



## INSTRUCTION TO SERVICE

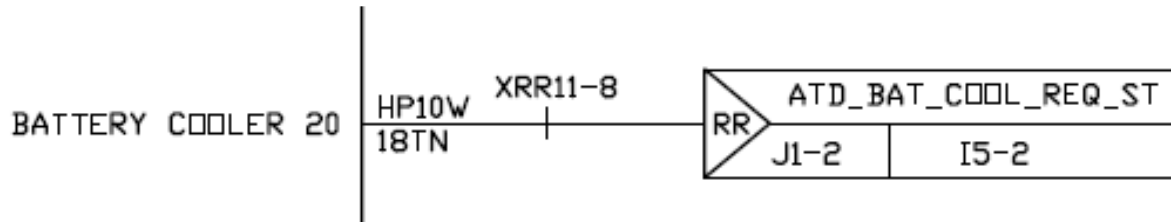
<b>ITS: 5810</b>	
<b>SECTION:</b>	290 Electrical Schematics
<b>WRITTEN BY:</b>	Tyler Omichinski
<b>SUBJECT:</b>	Revise rear panel wiring and programming for Allison ESS A/C command

# ITS5810

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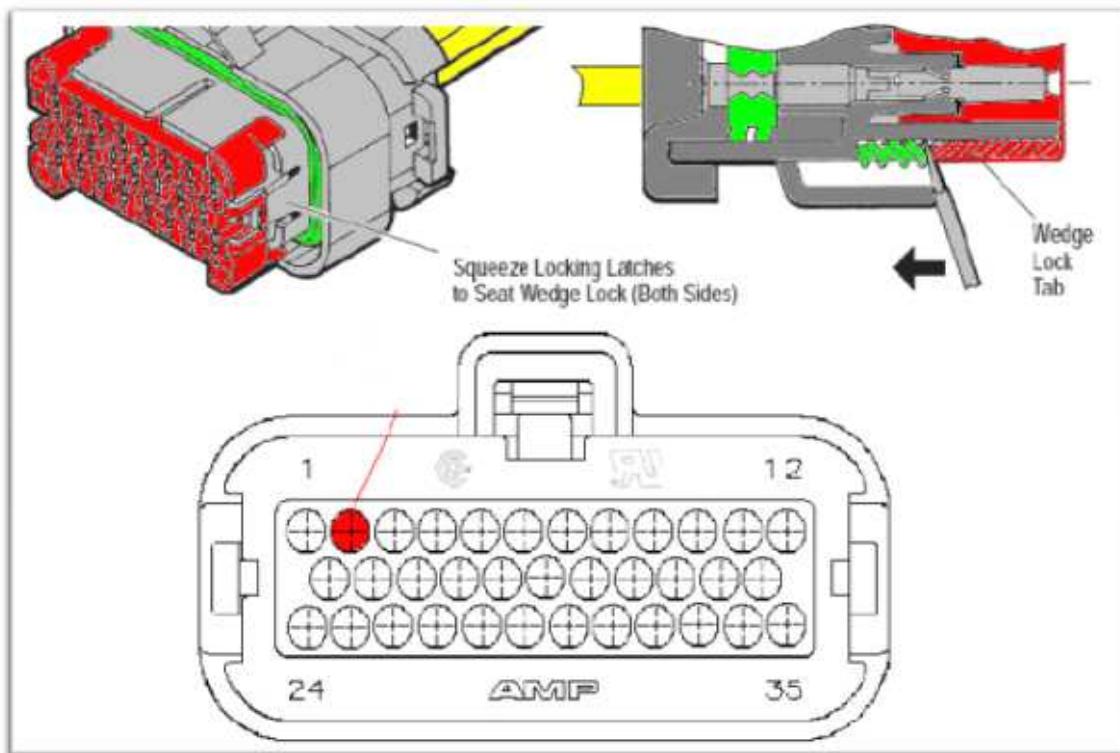
**PROCEDURE:**

1. Turn the main battery disconnect switch to the “OFF” position.
2. Locate the rear electrical panel above the rear bench. Access the inside of the panel to add wiring.
3. Terminate one end of the 18 GA yellow HP10W wire (NF P/N 129444) with a pin terminal PIN 18 16 AWG DEUTSCH (NF P/N 034795). Connect the terminated end of the wire with XRR11-8. The wiring diagram for this connection is shown in Fig. 1.



