

Service Letter

FAA-DER APPROVED

Service Letter: No. 317 A

Subject: Air Conditioning system, Temperature Control Electrical Circuit change.

Date: 12 September 1996

Applicability: Bell Helicopter Model 206 L-4

Reference:

1. F.A.A./S.T.C. # SH2750NM, Bell 206 L-4 Air Conditioning System.
2. Drawing # 206EC-833-1 (R12 Dual FWD Evaporator)
3. Drawing # 206EC-838-2 (R134a Dual FWD Evaporator)

Compliance: Optional- Suggested change at next regularly scheduled maintenance.

Background: This suggested change is to ensure proper operation of the temperature control system. The new temperature control electrical circuit will be offered as a replacement for previous installations when the aircraft is scheduled for its next maintenance. This document provides a bill of materials list and instructions to install the new electrical components in the air conditioning system.

Purpose: To improve the performance of the temperature control system in the Bell 206 L-4 Series Helicopters, and prevent the freeze-up of the evaporator coil assemblies.

Bill of Materials

Item	Part Number	Description	Qty.
1	S-2500EC-57	Placard	1
2	W389CX-3	Relay	1
3	ES57170-3	Thermostat Switch	1
4	ES72172-1	Thermostat Switch	1
5	18RA-2577	Disconnect	2
6	AN525-10R8	Screw	2
7	MS21042L3	Nut	2
8	AN960-10L	Washer	4
9	20 AWG	Mil-W-22759/41-20	44"
10	RA18-250F	Terminal	2
11	ES39296-1	Knob	1
12	CTHD24	Tywrap (24")	2

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Ans'd.....

Temperature Control Electrical Circuit Change

CAUTION

Disconnect the battery and all external power before starting work!

1. Disconnect power to the temperature control system by pulling the temp control and main air conditioning circuit breakers. The temperature control circuit breaker is located above the baggage compartment, and the air conditioning circuit breaker is located in the cockpit overhead circuit breaker panel.

NOTE

Due to the change in the wiring path, it will be necessary to re-route wire number ACCT2B20 to the aft evaporator thermostat switch (ES72172-1) then back to the new relay (W389CX-3).

2. Note the wire terminal locations, then disconnect wires and remove the temp control relay (W389DCX-3) located on the relay panel above the baggage compartment, replace with (W389CX-3) using existing screws and washers.
3. Remove the existing temperature control switch (ES57170-2), and placard (S-2500EC-49) located in the cockpit. Replace with ES57170-3 thermostat switch & S-2500EC-57 placard.

NOTE

These next steps are necessary to facilitate the installation of the thermostat switch in the aft evaporator.

4. Disconnect Aft evaporator assy. form drain line and cut tywraps holding CAT ducting to evaporator assy. Remove bolts holding evaporator in place, and remove aft evaporator form aircraft.
5. Using a razor blade cut out a 1 1/2" (3.8mm) X 3" (7.6mm) square approximately 4" (10mm) from the bottom in the foam insulation of the evaporator housing (See page 6 of 6).
6. Drill a 1/8" (.3mm) hole approximately 1 1/2" (3.8mm) above the "cutout" area, to accommodate the capillary tube for the aft evaporator thermostat switch.

CAUTION

Care should be taken when drilling holes through the evaporator housing, not to damage the evaporator coil assembly. A backing plate or drill stop should be used!

7. Using the ES72172-1 thermostat switch as a guide, match drill two (2) 1/8" (.3mm) holes in the "cutout" area of the evaporator housing.
8. Install ES72172-1 thermostat switch using provided hardware.

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CAUTION

Care should be taken when handling the capillary tube on the ES72172-1 thermostat switch not to over stress the connection at the base of the switch. Over handling or over stressing may cause this area to crack and leak. Sharp bends or crimping of the capillary tube may also render the switch inoperative.

