**ON A/C ALL

TASK 30−40−00−810−805
WSHLD CTRL (Caution) − Fault Isolation

1. General

A. This fault isolation procedure is for when the caution and warning panel (CAWP) WSHLD CTRL caution light is on.

B. The WSHLD CTRL caution light comes on in the conditions that follow:

– The anti−ice controller (AIC) fails

– The AIC senses the window is not heating +300 seconds

– The AIC discrete signal output (DSO) fails

– The AIC senses the normal window sensor has failed

– The AIC senses a control input disagreement.

C. The central diagnostic system (CDS) ice and rain protection system (IRPS) page shall show the related status messages that follow:

– LEFT WSHLD CTRL FAIL

– RIGHT WSHLD CTRL FAIL.

2. Job Set−Up Information

Subtask 30−40−00−946−004

A. Reference Information

REFERENCE	DESIGNATION
AMM TASK 20−30−11−760−801	Electrical Test of the Aircraft Wiring
AMM TASK 30−41−00−710−801	Operational Test of the Pilot Windshield Anti−Icing System
AMM TASK 30−41−00−710−802	Operational Test of the Copilot Windshield and Pilot Side Window Anti−Icing System
AMM TASK 45−00−30−742−802	Retrieval of Data from the Central Diagnostic System − Ice Protection System (ICE PROTECTION)
AMM TASK 45−00−30−743−802	Erase the Data from the Central Diagnostic System − Ice Protection System (ICE PROTECTION)
FIM TASK 30−41−01−810−801	LEFT WSHLD CTRL FAIL (Status) − Fault Isolation
FIM TASK 30−41−01−810−802	RIGHT WSHLD CTRL FAIL (Status) − Fault Isolation
WM 20−31−00−201	General Visual Inspection of the Electrical Wiring Component
WM 30−41−00	Windshield and Pilot’s Windows Anti−Icing System

3. Fault Confirmation

Subtask 30−40−00−810−007

A. Confirm the fault as follows:

(1) Do the CDS fault indication retrieval (Refer to AMM TASK 45−00−30−742−802).

(2) Erase the data from the CDS (Refer to AMM TASK 45−00−30−743−802).

(3) Do the operational test of the pilot windshield anti−icing system (Refer to AMM TASK 30−41−00−710−801) and the copilot windshield and pilot side window anti−icing system (Refer to AMM TASK 30−41−00−710−802).

(a) If the WSHLD CTRL caution light does not come on, no maintenance procedure is necessary. Do the Close Out.

(b) If the WSHLD CTRL caution light does come on, do the CDS fault indication retrieval again (Refer to AMM TASK 45−00−30−742−802). Do the Fault Isolation.

4. Fault Isolation

Subtask 30−40−00−810−008

A. Isolate the fault as follows:

(1) If the message is LEFT WSHLD CTRL FAIL, do the fault isolation for LEFT WSHLD CTRL FAIL (Refer to FIM TASK 30−41−01−810−801). Do the Close Out.

(2) If the message is RIGHT WSHLD CTRL FAIL, do the fault isolation for RIGHT WSHLD CTRL FAIL (Refer to FIM TASK 30−41−01−810−802). Do the Close Out.

5. Task Supporting Data

Subtask 30−40−00−990−001

A. (Refer to Figure 201,Refer to Figure 202 and Refer to Figure 203).

The best practices for troubleshooting the windshield and pilot’s windows are as follows:

(1) If necessary, use a bag of ice to cool the windshield.

(2) On the WINDSHIELD control panel, set the WINDSHIELD HEAT switch to the NORM position.

(3) Measure the voltage at the pin L2 of the pilot windshield terminal block 3041−TB1 (Refer to AMM TASK 20−30−11−760−801 and WM 30−41−00).

NOTE: Use aircraft structure as the ground point and not the ground stud.

(4) If there is voltage, do the detailed visual inspection of the ground stud 3041−GS4 in window frame (Refer to WM 20−31−00−201).

