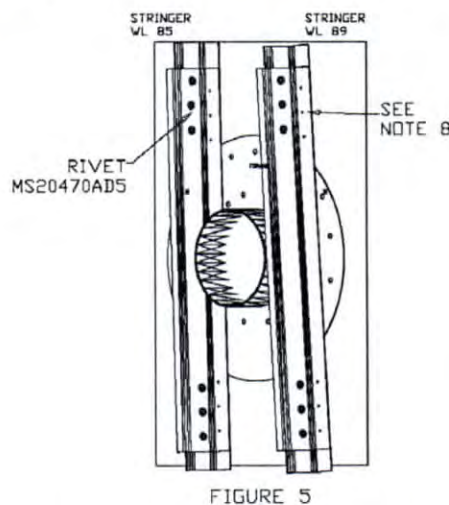
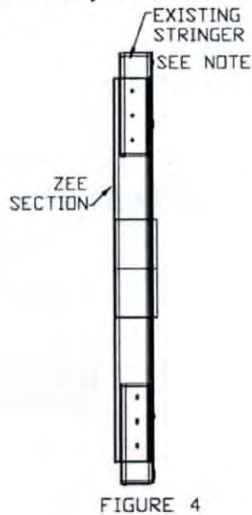
- Cut out 7.00" section of stringers 85 & 89 as shown below and remove. Use care not to damage existing dimpled skin when cutting stringers. (FIGURE 1)
- Acceptable to use a 0.032 Stainless Steel shim between the existing stringers and A/C skin to protect existing A/C skin when cutting.
- Utilize supplied template and trace 3" hole onto skin with felt tip marker. Remove template. Using a 3" knockout, remove 3" hole marked in skin, drawing the knockout from inside and pulling out. Deburr and break all sharp edges to 0.03/0.05".
- Lay one of the zee sections (P/N 21990) across stringer 85 (lower) and center between stations 11.05 and 23.56 using felt tip marker. Transfer 3" hole overlap onto zee section. Remove marked portion on zee section, deburr and break all sharp edges to 0.03/0.05".
- Insert doubler (P/N 21991) centered within stringer section as shown. Orient as marked on doubler.(FIGURE 1)
- Lay zee sections (P/N 21990) over doubler and overlapping existing stringer sections to reinforce. (FIGURE 2)
- Drill 3 No. 21 fastener holes spaced 0.75 inches apart on far ends of the zee sections where it overlaps existing stringers.(FIGURE 3)

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- h. Drill 3 No. 21 holes through the zee section and the stringer. The holes should be spaced .75 inch apart between fastener holes. Temporarily secure the parts in position with clecos.(FIGURE 4)
- i. Drill 3 No. 30 holes through the zee section, doubler and the skin as shown utilizing one of the existing stringer holes. Temporarily secure zee sections, and doubler to skin with clecos. (FIGURE 5)
- j. Utilize predrilled .0625 holes in doubler as a template and transfer drill through skin. Secure doubler to skin with clecos.
- k. Note the two "marked" holes on the forward end of the doubler as well as the two dimples found on the mounting legs of the scoop. (P/N 21778) Transfer. Drill the marked holes through the dimples on the scoop and secure with clecos.
- l. From the outside of the aircraft, transfer drill remaining .0625 holes in scoop through skin, doubler and stringers using No. 30 bit and securing as you go with clecos.
- m. Remove all components, deburr all holes drilled and or knocked out as well as cut edges of stringers from step l.
- n. Prep and paint bare metal as outlined in AC65-15A, Chapter 4 "Aircraft Painting and Finishing" and or as described by aircraft manufacturer.



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o. Reassemble components as removed in step 12, minus scoop. Secure with clecos.

NOTE: Attach to aircraft utilizing rivet type as described on figure 9. AC65-15A Chapter 5 "Aircraft Structural repairs" outlines proper procedures for installation and driving rivets.

p. Install components to aircraft skin as shown on figures 8 & 9. First utilize appropriate length MS20426AD4 rivets to attach doubler and zee section to stringer and dimpled skin, step 1 (excluding scoop and subsequent holes).

q. Utilize appropriate length MS20470AD5 rivets and install zee sections to stringers.

r. Secure scoop to aircraft using clecos.

s. Utilize appropriate length MS20470AD5 rivets and install scoop to aircraft through skin, stringer and doubler as required by layout. (FIGURE 9)