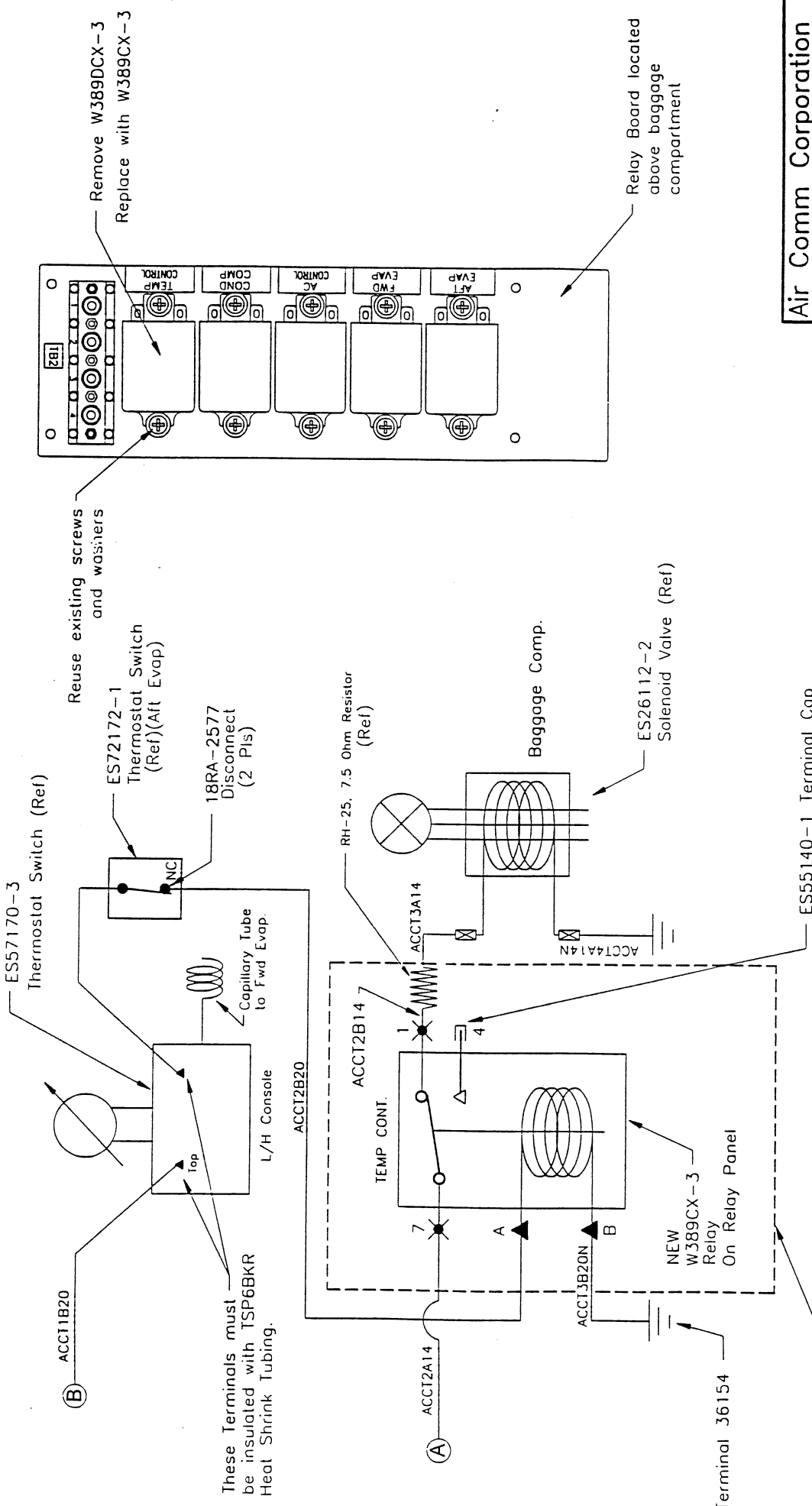
9. Feed the capillary tube thru the 1/8" (.3mm) hole drilled above the thermostat switch. At the same time gently push the capillary tube thru the fins in the evaporator coil assembly. this should be done approximately 2" (5mm) off center of the evaporator coil assembly.
 - A. once the capillary tube has been pulled thru the evaporator, it should be looped back into the center of the evaporator coil. To a depth of 2" (5mm).
10. Reinstall aft evaporator in aircraft with existing hardware, and reconnect the CAT ducting using the tywraps provided, and reconnect drain line.
11. Connect wires to the thermostat switch terminals using the connectors provided.
12. Confirm system operation by resetting circuit breakers and testing air conditioning system.

Weight & Balance: There is no change to weight and balance.

