

ELECTRICAL

TABLE OF CONTENTS

	PAGE		PAGE
BATTERY ENERGY MANAGEMENT			
SYSTEM (BEMS™)	8A	INSTRUMENT PANEL SYSTEMS	8E
TRACTION BATTERY PACK	8B	WIRING DIAGRAMS	8W

THIS PAGE INTENTIONALLY LEFT BLANK

BATTERY ENERGY MANAGEMENT SYSTEM (BEMS™) 8A

TABLE OF CONTENTS

	PAGE		PAGE
DESCRIPTION	1	DIAGNOSIS AND TESTING	5
OPERATION	1	DIAGNOSTICS	6
DC PILOT STATUS	1	COMPONENT SERVICE	38
DIELECTRIC BREAKDOWN SENSOR (DBS)	2	BATTERY INTERFACE CENTER (BIC)	38
SAFETY RELAY	2	MAIN CONTROL MODULE (MCM)	38
STATE OF CHARGE (SOC)	2	TORQUE SPECIFICATIONS	40
VOLTAGE CURRENT MEASUREMENT MODULE ...	2	WIRING DIAGRAMS	41
BEMS™ POWER LIMIT	3		

DESCRIPTION

The EPIC utilizes a Battery Energy Management System (BEMS™). The BEMS™ is an electronic monitoring and control system which controls all aspects of the flow of electrical energy into or out of the traction battery pack. The BEMS™ consists of a Main Control Module (MCM), Voltage Current Measurement Module (VCMM), and three Battery Monitoring Modules (BMMs). The BMMs are located in the battery tub and the MCM is located in the Battery Interface Center (BIC).

OPERATION

The BEMS™ is designed to optimize the use of the traction battery pack in order to provide the longest battery life and best range for the EPIC. This is accomplished by monitoring and controlling operations such as discharge current, charge current, regen current, etc. The BEMS™ also keeps a record of battery pack performance over its life in the vehicle, and provides diagnostic information on when components in the battery system should be serviced.

The BMMs are located inside the traction battery tub, behind the Traction Motor above the steering gear. The VCMM is located in the BIC which is directly in front of the battery tub. The MCM, VCMM, and the BMMs communicate via the Motorola Controller Area Network (MCAN) bus. The MCAN bus runs from the BIC to the MCM and battery tub. The BMMs are responsible for measuring the voltages of each battery module and the temperatures of 15 battery modules.

DC PILOT STATUS

The DC Pilot is monitored to determine the integrity of the high voltage connection system. If the DC Pilot status is not present after the MCM closes the DC Pilot Relay, the Safety Relay will not be able to close, and the high voltage to the vehicle will be disabled. If the DC Pilot Status is lost during discharge, a fault will be set and the SERVICE REQUIRED lamp will be illuminated. The DC Pilot provides the power feed to the Safety Relay.

DIELECTRIC BREAKDOWN SENSOR (DBS)

The DBS is located in the BIC and is monitored by the MCM. The DBS is designed to detect leakage current flow between the high voltage system and the chassis of the vehicle. If a current leakage is detected, the MCM will set a fault code and the SERVICE REQUIRED lamp will turn On. If the fault is set during driving, the vehicle will not stop operating; however if the fault is detected during start-up, the vehicle will not enter the Ready mode.

SAFETY RELAY

The Safety Relay is located in the BIC and controlled by the MCM. The Safety Relay is used to switch the high voltage on or off from the BIC to the other high voltage components. The Safety Relay status is monitored to ensure that the Safety Relay is in the correct state. If the Safety Relay fails to respond to the MCM's command, the MCM will set a fault and the SERVICE REQUIRED lamp will turn On. The DC Pilot Relay will then deenergize to ensure that the Safety Relay is deenergized.

STATE OF CHARGE (SOC)

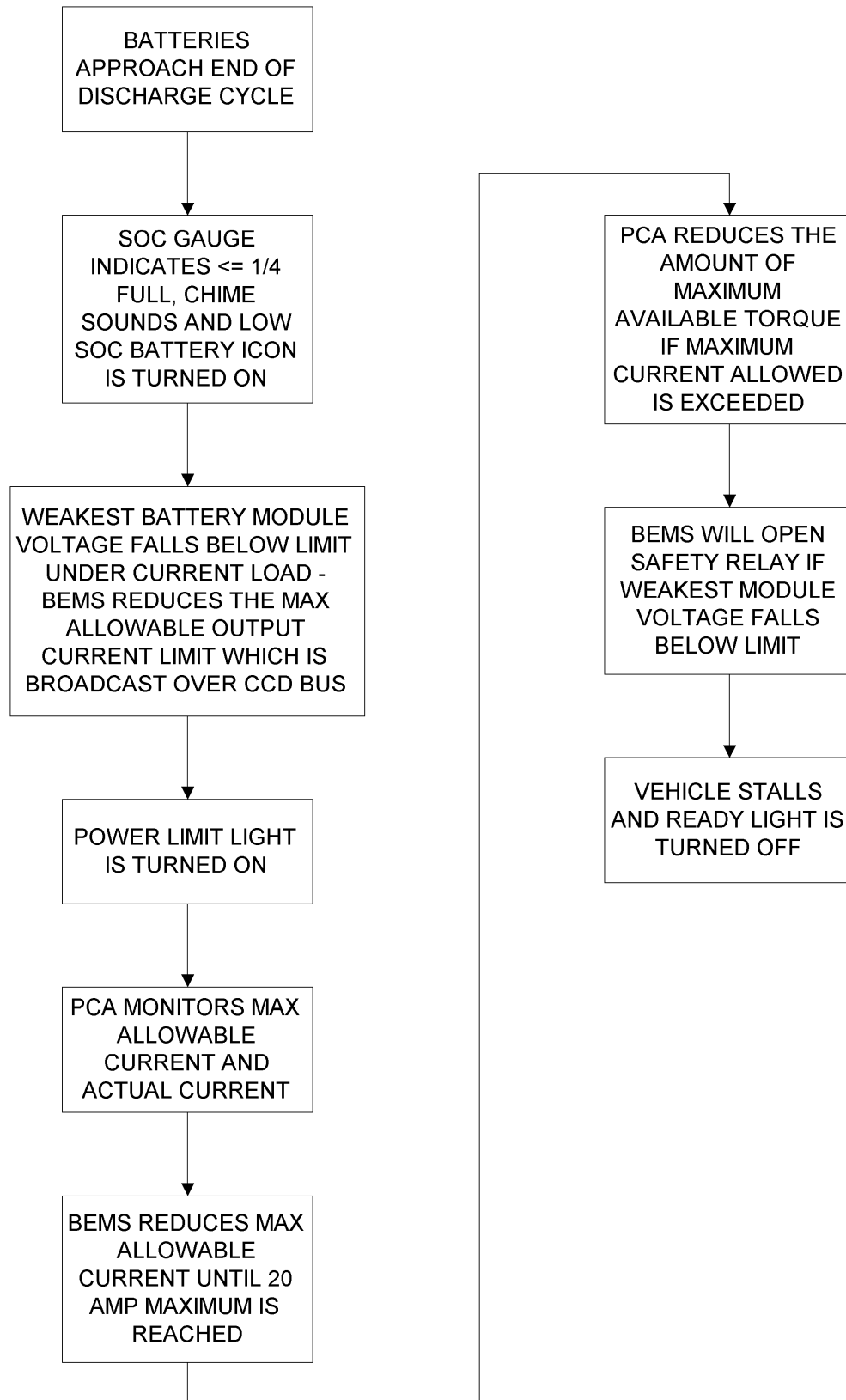
The MCM also determines the SOC of the battery pack. The SOC is determined based on ampere hours of discharge, battery aging effects, the number of cycles on the battery, temperature, discharge current and other factors. The SOC is an indication of the amount of energy remaining in the battery pack expressed as a percentage of the rated capacity.

VOLTAGE CURRENT MEASUREMENT MODULE (VCMM)

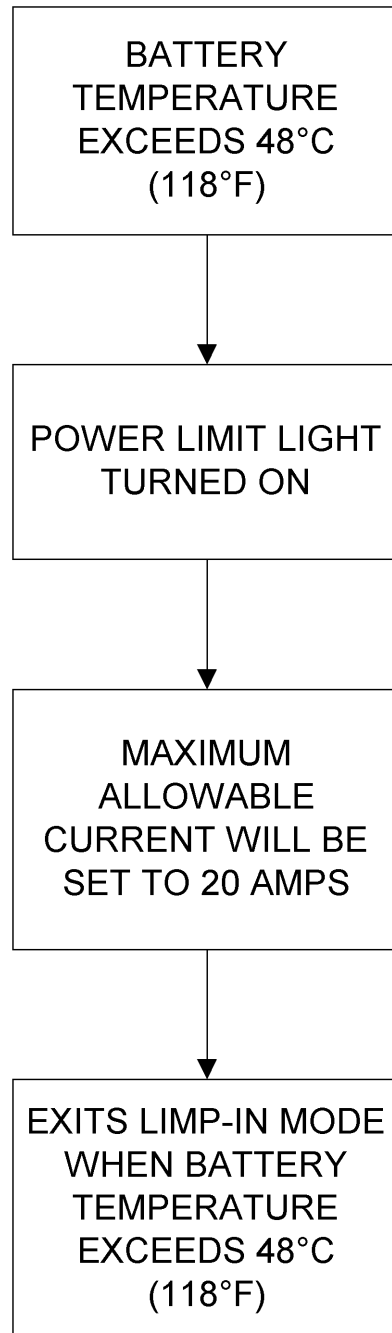
The Voltage Current Measurement Module (VCMM) is located in the Battery Interface Center (BIC). The VCMM measures the voltage and current provided by the traction battery pack and sends this information across the Motorola Controller Area Network (MCAN) data bus to the Main Control Module (MCM) (fig. 21). The VCMM also sends a signal to the three Battery Monitoring Modules (BMM's) located in the battery tub and tells the BMM's to send information concerning individual battery voltage and temperature across the MCAN bus to the MCM. The signal from the VCMM is sent across the BMM Strobe (+) and (–) circuits. The VCMM may be flash programmed using the auxiliary diagnostic connector located under the instrument panel.

BEMS™ POWER LIMIT

The flow charts on the following pages show the steps the BEMS™ follows to determine if a low State of Charge or High Battery temperature condition is present.

BATTERY LOW STATE OF CHARGE POWER LIMIT

BATTERY HIGH TEMPERATURE POWER LIMIT

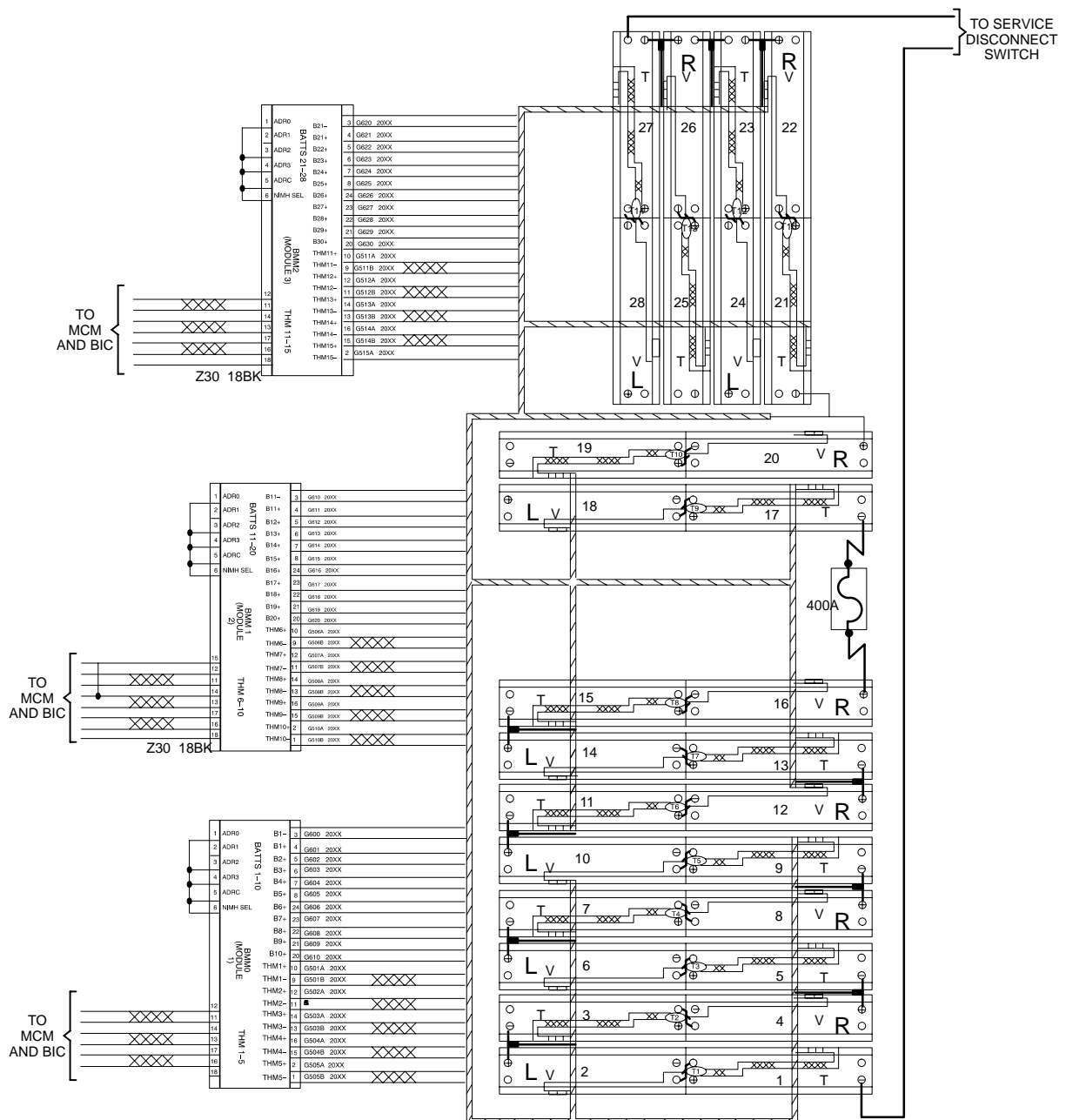


DIAGNOSIS AND TESTING

The battery pack wiring diagram on the following page (Fig. 3) shows location and orientation of:

- Battery Modules
- BMM's
- High Voltage Fuse
- Thermistors
- Sense wires

This diagram may be useful in diagnosis or replacement of components within the traction battery tub. For more wiring information, refer to Group 8W Wiring Diagrams in this manual.



99999-999

Fig. 1 Battery Pack Wiring

DIAGNOSTICS

DIAGNOSTIC PROCEDURE**TEST**

PRE-DIAGNOSTIC CHECKOUT	TEST 1
+12V BUS VOLTAGE OUT OF RANGE HIGH (\$2A)	PCA TEST 19*
+12V BUS VOLTAGE OUT OF RANGE LOW (\$2B)	PCA TEST 19*
AMBIENT TEMPERATURE SENSOR FAILED OPEN (\$1F)	TEST 2
AMBIENT TEMPERATURE SENSOR FAILED SHORT (\$1E)	TEST 3
BATTERY MONITORING MODULE FAILURE (\$23–\$25)	TEST 4
CCD COMMUNICATIONS CHECKSUM ERROR	CALL EPIC HOT LINE*
CHARGE LAMP (\$E8)	TEST 5
CHARGE STATION FAILURE	CALL EPIC HOT LINE*
CHECK PLUG LAMP (\$EF)	TEST 6
COOLANT PUMP PRESSURE FAULT (\$AB, \$AC)	TEST 7
DIELECTRIC BREAKDOWN OCCURRED DURING DC CHARGING (\$B1)	CALL EPIC HOT LINE*
DIELECTRIC BREAKDOWN OCCURRED DURING DISCHARGE (\$B3)	CALL EPIC HOT LINE*
HIGH VOLTAGE LINK < 245 VDC (\$D2)	CALL EPIC HOT LINE*
HIGH VOLTAGE LINK > 490 VDC (\$D1)	CALL EPIC HOT LINE*
HVAC COMPRESSOR FAULT (\$B0)	HVAC TEST 1*
HVAC WAKEUP (\$E1)	TEST 8
LOST COMMUNICATION WITH CHARGE STATION (\$1B)	CALL EPIC HOT LINE*
PRECHARGE CURRENT HIGHER THAN EXPECTED	TEST 9
REPLACE MCM (\$F0)	REPLACE MCM*
SERVICE DISCONNECT OPEN (&18)	TEST 10
TRACTION BATTERY AT END OF LIFE (\$60)	CALL EPIC HOT LINE*
TRACTION MOTOR TEMPERATURE SENSOR OPEN (\$D6)	TEST 11
TRACTION MOTOR TEMPERATURE SENSOR SHORT (\$D7)	TEST 12
WAIT LAMP	TEST 13
VERIFICATION TEST	TEST VER-1A

* Perform Test 1. If DTC is still present, perform indicated action.

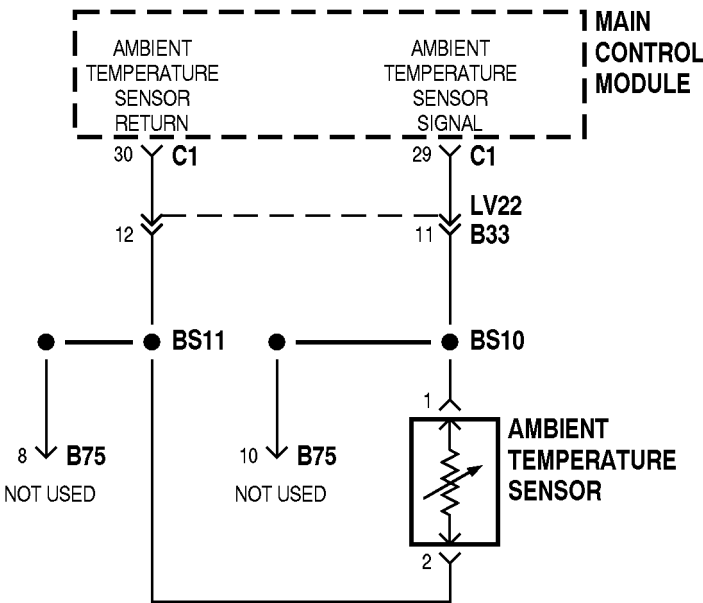
TEST 1 – PRE–DIAGNOSTIC CHECKOUT

NOTE: Ensure that the Auxiliary Battery is properly charged to perform diagnostics.

1. Connect the Scan Tool to the Data Link Connector (DLC).
2. With the Scan Tool, read and record all trouble codes from BEMS, PCA, HVAC and Power Steering. If a “No Response” from a system is present on the scan tool, refer to the Diagnosis and Testing module in the appropriate section of this service manual.
3. With the Scan Tool, erase all trouble codes.
4. Road test vehicle or charge vehicle depending on complaint condition.
5. After road test or charge, read all trouble codes using the Scan Tool.
 - a. If no trouble codes have been set, return vehicle to customer.
 - b. If there are multiple modules requesting the service required lamp, perform diagnosis on trouble codes by module in the following order:
 - i. BEMS
 - ii. PCA
 - iii. HVAC
 - iv. Power Steering
6. If the vehicle does not start or does not charge, refer to the “Diagnosis and Testing” module in the Powertrain section of this service manual.

NOTE: If the Scan Tool screen is blank, perform the following:

- I. Disconnect the scan tool from the data link connector (DLC).
- II. Ensure that there is a good ground circuit at DLC cavity 4.
- III. Ensure that there is a 12–volt supply at cavity 16. If there is not, inspect the IOD fuse in the PDC.
- IV. Try a different scan tool cable.
- V. Try a different scan tool.



TEST 2 – AMBIENT TEMPERATURE SENSOR OPEN (\$1F)

Description: The Ambient Temperature Sensor is monitored by the Main Control Module (MCM). This code is set when the Ambient Temperature Sensor signal circuit measured voltage is greater than 4.5 V.

WARNING LAMP: SERVICE REQUIRED WARNING LAMP IS TURNED ON.

Detection: Whenever the vehicle is in the Ready mode.


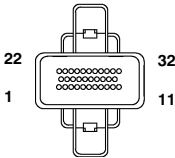

Possible Causes:

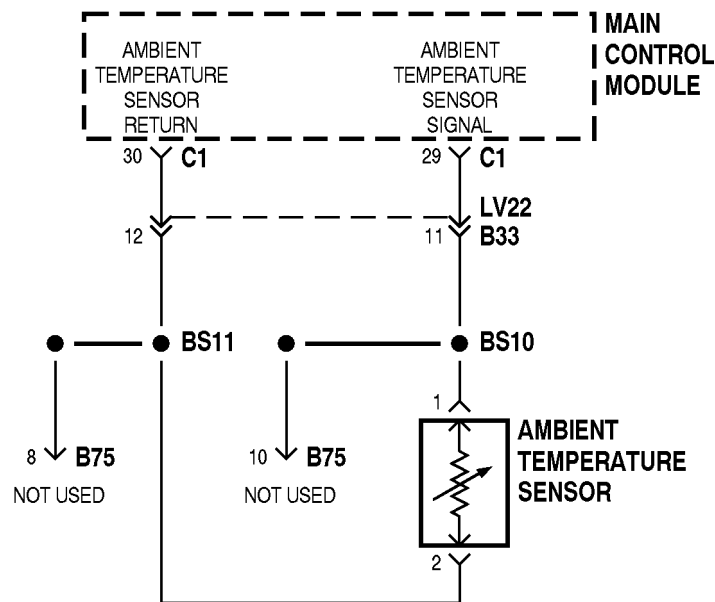
- Ambient Temperature Sensor is open.
- Wiring harness for the Ambient Temperature Sensor signal connection has an open.
- Defective MCM.

AMBIENT TEMPERATURE SENSOR VALUES

°C	°F	MIN	MAX
0°	32°	29.3 KΩ	36 KΩ
10°	50°	18 KΩ	22 KΩ
20°	68°	11.4 KΩ	13.6 KΩ
25°	77°	9.1 KΩ	10.8 KΩ
30°	86°	7.4 KΩ	8.7 KΩ
40°	104°	4.9 KΩ	5.7 KΩ
50°	122°	3.3 KΩ	3.8 KΩ

TEST 2 – AMBIENT TEMPERATURE SENSOR OPEN (\$1F)

STEP	ACTION	YES	NO									
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1									
2	<p>DISCONNECT AND REMOVE THE AMBIENT TEMPERATURE SENSOR.** (LOCATED BEHIND FRONT AIR DAM).</p> <p style="text-align: center;">AMBIENT TEMPERATURE SENSOR</p> <table border="1"><thead><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr></thead><tbody><tr><td>1</td><td>DG/RD</td><td>AMBIENT TEMPERATURE SENSOR SIGNAL</td></tr><tr><td>2</td><td>YL/DG</td><td>AMBIENT TEMPERATURE SENSOR RETURN</td></tr></tbody></table> <div></div> <p>USING AN OHMMETER, MEASURE THE RESISTANCE OF THE AMBIENT TEMPERATURE SENSOR AND COMPARE READING WITH THE TABLE ON THE PREVIOUS PAGE.</p> <p>IS THE READING WITHIN THE RANGE SPECIFIED IN THE TABLE?</p>	CAV	COLOR	FUNCTION	1	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL	2	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN	GO TO STEP 3.	REPLACE THE AMBIENT TEMPERATURE SENSOR.*
CAV	COLOR	FUNCTION										
1	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL										
2	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN										
3	<p>DISABLE THE TRACTION BATTERY PACK BY TURNING THE SERVICE DISCONNECT SWITCH TO OFF.</p> <p>DISCONNECT MAIN CONTROL MODULE (MCM) CONNECTOR C1.**</p> <p>CONNECT A JUMPER WIRE FROM THE SENSOR SIGNAL CIRCUIT TO GROUND.</p> <p style="text-align: center;">MAIN CONTROL MODULE – C1</p> <table border="1"><thead><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr></thead><tbody><tr><td>29</td><td>DG/RD</td><td>AMBIENT TEMPERATURE SENSOR SIGNAL</td></tr><tr><td>30</td><td>YL/DG</td><td>AMBIENT TEMPERATURE SENSOR RETURN</td></tr></tbody></table> <div></div> <p>USING AN OHMMETER, MEASURE THE RESISTANCE OF THE AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT.</p> <p>IS THE RESISTANCE BELOW 5.0 OHMS?</p>	CAV	COLOR	FUNCTION	29	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL	30	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN	GO TO STEP 4.	REPAIR THE OPEN ON THE SENSOR SIGNAL CIRCUIT.
CAV	COLOR	FUNCTION										
29	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL										
30	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN										
4	<p>REMOVE THE JUMPER WIRE.</p> <p>CONNECT MCM CONNECTOR C1.</p> <p>ENABLE THE TRACTION BATTERY PACK BY TURNING THE SERVICE DISCONNECT SWITCH TO ON.</p> <p style="text-align: center;">AMBIENT TEMPERATURE SENSOR</p> <table border="1"><thead><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr></thead><tbody><tr><td>1</td><td>DG/RD</td><td>AMBIENT TEMPERATURE SENSOR SIGNAL</td></tr><tr><td>2</td><td>YL/DG</td><td>AMBIENT TEMPERATURE SENSOR RETURN</td></tr></tbody></table> <div></div> <p>PLACE THE VEHICLE IN THE READY MODE.</p> <p>USING A VOLTMETER, MEASURE THE VOLTAGE OF THE AMBIENT TEMPERATURE SENSOR SIGNAL CIRCUIT.</p> <p>IS THE VOLTAGE GREATER THAN 4.5 VOLTS?</p>	CAV	COLOR	FUNCTION	1	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL	2	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN	REPLACE MAIN CONTROL MODULE.*	GO TO STEP 5
CAV	COLOR	FUNCTION										
1	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL										
2	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN										
5	<p>USING THE SCAN TOOL, CLEAR DTC “AMBIENT TEMPERATURE SENSOR OPEN”.</p> <p>RETURN THE VEHICLE TO NORMAL OPERATING CONDITION.</p> <p>PLACE VEHICLE IN READY MODE FOR 3 MINUTES AND VERIFY IF DTC IS STILL PRESENT.</p> <p>IS DTC “AMBIENT TEMPERATURE SENSOR OPEN” STILL PRESENT?</p>	REPLACE MAIN CONTROL MODULE.*	INTERMITTENT CONDITION.*									
*Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.												



TEST 3 – AMBIENT TEMPERATURE SENSOR SHORTED (\$1E)

Description: The Ambient Temperature Sensor is monitored by the Main Control Module (MCM). This code is set when the Ambient Temperature Sensor signal circuit measured voltage is less than 0.5 V.

WARNING LAMP: THE “SERVICE REQUIRED” LAMP WILL BE ILLUMINATED.

Detection: Whenever the vehicle is in the Ready or Charge modes.

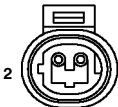
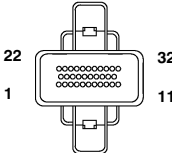
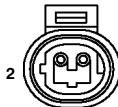
Possible Causes:

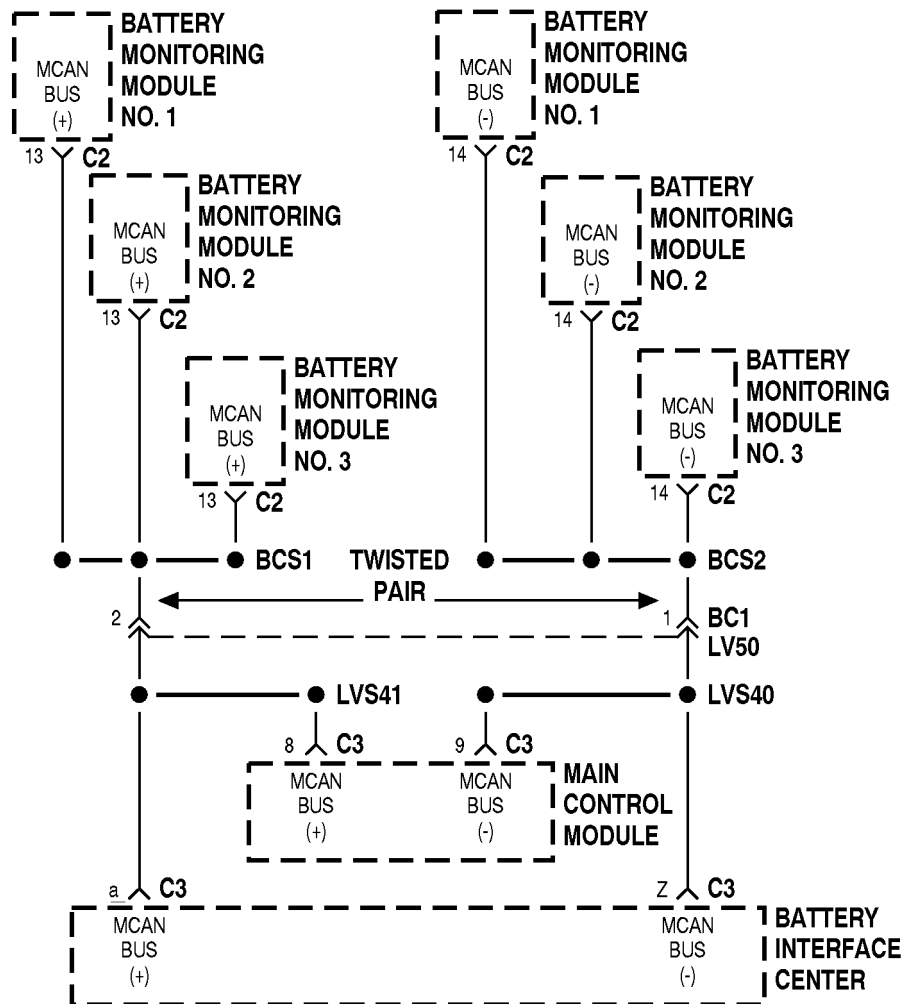
- Ambient Temperature Sensor is shorted.
- Wiring harness for the Ambient Temperature Sensor signal connection has a short to chassis.
- Defective MCM.
- Ambient Temperature Sensor signal input is shorted to ground.

AMBIENT TEMPERATURE SENSOR VALUES

°C	°F	MIN	MAX
0°	32°	29.3 KΩ	36 KΩ
10°	50°	18 KΩ	22 KΩ
20°	68°	11.4 KΩ	13.6 KΩ
25°	77°	9.1 KΩ	10.8 KΩ
30°	86°	7.4 KΩ	8.7 KΩ
40°	104°	4.9 KΩ	5.7 KΩ
50°	122°	3.3 KΩ	3.8 KΩ

TEST 3 – AMBIENT TEMPERATURE SENSOR SHORTED

STEP	ACTION	YES	NO									
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1									
2	<div>DISCONNECT THE AMBIENT TEMPERATURE SENSOR CONNECTOR.** (LOCATED BEHIND FRONT AIR DAM).</div> <div><div>AMBIENT TEMPERATURE SENSOR</div><table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>1</td><td>DG/RD</td><td>AMBIENT TEMPERATURE SENSOR SIGNAL</td></tr><tr><td>2</td><td>YL/DG</td><td>AMBIENT TEMPERATURE SENSOR RETURN</td></tr></table><div><div></div><div>21</div></div></div> <div>USING AN OHMMETER, MEASURE THE RESISTANCE OF THE AMBIENT TEMPERATURE SENSOR AND COMPARE READING WITH THE TABLE ON THE PREVIOUS PAGE.</div> <div>IS THE READING WITHIN THE RANGE SPECIFIED IN THE TABLE?</div>	CAV	COLOR	FUNCTION	1	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL	2	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN	GO TO STEP 3.	REPLACE THE AMBIENT TEMPERATURE SENSOR.*
CAV	COLOR	FUNCTION										
1	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL										
2	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN										
3	<div>DISABLE THE TRACTION BATTERY PACK BY TURNING THE SERVICE DISCONNECT SWITCH TO OFF.</div> <div>RECONNECT AMBIENT TEMPERATURE SENSOR.</div> <div>DISCONNECT MAIN CONTROL MODULE (MCM) C1.**</div> <div><div>MAIN CONTROL MODULE – C1</div><table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>29</td><td>DG/RD</td><td>AMBIENT TEMPERATURE SENSOR SIGNAL</td></tr><tr><td>30</td><td>YL/DG</td><td>AMBIENT TEMPERATURE SENSOR RETURN</td></tr></table><div><div></div><div>223211</div></div></div> <div>USING AN OHMMETER, MEASURE THE RESISTANCE BETWEEN MCM – C1 PIN 29 AND 30 AND COMPARE READING WITH THE TABLE ON THE PREVIOUS PAGE.</div> <div>IS THE READING WITHIN THE RANGE SPECIFIED IN THE TABLE?</div>	CAV	COLOR	FUNCTION	29	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL	30	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN	REPLACE MAIN CONTROL MODULE.*	GO TO STEP 4.
CAV	COLOR	FUNCTION										
29	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL										
30	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN										
4	<div>DISCONNECT AMBIENT TEMPERATURE SENSOR AGAIN.</div> <div>USING AN OHMMETER, MEASURE THE RESISTANCE BETWEEN THE SENSOR RETURN CIRCUIT AND CHASSIS GROUND.</div> <div><div>AMBIENT TEMPERATURE SENSOR</div><table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>1</td><td>DG/RD</td><td>AMBIENT TEMPERATURE SENSOR SIGNAL</td></tr><tr><td>2</td><td>YL/DG</td><td>AMBIENT TEMPERATURE SENSOR RETURN</td></tr></table><div><div></div><div>21</div></div></div> <div>IS THE RESISTANCE BELOW 500K OHMS?</div>	CAV	COLOR	FUNCTION	1	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL	2	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN	REPAIR THE SENSOR RETURN CIRCUIT FOR A PARTIAL SHORT TO GROUND.*	GO TO STEP 5.
CAV	COLOR	FUNCTION										
1	DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL										
2	YL/DG	AMBIENT TEMPERATURE SENSOR RETURN										
5	<div>USING AN OHMMETER, MEASURE THE RESISTANCE BETWEEN THE SENSOR SIGNAL CIRCUIT AND CHASSIS GROUND.</div> <div>IS THE RESISTANCE BELOW 500K OHMS?</div>	REPAIR THE SENSOR SIGNAL CIRCUIT FOR A PARTIAL SHORT TO GROUND.*	REPAIR THE SENSOR SIGNAL CIRCUIT FOR A SHORT TO SENSOR RETURN CIRCUIT.*									
*Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.												



TEST 4 – BATTERY MONITORING MODULE FAILURE (\$23 – \$25)

Description: Any of these codes will set when one or more of the Battery Monitoring Modules (BMM's) fail to respond to the sample command over the MCAN bus and does not provide any data back to the Main Control Module (MCM) within a given time frame.

WARNING LAMP: THE “SERVICE REQUIRED” LAMP WILL BE ILLUMINATED.

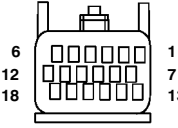
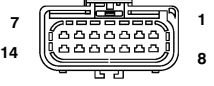
Detection: Whenever the vehicle is in the Ready or Charge modes.

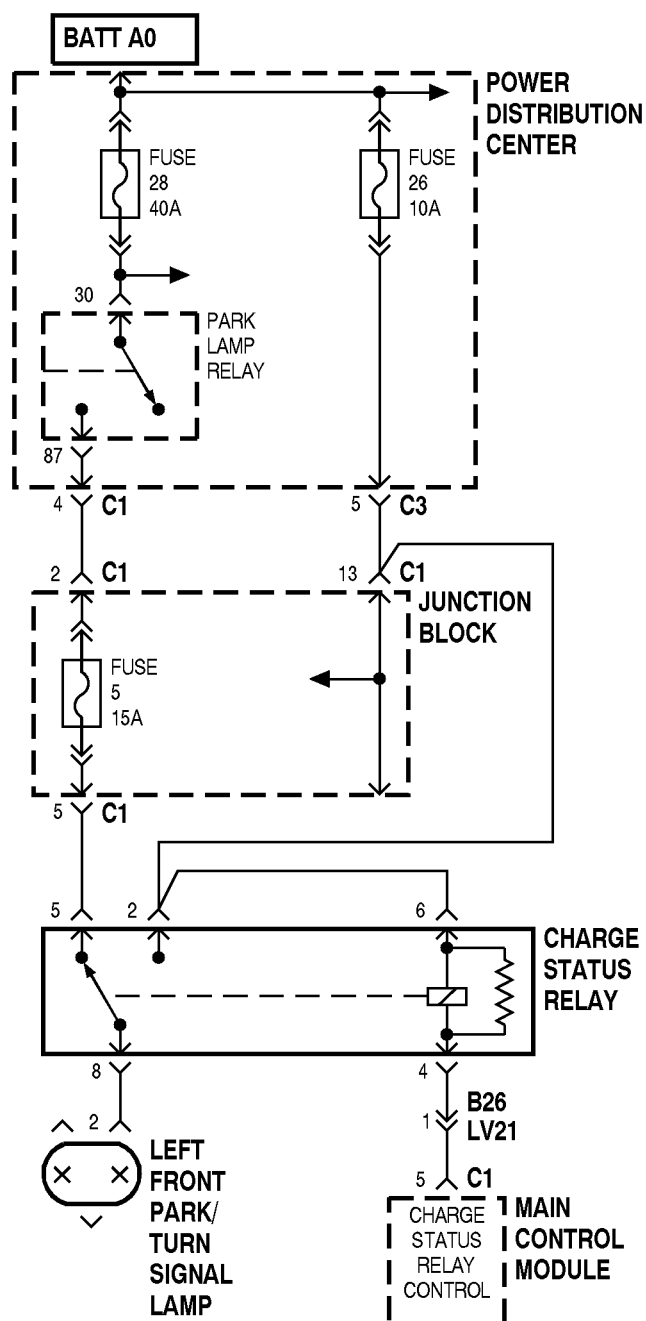
Related Codes: MCAN Bus Failure

Possible Causes:

- Faulty connection to the BMM.
- Faulty BMM.

TEST 4 – BATTERY MONITORING MODULE FAILURE (\$23 – \$25)

STEP	ACTION	YES	NO																														
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1																														
2	IS DTC “MCAN BUS FAILURE” SET?	REPAIR MCAN BUS FAILURE DTC FIRST.*	GO TO STEP 3.																														
3	ARE ALL THREE BATTERY MONITORING MODULE FAILURE DTC’S SET?	REPAIR MCAN BUS FAILURE DTC FIRST.*	GO TO STEP 4.																														
4	<p>DISCONNECT INLINE CONNECTOR BC1/LV50 BETWEEN THE BATTERY INTERFACE CENTER (BIC) AND THE BATTERY TUB.**</p> <p>WARNING: REFER TO APPROPRIATE SECTION IN THIS SERVICE MANUAL FOR THE PROPER PROCEDURE TO LOWER THE TRACTION BATTERY TUB.</p> <p>LOWER BATTERY TUB.</p> <p>WARNING: HIGH VOLTAGE IS PRESENT AROUND THE BATTERY MODULES. PROCEED USING EXTREME CAUTION!</p> <p>DISCONNECT BMM NO.1 CONNECTOR C2.**</p> <p>USING AN OHMMETER, MEASURE THE RESISTANCE BETWEEN BMM CONNECTOR C2 PIN 13 AND INLINE BC1 PIN 1.</p> <div><p>BATTERY MONITORING MODULE – C2</p><table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>13</td><td>LB</td><td>MCAN (+)</td></tr><tr><td>14</td><td>GY</td><td>MCAN (-)</td></tr><tr><td>16</td><td>WT/VT</td><td>BMM 12V SUPPLY</td></tr><tr><td>17</td><td>WT/DG</td><td>BMM GROUND</td></tr></table></div> <div><p>INLINE CONNECTOR – BC1</p><table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>1</td><td>LG</td><td>MCAN BUS (-)</td></tr><tr><td>2</td><td>LB</td><td>MCAN BUS (+)</td></tr><tr><td>3</td><td>WT/VT</td><td>BMM 12V SUPPLY</td></tr><tr><td>4</td><td>WT/DG</td><td>BMM GROUND</td></tr></table></div> <p>IS THE RESISTANCE GREATER THAN 10.0 OHMS?</p>	CAV	COLOR	FUNCTION	13	LB	MCAN (+)	14	GY	MCAN (-)	16	WT/VT	BMM 12V SUPPLY	17	WT/DG	BMM GROUND	CAV	COLOR	FUNCTION	1	LG	MCAN BUS (-)	2	LB	MCAN BUS (+)	3	WT/VT	BMM 12V SUPPLY	4	WT/DG	BMM GROUND	REPAIR THE OPEN IN THE MCAN(+) CIRCUIT.*	GO TO STEP 5.
CAV	COLOR	FUNCTION																															
13	LB	MCAN (+)																															
14	GY	MCAN (-)																															
16	WT/VT	BMM 12V SUPPLY																															
17	WT/DG	BMM GROUND																															
CAV	COLOR	FUNCTION																															
1	LG	MCAN BUS (-)																															
2	LB	MCAN BUS (+)																															
3	WT/VT	BMM 12V SUPPLY																															
4	WT/DG	BMM GROUND																															
5	<p>USING AN OHMMETER, MEASURE THE RESISTANCE BETWEEN BMM CONNECTOR C2 PIN 14 AND INLINE BC1 PIN 2.</p> <p>IS THE RESISTANCE GREATER THAN 10.0 OHMS?</p>	REPAIR THE OPEN IN THE MCAN(-) CIRCUIT.*	GO TO STEP 6.																														
6	<p>USING AN OHMMETER, MEASURE THE RESISTANCE BETWEEN BMM CONNECTOR C2 PIN 16 AND INLINE BC1 PIN 3.</p> <p>IS THE RESISTANCE GREATER THAN 10.0 OHMS?</p>	REPAIR THE OPEN IN THE BMM 12V SUPPLY CIRCUIT.*	GO TO STEP 7.																														
7	<p>USING AN OHMMETER, MEASURE THE RESISTANCE BETWEEN BMM CONNECTOR C2 PIN 17 AND INLINE BC1 PIN 4.</p> <p>IS THE RESISTANCE GREATER THAN 10.0 OHMS?</p>	REPAIR THE OPEN IN THE BMM GROUND CIRCUIT.*	REPLACE THE BMM.*																														
*Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.																																	



TEST 5 – CHARGE LAMP (\$E8)

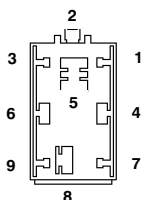
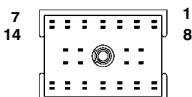
Description: The MCM controls the Charge Status Relay by providing ground to the coil side of the relay. If the MCM determines that the voltage on the control circuit is not what is expected, this DTC is set.

Detection: Whenever the vehicle is in the Ready or Charge modes.

Possible Causes:

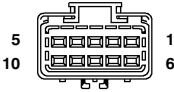
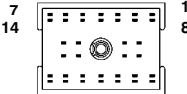
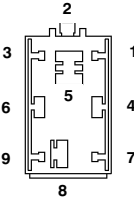
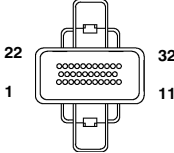
- Open or Short Charge Status Relay Circuit.
- Faulty Charge Status Relay.
- Faulty MCM.

TEST 5 – CHARGE LAMP (\$E8)

STEP	ACTION	YES	NO																														
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1																														
2	USING THE SCAN TOOL, ACTUATE THE CHARGE STATUS RELAY. DOES THE LEFT FRONT PARK/TURN SIGNAL LAMP TURN ON?	NO PROBLEM FOUND.*	GO TO STEP 3.																														
3	VERIFY CONDITION OF FUSE 26 IN THE POWER DISTRIBUTION CENTER. IS FUSE 26 OPEN?	REPLACE FUSE AND GO TO STEP 4.	GO TO STEP 8.																														
4	PERFORM TEST 1. USING THE SCAN TOOL, ACTUATE THE CHARGE STATUS RELAY DOES THE LEFT FRONT PARK/TURN SIGNAL LAMP TURN ON?	REPAIR SUCCESSFUL.*	GO TO STEP 5.																														
5	IS PDC FUSE 26 OPEN AGAIN?	GO TO STEP 6.	GO TO STEP 8.																														
6	USING THE HEADLAMP SWITCH, TURN ON THE PARK LAMPS. DOES THE LEFT FRONT PARK/TURN SIGNAL LAMP TURN ON?	GO TO STEP 9.	GO TO STEP 7.																														
7	VERIFY CONDITION OF JUNCTION BLOCK FUSE 5 AND PDC FUSE 28. IS EITHER FUSE OPEN?	REPAIR THE SHORT TO GROUND IN THE LEFT FRONT PARK/TURN SIGNAL CIRCUIT.*	GO TO STEP 8.																														
8	VERIFY CONDITION OF THE LEFT FRONT PARK/TURN SIGNAL LAMP. IS THE BULB BURNED OUT?	REPLACE BULB.*	GO TO STEP 9.																														
9	USING A VOLTMETER, MEASURE THE VOLTAGE BETWEEN GROUND AND CHARGE STATUS RELAY PINS 2 AND 6. IS THE VOLTAGE APPROXIMATELY 12V?	GO TO STEP 13.	GO TO STEP 10.																														
10	USING AN OHMMETER, MEASURE FOR AN OPEN OR SHORT TO GROUND BETWEEN THE CHARGE STATUS RELAY AND JUNCTION BLOCK – C1 PIN 13. <div><div>CHARGE STATUS RELAY</div><table><thead><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr></thead><tbody><tr><td>2</td><td>PK</td><td>FUSED B(+)</td></tr><tr><td>4</td><td>RD</td><td>CHARGE STATUS RELAY CONTROL</td></tr><tr><td>5</td><td>BR/YL</td><td>FUSED PARK LAMP RELAY OUTPUT</td></tr><tr><td>6</td><td>PK</td><td>FUSED B(+)</td></tr><tr><td>8</td><td>BR/YL</td><td>CHARGE STATUS RELAY OUTPUT</td></tr></tbody></table><div></div><div><div>JUNCTION BLOCK – C1</div><table><thead><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr></thead><tbody><tr><td>2</td><td>BK/YL</td><td>PARK LAMP RELAY OUTPUT</td></tr><tr><td>5</td><td>BR/YL</td><td>FUSED PARK LAMP RELAY OUTPUT</td></tr><tr><td>13</td><td>PK</td><td>FUSED B(+)</td></tr></tbody></table><div></div></div><div>IS AN OPEN OR SHORT TO GROUND PRESENT?</div></div>	CAV	COLOR	FUNCTION	2	PK	FUSED B(+)	4	RD	CHARGE STATUS RELAY CONTROL	5	BR/YL	FUSED PARK LAMP RELAY OUTPUT	6	PK	FUSED B(+)	8	BR/YL	CHARGE STATUS RELAY OUTPUT	CAV	COLOR	FUNCTION	2	BK/YL	PARK LAMP RELAY OUTPUT	5	BR/YL	FUSED PARK LAMP RELAY OUTPUT	13	PK	FUSED B(+)	REPAIR FAULT IN CIRCUIT.*	GO TO STEP 11.
CAV	COLOR	FUNCTION																															
2	PK	FUSED B(+)																															
4	RD	CHARGE STATUS RELAY CONTROL																															
5	BR/YL	FUSED PARK LAMP RELAY OUTPUT																															
6	PK	FUSED B(+)																															
8	BR/YL	CHARGE STATUS RELAY OUTPUT																															
CAV	COLOR	FUNCTION																															
2	BK/YL	PARK LAMP RELAY OUTPUT																															
5	BR/YL	FUSED PARK LAMP RELAY OUTPUT																															
13	PK	FUSED B(+)																															

***Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.**

TEST 5 – CHARGE LAMP (\$E8)

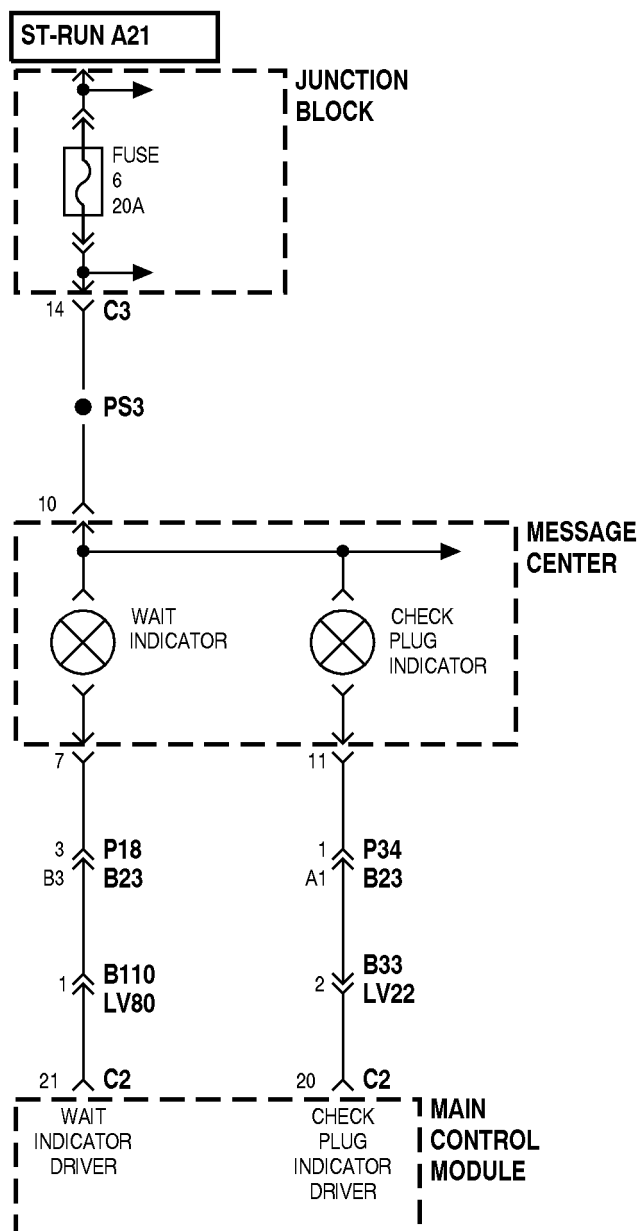
STEP	ACTION	YES	NO																			
11	<p>USING AN OHMMETER, MEASURE FOR AN OPEN OR SHORT TO GROUND BETWEEN PDC – C3 PIN 5 AND JUNCTION BLOCK – C1 PIN 13.</p> <p>POWER DISTRIBUTION CENTER – C3</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>5</td><td>PK</td><td>FUSED B(+)</td></tr></table> <p>JUNCTION BLOCK – C1</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>2</td><td>BK/YL</td><td>PARK LAMP RELAY OUTPUT</td></tr><tr><td>5</td><td>BR/YL</td><td>FUSED PARK LAMP RELAY OUTPUT</td></tr><tr><td>13</td><td>PK</td><td>FUSED B(+)</td></tr></table> <p>IS AN OPEN OR SHORT TO GROUND PRESENT?</p>	CAV	COLOR	FUNCTION	5	PK	FUSED B(+)	CAV	COLOR	FUNCTION	2	BK/YL	PARK LAMP RELAY OUTPUT	5	BR/YL	FUSED PARK LAMP RELAY OUTPUT	13	PK	FUSED B(+)	 	REPAIR FAULT IN CIRCUIT.*	GO TO STEP 12.
CAV	COLOR	FUNCTION																				
5	PK	FUSED B(+)																				
CAV	COLOR	FUNCTION																				
2	BK/YL	PARK LAMP RELAY OUTPUT																				
5	BR/YL	FUSED PARK LAMP RELAY OUTPUT																				
13	PK	FUSED B(+)																				
12	<p>USING AN OHMMETER, MEASURE FOR AN OPEN OR SHORT TO GROUND BETWEEN PDC – C3 PIN 5 AND JUNCTION BLOCK – C1 PIN 13.</p> <p>IS AN OPEN OR SHORT TO GROUND PRESENT?</p>	REPAIR FAULT IN CIRCUIT.*	GO TO STEP 13.																			
13	<p>USING THE SCAN TOOL, ACTUATE THE CHARGE STATUS RELAY.</p> <p>USING A VOLTMETER, BACKPROBE CHARGE STATUS RELAY PIN 4.</p> <p>DOES THE VOLTMETER READ APPROXIMATELY 0V DURING ACTUATION?</p>	REPLACE CHARGE STATUS RELAY.*	GO TO STEP 14.																			
14	<p>USING THE SCAN TOOL, ACTUATE THE CHARGE STATUS RELAY.</p> <p>USING A VOLTMETER, BACKPROBE CHARGE STATUS RELAY PIN 4.</p> <p>CHARGE STATUS RELAY</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>2</td><td>PK</td><td>FUSED B(+)</td></tr><tr><td>4</td><td>RD</td><td>CHARGE STATUS RELAY CONTROL</td></tr><tr><td>5</td><td>BR/YL</td><td>FUSED PARK LAMP RELAY OUTPUT</td></tr><tr><td>6</td><td>PK</td><td>FUSED B(+)</td></tr><tr><td>8</td><td>BR/YL</td><td>CHARGE STATUS RELAY OUTPUT</td></tr></table> <p>DOES THE VOLTMETER READ APPROXIMATELY 0V DURING ACTUATION?</p>	CAV	COLOR	FUNCTION	2	PK	FUSED B(+)	4	RD	CHARGE STATUS RELAY CONTROL	5	BR/YL	FUSED PARK LAMP RELAY OUTPUT	6	PK	FUSED B(+)	8	BR/YL	CHARGE STATUS RELAY OUTPUT		REPLACE CHARGE STATUS RELAY.*	GO TO STEP 15.
CAV	COLOR	FUNCTION																				
2	PK	FUSED B(+)																				
4	RD	CHARGE STATUS RELAY CONTROL																				
5	BR/YL	FUSED PARK LAMP RELAY OUTPUT																				
6	PK	FUSED B(+)																				
8	BR/YL	CHARGE STATUS RELAY OUTPUT																				
15	<p>REMOVE THE CHARGE STATUS RELAY.</p> <p>DISCONNECT MAIN CONTROL MODULE (MCM) C1.**</p> <p>USING AN OHMMETER, CHECK FOR AN OPEN CIRCUIT OR SHORT TO VOLTAGE BETWEEN MCM – C1 PIN 5 AND CHARGE STATUS RELAY PIN 4.</p> <p>MAIN CONTROL MODULE – C1</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>5</td><td>BR/YL</td><td>CHARGE STATUS RELAY CONTROL</td></tr></table> <p>IS THE CIRCUIT OPEN OR SHORTED TO VOLTAGE?</p>	CAV	COLOR	FUNCTION	5	BR/YL	CHARGE STATUS RELAY CONTROL		REPAIR FAULT IN CIRCUIT BETWEEN THE CHARGE STATUS RELAY AND THE MCM.*	REPLACE MAIN CONTROL MODULE.*												
CAV	COLOR	FUNCTION																				
5	BR/YL	CHARGE STATUS RELAY CONTROL																				

***Perform Verification TEST VER-1A.**

****Check connectors - Clean/repair as necessary.**

***Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.**

THIS PAGE INTENTIONALLY LEFT BLANK



TEST 6 – CHECK PLUG LAMP (\$EF)

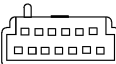
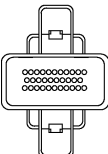
Description: The MCM controls the Check Plug Lamp located in the Message Center. If the MCM determines that the voltage on the control circuit is not what is expected, this DTC is set.

Detection: Whenever the vehicle is in the Ready mode.

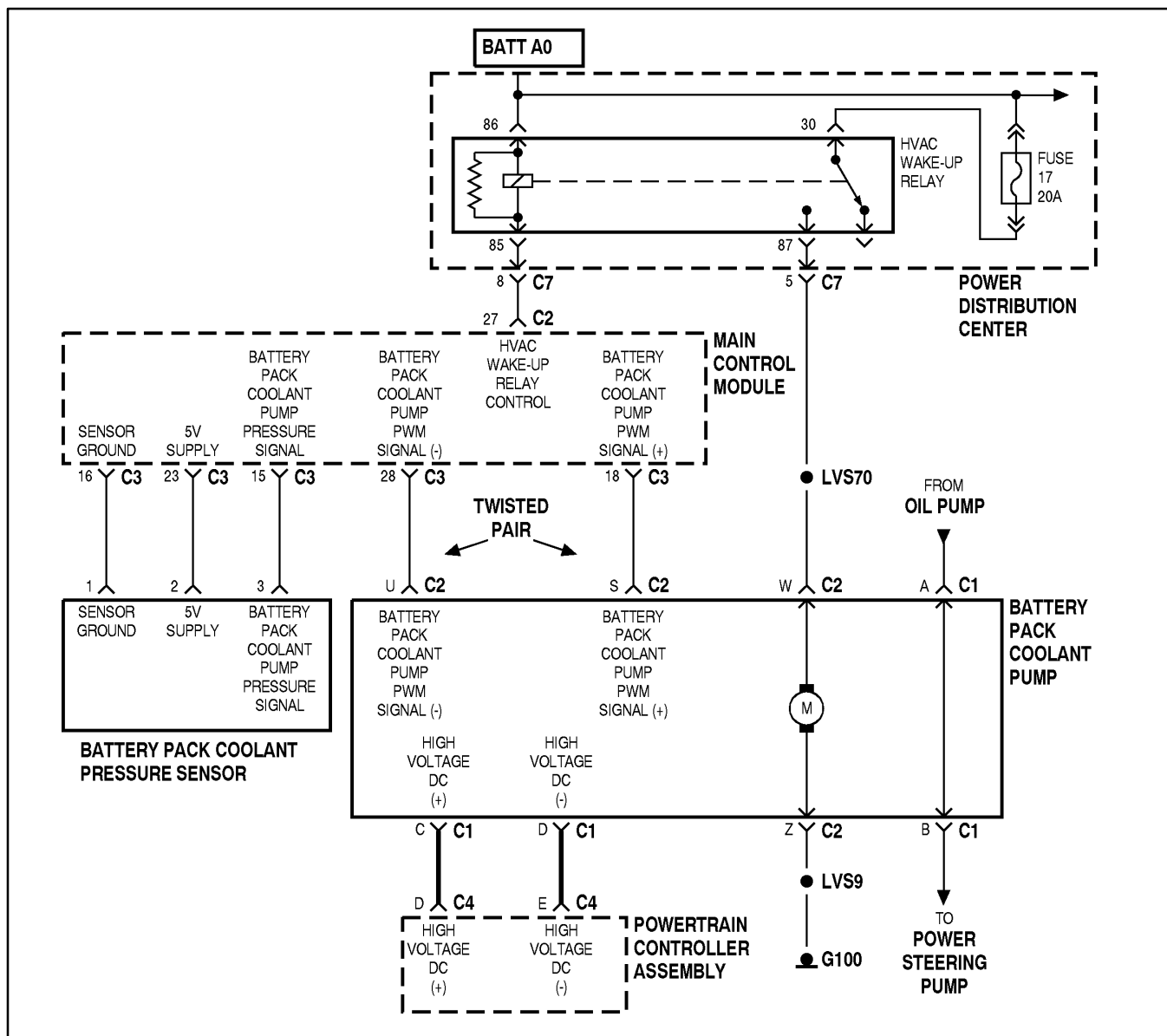
Possible Causes:

- Open or Short Check Plug Lamp Driver circuit.
- Faulty Check Plug Lamp.
- Faulty MCM.