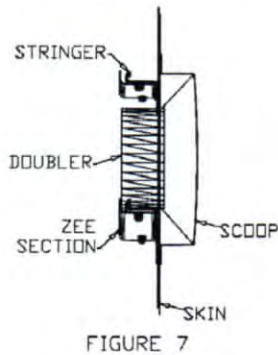


FIGURE 7

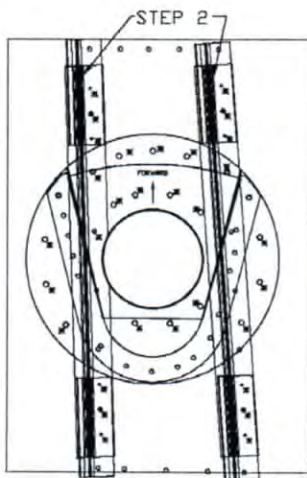


FIGURE 8

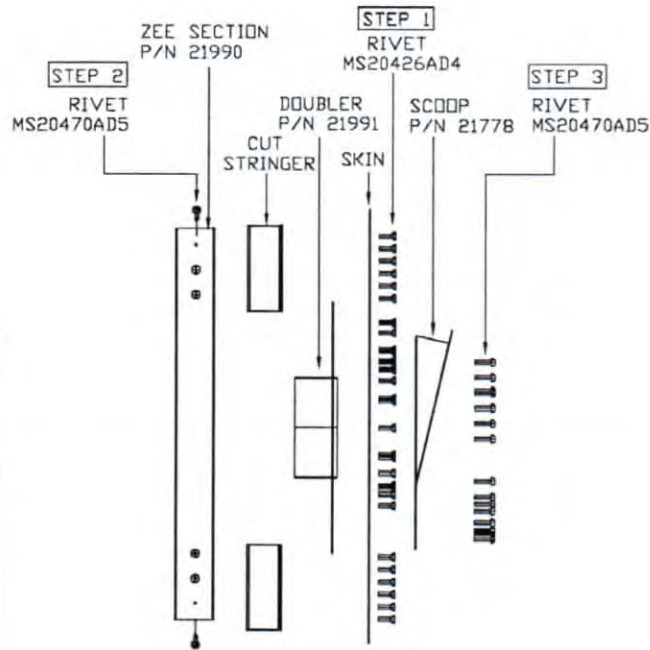


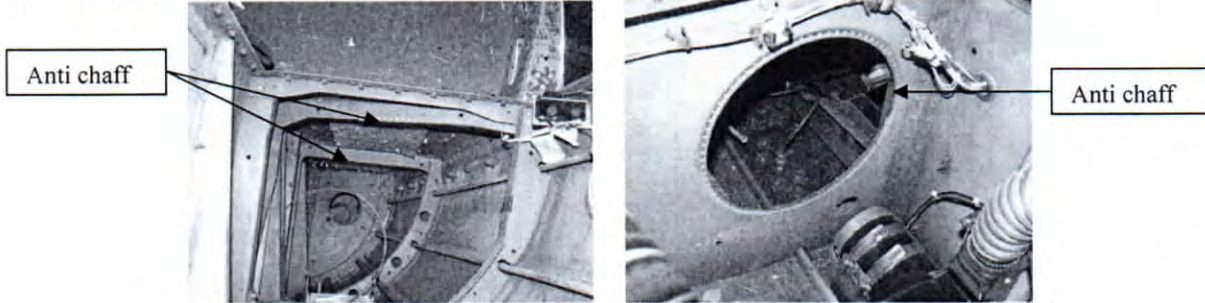
FIGURE 9

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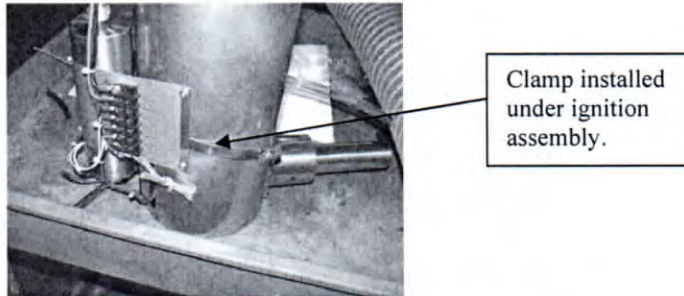
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5. HEATER AND OUTLET PLENUM ASSEMBLY:



Apply anti-chaff securely to entire bottom edge of floor stiffeners at St's 50 & 40 as shown.
 Also around entire edge of 7 1/2" hole in St. 70 as shown.