(5) Measure the voltage at the pin L2 of the co−pilot windshield terminal block 3041−TB3 (Refer to AMM TASK 20−30−11−760−801 and WM 30−41−00).

NOTE: Use aircraft structure as the ground point and not the ground stud.

(6) If there is voltage, do the detailed visual inspection of the ground stud 3041−GS12 in window frame (Refer to WM 20−31−00−201).

(7) Measure the voltage at the pin L1 of the pilot windshield terminal block 3041−TB1 (Refer to AMM TASK 20−30−11−760−801 and WM 30−41−00).

(8) Make sure that 115 V ac is present at the pin L1 of the terminal block 3041−TB1.

(9) If 115 V ac is not present, do the check of the left AIC, relays 3041−K1 and 3041−K2 (Refer to WM 20−31−00−201).

(10) Measure the voltage at the pin L1 of the co−pilot windshield terminal block 3041−TB3 (Refer to AMM TASK 20−30−11−760−801 and WM 30−41−00).

(11) Make sure that 115 V ac is present at the pin L1 of the terminal block 3041−TB3.

(12) If 115 V ac is not present, do the check of the right AIC, the relays 3041−K3 and 3041−K4 (Refer to WM 20−31−00−201).

(13) On the WINDSHIELD control panel, set the WINDSHIELD HEAT switch to the WARM UP position.

(14) Measure the voltage at the pin L2 of the terminal block 3041−TB1 and pin L1 of the terminal block 3041−TB3 (Refer to AMM TASK 20−30−11−760−801 and WM 30−41−00).

(15) Make sure that approximately 60 V ac is present at the pin L2 of the terminal block 3041−TB1 and the pin L1 of the terminal block 3041−TB3.

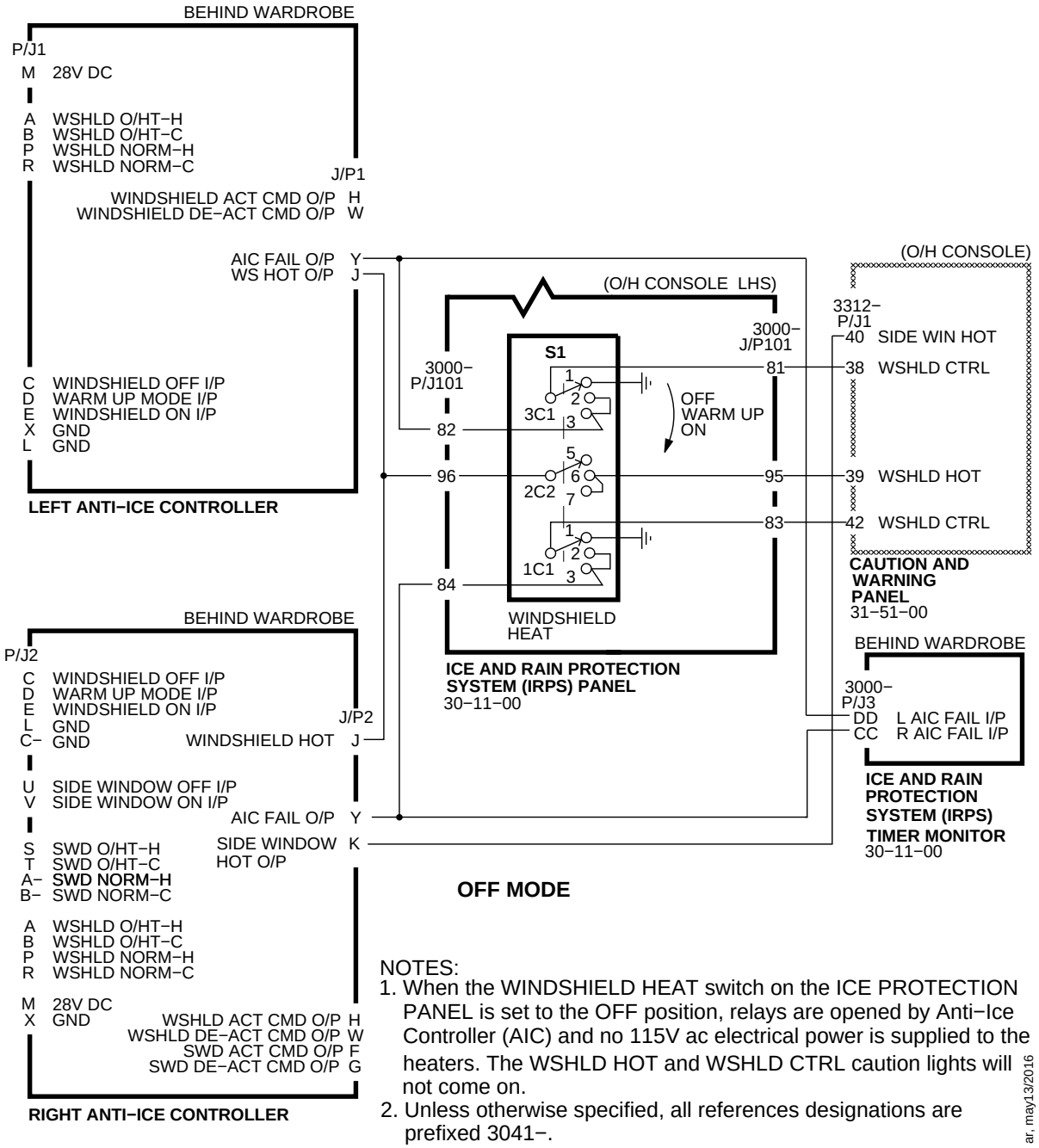
(16) If 60 V ac is not present, do the check of the relay 3041−K7 and WINDSHIELD HEAT switch 3041−S1 (Refer to WM 20−31−00−201).