TEST 6 – CHECK PLUG LAMP (\$EF)

STEP	ACTION	YES	NO									
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1.									
2	TURN THE IGNITION SWITCH TO THE RUN POSITION. USING THE SCAN TOOL, ACTUATE THE CHECK PLUG LAMP. DOES THE CHECK PLUG LAMP TURN ON?	NO PROBLEM FOUND.*	GO TO STEP 3.									
3	VERIFY CONDITION OF FUSE 6 IN THE JUNCTION BLOCK. IS FUSE 6 OPEN?	REPLACE FUSE AND GO TO STEP 4.	GO TO STEP 5.									
4	PERFORM TEST 1. USING THE SCAN TOOL, ACTUATE THE CHECK PLUG LAMP. DOES THE CHECK PLUG LAMP TURN ON?	REPAIR SUCCESSFUL.*	GO TO STEP 5.									
5	VERIFY CONDITION OF THE CHECK PLUG LAMP. IS THE BULB BURNED OUT?	REPLACE BULB.*	GO TO STEP 6.									
6	DISCONNECT THE MESSAGE CENTER CONNECTOR.** USING A VOLTMETER, MEASURE THE VOLTAGE AT PIN 10. <div>MESSAGE CENTER</div> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>10</td><td>BR/PK</td><td>FUSED IGNITION SWITCH OUTPUT (ST – RUN)</td></tr><tr><td>11</td><td>OR</td><td>CHECK PLUG INDICATOR DRIVER</td></tr></table> <div><div>6</div><div>13</div><div></div><div>1</div><div>7</div></div> IS THE VOLTAGE GREATER THAN 10.0V?	CAV	COLOR	FUNCTION	10	BR/PK	FUSED IGNITION SWITCH OUTPUT (ST – RUN)	11	OR	CHECK PLUG INDICATOR DRIVER	GO TO STEP 7.	REPAIR FAULT IN FUSED IGNITION SWITCH OUTPUT CIRCUIT.*
CAV	COLOR	FUNCTION										
10	BR/PK	FUSED IGNITION SWITCH OUTPUT (ST – RUN)										
11	OR	CHECK PLUG INDICATOR DRIVER										
7	RECONNECT THE MESSAGE CENTER CONNECTOR. USING A VOLTMETER, MEASURE THE VOLTAGE AT THE CHECK PLUG LAMP TRACE ON THE MESSAGE CENTER CIRCUIT BOARD. IS THE VOLTAGE GREATER THAN 10.0V?	GO TO STEP 8.	REPLACE MESSAGE CENTER.*									
8	USING THE SCAN TOOL, ACTUATE THE CHECK PLUG LAMP. USING A VOLTMETER, BACKPROBE MESSAGE CENTER PIN 11. DOES THE VOLTAGE DROP TO LESS THAN 2.0V DURING ACTUATION?	CALL EPIC HOT LINE.*	GO TO STEP 9.									
9	STOP CHECK PLUG LAMP ACTUATION. USING A MULTIMETER, PROBE MESSAGE CENTER PIN 11 FOR A SHORT TO GROUND AND A SHORT TO VOLTAGE. IS A SHORT PRESENT?	REPAIR SHORT IN CHECK PLUG INDICATOR DRIVER CIRCUIT.*	GO TO STEP 10.									
10	USING AN OHMMETER, MEASURE FOR CONTINUITY BETWEEN MESSAGE CENTER PIN 11 AND MCM – C2 PIN 20. <div>MAIN CONTROL MODULE – C2</div> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>20</td><td>OR</td><td>CHECK PLUG INDICATOR DRIVER</td></tr></table> <div><div>22</div><div>1</div><div></div><div>32</div><div>11</div></div> IS CONTINUITY PRESENT?	CAV	COLOR	FUNCTION	20	OR	CHECK PLUG INDICATOR DRIVER	REPLACE MAIN CONTROL MODULE.*	REPAIR OPEN IN CHECK PLUG INDICATOR DRIVER CIRCUIT.*			
CAV	COLOR	FUNCTION										
20	OR	CHECK PLUG INDICATOR DRIVER										

***Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.**



TEST 7 – COOLANT PUMP PRESSURE FAULT (\$AB, \$AC)

Description: The Main Control Module (MCM) monitors the pressure of the battery pack coolant as it exits the coolant pump. If the coolant pressure is less than 25 PSI or greater than 45 PSI, the MCM will set this code.

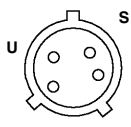
WARNING LAMP: THE “SERVICE REQUIRED” AND “POWER LIMIT” LAMPS WILL BE ILLUMINATED.

Detection: Whenever the vehicle is in the Ready or Charge modes. If this code is set when the vehicle is in the Ready mode, the “POWER LIMIT” will be turned on and maximum current will be limited to 20A. If this code is set during the Charge mode, vehicle charging will be terminated.

Possible Causes:

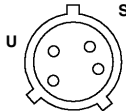
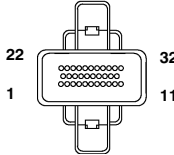
- Faulty battery pack coolant pump.
- Faulty battery pack coolant pressure sensor.
- Obstruction or leak in battery pack coolant system.
- Short to ground or voltage in coolant pump PWM circuit.

TEST 7 – COOLANT PUMP PRESSURE FAULT (\$AB, \$AC)

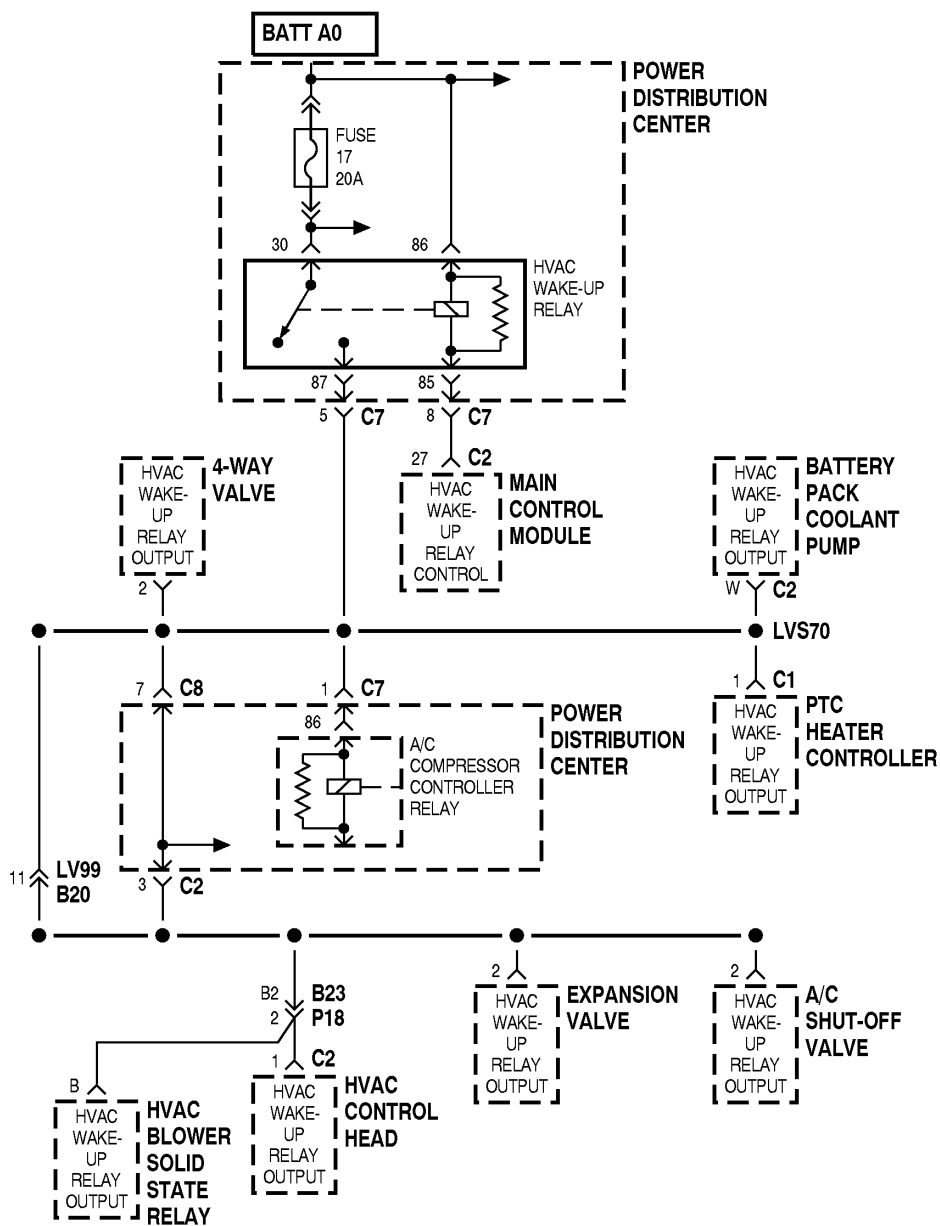
STEP	ACTION	YES	NO									
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1.									
2	IS THE COOLANT AT THE PROPER LEVEL? (INSPECT UNDER VEHICLE FOR ANY LEAKS. REPAIR AS NECESSARY.)	GO TO STEP 4.	GO TO STEP 3.									
3	FILL OR DRAIN AS REQUIRED THAN RETEST FOR “COOLANT PUMP PRESSURE FAULT” DTC. IS “COOLANT PUMP PRESSURE FAULT” DTC STILL PRESENT?	GO TO STEP 4.	REPAIR SUCCESSFUL.*									
4	PUT VEHICLE IN READY MODE. SQUEEZE COOLANT OUTLET TUBE AND LISTEN FOR PUMP RUNNING. IF PUMP IS RUNNING, THERE SHOULD BE A NOTICEABLE NOISE. IS COOLANT PUMP RUNNING?	GO TO STEP 7.	GO TO STEP 5.									
5	TURN VEHICLE OFF. DISABLE THE TRACTION BATTERY PACK BY TURNING THE SERVICE DISCONNECT SWITCH TO THE OFF POSITION. DISCONNECT PCA C1.* VERIFY THE CONDITION OF THE HIGH VOLTAGE BATTERY PACK COOLANT FUSE LOCATED IN THE POWER DISTRIBUTION BOX. IS THE HIGH VOLTAGE FUSE BLOWN?	REPLACE HIGH VOLTAGE FUSE.*	GO TO STEP 6.									
6	VERIFY THE CONDITION OF LOW VOLTAGE FUSE 17 LOCATED IN THE POWER DISTRIBUTION CENTER (PDC). IS FUSE 17 BLOWN?	REPLACE FUSE.*	GO TO STEP 7.									
7	USING AN OHMMETER, CHECK FOR CONTINUITY BETWEEN GROUND AND BATTERY PACK COOLANT PUMP – C2 PIN Z. IS CONTINUITY PRESENT?	GO TO STEP 8.	REPAIR OPEN IN GROUND CIRCUIT.*									
8	CONNECT PCA C1. TURN THE SERVICE DISCONNECT SWITCH TO THE ON POSITION. DISCONNECT BATTERY PACK COOLANT PUMP – C2.** PLACE THE VEHICLE IN THE READY MODE. USING THE SCAN TOOL, RUN THE BATTERY PACK COOLANT PUMP ACTUATOR TEST. CONNECT AN OSCILLOSCOPE BETWEEN BATTERY PACK COOLANT PUMP – C2 PINS U AND S AND MEASURE THE PWM SIGNAL. <div><div>BATTERY PACK COOLANT PUMP – C2</div><table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>S</td><td>LG/WT</td><td>BATTERY PACK COOLANT PUMP PWM SIGNAL (+)</td></tr><tr><td>U</td><td>LG/BK</td><td>BATTERY PACK COOLANT PUMP PWM SIGNAL (–)</td></tr></table></div> IS THE SIGNAL APPROXIMATELY A 20% DUTY CYCLE AT 100 HZ?	CAV	COLOR	FUNCTION	S	LG/WT	BATTERY PACK COOLANT PUMP PWM SIGNAL (+)	U	LG/BK	BATTERY PACK COOLANT PUMP PWM SIGNAL (–)	GO TO STEP 11.	GO TO STEP 9.
CAV	COLOR	FUNCTION										
S	LG/WT	BATTERY PACK COOLANT PUMP PWM SIGNAL (+)										
U	LG/BK	BATTERY PACK COOLANT PUMP PWM SIGNAL (–)										
9	STOP THE COOLANT PUMP ACTUATION. USING A MULTIMETER, CHECK FOR A SHORT TO GROUND AND SHORT TO VOLTAGE AT BATTERY PACK COOLANT PUMP – C2 PINS U AND S. IS A SHORT PRESENT?	REPAIR FAULT IN CIRCUIT.*	GO TO STEP 10.									

***Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.**

TEST 7 – COOLANT PUMP PRESSURE FAULT (\$AB, \$AC)

STEP	ACTION	YES	NO																											
10	<p>DISCONNECT MAIN CONTROL MODULE (MCM) – C3.**</p> <p>USING AN OHMMETER, CHECK FOR CONTINUITY BETWEEN MCM – C3 PIN 28 AND BATTERY PACK COOLANT PUMP – C2 PIN U. ALSO CHECK FOR CONTINUITY BETWEEN MCM – C3 PIN 18 AND BATTERY PACK COOLANT PUMP – C2 PIN S.</p> <p>BATTERY PACK COOLANT PUMP – C2</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>S</td><td>LG/WT</td><td>BATTERY PACK COOLANT PUMP PWM SIGNAL (+)</td></tr><tr><td>U</td><td>LG/BK</td><td>BATTERY PACK COOLANT PUMP PWM SIGNAL (–)</td></tr></table>  <p>MAIN CONTROL MODULE – C3</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>15</td><td>YL/DG</td><td>BATTERY PACK COOLANT PUMP PRESSURE SIGNAL</td></tr><tr><td>16</td><td>BK/LB</td><td>SENSOR GROUND</td></tr><tr><td>18</td><td>LG/WT</td><td>BATTERY PACK COOLANT PUMP PWM SIGNAL (+)</td></tr><tr><td>23</td><td>VT/PK</td><td>5V SUPPLY</td></tr><tr><td>28</td><td>LG/BK</td><td>BATTERY PACK COOLANT PUMP PWM SIGNAL (–)</td></tr></table>  <p>IS CONTINUITY PRESENT?</p>	CAV	COLOR	FUNCTION	S	LG/WT	BATTERY PACK COOLANT PUMP PWM SIGNAL (+)	U	LG/BK	BATTERY PACK COOLANT PUMP PWM SIGNAL (–)	CAV	COLOR	FUNCTION	15	YL/DG	BATTERY PACK COOLANT PUMP PRESSURE SIGNAL	16	BK/LB	SENSOR GROUND	18	LG/WT	BATTERY PACK COOLANT PUMP PWM SIGNAL (+)	23	VT/PK	5V SUPPLY	28	LG/BK	BATTERY PACK COOLANT PUMP PWM SIGNAL (–)	REPLACE MAIN CONTROL MODULE.*	REPAIR OPEN IN CIRCUIT.*
CAV	COLOR	FUNCTION																												
S	LG/WT	BATTERY PACK COOLANT PUMP PWM SIGNAL (+)																												
U	LG/BK	BATTERY PACK COOLANT PUMP PWM SIGNAL (–)																												
CAV	COLOR	FUNCTION																												
15	YL/DG	BATTERY PACK COOLANT PUMP PRESSURE SIGNAL																												
16	BK/LB	SENSOR GROUND																												
18	LG/WT	BATTERY PACK COOLANT PUMP PWM SIGNAL (+)																												
23	VT/PK	5V SUPPLY																												
28	LG/BK	BATTERY PACK COOLANT PUMP PWM SIGNAL (–)																												
11	<p>CONNECT BATTERY PACK COOLANT PUMP C2.</p> <p>DISCONNECT THE BATTERY PACK COOLANT PRESSURE SENSOR.**</p> <p>TURN THE IGNITION SWITCH TO THE ON POSITION.</p> <p>USING A VOLTMETER, MEASURE BATTERY PACK COOLANT PRESSURE SENSOR PIN 2.</p> <p>IS THE VOLTAGE APPROXIMATELY 5.0V?</p>	GO TO STEP 12.	GO TO STEP 14.																											
12	<p>USING A VOLTMETER, MEASURE BATTERY PACK COOLANT PRESSURE SENSOR PIN 1.</p> <p>IS THE VOLTAGE APPROXIMATELY 0.0V?</p>	GO TO STEP 13.	GO TO STEP 15.																											
13	<p>CONNECT JUMPER WIRES BETWEEN THE BATTERY PACK COOLANT PRESSURE SENSOR AND ITS CONNECTOR FOR THE SENSOR GROUND AND 5V SUPPLY PINS (PINS 1 AND 2).</p> <p>USING A VOLTMETER, MEASURE THE VOLTAGE AT BATTERY PACK COOLANT PRESSURE SENSOR PIN 3.</p> <p>IS THE VOLTAGE LESS THAN 0.5V OR GREATER THAN 4.5V?</p>	REPLACE BATTERY PACK COOLANT PRESSURE SENSOR.*	GO TO STEP 16.																											
14	<p>DISCONNECT MCM – C3.**</p> <p>USING AN OHMMETER, CHECK FOR AN OPEN OR SHORT BETWEEN MCM – C3 PIN 23 AND BATTERY PACK COOLANT PUMP PRESSURE SENSOR PIN 2.</p> <p>IS AN OPEN OR SHORT CONDITION PRESENT?</p>	REPAIR FAULT IN 5V SUPPLY CIRCUIT.*	REPLACE MAIN CONTROL MODULE.*																											
15	<p>DISCONNECT MCM – C3.**</p> <p>USING AN OHMMETER, CHECK FOR AN OPEN OR SHORT BETWEEN MCM – C3 PIN 16 AND BATTERY PACK COOLANT PUMP PRESSURE SENSOR PIN 1.</p> <p>IS AN OPEN OR SHORT CONDITION PRESENT?</p>	REPAIR FAULT IN SENSOR GROUND CIRCUIT.*	REPLACE MAIN CONTROL MODULE.*																											
*Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.																														

TEST 7 – COOLANT PUMP PRESSURE FAULT (\$AB, \$AC)			
STEP	ACTION	YES	NO
16	IS THE VOLTAGE BETWEEN 1.1V AND 2.1V?	GO TO STEP 17.	IF READING IS ABOVE 2.1V, INSPECT COOLING SYSTEM FOR OBSTRUCTIONS. IF IT IS BELOW 1.1V, INSPECT COOLING SYSTEM FOR LEAKAGE.*
17	RETURN THE VEHICLE TO THE READY MODE. IS THE BATTERY PACK COOLANT PUMP RUNNING?	CALL EPIC HOT LINE.*	REPLACE BATTERY PACK COOLANT PUMP.*
*Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.			



TEST 8 – HVAC WAKEUP (\$E1)

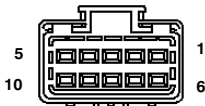
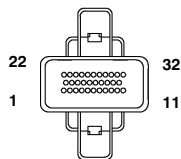
Description: The MCM controls the HVAC Wakeup Relay. If the MCM determines that the voltage on the control circuit is not what is expected, this DTC is set.

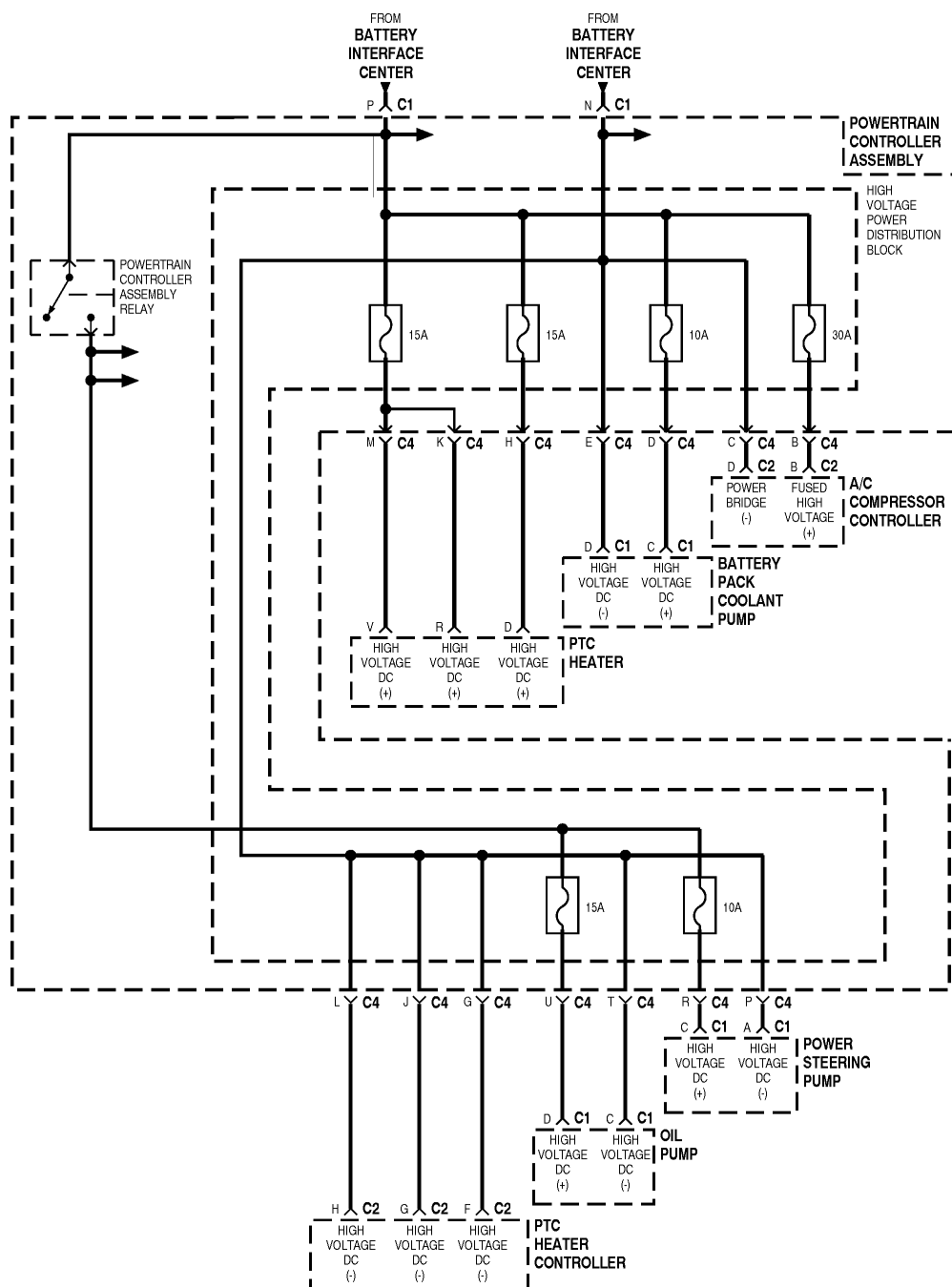
WARNING LAMP: THE “SERVICE REQUIRED” LAMP WILL BE ILLUMINATED.

Detection: Whenever the vehicle is in the Ready or Charge modes.

Possible Causes:

- Open or short HVAC Wakeup Relay driver circuit.
- Faulty HVAC Wakeup Relay.
- Faulty MCM.

TEST 8 – HVAC WAKEUP (\$E1)									
STEP	ACTION	YES	NO						
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1.						
2	REMOVE THE HVAC WAKEUP RELAY. USING AN OHMMETER, MEASURE THE RESISTANCE OF THE RELAY COIL (PINS 85 AND 86). IS THE RESISTANCE BETWEEN 60 AND 80 OHMS?	GO TO STEP 3.	REPLACE THE HVAC WAKEUP RELAY.*						
3	USING A VOLTMETER, MEASURE THE VOLTAGE AT HVAC WAKEUP RELAY CAVITY 86 IN THE POWER DISTRIBUTION CENTER (PDC). IS THE VOLTAGE GREATER THAN 10.0V?	GO TO STEP 4.	REPLACE THE POWER DISTRIBUTION CENTER.*						
4	CONNECT A TEST LIGHT BETWEEN HVAC WAKEUP RELAY CAVITIES 85 AND 86 IN THE POWER DISTRIBUTION CENTER (PDC). USING THE SCAN TOOL, ACTUATE THE HVAC WAKEUP RELAY. DOES THE TEST LIGHT FLASH DURING ACTUATION?	REPLACE THE HVAC WAKEUP RELAY.*	GO TO STEP 5.						
5	DISCONNECT PDC – C7.** USING A MULTIMETER, CHECK FOR A SHORT TO GROUND AND SHORT TO VOLTAGE AT PDC – C7 PIN 8. POWER DISTRIBUTION CENTER – C7 <table border="1"><thead><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr></thead><tbody><tr><td>8</td><td>YL/BK</td><td>HVAC WAKEUP RELAY CONTROL</td></tr></tbody></table>  IS A SHORT PRESENT?	CAV	COLOR	FUNCTION	8	YL/BK	HVAC WAKEUP RELAY CONTROL	REPAIR FAULT IN HVAC WAKEUP RELAY CONTROL CIRCUIT.*	GO TO STEP 6.
CAV	COLOR	FUNCTION							
8	YL/BK	HVAC WAKEUP RELAY CONTROL							
6	DISCONNECT MAIN CONTROL MODULE – C2.** USING AN OHMMETER, CHECK FOR CONTINUITY BETWEEN PDC – C7 PIN 8 AND MAIN CONTROL MODULE – C2 PIN 27. MAIN CONTROL MODULE – C2 <table border="1"><thead><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr></thead><tbody><tr><td>27</td><td>YL/BK</td><td>HVAC WAKEUP RELAY CONTROL</td></tr></tbody></table>  IS CONTINUITY PRESENT?	CAV	COLOR	FUNCTION	27	YL/BK	HVAC WAKEUP RELAY CONTROL	REPLACE MAIN CONTROL MODULE.*	REPAIR OPEN CIRCUIT BETWEEN THE PDC AND MCM.*
CAV	COLOR	FUNCTION							
27	YL/BK	HVAC WAKEUP RELAY CONTROL							
*Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.									



TEST 9 – PRECHARGE CURRENT HIGHER THAN EXPECTED (\$2F)

Description: During start-up, the BEMS™ precharges the high voltage bus before it closes the Safety Relay No. 1. A current sensor inside the Battery Interface Center (BIC) senses the amount of current through a shunt resistor. If during precharge, the BEMS™ senses the current is higher than expected for a given time duration, this DTC is set.

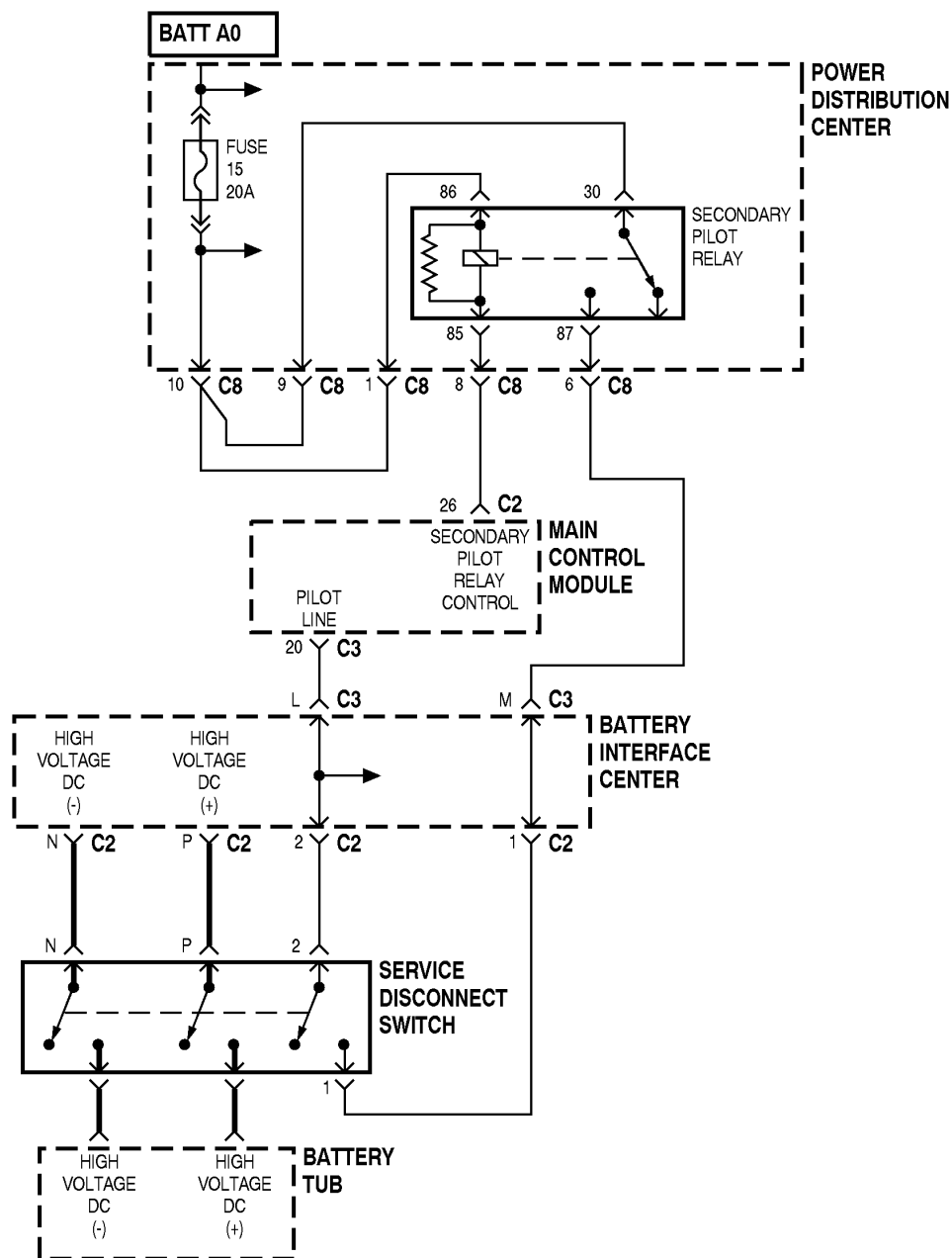
Detection: Whenever the vehicle is in the Ready mode.

Possible Causes:

- Faulty Current Sensor.
- Excessive Load on the high voltage bus.

TEST 9 – PRECHARGE CURRENT HIGHER THAN EXPECTED (\$2F)

STEP	ACTION	YES	NO
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1.
2	DISABLE THE TRACTION BATTERY PACK BY TURNING THE SERVICE DISCONNECT SWITCH TO THE OFF POSITION. DISCONNECT POWERTRAIN CONTROLLER ASSEMBLY (PCA) – C1 CONNECTOR.** REMOVE THE COVER TO THE POWER DISTRIBUTION BOX. REMOVE ALL OF THE HIGH VOLTAGE FUSES IN THE POWER DISTRIBUTION BOX. INSTALL THE COVER TO THE POWER DISTRIBUTION BOX. CONNECT THE POWERTRAIN CONTROLLER ASSEMBLY (PCA) – C1 CONNECTOR. ENABLE THE TRACTION BATTERY PACK BY TURNING THE SERVICE DISCONNECT SWITCH TO THE ON POSITION. USING THE SCAN TOOL, ERASE “PRECHARGE CURRENT HIGHER THAN EXPECTED” DTC. PLACE THE VEHICLE IN THE READY MODE. USING THE SCAN TOOL, READ BEMS™ DTC’S. IS THE “PRECHARGE CURRENT HIGHER THAN EXPECTED” DTC STILL PRESENT?	GO TO STEP 3.	GO TO STEP 4.
3	DISABLE THE TRACTION BATTERY PACK BY TURNING THE SERVICE DISCONNECT SWITCH TO THE OFF POSITION. DISCONNECT POWERTRAIN CONTROLLER ASSEMBLY (PCA) – C1 CONNECTOR.** REMOVE THE COVER TO THE POWERTRAIN CONTROLLER ASSEMBLY. REMOVE THE APC HIGH VOLTAGE FUSE LOCATED ON THE APC POWER STAGE ASSEMBLY. INSTALL THE COVER TO THE POWERTRAIN CONTROLLER ASSEMBLY. CONNECT THE POWERTRAIN CONTROLLER ASSEMBLY (PCA) – C1 CONNECTOR. ENABLE THE TRACTION BATTERY PACK BY TURNING THE SERVICE DISCONNECT SWITCH TO THE ON POSITION. USING THE SCAN TOOL, ERASE “PRECHARGE CURRENT HIGHER THAN EXPECTED” DTC. PLACE THE VEHICLE IN THE READY MODE. USING THE SCAN TOOL, READ BEMS™ DTC’S. IS THE “PRECHARGE CURRENT HIGHER THAN EXPECTED” DTC STILL PRESENT?	REPLACE THE BATTERY INTERFACE CENTER.*	REPLACE THE APC POWER STAGE ASSEMBLY.*
4	DISABLE THE TRACTION BATTERY PACK BY TURNING THE SERVICE DISCONNECT SWITCH TO THE OFF POSITION. DISCONNECT POWERTRAIN CONTROLLER ASSEMBLY (PCA) – C1 CONNECTOR.** REMOVE THE COVER TO THE POWER DISTRIBUTION BOX. INSTALL ONE HIGH VOLTAGE FUSE. INSTALL THE COVER TO THE POWER DISTRIBUTION BOX. CONNECT THE POWERTRAIN CONTROLLER ASSEMBLY (PCA) – C1 CONNECTOR. ENABLE THE TRACTION BATTERY PACK BY TURNING THE SERVICE DISCONNECT SWITCH TO THE ON POSITION. USING THE SCAN TOOL, ERASE “PRECHARGE CURRENT HIGHER THAN EXPECTED” DTC. PLACE THE VEHICLE IN THE READY MODE. USING THE SCAN TOOL, READ BEMS™ DTC’S. IS THE “PRECHARGE CURRENT HIGHER THAN EXPECTED” DTC STILL PRESENT?	REPLACE COMPONENT THAT FUSE SUPPLIES HIGH VOLTAGE TO.*	REPEAT STEP 4 UNTIL DTC IS SET AGAIN. REPLACE COMPONENT THAT THE LAST FUSE SUPPLIES HIGH VOLTAGE TO.*
*Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.			



TEST 10 – SERVICE DISCONNECT SWITCH OPEN (\$18)

Description: The Service Disconnect Switch is used to isolate the high voltage traction battery pack from the rest of the vehicle. This code is set when the Main Control Module (MCM) senses that the switch has been opened.

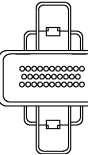
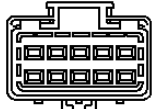
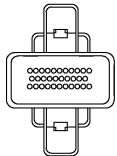
WARNING LAMP: THE “SERVICE REQUIRED” LAMP WILL BE ILLUMINATED.

Detection: Whenever the vehicle is in the Ready or Charge modes.

Possible Causes:

- Service Disconnect Switch is open.
- Service Disconnect Switch input is shorted to ground.
- Service Disconnect Switch status power feed is open.

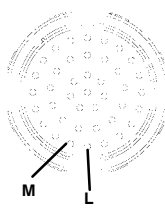
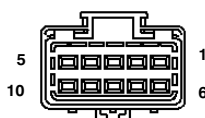
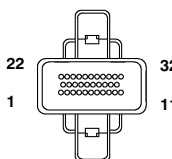
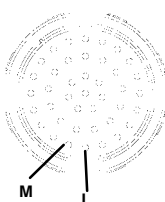
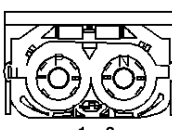
TEST 10 – SERVICE DISCONNECT SWITCH OPEN (\$18)

STEP	ACTION	YES	NO									
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1.									
2	VERIFY THAT THE SERVICE DISCONNECT SWITCH IS IN THE CLOSED POSITION. IS THE SERVICE DISCONNECT SWITCH CLOSED?	GO TO STEP 3.	CLOSE SERVICE DISCONNECT SWITCH.*									
3	INSPECT FUSE 15 IN THE POWER DISTRIBUTION CENTER (PDC). IS THE FUSE BLOWN?	REPLACE FUSE.*	GO TO STEP 4.									
4	REMOVE THE SECONDARY PILOT RELAY. USING A VOLTMETER, CHECK THE VOLTAGE BETWEEN GROUND AT PINS 86 AND 30. IS 12V PRESENT?	GO TO STEP 5.	REPAIR FAULT IN CIRCUIT BETWEEN THE SECONDARY PILOT RELAY AND FUSE 15.*									
5	DISCONNECT MAIN CONTROL MODULE (MCM) CONNECTOR C2.** USING A OHMMETER, MEASURE THE RESISTANCE BETWEEN SECONDARY PILOT RELAY PIN 85 AND MCM – C2 PIN 26. <div><div>MAIN CONTROL MODULE – C2</div><table><thead><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr></thead><tbody><tr><td>26</td><td>WT/OR</td><td>SECONDARY PILOT RELAY CONTROL</td></tr></tbody></table><div><div>22</div><div>32</div><div>1</div><div>11</div></div></div> IS CONTINUITY PRESENT?	CAV	COLOR	FUNCTION	26	WT/OR	SECONDARY PILOT RELAY CONTROL	GO TO STEP 7.	GO TO STEP 6.			
CAV	COLOR	FUNCTION										
26	WT/OR	SECONDARY PILOT RELAY CONTROL										
6	DISCONNECT PDC CONNECTOR C8.** USING A OHMMETER, MEASURE THE RESISTANCE BETWEEN PDC – C8 PIN 8 AND MCM – C2 PIN 26. <div><div>POWER DISTRIBUTION CENTER – C8</div><table><thead><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr></thead><tbody><tr><td>6</td><td>DB/WT</td><td>SECONDARY PILOT RELAY OUTPUT</td></tr><tr><td>8</td><td>WT/OR</td><td>SECONDARY PILOT RELAY CONTROL</td></tr></tbody></table><div><div>5</div><div>1</div><div>10</div><div>6</div></div></div> IS CONTINUITY PRESENT?	CAV	COLOR	FUNCTION	6	DB/WT	SECONDARY PILOT RELAY OUTPUT	8	WT/OR	SECONDARY PILOT RELAY CONTROL	REPLACE POWER DISTRIBUTION CENTER.*	REPAIR OPEN CIRCUIT BETWEEN THE PDC AND MCM.*
CAV	COLOR	FUNCTION										
6	DB/WT	SECONDARY PILOT RELAY OUTPUT										
8	WT/OR	SECONDARY PILOT RELAY CONTROL										
7	DISCONNECT MAIN CONTROL MODULE (MCM) CONNECTOR C3.** USING A OHMMETER, CHECK FOR CONTINUITY AND A SHORT TO GROUND BETWEEN SECONDARY PILOT RELAY PIN 87 AND MCM – C3 PIN 20. <div><div>MAIN CONTROL MODULE – C3</div><table><thead><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr></thead><tbody><tr><td>20</td><td>WT/LB</td><td>PILOT LINE</td></tr></tbody></table><div><div>22</div><div>32</div><div>1</div><div>11</div></div></div> IS AN OPEN OR SHORT TO GROUND PRESENT?	CAV	COLOR	FUNCTION	20	WT/LB	PILOT LINE	GO TO STEP 8.	REPLACE SECONDARY PILOT RELAY.*			
CAV	COLOR	FUNCTION										
20	WT/LB	PILOT LINE										
8	DISCONNECT POWER DISTRIBUTION CENTER C8.** USING A OHMMETER, CHECK FOR CONTINUITY AND A SHORT TO GROUND BETWEEN PDC – C8 PIN 6 AND MCM – C3 PIN 20. IS AN OPEN OR SHORT TO GROUND PRESENT?	GO TO STEP 9.	REPLACE POWER DISTRIBUTION CENTER.*									

*Perform Verification TEST VER-1A.

**Check connectors - Clean/repair as necessary.

TEST 10 – SERVICE DISCONNECT SWITCH OPEN (\$18)

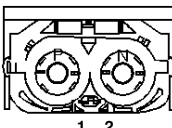
STEP	ACTION	YES	NO																			
9	<p>DISCONNECT BATTERY INTERFACE CENTER (BIC) C3.**</p> <p>USING A OHMMETER, CHECK FOR CONTINUITY AND A SHORT TO GROUND BETWEEN PDC – C8 PIN 6 AND BIC – C3 PIN M.</p> <p>BATTERY INTERFACE CENTER – C3</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>L</td><td>WT/LB</td><td>PILOT LINE</td></tr><tr><td>M</td><td>DB/WT</td><td>SECONDARY PILOT RELAY OUTPUT</td></tr></table> <p>POWER DISTRIBUTION CENTER – C8</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>6</td><td>DB/WT</td><td>SECONDARY PILOT RELAY OUTPUT</td></tr><tr><td>8</td><td>WT/OR</td><td>SECONDARY PILOT RELAY CONTROL</td></tr></table> <p>IS AN OPEN OR SHORT TO GROUND PRESENT?</p>	CAV	COLOR	FUNCTION	L	WT/LB	PILOT LINE	M	DB/WT	SECONDARY PILOT RELAY OUTPUT	CAV	COLOR	FUNCTION	6	DB/WT	SECONDARY PILOT RELAY OUTPUT	8	WT/OR	SECONDARY PILOT RELAY CONTROL	 	REPAIR FAULT IN CIRCUIT BETWEEN BIC AND PDC.*	GO TO STEP 10.
CAV	COLOR	FUNCTION																				
L	WT/LB	PILOT LINE																				
M	DB/WT	SECONDARY PILOT RELAY OUTPUT																				
CAV	COLOR	FUNCTION																				
6	DB/WT	SECONDARY PILOT RELAY OUTPUT																				
8	WT/OR	SECONDARY PILOT RELAY CONTROL																				
10	<p>USING A OHMMETER, CHECK FOR CONTINUITY AND A SHORT TO GROUND BETWEEN MCM – C3 PIN 20 AND BIC – C3 PIN L.</p> <p>MAIN CONTROL MODULE – C3</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>20</td><td>WT/LB</td><td>PILOT LINE</td></tr></table> <p>IS AN OPEN OR SHORT TO GROUND PRESENT?</p>	CAV	COLOR	FUNCTION	20	WT/LB	PILOT LINE		REPAIR FAULT IN CIRCUIT BETWEEN BIC C3 AND MCM.*	GO TO STEP 11.												
CAV	COLOR	FUNCTION																				
20	WT/LB	PILOT LINE																				
11	<p>USING A OHMMETER, CHECK FOR CONTINUITY AND A SHORT TO GROUND INTO THE BIC BETWEEN BIC – C3 PIN L AND BIC – C3 PIN M.</p> <p>BATTERY INTERFACE CENTER – C3</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>L</td><td>WT/LB</td><td>PILOT LINE</td></tr><tr><td>M</td><td>DB/WT</td><td>SECONDARY PILOT RELAY OUTPUT</td></tr></table> <p>IS AN OPEN OR SHORT TO GROUND PRESENT?</p>	CAV	COLOR	FUNCTION	L	WT/LB	PILOT LINE	M	DB/WT	SECONDARY PILOT RELAY OUTPUT		GO TO STEP 12.	REPLACE MCM.*									
CAV	COLOR	FUNCTION																				
L	WT/LB	PILOT LINE																				
M	DB/WT	SECONDARY PILOT RELAY OUTPUT																				
12	<p>DISABLE THE TRACTION BATTERY PACK BY TURNING THE SERVICE DISCONNECT TO OFF.</p> <p>DISCONNECT BIC C2.**</p> <p>DISCONNECT SERVICE DISCONNECT SWITCH CONNECTOR.**</p> <p>CONNECT A JUMPER BETWEEN SERVICE DISCONNECT SWITCH CONNECTOR HARNESS PINS 1 AND 2.</p> <p>USING A OHMMETER, CHECK FOR CONTINUITY AND A SHORT TO GROUND BETWEEN BIC – C2 PIN 2 AND BIC – C2 PIN 1.</p> <p>BATTERY INTERFACE CENTER – C2 AND SERVICE DISCONNECT SWITCH</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>1</td><td>DB</td><td>PILOT LINE</td></tr><tr><td>2</td><td>WT</td><td>PILOT LINE</td></tr><tr><td>N</td><td>OR/BK</td><td>DC(–)</td></tr><tr><td>P</td><td>OR</td><td>DC(+)</td></tr></table> <p>IS AN OPEN OR SHORT TO GROUND PRESENT?</p>	CAV	COLOR	FUNCTION	1	DB	PILOT LINE	2	WT	PILOT LINE	N	OR/BK	DC(–)	P	OR	DC(+)		REPAIR FAULT IN CIRCUIT BETWEEN BIC C2 AND SERVICE DISCONNECT SWITCH.*	GO TO STEP 13.			
CAV	COLOR	FUNCTION																				
1	DB	PILOT LINE																				
2	WT	PILOT LINE																				
N	OR/BK	DC(–)																				
P	OR	DC(+)																				

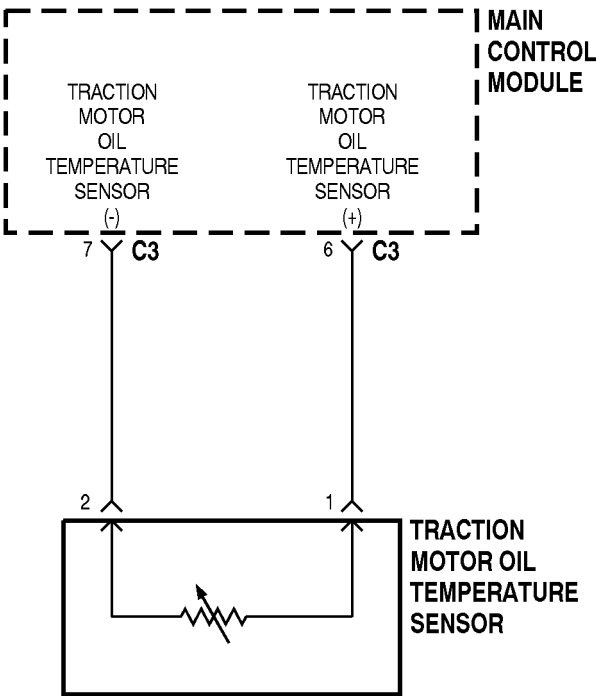
***Perform Verification TEST VER-1A.**

****Check connectors - Clean/repair as necessary.**

***Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.**

TEST 10 – SERVICE DISCONNECT SWITCH OPEN (\$18)

STEP	ACTION	YES	NO															
13	<p>DISCONNECT BATTERY INTERFACE CENTER (BIC) C1.**</p> <p>USING A OHMMETER, CHECK FOR CONTINUITY AND A SHORT TO GROUND BETWEEN BIC – C1 PINS 1 AND 2.</p> <p style="text-align: center;">BATTERY INTERFACE CENTER – C1</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>1</td><td>DB</td><td>PILOT LINE</td></tr><tr><td>2</td><td>WT</td><td>PILOT LINE</td></tr><tr><td>N</td><td>OR/BK</td><td>DC(-)</td></tr><tr><td>P</td><td>OR</td><td>DC(+)</td></tr></table>  <p>IS AN OPEN OR SHORT TO GROUND PRESENT?</p>	CAV	COLOR	FUNCTION	1	DB	PILOT LINE	2	WT	PILOT LINE	N	OR/BK	DC(-)	P	OR	DC(+)	REFER TO “PILOT DROPOUT FAULT” IN THE PCA DIAGNOSTICS SECTION OF THIS MANUAL.	REPLACE SERVICE DISCONNECT SWITCH.*
CAV	COLOR	FUNCTION																
1	DB	PILOT LINE																
2	WT	PILOT LINE																
N	OR/BK	DC(-)																
P	OR	DC(+)																
*Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.																		



TEST 11 – TRACTION MOTOR TEMPERATURE SENSOR OPEN (\$D6)

Description: The Traction Motor Temperature Sensor is monitored by the Main Control Module (MCM). This code is set when the Traction Motor Temperature Sensor signal circuit measured voltage is greater than 4.5 V.

WARNING LAMP: SERVICE REQUIRED WARNING LAMP IS TURNED ON.

Detection: Whenever the vehicle is in the Ready mode.

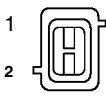
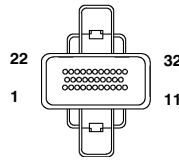
Possible Causes:

- Traction Motor Temperature Sensor is open.
- Wiring harness for the Traction Motor Temperature Sensor signal connection has an open.
- Defective MCM.

TRACTION MOTOR TEMPERATURE SENSOR VALUES

°C	°F	MIN	MAX
0°	32°	29.3 KΩ	36 KΩ
10°	50°	18 KΩ	22 KΩ
20°	68°	11.4 KΩ	13.6 KΩ
25°	77°	9.1 KΩ	10.8 KΩ
30°	86°	7.4 KΩ	8.7 KΩ
40°	104°	4.9 KΩ	5.7 KΩ
50°	122°	3.3 KΩ	3.8 KΩ

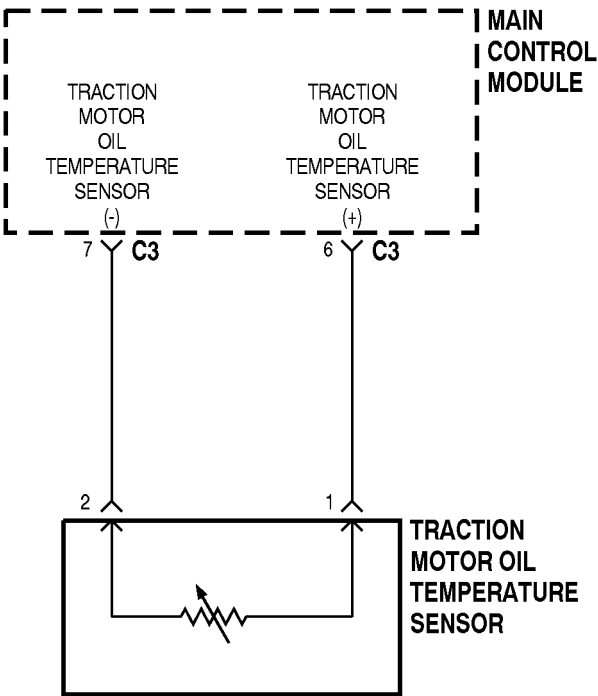
TEST 11 – TRACTION MOTOR TEMPERATURE SENSOR OPEN (\$D6)

STEP	ACTION	YES	NO																		
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1																		
2	<p>DISCONNECT MAIN CONTROL MODULE (MCM) CONNECTOR C3.**</p> <p>DISCONNECT TRACTION MOTOR TEMPERATURE SENSOR.**</p> <p>USING AN OHMMETER, CHECK FOR CONTINUITY BETWEEN MCM – C3 PIN 6 AND TRACTION MOTOR TEMPERATURE SENSOR PIN 1 AND BETWEEN MCM – C3 PIN 7 AND TRACTION MOTOR TEMPERATURE SENSOR PIN 2.</p> <p>TRACTION MOTOR TEMPERATURE SENSOR</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>1</td><td>WT</td><td>TRACTION MOTOR TEMPERATURE SENSOR (+)</td></tr><tr><td>2</td><td>WT/BK</td><td>TRACTION MOTOR TEMPERATURE SENSOR (-)</td></tr></table>  <p>MAIN CONTROL MODULE – C3</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>6</td><td>WT</td><td>TRACTION MOTOR TEMPERATURE SENSOR (+)</td></tr><tr><td>7</td><td>WT/BK</td><td>TRACTION MOTOR TEMPERATURE SENSOR (-)</td></tr></table>  <p>IS CONTINUITY PRESENT?</p>	CAV	COLOR	FUNCTION	1	WT	TRACTION MOTOR TEMPERATURE SENSOR (+)	2	WT/BK	TRACTION MOTOR TEMPERATURE SENSOR (-)	CAV	COLOR	FUNCTION	6	WT	TRACTION MOTOR TEMPERATURE SENSOR (+)	7	WT/BK	TRACTION MOTOR TEMPERATURE SENSOR (-)	GO TO STEP 3.	REPAIR THE OPEN ON THE SENSOR CIRCUIT.*
CAV	COLOR	FUNCTION																			
1	WT	TRACTION MOTOR TEMPERATURE SENSOR (+)																			
2	WT/BK	TRACTION MOTOR TEMPERATURE SENSOR (-)																			
CAV	COLOR	FUNCTION																			
6	WT	TRACTION MOTOR TEMPERATURE SENSOR (+)																			
7	WT/BK	TRACTION MOTOR TEMPERATURE SENSOR (-)																			
3	<p>CONNECT A JUMPER WIRE FROM THE TRACTION MOTOR TEMPERATURE SENSOR PINS 1 AND 2 TO THE TRACTION MOTOR TEMPERATURE SENSOR CONNECTOR PINS 1 AND 2.</p> <p>PLACE THE VEHICLE IN THE READY MODE.</p> <p>USING A VOLTMETER, MEASURE THE VOLTAGE BETWEEN PINS 1 AND 2.</p> <p>IS THE VOLTAGE GREATER THAN 4.5V?</p>	REPLACE TRACTION MOTOR TEMPERATURE SENSOR.*	REPLACE MAIN CONTROL MODULE.*																		

***Perform Verification TEST VER-1A.**

****Check connectors - Clean/repair as necessary.**

***Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.**



TEST 12 – TRACTION MOTOR TEMPERATURE SENSOR SHORT (\$D7)

Description: The Traction Motor Temperature Sensor is monitored by the Main Control Module (MCM). This code is set when the Traction Motor Temperature Sensor signal circuit measured voltage is less than 0.5 V.

WARNING LAMP: SERVICE REQUIRED WARNING LAMP IS TURNED ON.

Detection: Whenever the vehicle is in the Ready mode.


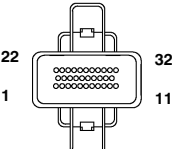
Possible Causes:

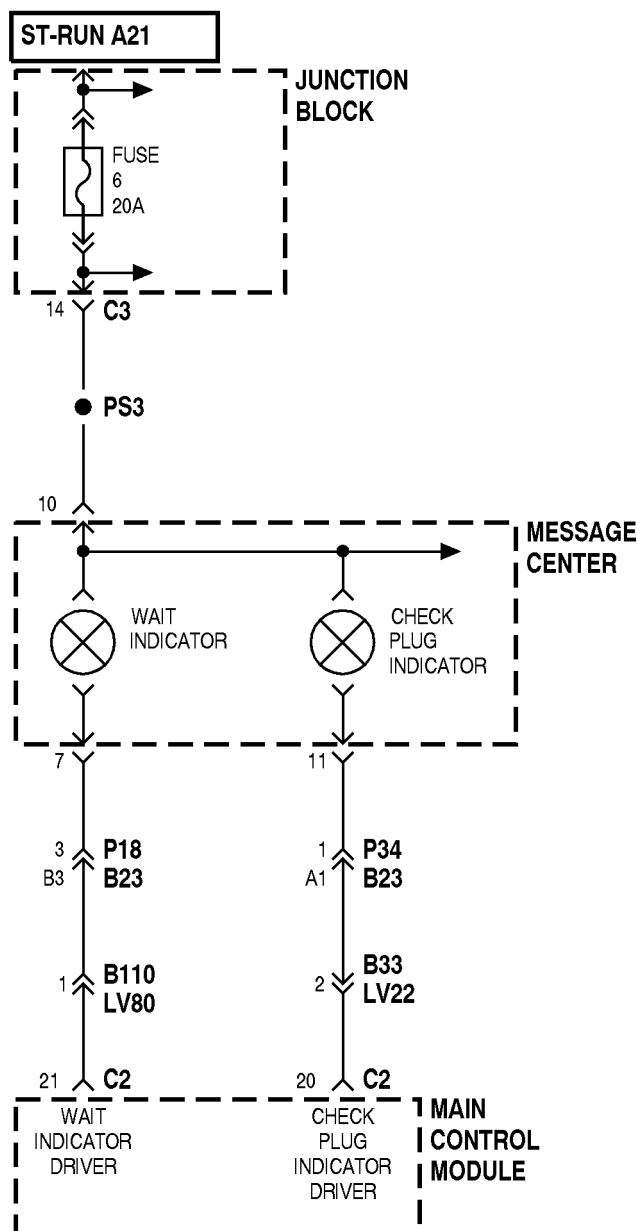
- Traction Motor Temperature Sensor is shorted.
- Wiring harness for the Traction Motor Temperature Sensor signal connection is shorted.
- Defective MCM.