Clamp installed under ignition assembly.

Loosen the 4 screws holding ignition assembly to heater jacket for ease of installation. Orient aft mounting clamp to heater as shown. Notice the drive end of clamp is on terminal strip side or outboard side of unit.



Connect 4" ceet hose (black), to forward fresh air inlet of heater & secure with clamp.

Ram Air Option:

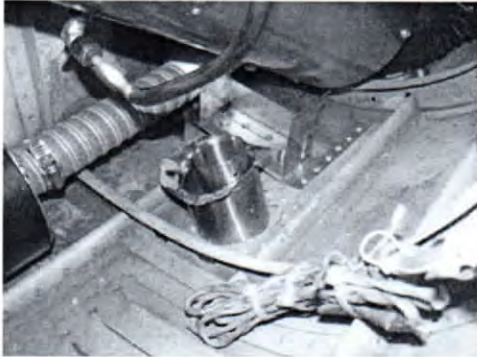
Connect 3" ceet hose (black), to forward fresh air inlet of heater & secure with clamp



First noting orientation, remove 4 screws holding exhaust shroud to heater jacket. And 2 screws holding exhaust extension to combustion tube.

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Insert exhaust extension through exhaust hole and doubler in skin. Drop down as far as possible. Set exhaust shroud over as shown.

Note: exhaust extension should "drop" through doubler with no scraping or binding. File doubler as necessary to achieve this.



Reaching through 7 1/2" hole in St. 70 & cradling heater from underneath with other hand, slide heater assembly forward and into place. "Into place" being where the heater exhaust lines up with extension previously dropped through doubler.

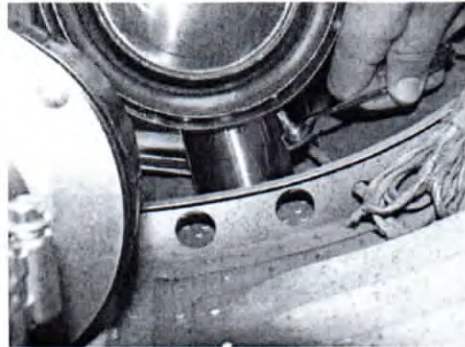
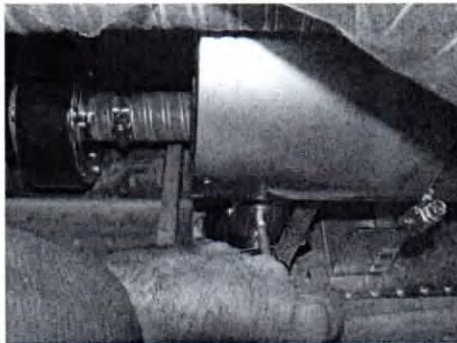
Loosely clamp heater to both forward & aft mounts.

Note: make sure clamps extend through both notches in mounts and that no wires or components will be pinched once tightened.

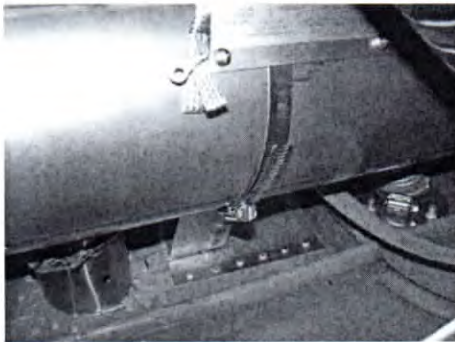
A. Install the heater, placing the heater inline with the exhaust hole.



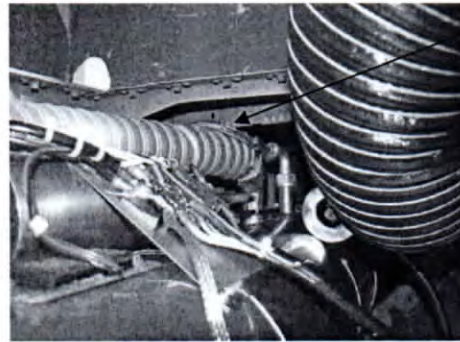
Connect 1 1/2" sceet to air inlet on heater and secure with clamp as shown. Notice routing of ignition lead.



