United States of America
Department of Transportation -- Federal Aviation Administration

Supplemental Type Certificate

Number SA03134CH

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 thereof as specified hereon meets the airworthiness requirements of Part 3 *of the* Civil Air *Regulations.*
See Aircraft Specification No. A-806 for complete certification basis.

Original Product - Type Certificate Number: A-806
Make: Viking Air Limited
Model: DHC-2 Mk..I, DHC-2 Mk..II, DHC-2 Mk..III

Description of Type Design Change:
Installation of C&D Associates combustion heater Kit 41 P/N CD12030K41, in accordance with C&D Associates Installation Instructions IN12030K41, revision A, dated February 7, 2012 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 FAA approved on March 7, 2012, 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 F, dated February 3, 2012, or later FAA approved revision.
4. Compliance with ICA12030K41 revision A, dated July 5, 2012, 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: December 28, 2011
Date of issuance: July 18, 2012
Date reissued: February 11, 2016
Date amended:

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.

This certificate may be transferred in accordance with FAR 21.47.

C&D ASSOCIATES, INC.

HEATER INSTALLATION INSTRUCTIONS FOR
HEATER KIT #41 P/N CD12030K41
For DHC-2 Mk. I

HEATER REMOVAL INSTRUCTIONS FOR
HEATER P/N CD12030-1 (pg 24)

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.

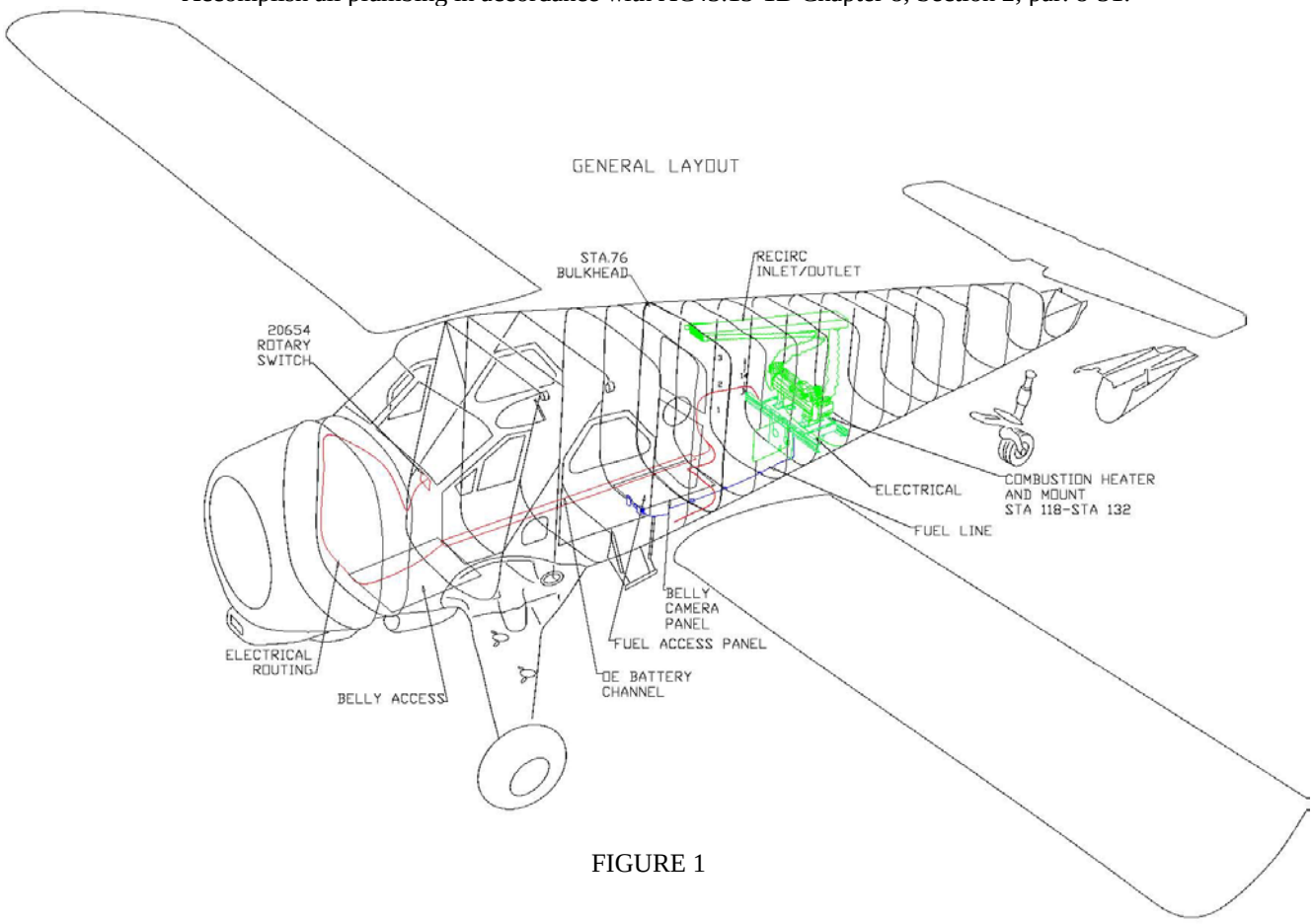

FIGURE 1

I. PREPARATION

A. Gain access to tail of aircraft.
B. Gain access to aft side of fuel tanks at STA.63.3.
   1. For our install we removed not only the floor panel between STA. 49 and STA. 76, but also a belly camera panel to ease installation of the fuel pump.
C. Gain access to belly of aircraft at STA.-16 to STA.8.
   1. This is the large belly panel located just behind the engine cowling. This area will provide access to the OE battery cable channel used for wire routing.
D. Clean belly between STA.118 and STA.132.
   1. For marking purposes and layout, clean oil and debris from belly in the general area that the heater will be setting using mineral spirits or the like.

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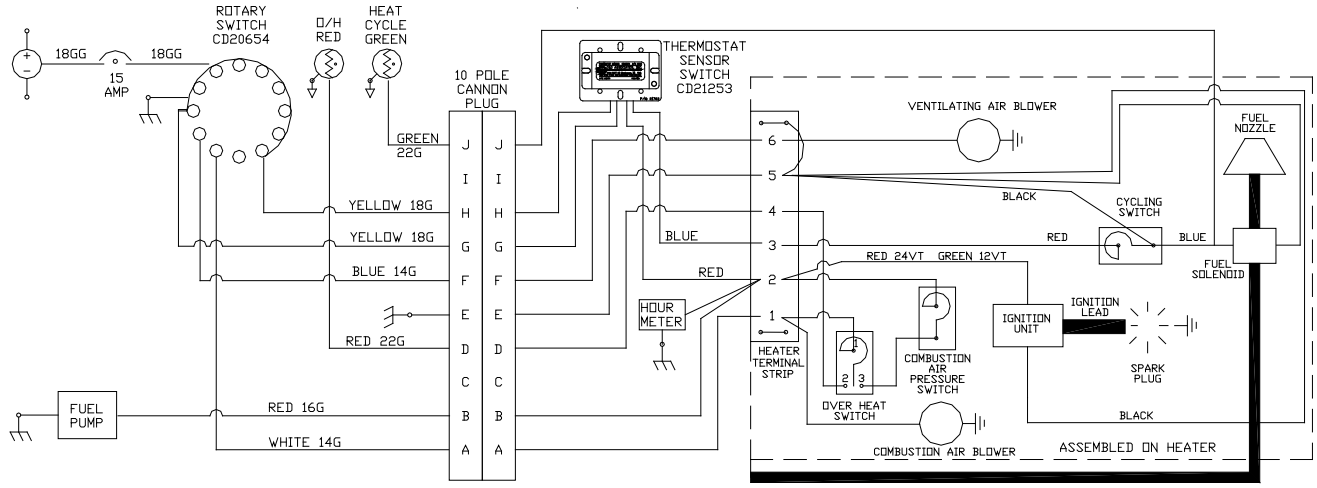
II. INSTALLATION

A. Electrical

1. Install wiring as shown on electrical schematic including Heater Rotary Switch Control P/N CD20654. Routing indicated by red line on FIGURE 2.