TRACTION MOTOR TEMPERATURE SENSOR VALUES

°C	°F	MIN	MAX
0°	32°	29.3 KΩ	36 KΩ
10°	50°	18 KΩ	22 KΩ
20°	68°	11.4 KΩ	13.6 KΩ
25°	77°	9.1 KΩ	10.8 KΩ
30°	86°	7.4 KΩ	8.7 KΩ
40°	104°	4.9 KΩ	5.7 KΩ
50°	122°	3.3 KΩ	3.8 KΩ

TEST 12 – TRACTION MOTOR TEMPERATURE SENSOR SHORT (\$D7)

STEP	ACTION	YES	NO																		
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1																		
2	<p>DISCONNECT TRACTION MOTOR TEMPERATURE SENSOR.**</p> <p>USING AN MULTIMETER, CHECK FOR A SHORT TO GROUND AT TRACTION MOTOR TEMPERATURE SENSOR PINS 1 AND 2.</p> <p>TRACTION MOTOR TEMPERATURE SENSOR</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>1</td><td>WT</td><td>TRACTION MOTOR TEMPERATURE SENSOR (+)</td></tr><tr><td>2</td><td>WT/BK</td><td>TRACTION MOTOR TEMPERATURE SENSOR (-)</td></tr></table>  <p>MAIN CONTROL MODULE – C3</p> <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>6</td><td>WT</td><td>TRACTION MOTOR TEMPERATURE SENSOR (+)</td></tr><tr><td>7</td><td>WT/BK</td><td>TRACTION MOTOR TEMPERATURE SENSOR (-)</td></tr></table>  <p>IS A SHORT TO GROUND PRESENT?</p>	CAV	COLOR	FUNCTION	1	WT	TRACTION MOTOR TEMPERATURE SENSOR (+)	2	WT/BK	TRACTION MOTOR TEMPERATURE SENSOR (-)	CAV	COLOR	FUNCTION	6	WT	TRACTION MOTOR TEMPERATURE SENSOR (+)	7	WT/BK	TRACTION MOTOR TEMPERATURE SENSOR (-)	GO TO STEP 3.	REPAIR THE SHORT ON THE SENSOR CIRCUIT.*
CAV	COLOR	FUNCTION																			
1	WT	TRACTION MOTOR TEMPERATURE SENSOR (+)																			
2	WT/BK	TRACTION MOTOR TEMPERATURE SENSOR (-)																			
CAV	COLOR	FUNCTION																			
6	WT	TRACTION MOTOR TEMPERATURE SENSOR (+)																			
7	WT/BK	TRACTION MOTOR TEMPERATURE SENSOR (-)																			
3	<p>DISCONNECT THE TRACTION MOTOR TEMPERATURE SENSOR.**</p> <p>CONNECT A JUMPER WIRE FROM THE TRACTION MOTOR TEMPERATURE SENSOR PINS 1 AND 2 TO THE TRACTION MOTOR TEMPERATURE SENSOR CONNECTOR PINS 1 AND 2.</p> <p>PLACE THE VEHICLE IN THE READY MODE.</p> <p>USING A VOLTMETER, MEASURE THE VOLTAGE BETWEEN PINS 1 AND 2.</p> <p>IS THE VOLTAGE LESS THAN 0.5V?</p>	REPLACE TRACTION MOTOR TEMPERATURE SENSOR.*	REPLACE MAIN CONTROL MODULE.*																		
*Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.																					



TEST 13 – WAIT LAMP (\$E3)

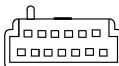
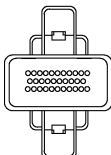
Description: The MCM controls the WAIT Lamp located in the Message Center. If the MCM determines that the voltage on the control circuit is not what is expected, this DTC is set.

Detection: Whenever the vehicle is in the Ready mode.

Possible Causes:

- Open or Short Wait Lamp Driver circuit.
- Faulty Wait Lamp.
- Faulty MCM.

TEST 13 – WAIT LAMP (\$E3)

STEP	ACTION	YES	NO									
1	HAS TEST 1 BEEN COMPLETED?	GO TO STEP 2.	PERFORM TEST 1.									
2	TURN THE IGNITION SWITCH TO THE RUN POSITION. USING THE SCAN TOOL, ACTUATE THE WAIT LAMP. DOES THE WAIT LAMP TURN ON?	NO PROBLEM FOUND.*	GO TO STEP 3.									
3	VERIFY CONDITION OF FUSE 6 IN THE JUNCTION BLOCK. IS FUSE 6 OPEN?	REPLACE FUSE AND GO TO STEP 4.	GO TO STEP 5.									
4	PERFORM TEST 1. USING THE SCAN TOOL, ACTUATE THE WAIT LAMP. DOES THE WAIT LAMP TURN ON?	REPAIR SUCCESSFUL.*	GO TO STEP 5.									
5	VERIFY CONDITION OF THE WAIT LAMP. IS THE BULB BURNED OUT?	REPLACE BULB.*	GO TO STEP 6.									
6	DISCONNECT THE MESSAGE CENTER CONNECTOR.** USING A VOLTMETER, MEASURE THE VOLTAGE AT PIN 7. <div>MESSAGE CENTER <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>7</td><td>VT/LG</td><td>WAIT INDICATOR DRIVER</td></tr><tr><td>10</td><td>BR/PK</td><td>FUSED IGNITION SWITCH OUTPUT (ST – RUN)</td></tr></table><div><div>6</div><div>13</div><div></div><div>1</div><div>7</div></div></div> IS THE VOLTAGE GREATER THAN 10.0V?	CAV	COLOR	FUNCTION	7	VT/LG	WAIT INDICATOR DRIVER	10	BR/PK	FUSED IGNITION SWITCH OUTPUT (ST – RUN)	GO TO STEP 7.	REPAIR FAULT IN FUSED IGNITION SWITCH OUTPUT CIRCUIT.*
CAV	COLOR	FUNCTION										
7	VT/LG	WAIT INDICATOR DRIVER										
10	BR/PK	FUSED IGNITION SWITCH OUTPUT (ST – RUN)										
7	RECONNECT THE MESSAGE CENTER CONNECTOR. USING A VOLTMETER, MEASURE THE VOLTAGE AT THE WAIT LAMP TRACE ON THE MESSAGE CENTER CIRCUIT BOARD. IS THE VOLTAGE GREATER THAN 10.0V?	GO TO STEP 8.	REPLACE MESSAGE CENTER.*									
8	USING THE SCAN TOOL, ACTUATE THE WAIT LAMP. USING A VOLTMETER, BACKPROBE MESSAGE CENTER PIN 7. DOES THE VOLTAGE DROP TO LESS THAN 2.0V DURING ACTUATION?	CALL EPIC HOT LINE.*	GO TO STEP 9.									
9	STOP WAIT LAMP ACTUATION. USING A MULTIMETER, PROBE MESSAGE CENTER PIN 7 FOR A SHORT TO GROUND AND A SHORT TO VOLTAGE. IS A SHORT PRESENT?	REPAIR SHORT IN WAIT INDICATOR DRIVER CIRCUIT.*	GO TO STEP 10.									
10	USING AN OHMMETER, MEASURE FOR CONTINUITY BETWEEN MESSAGE CENTER PIN 7 AND MCM – C2 PIN 21. <div>MAIN CONTROL MODULE – C2 <table><tr><th>CAV</th><th>COLOR</th><th>FUNCTION</th></tr><tr><td>21</td><td>VT/LG</td><td>WAIT INDICATOR DRIVER</td></tr></table><div><div>22</div><div>1</div><div></div><div>32</div><div>11</div></div></div> IS CONTINUITY PRESENT?	CAV	COLOR	FUNCTION	21	VT/LG	WAIT INDICATOR DRIVER	REPLACE MAIN CONTROL MODULE.*	REPAIR OPEN IN WAIT INDICATOR DRIVER CIRCUIT.*			
CAV	COLOR	FUNCTION										
21	VT/LG	WAIT INDICATOR DRIVER										

*Perform Verification TEST VER-1A.

**Check connectors - Clean/repair as necessary.

***Perform Verification TEST VER-1A. **Check connectors - Clean/repair as necessary.**

COMPONENT SERVICE

BATTERY INTERFACE CENTER

DESCRIPTION

The BIC monitors and controls traction battery charging and discharging functions. It also houses the high voltage isolation and safety relays, Dielectric Breakdown Sensor (DBS), MCM, and current sensor. The BIC is not serviceable and is replaced as an assembly.

REMOVAL

- (1) Disable traction battery pack by turning the service disconnect switch to Off.
- (2) Disconnect and isolate the auxiliary battery negative cable.
- (3) Raise vehicle on a hoist. Refer to "Lifting Procedure" in this manual.
- (4) Remove electrical connectors (4) at BIC.
- (5) Support BIC and remove mounting bolts (3).
- (6) Remove BIC (Fig. 1).

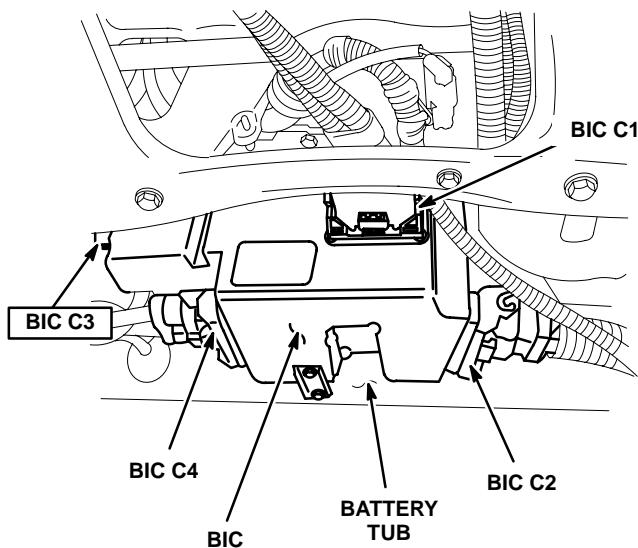


Fig. 2 BIC

INSTALLATION

- (1) Install BIC. Tighten mounting bolts (3) to 14 N•m (120 in. lbs.) torque.
- (2) Install BIC electrical connectors (4).
- (3) Lower vehicle.
- (4) Connect auxiliary battery negative cable.

- (5) Enable the traction battery pack by turning the high voltage service disconnect switch to On.

MAIN CONTROL MODULE (MCM)

OPERATION

The BEMS™ MCM operates in four basic modes: Run (discharge) mode, charge mode, diagnostic mode and sleep mode. When in the Run mode, the MCM is managing the discharge of the battery pack (including REGEN) during vehicle operation. In the charge mode, the MCM is managing the charging process of an off board charger which provides DC energy to the battery pack. In the diagnostic mode, the MCM can be checked for fault codes or tests can be performed using the proper diagnostic equipment. The sleep mode is entered to conserve auxiliary battery power after the vehicle has been shut down for about ten minutes. The MCM also performs the State of Charge (SOC) measurement, and keeps a log of the battery condition for the life of the battery pack.

The MCM also monitors battery discharge. If the lowest battery module charge level goes below 20% charge for more than 20 seconds the current will be limited to 20 amps until the vehicle is recharged or the MCM is reset. Whenever the current limit is reduced to less than 300 amps the MCM illuminates the POWER LIMIT warning lamp. This lamp is an indication that the battery pack is not capable of providing full performance any longer. When the current limit has been reduced to 20 amps and the lowest battery module voltage drops below 11.0 volts, the safety relay is opened to prevent irreversible damage to the battery pack. The safety may be closed by a restart sequence, but the current limit will stay at 20 amps until the battery pack is recharged. The MCM also monitors battery pack module temperature. If any module temperature is greater than the acceptable range, the current is reduced to a low level to prevent further heating of the battery modules. If maximum temperature is reached, the current limit is reduced to 8 amps.

REMOVAL

- (1) Disable traction battery pack by turning the service disconnect switch to Off.
- (2) Disconnect and isolate the auxiliary battery negative cable.

MCM (Continued)

- (3) Raise vehicle on a hoist. Refer to “Lifting Procedure” in this manual.
- (4) Remove electrical connectors (4) at BIC.
- (5) Support BIC and remove mounting bolts (3).
- (6) Remove BIC.
- (1) Remove electrical connectors (3) from MCM.
- (2) Remove mounting bolts (3).
- (3) Remove MCM (Fig. 2).

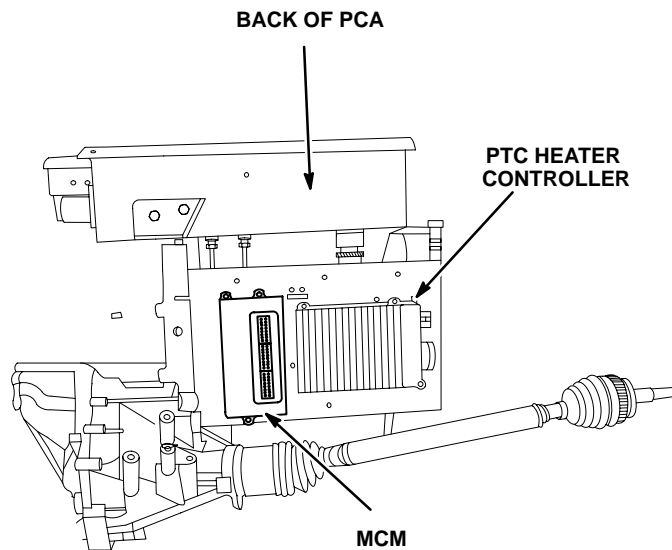


Fig. 3 MCM

INSTALLATION

- (4) Install MCM. Tighten mounting bolts (3) to 6 N•m (55 in. lbs.) torque.
- (5) Install MCM electrical connectors (3).
- (1) Install BIC. Tighten mounting bolts (3) to 14 N•m (120 in. lbs.) torque.
- (2) Install BIC electrical connectors (4).
- (3) Lower vehicle.
- (4) Connect auxiliary battery negative cable.
- (5) Enable the traction battery pack by turning the high voltage service disconnect switch to On.

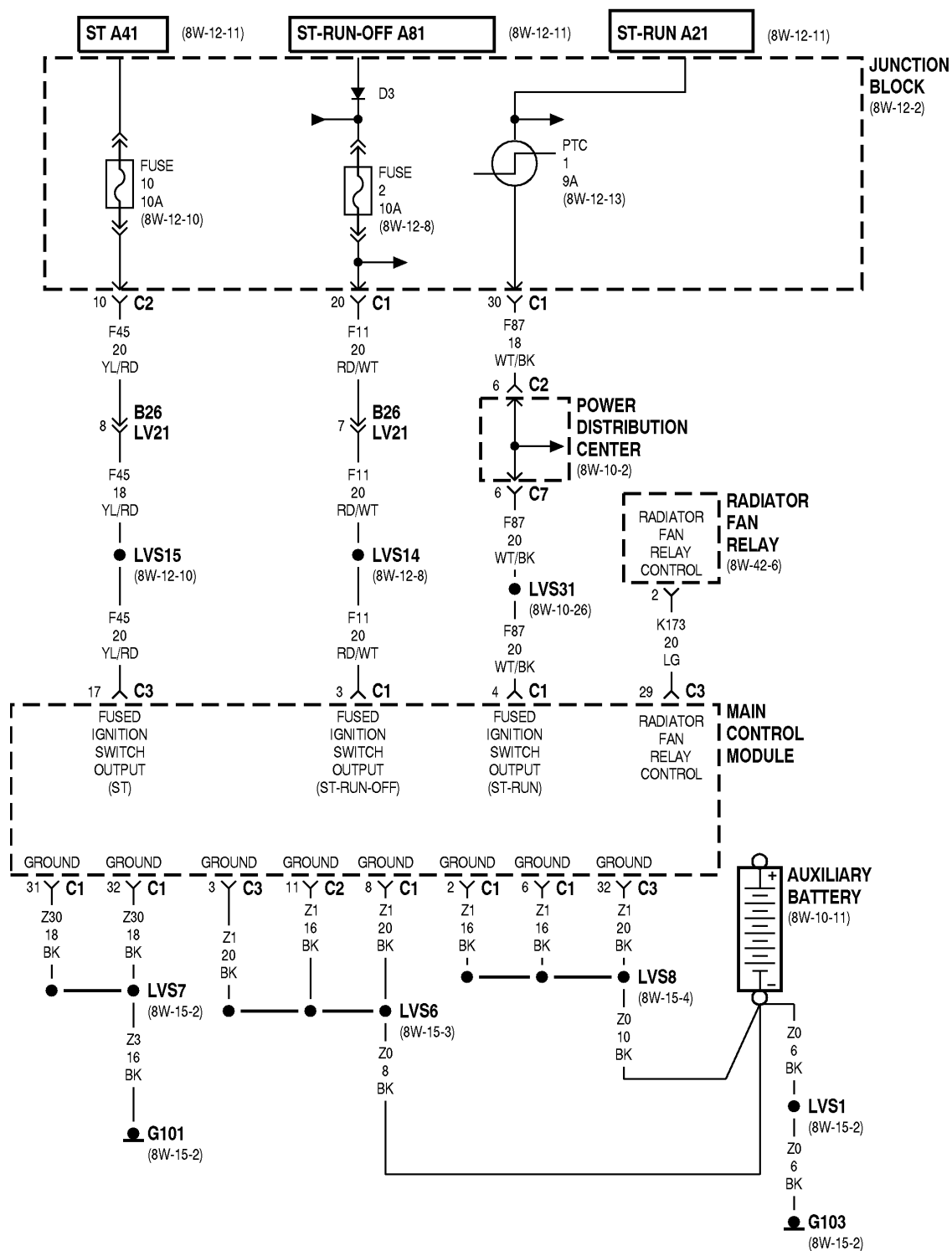
TORQUE SPECIFICATIONS

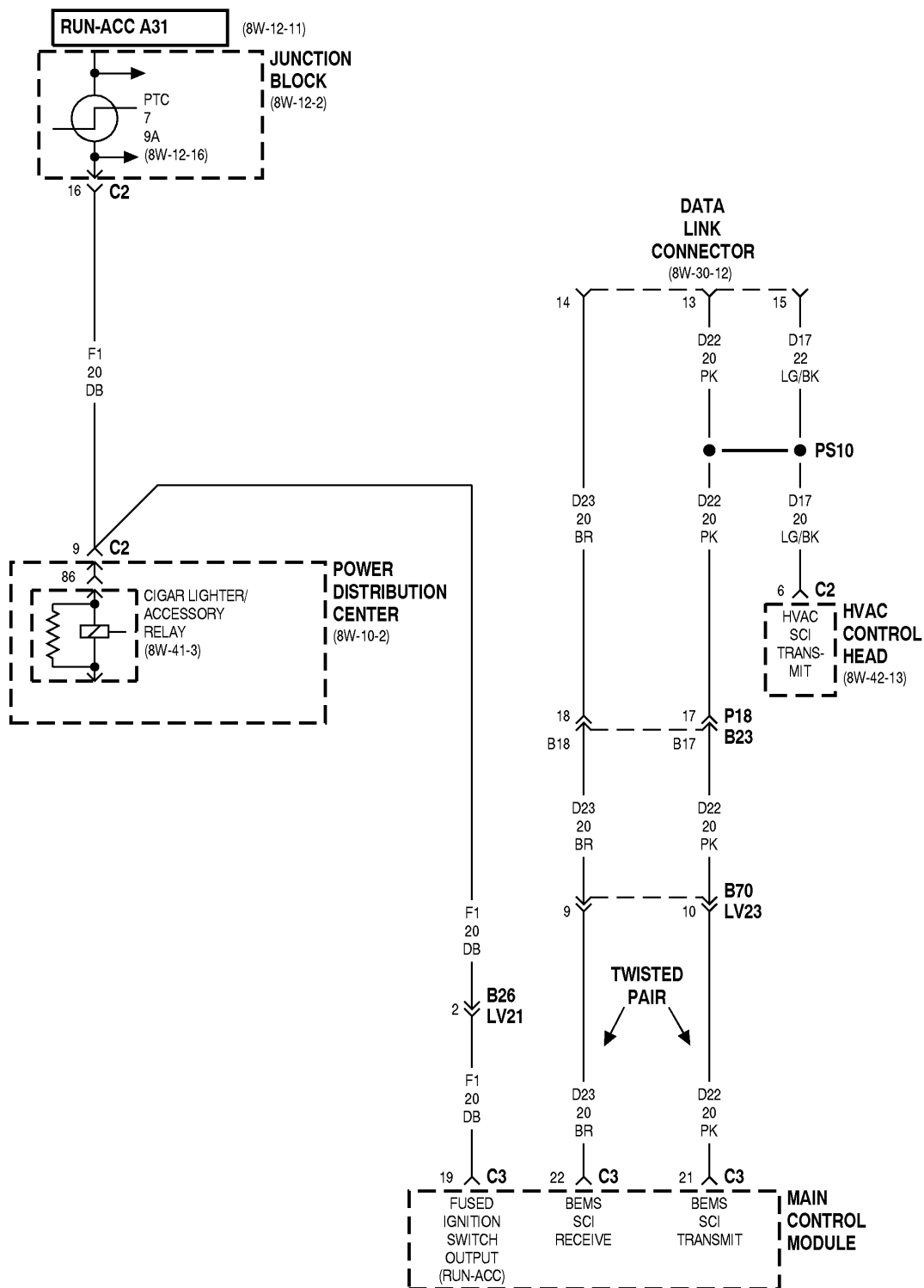
DESCRIPTION	TORQUE
BIC Mounting Bolts	14 N•m (120 in. lbs.)
MCM Mounting Bolts	6 N•m (55 in. lbs.)

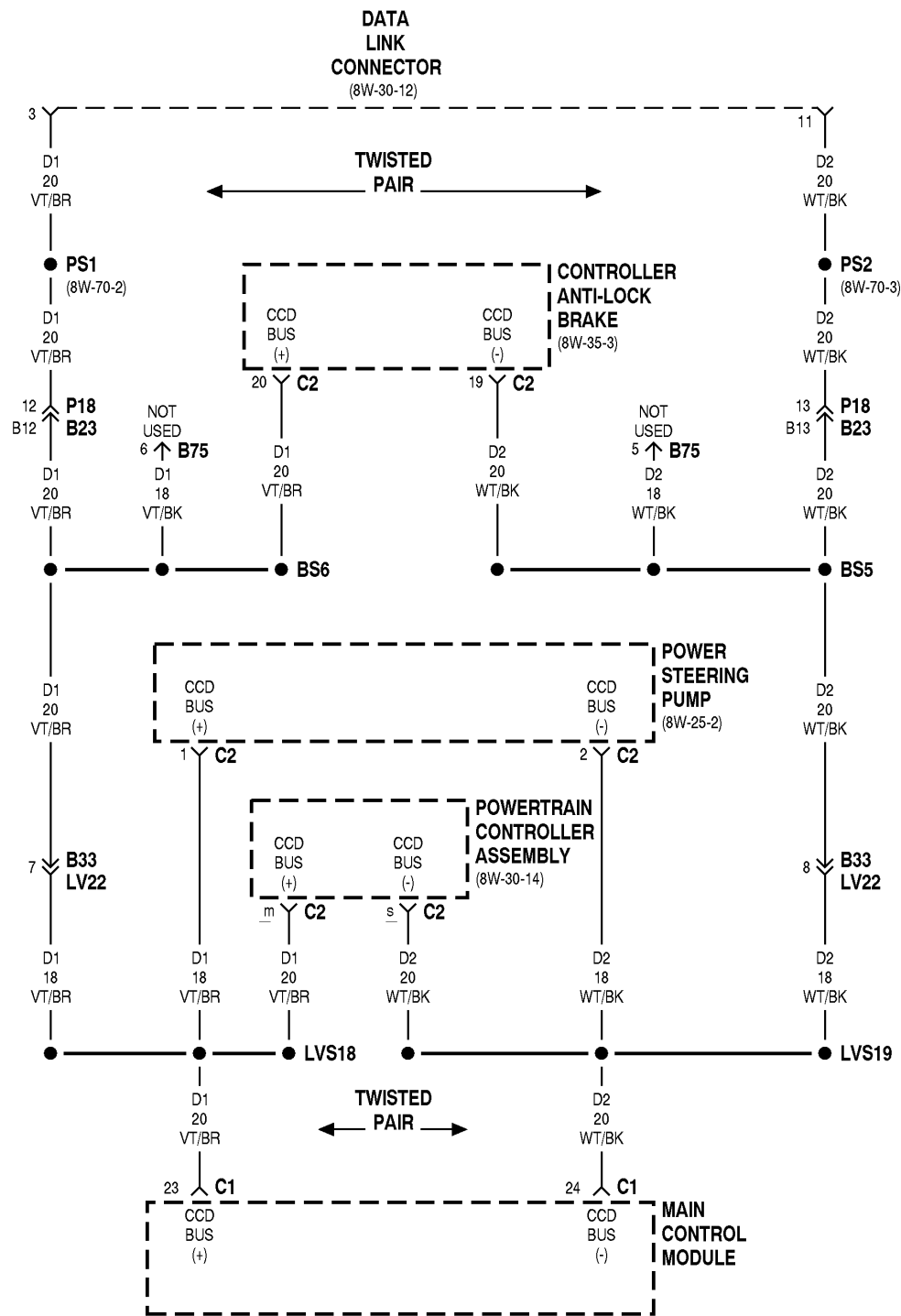
WIRING DIAGRAMS

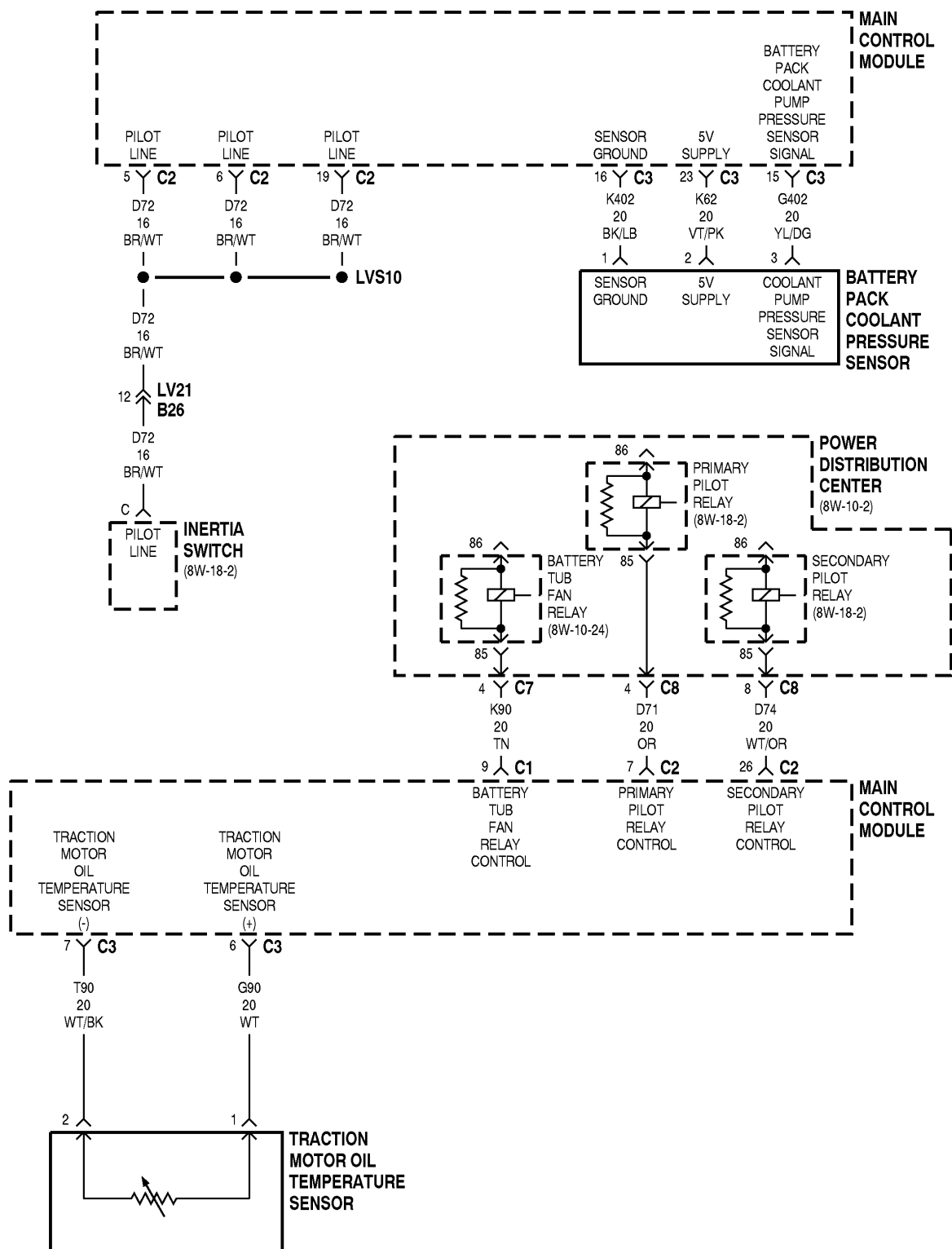
TABLE OF CONTENTS

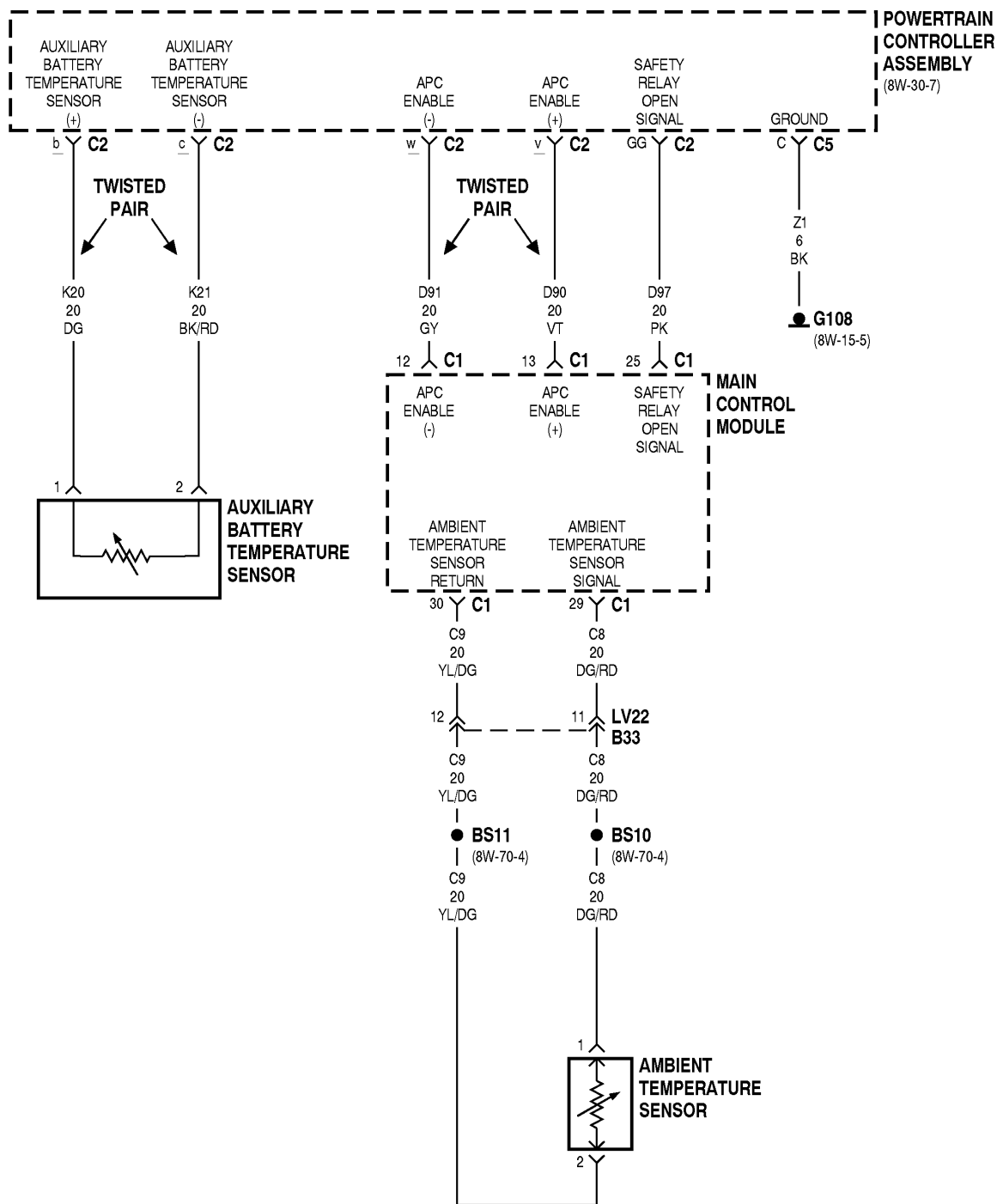
	PAGE		PAGE
AMBIENT TEMPERATURE SENSOR	8A-46	G106	8A-53
AUXILIARY BATTERY	8A-42, 50, 65	G107	8A-53
AUXILIARY BATTERY TEMP SENSOR	8A-46	G108	8A-46
BATTERY TEMPERATURE SENSORS	8A-13	G303	8A-69
BIC 8A-49, 50, 51, 52, 60, 61, 62, 65, 67, 68, 69, 70, 71		HEAT EXCHANGER TEMPERATURE	
BMM NO. 1	8A-52, 53, 54, 55, 59, 61, 62, 63	SENSOR	8A-47
BMM NO. 2	8A-52, 53, 54, 55, 59, 61, 62, 63	HVAC CONTROL HEAD	8A-43
BMM NO. 3	8A-52, 53, 54, 55, 57, 59, 61, 62, 63	HVAC WAKE-UP RELAY	8A-67
BATTERIES	8A-54, 66	INERTIA SWITCH	8A-45
BATTERY MODULES	8A-66	JUNCTION BLOCK	8A-42, 43, 65
BATTERY PACK COOLANT PRESSURE		LVS1	8A-42, 50
SENSOR	8A-45	LVS6	8A-42, 50
BATTERY PACK COOLANT PUMP	8A-64	LVS7	8A-42, 50
BATTERY PACK INLET COOLANT TEMP		LVS8	8A-42, 65
SENSOR	8A-48	LVS9	8A-64
BATTERY PACK OUTLET COOLANT TEMP		LVS10	8A-45
SENSOR	8A-48	LVS14	8A-42
BATTERY TUB	8A-28, 30, 31	LVS15	8A-41
BATTERY TUB FAN RELAY	8A-45	LVS16	8A-50
BCS1	8A-59	LVS18	8A-44
BCS2	8A-59	LVS19	8A-44
BCS3	8A-52	LVS20	8A-52
BCS4	8A-52	LVS21	8A-51
BCS5	8A-53	LVS31	8A-42
BCS6	8A-62	LVS40	8A-59, 60, 65
BCS7	8A-63	LVS41	8A-59, 60, 65
BCS8	8A-63	LVS45	8A-52
BCS9	8A-63	LVS51	8A-62
BCS16	8A-62	LVS52	8A-61
BMS1	8A-55	LVS70	8A-64
BMS2	8A-56	MCM . 8A-42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 60,	
BMS3	8A-58	61, 62, 64, 69	
BS5	8A-44	MESSAGE CENTER	8A-47
BS6	8A-44	OIL PUMP	8A-64
BS10	8A-46	POWER BRIDGE	8A-70
BS11	8A-46	POWER DISTRIBUTION CENTER . . 8A-42, 43, 45, 50,	
CCS1	8A-69	51, 64	
CCS2	8A-69	POWER STEERING PUMP	8A-44, 64
CHARGE PORT	8A-68, 69	POWERTRAIN CONTROLLER	
CHARGE PORT SWITCH	8A-48	ASSEMBLY	8A-44, 46, 64, 67, 70
CHARGE STATUS RELAY	8A-48	POWERTRAIN CONTROLLER ASSEMBLY	
CIGAR LIGHTER/ACCESSORY RELAY	8A-43	RELAY	8A-70
CONTROLLER ANTI-LOCK BRAKE	8A-44	PRIMARY PILOT RELAY	8A-45
DATA LINK CONNECTOR	8A-43, 47, 48, 65	PS1	8A-44
DIAGNOSTIC CONNECTOR	8A-51, 60, 65	PS2	8A-44
FUSE 2 (JB)	8A-42	PS10	8A-43
FUSE 10 (JB)	8A-42	PTC 1 (JB)	8A-42
FUSE 16 (PDC)	8A-50	PTC 7 (JB)	8A-43
FUSE 17 (PDC)	8A-64	RADIATOR FAN RELAY	8A-42
G100	8A-64	SECONDARY PILOT RELAY	8A-45
G101	8A-42, 50	SERVICE DISCONNECT	
G103	8A-42, 50	SWITCH	8A-70
G105	8A-53	TRACTION MOTOR OIL TEMPERATURE	
		SENSOR	8A-45