In reverse order as removed, connect and secure exhaust extension and shroud.

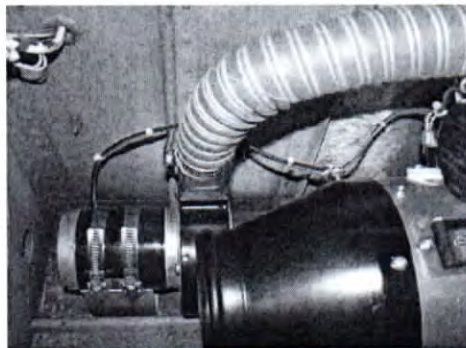


Once exhaust is secure, push "UP" on heater assembly while tightening both forward and aft heater mounting clamps.
Note: "scrawny" arms may be required to secure forward clamp.



Anti-chaff

Verify component clearances from airframe.
Where clearances are minimal, ensure anti-chaff or the like are in place. Shown here for the combustion air scoot and ignition lead.



Secure heater air outlet adapter to aft side of heater assembly.
Connect 1 1/2" scoot, previously secured to heater combustion inlet port, to outlet port (facing up) on combustion air blower.
Secure with clamp.

Ram Air Option:

Connect 3" ceet previously secured to heater fresh air inlet port, to inlet adapter attached to scoop. Secure with clamp.
6. POWER TO HEATER:

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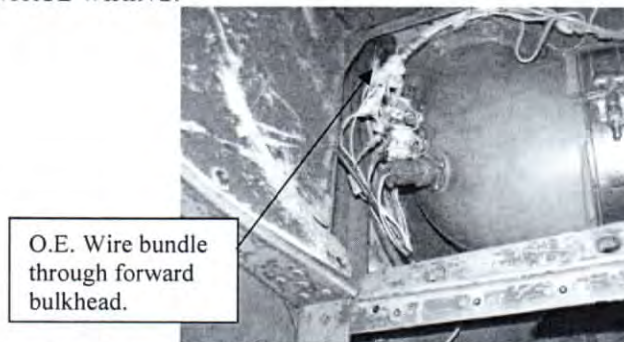
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- A. AIRCRAFT BATTERY LOCATED IN FORWARD POSITION OF AIRCRAFT:
a. For 24-VDC one 14 gage wire from 20 amp circuit breaker, line side, to bus bar.
- B. HEATER CONTROL ROTARY SWITCH:
a. Install in location with adequate clearance behind panel. Using P/N CD20683 template, center punch and drill as indicated.



Typical location for 20654B and 20amp breaker.

- b. Install P/N CD20684 decal and lights as indicated. Make sure amber light is installed in left position, "heat cycle", and red light in right position for "overheat warning".
- c. Install rotary switch thru hole with switch tab properly located in panel alignment hole which is covered by decal.
- d. Secure in place with lock washer and nut
- e. Install pointer knob and secure.
- C. HEATER CONTROL WIRING:



O.E. Wire bundle through forward bulkhead.

Following existing wire bundle on right side of aircraft, route enough length of the following so as to GENEROUSLY reach the location of there respective components.

- o Heater Term. #1 - 1 ea 14g white wire to 20654B switch
- o Heater Term. # 2 - 1 ea 18g red wire to 21253 thermostat
- 1 ea 14g red wire to aux. heater fuel system in left wing root
- 1 ea 18g white wire to Hobbs location
- o Heater Term. #3 - 1 ea 18g green wire to "cycle" annunciator light
- 1 ea 18g blue wire to 21253 thermostat
- o Heater Term. #4 - 1 ea 18g red wire to "overheat" annunciator light
- o Heater Term. #5 - 1 ea 18g black wire to ground
- o Heater Term. #6 - 1 ea 14g blue wire to 20654B switch
- o Side post braided line to airframe ground
- o Yellow 18g heater control switch wire to thermostat sensor yellow wires located on heater outlet plenum assembly.