6. Close Out

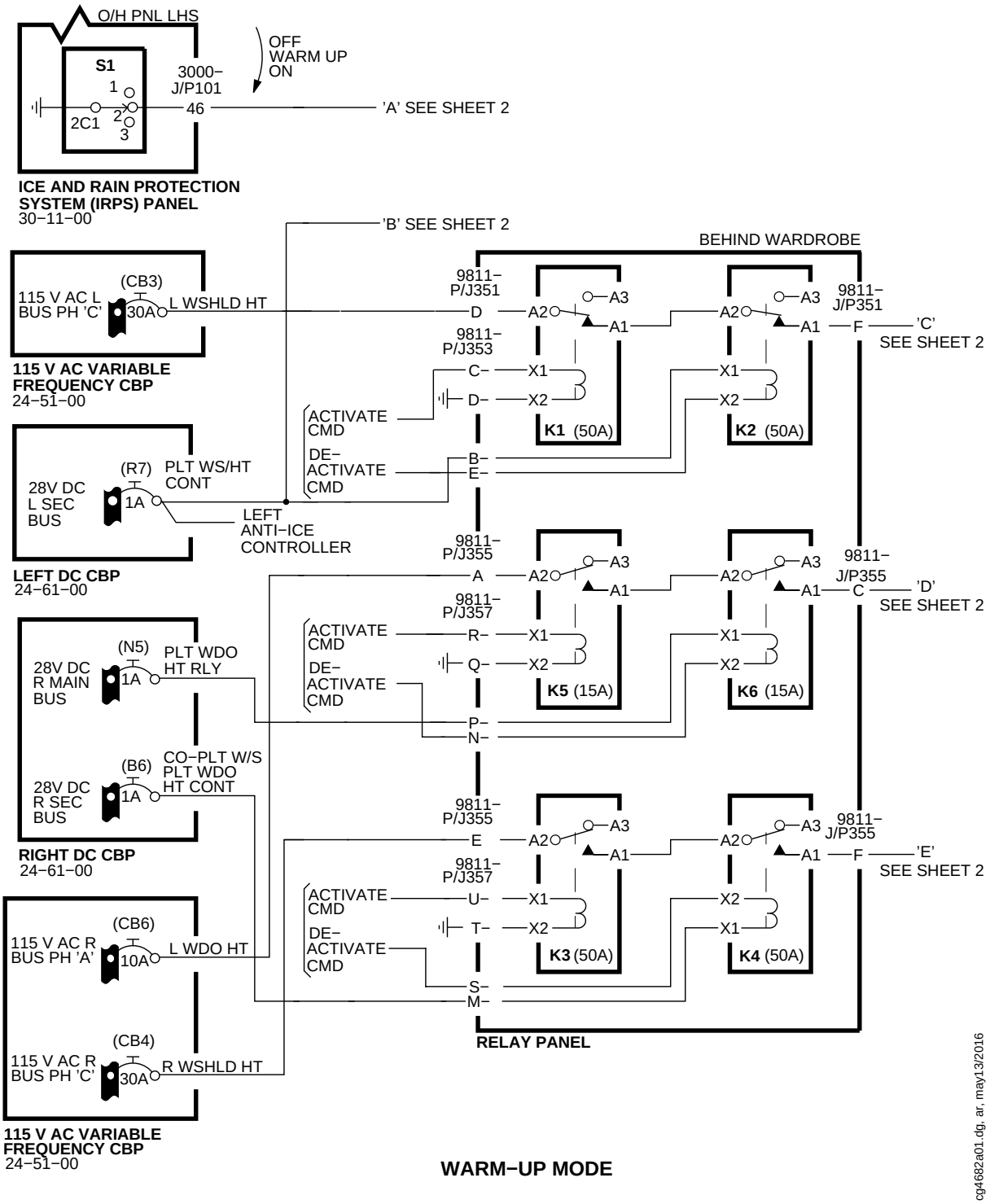
Subtask 30−40−00−941−004

A. Make sure that the CAWP WSHLD CTRL caution light is not on.

B. Remove all tools, equipment, and unwanted materials from the work area.

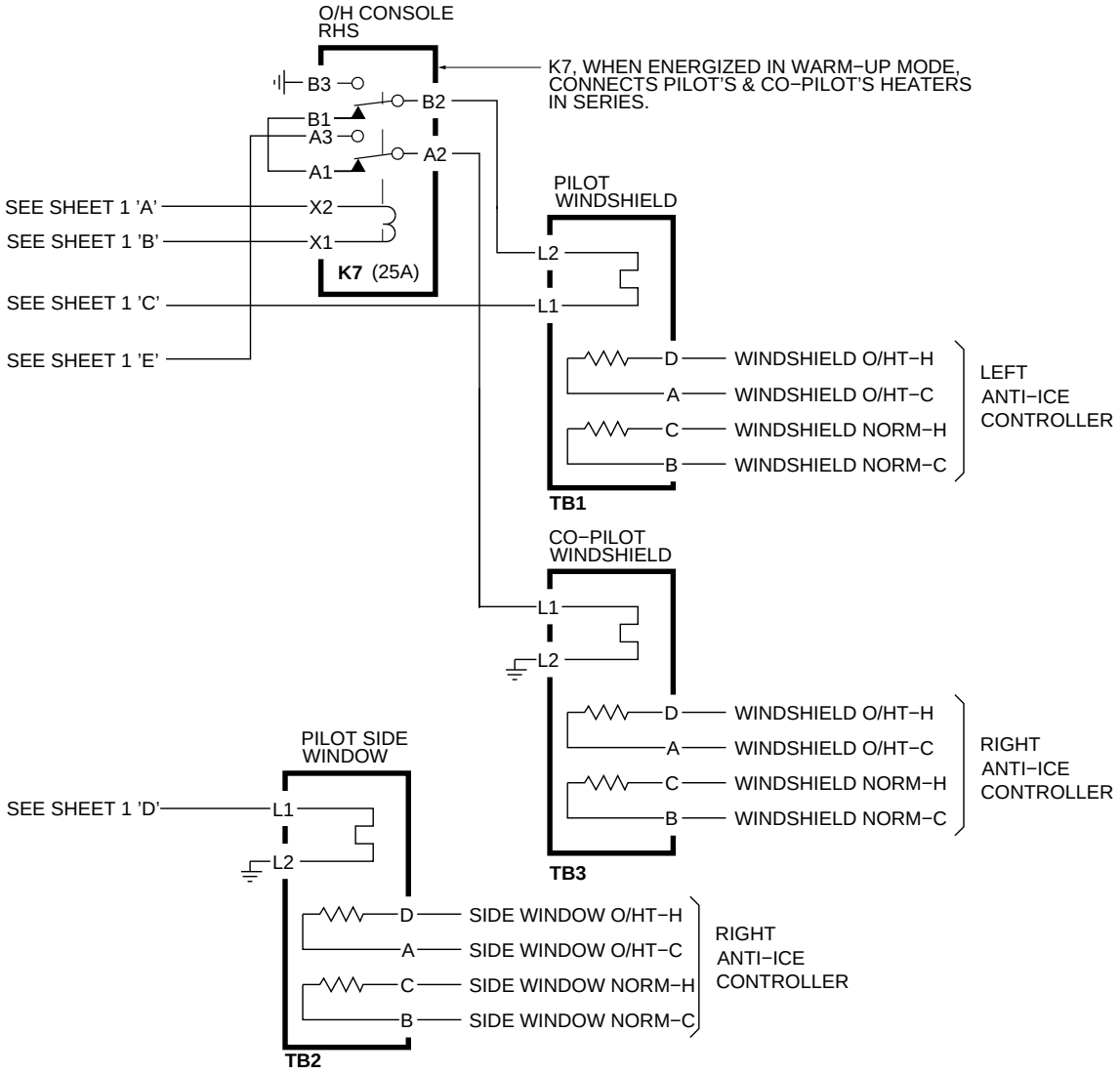


Windshield and Pilot's Window Anti−Icing System − Off Mode
Figure 201



WARM−UP MODE

Windshield and Pilot's Window Anti−Icing System − Warm−Up Mode
Figure 202 (Sheet 1 of 2)



WARM−UP MODE

NOTES:
1. When the WINDSHIELD HEAT switch is set to the WARM UP position, each Anti−Ice Controller (AIC) operates as in the NORMAL mode, but a warm−up relay connects the two windshields in series. For this selection, the pilot and co−pilot windshields are controlled by the pilot windshield sensors and relays, and the temperature of the windshields will not reach a temperature to open the relays.
2. Unless otherwise specified, all references designations are prefixed 3041−.
3. Pin locations suffixed by (−) denotes lower case letter.