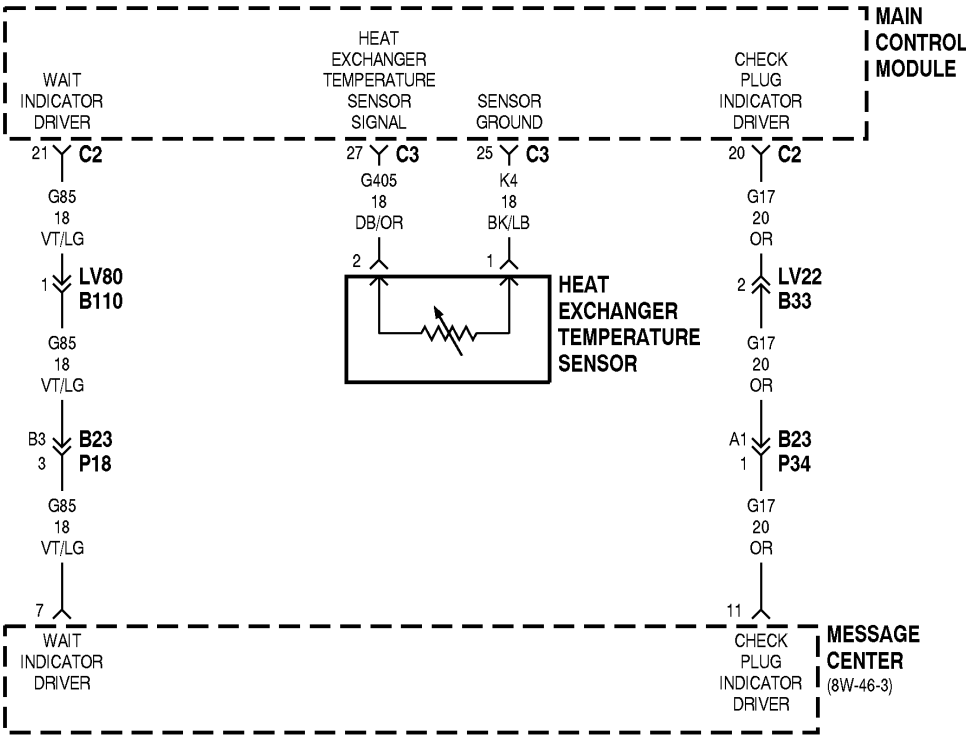


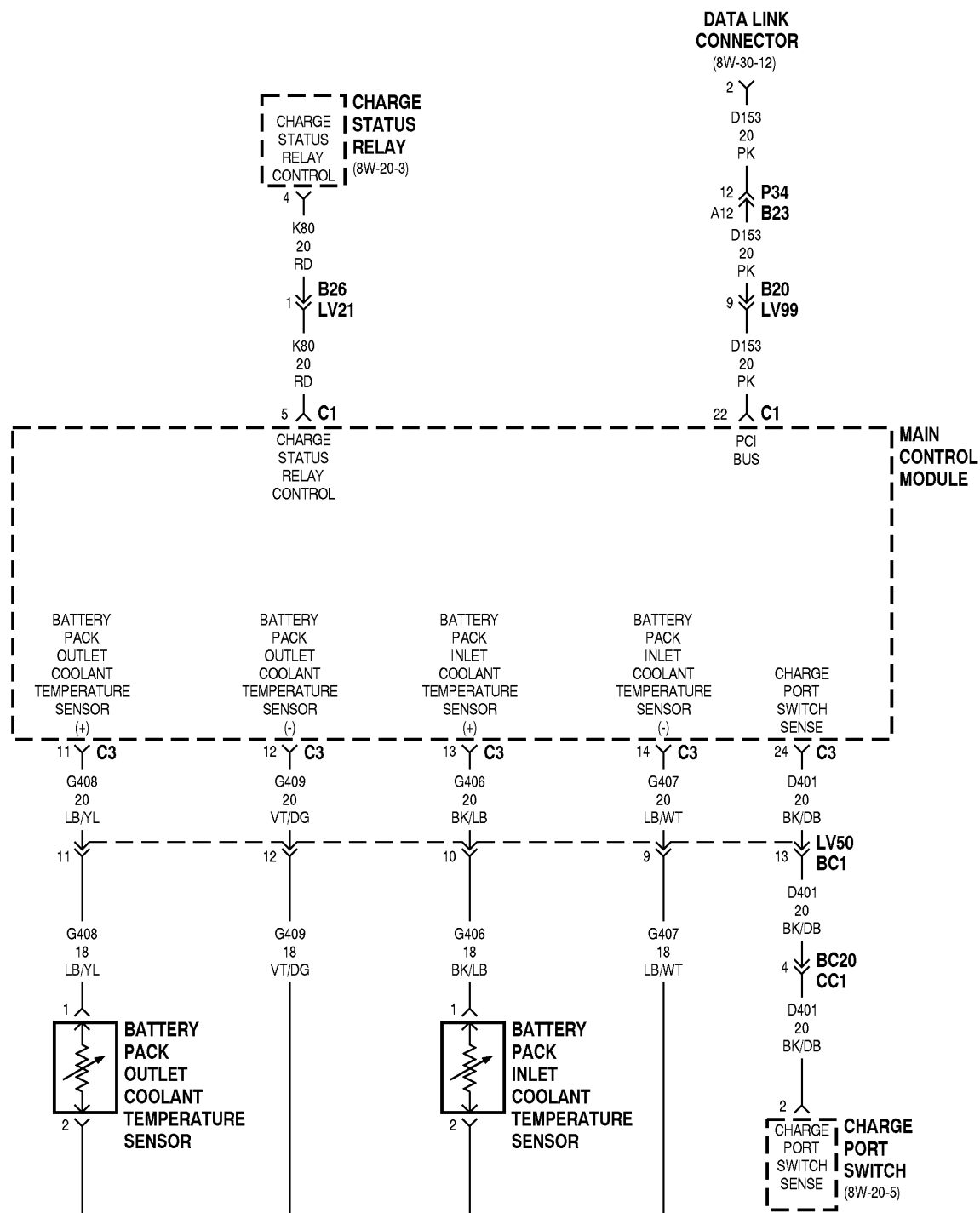


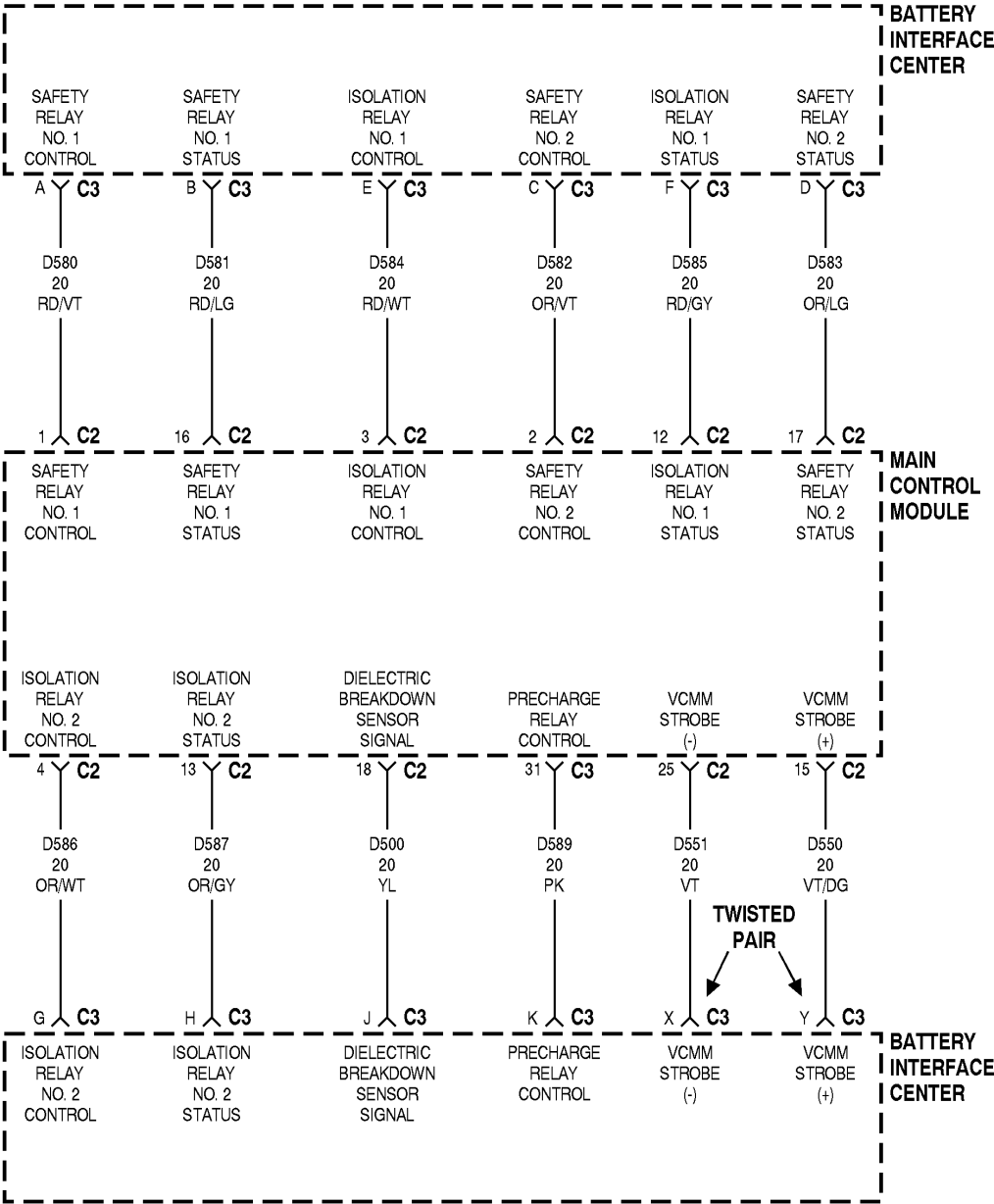


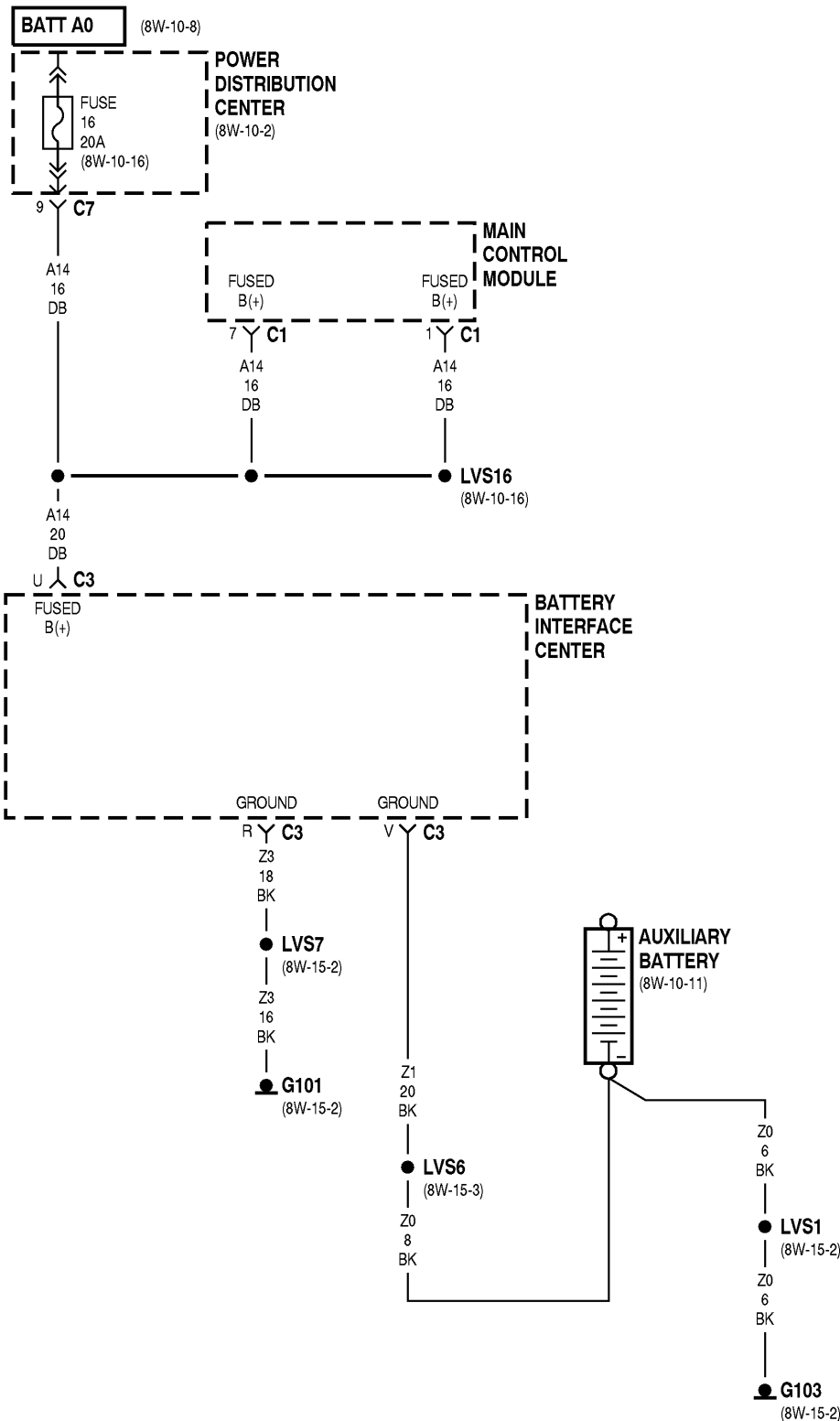


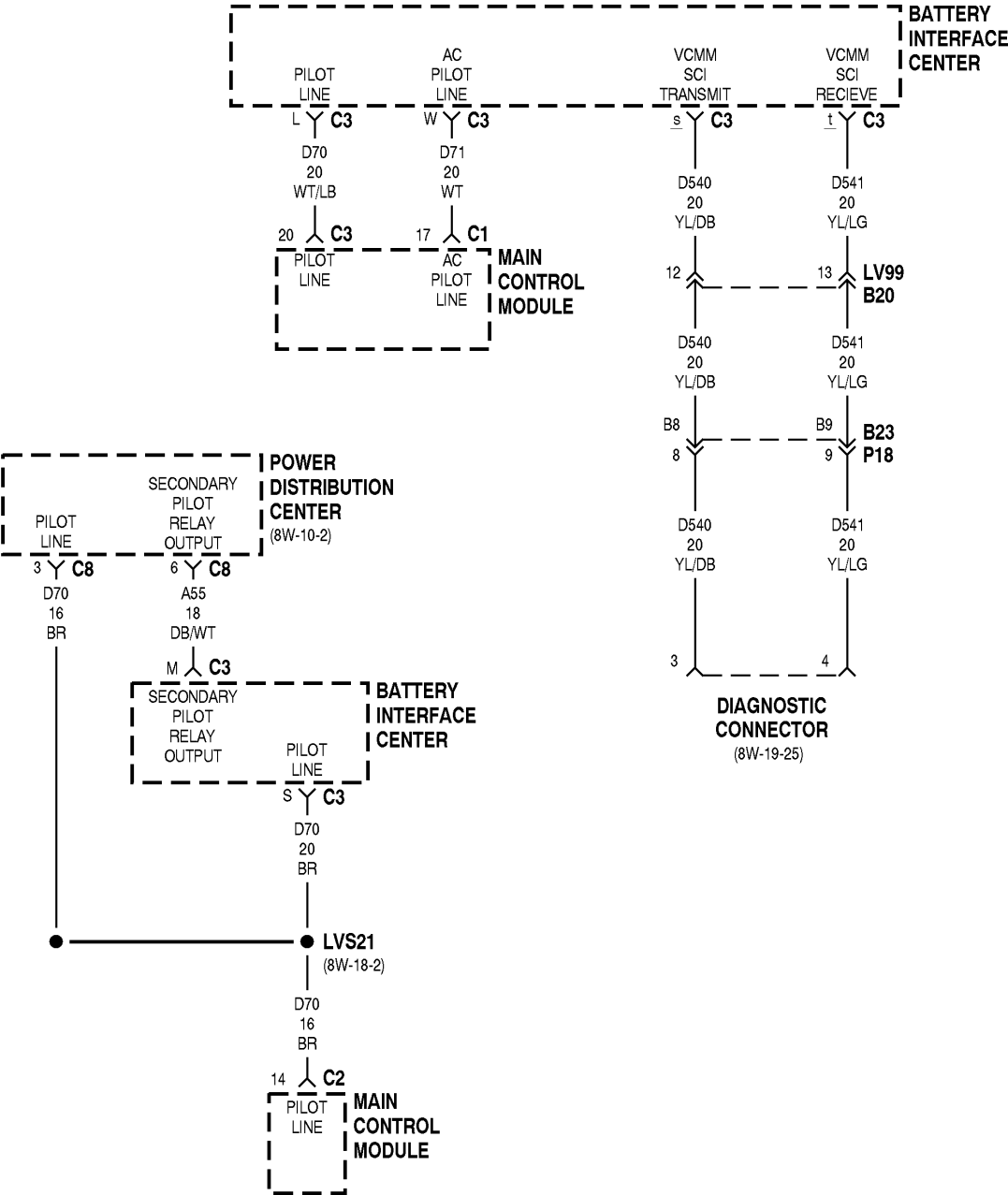


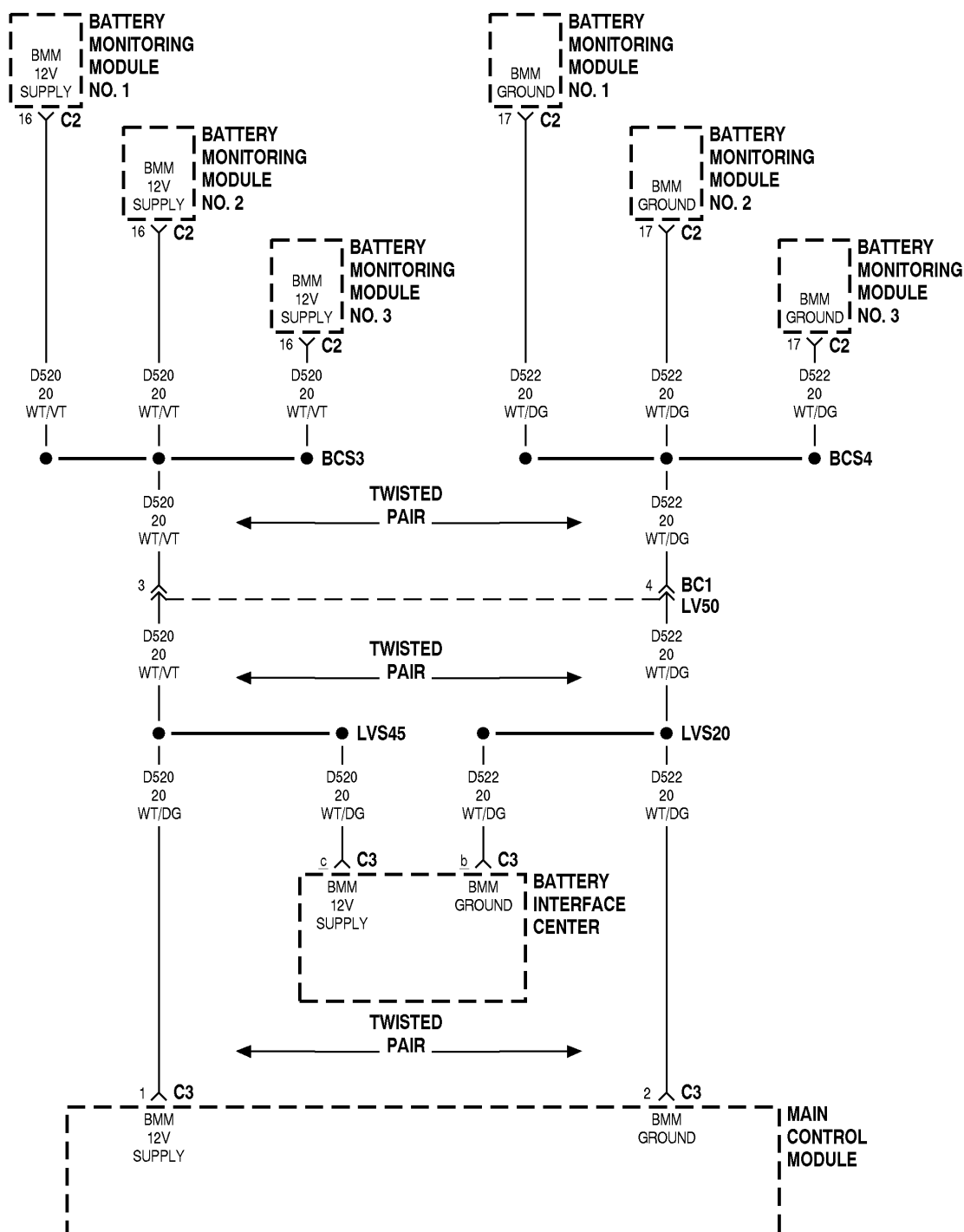


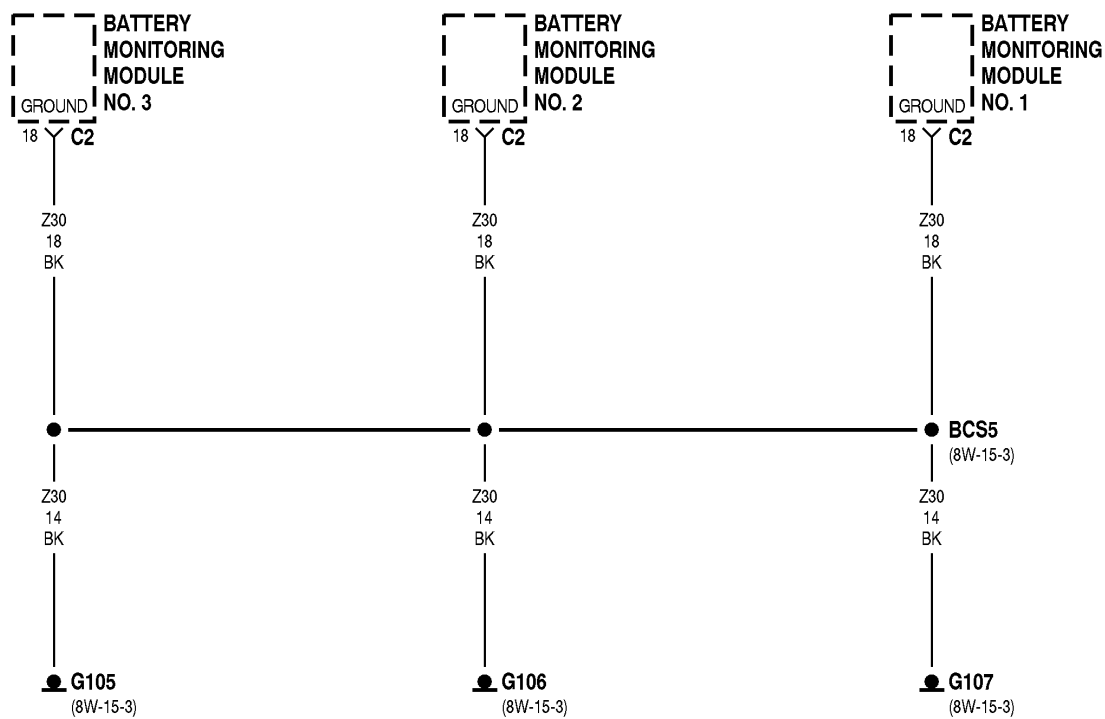


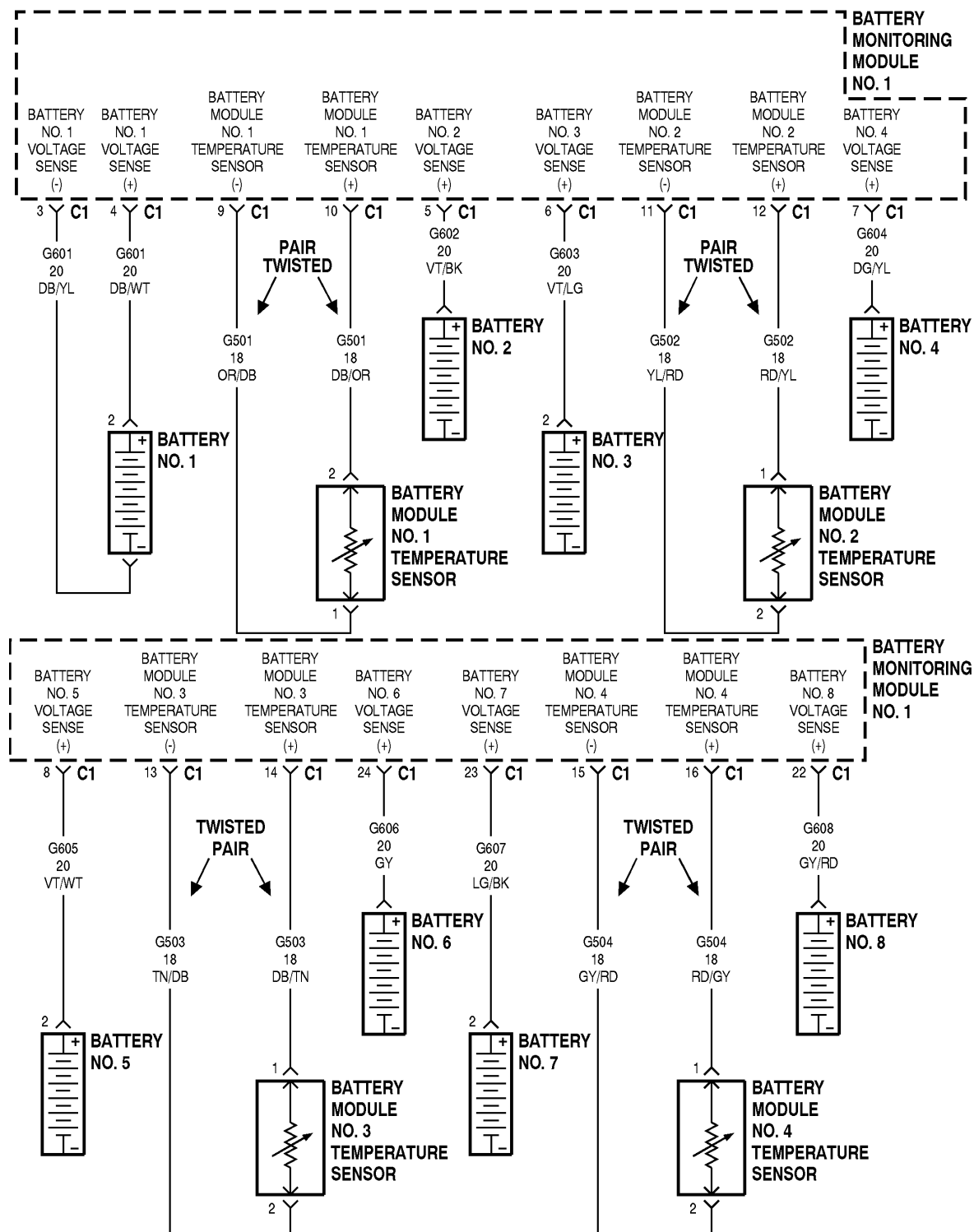


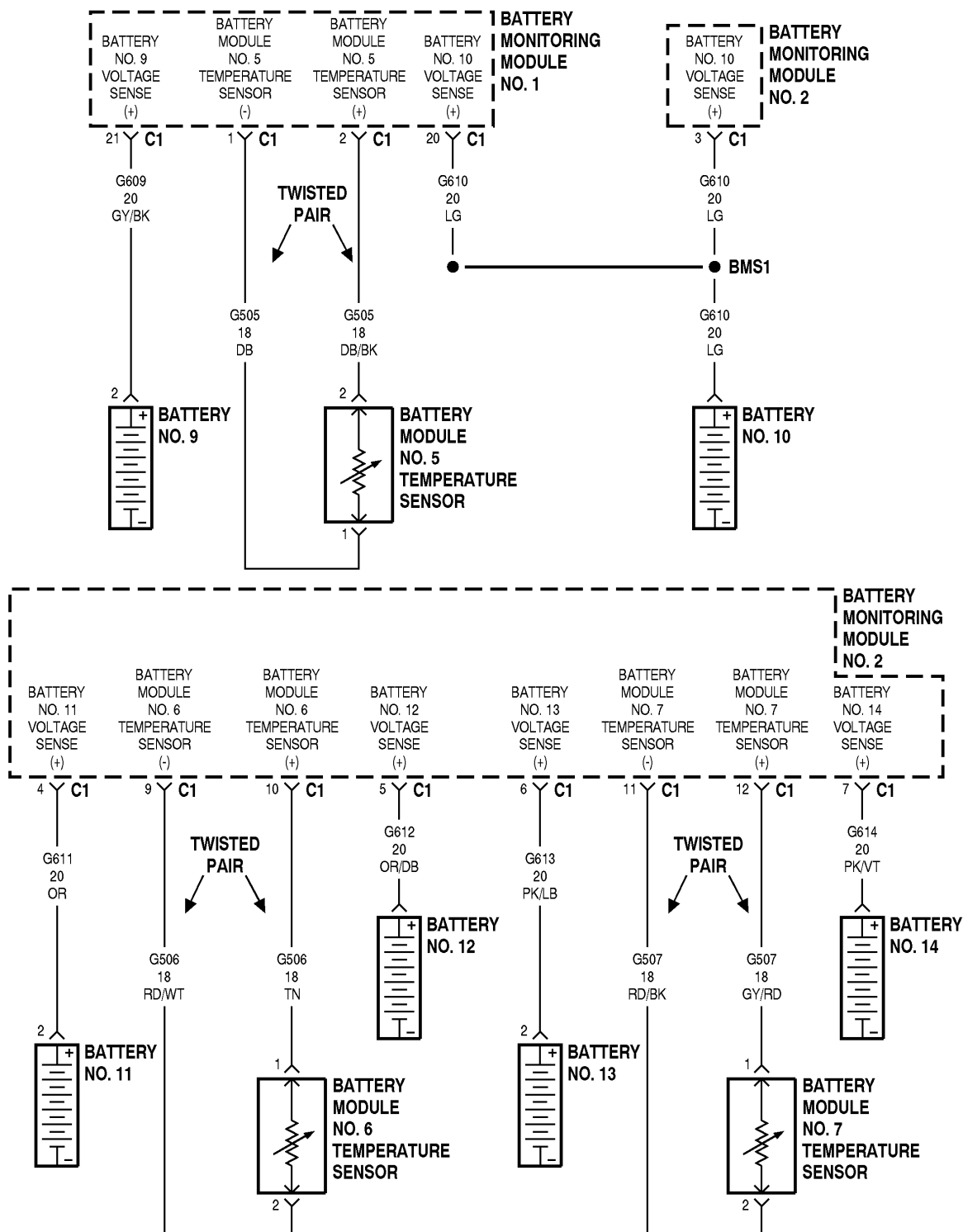


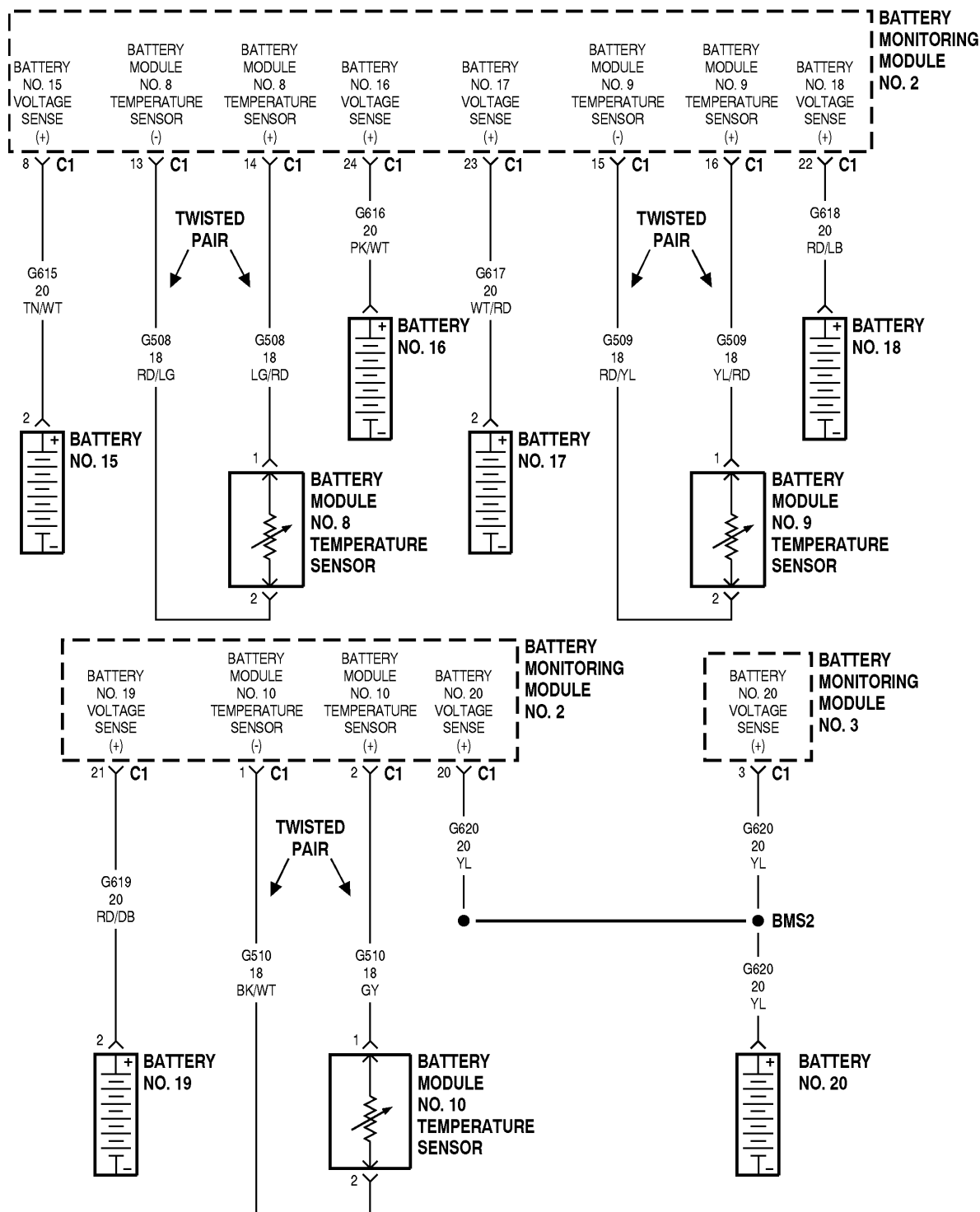


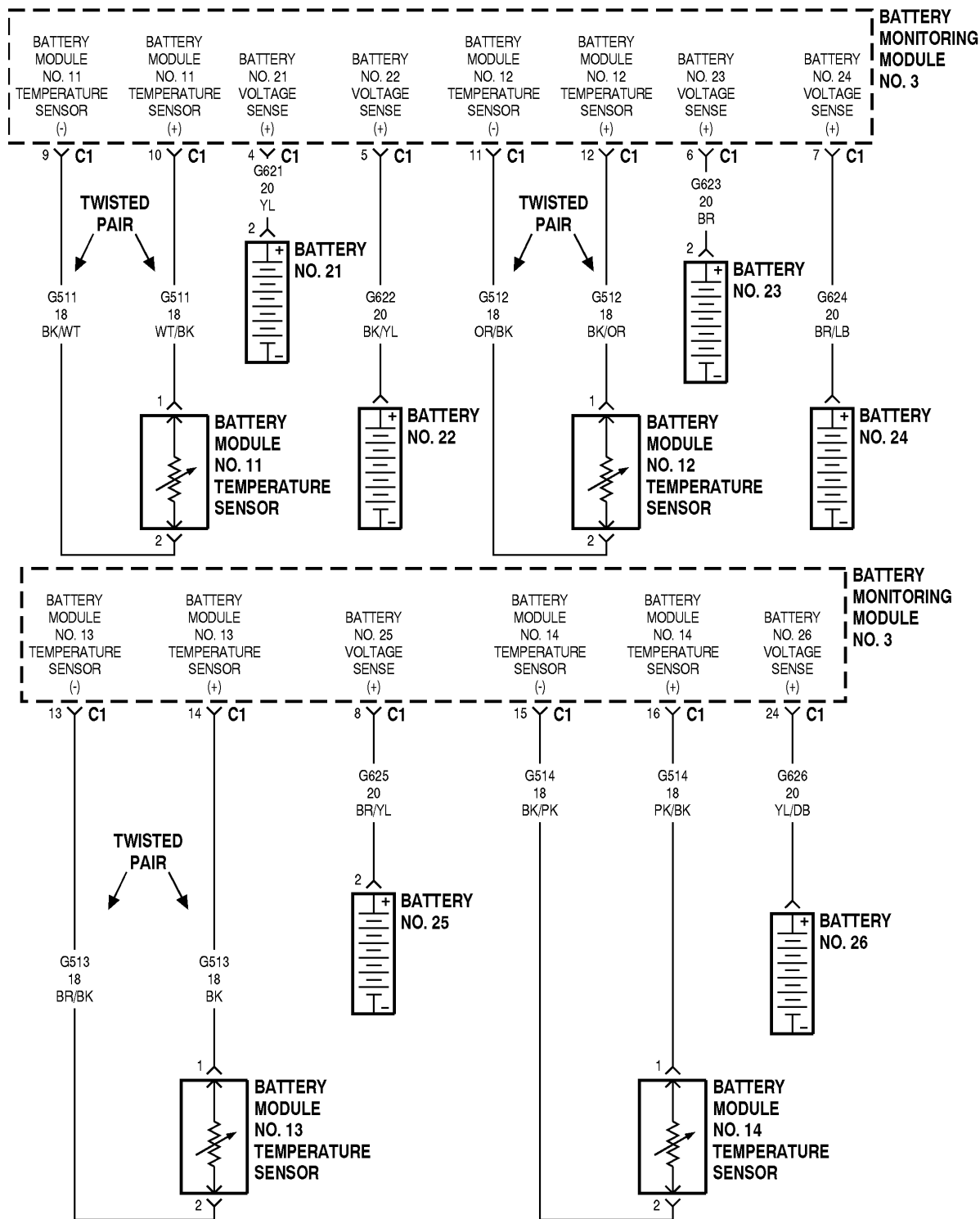


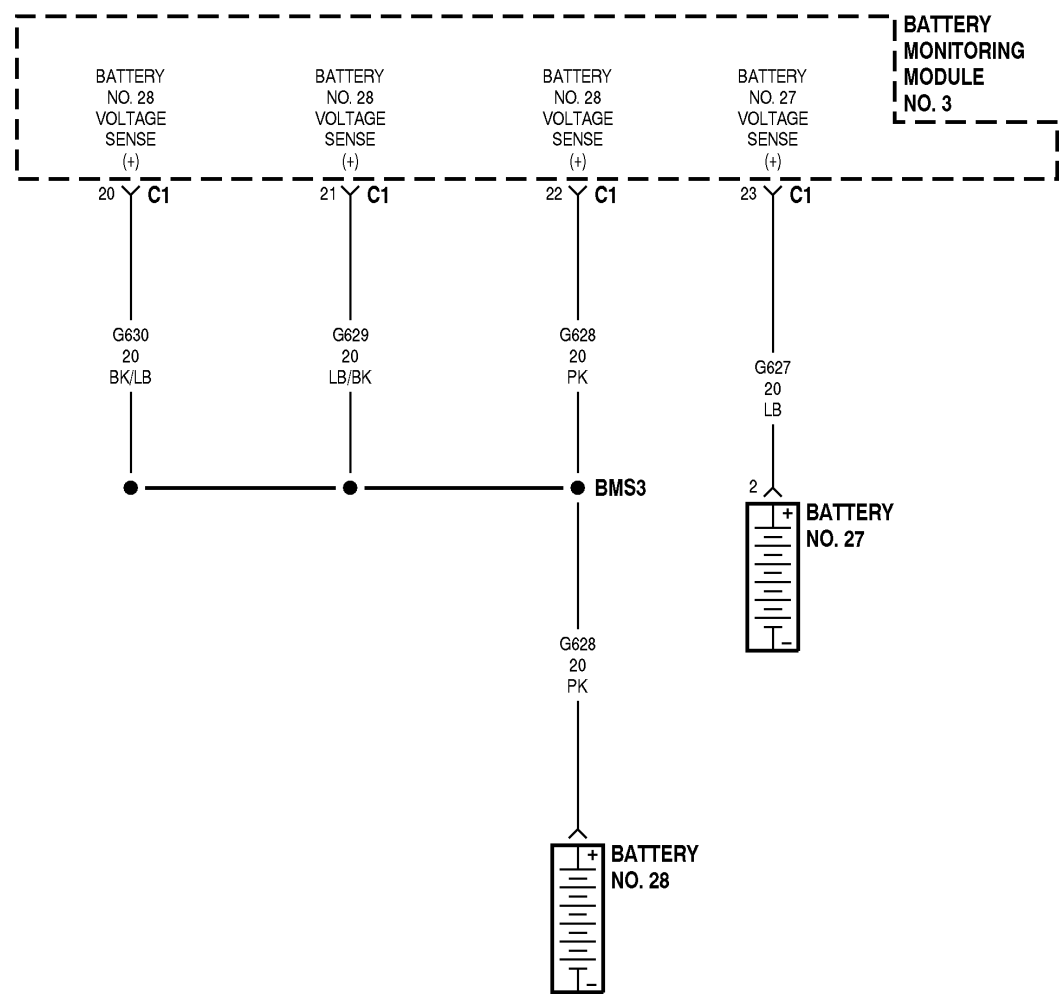


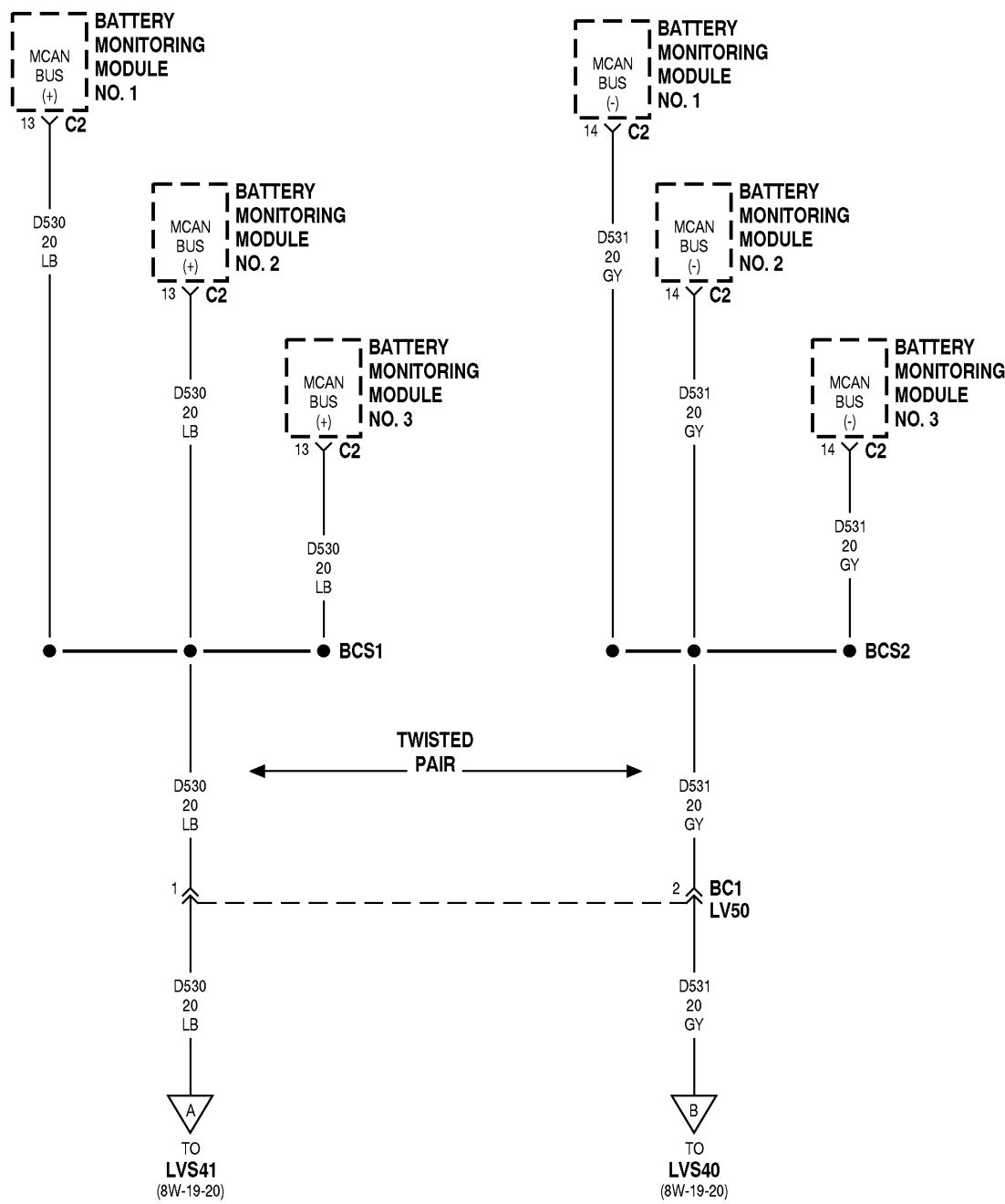


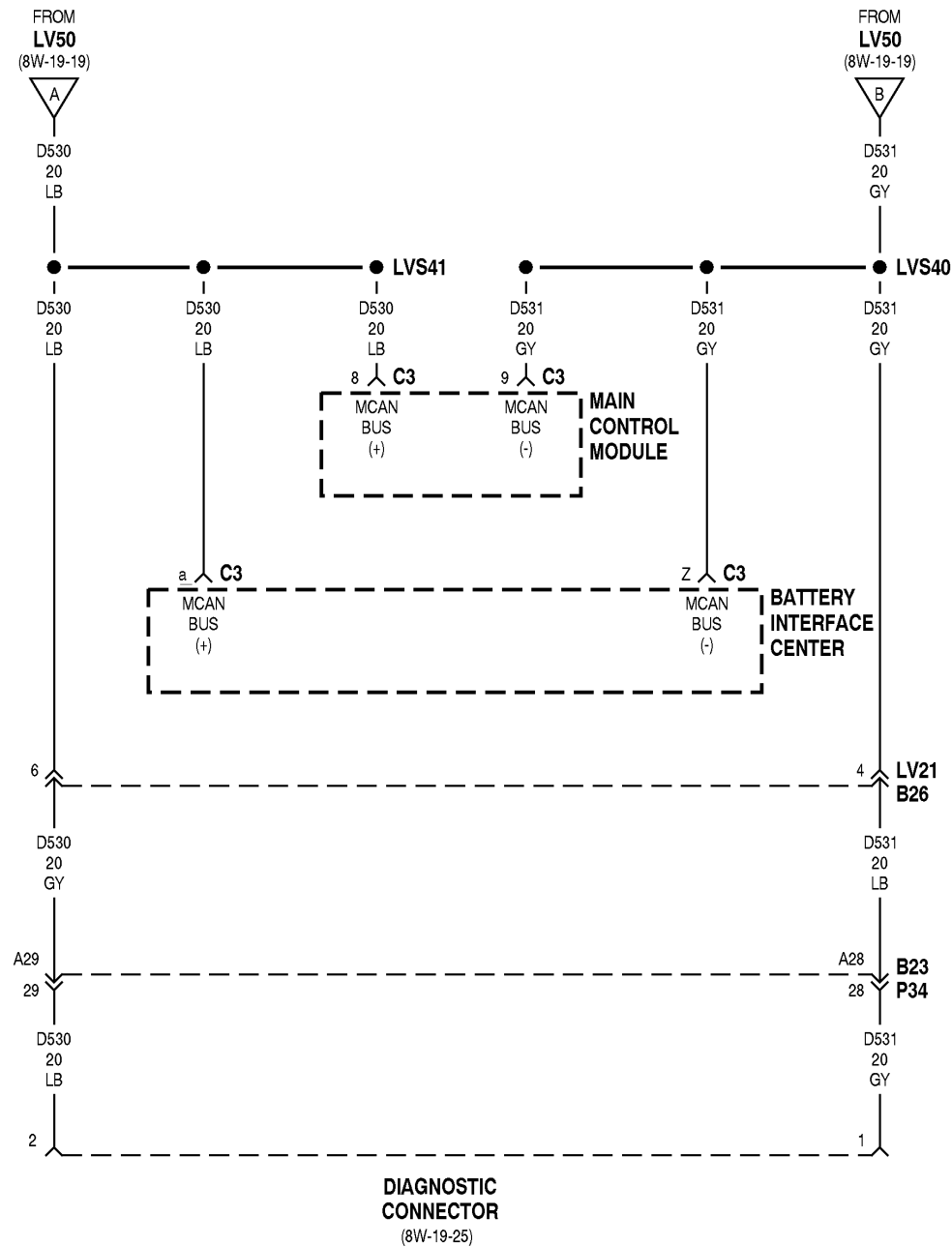


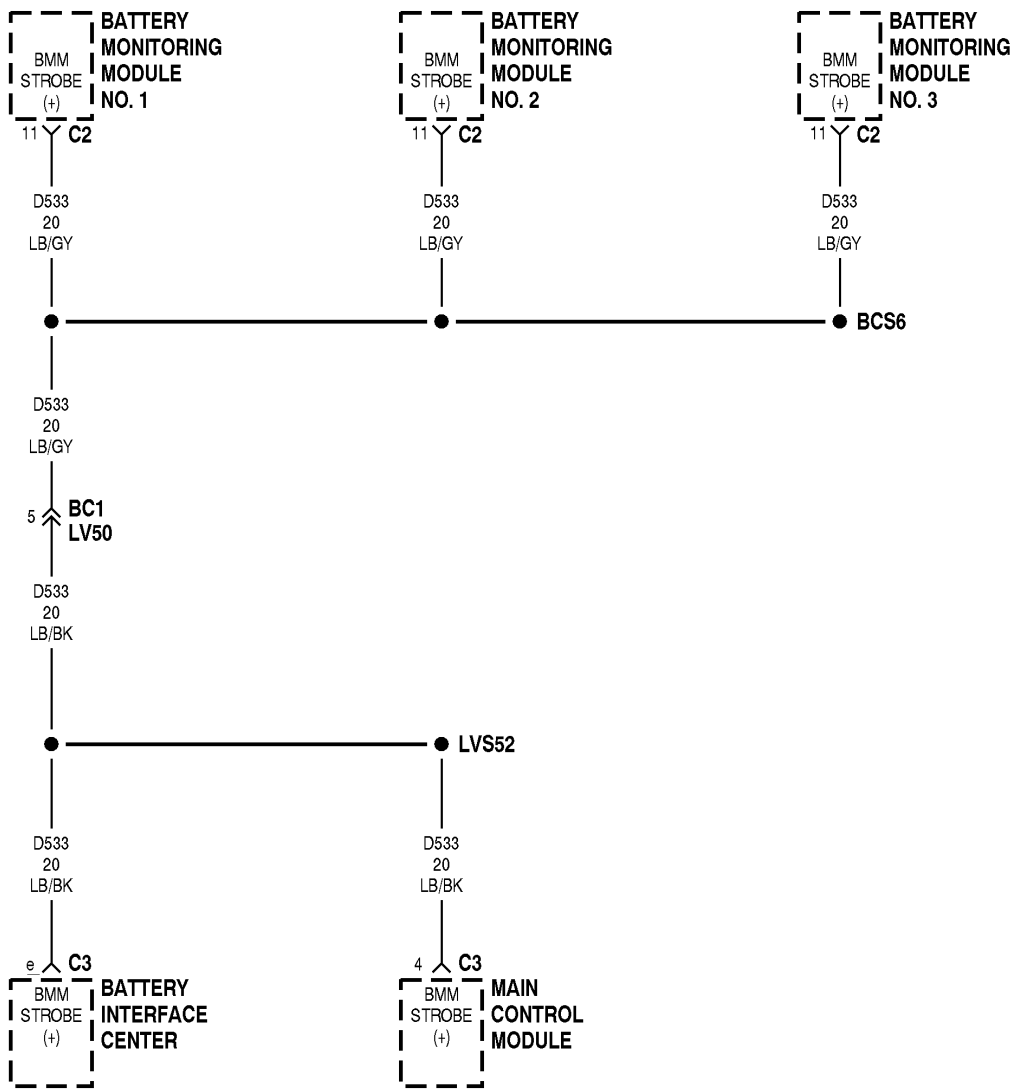


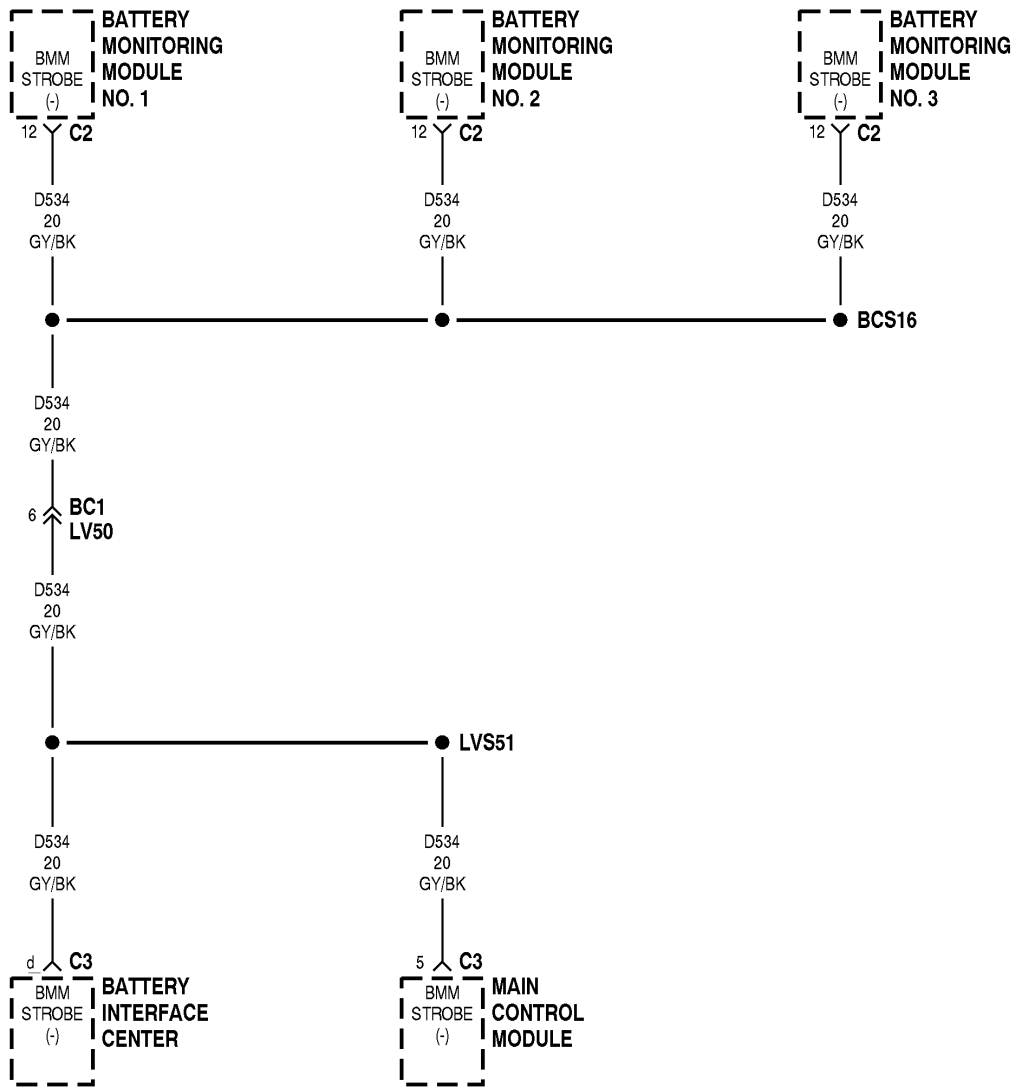


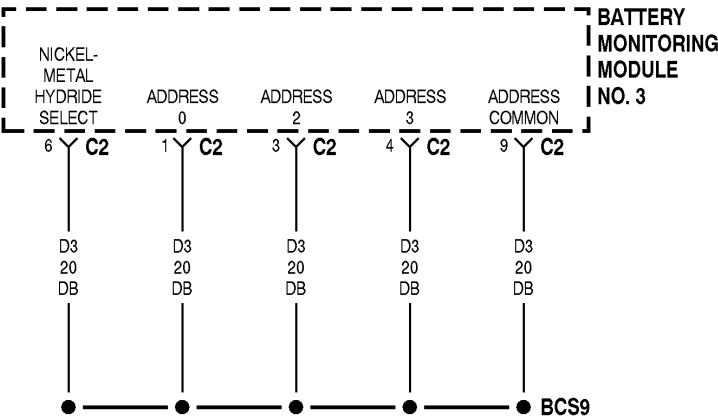
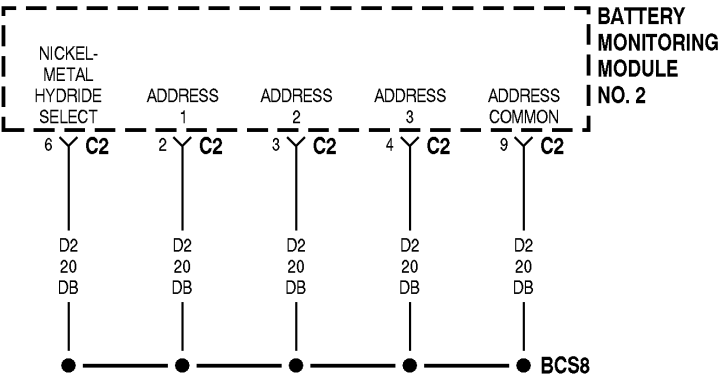
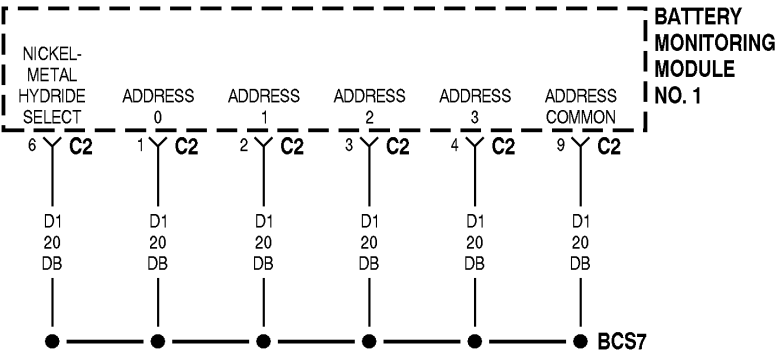


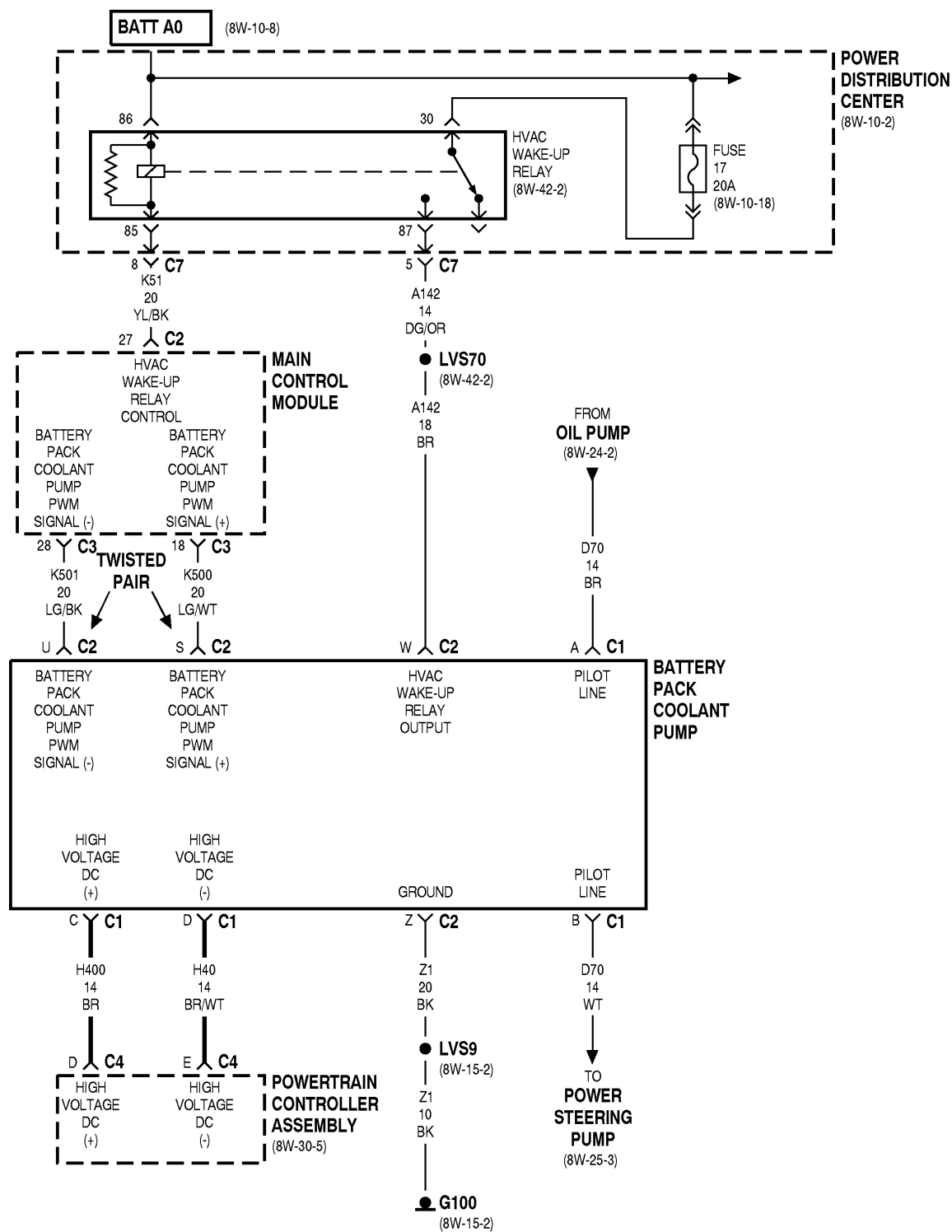


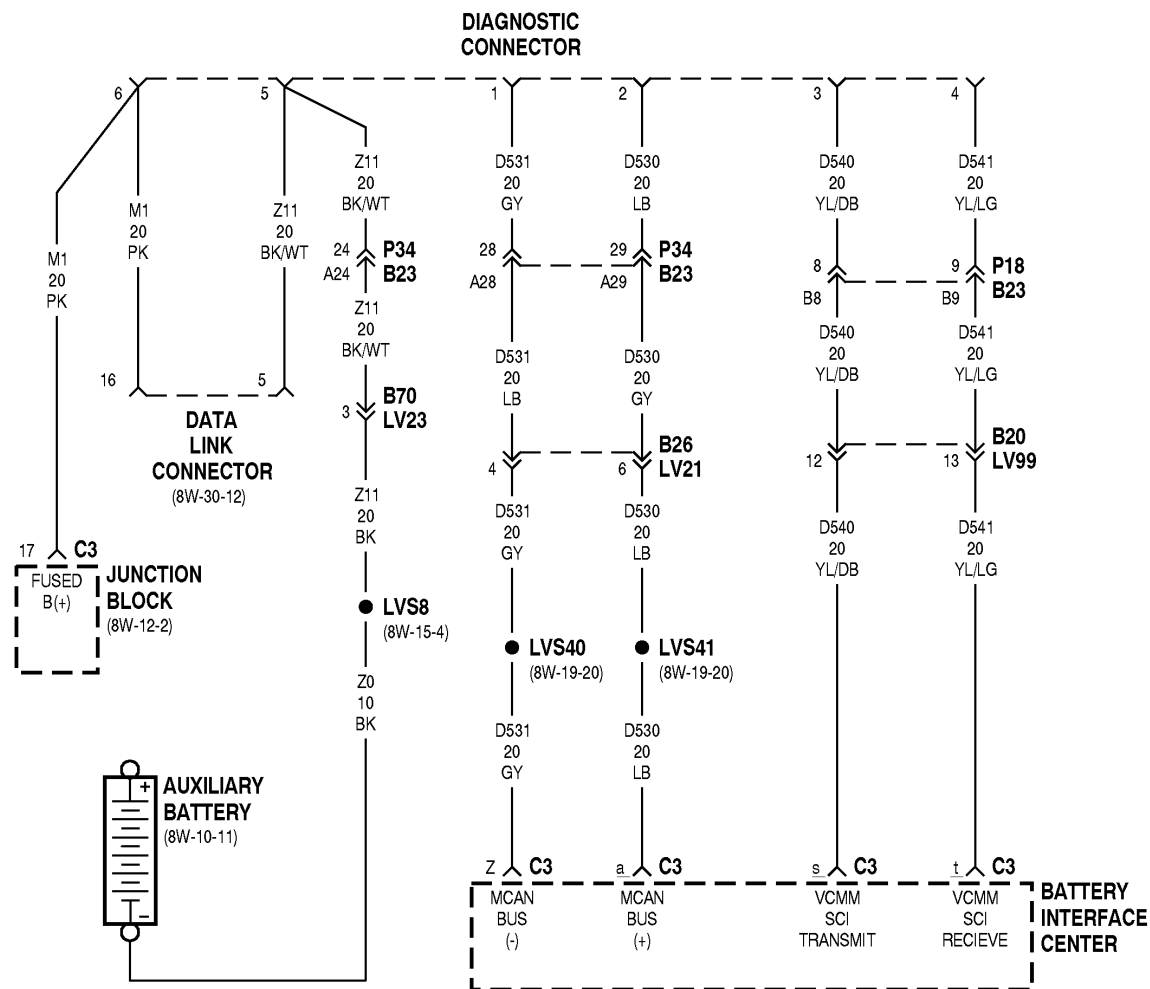


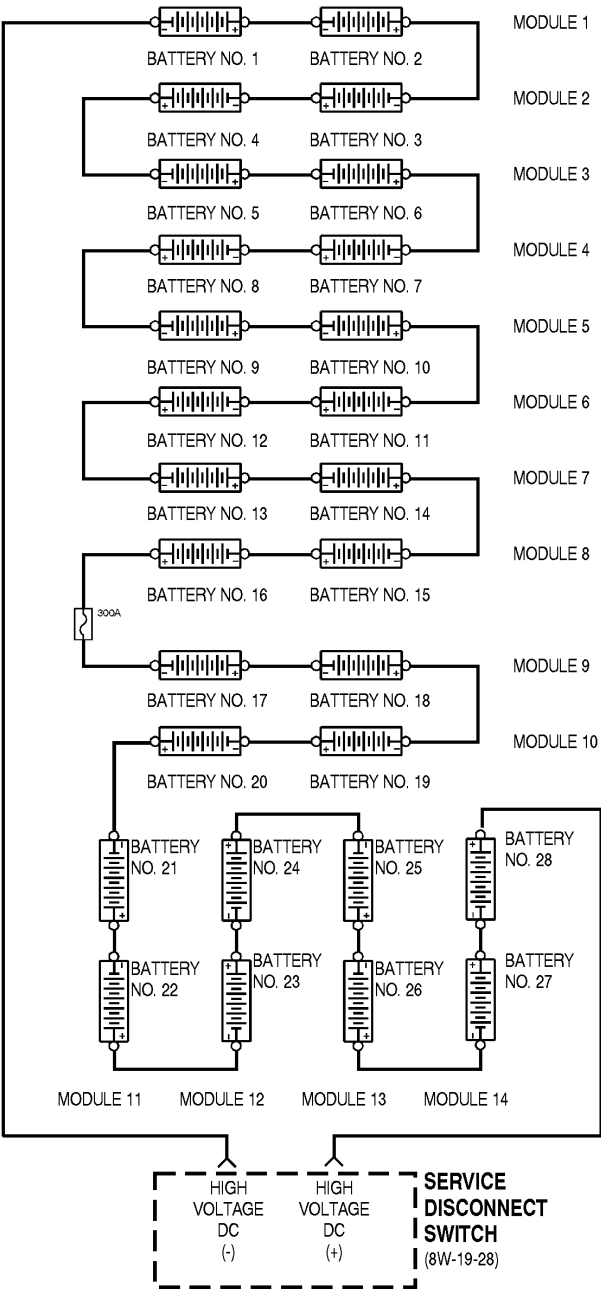


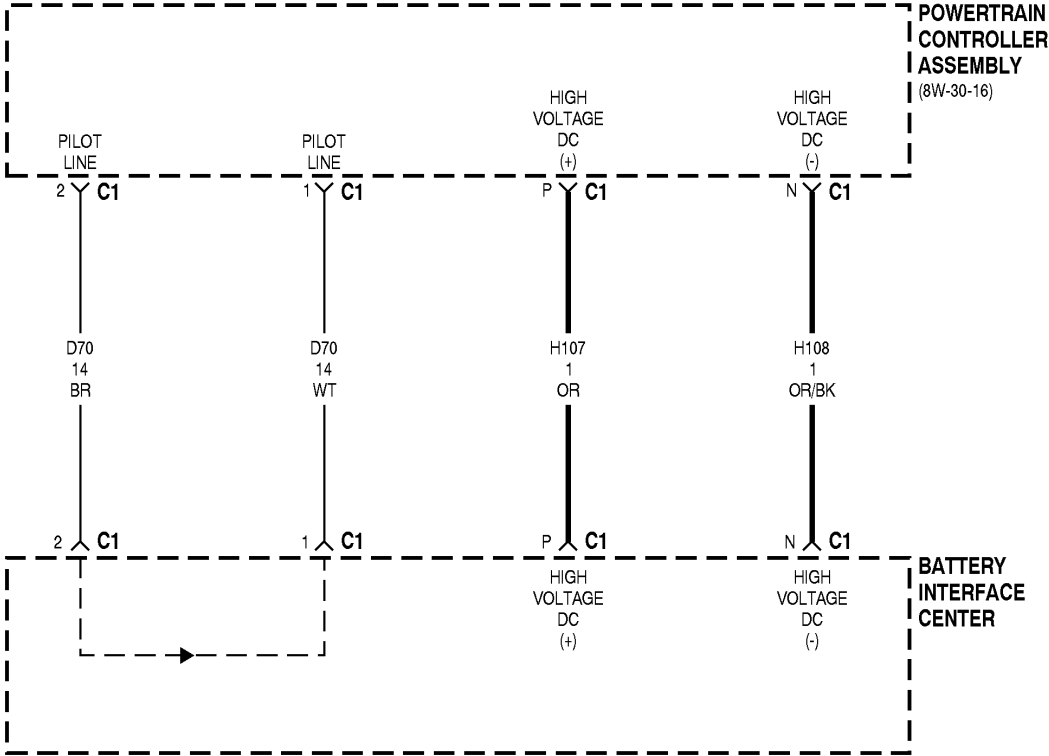


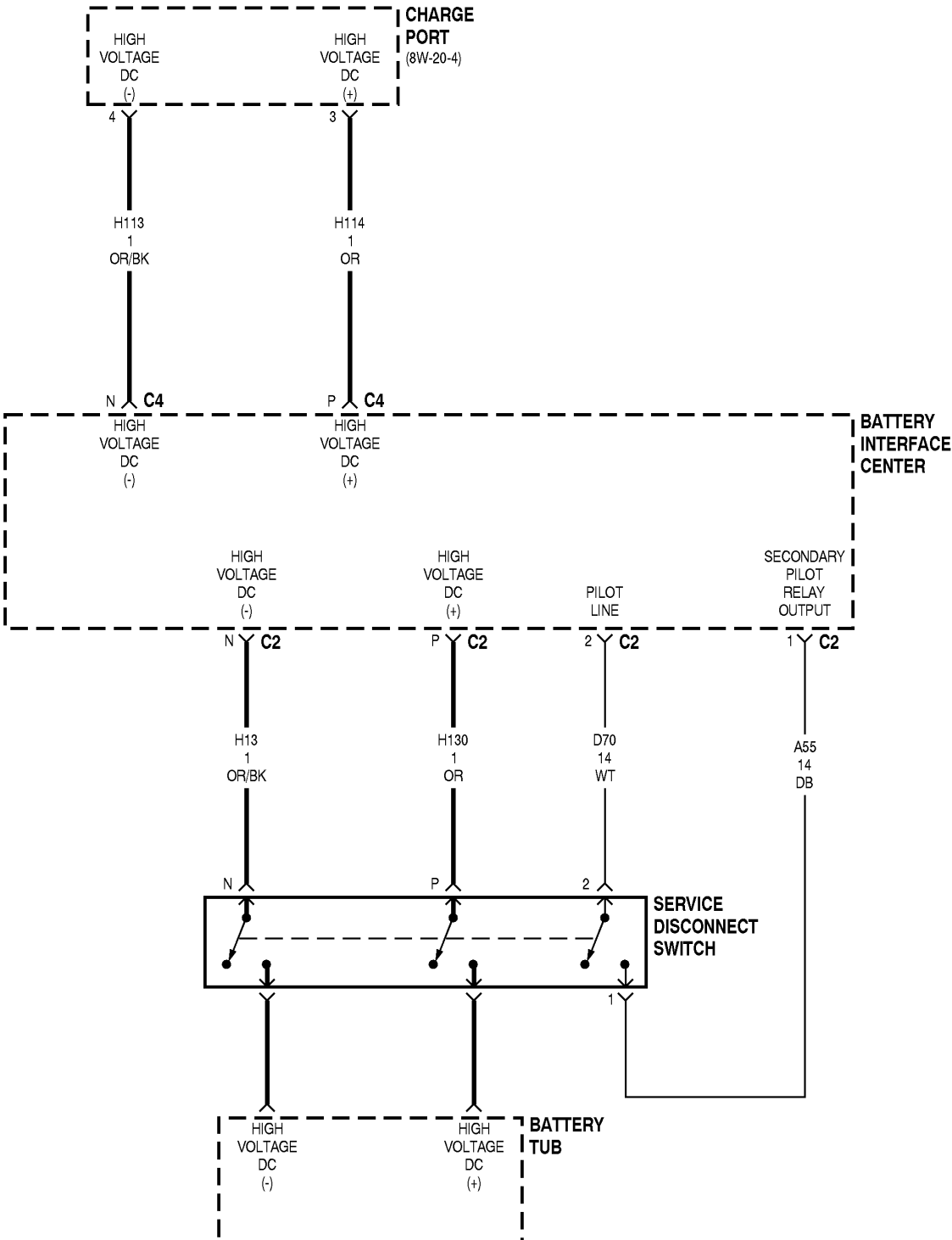


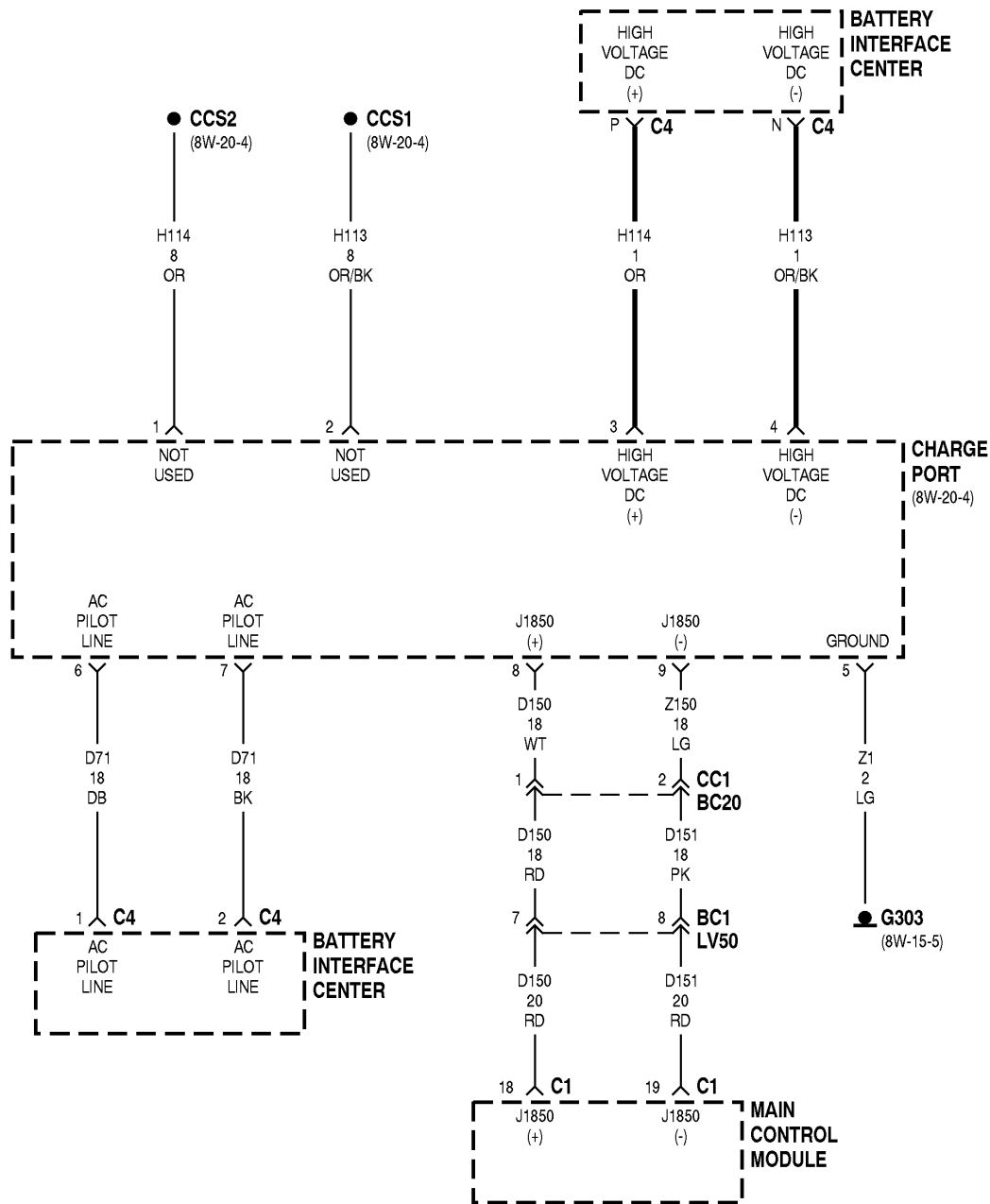


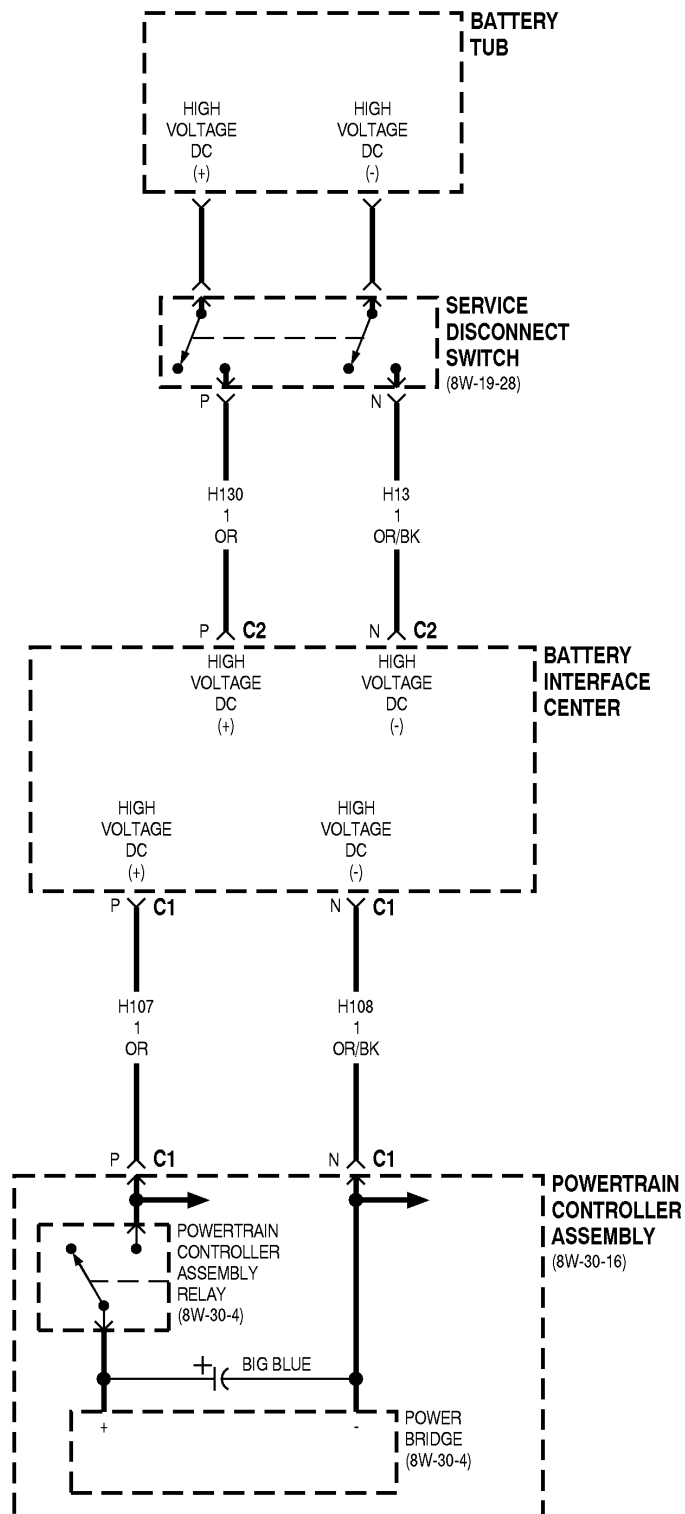












TRACTION BATTERY PACK 8B

TABLE OF CONTENTS

	PAGE		PAGE
DESCRIPTION	1	BATTERY MODULES	3
SAFETY PRECAUTIONS AND WARNINGS	1	BATTERY MODULE THERMISTORS	6
SAFE HANDLING PROCEDURES AND PRECAUTIONS	2	BATTERY MONITORING MODULES (BMM)	8
COMPONENT SERVICE	3	HIGH VOLTAGE FUSE	8
GENERAL INSTALLATION AND REMOVAL PROCESS PRECAUTIONS	3	SERVICE DISCONNECT SWITCH	9
		TRACTION BATTERY COOLING FAN ASSEMBLY ..	11
		TRACTION BATTERY TUB	11
		TORQUE SPECIFICATIONS	14
		SPECIAL TOOLS	15

DESCRIPTION

The EPIC incorporates 28 12-volt batteries connected in series. This series string of batteries comprises the traction battery pack. A pair of batteries are referred to as a module. The total open circuit voltage from the battery pack, measured between the last module (#28 positive (+) terminal) at the front of the tub, and the first module (#1 negative (–) terminal) can range from 240 volts DC to 410 volts DC.