ELECTRICAL SCHEMATIC

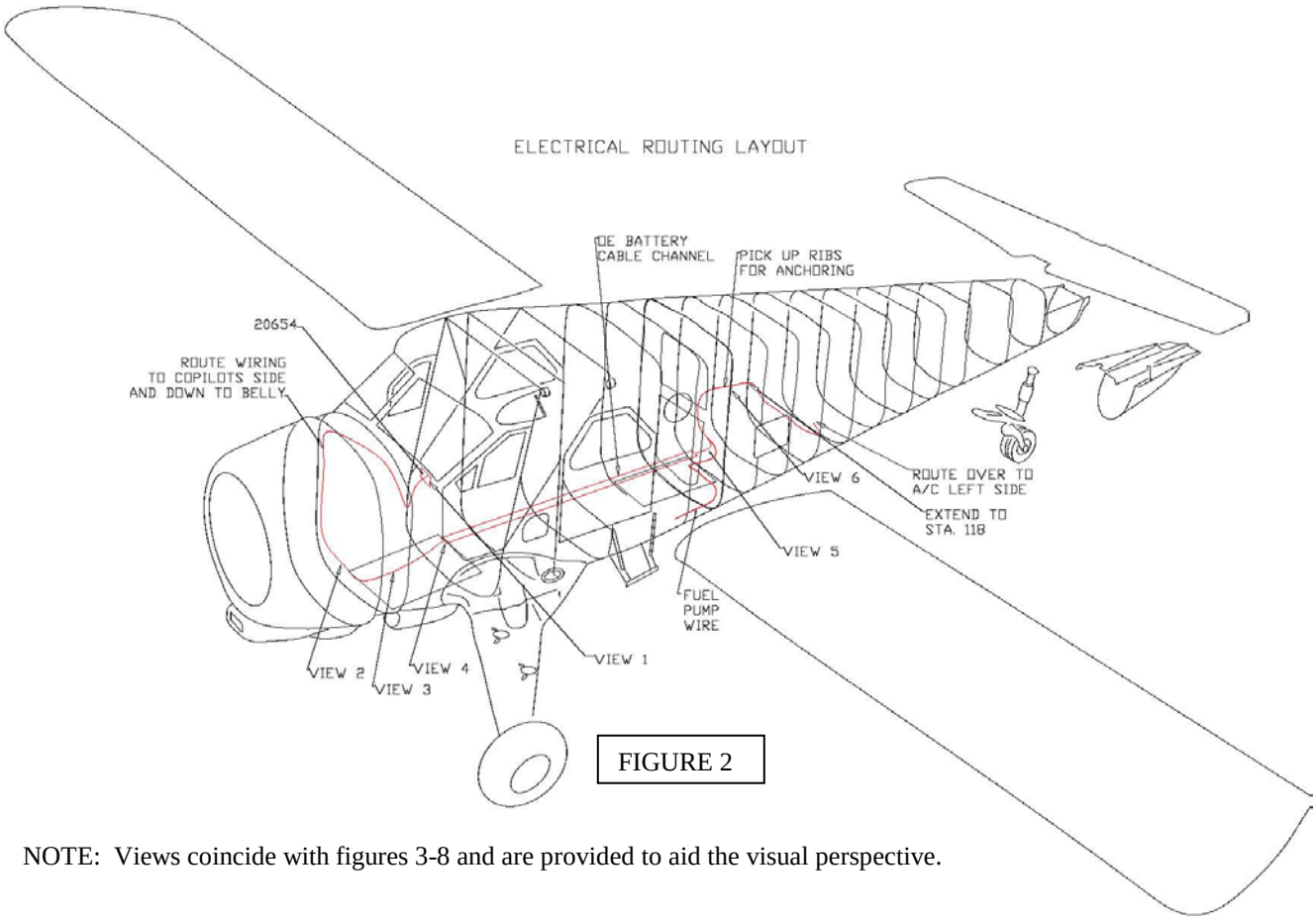


FIGURE 2

NOTE: Views coincide with figures 3-8 and are provided to aid the visual perspective.

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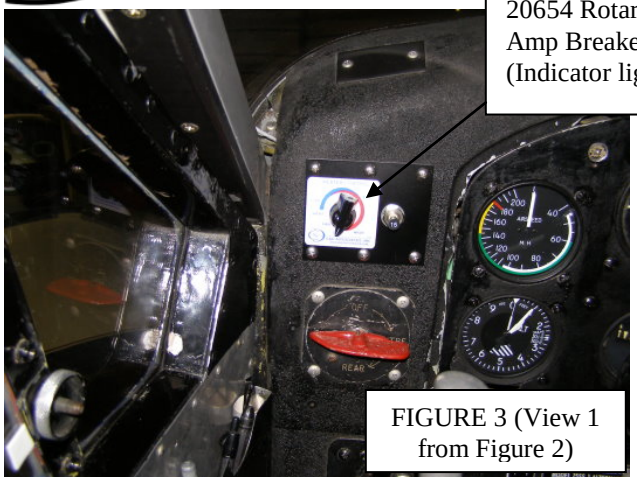

FIGURE 3 (View 1 from Figure 2)

NOTE: When mounting the 20654 find a location that allows easy access to the pilot. For this install we found the upper left corner of the panel to be ideal as shown in Figure 3.

NOTE: Due to the location being almost direct with pilot's line of sight, we opted out of installing indicator lights, though they are available.

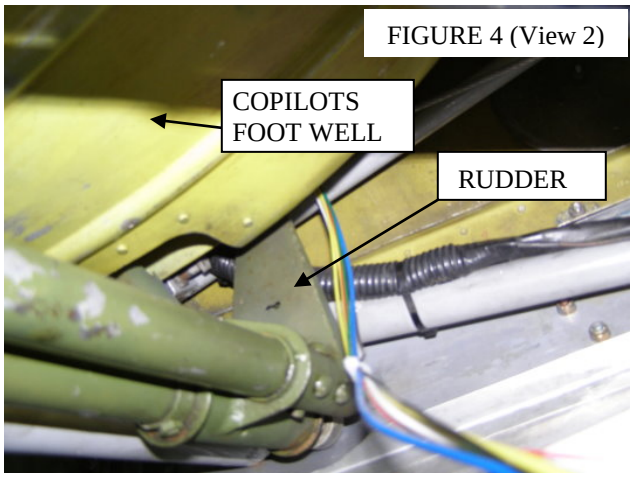

FIGURE 4 (View 2)

2. Route the wire bundle as depicted in Figures 4 & 5.

NOTE: The wire bundle was extended over to the copilot's side. Then, as shown here, the bundle routes down the right side of the aircraft near the rudder pedals.

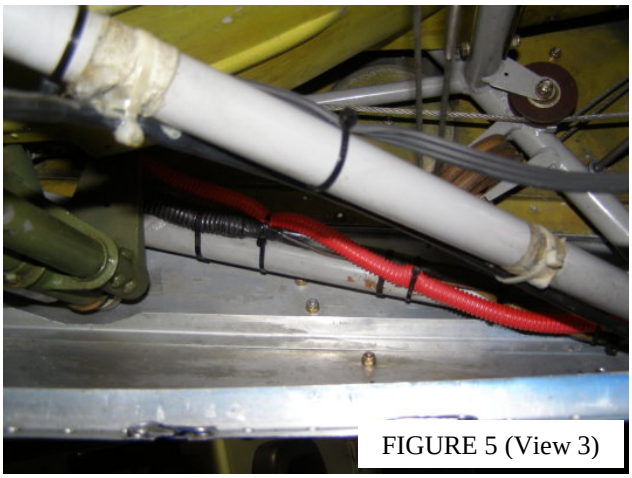

FIGURE 5 (View 3)

NOTE: We used wire loom for antichaff in our installation. Though not necessary, this will ensure wire bundle's security and protection. Secure bundle to airframe.

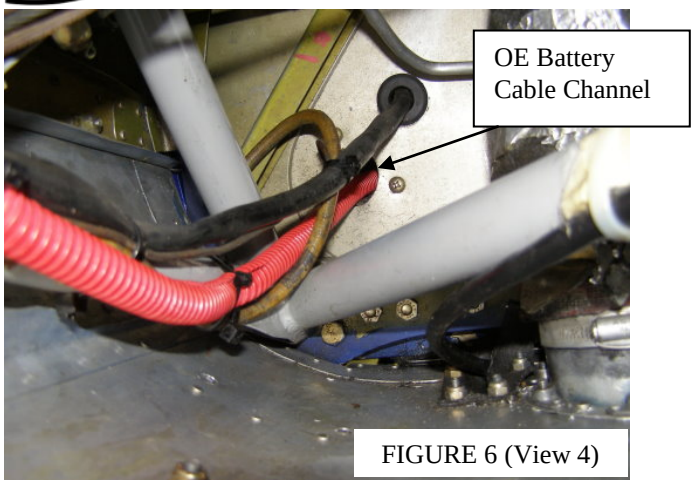

FIGURE 6 (View 4)

3. Extend wire bundle through the battery cable channel as shown in Figure 6.

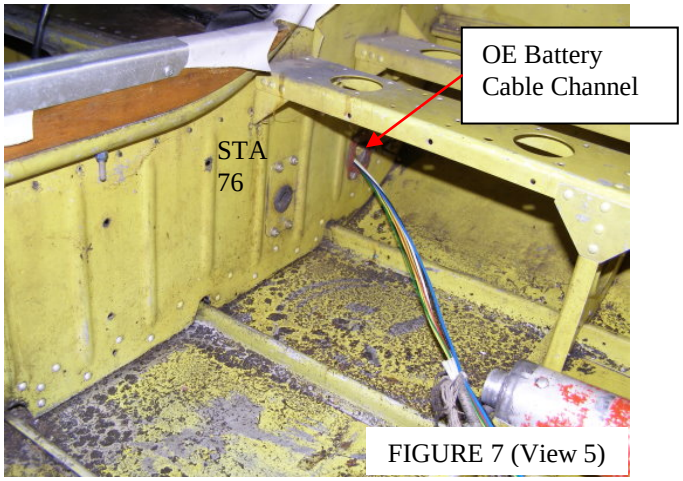

FIGURE 7 (View 5)

NOTE: The wire bundle should route smoothly to STA. 76 as shown in figure 7.