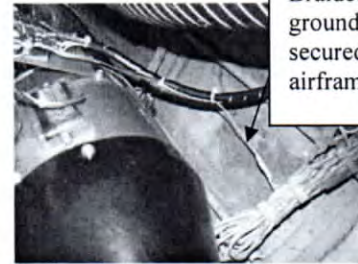
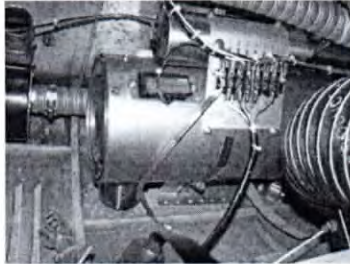
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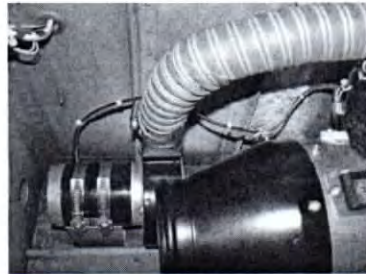
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Braided ground secured to airframe.

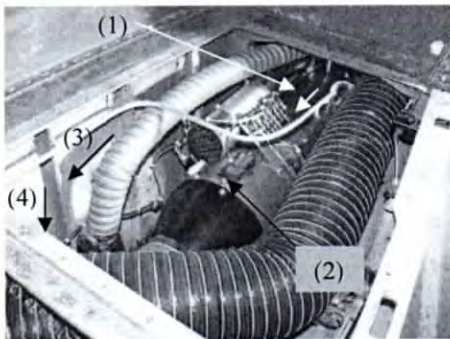
Secure bundle to airframe and connect appropriately at heater terminal strip as shown.



Route and secure wires from combustion blower as shown.

Connect properly at heater terminal strip (red to heater Term. #1 and black to ground).

7. FUEL SYSTEM INSTALLATION (P/N 40051E):



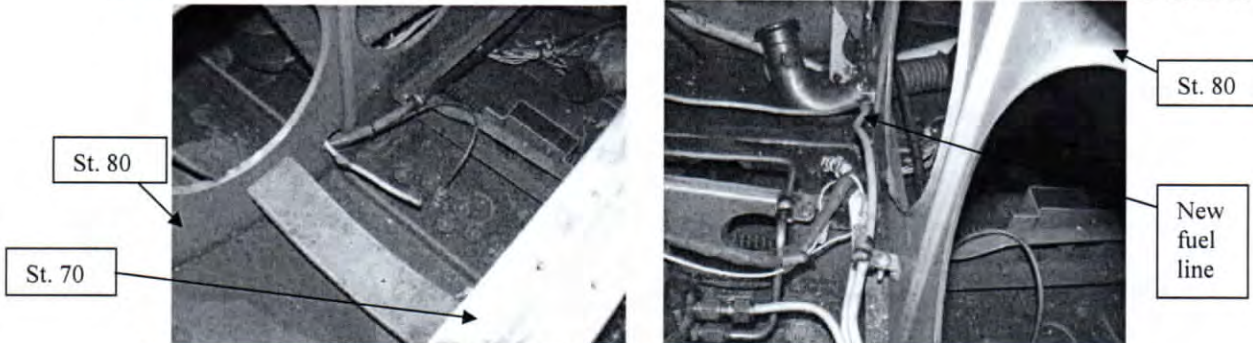
Fabricate fuel line.
 From heater solenoid, (1) extend aft. Turn inboard (2), along location of center floor brace (secure line with adell clamps to removable brace at completion) toward wheel well. At wheel well (3), continue back to St. 70. Follow St. 70 (4) down and through existing 1 1/4" hole just aft of newly installed combustion air blower assembly. Secure fuel line to airframe appropriately.

Shown with recirculation option

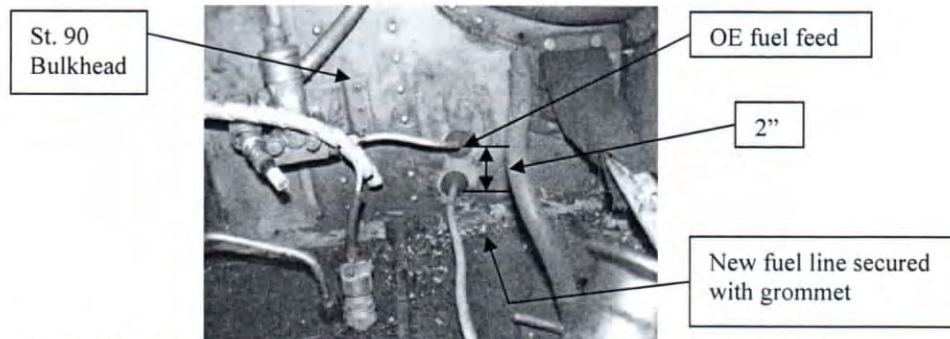
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From St. 70, run fuel line from heater aft through St. 80 and turn toward aircraft center as shown.