The battery pack is housed in a single environmentally protected enclosure called the battery tub. The tub is secured to the vehicle under body frame rails.

Like automotive starting batteries, the traction batteries contain highly corrosive materials. Under very rare conditions, there is a slight risk that batteries may leak. Leaking batteries are to be considered defective and must be replaced. If any liquid is found leaking from a module, always assume that this liquid is hazardous and corrosive. If a spill occurs, neutralize the spill with white vinegar and dispose as a hazardous waste.

SAFETY PRECAUTIONS AND WARNINGS

WARNING: THIS VEHICLE CONTAINS 28 12-VOLT (NOMINAL) BATTERIES CONNECTED IN SERIES. ALWAYS DISCONNECT THE SERVICE DISCONNECT SWITCH BEFORE ATTEMPT-

ING ANY SERVICE PROCEDURES. FAILURE TO DISCONNECT THE SERVICE DISCONNECT SWITCH WHEN SERVICING THE VEHICLE CAN LEAD TO SEVERE PERSONAL INJURY, DEATH BY ELECTROCUTION, OR COMPONENT DAMAGE.

WARNING: DISCONNECT THE VEHICLE BATTERY PACK AT THE SERVICE DISCONNECT SWITCH PRIOR TO DISCONNECTING ANY HIGH VOLTAGE COMPONENTS. RECONNECT AFTER VERIFYING SAFE CONNECTIONS ARE MADE. FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

WARNING: HIGH VOLTAGE–YOU COULD BE SERIOUSLY OR FATALLY INJURED BY ELECTRIC SHOCK. EXTREME CAUTION MUST BE EXERCISED DURING TUB ASSEMBLY AND WHEN WORKING IN THE VICINITY OF THE BATTERY PACK.

WARNING: DO NOT ATTEMPT TO PHYSICALLY TOUCH BOTH ENDS OF THE MODULE STRING (LOW TO HIGH SIDE) AT THE SAME TIME. THIS CONDITION WILL RESULT IN FATAL ELECTRICAL SHOCK.

SAFETY PRECAUTIONS AND WARNINGS (Continued)

WARNING: DO NOT SHORT CIRCUIT THE STRING BY CONNECTING ONE END OF THE STRING TO THE OTHER. DOING SO COULD CAUSE LETHAL SHOCK, WELDING AND BURNS.

WARNING: DO NOT CONNECT ANY CONDUCTIVE DEVICE OR OBJECT BETWEEN THESE TERMINALS OR BETWEEN ANY SINGLE MODULE POSITIVE (+) AND NEGATIVE (–) TERMINALS. DOING SO CAN CAUSE WELDING AND SEVERE BURNS.

WARNING: AVOID PHYSICALLY TOUCHING ANY EXPOSED BATTERY PACK TERMINAL OR CONNECTION IN THE STRING. DOING SO WILL INCREASE YOUR RISK TO ELECTRICAL SHOCK.

WARNING: THE EXPOSED TERMINAL AT THE END OF THE MODULE STRING IS AT A HIGH VOLTAGE POTENTIAL WITH RESPECT TO ANY MODULE TERMINAL AT THE BEGINNING OF THE STRING. THE EXPOSED TERMINAL IS HOWEVER, PHYSICALLY SEPARATED FROM THE LOWER POTENTIAL TERMINALS AT THE BEGINNING OF THE STRING, THUS MAKING IT DIFFICULT TO CONTACT BOTH ENDS AT THE SAME TIME.

WARNING: ELECTRICAL CURRENT GREATER THAN FIVE (5) MILLIAMPERES CAN BE HAZARDOUS OR IN SOME CASES FATAL. THE AMOUNT OF CURRENT YOUR BODY WILL CONDUCT IS DEPENDENT UPON YOUR BODY'S RESISTANCE TO ELECTRICAL CURRENT AND THE APPLIED VOLTAGE OR POTENTIAL DIFFERENCE. THIS ELECTRIC POWERED VEHICLE HAS TREMENDOUS ELECTRICAL CAPACITY, BOTH IN VOLTAGE AND IN AVAILABLE CURRENT. A HIGH VOLTAGE CONDITION EXISTS WITH EITHER CHARGED OR DISCHARGED DEAD MODULES. ONE END OF ANY MODULE OR STRING OF MODULES IS AT A HIGH POTENTIAL AND THE OTHER END IS AT A LOW POTENTIAL. NEVER PUT YOURSELF OR ANY CONDUCTIVE OBJECT ANYWHERE WITHIN THIS POTENTIAL DIFFERENCE.

WARNING: WHEN THE BATTERY PACK IS REMOVED FROM THE VEHICLE, IT IS NO LONGER ELECTRICALLY ISOLATED. PERFORM ANY PROCEDURES ON THE TUB USING EXTREME CAUTION.

WARNING: WHEN LEAVING THE WORK AREA, PLACE THE COVER BACK ON THE TUB AND SECURE COVER TO TUB. NEVER LEAVE A PARTIALLY ASSEMBLED OR FULLY ASSEMBLED TUB UNATTENDED UNLESS THE COVER IS SECURED. PLACE AN APPROPRIATE WARNING SIGN ON THE TUB WHICH INDICATES: DANGER HIGH VOLTAGE–DO NOT TOUCH.

WARNING: ONLY INSTALL REPLACEMENT BATTERIES OF THE SAME TYPE: USE ONLY A LEFT BATTERY TO REPLACE A LEFT BATTERY, AND A RIGHT BATTERY TO REPLACE A RIGHT BATTERY.

WARNING: WHEN REPLACING BATTERIES, ALWAYS MAKE CERTAIN THE BATTERIES ARE POSITIONED CORRECTLY. DO NOT ATTEMPT TO CONNECT COMMON POLES TOGETHER.

SAFE HANDLING PROCEDURES AND PRECAUTIONS

Always wear eye protection and acid resistant gloves when handling these modules. Although the module cases are washed at the supplier facility, they may still have some basic residue on the surface of the case which may cause skin irritation.

Set up an electrical safety area. Only persons authorized to work on the battery pack should be allowed in. Rope off or otherwise mark the area clearly.

When working with traction battery modules, wear electrically insulated/acid resistant gloves and non-conductive rubber soled shoes.

Never touch both module terminals (+) and (–) at the same time. Although an individual module has a relatively low voltage potential of 13.0 volts, one can experience a slight tingling sensation under damp or wet conditions.

Do not expose the module to sparks, flames or heat sources at any time. High concentrations of hydrogen gas and oxygen can exist in the vicinity of the module vents. This can form a flammable and explosive mixture which may be ignited by a flame or spark.

Modules are heavy! Lifting aids or back supports are recommended to prevent back injury.

SAFE HANDLING PROCEDURES AND PRECAUTIONS (Continued)

Do not drop modules. Doing so may damage the internal plates or may crack the case. If a module is dropped, do not use. If a module case is visibly damaged or cracked, place duct tape over cracks in the case and properly dispose of the module. Do not use damaged modules.

The module and battery tub service area must be dry and free of metal debris. The service area must be isolated from concrete or electrically conductive floors so that the service technician is not standing on or in contact with any conductive surface.

Do not wear wrist watches, bracelets or rings while working on or near the battery tub. Remove metal belt buckles and any loose metal jewelry.

Insulated tools which electrically isolate the service technician from high voltage must be used at all times, specifically hand tools with insulated handles or grips.

It is highly recommended that tools such as screw drivers, nut drivers, socket wrench extensions, etc. have insulated shafts.

All technicians working within the electrical safety area should avoid physical contact from each other such as hand shakes, handing off tools or parts, etc.

COMPONENT SERVICE

GENERAL INSTALLATION AND REMOVAL PROCESS PRECAUTIONS

The individual modules are designed for a safe sequence of pack assembly and disassembly. This design allows modules to be installed and electrically connected using a bus bar from the negative (–) terminal of one battery to the positive (+) terminal of the next battery. The positive terminal is located on an opposite corner from the negative terminal while connected in a series string (positive of one module to the negative of another module).

The battery system is electrically isolated from the vehicle body by design. Therefore, take all necessary precautions to avoid an inadvertent or deliberate connection between any of the module terminals and the metal tub. Any such contact will place the tub assembly in the battery system circuit thereby defeating the designed intent isolation. Any module

terminal contacting the metal tub will increase the risk for electrical shock.

Avoid physically touching any exposed battery pack terminal or connection in the string. This will increase your risk to electrical shock.

BATTERY MODULES

REMOVAL

NOTE: When moving vehicle into lifting area, make sure that the vehicle is centered on the hoist. If the vehicle is not centered side to side you may have trouble lowering the battery tub from vehicle.

- (1) Disable traction battery pack by turning the service disconnect switch to Off.
- (2) Disconnect and isolate the auxiliary battery negative cable.
- (3) Raise vehicle on a hoist. Refer to “Lifting Procedure” in this manual.
- (4) Remove traction battery tub. Refer to “Traction Battery Tub Removal” in this group.
- (5) Remove battery tub cover bolts (18).
- (6) Remove battery tub cover.
- (7) Disconnect Battery Monitoring Module (BMM) connectors (2 per BMM) at BMMs (3) (fig. 1).

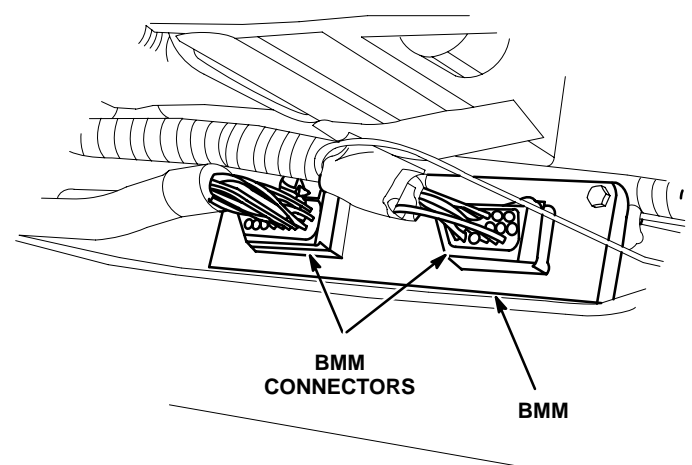
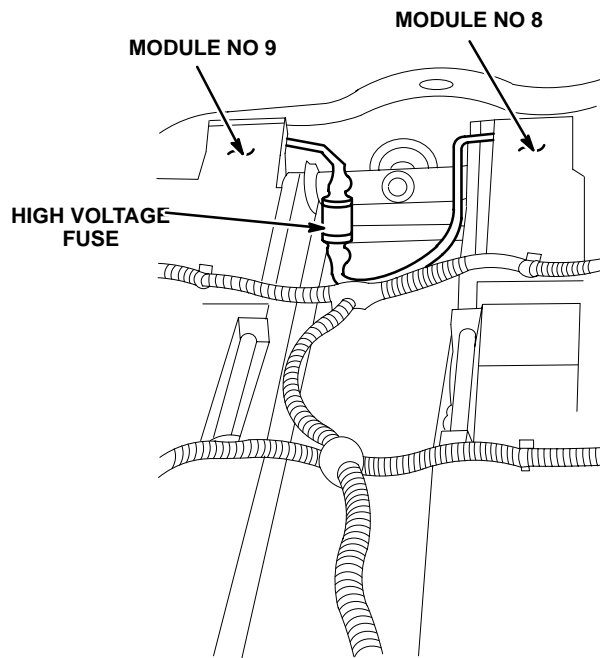


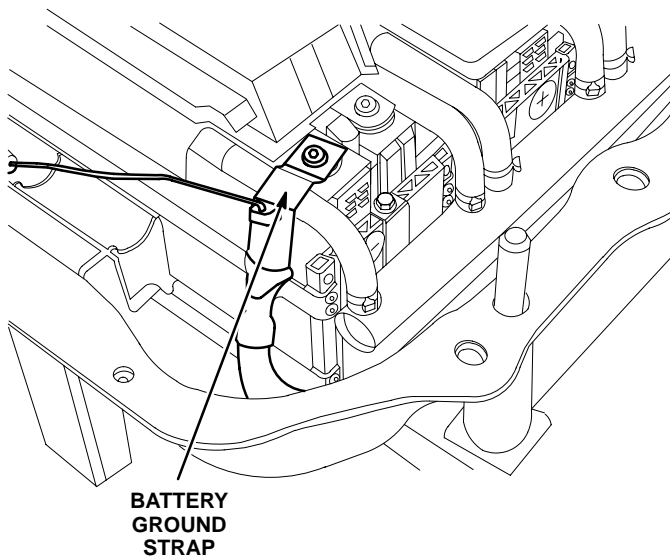
Fig. 1 BMM

- (8) Disconnect high voltage fuse and rotate to allow extra battery clearance for removal (fig. 2).

BATTERY MODULES (Continued)

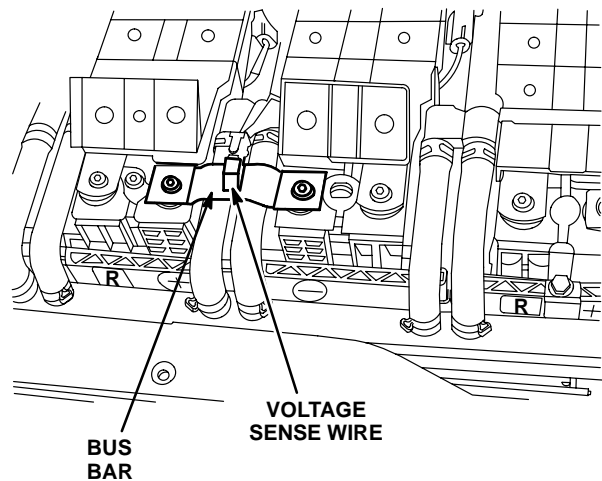
**Fig. 2 High Voltage Fuse**

- (9) Disconnect battery ground strap (fig.3).

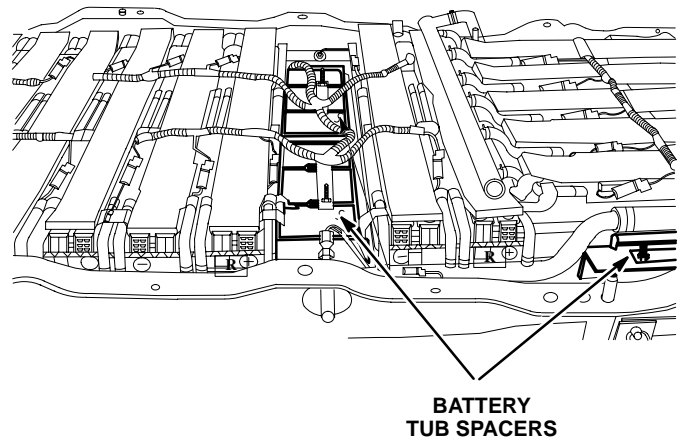
**Fig. 3 Battery Ground Strap**

WARNING: REMOVE BUS BARS CONNECTING BATTERY MODULES BEFORE PERFORMING ANY WORK ON THE BATTERY MODULES

- (10) Remove all of the bus bars connecting the battery modules (fig. 4).

**Fig. 4 Battery Bus Bar**

- (11) Remove battery tub spacers (fig.5).

**Fig. 5 Battery Tub Spacers**

- (12) Disconnect voltage sensor connector.
 (13) Disconnect battery thermistor if required.

BATTERY MODULES (Continued)

(14) Remove harness from battery being removed.

WARNING: WHEN THE BATTERY PACK IS REMOVED FROM THE VEHICLE, IT IS NO LONGER ELECTRICALLY ISOLATED. PERFORM ANY PROCEDURES ON THE TUB USING EXTREME CAUTION.

WARNING: WHEN LEAVING THE WORK AREA, PLACE THE COVER BACK ON THE TUB AND SECURE COVER TO TUB. NEVER LEAVE A PARTIALLY ASSEMBLED OR FULLY ASSEMBLED TUB UNATTENDED UNLESS THE COVER IS SECURED. PLACE AN APPROPRIATE WARNING SIGN ON THE TUB WHICH INDICATES: DANGER HIGH VOLTAGE–DO NOT TOUCH

(15) Disconnect coolant hoses from battery being removed (fig. 6).

(16) Remove battery.

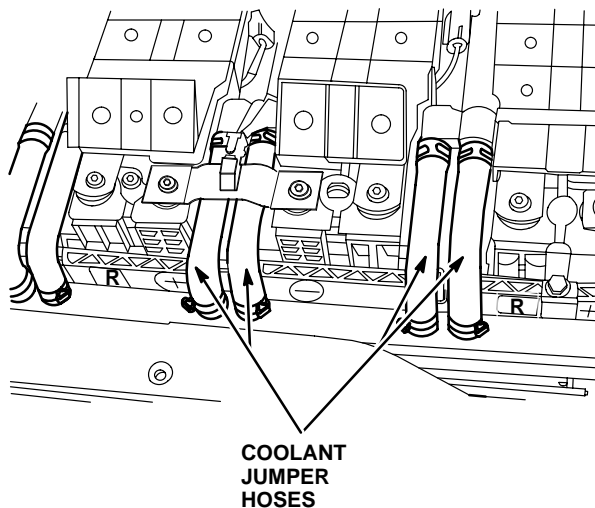


Fig. 6 Battery Coolant Hoses

INSTALLATION

WARNING: ONLY INSTALL REPLACEMENT BATTERIES OF THE SAME TYPE: USE ONLY A LEFT BATTERY TO REPLACE A LEFT BATTERY, AND A RIGHT BATTERY TO REPLACE A RIGHT BATTERY.

WARNING: WHEN REPLACING BATTERIES, ALWAYS MAKE CERTAIN THE BATTERIES ARE POSITIONED CORRECTLY. DO NOT ATTEMPT TO CONNECT COMMON POLES TOGETHER.

- (1) Install battery.
- (2) Install battery coolant lines.
- (3) Connect battery thermistor if required.
- (4) Connect voltage sensor connector.
- (5) Install battery tub spacers. Torque to 6–9 N•m (40–60 in. lbs.).
- (6) Install all of the bus bars connecting the battery modules. Torque to 10.5 N•m (93 in. lbs.).
- (7) Install battery ground strap.
- (8) Connect high voltage fuse.
- (9) Connect BMM connectors (2 per BMM).
- (10) Install tub cover and bolts. Torque to 7 N•m (60–75 in. lbs.).
- (11) Install traction battery tub. Refer to “Traction Battery Tub Installation” procedure in this group.
- (12) Lower vehicle.
- (13) Connect auxiliary battery negative cable.
- (14) Fill battery tub coolant. Refer to battery tub coolant fill procedure in this manual.
- (15) Enable the traction battery pack by turning the high voltage service disconnect switch to On.

WARNING: WHEN THE BATTERY PACK IS REMOVED FROM THE VEHICLE, IT IS NO LONGER ELECTRICALLY ISOLATED. PERFORM ANY PROCEDURES ON THE TUB USING EXTREME CAUTION.

WARNING: WHEN LEAVING THE WORK AREA, PLACE THE COVER BACK ON THE TUB AND SECURE COVER TO TUB. NEVER LEAVE A PARTIALLY ASSEMBLED OR FULLY ASSEMBLED TUB UNATTENDED UNLESS THE COVER IS SECURED. PLACE AN APPROPRIATE WARNING SIGN ON THE TUB WHICH INDICATES: DANGER HIGH VOLTAGE–DO NOT TOUCH.

BATTERY MODULE THERMISTORS

REMOVAL

NOTE: When moving vehicle into lifting area, make sure that the vehicle is centered on the hoist. If the vehicle is not centered side to side you may have trouble lowering the battery tub from vehicle.

(1) Disable traction battery pack by turning the service disconnect switch to Off.

(2) Disconnect and isolate the auxiliary battery negative cable.

(3) Raise vehicle on a hoist. Refer to “Lifting Procedure” in this manual.

(4) Remove traction battery tub. Refer to “Traction Battery Tub Removal” procedure in this group.

WARNING: WHEN THE BATTERY PACK IS REMOVED FROM THE VEHICLE, IT IS NO LONGER ELECTRICALLY ISOLATED. PERFORM ANY PROCEDURES ON THE TUB USING EXTREME CAUTION.

WARNING: WHEN LEAVING THE WORK AREA, PLACE THE COVER BACK ON THE TUB AND SECURE COVER TO TUB. NEVER LEAVE A PARTIALLY ASSEMBLED OR FULLY ASSEMBLED TUB UNATTENDED UNLESS THE COVER IS SECURED. PLACE AN APPROPRIATE WARNING SIGN ON THE TUB WHICH INDICATES: DANGER HIGH VOLTAGE–DO NOT TOUCH.

- (5) Remove battery tub cover bolts (18).
- (6) Remove battery tub cover.
- (7) Disconnect high voltage fuse (fig. 7).

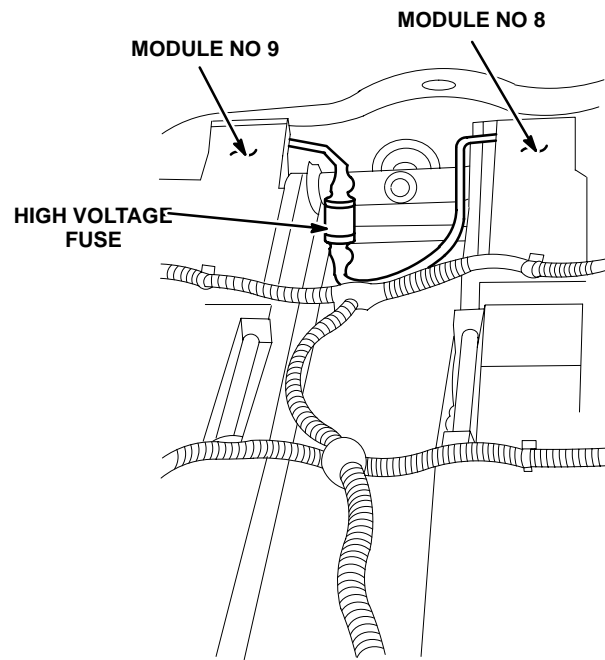
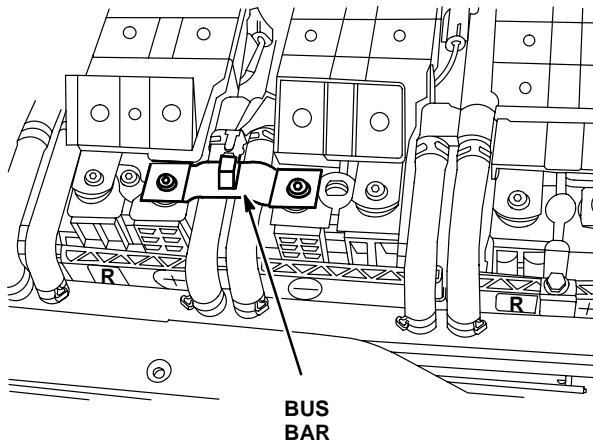


Fig. 7 High Voltage Fuse

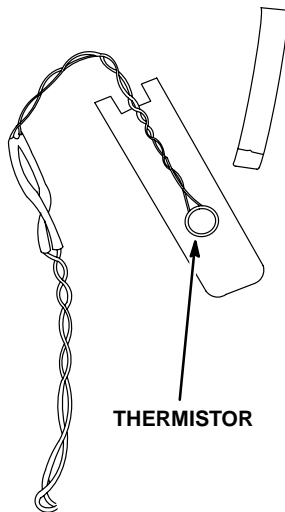
- (8) Disconnect electrical cable at module #1.
- (9) Disconnect electrical cable at module #28.

WARNING: REMOVE BUS BARS CONNECTING BATTERY MODULES BEFORE PERFORMING ANY WORK ON THE BATTERY MODULES

- (10) Remove all of the bus bars connecting the battery modules (fig. 8).

BATTERY MODULE THERMISTORS (Continued)**Fig. 8 Battery Bus Bar**

- (11) Remove battery cover.
- (12) Remove center bus bar.
- (13) Remove thermistor assembly (fig. 9).

**Fig. 9 Battery Module Thermistor****INSTALLATION**

- (1) Install thermistor.

WARNING: USE EXTREME CAUTION TO NOT TOUCH ADJACENT CELLS WHEN INSTALLING BUS BARS.

- (2) Install center bus bar. Torque to 10.5 N•m (93 in. lbs.).
- (3) Install module cover.
- (4) Install all of the bus bars connecting the battery modules.
- (5) Connect electrical cable at module #28.
- (6) Connect electrical cable at module #1.
- (7) Connect high voltage fuse.
- (8) Install tub cover and bolts. Tighten to 7 N•m (60-75 in. lbs.) torque.
- (9) Install traction battery tub. Refer to "Traction Battery Tub Installation" procedure in this group.
- (10) Lower vehicle.
- (11) Connect auxiliary battery negative cable.
- (12) Enable the traction battery pack by turning the high voltage service disconnect switch to On.

BATTERY MONITORING MODULES (BMM)

DESCRIPTION

The BMMs are data gathering modules that are controlled by the MCM through the MCAN bus. This communication bus is completely separate from any other communications bus in the EPIC.

OPERATION

The BMMs provide the traction battery voltage and temperature information to the MCM when requested over the MCAN bus. The BMMs sample the voltage and temperature information and return it to the MCM over the MCAN bus as serial data. Each BMM monitors ten battery modules and five thermistors. BMM 0 is connected to battery modules 1 through 10 and thermistors 1 through 5. BMM 1 is connected to battery modules 11 through 20 and thermistors 6 through 10. BMM 2 is connected to battery modules 21 through 27 and thermistors 11 through 15. Note that only seven channels of BMM 2 are used.

BMM 0 and BMM 1 are located on the right-hand side of the battery tub. BMM 2 is located on the left-hand side of the battery tub. Each BMM is secured using two bolts, and there is a chassis ground wire for each BMM connected to its respective bracket by a screw.

REMOVAL

NOTE: When moving vehicle into lifting area, make sure that the vehicle is centered on the hoist. If the vehicle is not centered side to side you may have trouble lowering the battery tub from vehicle.

- (1) Disable traction battery pack by turning the service disconnect switch to Off.
- (2) Disconnect and isolate the auxiliary battery negative cable.
- (3) Raise vehicle on a hoist. Refer to "Lifting Procedure" in this manual.
- (4) Remove traction battery tub. Refer to "Traction Battery Tub Removal" procedure in this group.
- (5) Remove battery tub cover bolts (18).
- (6) Remove battery tub cover.
- (7) Remove connectors (2) from BMM(s) to be removed (Fig. 10).
- (8) Remove BMM bolts (2).
- (9) Remove BMM .

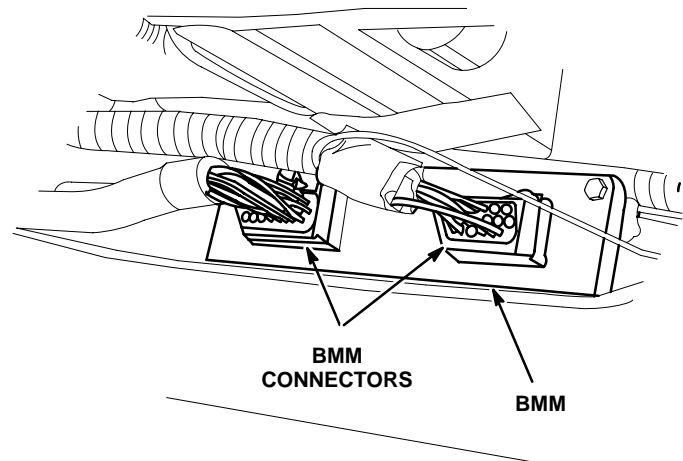


Fig. 10 BMM

INSTALLATION

- (1) Install BMM.
- (2) Install mounting bolts (2). Tighten to 3-6 N•m (30-50 in. lbs.) torque.
- (3) Connect BMM connectors.
- (4) Install tub cover and bolts. Tighten to 7 N•m (60-75 in. lbs.) torque.
- (5) Install traction battery tub. Refer to "Traction Battery Tub Installation" in this group.
- (6) Lower vehicle.
- (7) Connect auxiliary battery negative cable.
- (8) Enable the traction battery pack by turning the high voltage service disconnect switch to On.

HIGH VOLTAGE FUSE

REMOVAL

NOTE: When moving vehicle into lifting area, make sure that the vehicle is centered on the hoist. If the vehicle is not centered side to side, you may have trouble lowering the battery tub from vehicle.

- (1) Disable traction battery pack by turning the service disconnect switch to Off.
- (2) Disconnect and isolate the auxiliary battery negative cable.
- (3) Raise vehicle on a hoist. Refer to "Lifting Procedure" in this manual.
- (4) Remove battery tub. Refer to "Battery Tub Removal" in this group.

HIGH VOLTAGE FUSE (Continued)

WARNING: WHEN THE BATTERY PACK IS REMOVED FROM THE VEHICLE, IT IS NO LONGER ELECTRICALLY ISOLATED. PERFORM ANY PROCEDURES ON THE TUB USING EXTREME CAUTION.

WARNING: WHEN LEAVING THE WORK AREA, PLACE THE COVER BACK ON THE TUB AND SECURE COVER TO TUB. NEVER LEAVE A PARTIALLY ASSEMBLED OR FULLY ASSEMBLED TUB UNATTENDED UNLESS THE COVER IS SECURED. PLACE AN APPROPRIATE WARNING SIGN ON THE TUB WHICH INDICATES: DANGER HIGH VOLTAGE–DO NOT TOUCH

- (5) Remove battery tub cover bolts (18).
- (6) Remove battery tub cover.
- (7) Disconnect high voltage fuse at modules #8 and #9 (Fig. 11).

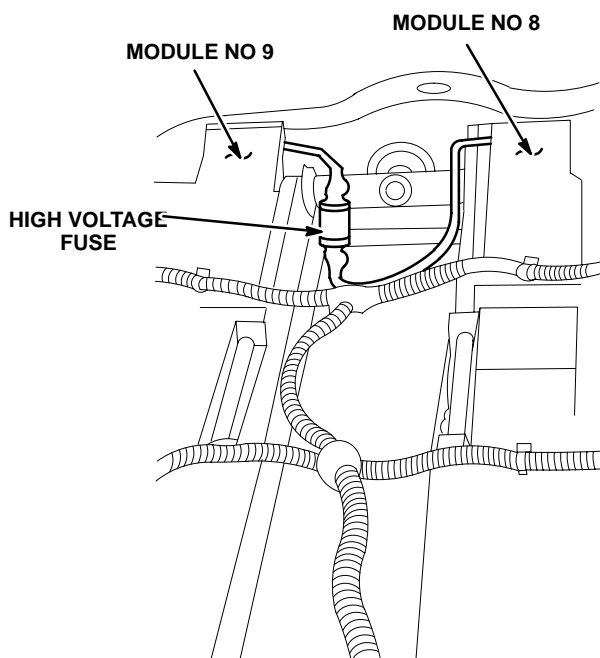


Fig. 11 High Voltage Fuse

- (8) Remove high voltage fuse.

INSTALLATION

- (1) Install high voltage fuse at modules #8 and #9.
- (2) Install tub cover and bolts. Tighten to 7 N•m (60-75 in. ft. lbs.) torque.
- (3) Install traction battery tub. Refer to "Traction Battery Tub Installation" procedure in this manual.
- (4) Lower vehicle.

- (5) Connect auxiliary battery negative cable.
- (6) Enable the traction battery pack by turning the high voltage service disconnect switch to On.

SERVICE DISCONNECT SWITCH

DESCRIPTION

The Service Disconnect Switch is attached to the battery tub on the right of the vehicle, and is used to shut off the high voltage from the battery pack to the vehicle. The Service Disconnect Switch is monitored to determine if it has been opened. The vehicle will not operate with the Service Disconnect Switch in the Off position.

REMOVAL

NOTE: When moving vehicle into lifting area, make sure that the vehicle is centered on the hoist. If the vehicle is not centered side to side, you may have trouble lowering the battery tub from vehicle.

- (1) Disable traction battery pack by turning the service disconnect switch to Off (Fig. 12).

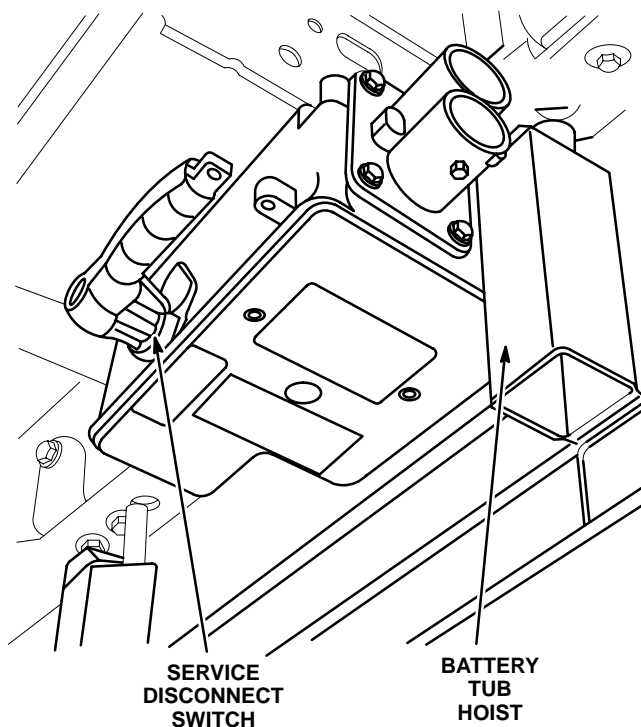


Fig. 12 Service Disconnect Switch

- (2) Disconnect and isolate the auxiliary battery negative cable.

SERVICE DISCONNECT SWITCH (Continued)

(3) Raise vehicle on a hoist. Refer to “Lifting Procedure” in this manual.

(4) Remove battery tub. Refer to “Battery Tub Removal” in this group.

WARNING: WHEN THE BATTERY PACK IS REMOVED FROM THE VEHICLE, IT IS NO LONGER ELECTRICALLY ISOLATED. PERFORM ANY PROCEDURES ON THE TUB USING EXTREME CAUTION.

WARNING: WHEN LEAVING THE WORK AREA, PLACE THE COVER BACK ON THE TUB AND SECURE COVER TO TUB. NEVER LEAVE A PARTIALLY ASSEMBLED OR FULLY ASSEMBLED TUB UNATTENDED UNLESS THE COVER IS SECURED. PLACE AN APPROPRIATE WARNING SIGN ON THE TUB WHICH INDICATES: DANGER HIGH VOLTAGE—DO NOT TOUCH

- (5) Remove battery tub cover bolts (18).
- (6) Remove battery tub cover.
- (7) Disconnect high voltage fuse (fig. 13)

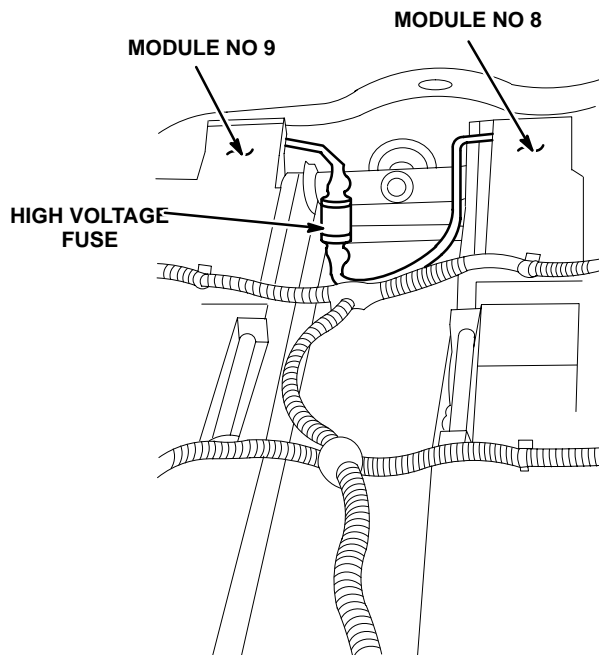


Fig. 13 High Voltage Fuse

- (8) Disconnect electrical cable bus bar at module #1.
- (9) Disconnect electrical cable bus bar at module #28.
- (10) Disconnect high voltage sense lines from service disconnect to modules #1 and #28.

(11) Remove right side coolant manifold mounting bolts (2) and lift manifold to access battery spacer (fig. 14).

(12) Remove front/side battery spacer.

(13) Remove service disconnect mounting bolts (4).

(14) Remove service disconnect. Carefully feed high voltage cables through hole in battery tub.

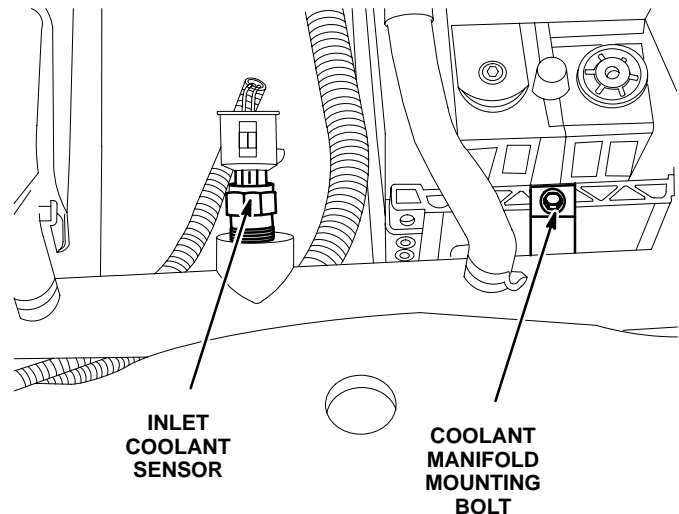


Fig. 14 Coolant Manifold Mounting Bolt

INSTALLATION

- (1) Install service disconnect carefully feeding high voltage cables through hole in battery tub.
- (2) Install service disconnect mounting bolts. Tighten to 6 N•m (50in. lbs.) torque.
- (3) Install front/side battery spacer. Torque bolts to 6–9 N•m (40–60 in. lbs.).
- (4) Install right side coolant manifold. Torque bolts (2) to 10 N•m (90 in. lbs.).
- (5) Connect electrical cable at module #30.
- (6) Connect electrical cable at module #1.
- (7) Connect high voltage sense lines at modules #1 and #28.
- (8) Connect high voltage fuse.
- (9) Install tub cover and bolts. Tighten to 7 N•m (60-75 in. ft. lbs.) torque.

SERVICE DISCONNECT SWITCH (Continued)

- (10) Install traction battery tub. Refer to “Traction Battery Tub Installation” procedure in this group.
- (11) Lower vehicle.
- (12) Connect auxiliary battery negative cable.
- (13) Enable the traction battery pack by turning the high voltage service disconnect switch to On.

TRACTION BATTERY COOLING FAN ASSEMBLY

DESCRIPTION

The Traction Battery Cooling Fan assembly provides venting of the traction batteries during charging and driving. The cooling fan assembly consists of a blower motor, a flexible hose, and a harness to connect the motor to the main harness. The assembly is mounted to a bracket that is bolted to the bulkhead with four self-tapping screws. The cooling fan assembly is mounted to the bulkhead above the BIC.

REMOVAL

- (1) Disable the traction battery pack by turning the service disconnect switch to Off.
- (2) Disconnect and isolate the auxiliary battery negative cable.
- (3) Remove the BIC. Refer to “BIC Removal” procedure in this group.
- (4) Disconnect traction battery cooling assembly connector (Fig. 15).

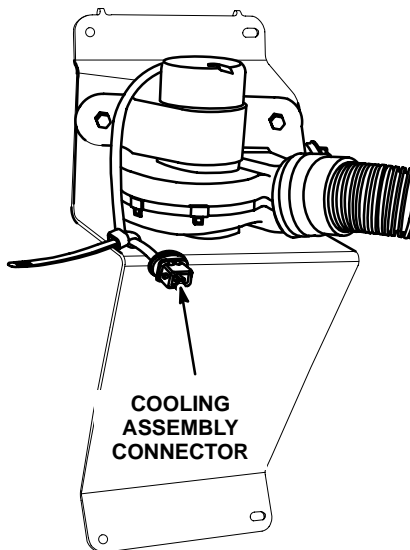


Fig. 15 Traction Battery Cooling Fan Assembly

- (5) Remove cooling hose.
- (6) Remove screws (4) holding cooling fan assembly in place.
- (7) Lift up towards the front of the van on the assembly and remove .

INSTALLATION

- (1) Install traction battery cooling fan assembly.
- (2) Install self-tapping screws (4).
- (3) Connect cooling fan harness connector.
- (4) Install cooling hose.
- (5) Install BIC. Refer to “BIC Installation” procedure in this group.
- (6) Connect auxiliary battery.
- (7) Enable the traction battery pack by turning the service disconnect switch to On.

TRACTION BATTERY TUB

REMOVAL

NOTE: When pulling vehicle into lifting area, make sure that the vehicle is centered on the hoist. If the vehicle is not centered side to side, you may have trouble lowering the battery tub from vehicle.

- (1) Disable traction battery pack by turning the service disconnect switch to Off.
- (2) Disconnect and isolate the auxiliary battery negative cable.
- (3) Raise vehicle on a hoist. Refer to “Lifting Procedure” in this manual.

TRACTION BATTERY TUB (Continued)

(4) Remove electrical connectors (4) at BIC (fig.16).

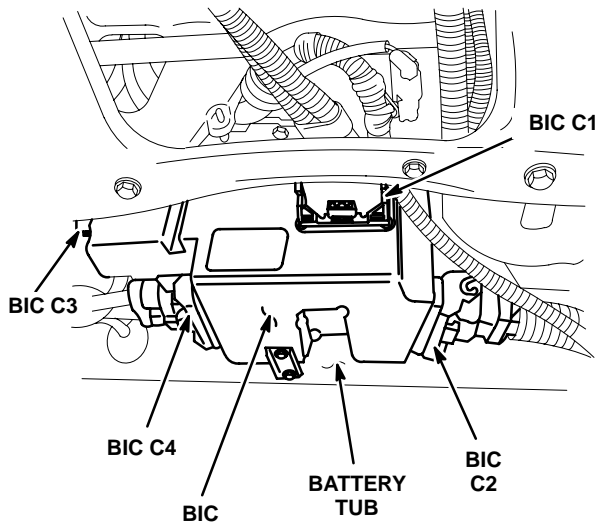


Fig. 16 BIC Connectors

- (5) Disconnect battery tub inline connector.
- (6) Support BIC and remove mounting bolts (3).
- (7) Remove BIC.
- (8) Cut tie strap and remove harness from BIC to service disconnect switch.
- (9) Cut tie straps and remove charge cable.
- (10) Disconnect battery tub fan hose.
- (11) Position drain pan below left side battery tub coolant hose. Disconnect left side coolant hose from outer tub outlet tube and rotate hose to drain downward into pan (fig. 17). Allow to drain until coolant stops flowing out of tub fitting.

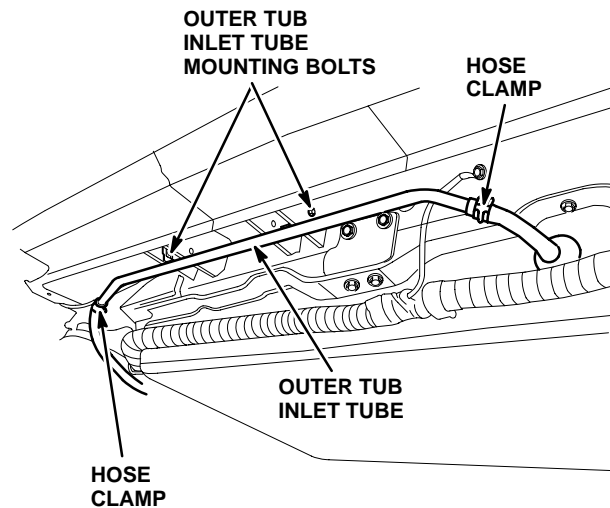


Fig. 17 Outer Tub Outlet Tube

CAUTION: When draining battery tub coolant, do not allow air pressure to exceed 5 psi.

- (12) Disconnect right side coolant hose from outer tub inlet tube and connect regulator to hose (fig. 18).

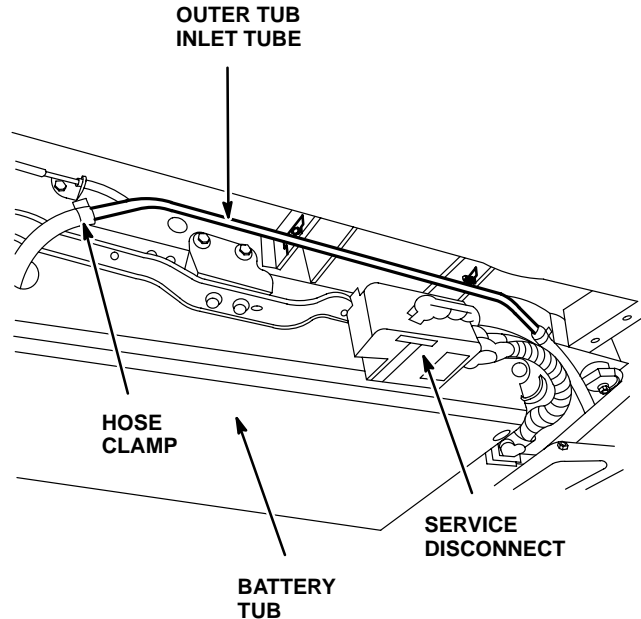


Fig. 18 Outer Tub Inlet Tube

(13) Position drain pan two to three feet below left side hose. Remove excess coolant by applying regulated air pressure starting at 0 psi and slowly increasing pressure to 5 psi maximum air pressure to the right side tub fitting until coolant stops draining from left side fitting.

(14) Remove regulator, cap both hoses, and rotate hoses to point upward.

(15) Remove center bolts (4) attaching battery tub to frame bracket.

(16) Setup lifting device under battery tub being careful not to damage the service disconnect (Fig. 19).

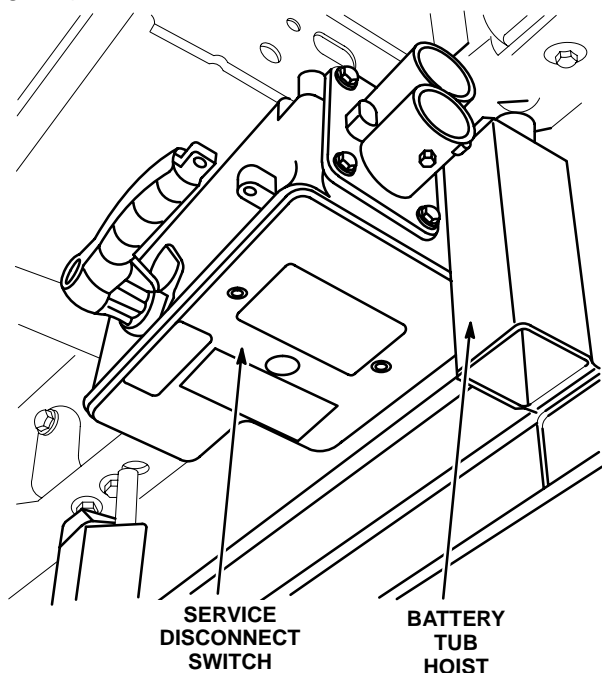


Fig. 19 Lifting Device and Service Disconnect

(17) Remove remaining battery tub retaining bolts (16).

NOTE: When lowering tub, be careful about front of tub contacting the Controller Anti-Lock Brake (CAB) module and coolant line.

(18) Remove battery tub. Move battery tub to designated work area.

WARNING: WHEN THE BATTERY PACK IS REMOVED FROM THE VEHICLE, IT IS NO LONGER ELECTRICALLY ISOLATED. PERFORM ANY PROCEDURES ON THE TUB USING EXTREME CAUTION.

WARNING: WHEN LEAVING THE WORK AREA, PLACE THE COVER BACK ON THE TUB AND SECURE COVER TO TUB. NEVER LEAVE A PARTIALLY ASSEMBLED OR FULLY ASSEMBLED

TUB UNATTENDED UNLESS THE COVER IS SECURED. PLACE AN APPROPRIATE WARNING SIGN ON THE TUB WHICH INDICATES: DANGER HIGH VOLTAGE—DO NOT TOUCH

(19) Lock lifting device foot brake (Fig. 20).

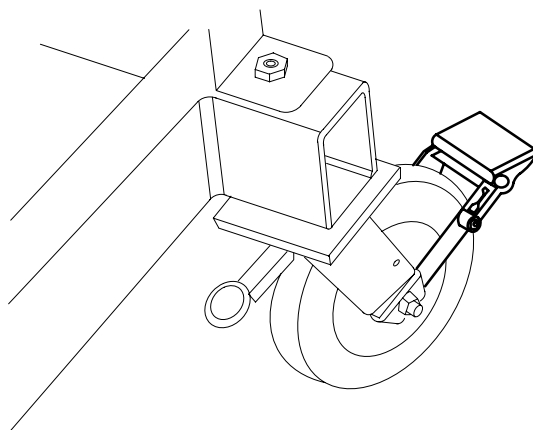


Fig. 20 Lifting Device Foot Brake

INSTALLATION

(1) Using lift device, raise battery tub into position.

(2) Install mounting bolts (12). Tighten to 81-108 N•m (60-80 ft. lbs.) torque.

(3) Install M-8 mounting bolts (4). Torque to 19-26 N•m (170-230 in. lbs.).

(4) Remove lifting device.

(5) Install center bolts (4). Tighten to 81-108 N•m (60-80 ft. lbs.) torque.

(6) Install BIC. Tighten mounting bolts (3) to 14 N•m (120 in. lbs.) torque.

(7) Connect battery tub inline connector.

(8) Install harness from service disconnect switch to BIC and secure to bracket.

(9) Install BIC electrical connectors (4).

(10) Install battery tub fan hose.

(11) Install charge cable.

(12) Install battery tub coolant hoses (2).

(13) Lower vehicle.

(14) Connect auxiliary battery negative cable.

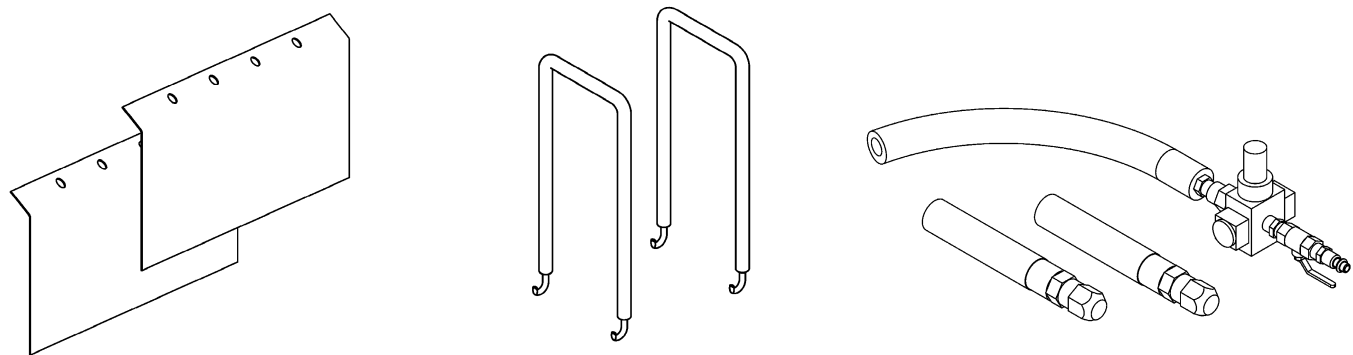
(15) Fill battery tub coolant. Refer to battery tub coolant fill procedure in this manual.

(16) Enable the traction battery pack by turning the high voltage service disconnect switch to On.

TORQUE SPECIFICATIONS

DESCRIPTION	TORQUE
Battery Bus Bar Mounting Bolts	10.5 N•m (93 in. lbs.)
Battery Coolant Manifold Mounting Bolts	10 N•m (90 in. lbs.)
Battery Spacer Mounting Bolts	6–9 N•m (40–6– in. lbs.)
Battery Tub Cover Mounting Bolts	7 N•m (60–75 in. lbs.)
Battery Tub Mounting Bolts	81-108 N•m (60-80ft. lbs.)
Battery Tub Mounting Bolts (M8)	19-26 N•m (170–230 in. lbs.)
Bic Mounting Bolts	14 N•m (120 in. lbs.)
BMM Mounting Bolts	3–6 N•m (30-50 in. lbs.)
Inlet Coolant Temperature Sensor	6 N•m (50 in. lbs.)
Outlet Coolant Temperature Sensor	6 N•m (50 in. lbs.)
Service Disconnect Mounting Bolts	6 N•m (50 in. lbs.)

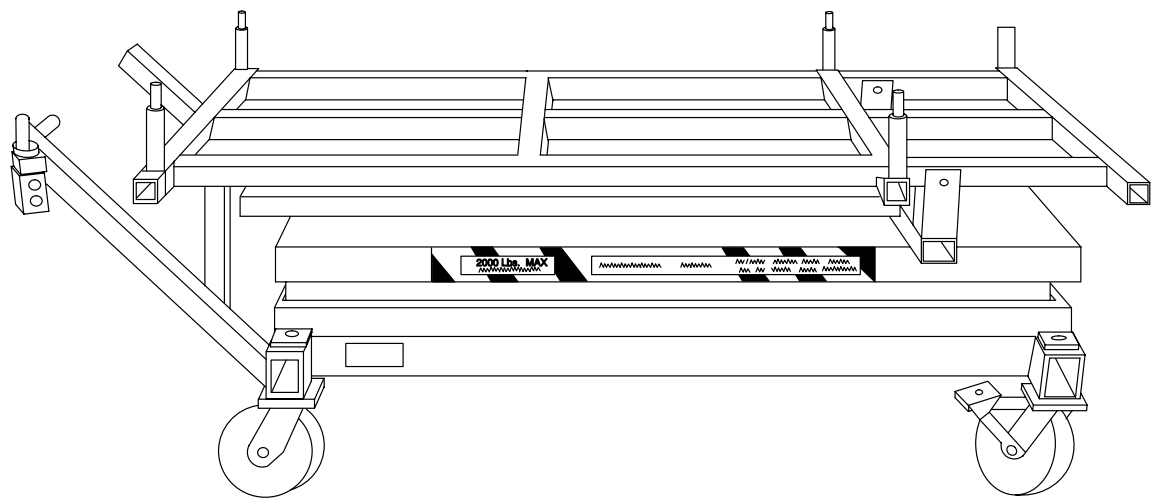
SPECIAL TOOLS



Assembly Guides

Battery Lifting Tool

Coolant Purge Tool



Battery Tub Lift

THIS PAGE INTENTIONALLY LEFT BLANK

INSTRUMENT PANEL AND SYSTEMS 8E

TABLE OF CONTENTS

	PAGE		PAGE
DESCRIPTION	1	SERVICE REQUIRED LIGHT	2
INSTRUMENT CLUSTER	1	TRACTION BATTERY TEMPERATURE LIGHT	2
MESSAGE CENTER	1	TURN SIGNAL INDICATORS	2
OPERATION	1	WAIT LIGHT	2
ABS LIGHT	1	DIAGNOSIS AND TESTING	3
AIRBAG LIGHT	2	INSTRUMENT CLUSTER DTC CHART	3
BRAKE SYSTEM WARNING LIGHT	2	CLUSTER CALIBRATION TABLE	3
CHECK PLUG LIGHT	2	DIAGNOSTICS	4
HIGH BEAM LIGHT	2		

DESCRIPTION

The instrumentation gauges on the EPIC are contained in subdial assemblies within the instrument cluster. The individual gauges are not serviced separately. If one of the cluster gauges becomes faulty the entire subdial would require replacement and all gauges will have to be calibrated. Refer to the proper diagnostics procedure manual for calibration procedures.

INSTRUMENT CLUSTER

The mechanical instrument cluster is equipped with a electronic vacuum fluorescent transmission range indicator (PRND), odometer, and trip odometer display.

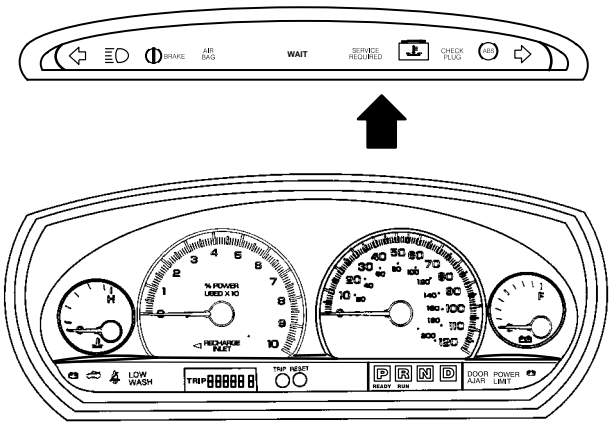
The instrument cluster is equipped with the following warning lamps.

- Lift Gate Ajar.
- Low Traction Battery State Of Charge.
- Low Windshield Washer Fluid Level.
- Power Limit.
- Auxiliary Battery Charge System.
- Fasten Seat Belt.
- Door Ajar.