4. Extend electrical bundle to heater location.

   a. Notice the ribs have a series of 3/16 holes between the first and second horizontal stiffeners. (Possibly these holes already route a beacon wire to the tail) Perform the following:

      1) Cut the beacon wire in a location that will allow easy splicing and remove the wire from holes in ribs at stations 90, 104 and 118.
      2) Step these three holes from 3/16 up to 7/16 and install provided CD60531 grommets.
      3) Reroute any original equipment (OE) wiring and properly splice.
      4) Extend new heater wire bundle through these grommets ending at STA. 118.

      NOTE: 118 you should have approximately 4’ of wire aft of STA. 118 left to finish off installation.

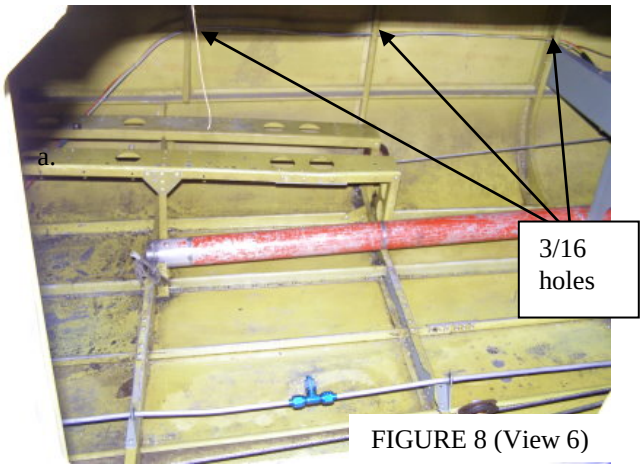

FIGURE 8 (View 6)

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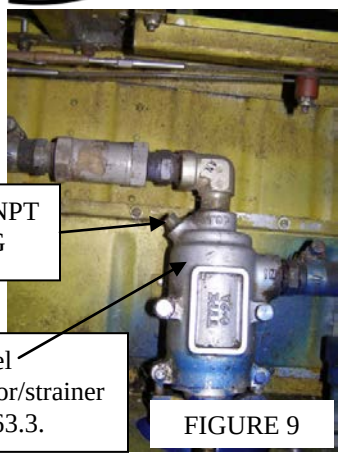

FIGURE 9

FIGURE 10

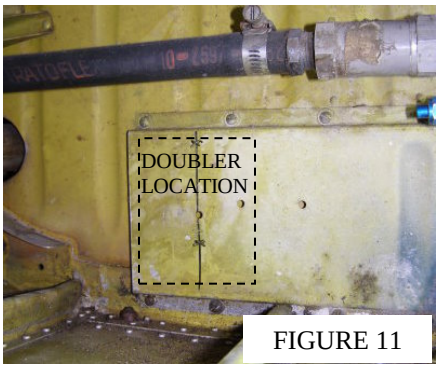

FIGURE 11

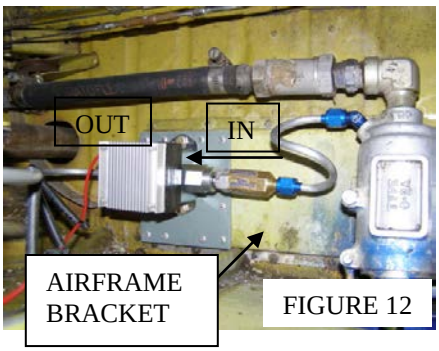

FIGURE 12

B. Fuel pump p/n 22056.
1. Preparation:
   a. Turn main fuel selector to the "OFF" position and drain the gascolator located at STA. 63.3.

   b. Once fuel is drained remove 1/8" NPT plug located near the top of the gascolator. (Be careful to avoid debris from entering the gascolator)

   c. Install the provided CD60147 (MS20823-4D) 45º elbow into the gascolator as shown. Point fitting toward the left side of the aircraft (A/C). Once fitting is secured, cap fitting to avoid debris from entering it.

NOTE: Use accepted fuel fitting sealant such as permatex #2 on threads subject to fuel.

NOTE: DO NOT USE TEFLON products of ANY KIND, including TAPE.

   d. Utilize the provided fuel pump doubler template P/N 35003 to locate and drill holes necessary for mounting. Hole sizes are specified on template.

NOTE: While drilling these holes BE SURE not to compromise the bulkhead at STA. 63.3 as this could puncture the AFT fuel tank. To avoid this possibility we used a drill stop set at ¼" for all holes.

2. Installation
   a. Mount the doubler plate to the airframe bracket as pictured in Figure 12 using the provided P/N 60285 cherry rivets.

   b. Mount the fuel pump P/N 22056 to the doubler using the two 60342 bolts and washers provided with the kit.

NOTE: The "IN" or filter side of the pump is toward the gascolator. This will ease future filter changes.

   c. Once the pump is installed, use the provided 8" x ¼" line and secure one end to the 45º fitting installed in Step II.B.1.c. and the other end to the fuel pump filter.

NOTE: You will need to create "S" curves in the fuel line to properly bridge the gap. Be sure to accomplish this as with all fuel lines according to AC65-9A.

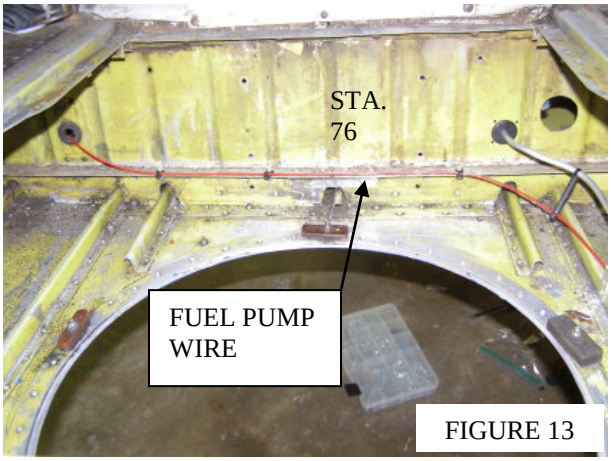

FIGURE 13

d. Route fuel pump wire as pictured in Figure 13. Once the wire passes through the bulkhead at STA. 76, join the pump wire to the main bundle and extend to the heater.

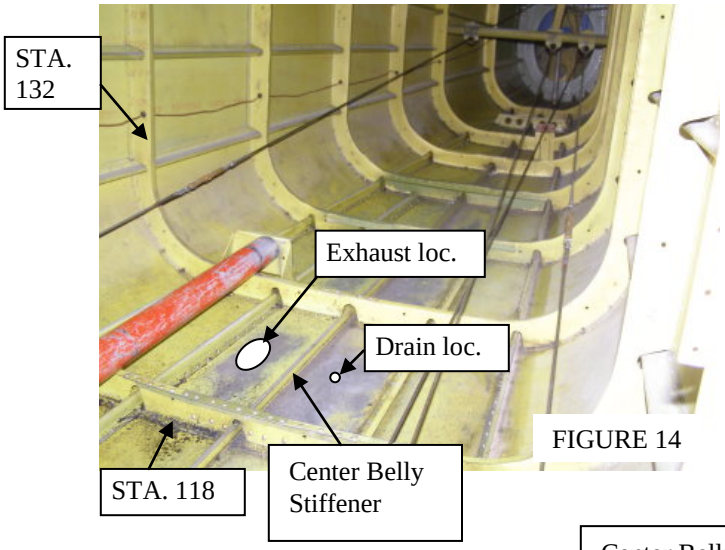

FIGURE 14

C. Exhaust Extension:

NOTE: The exhaust for the heater is to be bolted to the airframe as well as to the heater platform itself.

NOTE: Figure 14 shows the location where the heater platform will be attached. (The red bar is the stowed bush seat anchor bar, if so equipped. The heater platform is designed to clear this.) Notice the station numbers in relation to the exhaust location.

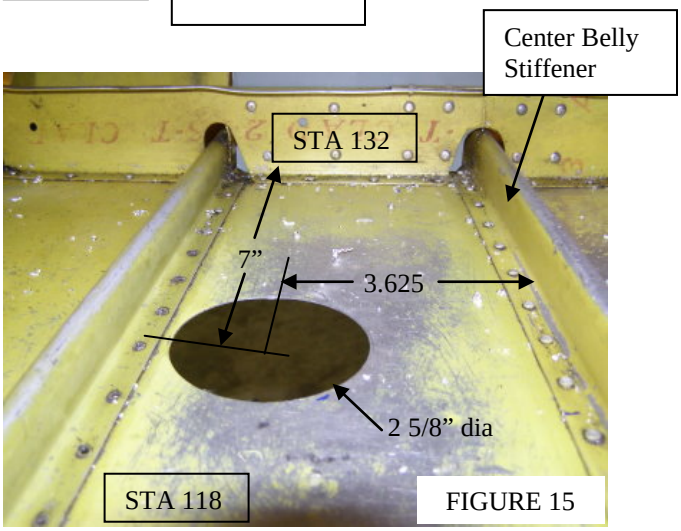

FIGURE 15

1. Preparation:
   a. As shown in Figure 15 measure over (to the right side of the aircraft) from the edge of the center belly stiffener 3.625 and mark as shown.
   b. Measure forward from STA 132 and mark at 7” as shown.
   c. Using a knockout (strongly recommended) punch a 2 5/8” hole out of the belly at the intersection of the marks as shown.