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Remove W389DCX-3
Replace with W389CX-3

Reuse existing screws
and washers

Relay Board located
above baggage
compartment

ES57170-3
Thermostat Switch (Ref)

ES72172-1
Thermostat Switch
(Ref)(Aft Evap)

18RA-2577
Disconnect
(2 Pls)

RH-25, 7.5 Ohm Resistor
(Ref)

Baggage Comp.

ES26112-2
Solenoid Valve (Ref)

ES55140-1 Terminal Cap

ACCT11B20

ACCT2B20

ACCT2A14

ACCT3A14

ACCT3B20N

ACCT4A14N

TEMP CONT.

NEW W389CX-3
Relay
On Relay Panel

Terminal 36154

Reconnect wires
to new relay
as shown

These Terminals must
be insulated with TSP6BKR
Heat Shrink Tubing.

Capillary Tube
to Fwd Evap.

L/H Console

Top

NC

Terminal 36154

Terminal 36154

Terminal 36154

Terminal 36154

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Terminal 36154

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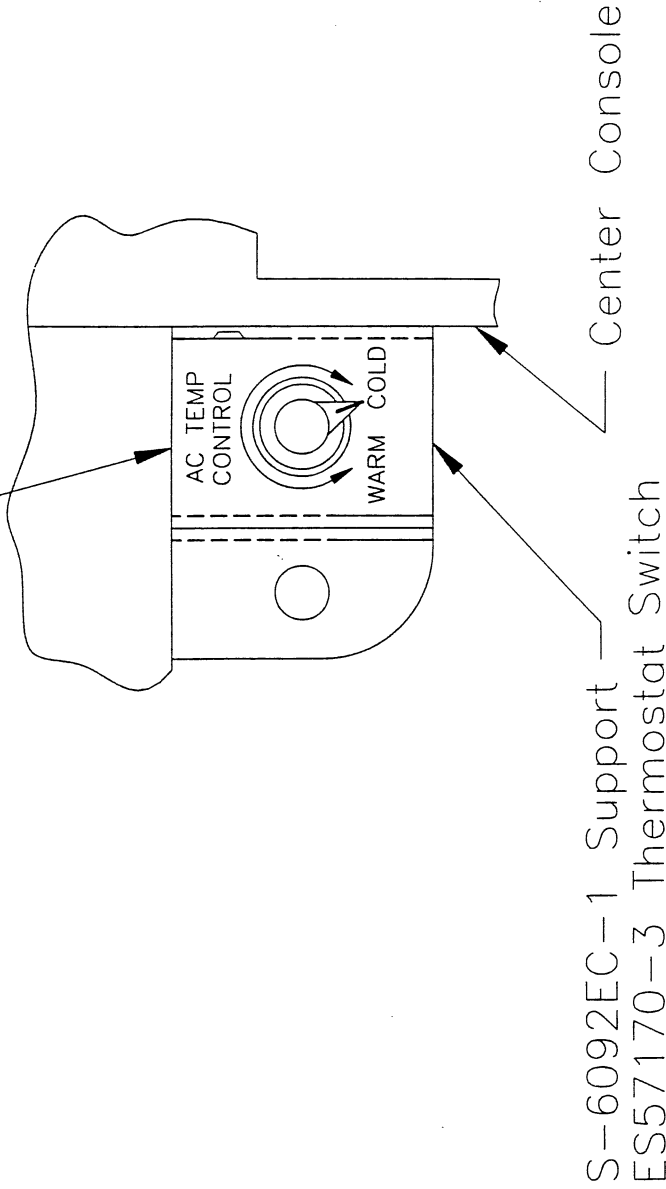
Temperature Control Circuitry

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Remove S-2500EC-47 Placard
and replace with S-2500EC-57 Placard