MESSAGE CENTER

The message center for the EPIC is located in the same area as the gasoline version (fig. 1). It also looks and is diagnosed the same. The difference is the message icons. There are nine message icons:

left turn signal indicator, high beam, air bag, service required, oil temperature warning lamp, check plug, ABS and right turn signal indicator.



97049-015

Fig. 1 Instrument Cluster

OPERATION

ABS LIGHT

The ABS light will come on when the ignition key is turned to the On position and may stay on for up to three seconds.

If the ABS light remains on or comes on while driving, it indicates that the Anti-Lock portion of the brake system is not functioning and that service is

required. However, the conventional brake system will continue to operate normally if the BRAKE warning light is not on.

If the ABS light is on, the brake system should be serviced as soon as possible to restore the benefits of Anti-Lock brakes. If the ABS light does not come on when the ignition key is turned to the On position, have the bulb checked and/or replaced as soon as possible.

AIRBAG LIGHT

This light comes on and remains on for six to eight seconds as a bulb check when the ignition switch is first turned On. If the bulb is not on during starting, it needs to be checked and/or replaced. If the light stays on, or comes on while driving, the airbag system needs to be checked by an authorized dealer as soon as possible.

BRAKE SYSTEM WARNING LIGHT

The EPIC dual brake system provides a reserve braking capacity in the event of a failure to a portion of the hydraulic system. Failure of either half of the dual brake system is indicated by the Brake Warning light, which will come on when the brake fluid level in the master cylinder has dropped below a specific level. The light will remain on until the cause is corrected.

NOTE: The light may flash momentarily during sharp cornering maneuvers which change fluid level conditions. Vehicle should have service performed.

WARNING: IF BRAKE FAILURE IS INDICATED, IMMEDIATE REPAIR IS NECESSARY.

WARNING: DRIVING A VEHICLE WITH THE BRAKE SYSTEM WARNING LIGHT ON IS DANGEROUS. PART OF THE BRAKE SYSTEM MAY HAVE FAILED. IT WILL TAKE LONGER TO STOP THE VEHICLE. YOU COULD HAVE AN ACCIDENT. HAVE THE VEHICLE CHECKED IMMEDIATELY.

The warning light should be checked frequently to assure that it is operating properly. This can be done by turning the ignition key to a point midway between On and Run. The light should come on.

The light also will come on when the parking brake is applied with the ignition in the On position.

NOTE: This light shows only that the parking brake is applied. It does not show the degree of brake application.

CHECK PLUG LIGHT

The Check Plug light will illuminate if the charge port door is left open. The vehicle will not enter Ready mode when this light is on.

HIGH BEAM LIGHT

This shows that the headlights are on high beam. Pull the turn signal lever towards the steering wheel to switch the headlights from high or low beam.

SERVICE REQUIRED LIGHT

This light illuminates indicating a possible failure on the vehicle. The vehicle must be taken to an authorized service center for proper diagnosis and repair. When the Service Required light illuminates the chime also sounds.

TRACTION BATTERY TEMPERATURE LIGHT

This light will illuminate when traction batteries become too hot to allow further driving without damage to the batteries. The BEMS™ will only allow enough current to get the vehicle off the road. Once the batteries are cooled, full power will be restored. The battery pack can not be charged until it has cooled.

TURN SIGNAL INDICATORS

The arrow will flash with the exterior turn signal when the turn signal lever is operated. If the vehicle electronics sense that the vehicle has traveled about one mile with the turn signal On, a chime will sound to alert the operator to turn the signal Off. If either indicator flashes at a rapid rate, check for a defective outside bulb. If the hazard warning lights are activated the turn indicators will flash simultaneously at a regular rate.

WAIT LIGHT

The wait light is illuminated when the vehicle is near the end of the charge cycle. When this light is On, the vehicle will not enter the Ready mode until the charge cycle is complete and the wait light has been turned Off.

DIAGNOSIS AND TESTING

DIAGNOSTIC PROCEDURES

EPIC instrument clusters are equipped with a self-diagnostic test feature to help identify electronic problems. Prior to any test, perform Self-Diagnostic Test. The self-diagnostic system monitors the CCD bus messages. If an electronic problem occurs, a Diagnostic Trouble Code (DTC) will be displayed in the odometer window of the cluster.

The following CCD bus messages are continuously monitored by the diagnostic system:

- Body Control Module.
- Powertrain Controller Assembly.

INSTRUMENT CLUSTER DTC CHART

DTC	DESCRIPTION
110	Memory fault in cluster
111	Calibration fault in cluster
920	No CCD bus messages from BCM
921	Odometer fault from BCM
940	No CCD bus messages from PCA
999	End of Codes

CLUSTER CALIBRATION TABLE

Speedometer	Calibration Point
1	0 mph (0 km/h)
2	20 mph (40 km/h)
3	55 mph (80 km/h)
4	75 mph (120 km/h)
Power Meter	Calibration Point
1	0%
2	14%
3	43%
4	85%
Traction Battery State Of Charge Gauge	Calibration Point
1	Low
2	Full
Traction Motor Coolant Temperature Gauge	Calibration Point
1	Cold
2	Low Normal
3	High Normal
4	Hot

DIAGNOSTICS

INSTRUMENT CLUSTER DIAGNOSIS		
CONDITION	POSSIBLE CAUSES	CORRECTION
Instrument cluster inoperative – no response.	No CCD bus messages from the Body Control Module (BCM).	1. Use a scan tool to check the BCM. If OK, look for another possible cause for cluster failure. If not OK, refer to the proper Body Diagnostic Procedure Manual.
	Spread terminal(s) on wiring harness cluster connector.	1. Remove cluster from instrument panel and check wiring harness connector for spread terminal. If OK, look for another possible cause for the cluster failure. If not OK, repair connector.
	Body Control Module (BCM) is not receiving proper input from the ignition switch.	1. Use a scan tool to verify ignition switch status into the BCM. If not OK, go to Step (2). If OK, look at another possible cause of failure. 2. Check ignition switch function and wiring.
	Internal cluster failure.	1. Replace main cluster pc board and use a scan tool to calibrate cluster.

SPEEDOMETER DIAGNOSIS		
CONDITION	POSSIBLE CAUSES	CORRECTION
No pointer movement.	1. Internal cluster failure.	<p>1. (a) Perform Cluster Self-Diagnostic Test and check for fault codes.</p> <ul style="list-style-type: none">● If speedometer pointer moves to calibration points during test, and fault codes 110 and 111 don't appear in the odometer display, then failure is not in the cluster. Look for another possible cause of failure.● If the pointer doesn't move during test, go to Step (b).● If fault code 110 is displayed in the odometer, go to step (b).● If fault code 111 is displayed in the odometer, then go to Step (f).● If fault codes 920, or 940 are displayed in the odometer display, refer to the fault code chart to identify which module is causing the fault and repair module. <p>(b) Replace main cluster pc board. Go to Step (c).</p> <p>(c) Connect cluster into instrument panel wiring harness. Place it back into the proper position in the instrument panel. Put in the top two mounting screws to hold the cluster in place. DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS CALIBRATED AND TESTED. Go to Step (d).</p> <p>(d) Use a scan tool to calibrate cluster and perform Self Test.</p>

SPEEDOMETER DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
No pointer movement (Continued).	1. Internal cluster failure.	<p>1. Diagnostic Test. If OK, complete installation. If not OK, go to Step (e).</p> <p>(e) Replace subdial assembly and use a scan tool to calibrate cluster. If not OK, look at another possible cause for the speedometer failure.</p> <p>(f) Use a scan tool to calibrate speedometer and perform Self-Diagnostic Test. If OK, stop. If not OK, go to Step (b).</p>
	2. No speed CCD Bus Message or Zero mph CCD Speed Bus Message.	<ul style="list-style-type: none"> • (a) Check the Body Control Module (BCM) using a scan tool. If OK, go to Step (b). If not OK, refer to the BCM section of the service manual to repair the BCM. (b) Check the Powertrain Controller Assembly (PCA) using a scan tool. If OK, go to Step (c). If not OK, refer to the PCA section of the service manual to repair the PCA. (c) Check the speed signal input into the PCA. The speed signal originates from the resolver.
Erratic pointer movement.	1. Erratic Message from another Module.	<p>1. (a) Check the BCM using a scan tool. If OK, go to Step (b). If not OK, refer to the BCM section of the service manual to repair the BCM.</p> <p>(b) Check the PCA using a scan tool. If OK, go to Step (c). If not OK, refer to the PCA section of the service manual to repair the PCA.</p> <p>(c) Check the speed signal input into the PCA. The speed signal originates from the resolver.</p>

SPEEDOMETER DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
Erratic pointer movement (Continued).	2. Internal cluster failure.	<p>2. (a) Perform Cluster Self-Diagnostic Test and check for fault codes.</p> <ul style="list-style-type: none"> ● If the pointer moves during test, but still appears erratic, and fault codes 110 or 111 don't appear in the odometer display, then go to Step (b). ● If fault code 110 is displayed in the odometer, go to Step (e). ● If fault code 111 appears in the odometer display, go to Step (d). ● If fault codes 920, or 940 are displayed in the odometer display, refer to the fault code chart to identify which module is causing the fault and repair module. <p>(b) Replace cluster subdial assembly. Go to Step (c).</p> <p>(c) Connect cluster into instrument panel wiring harness. Place it back into the proper position in the instrument panel. Put in the top two mounting screws to hold the cluster in place. DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS CALIBRATED AND TESTED. Go to Step (d).</p> <p>(d) Use a scan tool to calibrate cluster and perform Self-Diagnostic Test. If OK, continue installation. If not OK, go to Step (e).</p> <p>(e) Replace main cluster PC board and use a scan tool to calibrate cluster. If not OK, look at another possible cause for the speedometer failure.</p>

SPEEDOMETER DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
Speedometer inaccurate.	1. Speedometer out of calibration.	1. (a) Perform Cluster Self-Diagnostic Test. <ul style="list-style-type: none">● If speedometer is accurate to the calibration points, look for another possible cause of inaccuracy.● If speedometer is not accurate to the calibration points, go to Step (b). (b) Use a scan tool to calibrate speedometer.

POWER METER DIAGNOSIS		
CONDITION	POSSIBLE CAUSES	CORRECTION
Erratic pointer movement.	1. Bad CCD Bus Message from Engine Controller	1. Check the BEMS™ using a scan tool. Refer to the BEMS™ section of the annual to properly diagnose and repair.

POWER METER DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
	2. Internal Cluster Failure	<p>2. (a) Perform Cluster Self Diagnostic test and check for fault codes.</p> <ul style="list-style-type: none"> ● If the pointer moves during test but still appears erratic and fault codes 110 or 111 don't appear in the odometer display, go to Step (b). ● If fault code 110 is displayed in odometer, go to Step (e). ● If fault code 111 appears in the odometer display go to Step (d). ● If fault codes 920 or 940 are displayed in the odometer display refer to the fault code chart to identify which module is causing the fault and repair module. <p>(b) Replace cluster subdial assembly. Go to Step (c).</p> <p>(c) Connect cluster into instrument panel wiring harness. Place it back into the proper position in the instrument panel. Put in the top two mounting screws to hold the cluster in place DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS CALIBRATED AND TESTED. Go to Step (d).</p> <p>(d) Use a scan tool to calibrate cluster and perform Self Diagnostic Test. If OK, continue installation. If not OK, go to Step (e).</p> <p>(e) Replace main cluster pc board and use a scan tool to calibrate cluster. If not OK, look at another possible cause for the tachometer failure.</p>
Power meter inaccurate.	1. Power Meter out of calibration.	1. Calibrate tachometer using a scan tool.

POWER METER DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
No pointer movement.	1. Internal Cluster Failure.	<p>1. (a) Perform Cluster Self Diagnostic Test and check for fault codes.</p> <ul style="list-style-type: none"> ● <u>If tachometer pointer moves to calibration points during test, and fault codes 110 or 111 don't appear in the odometer display, then failure is not in the cluster. Look for another possible cause of failure.</u> ● If the pointer doesn't move during test, go to Step (b). ● If fault code 110 is displayed in the odometer, go to Step (b). ● If fault code 111 is displayed in the odometer display, refer to the fault code chart to identify which module is causing the fault an repair module. <p>(b) Replace main cluster pc board. Go to Step (c).</p> <p>(c) Connect cluster into instrument panel wiring harness. Place it back into the proper position in the instrument panel. Put in the top two mounting screws to hold the cluster in place. DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS CALIBRATED AND TESTED. Go to Step (d).</p> <p>(e) Replace subdial assembly and use a scan tool to calibrate cluster. If not OK, look at another possible cause for the tachometer failure.</p> <p>(f) Use a scan tool to calibrate tachometer and perform Self Diagnostic Test. If OK, stop. If not OK, go to Step (b).</p>

POWER METER DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
No pointer movement (Continued).	2. No Power Meter CCD Bus Message, or Zero CCD Bus Message, or Zero Power Meter CCD Bus Message from BEMS Controller.	2. Check the BEMS™ using a scan tool. Refer to the BEMS™ section of the manual to properly diagnose and repair.

TRACTION BATTERY STATE OF CHARGE GAUGE DIAGNOSIS		
CONDITION	POSSIBLE CAUSES	CORRECTION
No pointer movement.	1. Internal cluster failure.	<p>1. (a) Perform Cluster Self-Diagnostic Test and check for fault codes.</p> <ul style="list-style-type: none"> ● If fuel gauge pointer moves to calibration points during test, and fault codes 110, or 111 don't appear in the odometer display, then failure is not in the cluster. Look for another possible cause of failure. ● If the pointer doesn't move during test, go to Step (b). ● If fault code 110 is displayed in the odometer, go to Step (b). ● If fault code 111 is displayed in the odometer, go to Step (f). ● If fault code 920 is displayed in the odometer, refer to the fault code chart to identify which module is causing the fault and repair module. <p>(b) Replace main cluster pc board. Go to Step (c).</p> <p>(c) Connect cluster into instrument panel wiring harness. Place it back into the proper position in the instrument panel. Put in the top two screws to hold the cluster in place. DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS CALIBRATED AND TESTED. Go to Step (d).</p> <p>(d) Use a scan tool to calibrate cluster and perform Self-Diagnostic Test. If OK, continue installation. If not OK, go to Step (e).</p> <p>(e) Replace subdial assembly and use a scan tool to calibrate cluster. If not OK, look at another possible cause for the Battery State Of Charge Gauge failure.</p>

TRACTION BATTERY STATE OF CHARGE GAUGE DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
No pointer movement (Continued).	1. Internal cluster failure.	(f) Use a scan tool to calibrate Traction Battery State Of Charge Gauge and perform Self-Diagnostic Test. If OK, stop. If not OK, go to Step (b).
	2. No CCD Traction Battery State Of Charge Message from Body Controller.	2. (a) Check the BCM using a scan tool. If OK, go to Step (b). If not OK, refer to the BCM section of the manual to properly diagnose and repair.
Erratic pointer movement.	1. Bad CCD Traction Battery State Of Charge Message from the Body Controller.	1. (a) Use a scan tool to check the BCM. If OK, go to Step (b). If not OK, refer to the BCM section of the service manual to properly diagnose and repair.
	2. Internal cluster failure.	2. (a) Perform Cluster Self-Diagnostic Test and check for fault codes. <ul style="list-style-type: none"> ● If the pointer moves during test, but still appears erratic, and fault codes 110, or 111 don't appear in the odometer display, go to Step (b). ● If fault code 110 is displayed in the odometer, go to Step (e). ● If fault code 111 appears in the odometer display, go to Step (d). ● If fault code 920 appears in the odometer display, refer to the fault code chart to identify which module is causing the fault and repair module. (b) Replace cluster subdial assembly. Go to Step (c).

TRACTION BATTERY STATE OF CHARGE GAUGE DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
Erratic pointer movement. (Continued).	2. Internal cluster failure.	<p>(c) Connect cluster into instrument panel wiring harness. Place it back into the proper position in the instrument panel. Put in the top two mounting screws to hold the cluster in place. DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS CALIBRATED AND TESTED. Go to Step (d).</p> <p>(d) Use a scan tool to calibrate cluster and perform Self-Diagnostic Test. If OK, continue installation. If not OK, go to Step (e).</p> <p>(e) Replace main cluster pc board and use a scan tool to calibrate cluster. If not OK, look at another possible cause for the Battery State Of Charge Gauge failure.</p>
Traction battery state of charge gauge inaccurate.	1. Traction Battery State Of Charge Gauge Out of Calibration.	<p>1. (a) Perform Cluster Self-Diagnostic Test. If pointer is accurate to the calibration points, look for another possible cause of failure. If pointer is inaccurate to the calibration points, go to Step (b).</p> <p>(b) Use a scan tool to calibrate Traction Battery State Of Charge Gauge.</p>

TRACTION MOTOR COOLANT TEMPERATURE GAUGE DIAGNOSIS		
CONDITION	POSSIBLE CAUSES	CORRECTION
No pointer movement.	1. Internal cluster failure.	<p>1. (a) Perform Cluster Self-Diagnostic Test and check for fault codes.</p> <ul style="list-style-type: none">● If temperature gauge pointer moves to calibration points during test, and fault codes 110 or 111 don't appear in the odometer display, then failure is not in the cluster. Look for another possible cause of failure.● If the pointer doesn't move during test, go to Step (b).● If fault code 110 is displayed in the odometer, go to Step (b).● If fault code 111 is displayed in the odometer, then go to Step (f).

TRACTION MOTOR COOLANT TEMPERATURE GAUGE DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
No pointer movement. (Continued)	1. Internal cluster failure.	<ul style="list-style-type: none">● If fault codes 920 or 940 are displayed, refer to the fault code chart to identify which module is causing the fault. Repair module. (b) Replace main cluster pc board. Go to Step (c). (c) Connect cluster into instrument panel wiring harness. Place it back into the proper position in the instrument panel. Put in the top two mounting screws to hold the cluster in place. DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS CALIBRATED AND TESTED. Go to Step (d). (d) Use a scan tool to calibrate cluster and perform Self-Diagnostic Test. If OK, continue installation. If not OK, go to Step (e). (e) Replace subdial assembly and use a scan tool to calibrate cluster. If not OK, look at another possible cause for the temperature gauge failure. (f) Use a scan tool to calibrate the temperature gauge and perform Self-Diagnostic Test. If OK, stop. If not OK, go to Step (b).

TRACTION MOTOR COOLANT TEMPERATURE GAUGE DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
No pointer movement. (Continued)	2. No CCD Bus Message from the Body Control Module.	2. (a) Check BCM fault codes using a scan tool. If there are no faults, go to Step (b). If there are faults, refer to the BCM section of the manual to properly diagnose and repair. (b) Check PCM fault codes using a scan tool. If there are no faults, go to Step (c). If there are faults, refer to the PCA section of the manual to properly diagnose and repair. (c) Refer to the coolant sensor section of the service manual for the coolant sensor test procedure. Repair sensor as needed.
Erratic pointer movement.	1. Bad CCD Bus Message from the Body Control Module (BCM).	1. (a) Check BCM fault codes using a scan tool. If there are no faults, go to Step (b). If there are faults, refer to the BCM section of the manual to properly diagnose and repair. (b) Check PCA fault codes using a scan tool. If there are no faults, go to Step (c). If there are faults, refer to the PCA section of the manual to properly diagnose and repair. (c) Refer to the coolant sensor section of the service manual for the coolant sensor test procedure. Repair sensor as needed.

TRACTION MOTOR COOLANT TEMPERATURE GAUGE DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
Erratic pointer movement. (Continued).	2. Internal cluster failure.	<p>2. (a) Perform Cluster Self-Diagnostic Test and check for fault codes.</p> <ul style="list-style-type: none"> ● If the pointer moves during test but still appears erratic and fault codes 110 or 111 don't appear in the odometer display, go to Step(b). ● If fault code 110 is displayed in the odometer,go to Step (e). ● If fault code 111 is displayed in the odometer display, go to Step (d). ● If fault code 920 or 940 is displayed, refer to the fault code chart to identify which mode is causing the fault and repair module. <p>(b) Replace cluster subdial assembly. Go to Step (c).</p> <p>(c) Connect cluster into instrument panel wiring harness. Place it back into the proper position in the instrument panel. DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS CALIBRATED AND TESTED. Go to Step (d).</p> <p>(d) Use a scan tool to calibrate cluster and perform Self Diagnostic Test. If OK, continue installation. If not OK, go to Step (e).</p> <p>(e) Replace main cluster pc board and use scan tool to calibrate cluster. If not OK, look at another possible cause for the temperature gauge failure.</p>

TRACTION MOTOR COOLANT TEMPERATURE GAUGE DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
Temperature gauge inaccurate.	1. Temperature Gauge out of calibration.	1. (a) Perform Cluster Self-Diagnostic Test. <ul style="list-style-type: none">● If pointer is accurate to the calibration points, look for another possible cause of failure.● If pointer is inaccurate to the calibration points, go to Step (b). (b) Use a scan tool to calibrate temperature gauge.
	2. Coolant Sensor out of calibration	2. Refer to the Cooling section of the service manual for test and repair procedure.

ODOMETER DIAGNOSIS		
CONDITION	POSSIBLE CAUSES	CORRECTION
No display	1. No CCD Odometer Bus Message from Body Control Module.	1. Use a scan tool to check the BCM. Refer to the BCM section of the manual to properly diagnose and repair.
	2. Internal cluster failure.	<p>2. (a) Perform Cluster Self-Diagnostic Test and check for fault codes.</p> <ul style="list-style-type: none"> ● If odometer passes the dim test and segment check, and fault codes 110 or 111 don't appear in the odometer display, then failure is not in the cluster. Look for another possible cause of failure. ● If odometer doesn't work, go to Step (b). ● If fault code 110 is displayed in the odometer, go to Step (b). ● If fault code 920 or 921 is displayed, use a scan tool to check BCM. <p>(b) Remove cluster from instrument panel and verify that odometer assembly is properly connected to main pc board. If OK, go to Step (c). If not OK, reconnect odometer assembly to main pc board.</p> <p>(c) Replace odometer assembly. Go to Step (d).</p> <p>(d) Connect cluster into instrument panel wiring harness. Place it back into the proper position in the instrument panel. DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS TESTED. Go to Step (e).</p> <p>(e) Perform Self-Diagnostic Test. If OK, continue installation. If not OK, go to Step (f).</p>

ODOMETER DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
No display (Continued).	2. Internal Cluster Failure.	(f) Replace main cluster pc board and use a scan tool to calibrate cluster. If not OK, look at another possible cause for the odometer failure.
Erratic display	1. Internal cluster failure.	<p>1. (a) Perform Cluster Self-Diagnostic Test and check for fault codes.</p> <ul style="list-style-type: none"> ● If odometer passes the dim test and segment check, and fault codes 110 or 111 don't appear in the odometer display, then failure is not in the cluster. Look for another possible cause of failure. ● If odometer doesn't work, go to Step (b). ● If fault code 110 is displayed in the odometer, go to Step (b). ● If fault code 920 or 921 is displayed, use a scan tool to check BCM. <p>(b) Remove cluster from instrument panel and verify that odometer assembly is properly connected to main pc board. If OK, go to Step (c). If not OK, reconnect odometer assembly to main pc board.</p> <p>(c) Replace odometer assembly. Go to Step (d).</p> <p>(d) Connect cluster into instrument panel wiring harness. Place it back into proper position in the instrument panel. DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS TESTED. Go to Step (e).</p>

ODOMETER DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
Erratic display (Continued).	1. Internal cluster failure.	(e) Perform Self-Diagnostic Test. If OK, continue installation. If not OK, go to Step (f). (f) Replace main cluster pc board and use a scan tool to calibrate cluster. If not OK, look at another possible cause for the odometer failure.
	2. Bad CCD Bus Message from Body Controller Module.	2. Use scan tool to check the BCM. Refer to the BCM section of the manual to properly diagnose and repair.
Odometer won't go into trip mode.	1. Trip Switch doesn't work.	1. Use a scan tool to perform trip switch activation test. If OK, look for another possible cause of failure. If not OK, replace odometer assembly.
Trip odometer won't reset.	1. Reset Switch doesn't work.	1. Use a scan tool to perform reset activation test. If OK, look for another possible cause of failure. If not OK, replace odometer assembly.

ELECTRONIC GEAR INDICATOR DISPLAY DIAGNOSIS		
CONDITION	POSSIBLE CAUSES	CORRECTION
No display	1. Internal cluster failure.	<p>1. (a) Perform Cluster Self-Diagnostic Test and check for fault codes.</p> <ul style="list-style-type: none"> ● If PRND passes the dim test and segment check, and fault codes 110 or 111 don't appear in the odometer display, then failure is not in the cluster. Look for another possible cause of failure. ● If PRND doesn't work, go to Step (b). ● If fault code 110 is displayed in the odometer, go to Step (b). <p>(b) Remove cluster from instrument panel and verify that PRND assembly is properly connected to main pc board. If OK, go to Step (c). If not OK, reconnect PRND assembly to main pc board.</p> <p>(c) Replace PRND assembly. Go to Step (d).</p> <p>(d) Connect cluster into instrument panel wiring harness. Place it back into the proper position in the instrument panel. DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS TESTED. Go to Step (e).</p> <p>(e) Perform Self-Diagnostic Test. If OK, continue installation. If not OK, go to Step (f).</p> <p>(f) Replace main cluster pc board and use a scan tool to calibrate cluster. If not OK, look for another cause for the PRND failure.</p>

ELECTRONIC GEAR INDICATOR DISPLAY DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
Erratic display	1. Internal cluster failure.	<p>1. (a) Perform Cluster Self-Diagnostic Test and check for fault codes.</p> <ul style="list-style-type: none"> ● If PRND passes the dim test and segment check, and fault codes 110 or 111 don't appear in the odometer display, then failure is not in the cluster. Look for another possible cause of failure. ● If fault code 110 is displayed in the odometer, go to Step (f). ● If fault code 111 is displayed in the odometer display, then use a scan tool to calibrate cluster. <p>(b) Remove cluster from instrument panel and verify that PRND assembly is properly connected to main pc board. If OK, go to Step (c). If not OK, reconnect PRND assembly to main pc board.</p> <p>(c) Replace PRND assembly. Go to Step (d).</p> <p>(d) Connect cluster into instrument panel wiring harness. Place it back into the proper position in the instrument panel. DO NOT COMPLETELY INSTALL CLUSTER TO INSTRUMENT PANEL UNTIL UNIT IS TESTED. Go to Step (e).</p> <p>(e) Perform Self-Diagnostic Test. If OK, continue installation. If not OK, go to Step (f).</p> <p>(f) Replace main cluster pc board and use a scan tool to calibrate cluster. If not OK, look at another possible cause for the PRND failure.</p>

ELECTRONIC GEAR INDICATOR DISPLAY DIAGNOSIS (Continued)		
CONDITION	POSSIBLE CAUSES	CORRECTION
Indicator does not show proper gear or any gear indication.	1. Misadjusted.	1. (a) Verify transmission shift system is correctly adjusted. (b) Verify correct routing and attachment of PRND cable and guide tube. (c) Re-adjust PRND indicator in Neutral using adjuster wheel below steering column.
Indicator does not follow gear shift lever.	1. Not attached.	1. (a) Verify indicator cable connected to shift lever pin in the groove. (b) Verify indicator clip is secure and attached to steering column/transmission shift cable bracket, and clip is not broken. If broken, replace clip on indicator.

WIRING DIAGRAMS 8W

TABLE OF CONTENTS

SECTION	SECTION
AIR CONDITIONING-HEATER 8W-42-1	INTERIOR LIGHTING 8W-44-1
AIRBAG SYSTEM 8W-43-1	JUNCTION BLOCK 8W-12-1
ANTI-LOCK BRAKES 8W-35-1	MESSAGE CENTER 8W-46-1
AUDIO SYSTEM 8W-47-1	OIL PUMP 8W-24-1
BATTERY ENERGY MANAGEMENT SYSTEM 8W-19-1	PILOT LINE 8W-18-1
BODY CONTROL MODULE 8W-45-1	POWER DISTRIBUTION 8W-10-1
CHARGING SYSTEM 8W-20-1	POWER DOOR LOCKS 8W-61-1
COMPONENT INDEX 8W-02-1	POWER STEERING PUMP 8W-25-1
CONNECTOR PIN-OUTS 8W-80-1	POWERTRAIN CONTROLLER ASSEMBLY 8W-30-1
FRONT LIGHTING 8W-50-1	REAR LIGHTING 8W-51-1
GEAR REDUCER 8W-31-1	SPLICE INFORMATION 8W-70-1
GROUND DISTRIBUTION 8W-15-1	TURN SIGNALS 8W-52-1
HORN/CIGAR LIGHTER/ POWER OUTLET 8W-41-1	VACUUM PUMP 8W-23-1
INSTRUMENT CLUSTER 8W-40-1	WINDOW DEFOGGER 8W-48-1
	WIPERS 8W-53-1

TABLE OF CONTENTS

SECTION	SECTION
4-WAY VALVE 8W-42	BATTERY MODULE NO. 10 TEMPERATURE
A/C COMPRESSOR 8W-42	SENSOR 8W-19
A/C COMPRESSOR CONTROLLER 8W-42	BATTERY MODULE NO. 11 TEMPERATURE
A/C COMPRESSOR CONTROLLER RELAY ... 8W-42	SENSOR 8W-19
A/C COMPRESSOR TEMPERATURE	BATTERY MODULE NO. 12 TEMPERATURE
SENSOR 8W-42	SENSOR 8W-19
A/C SHUT-OFF VALVE 8W-42	BATTERY MODULE NO. 13 TEMPERATURE
ABS WARNING INDICATOR 8W-35, 46	SENSOR 8W-19
ACCELERATOR PEDAL MODULE 8W-30	BATTERY MODULE NO. 14 TEMPERATURE
ACCELERATOR IDLE POSITION SWITCH 8W-30	SENSOR 8W-19
AIRBAG 8W-43	BATTERY MONITORING MODULE NO. 1 8W-19
AIRBAG CONTROL MODULE 8W-43	BATTERY MONITORING MODULE NO. 2 8W-19
AIRBAG SQUIBS 8W-43	BATTERY MONITORING MODULE NO. 3 8W-19
AIRBAG WARNING INDICATOR 8W-43, 46	BATTERIES 8W-19
AMBIENT TEMPERATURE SENSOR 8W-19	BATTERY PACK COOLANT PRESSURE
AUXILIARY BATTERY 8W-10	SENSOR 8W-19
AUXILIARY BATTERY TEMPERATURE	BATTERY PACK COOLANT PUMP 8W-19
SENSOR 8W-19, 30	BATTERY PACK INLET COOLANT
AUXILIARY POWER CONVERTER 8W-30	TEMPERATURE SENSOR 8W-19
AUXILIARY POWER CONVERTER SUPPLY ... 8W-20	BATTERY PACK OUTLET COOLANT
BACK-UP LAMP 8W-51	TEMPERATURE SENSOR 8W-19
BATTERY INTERFACE CENTER 8W-19	BATTERY TUB 8W-19
BATTERY MODULE NO. 1 TEMPERATURE	BATTERY TUB FAN 8W-10
SENSOR 8W-19	BATTERY TUB FAN RELAY 8W-10
BATTERY MODULE NO. 2 TEMPERATURE	BCS1 8W-19
SENSOR 8W-19	BCS2 8W-19
BATTERY MODULE NO. 3 TEMPERATURE	BCS3 8W-19
SENSOR 8W-19	BCS4 8W-19
BATTERY MODULE NO. 4 TEMPERATURE	BCS5 8W-15
SENSOR 8W-19	BCS6 8W-19
BATTERY MODULE NO. 5 TEMPERATURE	BCS7 8W-19
SENSOR 8W-19	BCS8 8W-19
BATTERY MODULE NO. 6 TEMPERATURE	BCS9 8W-19
SENSOR 8W-19	BCS16 8W-19
BATTERY MODULE NO. 7 TEMPERATURE	BLEND DOOR ACTUATOR 8W-42
SENSOR 8W-19	BMS1 8W-19
BATTERY MODULE NO. 8 TEMPERATURE	BMS2 8W-19
SENSOR 8W-19	BMS3 8W-19
BATTERY MODULE NO. 9 TEMPERATURE	BODY CONTROL MODULE 8W-45
SENSOR 8W-19	BRAKE LAMP SWITCH 8W-51

SECTION

SECTION

BRAKE PRESSURE SENSORS	8W-30	DOOR AJAR SWITCHES	8W-44
BRAKE PRESSURE SWITCH	8W-30	DOOR LOCK RELAY	8W-61
BRAKE WARNING INDICATOR	8W-46	DOOR UNLOCK RELAY	8W-61
BS1	8W-51	ELECTRIC WIPER DE-ICER	8W-48
BS2	8W-30	EXPANSION VALVE	8W-42
BS3	8W-30	FLOOR DUCT TEMPERATURE SENSOR	8W-42
BS4	8W-30	FRONT BLOWER	8W-42
BS5	8W-19	FRONT BLOWER JUMPER	8W-42
BS6	8W-19	FRONT CIGAR LIGHTER/POWER OUTLET ...	8W-41
BS10	8W-70	FRONT READING LAMPS/SWITCH	8W-44
BS11	8W-70	FRONT WASHER PUMP	8W-53
BS19	8W-41	FRONT WIPER SWITCH	8W-53
BS41	8W-42	FUSES (JB)	8W-12
BS42	8W-35	FUSES (PDC)	8W-10
CARGO LAMP	8W-44	FUSIBLE LINK	8W-10, 20, 30
CCS1	8W-20	GAUGES	8W-15
CCS2	8W-20	GROUNDING	8W-15
CENTER DOME LAMP	8W-44	HEADLAMPS	8W-50
CENTER HIGH MOUNTED STOP LAMP	8W-51	HEADLAMP DIMMER SWITCH	8W-50
CHARGE PORT	8W-20	HEADLAMP SWITCHES	8W-50
CHARGE PORT SWITCH	8W-20	HEAT EXCHANGER TEMPERATURE	
CHARGE STATUS RELAY	8W-20	SENSOR	8W-19
CHASSIS VECTOR CONTROLLER	8W-30	HIGH BEAM RELAY	8W-50
CHECK PLUG INDICATOR	8W-46	HIGH PRESSURE SENSOR	8W-42
CIGAR LIGHTER/ACCESSORY RELAY	8W-41	HIGH VOLTAGE POWER DISTRIBUTION	
CLOCKSPRING	8W-41, 43	BLOCK	8W-30
COMBINATION FLASHER	8W-50, 51, 52	HORNS	8W-41
CONTROLLER ANTI-LOCK BRAKE	8W-35	HORN RELAY	8W-41
COURTESY LAMP RELAY	8W-44	HORN SWITCH	8W-41
CS1	8W-44	HVAC BLOWER SOLID STATE RELAY	8W-42
CS3	8W-45	HVAC CONTROL	8W-48
DATA LINK CONNECTOR	8W-30	HVAC CONTROL HEAD	8W-42
DIAGNOSTIC CONNECTOR	8W-19	HVAC WAKE-UP RELAY	8W-42
DIELECTRIC BREAKDOWN SENSOR	8W-18	IGNITION SWITCH	8W-10
DISCHARGE RESISTOR	8W-30	ILLUMINATION LAMP	8W-50
DOME LAMP SWITCH	8W-50	INERTIA SWITCH	8W-18
		INSIDE COIL TEMPERATURE SENSOR	8W-42
		INSTRUMENT CLUSTER	8W-40
		JLVS1	8W-10

SECTION	SECTION
JOS1 8W-70	MAIN CONTROL MODULE 8W-19
JOS2 8W-70	MESSAGE CENTER 8W-46
JOS3 8W-70	MODE DOOR ACTUATOR 8W-42
JUNCTION BLOCK 8W-12	MODULE 1 8W-19
LAMP ASSEMBLIES 8W-51	MODULE 2 8W-19
LICENSE LAMP 8W-51	MODULE 3 8W-19
LIFTGATE AJAR SWITCH 8W-44	MODULE 4 8W-19
LIFTGATE FLOOD LAMPS 8W-44	MODULE 5 8W-19
LOW BEAM RELAY 8W-50	MODULE 6 8W-19
LOW NOTE HORN 8W-41	MODULE 7 8W-19
LOW PRESSURE SENSOR 8W-42	MODULE 8 8W-19
LOW VOLTAGE POWER SUPPLY 8W-20	MODULE 9 8W-19
LVS1 8W-15	MODULE 10 8W-19
LVS2 8W-12	MODULE 11 8W-19
LVS6 8W-15	MODULE 12 8W-19
LVS7 8W-15	MODULE 13 8W-19
LVS8 8W-15	MODULE 14 8W-19
LVS9 8W-15	OIL PRESSURE SENSOR 8W-24
LVS10 8W-18, 19	OIL PUMP 8W-24
LVS12 8W-30	PANEL DUCT TEMPERATURE SENSOR 8W-42
LVS14 8W-12	PARK BRAKE SWITCH 8W-30
LVS15 8W-12	PARK LAMP RELAY 8W-50
LVS16 8W-10	PARK/TURN SIGNAL LAMPS 8W-50
LVS17 8W-30	POST-INSIDE COIL TEMPERATURE
LVS18 8W-19	SENSOR 8W-42
LVS19 8W-19	POWER BRIDGE 8W-30
LVS20 8W-19	POWER DISTRIBUTION BOX 8W-30
LVS21 8W-18	POWER DISTRIBUTION BOX DOOR INTERLOCK
LVS31 8W-10	SWITCH 8W-30
LVS32 8W-42	POWER DISTRIBUTION BOX INTERLOCK
LVS33 8W-42	SWITCH 8W-18
LVS40 8W-19	
LVS41 8W-19	
LVS45 8W-19	
LVS51 8W-19	
LVS52 8W-19	
LVS60 8W-30, 35	
LVS61 8W-30, 35	
LVS70 8W-42	

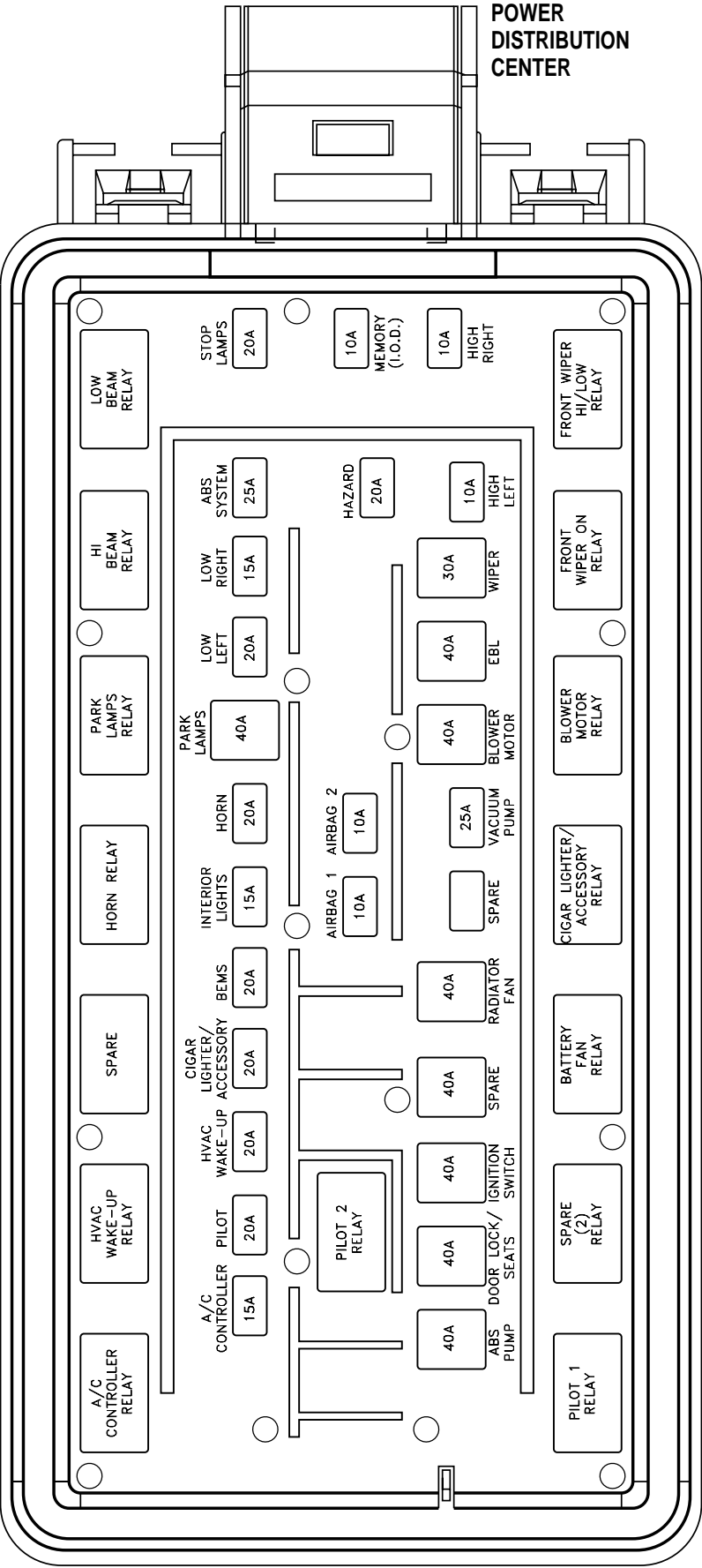
SECTION

SECTION

POWER DISTRIBUTION CENTER	8W-10	REAR WIPER MOTOR	8W-53
POWER STEERING PUMP	8W-25	REAR WIPER ON INDICATOR	8W-53
POWERTRAIN CONTROLLER ASSEMBLY	8W-30	REAR WIPER ON SWITCH	8W-53
POWERTRAIN CONTROLLER ASSEMBLY		RECIRCULATION DOOR ACTUATOR	8W-42
RELAY	8W-30	RESOLVER	8W-30
PRE-INSIDE COIL TEMPERATURE		SEAT BELT SWITCH	8W-45
SENSOR	8W-42	SECONDARY PILOT RELAY	8W-18
PRECHARGE RESISTOR	8W-30	SERVICE DISCONNECT SWITCH	8W-19
PRECHARGE/DISCHARGE RELAY	8W-30	SERVICE REQUIRED INDICATOR	8W-46
PRIMARY PILOT RELAY	8W-18	SLIDING DOOR CONTACTS	8W-61
PS1	8W-70	SLIDING DOOR LOCK MOTORS	8W-61
PS2	8W-70	SPARE RELAY	8W-10
PS3	8W-12	SPEAKERS	8W-47
PS10	8W-19	SUCTION LINE TEMPERATURE SENSOR	8W-42
PTC1 (JB)	8W-12	TAIL/STOP LAMP	8W-51
PTC 3 (JB)	8W-12	TAIL/TURN SIGNAL LAMP	8W-51
PTC 7 (JB)	8W-12	TRACTION MOTOR	8W-30
PTC HEATER	8W-42	TRACTION MOTOR OIL TEMPERATURE	
PTC HEATER CONTROLLER	8W-42	SENSOR	8W-19
RADIATOR FAN	8W-42	TRACTION MOTOR TEMPERATURE	
RADIATOR FAN RELAY	8W-42	INDICATOR	8W-46
RADIO	8W-47	TRANSMISSION RANGE SWITCH	8W-31
REAR CIGAR LIGHTER/POWER OUTLET	8W-41	TURN INDICATORS	8W-46, 52
REAR WASHER PUMP	8W-53	TURN SIGNAL/HAZARD SWITCH	8W-52
REAR WASHER SWITCH	8W-53	VACUUM PUMP	8W-23
REAR WINDOW DEFOGGER	8W-48	VACUUM PUMP RELAY MODULE	8W-23
REAR WINDOW DEFOGGER RELAY	8W-48	VECTOR CONTROLLER	8W-30
REAR WINDOW DEFOGGER SWITCH	8W-48	WAIT INDICATOR	8W-46
REAR WIPER DELAY ON INDICATOR	8W-53	WASHER FLUID LEVEL SWITCH	8W-53
REAR WIPER DELAY SWITCH	8W-53	WHEEL SPEED SENSORS	8W-35
		WIPER HIGH/LOW RELAY	8W-53
		WIPER MODULE	8W-53
		WIPER ON RELAY	8W-53

TABLE OF CONTENTS

	PAGE		PAGE
A/C COMPRESSOR CONTROLLER	8W-10-15	FUSE 26 (PDC)	8W-10-10, 18
A/C COMPRESSOR CONTROLLER		FUSE 27 (PDC)	8W-10-10, 19
RELAY	8W-10-8, 15	FUSE 28 (PDC)	8W-10-10, 21
A/C SHUT-OFF VALVE	8W-10-15, 23, 25	FUSIBLE LINK	8W-10-11
AIRBAG CONTROL MODULE	8W-10-12	G103	8W-10-11, 24
AUXILIARY BATTERY	8W-10-8, 11, 24	G200	8W-10-22
BATTERY INTERFACE CENTER	8W-10-16, 17	G300	8W-10-14, 20, 22, 25
BATTERY PACK COOLANT PUMP	8W-10-18, 24	HEADLAMP DIMMER SWITCH	8W-10-13
BATTERY TUB FAN	8W-10-24	HIGH BEAM RELAY	8W-10-10, 13
BATTERY TUB FAN RELAY	8W-10-19, 24	HIGH NOTE HORN	8W-10-14
BODY CONTROL		HORN RELAY	8W-10-8, 14
MODULE	8W-10-14, 18, 20, 21, 22	HVAC BLOWER SOLID STATE	
BRAKE LAMP SWITCH	8W-10-16	RELAY	8W-10-21, 23, 25
BS19	8W-10-14	HVAC CONTROL HEAD	8W-10-15, 23
BS41	8W-10-15, 23, 25	HVAC WAKE-UP RELAY	8W-10-9, 15, 18
CHARGE STATUS RELAY	8W-10-18	IGNITION SWITCH	8W-10-18, 19, 22
CIGAR LIGHTER/ACCESSORY		INERTIA SWITCH	8W-10-17
RELAY	8W-10-8, 14, 25	INSTRUMENT CLUSTER	8W-10-18, 22
COMBINATION FLASHER	8W-10-15	JLVS1	8W-10-11
CONTROLLER ANTI-LOCK BRAKE	8W-10-16, 19	JUNCTION BLOCK	8W-10-12, 14, 15, 18, 19, 21, 22, 26
COURTESY LAMP RELAY	8W-10-18	LEFT HEADLAMP	8W-10-13
DIAGNOSTIC CONNECTOR	8W-10-18	LOW BEAM RELAY	8W-10-10, 13
EXPANSION VALVE	8W-10-23	LOW NOTE HORN	8W-10-14
FRONT BLOWER JUMPER	8W-10-9, 21, 25	LVS1	8W-10-11, 24
FRONT CIGAR LIGHTER/POWER		LVS6	8W-10-11, 24
OUTLET	8W-10-14	LVS8	8W-10-11
FRONT WIPER SWITCH	8W-10-20	LVS16	8W-10-16
FUSE 1 (JB)	8W-10-21	LVS21	8W-10-17
FUSE 1 (PDC)	8W-10-12, 22	LVS31	8W-10-12, 26
FUSE 2 (PDC)	8W-10-12	LVS70	8W-10-15, 18, 23, 24
FUSE 3 (JB)	8W-10-21	MAIN CONTROL MODULE	8W-10-11, 12, 14, 16, 17, 18, 24, 26
FUSE 4 (PDC)	8W-10-10, 13	MESSAGE CENTER	8W-10-13, 22
FUSE 5 (JB)	8W-10-21	PARK LAMP RELAY	8W-10-10, 21
FUSE 5 (PDC)	8W-10-10, 13	POWER DISTRIBUTION CENTER	8W-10-2, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26
FUSE 6 (PDC)	8W-10-10, 13	POWER STEERING PUMP	8W-10-26
FUSE 7 (PDC)	8W-10-10, 13	POWERTRAIN CONTROLLER	
FUSE 8 (PDC)	8W-10-8, 14	ASSEMBLY	8W-10-11, 26
FUSE 9 (PDC)	8W-10-8, 14	PRIMARY PILOT RELAY	8W-10-9, 17
FUSE 10 (PDC)	8W-10-8, 15	PTC 1 (JB)	8W-10-12, 26
FUSE 11 (JB)	8W-10-22	PTC 7 (JB)	8W-10-14
FUSE 11 (PDC)	8W-10-8, 15	PTC HEATER CONTROLLER	8W-10-23
FUSE 12 (JB)	8W-10-22	RADIATOR FAN RELAY	8W-10-19
FUSE 12 (PDC)	8W-10-8, 16	RADIO	8W-10-18
FUSE 13 (PDC)	8W-10-8, 16	REAR CIGAR LIGHTER/POWER	
FUSE 14 (PDC)	8W-10-8, 16, 21	OUTLET	8W-10-14
FUSE 15 (PDC)	8W-10-8, 9, 17	REAR WINDOW DEFOGGER RELAY	8W-10-19
FUSE 16 (PDC)	8W-10-9, 16	RIGHT HEADLAMP	8W-10-13
FUSE 17 (PDC)	8W-10-9, 15, 18	SECONDARY PILOT RELAY	8W-10-17
FUSE 18 (PDC)	8W-10-9, 18	SPARE RELAY	8W-10-12
FUSE 19 (PDC)	8W-10-9, 19	VACUUM PUMP RELAY MODULE	8W-10-16, 21
FUSE 20 (PDC)	8W-10-9, 19	WIPER HIGH/LOW RELAY	8W-10-20
FUSE 21 (PDC)	8W-10-9, 19, 21, 24	WIPER MODULE	8W-10-20
FUSE 22 (PDC)	8W-10-9, 21, 25	WIPER ON RELAY	8W-10-9, 20, 25
FUSE 23 (PDC)	8W-10-9, 19		
FUSE 24 (PDC)	8W-10-9, 20		



FUSES

FUSE NO.	AMPS	FUSED CIRCUIT	FEED CIRCUIT
1	10A	F23 18DB/YL	A22 12BK/OR
2	10A	F14 18LG/YL	F87 18WT/BK
3	-	-	-
4	10A	L33 20RD	INTERNAL
5	10A	L34 20RD/OR	INTERNAL
6	20A	L43 20VT	INTERNAL
7	15A	L44 20VT/RD	INTERNAL
8	20A	INTERNAL	A0 6RD
9	20A	INTERNAL	A0 6RD
10	20A	L9 18BK/WT	A0 6RD
11	15A	INTERNAL	A0 6RD
12	25A	A20 14RD/DB	A0 6RD
13	20A	F32 18PK/DB	A0 6RD
14	25A	F50 14YL	A0 6RD
15	20A	INTERNAL	A0 6RD
16	20A	INTERNAL	A0 6RD
17	20A	INTERNAL	A0 6RD
18	15A	F41 20PK/VT	A0 6RD
19	40A	A10 12RD/DG	A0 6RD
20	40A	A2 12PK/BK	A0 6RD
21	40A	A1 12RD	A0 6RD
22	40A	INTERNAL	A0 6RD
23	40A	A4 12BK/YL	A0 6RD
24	30A	INTERNAL	A0 6RD
25	-	-	-
26	10A	M1 20PK	A0 6RD
27	40A	A16 12GY	A0 6RD
28	40A	INTERNAL	A0 6RD

**A/C
COMPRESSOR
CONTROLLER
RELAY**

CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	C13 20PK	A/C CONTROL RELAY CONTROL
86	A142 18BR	HVAC WAKE-UP RELAY OUTPUT
87	C3 20VT	A/C CONTROL RELAY OUTPUT

**BATTERY
TUB
FAN
RELAY**

CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	K90 20TN	BATTERY TUB FAN RELAY CONTROL
86	INTERNAL	HVAC WAKE-UP RELAY OUTPUT
87	T40 14BR/LB	BATTERY TUB FAN RELAY OUTPUT

**CIGAR
LIGHTER/
ACCESSORY
RELAY**

CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	INTERNAL	GROUND
86	F1 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
87	F30 16RD	CIGAR LIGHTER/ACCESSORY RELAY OUTPUT

HIGH
BEAM
RELAY

CAVITY	CIRCUIT	FUNCTION
30	A0 6RD	B(+)
85	L324 20WT/LG	HIGH BEAM RELAY CONTROL
86	A0 6RD	B(+)
87	INTERNAL	HIGH BEAM RELAY OUTPUT

HORN
RELAY

CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	X4 20BK	HORN RELAY CONTROL
86	A0 6RD	B(+)
87	X2 18DG/RD	HORN RELAY OUTPUT

HVAC
WAKE-UP
RELAY

CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	K51 20YL/BK	HVAC WAKE-UP RELAY CONTROL
86	A0 6RD	B(+)
87	A142 14DG/OR	HVAC WAKE-UP RELAY OUTPUT

**LOW
BEAM
RELAY**

CAVITY	CIRCUIT	FUNCTION
30	A0 6RD	B(+)
85	L94 200R/WT	LOW BEAM RELAY CONTROL
86	A0 6RD	B(+)
87	INTERNAL	LOW BEAM RELAY OUTPUT

**PARK
LAMP
RELAY**

CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	L97 18PK/DB	PARK LAMP RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	L7 12BK/YL	PARK LAMP RELAY OUTPUT

**PRIMARY
PILOT
RELAY**

CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	D71 200R	PRIMARY PILOT RELAY CONTROL
86	D70 16BR	PILOT LINE
87	D73 20WT	PRIMARY PILOT RELAY OUTPUT

**SECONDARY
PILOT
RELAY**

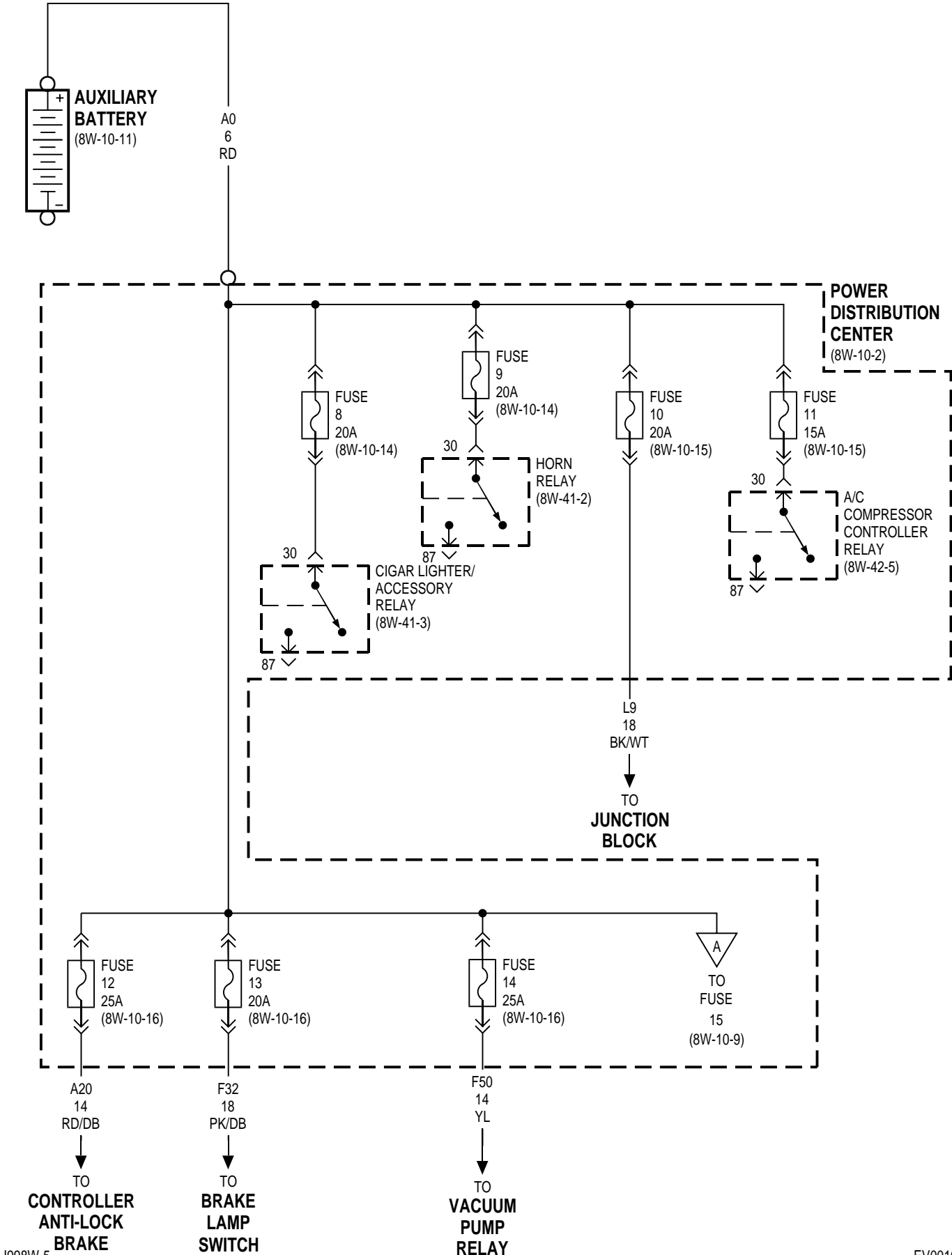
CAVITY	CIRCUIT	FUNCTION
30	A5 18DB	FUSED B(+)
85	D74 20WT/OR	SECONDARY PILOT RELAY CONTROL
86	A5 18DB	FUSED B(+)
87	A55 18DB/WT	SECONDARY PILOT RELAY OUTPUT