**Figure 1: Wiring diagram for HP10W connection**

4. Run the HP10W wire from XRR11-8 to the J1-2 connector of the 2820 module (Node 5). Cut the wire to length and terminate the end with CONT-SOCKET 20-16GA AMP (NF P/N 158564).
5. Remove the J1 connector from the 2820 module (Node 5) and pry the red secondary lock forward. Insert the free end of the HP10W wire into cavity 2 of connector J1. Reseat the secondary lock and plug J1 back into Node 5. Secure the HP10W wire using tyrap (NF P/N 5958112). Figure 2 shows the J1 connector.

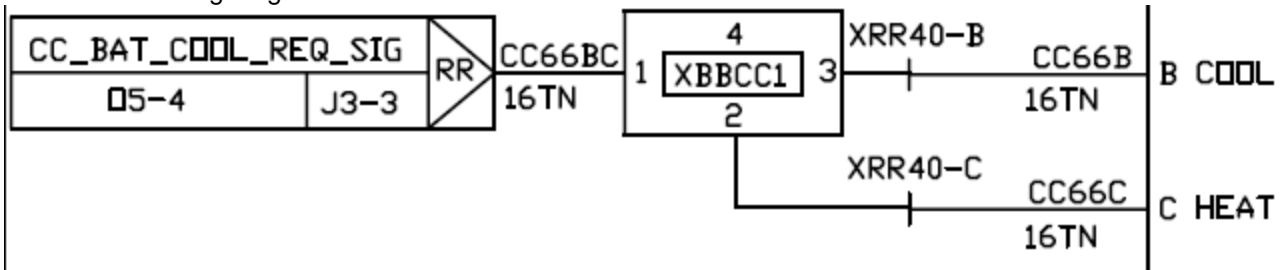


**Figure 2: Diagram of J1 connector**



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6. Terminate one end of the 16 GA tan CC66BC wire (NF P/N 129422) with the terminal CONT-SOCKET 20-16GA AMP (NF P/N 158564). Connect the terminated end to cavity 3 of connector J3 in Node 5. Figure 3 shows the wiring diagram for the CC66BC wire.



**Figure 3: Wiring diagram for CC66BC connection**

7. Find a suitable location to tyrap the XBBCC1 connector; use this location to cut the CC66BC wire to length. Terminate the free end of the CC66BC wire with SOCKET 18 16AWG DEUTSCH (NF P/N 034794). Insert this end into cavity 1 of the XBBCC1 connector from KIT- BUSBAR 4X1 DEUTSCH (NF P/N 169346).
8. Terminate one end of both the 16 GA tan CC66B and CC66C wires (NF P/N 129422) with terminal SOCKET 18 16AWG DEUTSCH (NF P/N 034794). Insert wire CC66B into cavity 3 of the XBBCC1 connector and insert wire CC66C into cavity 2 of the XBBCC1 connector. Plug the open cavity 4 with PLUG SEAL 16-12GA (NF P/N 8110650).
9. Insert the wedge from the XBBCC1 connector kit into the connector. Place the cover cap on the connector. Figure 4 shows the XBBCC1 connector assembly. Secure the connector using a tyrap (NF P/N 5958112).



**Figure 4: XBBCC1 connector assembly**

10. Run the CC66B and CC66C wires to the XRR40 connector and cut them to length. Terminate the free end of both the CC66B and CC66C wires with terminal PIN-16-14GA W/PACK (NF P/N 102878) and SEAL CONNECTOR (NF P/N 102877). Connect wire CC66B to cavity B of XRR40. Connect wire CC66C to cavity C of XRR40. Secure the CC66 wires with tyraps (NF P/N 5958112).
11. Turn the main battery disconnect switch to the “ON” position.
12. Install the latest version of the PLC program for your SR, available from your Regional Product Support Manager. Use VMMS software and the DLA Kit (NF P/N 6351820). Refer to Table I when selecting the appropriate PLC program.



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**NOTE:** Use the appropriate program according to which SR you are servicing. Reference Table I.