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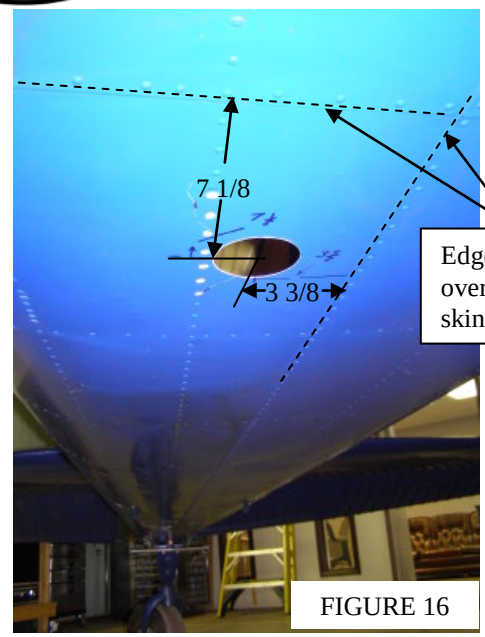

FIGURE 16

NOTE: FIGURE 16 shows the belly of the aircraft, with the 2 5/8" hole punched. The measurements shown are to the seams of the skin. If properly done your measurements should match.

d. As shown in Figure 17, remove 7 of the original rivets from the stiffener located to the right of center.

e. Replace these 7 universal rivets with 7 flat head rivets P/N MS20426 AD4-5 provided with the kit.

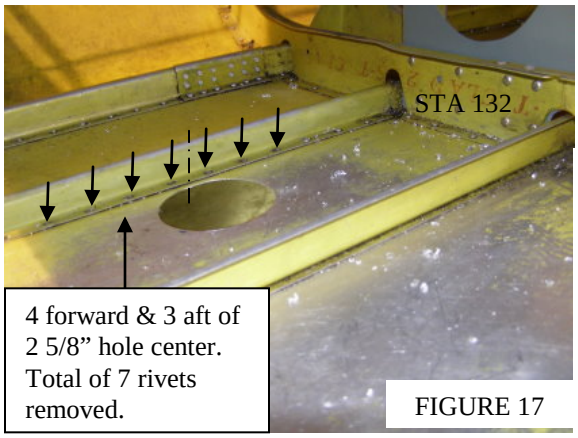

FIGURE 17

NOTE: Be sure to follow guidelines as set out in AC43-13 1B2B Chapter 4, Section 4 Rivet/Metal Repair Procedures for All Metal Work

2. Installation
   a. Orient and tape the template to the belly as outlined with the dotted 2 5/8 hole centered on the hole punched in Step II.C.1.c.
   b. Use a center punch to precisely transfer all hole center points onto skin.
   c. Drill all holes and deburr as indicated on template. This should include 14 holes at .219, 28 holes at .093 and 1 hole at .4375 for a belly drain.
   d. Now using the supplied MS20426 AD3-3 100º flat head rivets, attach the 14 nut plates as pictured.(the nut plates are internal to the structure)(Figure 18)

NOTE: Be sure to follow the guidelines for riveting and metal work as outlined in AC43.13-1B2B, Chapter 4, Section 4.

e. We will finish the exhaust extension installation once the heater platform has been installed.

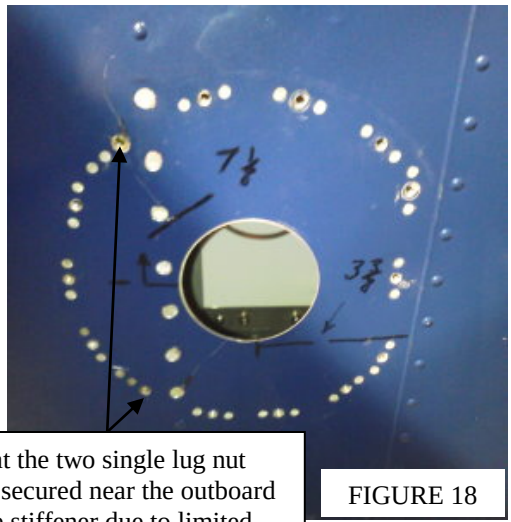

FIGURE 18

FIGURE 19

D. Heater Platform:

1. Preparation for heater platform:

NOTE: There are 5 rows of horizontal stiffeners located on either side of the fuselage. These stiffeners run the entire length of the tail section.

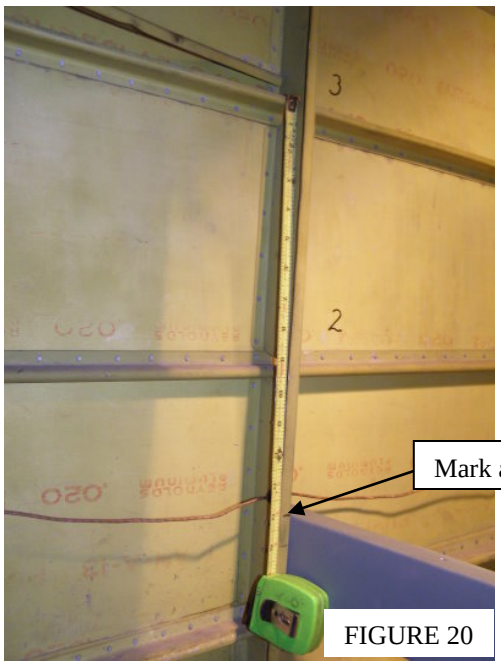

FIGURE 20

a. At STA. 118, count up to the third stiffener as pictured. Hook a tape measure to the top of this stiffener, measure down to 14” and mark the rib. Repeat this process at both STA. 118 and STA. 132 on both right and left side of the aircraft.

NOTE: You should now have STA. 118 and STA. 132 marked in 4 locations. These marks determine the top of the heater platform.

NOTE: As the third stiffener is the most level plane while the aircraft is in flight, using it as the heater mount reference point will in turn level the heater once installed.

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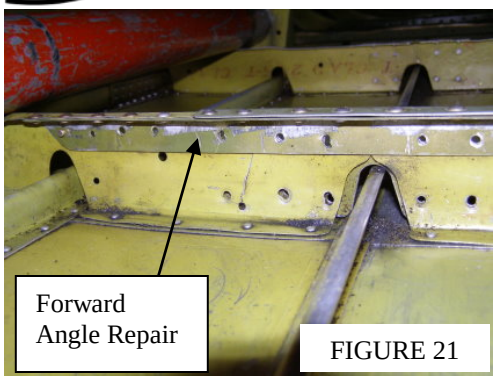

FIGURE 21

FIGURE 22

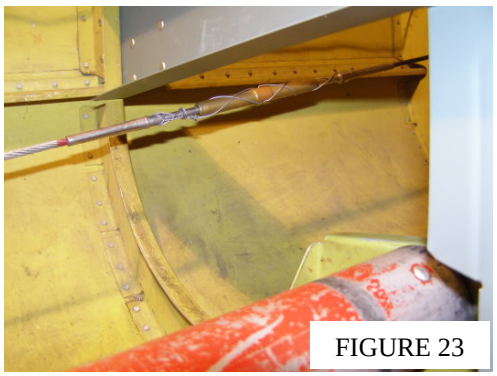

FIGURE 23

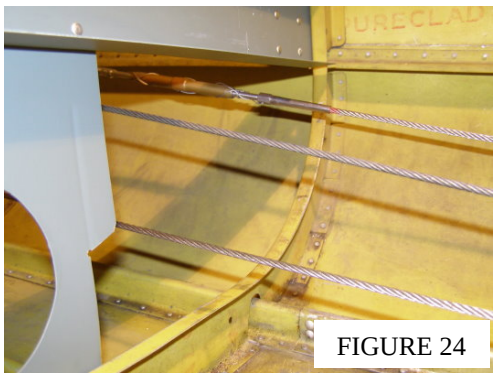

FIGURE 24

2. Verify condition of the ribs at STA. 118 and 132 prior to moving forward.

   a. With our installation we found multiple cracks and tears near the belly such as the one pictured here. Notice that a reinforcement doubler and angle were scabbed in at one time as shown on Figure 21. Though the new heater platform uprights act as a doubler once installed correctly, some metal repair prior to installation may be required. In our case we left the forward angle repair but removed the doubler so as to allow the heater platform upright to sit flush against the aft side of STA. 118.
   b. Also, keep in mind that ALL rivets drilled out in the ribs (especially in the belly portion) will need to be transferred into the platform uprights. No empty holes should be left. Due to variations we have not included the necessary hardware to secure the uprights to the ribs.

3. Installation of the Heater Platform
   a. Begin heater platform installation by fitting the AFT brace to the back side of STA. 132.

NOTE: As FIGURE 22 shows, the Aft brace is notched to sit forward of station 132. Verify that the top of the brace is at 14" on either side as previously marked in step II.D.1.a.

   b. Secure the brace to STA 132 using ratcheting clamps or the like.

   c. Transfer the 6 (12 total) .125 holes in the braces doubler forward and through the STA 132 rib.

   d. Utilize the provided MS20470AD4-5 and secure the aft brace to STA 132 following AC43.13.

NOTE: Verify that control cables are free and clear of the possibility of hitting/rubbing on the brace as shown in Figures 23 & 24.

