Service Letter

FAA-DER APPROVED

Service Letter: No. 314 Rev D

Subject: Air conditioning system, Temperature Control electrical circuit change.

Date: October 21, 1996

Applicability: Bell Helicopter Model 407

Reference: 1. F.A.A./S.T.C. # SR00222DE, Bell 407 Air Conditioning System.

2. Drawing # : 407EC-802.

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

The suggested change is required 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 Material listing and Instructions to install the new electrical components in the air conditioning system.

Temperature Control Electrical Circuit Installation:

Purpose: To correct a Temperature Control System problem in the Bell 407 Series helicopters.

Rev	Date	Description	Approval
A	7/2/96	Added ES57170-3 and -10	NS
B	7/12/96	Added 6C109 & 35108 terminals and 10 AWG wire	NS
C	7/19/96	Added Note 7	NS
D	10/21/96	Drawing 407EC-802 was 407EC800. Added aft evaporator freeze switch.	NS

Temperature Control Electrical Circuit Installation Continued :

Bill of Materials:

Item	Part Number	Description	Qty.
1	S-2500EC-57	PLACARD	1
2	W389CX-3	RELAY	1
3	ES55140-1	Terminal Cap	1
4	ES57170-10	Clip	1
5	10 AWG	Wire (MIL-W-22759/41-10)	2ft
6	6C109	Terminal	1
7	35108	Terminal	1
8	ES57172-1	Switch	1

Temperature Control electrical circuit revision Instructions:

1. Disconnect power to the Temperature Control System by pulling the Temp Control and main Air Cond circuit breakers. The Temp Control circuit breaker is located above the baggage compartment and the Air Cond circuit breaker is located in the cockpit overhead panel.

2. Note wire and terminal locations then disconnect wires and Remove the Temp Control relay (W389DCX-3), located on the relay panel above the baggage compartment.

3. Install new relay (W389CX-3) in same position as one that was removed using existing screws and washers.

4. Reconnect wires as shown on wiring diagram enclosed. Confirm that the ES55140-1 Terminal Cap is positioned on terminal #5 of W389CX-3 relay. Remove wire ACCT1A12, from TB2 to 5 amp CB for the temperature control. Replace with 10 gauge wire and connect to temperature control circuit breaker and TB1 instead of TB2. Rename wire ACCT1A10.

5. Remove the placard on the temperature control switch. The switch is located in the cockpit on the left side of the center console. Place new placard in same position as the one removed.

6. The ES57170-10 clip should be placed on the existing temperature control switch as shown. If unable to place -10 clip on the existing switch, remove it and replace with the ES57170-3 temperature control switch. Place the capillary tube from the new switch in the same position as the one that was removed.

7. Move wire ACCT1B20 from the Air Cond/Blo switch terminal #3 to the Aft Blower, Hi-Low, fan speed control switch terminal #2.

8. Confirm system operation by resetting circuit breakers and testing air conditioning system.

Weight & Balance: There is negligible change to the weight and balance.

Move wire ACCT1B20 from
Terminal #3 on Air Cond–Blower switch
To Terminal #2 on Aft Blower
(High–Low) fan speed switch.

ACCT1B20

Place ES57170–10 Clip
on existing switch
or replace with ES57170–3
Thermostat Switch

ES72172–1
Thermostatic Switch
ref (aft evap)

Top

These Terminals must
be insulated with TSP6BKR
Heat Shrink Tubing.

L/H Console

Capillary Tube
to Fwd Evap.

ACCT2B20

35108 terminal

Temp Control
5 amp

ACCT2A14

ACCT2B14

TEMP CONT.

7

2

5

A

B

RH–25, 7.5 Ohm Resistor
(Ref)

ACCT3A14

(New wire)
ACCT1A10

TB1

6C109 terminal

ACCT3B20N

Terminal 36154

NEW
W389CX–3
Relay
On Relay Panel

ACCT4A14N

Baggage Comp.

ES26112–2
Solenoid Valve (Ref)

ES55140–1 Terminal Cap

Reconnect wires
to new relay
as shown

(existing wire)
ACCT1A12

Remove ACCT1A12 and replace
with ACCT1A10. Connect to TB1
instead of TB2.

Reuse existing screws
and washers

Remove W389DCX–3
Replace with W389CX–3

TB2

TEMP CONTROL

COND COMP

AC CONTROL

FWD EVAP

AFT EVAP

TB1

Connect to
Temp Control
5 amp CB

ACCT1A10
(New wire)

Relay Board located
above baggage
compartment

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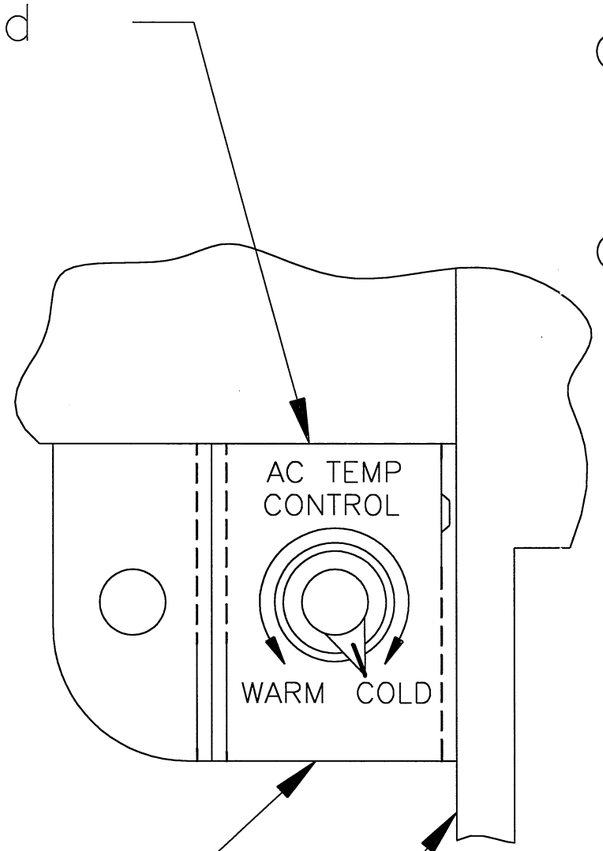
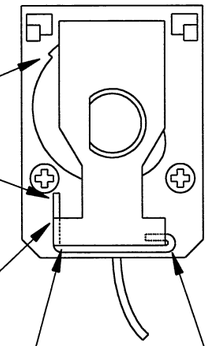
Remove S-2500EC-47 Placard and replace with S-2500EC-57 Placard

S-2500EC-57 Placard
ES39296-1 Knob



S-6092EC-1 Support
ES57170-2 Thermostat Switch
with ES57170-10 Clip

Center Console



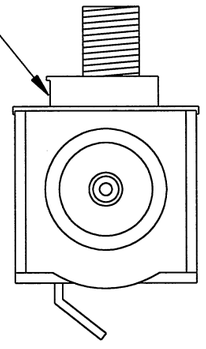
⑤ Confirm tab engages -10 clip when the switch is turned counterclockwise.

② Interlock tab of -10 clip with filed section of vertical flange.

③ Bend clip around corner

④ Crimp locking hook around other side of vertical flange.

① File .040 notch in lower left side of vertical flange



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