2" directly below O.E. fuel feed extending through bulkhead, drill a 15/16" hole.

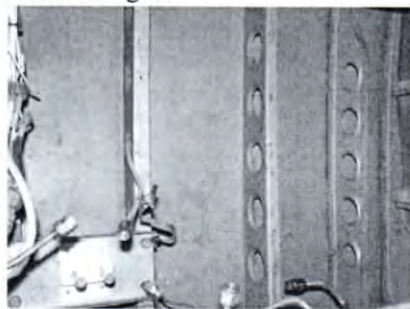
Use a drill stop set no deeper than 1/2".

Run new fuel line into cabin area through this location and secure with grommet as shown.

Follow O.E. fuel line routing along left side of aircraft.

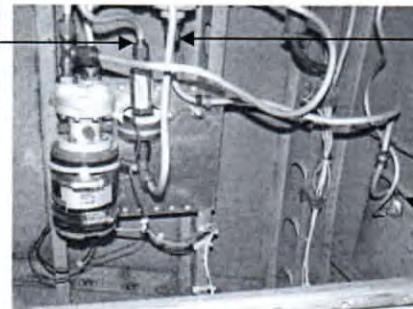
Secure entire run to airframe accordingly.

- A. Locate access through belly on left side at wing root. Position mount assembly P/N 21951, legs up, forward of existing heater fuel pump or approximately 10" forward main of spar. Mount legs so they straddle upper longitudinal stringers.



(BEFORE)

Aux fuel system
"IN" port



(AFTER)

"OUT"
port of
regulator

Bulkhead
fitting

Note where O.E. heater fuel line extends through cabin bulkhead into left wing roots. This is where fuel supply is located. 1 1/4" directly aft of this location, drill 11/16" hole from the cabin side using a drill stop set no deeper than 1/2". Install 90° bulkhead fitting through this hole with elbow on cabin side facing forward. Connect fuel line coming from New CD14190-1K31 to this elbow.

In wing root, fabricate fuel line extending from newly installed bulkhead fitting to "OUT" port of mechanical regulator P/N 21924 located in line with auxiliary heater fuel supply, mounted as shown. Secure all lines to airframe.

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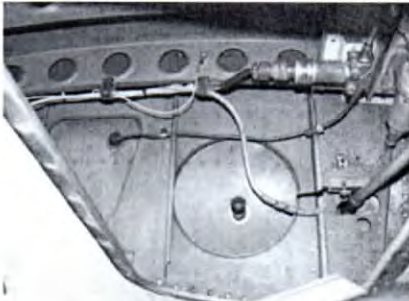
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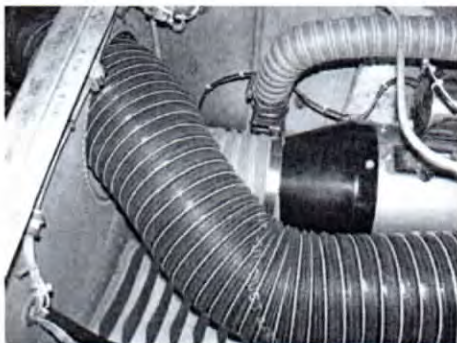


- B. Transfer/Mark hole locations of mount onto stringers and drill these locations to .250. (3 per stringer)
- C. Install 10/32 rivnuts into stringers, outboard stringer will have rivenuts facing OUT. Inboard stringer will have rivnuts facing IN.
- D. Secure fuel mount/fuel system to airframe. Using 6ea 60012 screws, 60177 washers.
- E. On existing heater fuel pump, remove "IN" port fitting and replace with supplied AD834-4D "T". Reconnect incoming fuel line to "T". Fabricate new line connecting other end of "T" to "IN" port of CD20803 regulator just installed with fuel system mount.



If O.E. combustion heater system is being supplied by 1/4" copper fuel line as shown, we recommend swapping it out with #3 aluminum at this time.

8. FINISH INSTALLATION:
 A. Heater assembly.



Shown with Recirculation Option
 Connect 4" sceet (red) to heated air outlet adaptor and secure with clamp. Extend aft through St. 70 and up.