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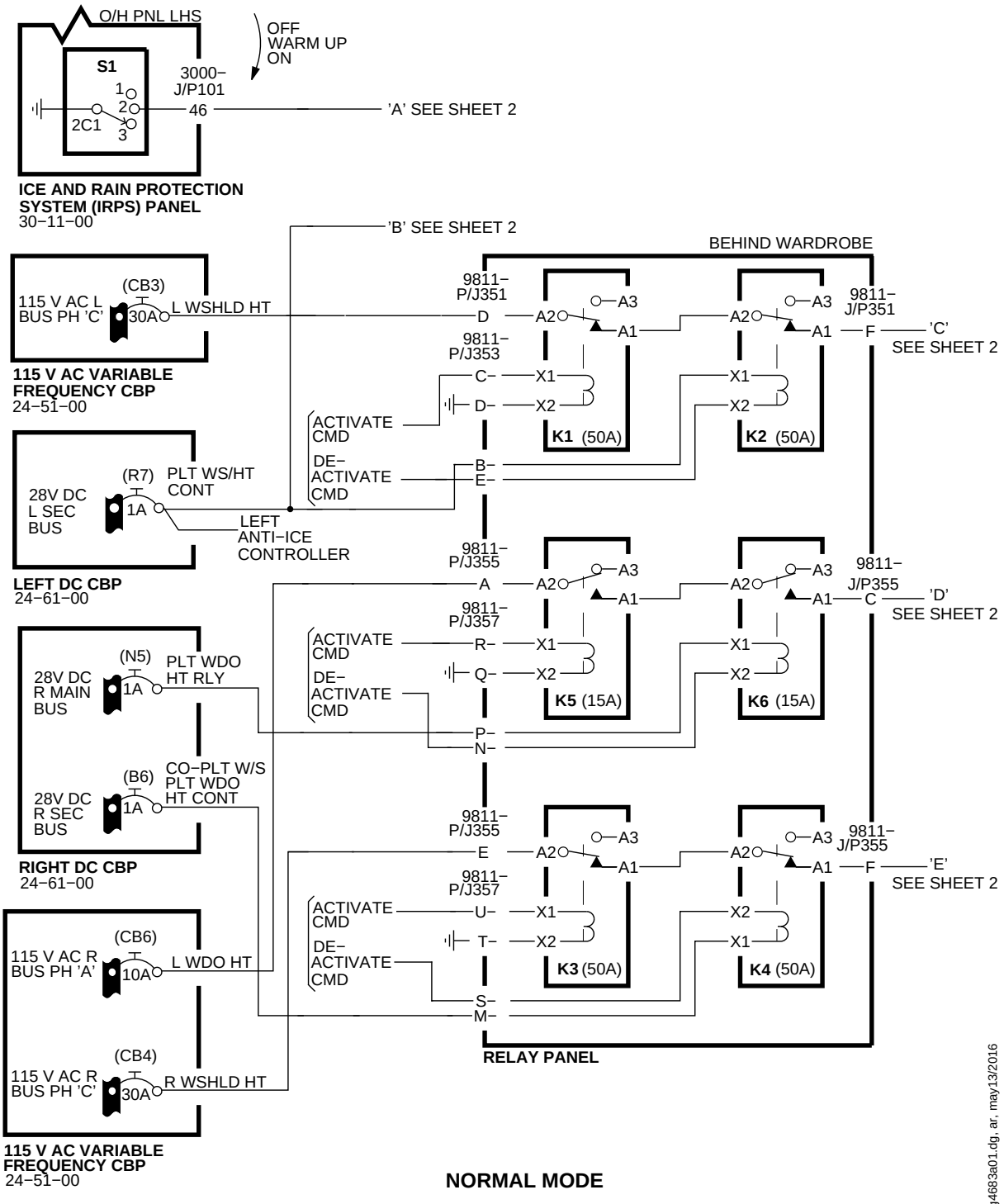
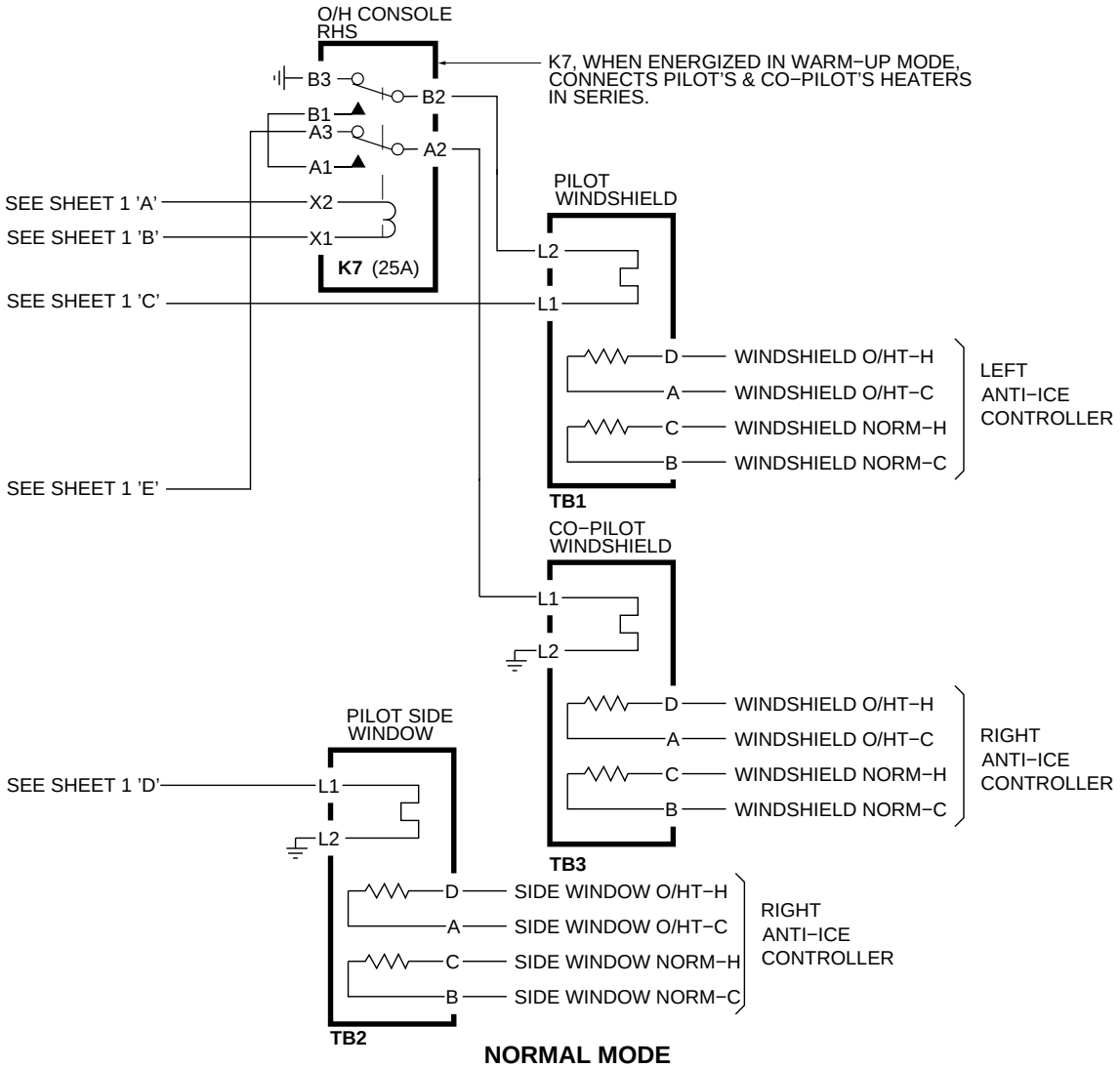
Windshield and Pilot's Window Anti−Icing System − Warm−Up Mode
Figure 202 (Sheet 2 of 2)



Windshield and Pilot's Window Anti−Icing System − Normal Mode
Figure 203 (Sheet 1 of 2)



NORMAL MODE

NOTES:

1. When the WINDSHIELD HEAT switch is set to the NORM position, the pilot and co−pilot windows are heated. After approximately 60 seconds, the normal temperature sensor supplies a heating signal back to the Anti− Ice Controller (AIC) to stop the heating, as the windshield is warm. If no heat is sensed after 300 seconds, the system is latched off and the WSHLD CTRL caution light comes on. However, it is possible that the caution light does not come on if the windshield is partially or poorly heating.
   If the normal temperature sensor is defective, the AIC uses the overheat temperature sensor to deactivate the heater when the window is too hot. A signal is also supplied to the Caution and Warning Panel (CAWP) to make the WSHLD HOT caution light come on.
2. Unless otherwise specified, all references designations are prefixed 3041−.
3. Pin locations suffixed by (−) denotes lower case letter.

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Windshield and Pilot's Window Anti−Icing System − Normal Mode
Figure 203 (Sheet 2 of 2)