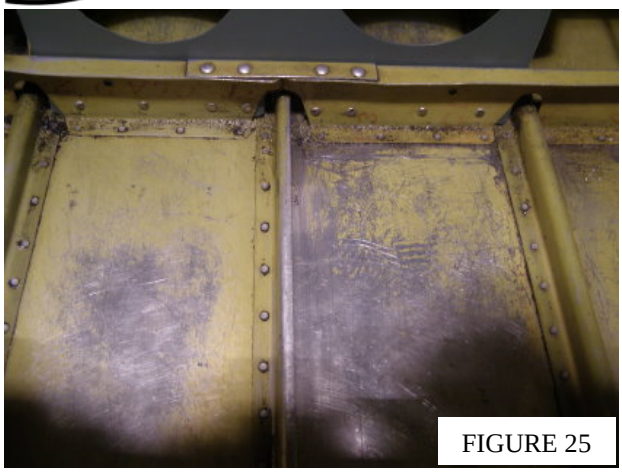

FIGURE 25

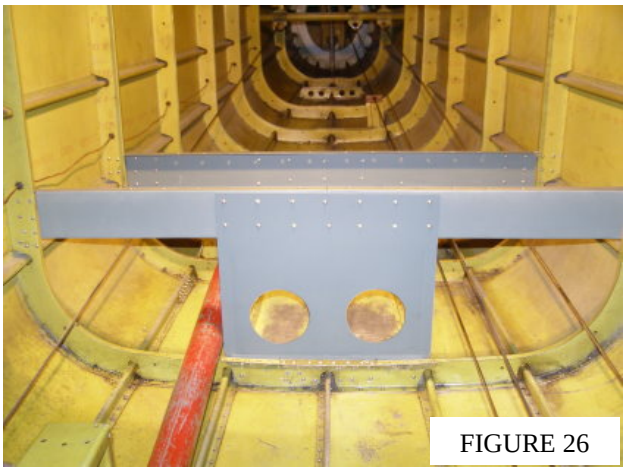

FIGURE 26

FIGURE 27

e. Secure the brace's upright portion to the rib at STA 132.

1) Utilize the required hardware as specified in AC43.13-1B2B Chapter 4, Section 4.

NOTE: Depending on how many previously removed rivets must be reinstalled, if using 1/8" diameter rivets, a minimum of 3 rivets per 1" of width must be used. Refer to table 4-10 (single lap intermediate frame) I AC43.13 1B2B Chapter 4, Section 4 to verify number of rivets needed. We used 1/8" rivets, a total of 16, to secure the upright to the rib.

f. Repeat the same process for the installation of the forward brace onto STA 118. The only exception is that the forward brace extends aft toward STA 132.

NOTE: Figures 25, 26 & 27 show the completed installation of the forward and aft brace.

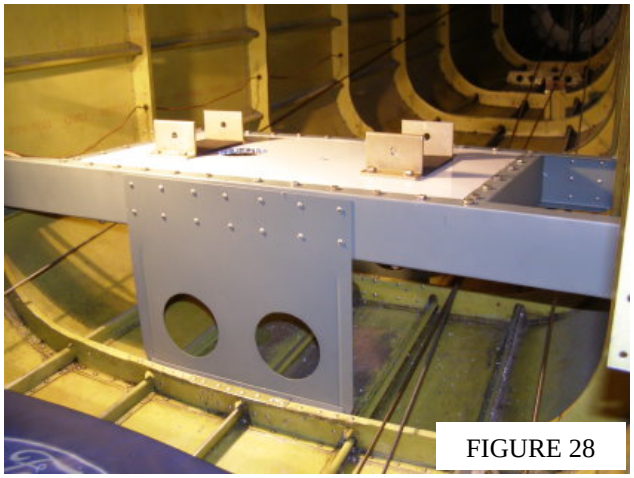

FIGURE 28

g. Finish assembly of the platform as shown on the platform schematic. (Figure 29) Proceed in the following order:

1) Insert and loosely attach the platform base to the forward and aft brace using the supplied hardware.
2) As indicated on the platform schematic attach the quick disconnect ground wire p/n 20739

NOTE: The base may fit rather tight between the braces, insert by dropping the back edge of the base down onto the lower ledge of the aft brace. Carefully and evenly apply pressure to the front edge of the base until it clears the top ledge of the forward brace. Lift up on the base and center on the braces. Start all bolts and washers by hand with the exception of the 4 corner bolts.

3) Install the exhaust brace as indicated on the platform schematic.
4) Install the lateral braces to the base on either end.

NOTE: These lateral braces mount inside the forward and aft braces and sandwich between the bases. Be sure to orient so that when installed the 7/16 hole with grommet is on the forward side.

5) Finish securing the base to the braces using remaining hardware. Tighten snuggly in a crisscross pattern. (Do not over tighten)

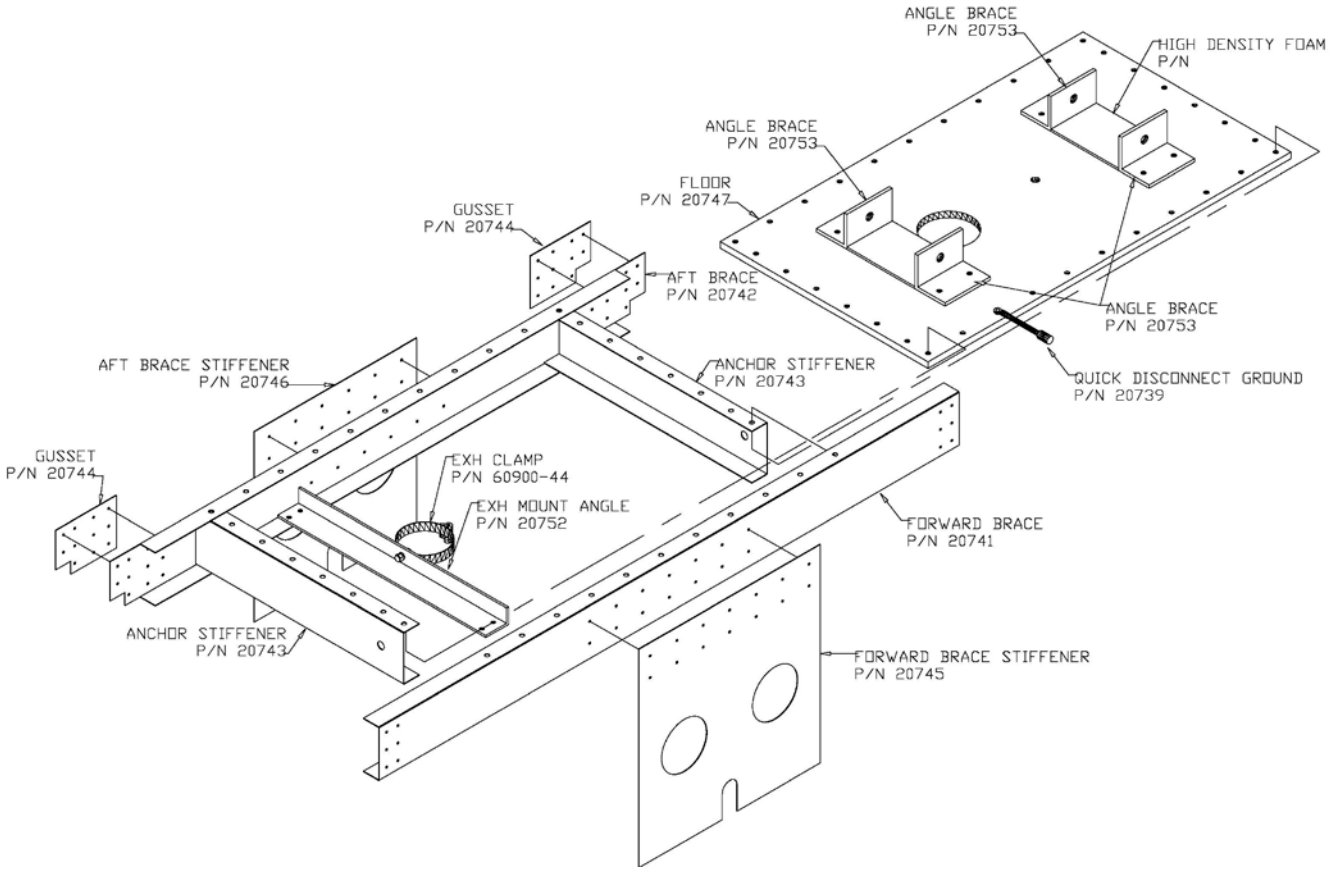
ANGLE BRACE
P/N 20753
HIGH DENSITY FOAM
P/N
ANGLE BRACE
P/N 20753
FLOOR
P/N 20747
GUSSET
P/N 20744
AFT BRACE
P/N 20742
ANGLE BRACE
P/N 20753
AFT BRACE STIFFENER
P/N 20746
ANCHOR STIFFENER
P/N 20743
QUICK DISCONNECT GROUND
P/N 20739
GUSSET
P/N 20744
EXH CLAMP
P/N 60900-44
EXH MOUNT ANGLE
P/N 20752
FORWARD BRACE
P/N 20741
ANCHOR STIFFENER
P/N 20743
FORWARD BRACE STIFFENER
P/N 20745

Figure 29

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FIGURE 30

4. Exhaust Extension/Dome Installation:
   a. The exhaust dome sits at a 6º angle from the extension. Slide the exhaust gasket over and down the extension verifying that it has a comparable hole pattern to the dome. (Figure 30)

FIGURE 31

   b. Insert the extension into and up from the 2 5/8 hole in the belly. Due to the 6º pitch, the exhaust will be properly installed once the dome sits flush to the belly.

   c. Attach the exhaust to the airframe with the 14 supplied 10/32 x ½" stainless steel screws, supplied with the kit.