**Table I: PLC PROGRAM BASED ON SR**

SR	Program NF P/N
1315	185945
1316	188824
1403	192359

**NOTE:** The Allison program must also be updated at this point. Contact your Allison representative.

13. Replace the rear panel wiring diagram decal. Refer to Table II to select the appropriate part number for the SR you are servicing; each SR has a unique decal. Apply adhesive (NF P/N 170962) to the back of the decal before installation.

**NOTE:** Use the appropriate decal according to which SR you are servicing. Reference Table II.

**Table II: WIRING DIAGRAM DECAL BASED ON SR**

SR	Decal NF P/N
1315	186021
1316	190330
1403	193063

14. Close the rear electronic equipment access door and return the bus to service condition.



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**LABOUR ESTIMATE**

	Operation	Men	Hours	Labour Time M X HR
1	Wiring and program changes for Hybrid Battery Cooling Request	1	2.0	2.0

**PARTS REQUIRED**

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	6447780	KIT-ESS COOLING REQUEST SR-1315	1	EA	For SR-1315
2	6447781	KIT-ESS COOLING REQUEST SR-1316	1	EA	For SR-1316
3	6447782	KIT-ESS COOLING REQUEST SR-1403	1	EA	For SR-1403

**KIT-ESS COOLING REQUEST SR-1315 (P/N 6447780) PARTS LIST**

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	129444	WIRE-18GA YELLOW GXL	6	FT	Label HP10W
2	034795	PIN 18 16 AWG DEUTSCH	1	EA	
3	158564	CONT-SOCKET 20-16GA AMP	2	EA	
4	5958112	TYRAP-7.0 BLACK	20	EA	
5	129422	WIRE-16GA TAN GXL	18	FT	Label 6 ft "CC66BC" 6 ft "CC66B" 6 ft "CC66C"
6	034794	SOCKET 18 16AWG DEUTSCH	3	EA	
7	8110650	PLUG SEAL 16-12GA	1	EA	
8	102878	PIN MALE TERM	2	EA	
9	102877	SEAL-CONN 14 16 AWG	2	EA	
10	186021	DECAL-REAR PANEL	1	EA	SR-1315 Only
11	170962	ADHESIVE-SPRAY 77	0.05	EA	
12	169346	KIT-4CCT TWR DT	1	EA	



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**KIT-ESS COOLING REQUEST SR-1316 (P/N 6447781) PARTS LIST**

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	129444	WIRE-18GA YELLOW GXL	6	FT	Label HP10W
2	034795	PIN 18 16 AWG DEUTSCH	1	EA	
3	158564	CONT-SOCKET 20-16GA AMP	2	EA	
4	5958112	TYRAP-7.0 BLACK	20	EA	
5	129422	WIRE-16GA TAN GXL	18	FT	Label 6 ft "CC66BC" 6 ft "CC66B" 6 ft "CC66C"
6	034794	SOCKET 18 16AWG DEUTSCH	3	EA	
7	8110650	PLUG SEAL 16-12GA	1	EA	
8	102878	PIN MALE TERM	2	EA	
9	102877	SEAL-CONN 14 16 AWG	2	EA	
10	190330	DECAL-REAR PANEL	1	EA	SR-1316 Only
11	170962	ADHESIVE-SPRAY 77	0.05	EA	
12	169346	KIT-4CCT TWR DT	1	EA	

**KIT-ESS COOLING REQUEST SR-1403 (P/N 6447782) PARTS LIST**

Item	Part Number	Description	Qty. per Coach	Units	Notes
1	129444	WIRE-18GA YELLOW GXL	6	FT	Label HP10W
2	034795	PIN 18 16 AWG DEUTSCH	1	EA	
3	158564	CONT-SOCKET 20-16GA AMP	2	EA	
4	5958112	TYRAP-7.0 BLACK	20	EA	
5	129422	WIRE-16GA TAN GXL	18	FT	Label 6 ft "CC66BC" 6 ft "CC66B" 6 ft "CC66C"
6	034794	SOCKET 18 16AWG DEUTSCH	3	EA	
7	8110650	PLUG SEAL 16-12GA	1	EA	
8	102878	PIN MALE TERM	2	EA	
9	102877	SEAL-CONN 14 16 AWG	2	EA	



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10	193063	DECAL-REAR PANEL	1	EA	SR-1403 Only
11	170962	ADHESIVE-SPRAY 77	0.05	EA	
12	169346	KIT-4CCT TWR DT	1	EA	