S-2500EC-57 Placard
ES39296-1 Knob



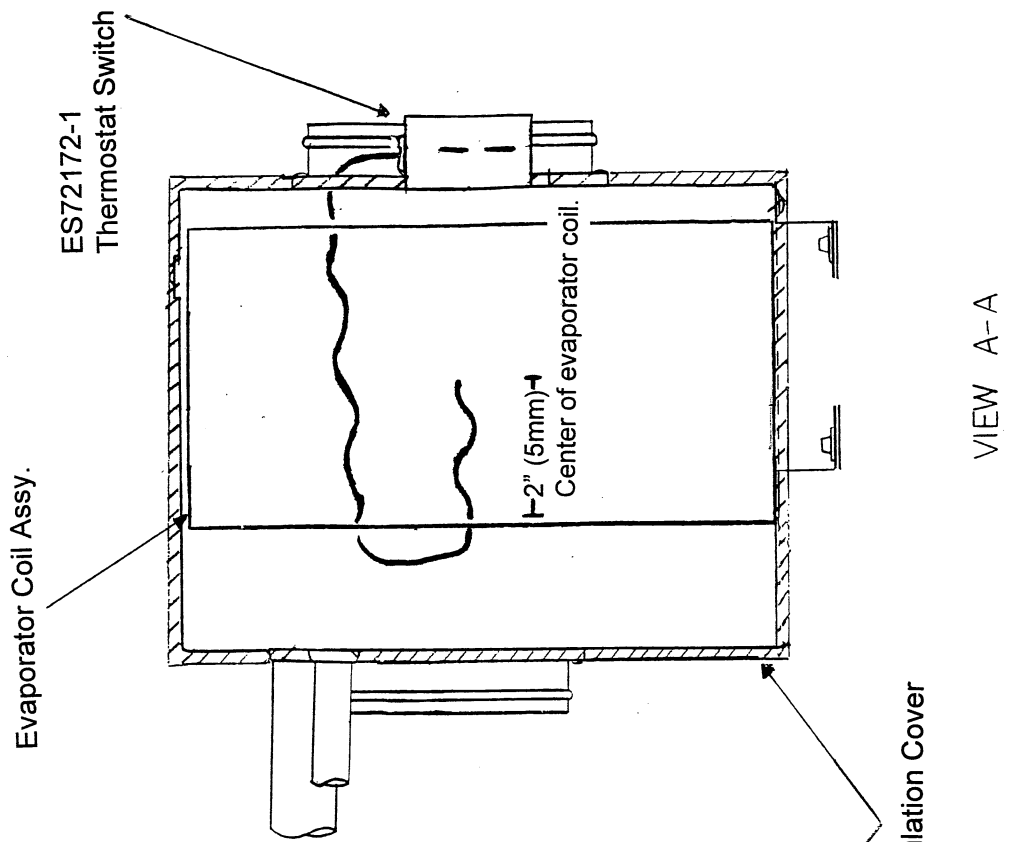
Air Comm Corporation	
TITLE:	Temperature Control circuit modification
Dwg No.	SL317A
Rev	N/C

Temperature Control Circuitry

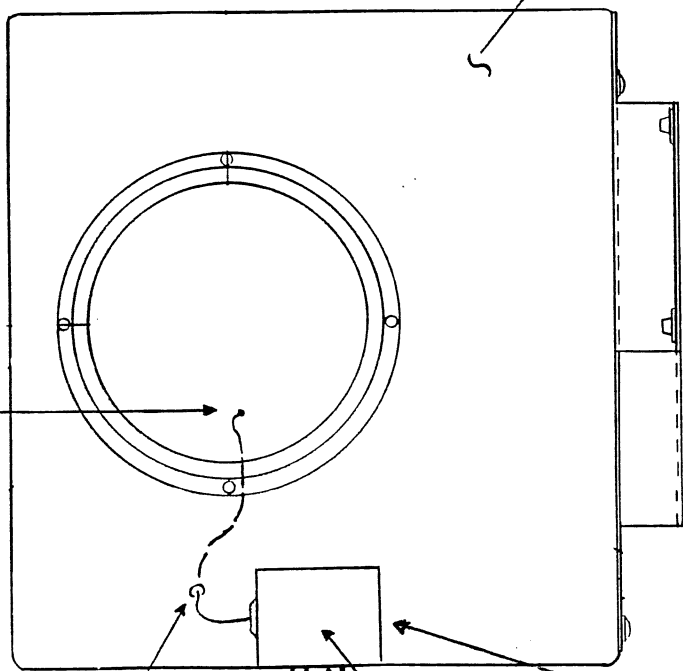
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Amid



Route capillary tube through the evaporator coil assy.
approximately 2" (5mm) off center.



Cut out foam insulation
1 1/2" (3.8mm) X 3" (7.6mm) square
approximately 4" (10mm) from the
bottom of the evaporator.

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