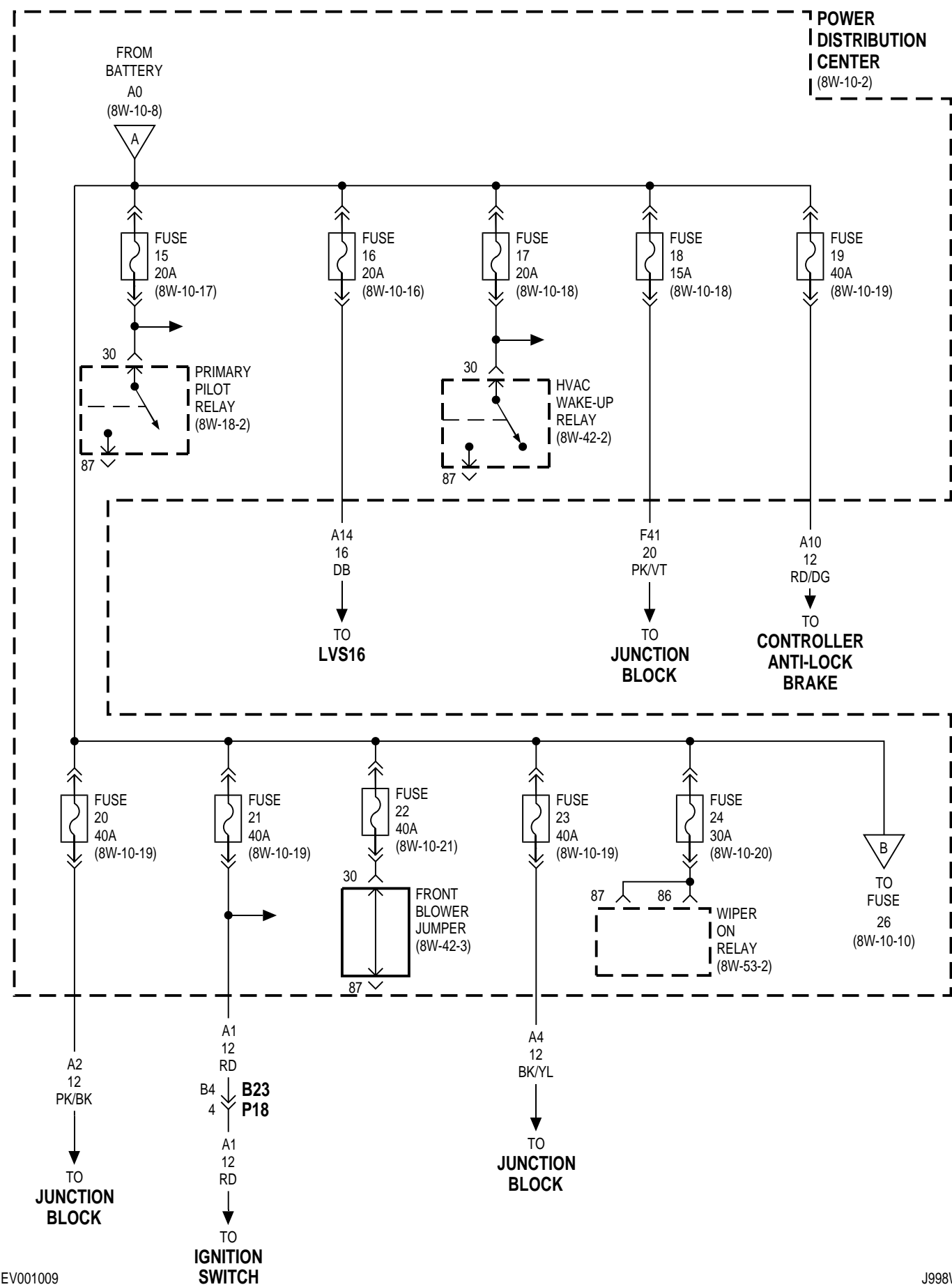
**WIPER
HIGH/LOW
RELAY**

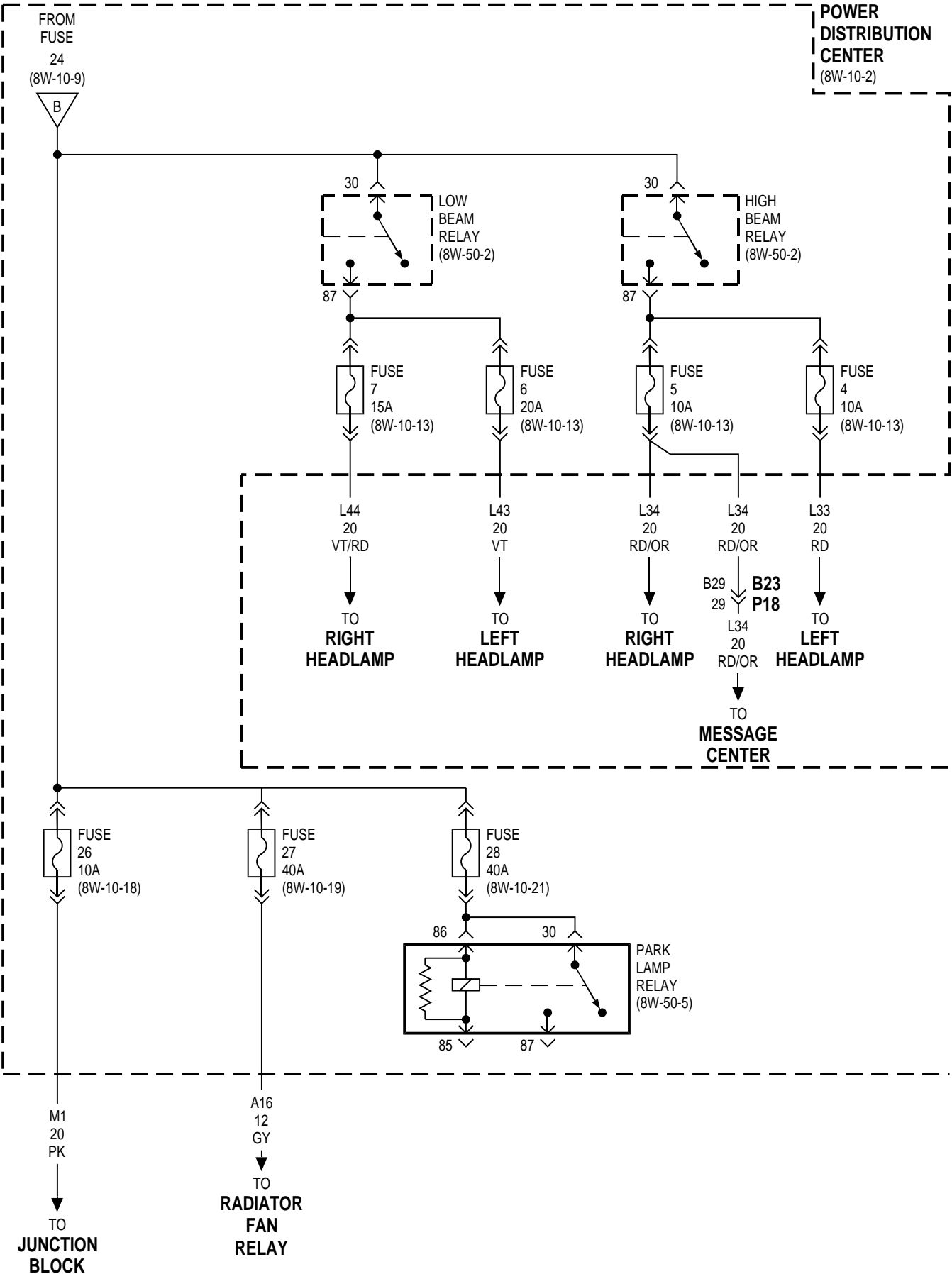
CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	WIPER ON RELAY OUTPUT
85	INTERNAL	WIPER ON RELAY OUTPUT
86	V16 20WT	WIPER HIGH/LOW RELAY CONTROL
87	V4 12RD/YL	WIPER HIGH/LOW RELAY HIGH SPEED OUTPUT
87A	V3 12BR/WT	WIPER HIGH/LOW RELAY LOW SPEED OUTPUT

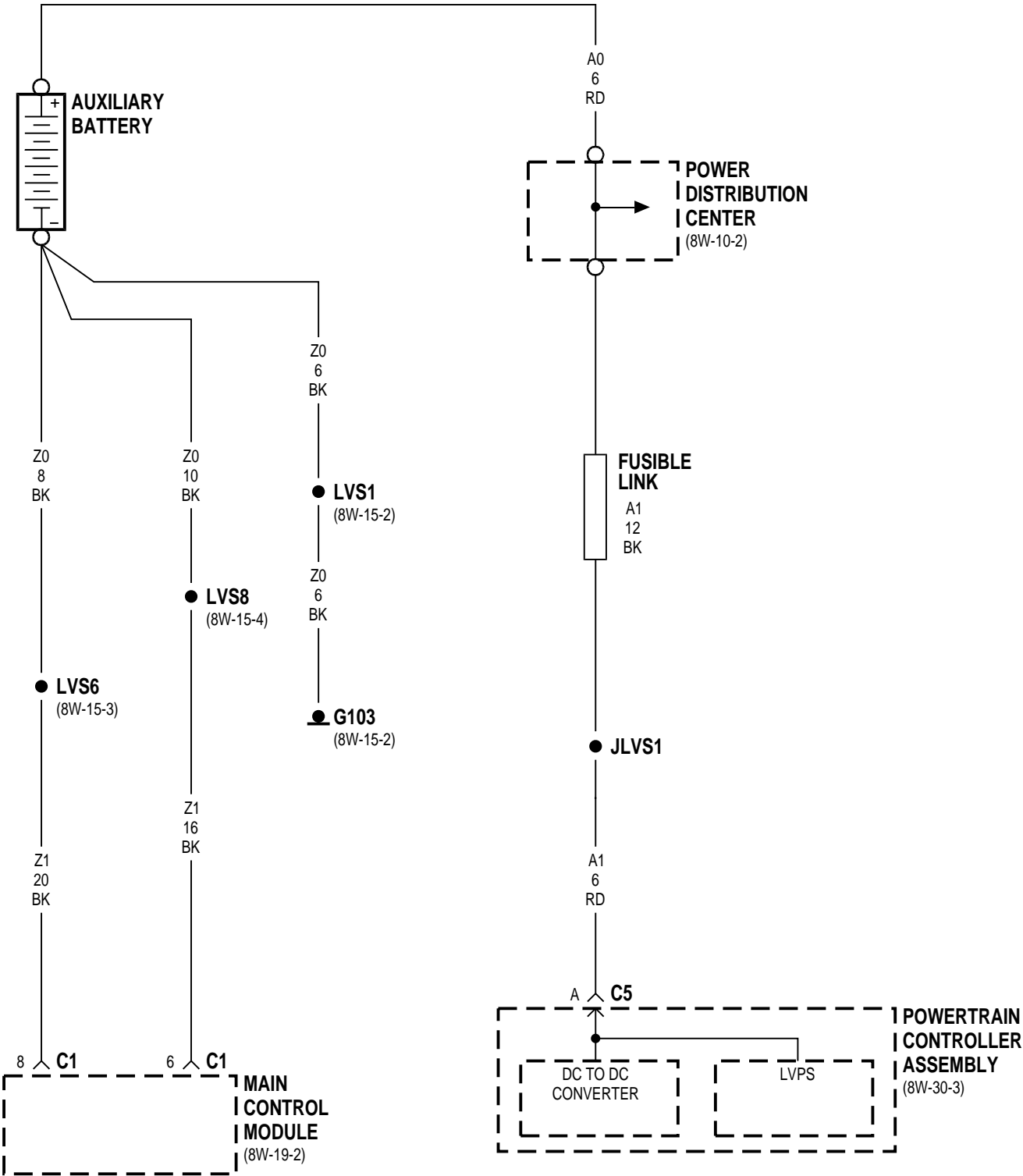
**WIPER
ON
RELAY**

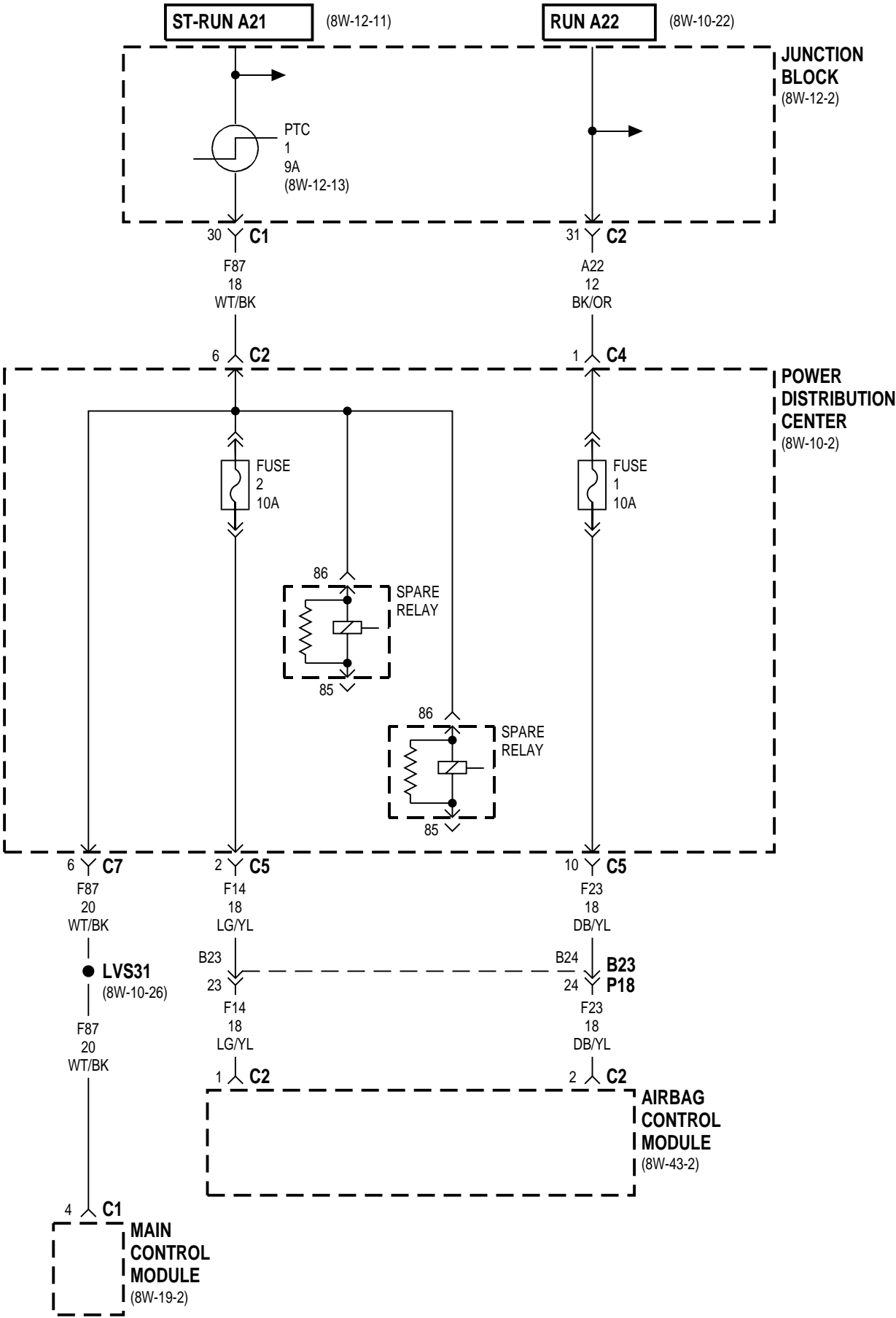
CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	WIPER ON RELAY OUTPUT
85	V14 18RD/VT	WIPER ON RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	FUSED B(+)
87A	INTERNAL	GROUND