- B. For Recirculation Option
 - a. HEATED AIR OUTLET ADAPTERS P/N 21956
 - 1) Looking aft through right side nose baggage door. Measure over from right side skin, across bulkhead (station 84) and mark out 10". Intercept this mark vertically 3" above finished baggage floor level. At this intercepted point, utilize template P/N T21956 for transfer and location of 2 ea 4" holes. Also transfer locations provided on template for 10 ea .219 holes.
 - 2) "Sandwich" the bulkhead (station 84) from the cabin side using 21961 adaptor and 10 ea 60003-8/32 screws.
 - C. For Ram Air Option
 - a. HEATED AIR OUTLET

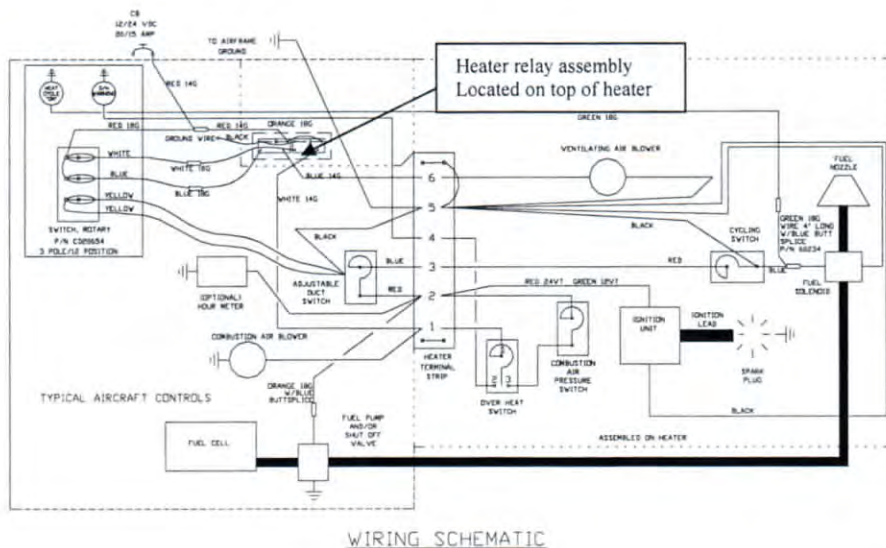
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9. ELECTRICAL INSTALLATION: ELECTRICAL COMPONENT PACKAGE 21959

A. FUEL PUMP WIRING:

- a. Make sure the body of the heater fuel pump is grounded well to the air frame using the ground attached to the pump.
- b. Route 16 gage wire from heater terminal strip #2 along with other heater wires back to fuel system and connect at terminal.



10. 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. Usually you can find a small access point somewhere in the ducting aft of the heater. Otherwise it may be necessary to drill a small 1/8" hole through the heat distribution plenum allowing a thermo couple to enter unobstructed, into the heated air stream approx. 1".

CAUTION: Never drill into combustion heater itself! Verify nothing will be damaged in this process.

CAUTION: Verify thermal couple is not touching plenum internal wall.

- B. Place a 6" 20G jumper wire with 2 small alligator clips (or the like) across the heater terminal strip numbers 2 and 3, which will bypass the aircraft thermostat. (Fig. 1)

CAUTION: Be sure not to short any other terminals.

- C. Install the fuel pressure gauge (0-150psi). Tee into.

- a. With the heater running, verify fuel pressure. Required pressure is 100psi +5-0.
- b. With the heater running, verify that the outlet plenum temp. is approx. 250°. Adjust the cycling switch if needed. Clock-wise to increase, counter-clock-wise to decrease temperature. (Fig. 2)
NOTE: Adjust screw no more than 1/4 turn at a time.
- c. 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.
- d. Remove the temperature probe. If drilled, seal the 1/8" hole (see 10.A.) with high temperature silicone.

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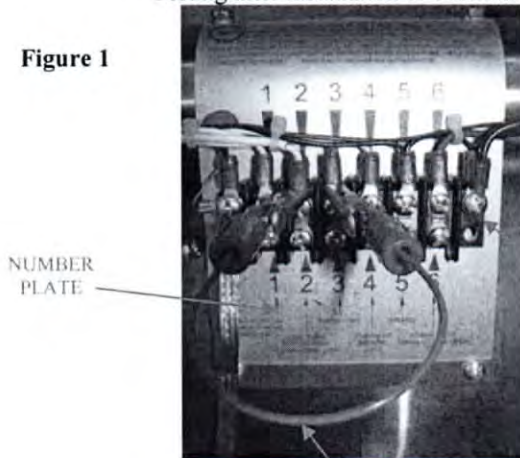


- e. Remove the fuel gauge installed in step 10.C. Leave the “tee” fitting and cap off for future pressure readings if desired.