FIGURE 32

   d. Secure the clamp portion of the brace installed at step D.3.g.3) to the exhaust extension. (Figures 31 & 32)

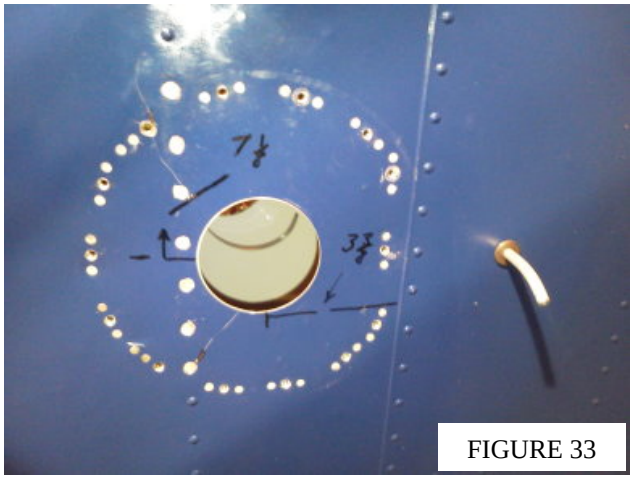


FIGURE 33

e. Install one of the supplied CD60531 grommets into the 7/16 hole drilled through the belly at step II.C.2.c.

f. Insert the long end of fuel drain P/N 21335 through the platform and continue through the belly. (Figure 33)

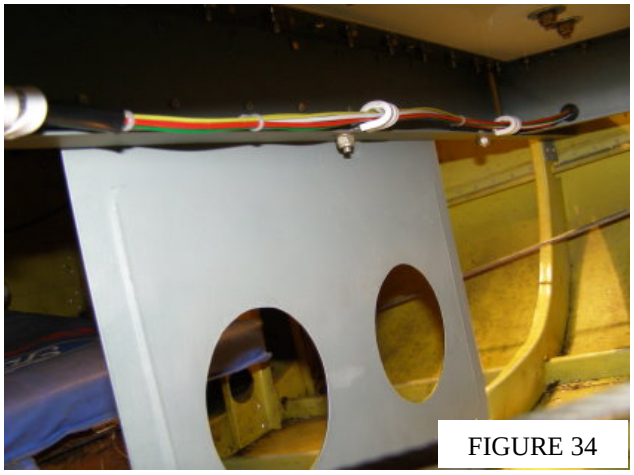


FIGURE 34

5. Utilizing the electrical schematic and routing information finish routing the wire bundle and completing the cannon plug installation.

NOTE: Take your time installing the cannon plug. Verifying wire locations and solder joints are completed properly and securely.

NOTE: At this point everything should have been completed that is needed to actually install and operate your heater.

6. Complete fuel line routing
   a. Route fuel line from fuel pump at STA. 63.3 to heater platform as depicted on fuel system schematic
   b. Utilize supplied line braces P/N 20755 and secure fuel line at STA 104 and 90.
   c. Secure fuel line to the underside of the platform bulkhead fitting.

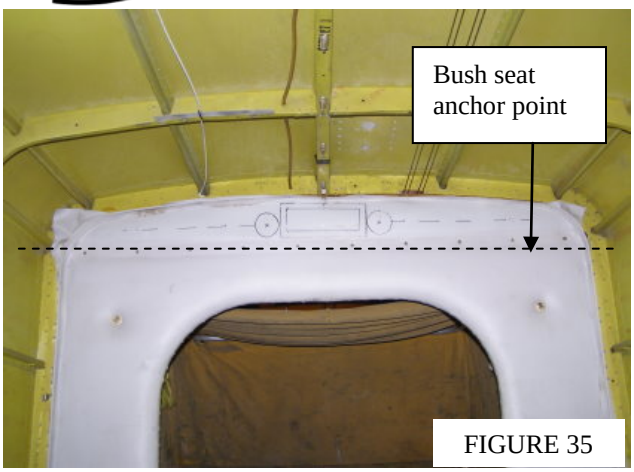


FIGURE 35

E. Installation of Cabin Inlet/Outlet:
1. Preparation
a. Remove both left and right rear overhead interior panels.
b. Prepare the cabin rear bulkhead by removing the bush seat completely. As shown by the dotted line in figure 35, use a sharp knife or scissors to remove any interior fabric and or insulation located above the bush seat anchor plate.
c. This would be a good time to verify that the interior does not consist of ANY flammable or non-compliant materials.
1) Review AC43.13-1B2B Chapter 9 Section 4 entitled “Cabin Interiors” for more information.
2) Check for use of certified materials as specified in the log books at the time the interior was installed.
3) If the required information is not available it is still your obligation as the installer to verify the safety factor of material used.
a) A quick check can be to cut off a small loose piece of the fabric and/or insulation and do a simple “lighter’ test. In a ventilated area (some older NON-certified materials actually produce cyanide gas when burned!) put flame to the material in question.
b) If it catches fire and maintains flame and/or smokes profusely, more than likely this material is NOT acceptable. It should be replaced before the heater is put into operation. Actually prior to any further operation of the aircraft in general, questionable materials should be removed.

NOTE: It is a common misconception that incidents involving combustion heaters are due to carbon monoxide. In actuality, the real danger is created by flammable materials that surround the heat source.

d. Using the provided inlet/outlet template P/N 35001, layout the inlet and outlet ports at the top of the cabins rear bulkhead (STA 75) This will consist of 3 openings, (2) 2 5/8 holes on either side of a 6.25 x 2.25 rectangular opening. This is the same knockout as previously used for the exhaust hole. As for the rectangular hole, start with one 1/8” hole in each of the 4 corners. Then use a small, thin cut wheel with a 1 1/4” diameter. We find a dremmel tool with thin cut, quick release wheels to perform extremely well with these kinds of jobs. Be sure to deburr any rough edges.

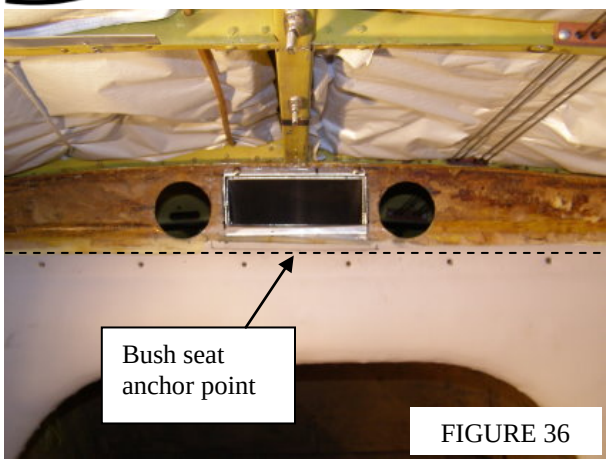


FIGURE 36

e. Begin by assembling the two piece recirculating duct by slip fitting the notched ends of the duct together until the (3) 1/8" holes along the bottom line up. Use 3 of the supplied 60019 pop rivets to secure these two halves to each other.

NOTE: The top and sides at this joint have no connection. This will allow the duct to "flex" in the middle. This will allow for proper fitting at the bulkhead.

f. Prepare the ribs above the heater platform for securing the duct to the airframe.

1) At STA. 132, 118 and 104 mark the top center of the ribs. (This should be fairly easy due to the stiffener that runs down the top center of the aircraft)

NOTE: The previously installed heater platform should support the weight of most. Sitting on the platform to install the ducting should ease the process.

2) Measure over 2" from both sides of center, marking the middle of the ribs.

3) Drill these locations to .125. You should end up with 6 holes, 2 per rib and 4" apart.

2. Installation

a. Now utilize the rectangular hole cut through bulkhead (STA. 76) during step II.E.1.d. and secure the recirculating duct flange P/N 20754 to the bulkhead.

1) From the forward side of the bulkhead, insert the flange P/N20754, so that it angles down.

2) Transfer the 4 predrilled .125 holes in the flange through the bulkhead as well.

3) Secure the flange to the bulkhead using 4 of the provided 60019 pop rivets.