If the hoses need to be replaced, we recommend Scelet-6 (1 ½”) red from the blower to the heater and Ceet-6 (1 ½”) 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.”

Figure 1

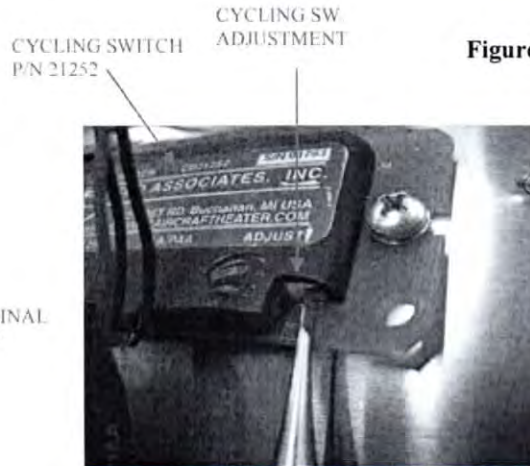


NUMBER
PLATE

TERMINAL
STRIP

JUMPER WIRE BYPASSING
THERMOSTAT SENSOR
(AIRCRAFT WIRES NOT INSTALLED)

Figure 2



- D. 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.”

- E. NOTE: Follow the ‘Combustion Heater PREFLIGHT/OPERATIONAL CHECK AND SHUTDOWN PROCEDURE’ outlined within the Combustion Heater “Instructions for Continued Airworthiness” (ICA) contained in the “Maintenance Manual MM10001 dated Jan. 1, 2008 Rev. none, 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.

- F. Verify all wires are secure and free of obstruction and chaffing.

11. DOCUMENTATION:

- A. Weight & Balance: Add 45lbs at 40 inches aft of datum for the new heater. Add 20 lbs at 220 inches aft of datum for the fuel components and cabin plenum. (Total increased weight of 65lbs.) Alteration of aircraft by way of STC# SA02653CH and PMA supplemental number (#58) and date must be recorded in the appropriate aircraft records.
- 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 airworthiness. (ICA) contained in the Maintenance Manual MM10001 dated Jan. 1, 2008 Rev. none, or later FAA approved revision.”
- C. Electrical requirement: 24VDC at 20 Amps.
- D. Fuel consumption: Maximum operation .5 gal/hour.

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DOCUMENTATION AND PARTS REQUIREMENT TABLE

DOCUMENTATION		Quantity	
1.	FAA/PMA Supplement #58	_____	
1.	Installation Instructions IN14190K31	_____	
2.	Label for flight manual (21503)	_____	
3.	MM10001 Maintenance Manual	_____	
4.	Quality Assurance Certificate of Compliance #527	_____	
5.	STC # SA02653CH	_____	
6.	Form 337	_____	
PARTS			S/N
1.	(1) Heater	CD14190-1	_____
2.	(1) Fuel System Assembly	21951	_____
3.	(1) Drain Elbow	60159	_____
4.	(1) 4" Red Sceet	60346	_____
5.	(3) 4" Black Ceet	60345	_____
6.	(4) Clamps	60900-56	_____
7.	(24") 1 1/2" Black Ceet	60198	_____
8.	(24") 1 1/2" Red Sceet	60199	_____
9.	(1) Clamps	60900-20	_____
10.	(1) Blower cover	21961	_____
11.	(1) Combustion Air Inlet	21356B	_____
12.	(1) Heater Bridge Mount Assembly	21955	_____
13.	(1) Outlet Plenum	21966	_____
14.	(1) Doubler	21929	_____
15.	(1) Duct Kit Option	21997	_____
16.	(1) Heated Air Inlet Adapter	22095	_____
17.	(1) Electrical Kit	21959	_____
18.	(1) Mount, Blower	21191C	_____
19.	(4) Shock Mount	21379	_____
20.	(1) Ram Air Kit Option	21975	_____
21.	(1) Installation Instructions	IN14190K31	_____

Initials: _____ Date: _____

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