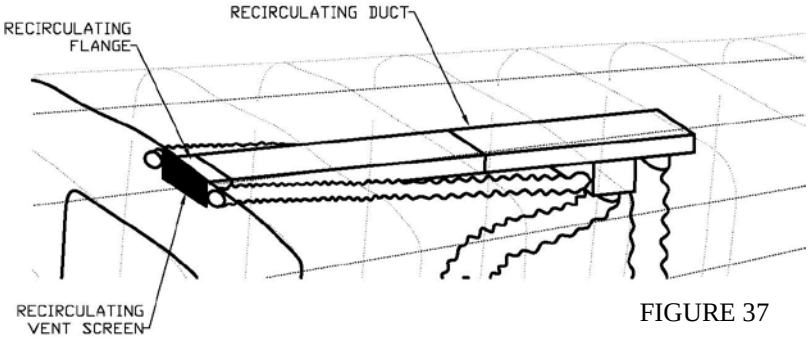


FIGURE 37

b. Installation of the recirculation duct into the aircraft. (best done with 2 people)

1) Situate someone on or near the heater platform while an assistant feeds them the entire recirculating duct, boxed end first.
2) Extend the duct into the tail far enough for the open end to clear the top of the hat rack. Feed the duct forward and into the flange secured to STA 76 in step II.E.2.a.3) Have someone assist in lining up the duct with the flange.
3) Locate the duct by centering it up against the ribs at STA 132, 118 and 104.
4) Once the holes in the duct line up with the holes drilled into the ribs in step E.1.f.3) have someone pinch the duct to the flange so that it doesn't move. Secure the duct to the ribs at stations 132, 118 and 104 using 6 of the provided #8x3/8 sheet metal screws.
5) Once secured, plug the (6) ½" holes allowing access to the mounting points with the provided plug buttons P/N 60499. At STA 76, transfer the two .125 holes in the recirculating flange through the recirculating duct as well. Use two 60019 pop rivets or two #8 x 3/8 sheet metal screws to secure the duct to the flange.

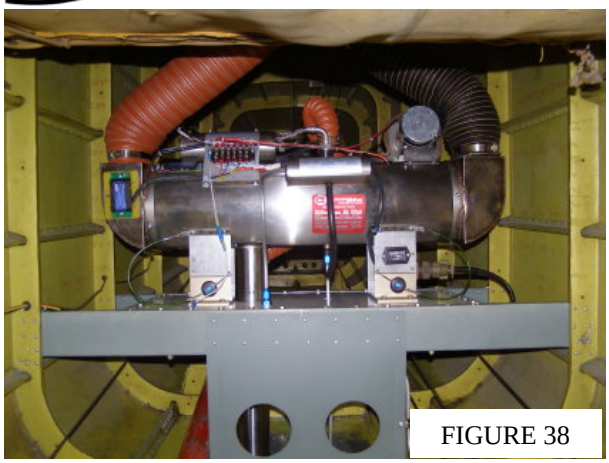


FIGURE 38

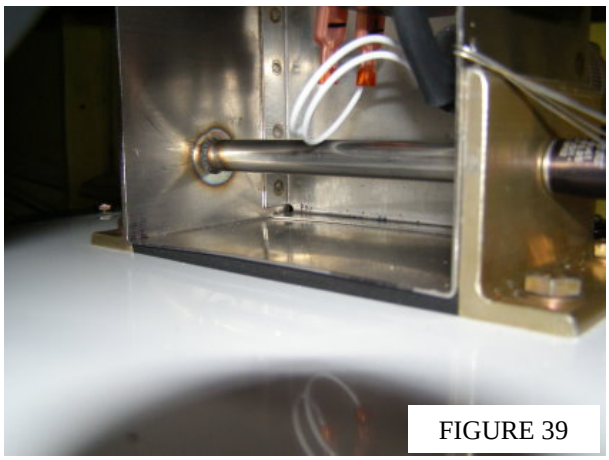


FIGURE 39

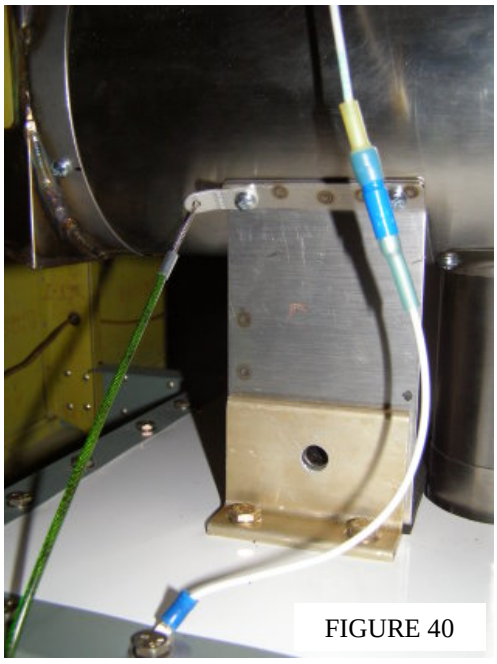


FIGURE 40

F. Heater Installation

1. Pull heater circuit breaker OUT.
2. Remove fuel box cover.
3. Remove locking pins from heater mounts and allow to hang. (You must push the center button on the pins to release the lock)
4. Using care as some edges may be sharp, gently set the heater assembly into the platform mounts. You must center the heater to the platform, allowing the exhaust to “slip fit” into the exhaust extension.
5. Once the heater is resting on the platform, firmly press down on the heater inlet plenum (left side of aircraft) until the platform’s high density foam seat is compressed enough to allow the pin to feed through both the platform and heater mount.
6. Repeat step 5 on the heater’s outlet plenum side. (right side of aircraft)

FIGURE 41

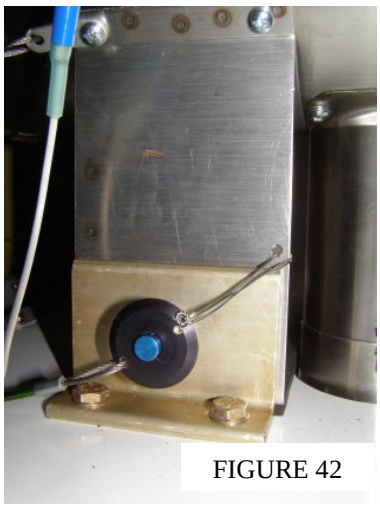


FIGURE 42

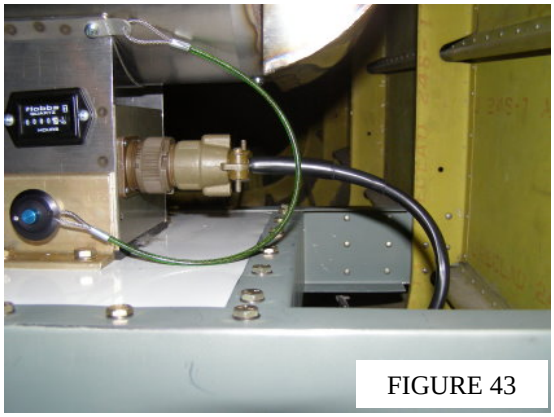


FIGURE 43

7. Verify both lock pins are firmly seated and unable to be pulled from the mount without the center buttons being pushed.

8. Rotate the pins until the 1/16 hole drilled in the shoulder of the lock pin lines up with the 1/8" hole drilled through the heater mounts. Use .04 safety wire to secure the lock pins to the heater mount as shown in Figure 42.

9. Align and secure the cannon plug to the heater assembly.

NOTE: You may have to push in on the plug then tighten the net repeatedly until fully seated.

10. Secure the quick disconnect airframe ground.

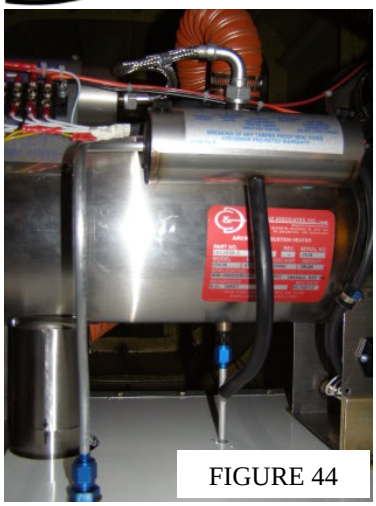


FIGURE 44

11. Secure the belly drain to the heater as well as to the fuel box.

12. Uncap the platform fuel feed.

13. Secure the fuel line between the platform fuel feed and the heater fuel filter/solenoid.

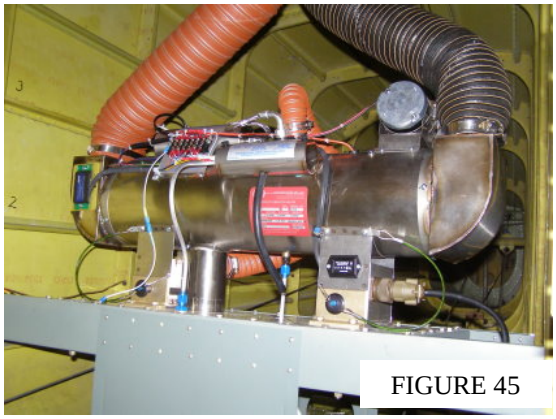


FIGURE 45

14. Secure both inlet and outlet ducting to heater, black ceet to inlet/left side, red sceet to outlet/right side.

G. Heater Removal

1. Pull heater circuit breaker out.
2. Remove heater fuel box cover.
3. Remove both inlet and outlet ducting to heater.
4. Remove the fuel line between the platform fuel feed and the heater fuel filter/solenoid.
5. Cap the platform fuel feed.
6. Remove the belly drain to the heater as well as to the fuel box.
7. Separate the quick disconnect airframe ground.
8. Remove the cannon plug to the heater assembly
9. Cut the safety wire that secures the lock pins to the heater mount.
10. Push in center buttons of the lock pins and remove from mount.
11. Using care as some edges may be sharp, gently remove the heater assembly from the platform mounts. Allow the exhaust to slip out of the exhaust extension.
12. Reinstall locking pins into the heater mounts. (You mush push the center button on the pins to release the lock).
13. Secure canon plug to heater mount.
14. Properly store heater assembly. (See ICA)
15. Amend weight and balance. (See ICA)

H. Operational check:

HEATER OPERATIONAL TEST AFTER INSTALLATION:

IMPORTANT!! Please complete the followings steps after the new heater is installed in the aircraft.

1. 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. A meat thermometer type probe works well.
2. Place a jumper wire across the heater terminal strip numbers 2 and 3, which will bypass the aircraft thermostat. (Fig. 47)
3. Install the fuel pressure gauge (0-15). Tee into as shown. (Fig. 46)
4. With the heater running, verify fuel pressure. Preferred pressure is 8psi. (6.5psi min, 10psi max)
5. 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. 48)
6. 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.
7. Remove the temperature probe sealing the hole with high temperature silicone.
8. Remove the fuel gauge installed in step 3. Leave the "tee" fitting and cap off for future pressure readings if desired.
9. Verify proper installation is completed in accordance with the aircraft maintenance manual.

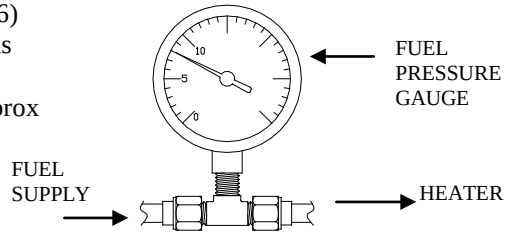


Figure 46

If the hoses need to be replaced, we recommend Sceet-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 47

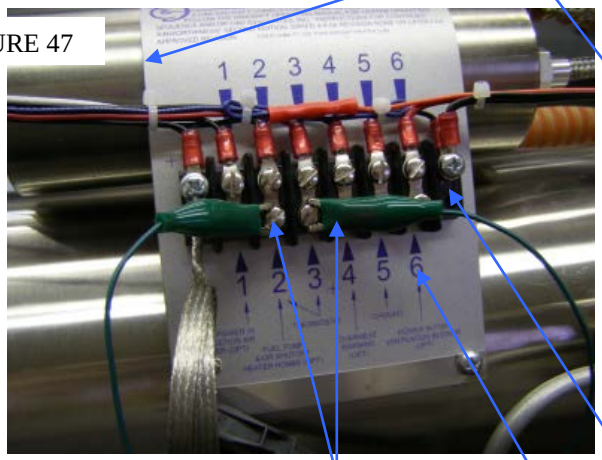
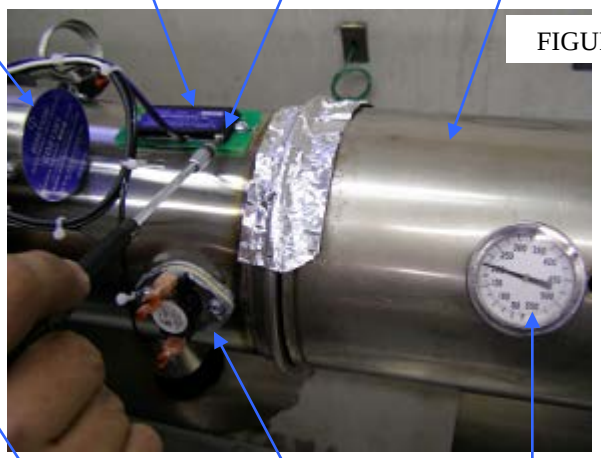


FIGURE 48



10. After installation, complete the operation and heat output tests specified in the C&D Associates, Inc. MM10001 Maintenance Manual for aircraft combustion heaters rev G dated 7/24/12. 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."

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. These FAA-approved Instructions for Continued Airworthiness must be complied with and become a permanent part of the Aircraft Operations and Procedures manual.

11. Verify all wires are secure and free of obstruction and chaffing.

12. Secure fuel box lid.

13. SERVICING AND INSPECTION

    a. HEATER MAINTENANCE AND SERVICING
    Many hours have been spent to provide the most comprehensive 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.

I. Storage

1. If the combustion heater portion of the kit is to be separated from the aircraft and stored for a prolonged period of time (1 yr or greater):
   a. Cap and/or plug fuel line
   b. Use foil tape to close off inlet and outlet openings of both heated air and combustion/exhaust air.
   c. Store in a clean, dry location that is out of harms way.

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FIGURE 49

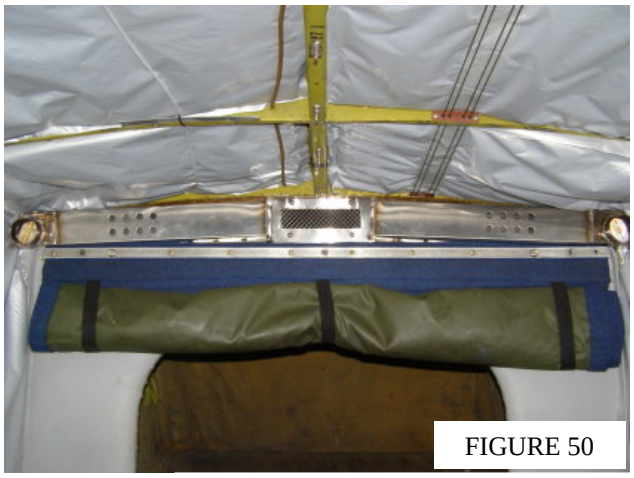

FIGURE 50

J. Installation of Insulation Kit P/N 29510. (Optional)

1. Remove interior panels between stations as depicted in schematic.

2. Insert insulation panels between stations as depicted in schematic.

3. Mirror for left side.

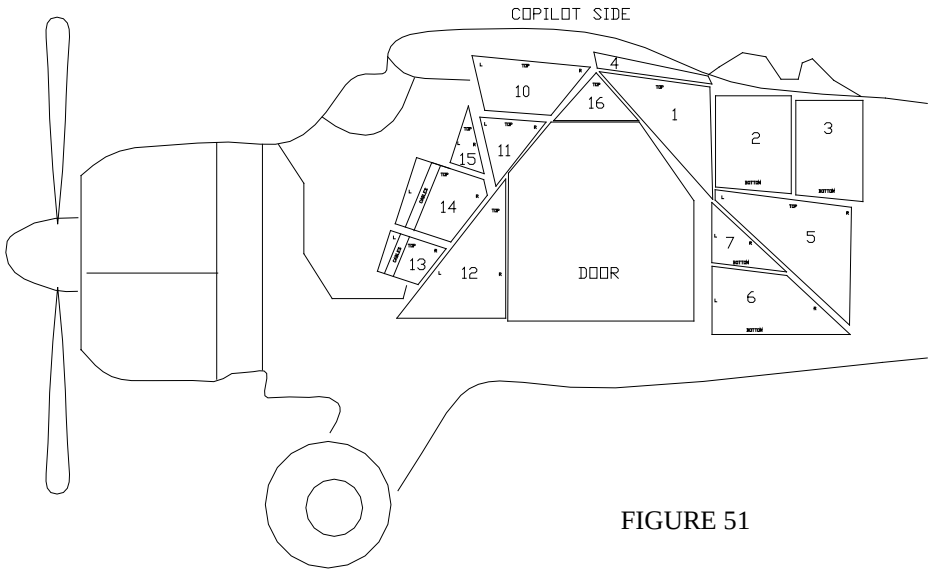

FIGURE 51

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K. DOCUMENTATION:

1. Weight & Balance. New heater kit total of 50 lbs. The aircraft requires a weight and balance and a 337 must be completed and a copy of the STC attached. The logbook entry should contain the STC and PMA Supplement #. Original heater replacement is authorized by way of FAA form 337. Alteration of aircraft by way of STC and PMA supplemental number and date must be recorded in the appropriate aircraft records.
2. 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." "Second Edition dated April 4, 2002 revision: none, or later FAA approved revision."

DOCUMENTATION AND PARTS REQUIREMENT TABLE

DOCUMENTATION		Quantity	
1. FAA/PMA Supplement #71		____	
2. Installation Instructions IN12030K41		____	
3. Label for flight manual (21503)		____	
4. MM10001 Maintenance Manual		____	
5. Quality Assurance Certificate of Compliance #527		____	
6. STC #SA03134CH		____	
7. Form 337		____	
TEMPLATES			
1. Inlet/Outlet template	35001	____	
2. Exhaust template	35002	____	
3. Fuel pump doubler template	35003	____	
PARTS			S/N
1. (1) Heater	CD12030-1	____	_____
2. (2) Plenum	24016	____	
3. (1) Heater Mount Assembly	20740	____	
4. (1) Electrical Kit	29506	____	
5. (1) Fuel Kit	29507	____	
6. (1) Hardware Kit	29508	____	
7. (1) Ducting Kit	29505	____	
8. (1) Thermostat Switch	21253	____	

Initials: _____ Date: _____

302 POST ROAD, BUCHANAN, MI 49107 USA
PH: 269-695-7469 FX: 269-695-6004 WEB: www.aircraftheater.com **EMAIL:** sales@aircraftheater.com