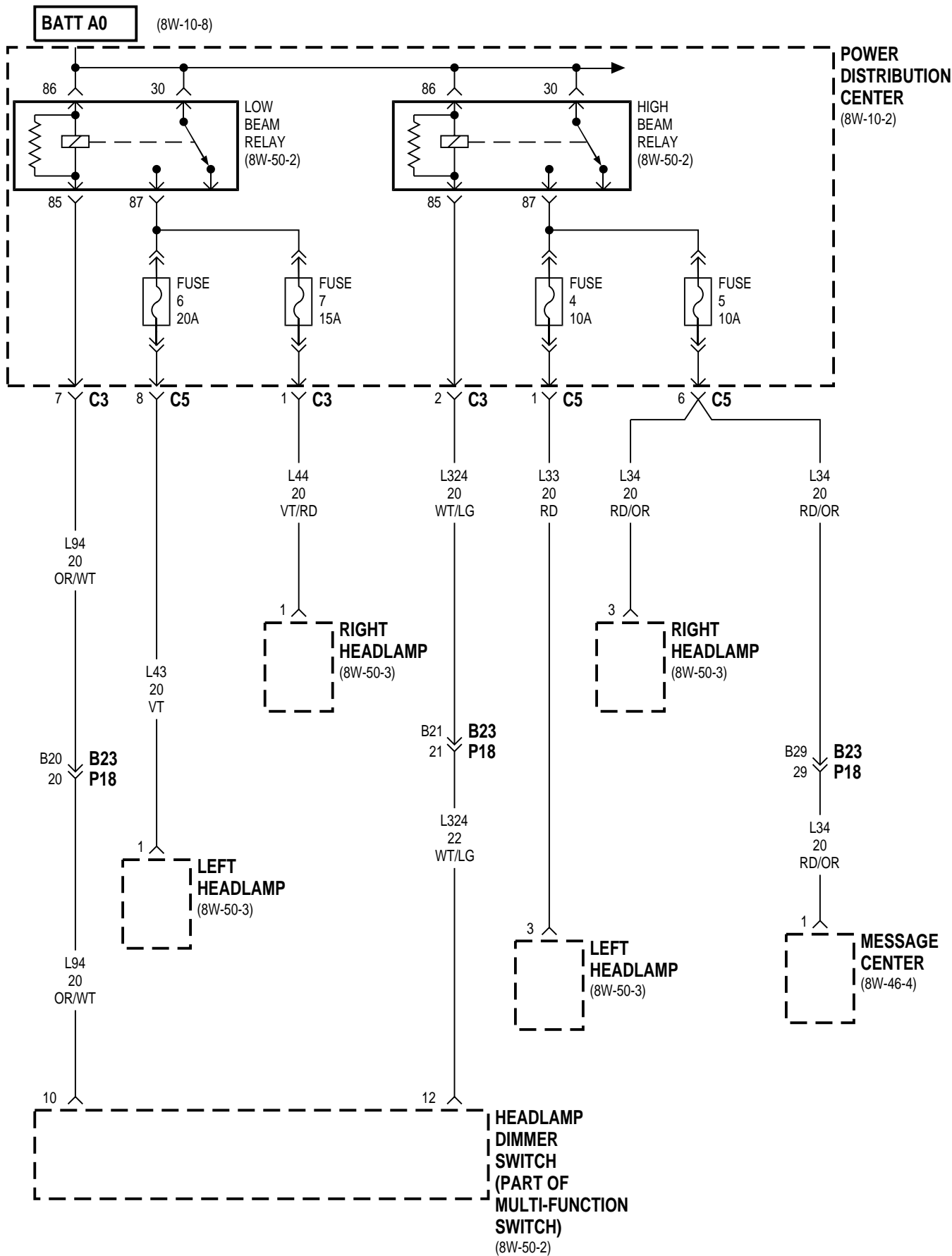


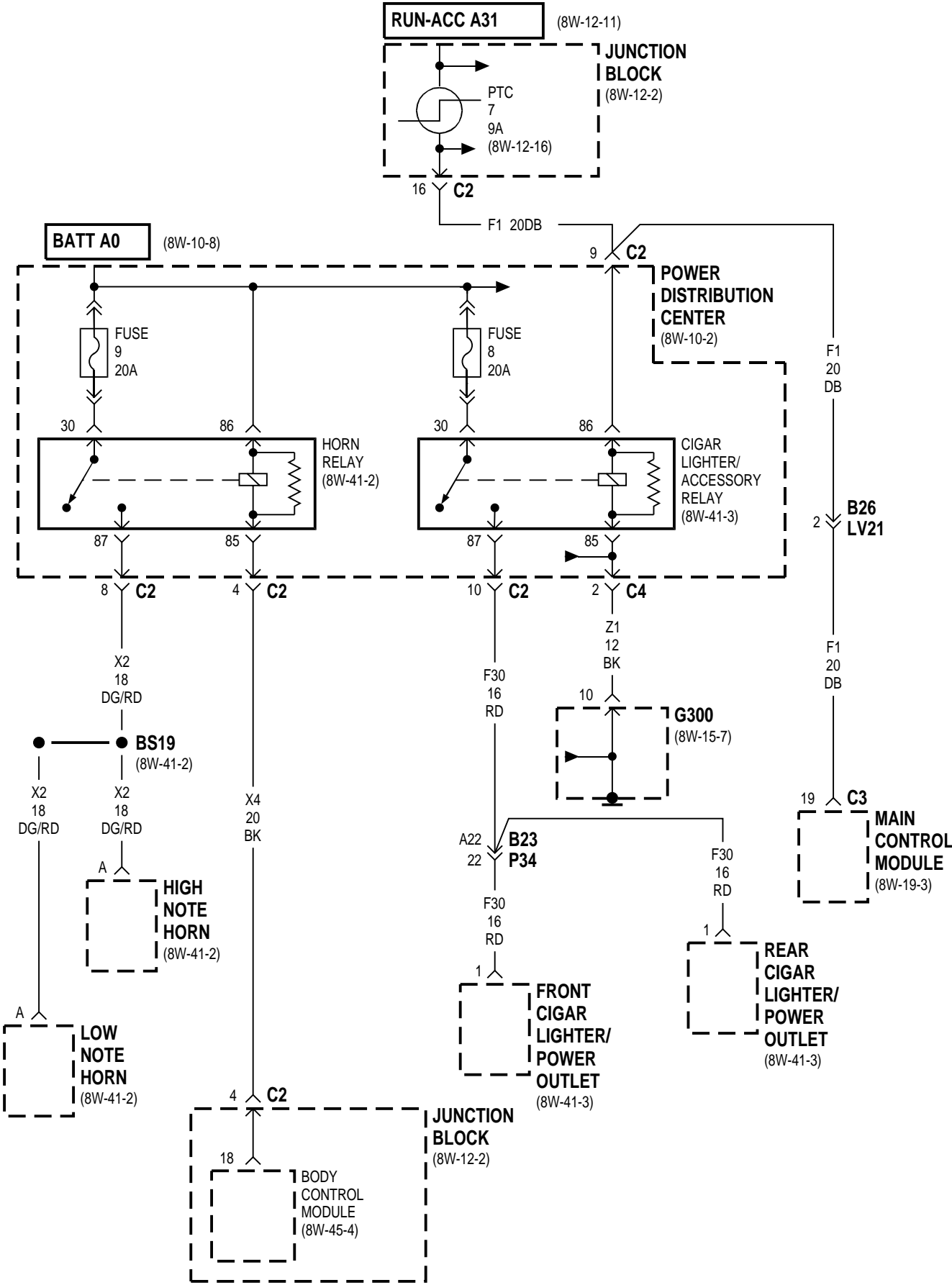


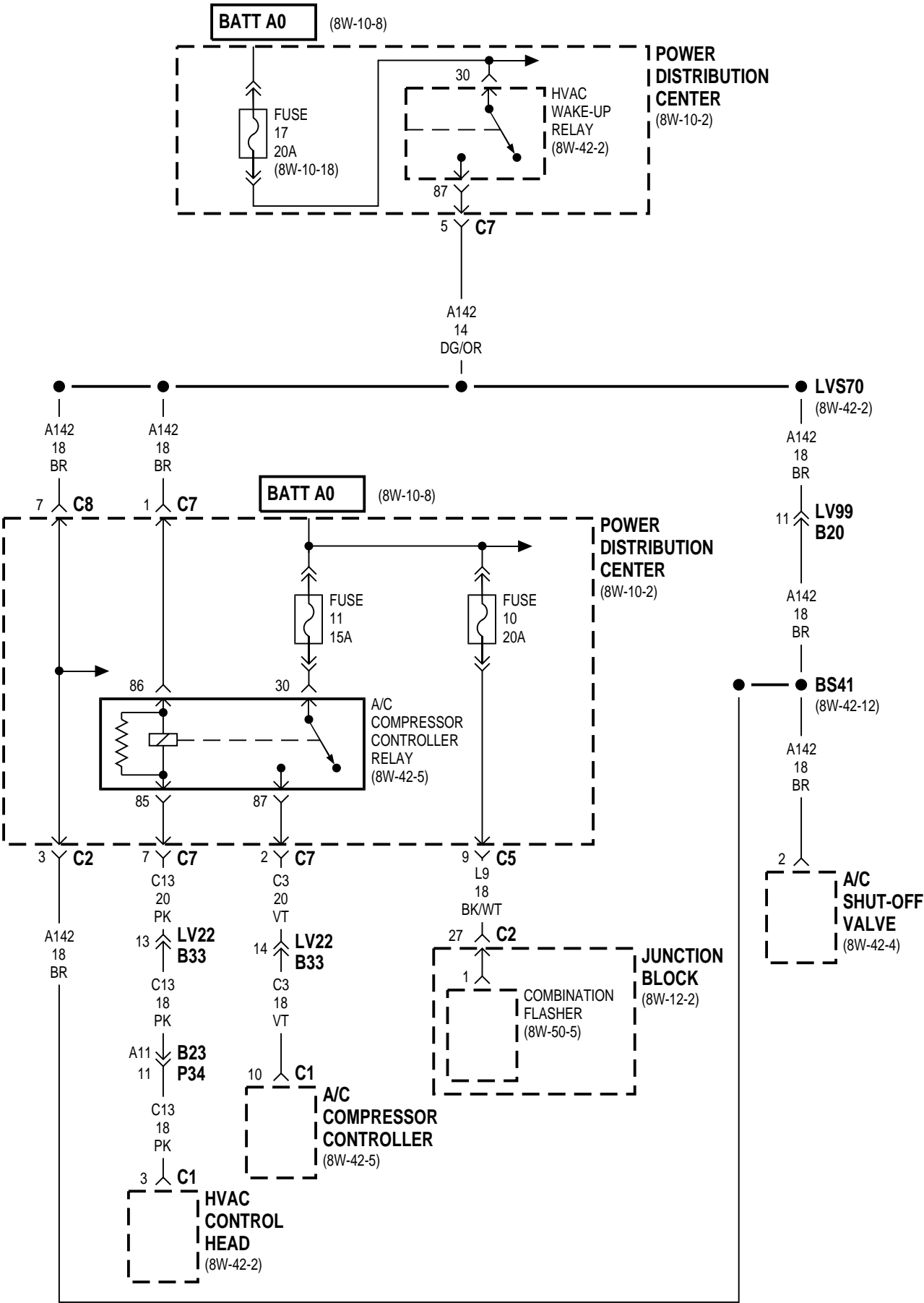


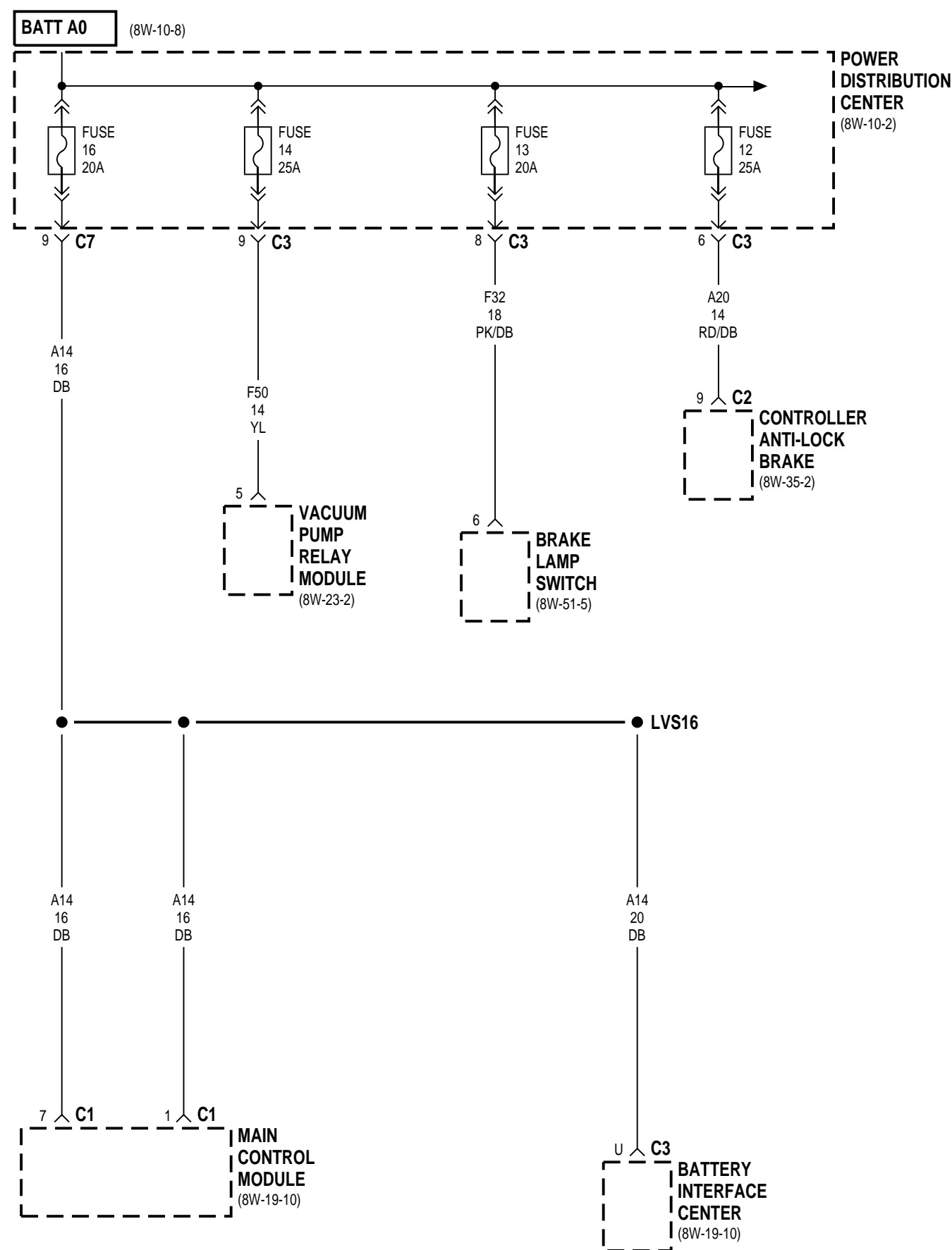


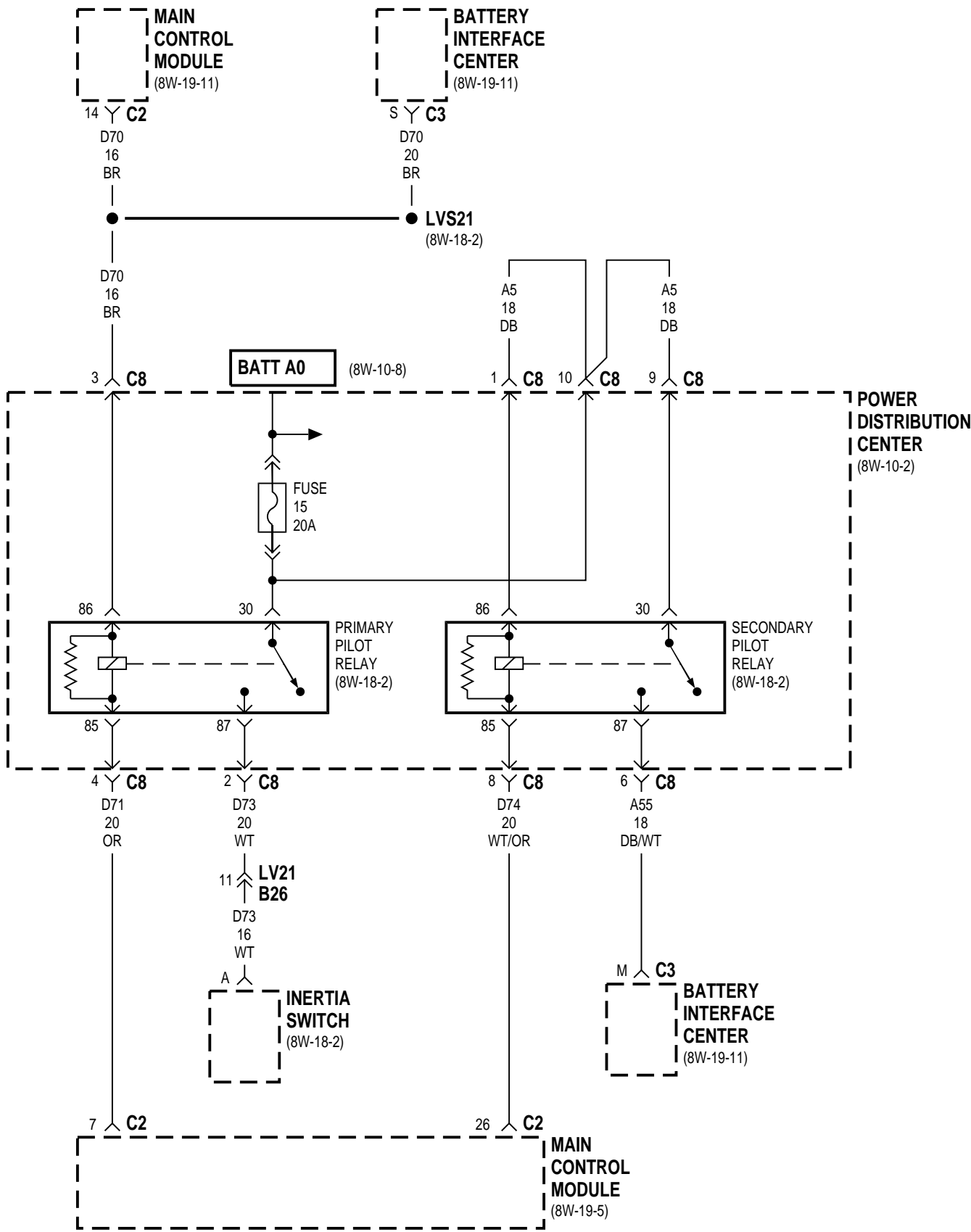


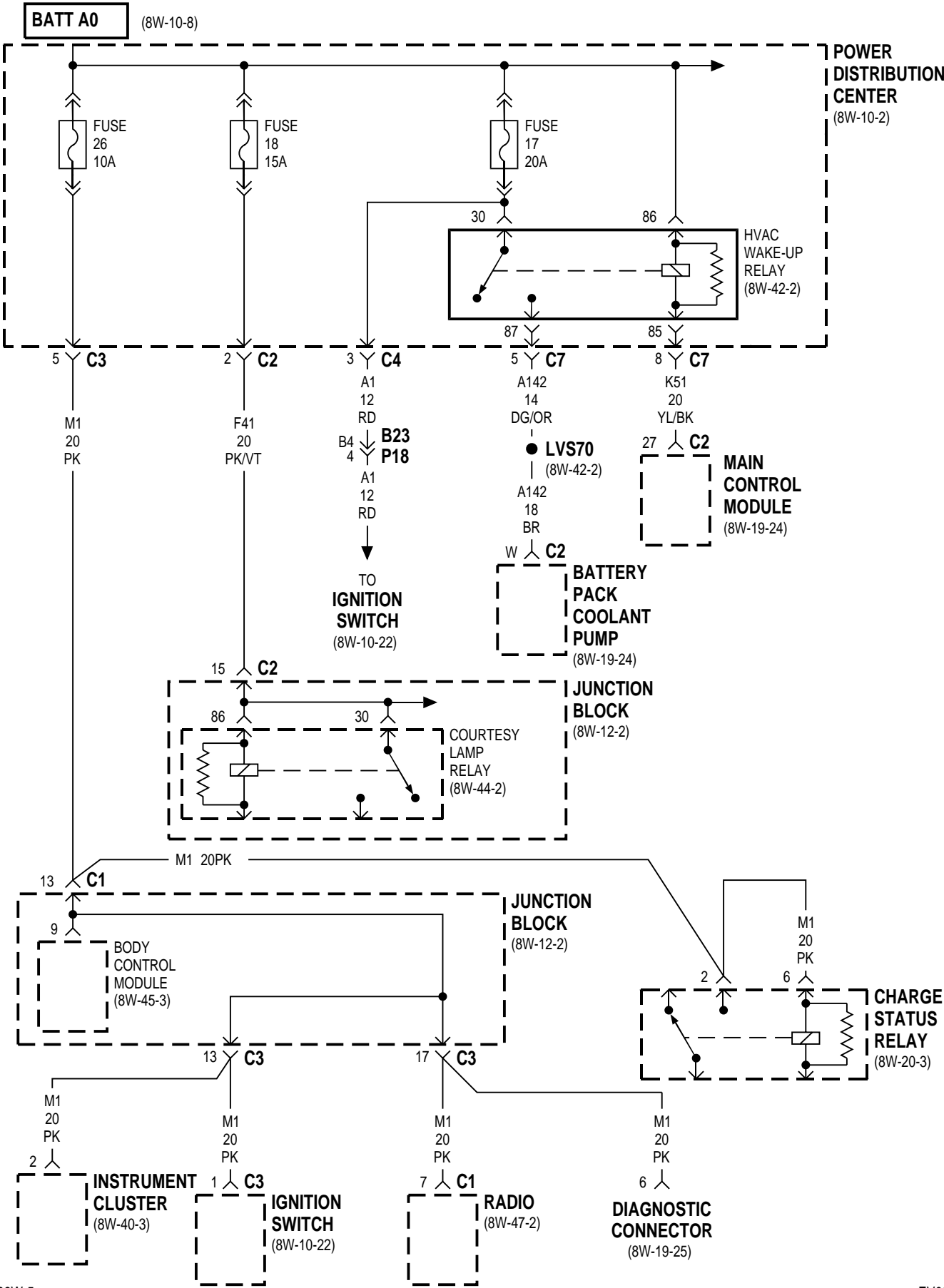


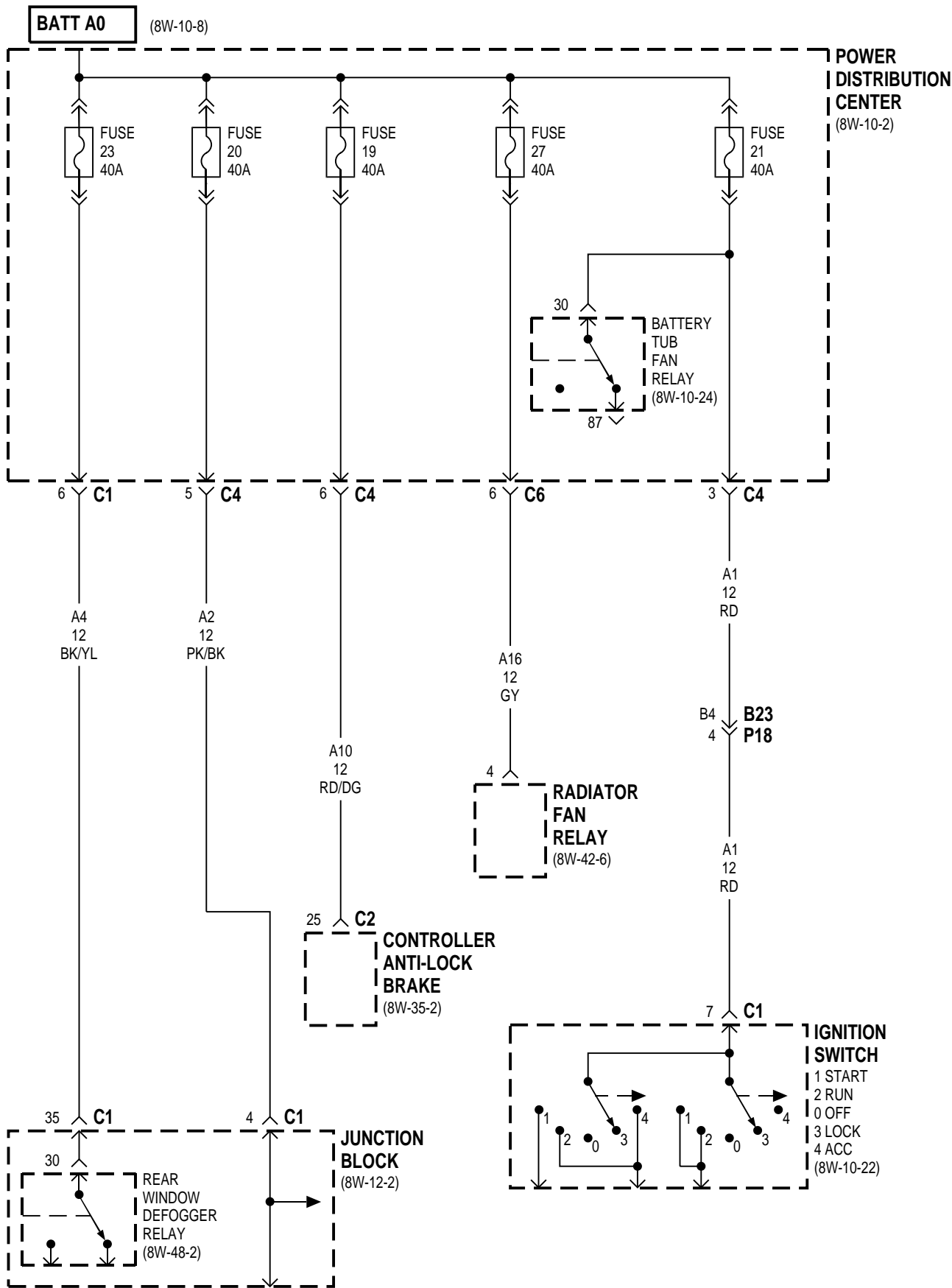


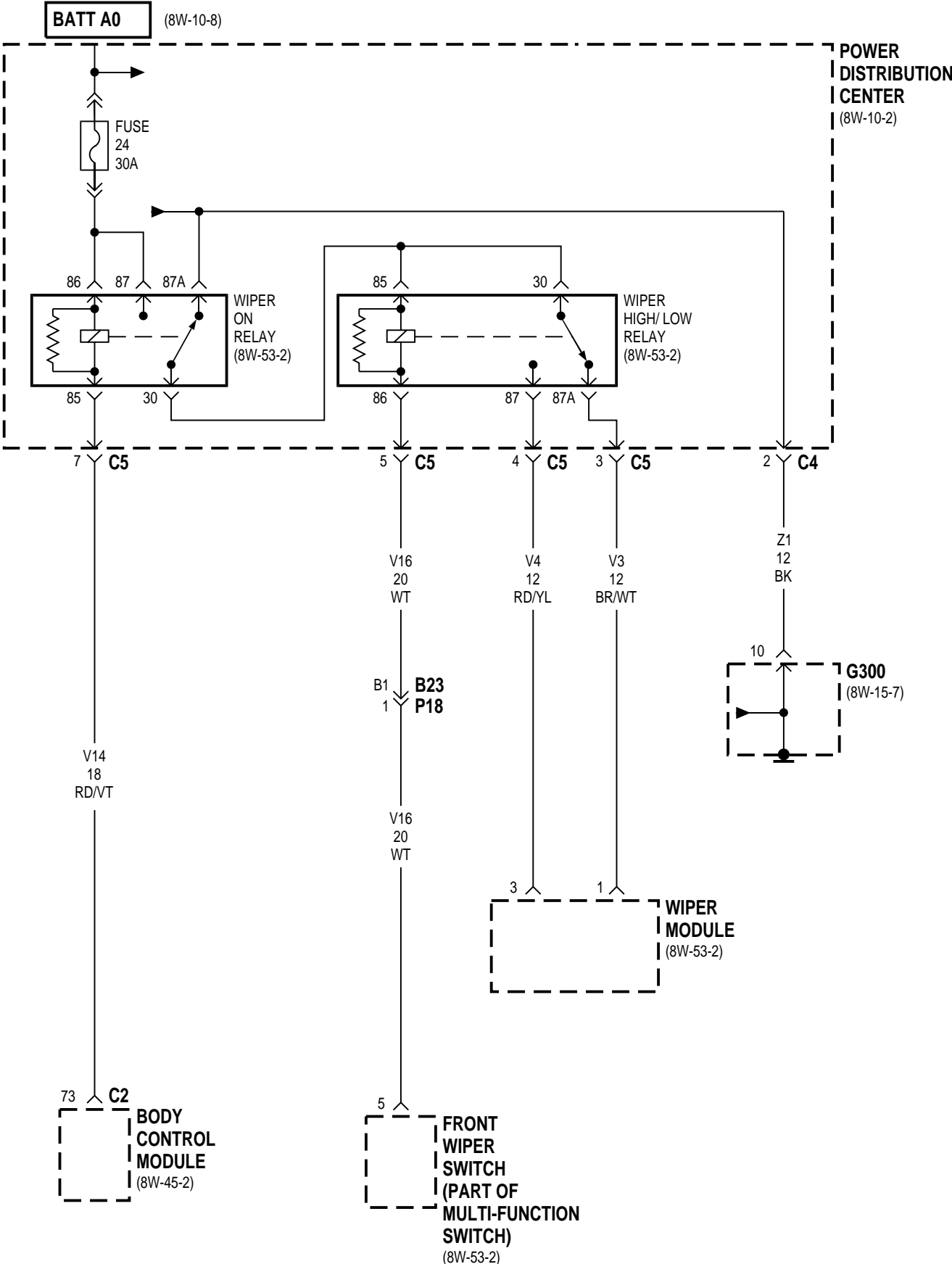


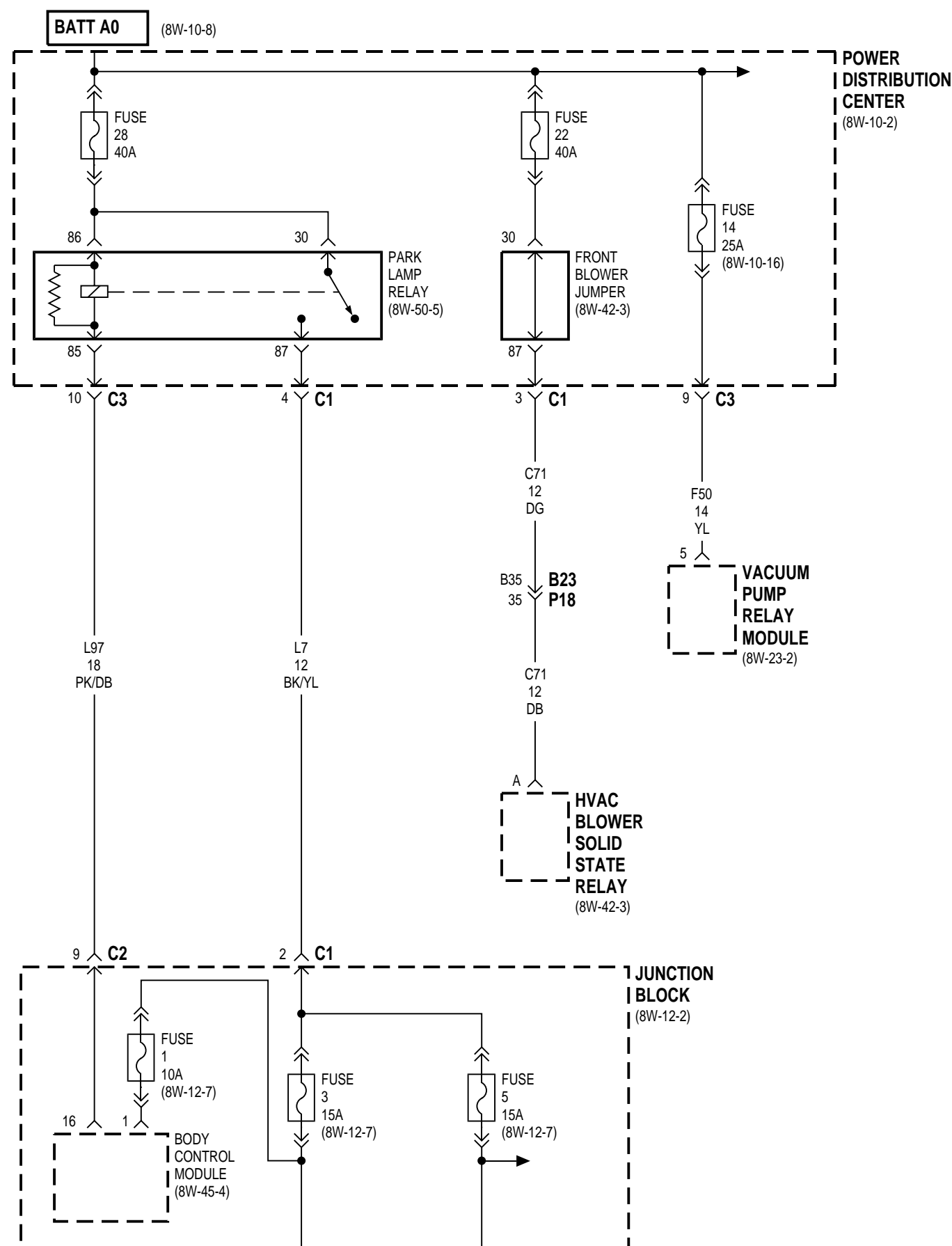


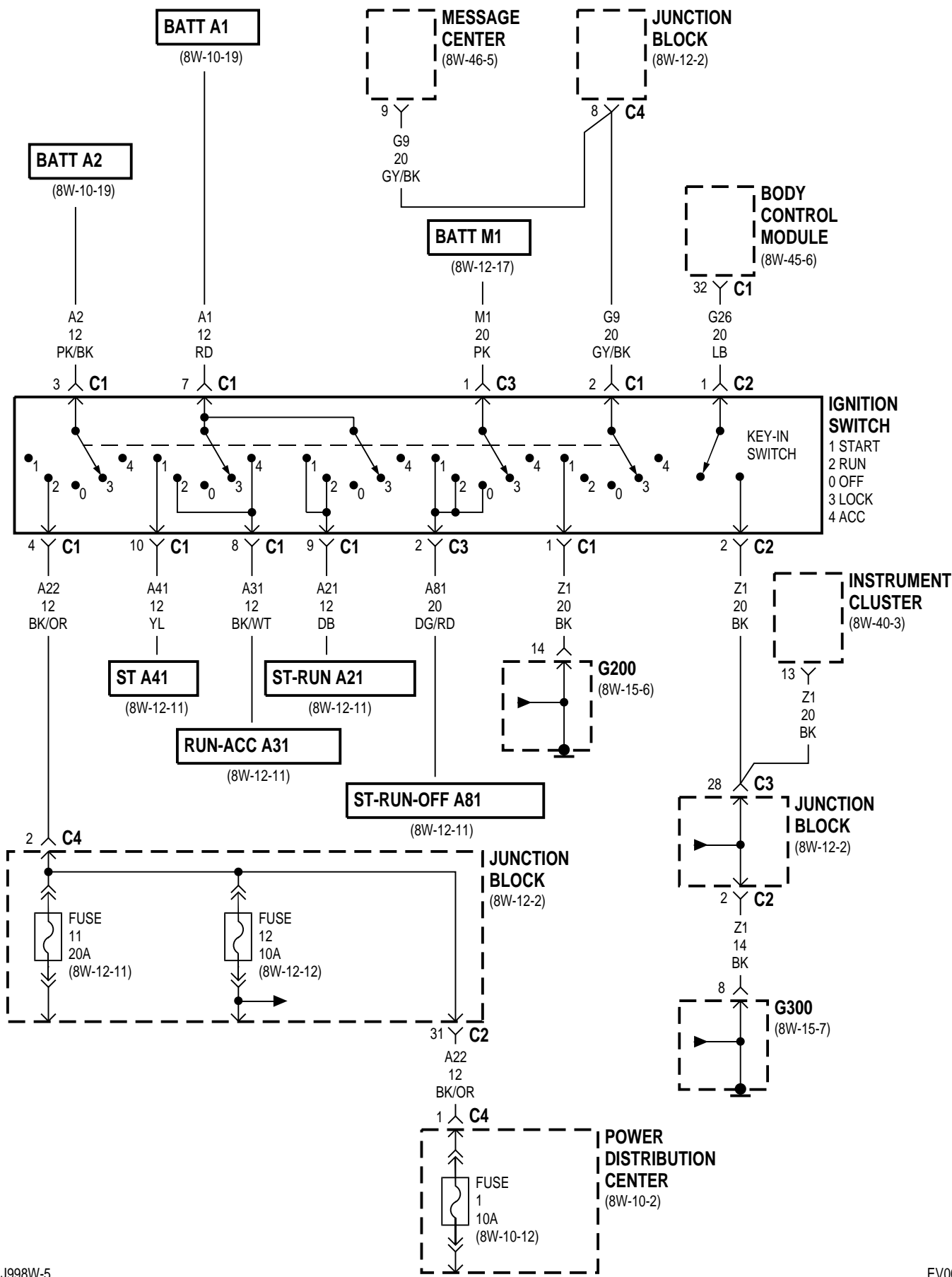


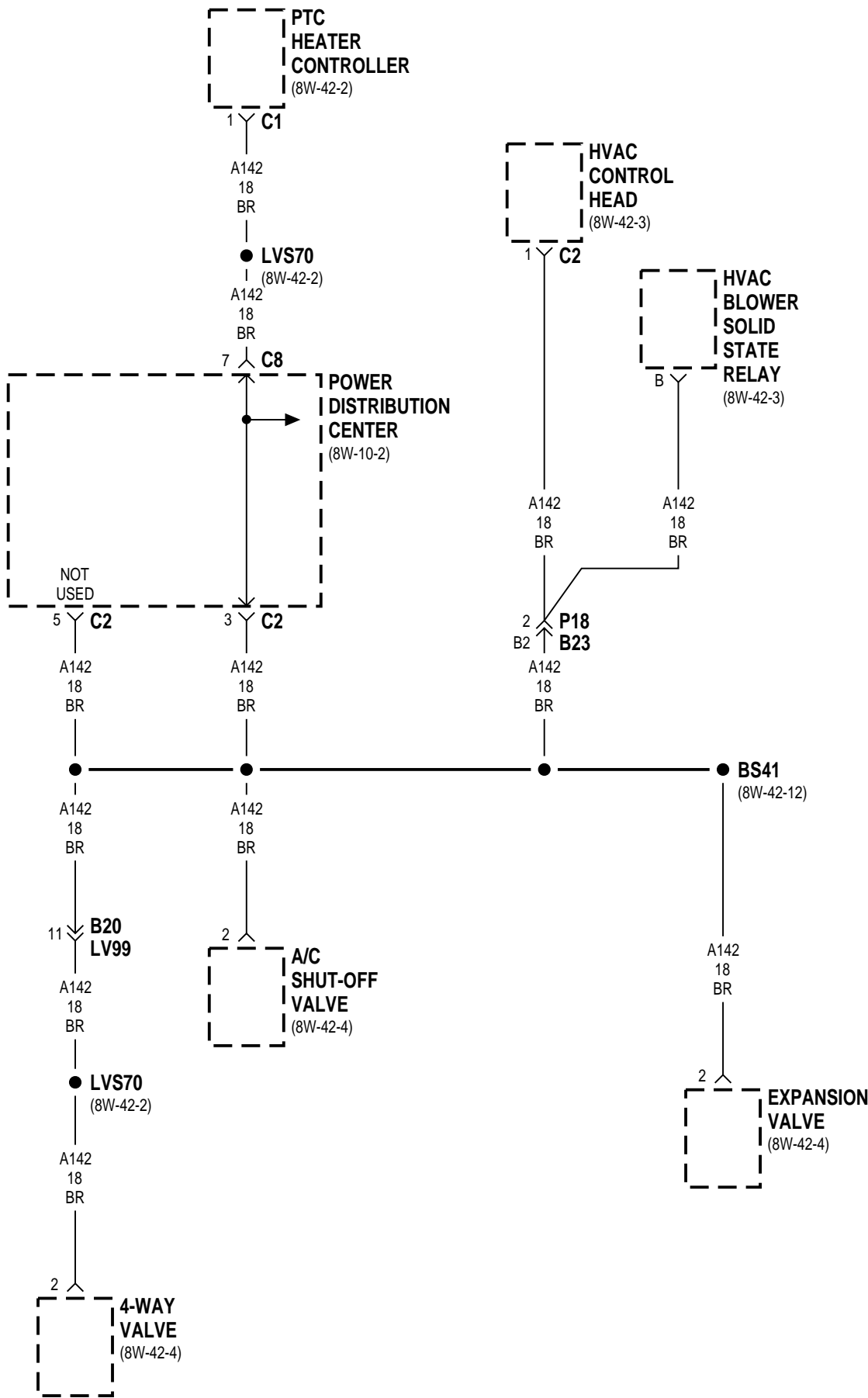


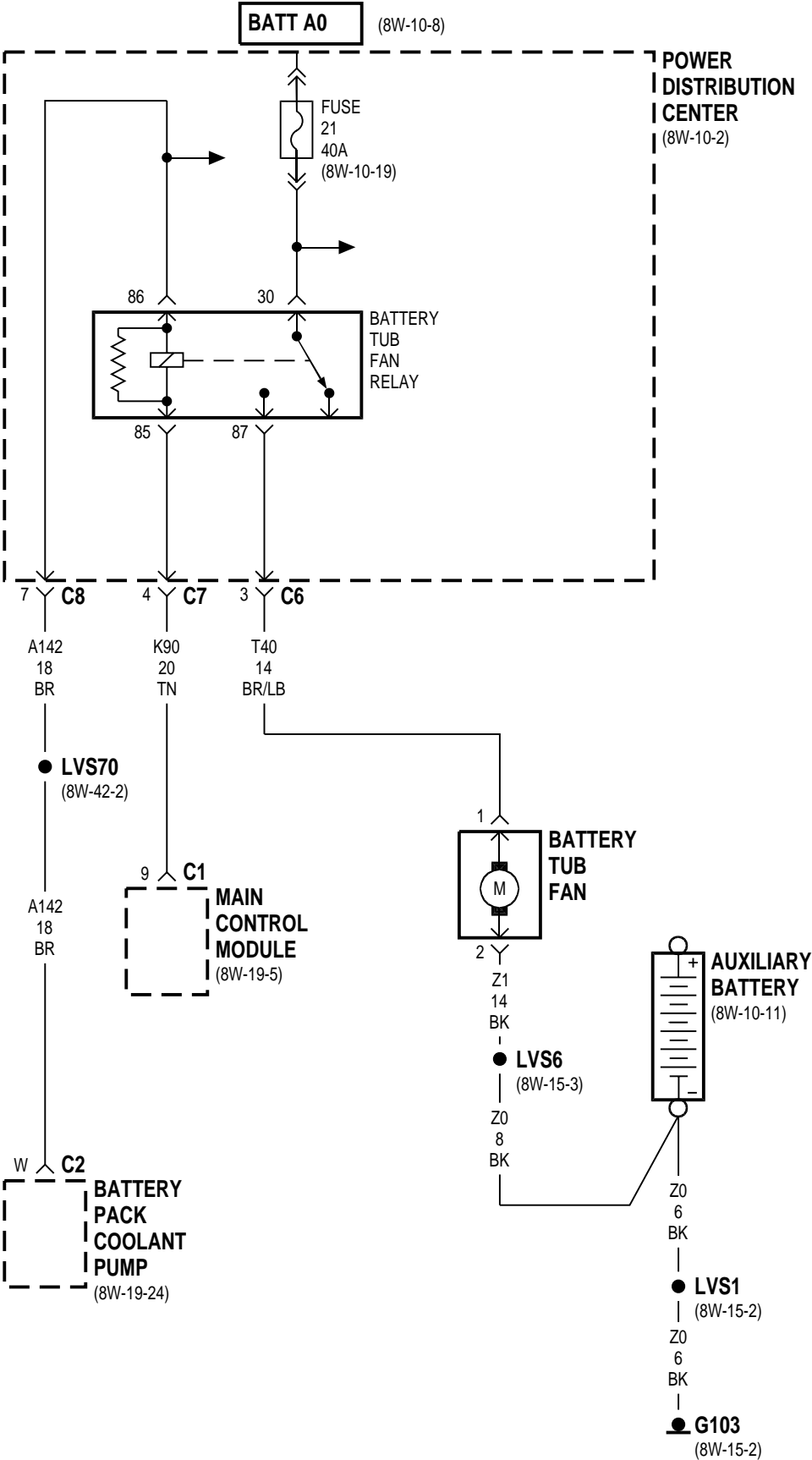


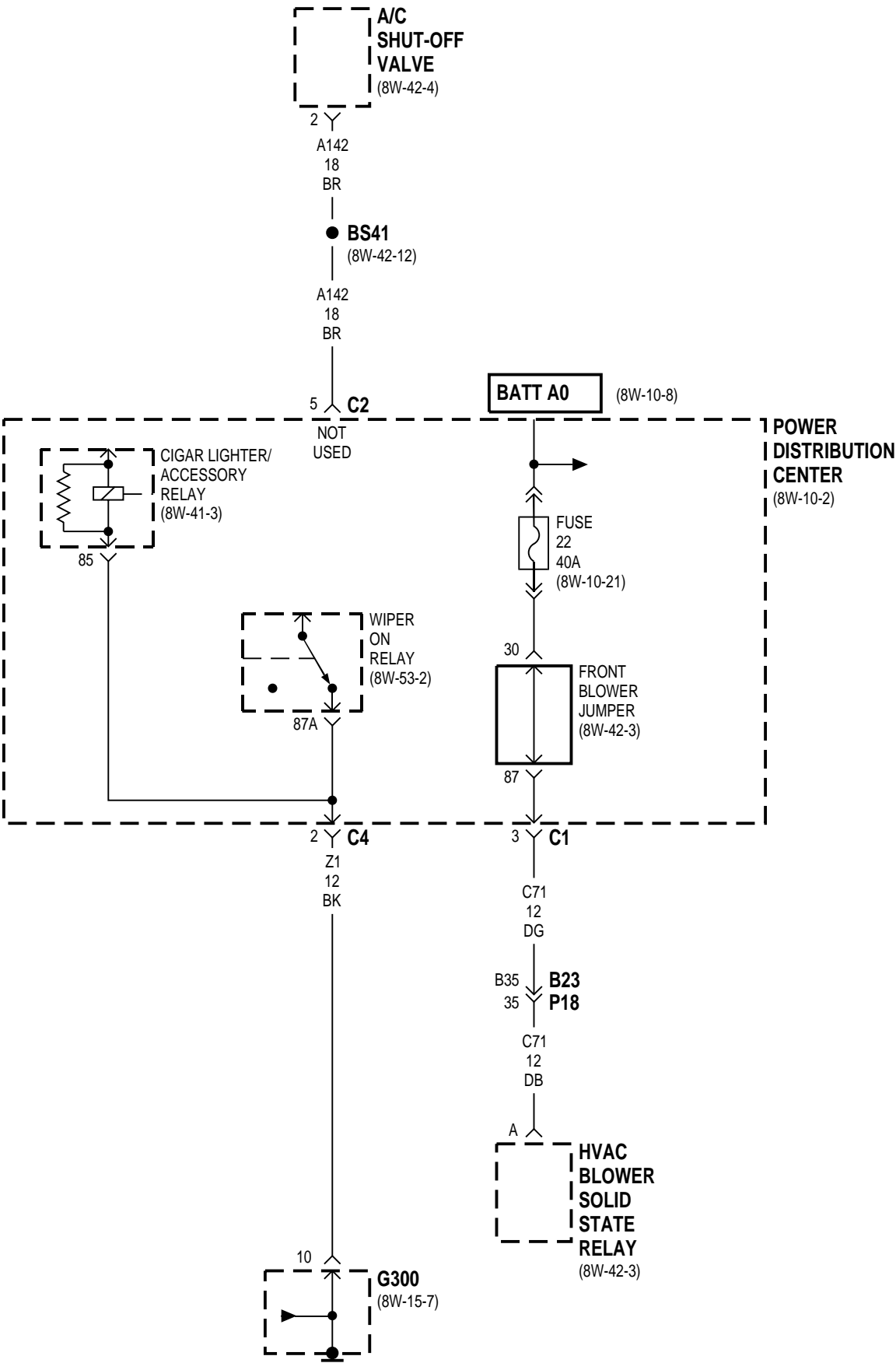












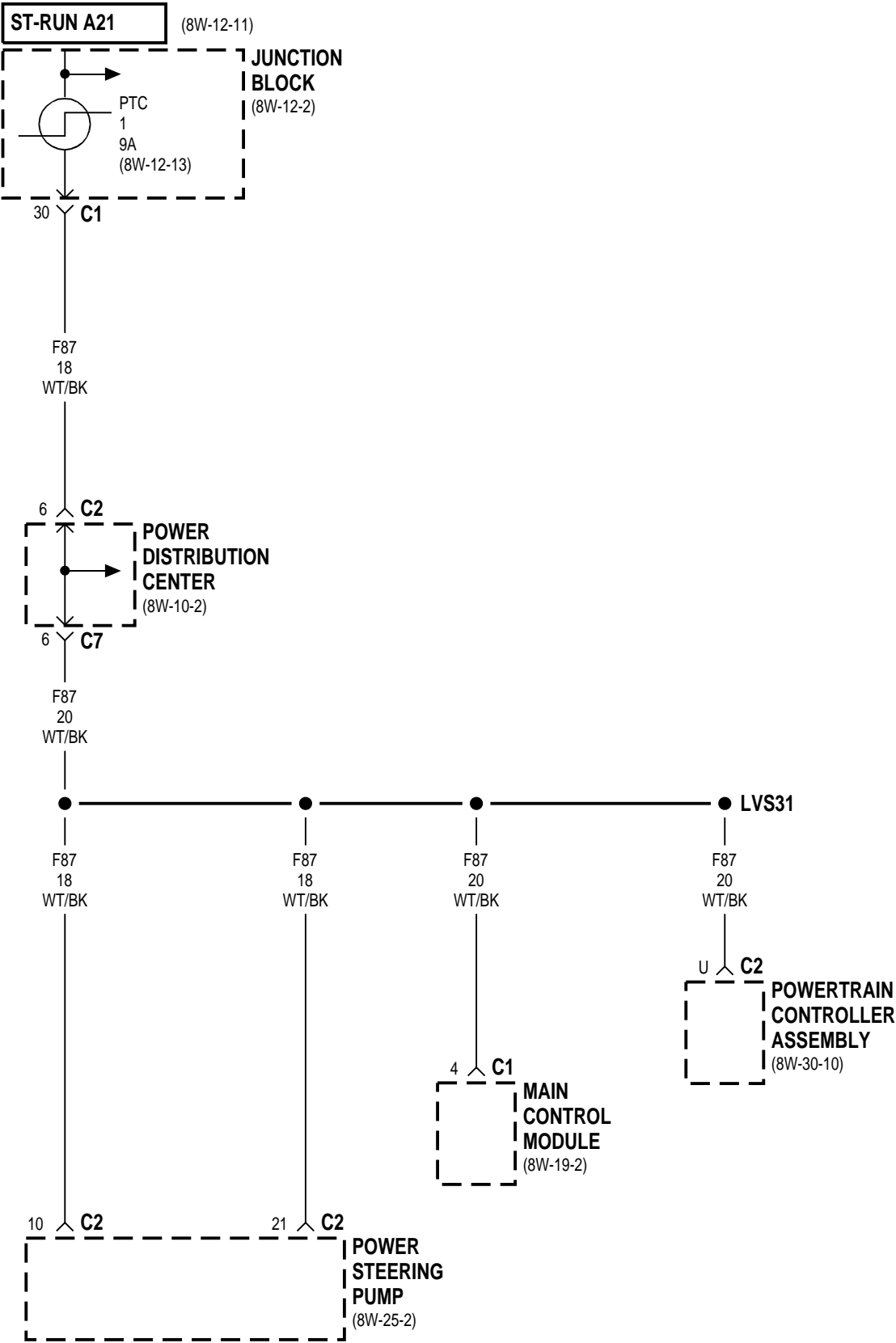
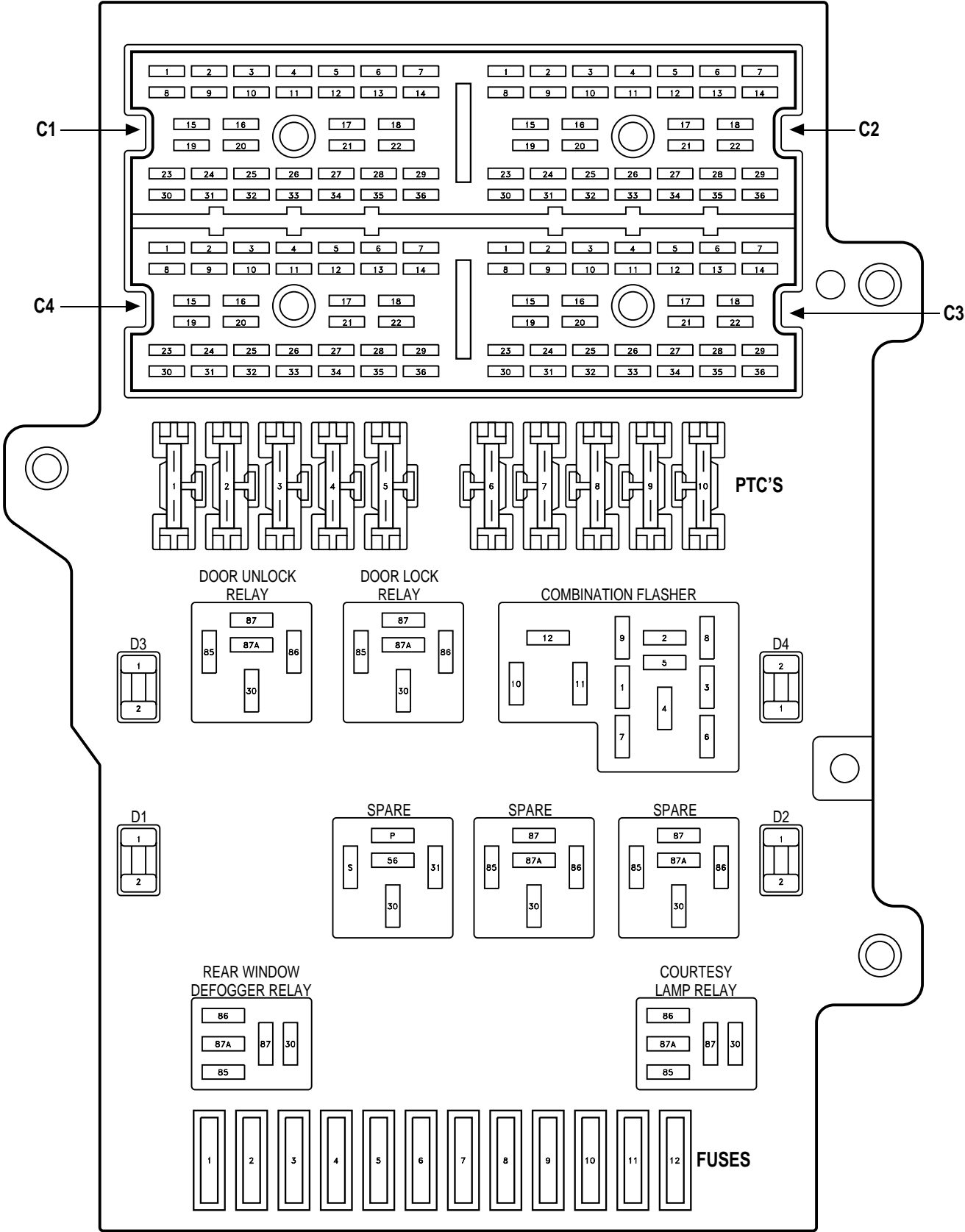


TABLE OF CONTENTS

PAGE	PAGE
AIRBAG CONTROL MODULE	8W-12-13
BODY CONTROL MODULE . 8W-12-7, 8, 9, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23	
BRAKE PRESSURE SWITCH	8W-12-22
CHARGE STATUS RELAY	8W-12-7, 17
CIGAR LIGHTER/ACCESSORY RELAY . . .	8W-12-16
COMBINATION FLASHER . . 8W-12-12, 17, 18, 22, 23	
CONTROLLER ANTI-LOCK BRAKE	8W-12-12
COURTESY LAMP RELAY	8W-12-17, 21
CS1	8W-12-21
DIAGNOSTIC CONNECTOR	8W-12-20
DOOR LOCK RELAY	8W-12-15, 18
DOOR UNLOCK RELAY	8W-12-14, 18
DRIVER DOOR LOCK MOTOR	8W-12-14, 15
DRIVER DOOR LOCK SWITCH	8W-12-19
ELECTRIC WIPER DE-ICER	8W-12-9, 11
FRONT READING LAMPS/SWITCH	8W-12-21
FRONT WASHER PUMP	8W-12-16, 19
FRONT WIPER SWITCH	8W-12-16, 19
FUSE 1 (JB)	8W-12-7
FUSE 1 (PDC)	8W-12-9
FUSE 2 (JB)	8W-12-8, 11, 20
FUSE 2 (PDC)	8W-12-13
FUSE 3 (JB)	8W-12-7
FUSE 5 (JB)	8W-12-7
FUSE 6 (JB)	8W-12-8, 11
FUSE 8 (JB)	8W-12-9
FUSE 9 (JB)	8W-12-9, 11
FUSE 10 (JB)	8W-12-10, 11
FUSE 10 (PDC)	8W-12-17
FUSE 11 (JB)	8W-12-11
FUSE 12 (JB)	8W-12-12
FUSE 18 (PDC)	8W-12-17
FUSE 20 (PDC)	8W-12-17
FUSE 23 (PDC)	8W-12-17
FUSE 26 (PDC)	8W-12-17
FUSE 28 (PDC)	8W-12-7
G300	8W-12-9, 18
HEADLAMP DIMMER SWITCH	8W-12-23
HEADLAMP SWITCH	8W-12-18, 19, 21
HORN RELAY	8W-12-22
HVAC CONTROL HEAD	8W-12-8, 12, 19
IGNITION SWITCH	8W-12-11, 14, 17, 18, 20, 22
INSTRUMENT CLUSTER	8W-12-8, 18, 19, 20
JUNCTION BLOCK . . 8W-12-2, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24	
LEFT FRONT PARK/TURN SIGNAL LAMP .	8W-12-23
LEFT LIFTGATE FLOOD LAMP	8W-12-21
LEFT REAR LAMP ASSEMBLY	8W-12-7, 23
LEFT REAR SLIDING DOOR CONTACTS .	8W-12-14, 15
LICENSE LAMP	8W-12-7
LVS2	8W-12-12
LVS14	8W-12-8
LVS15	8W-12-10, 11
LVS31	8W-12-13
MAIN CONTROL MODULE	8W-12-8, 10, 13
MESSAGE CENTER	8W-12-8, 11, 18, 22, 23
OIL PUMP	8W-12-12
PARK BRAKE SWITCH	8W-12-22
PARK LAMP RELAY	8W-12-7
PASSENGER DOOR LOCK MOTOR . . .	8W-12-14, 15
PASSENGER DOOR LOCK SWITCH	8W-12-19
POWER DISTRIBUTION CENTER .	8W-12-7, 9, 11, 13, 16, 17, 22
POWERTRAIN CONTROLLER ASSEMBLY .	8W-12-8, 10, 22
PS3	8W-12-8, 11
PTC 1 (JB)	8W-12-11, 13
PTC 3 (JB)	8W-12-14, 15
PTC 7 (JB)	8W-12-16
RADIO	8W-12-9, 19, 20
REAR WASHER PUMP	8W-12-16
REAR WINDOW DEFOGGER	8W-12-17, 24
REAR WINDOW DEFOGGER RELAY .	8W-12-12, 17, 24
REAR WIPER MOTOR	8W-12-8
RIGHT FRONT PARK/TURN SIGNAL LAMP	8W-12-7, 23
RIGHT LIFTGATE FLOOD LAMP	8W-12-21
RIGHT REAR LAMP ASSEMBLY	8W-12-7, 23
RIGHT REAR SLIDING DOOR CONTACTS	8W-12-14, 15
TRANSMISSION RANGE SWITCH	8W-12-12
TURN SIGNAL/HAZARD SWITCH	8W-12-22
VACUUM PUMP RELAY MODULE	8W-12-12

TOP OF
JUNCTION BLOCK



**BODY
CONTROL
MODULE
INTERCONNECT**

CAVITY	CIRCUIT	FUNCTION
1	E1	FUSED PARK LAMP RELAY OUTPUT
2	E2	PANEL LAMPS FEED
3	Z1	GROUND
4	Z1	GROUND
5	-	-
6	F236	DOOR UNLOCK RELAY CONTROL
7	F11	FUSED IGNITION SWITCH OUTPUT (ST-RUN-OFF)
8	F238	DOOR LOCK RELAY CONTROL
9	M1	FUSED B(+)
10	X20	RADIO CONTROL MUX
11	V23	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
12	V23	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
13	V23	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
14	A31	IGNITION SWITCH OUTPUT (RUN-ACC)
15	L93	HEADLAMP RELAY CONTROL
16	L97	PARK LAMP RELAY CONTROL
17	M112	COURTESY LAMP RELAY DRIVER
18	X4	HORN RELAY CONTROL
19	L63	LEFT REAR TURN SIGNAL
20	V10	FRONT WASHER MOTOR CONTROL
21	L62	RIGHT REAR TURN SIGNAL

FUSES

FUSE NO.	AMPS	FUSED CIRCUIT	FEED CIRCUIT
1	10A	INTERNAL	INTERNAL
2	10A	INTERNAL	INTERNAL
3	15A	INTERNAL	INTERNAL
4	-	-	-
5	15A	INTERNAL	INTERNAL
6	20A	INTERNAL	INTERNAL
7	10A	C16 20LB/YL C16 20LB/YL	INTERNAL
8	10A	INTERNAL	INTERNAL
9	15A	V20 18RD	INTERNAL
10	10A	F45 20YL	A41 12YL
11	20A	C40 12BR/WT	INTERNAL
12	10A	INTERNAL	INTERNAL

PTC'S
(POSITIVE TEMPERATURE COEFFICIENT)

PTC NO.	AMPS	FUSED CIRCUIT	FEED CIRCUIT
1	9A	INTERNAL	INTERNAL
2	-	-	-
3	9A	INTERNAL	INTERNAL
4	-	-	-
5	-	-	-
6	-	-	-
7	9A	INTERNAL	INTERNAL
8	9A	INTERNAL	INTERNAL
9	9A	F21 16TN	INTERNAL
10	-	-	-

**COMBINATION
FLASHER**

CAVITY	CIRCUIT	FUNCTION
1	L9 18BK/WT	FUSED FLASHER FEED
2	L61 18LG	LEFT TURN SIGNAL
3	L60 18TN	RIGHT TURN SIGNAL
4	INTERNAL	LEFT TURN SIGNAL
5	INTERNAL	RIGHT TURN SIGNAL
6	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN)
7	L305 22LB/WT	LEFT TURN SWITCH SENSE
8	L302 22LB/YL	RIGHT TURN SWITCH SENSE
9	L91 22DB/PK	COMBINATION FLASHER SWITCHED GROUND
10	INTERNAL	RED BRAKE WARNING INDICATOR DRIVER
11	INTERNAL	GROUND
12	INTERNAL	HEADLAMP RELAY CONTROL

**COURTESY
LAMP
RELAY**

CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	FUSED B(+)
85	M111 22BR/WT	SWITCHED COURTESY LAMP RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	COURTESY LAMP RELAY OUTPUT
87A	-	-

**DOOR
LOCK
RELAY**

CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	DOOR LOCK RELAY OUTPUT
85	INTERNAL	DOOR LOCK RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	FUSED B(+)
87A	INTERNAL	GROUND

**DOOR
UNLOCK
RELAY**

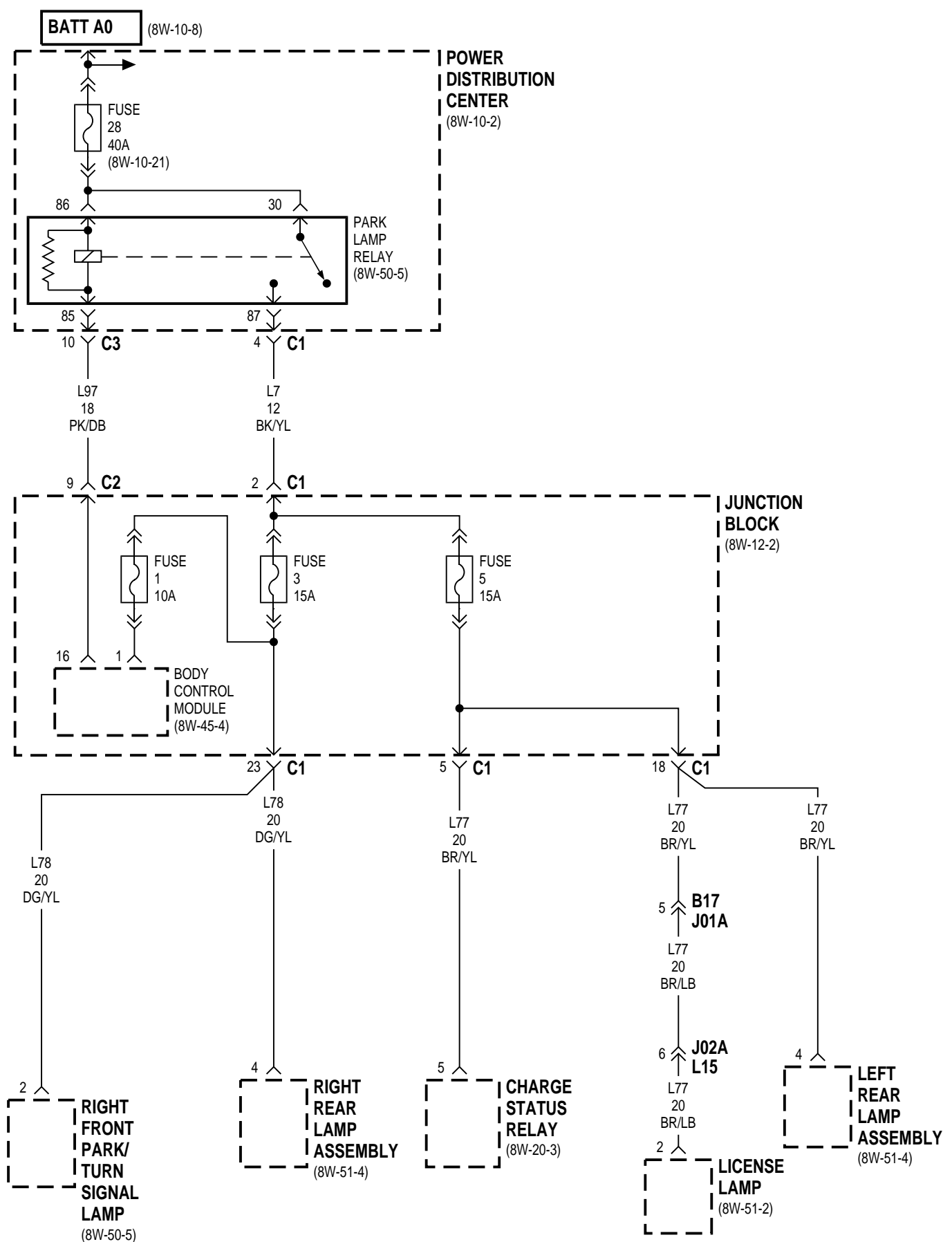
CAVITY	CIRCUIT	FUNCTION
30	INTERNAL	DOOR UNLOCK RELAY OUTPUT
85	INTERNAL	DOOR UNLOCK RELAY CONTROL
86	INTERNAL	FUSED B(+)
87	INTERNAL	FUSED B(+)
87A	INTERNAL	GROUND

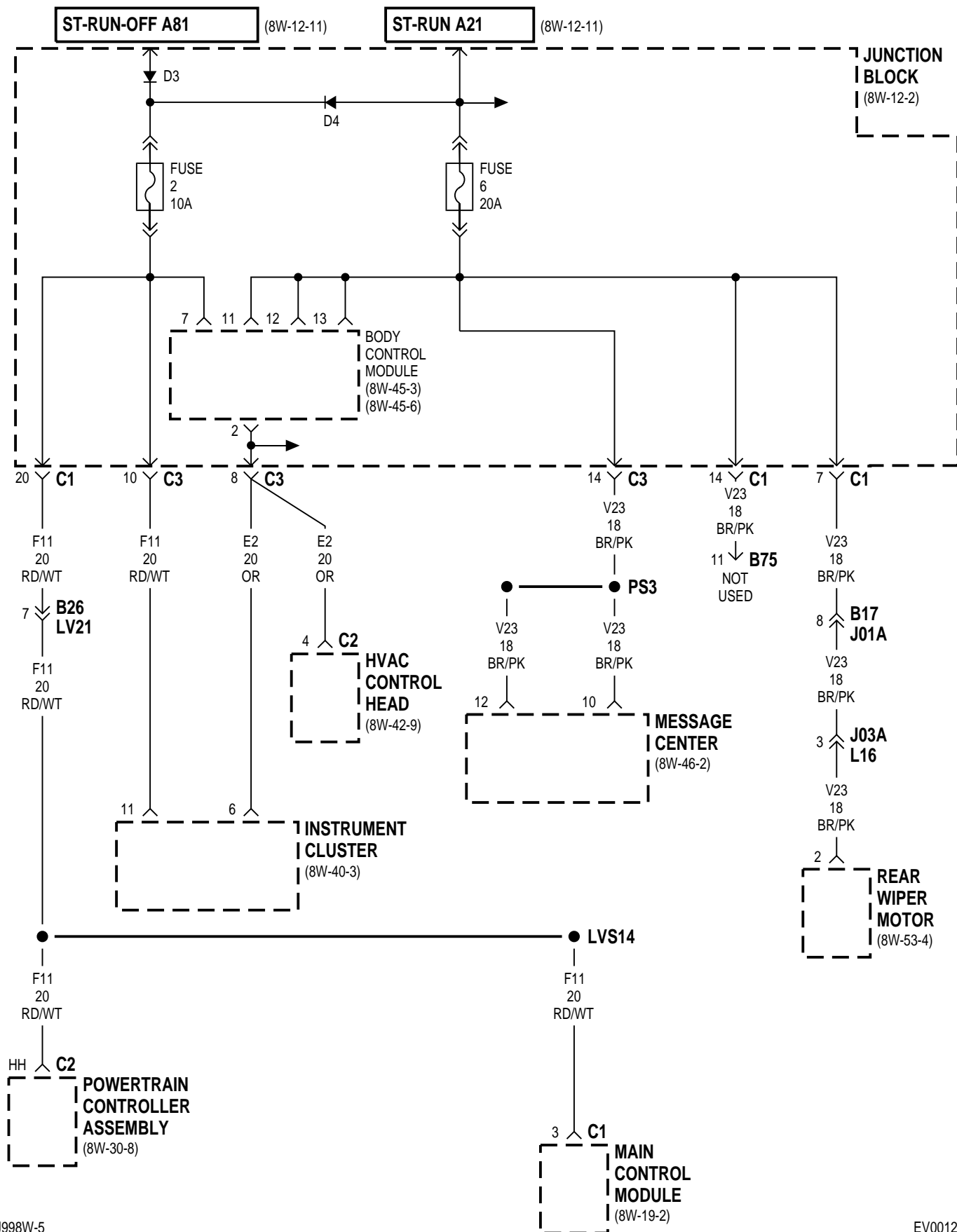
REAR
WINDOW
DEFOGGER
RELAY

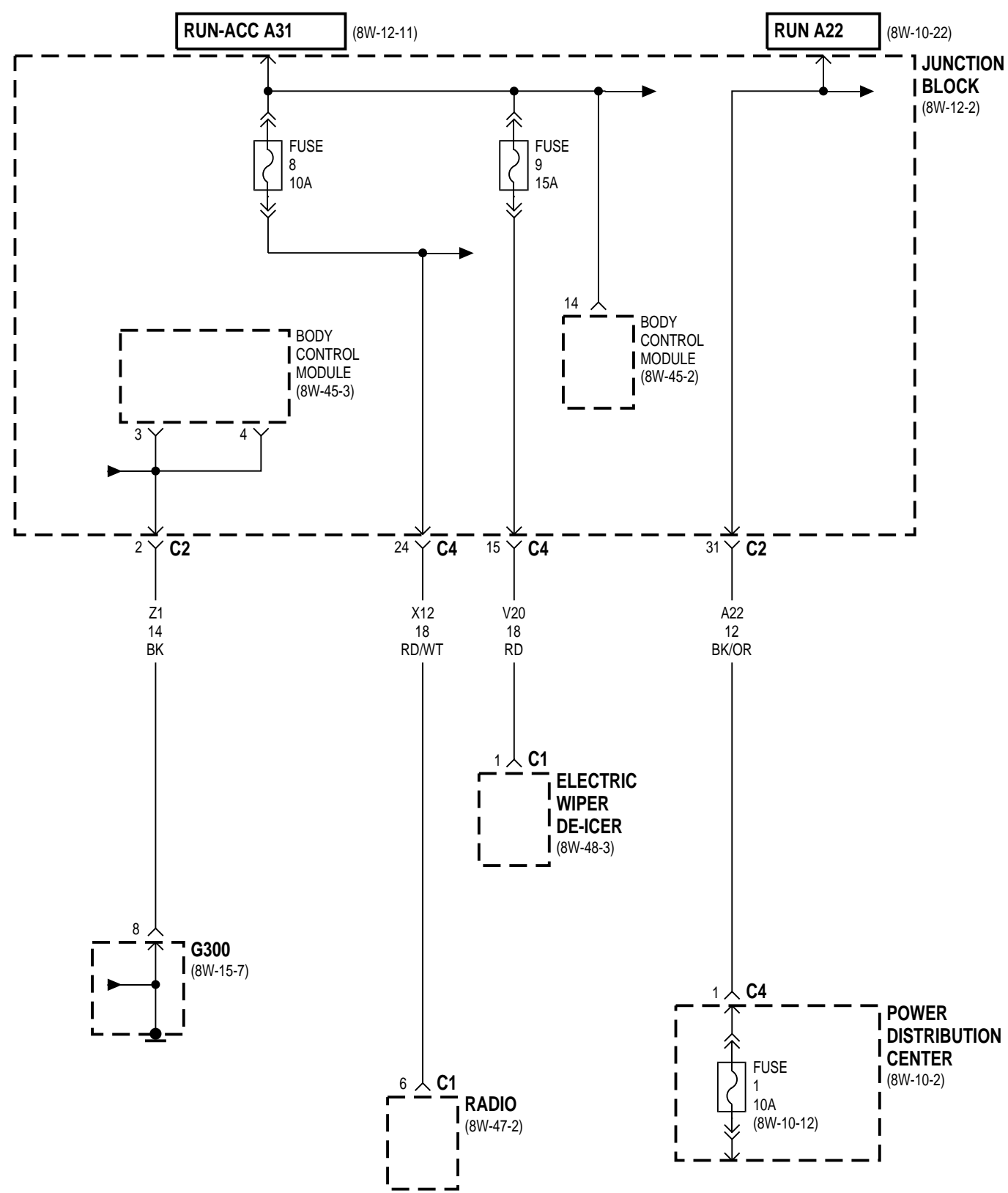
CAVITY	CIRCUIT	FUNCTION
30	A4 12BK/RD	FUSED B(+)
85	C14 22WT/RD	REAR WINDOW DEFOGGER RELAY CONTROL
86	INTERNAL	FUSED IGNITION SWITCH OUTPUT (RUN)
87	INTERNAL	REAR WINDOW DEFOGGER RELAY OUTPUT
87A	-	-

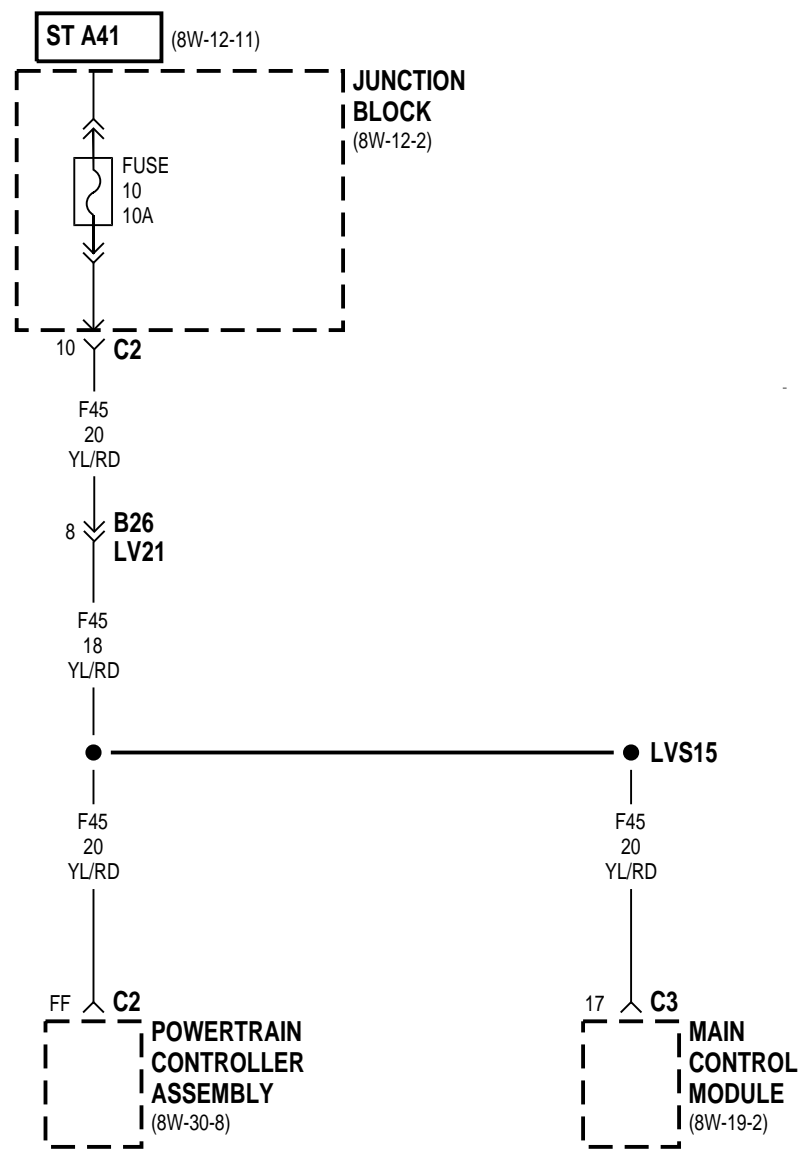
DIODES

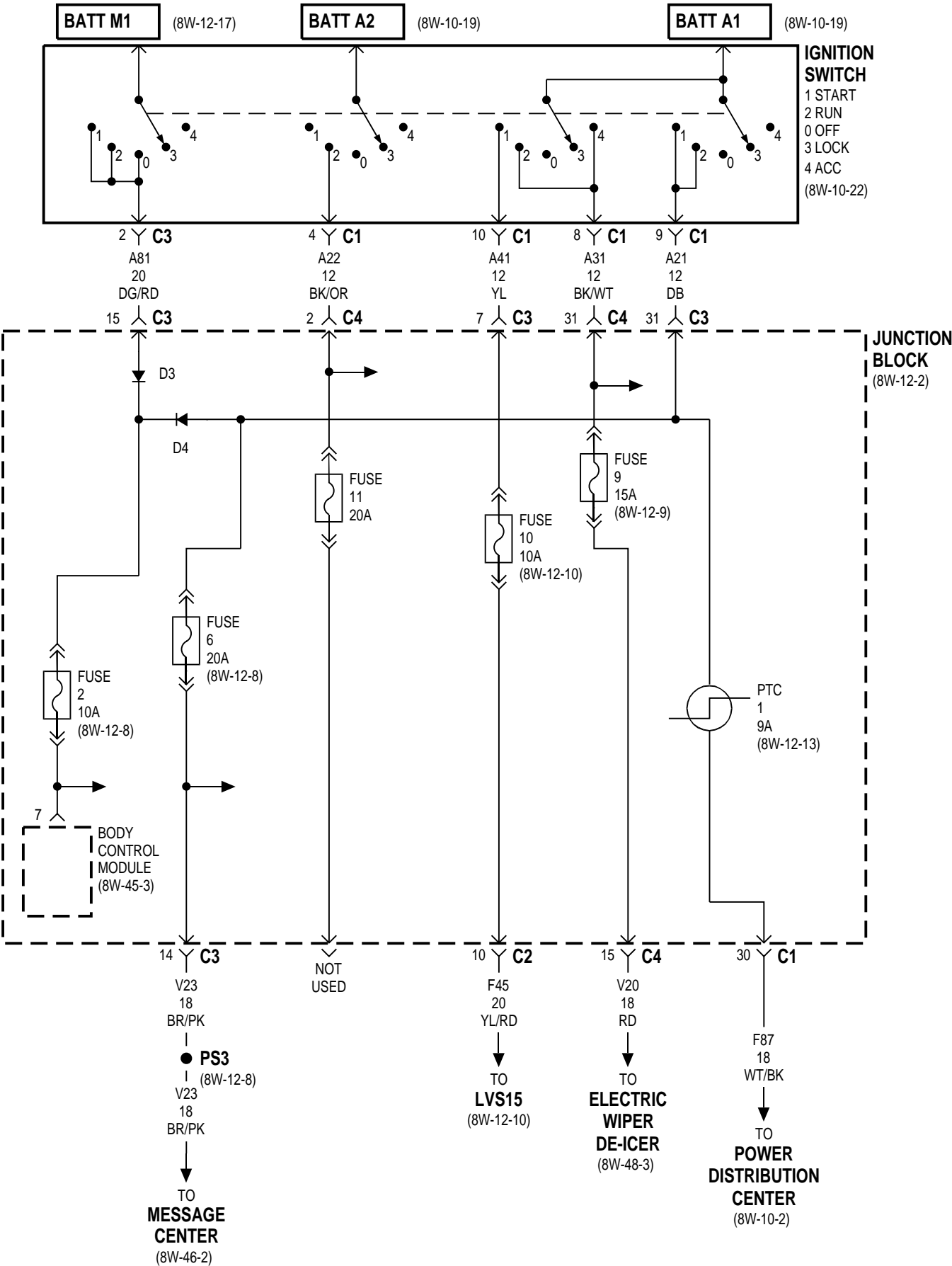
DIODE	CAVITY	CIRCUIT	ORIENTATION
D1	1	INTERNAL	ANODE (+)
	2	INTERNAL	CATHODE
D2	-	-	-
	-	-	-
D3	1	INTERNAL	ANODE (+)
	2	INTERNAL	CATHODE
D4	1	INTERNAL	ANODE (+)
	2	INTERNAL	CATHODE

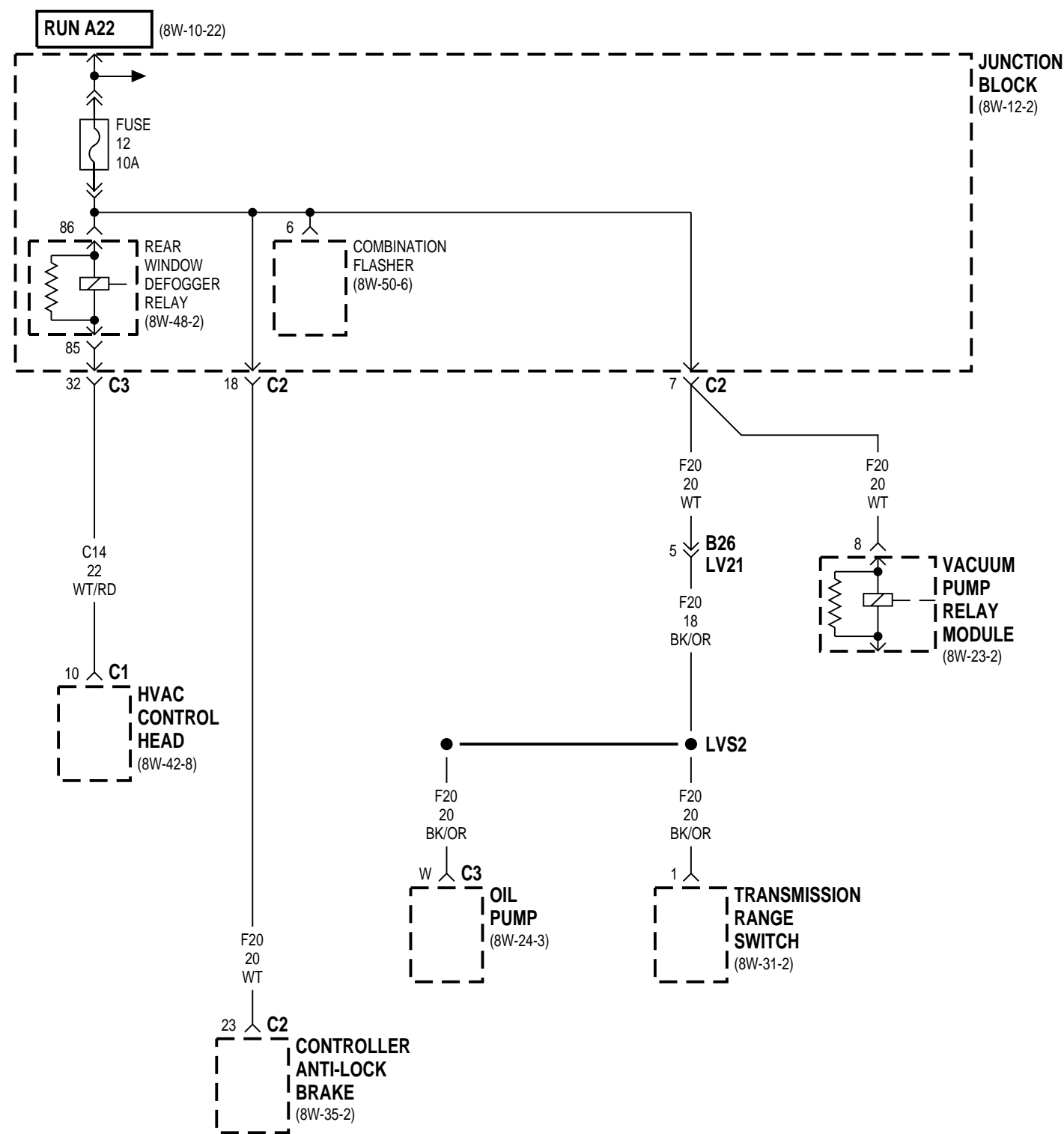


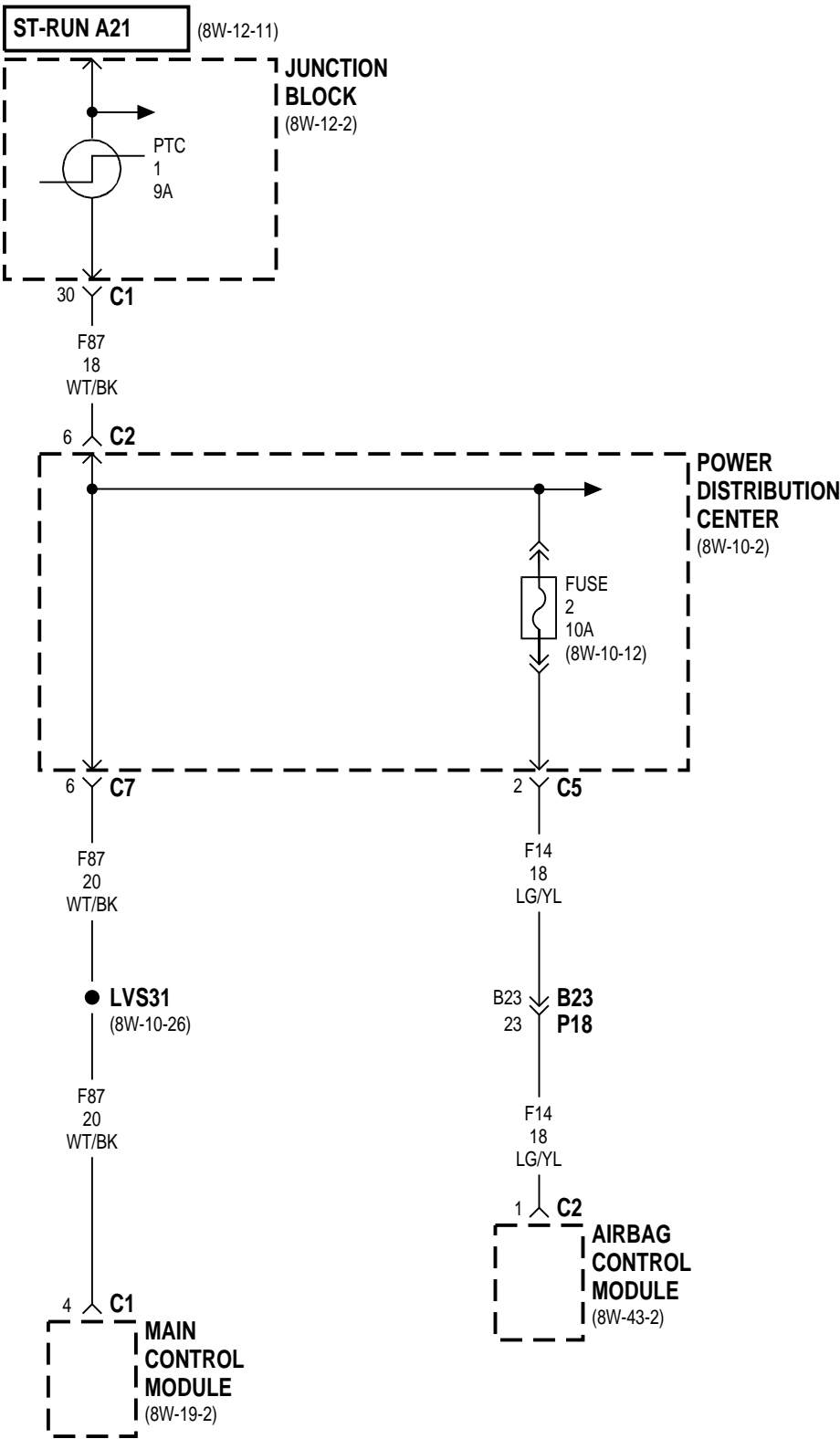


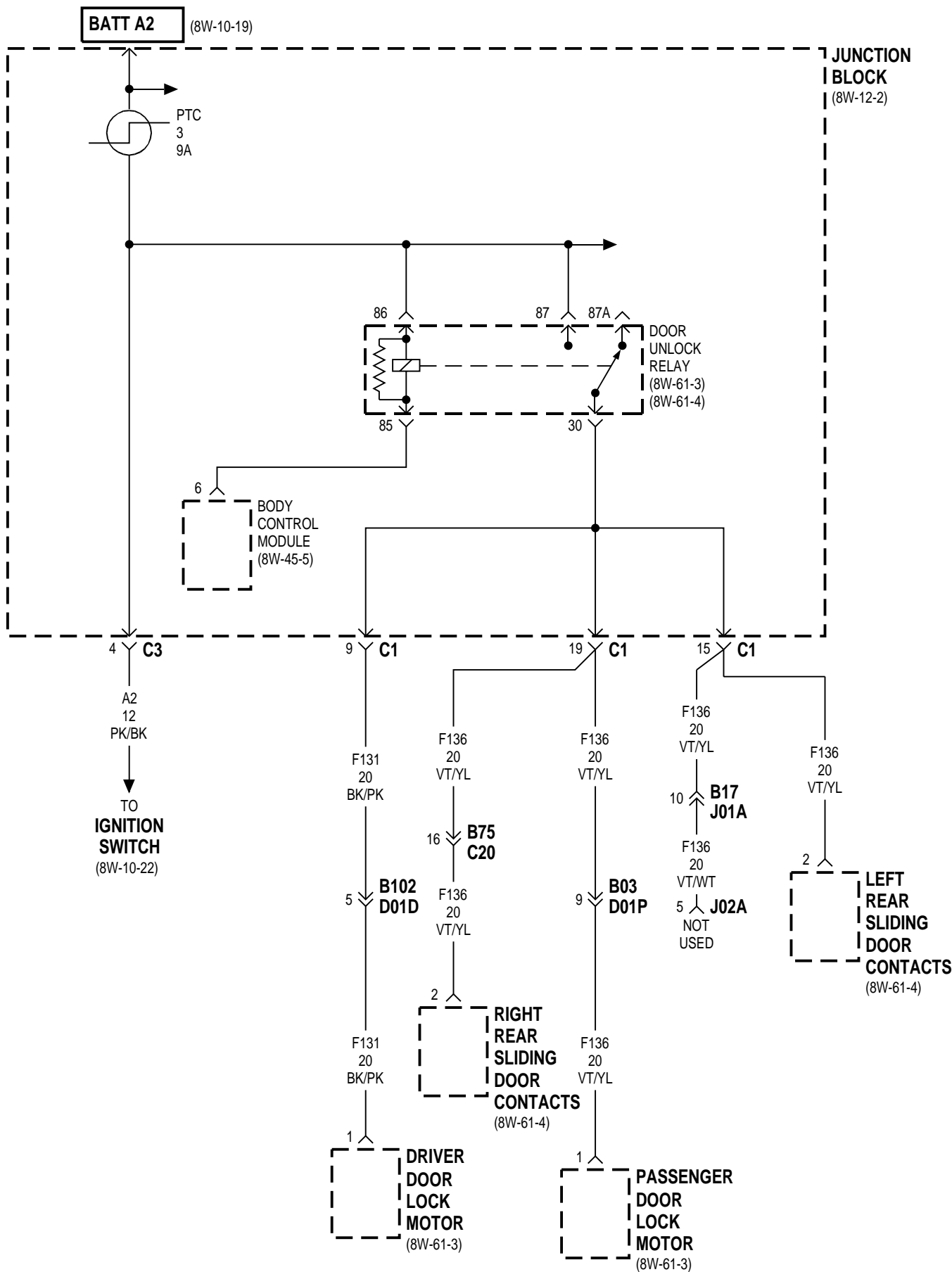


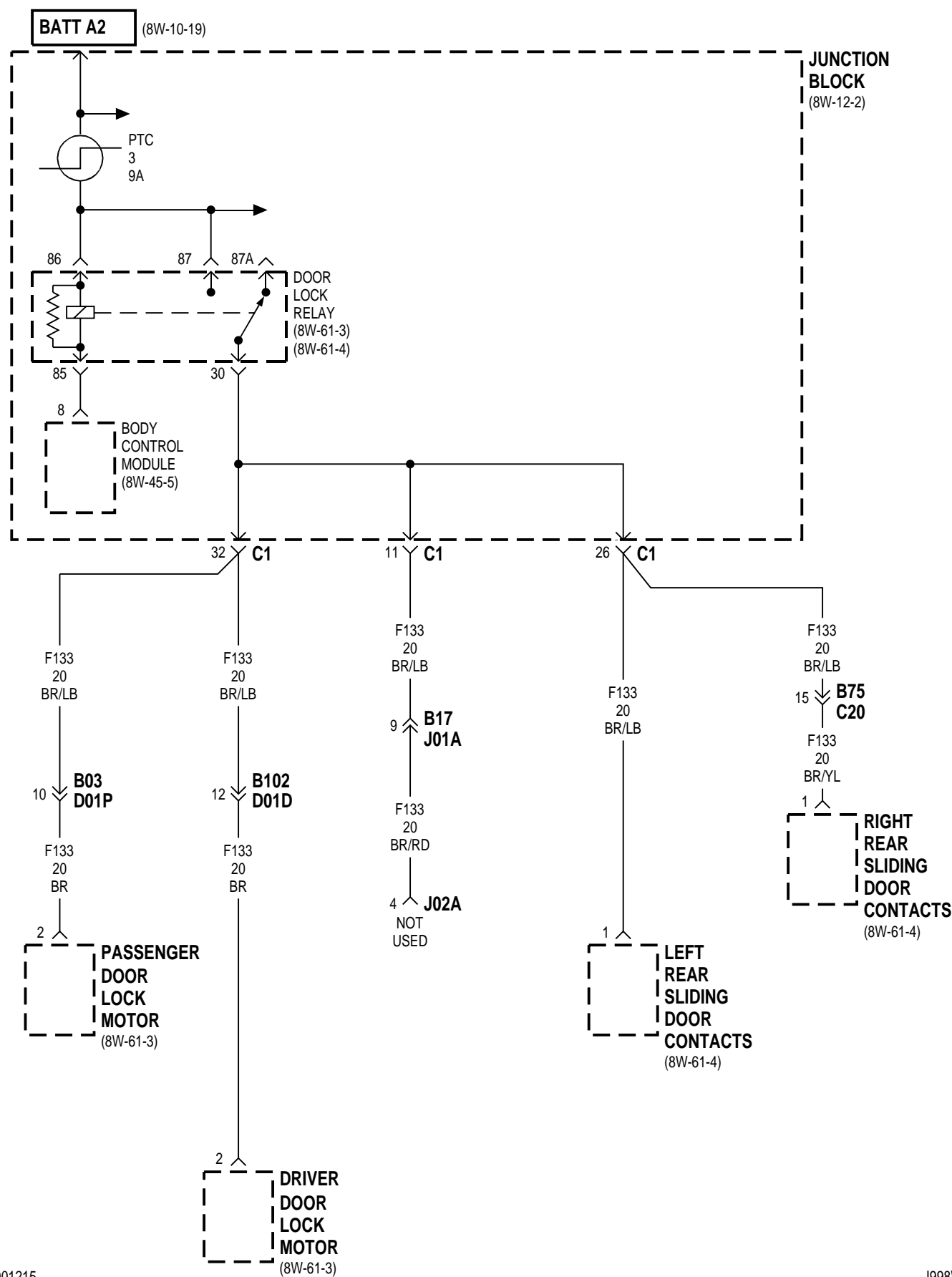


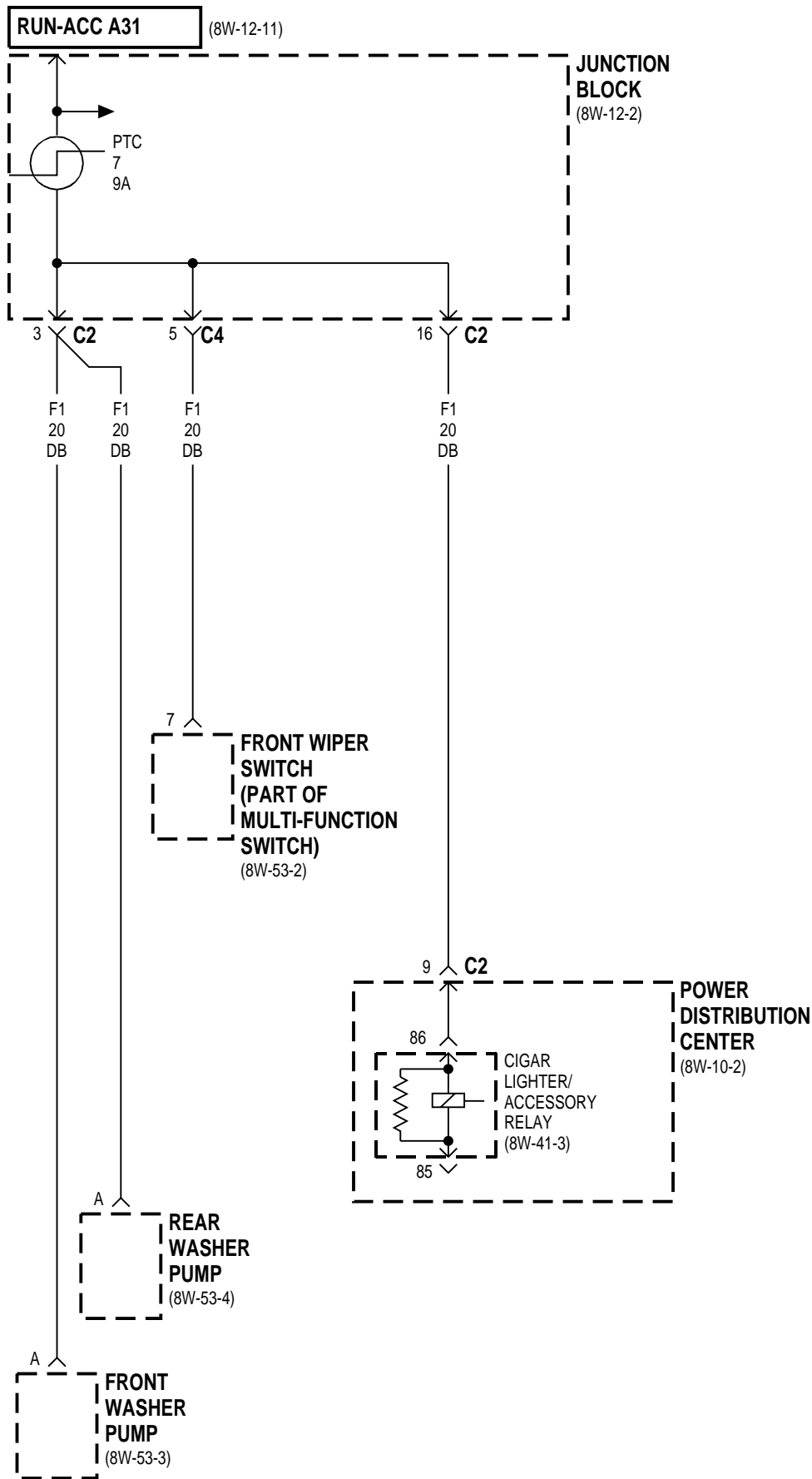


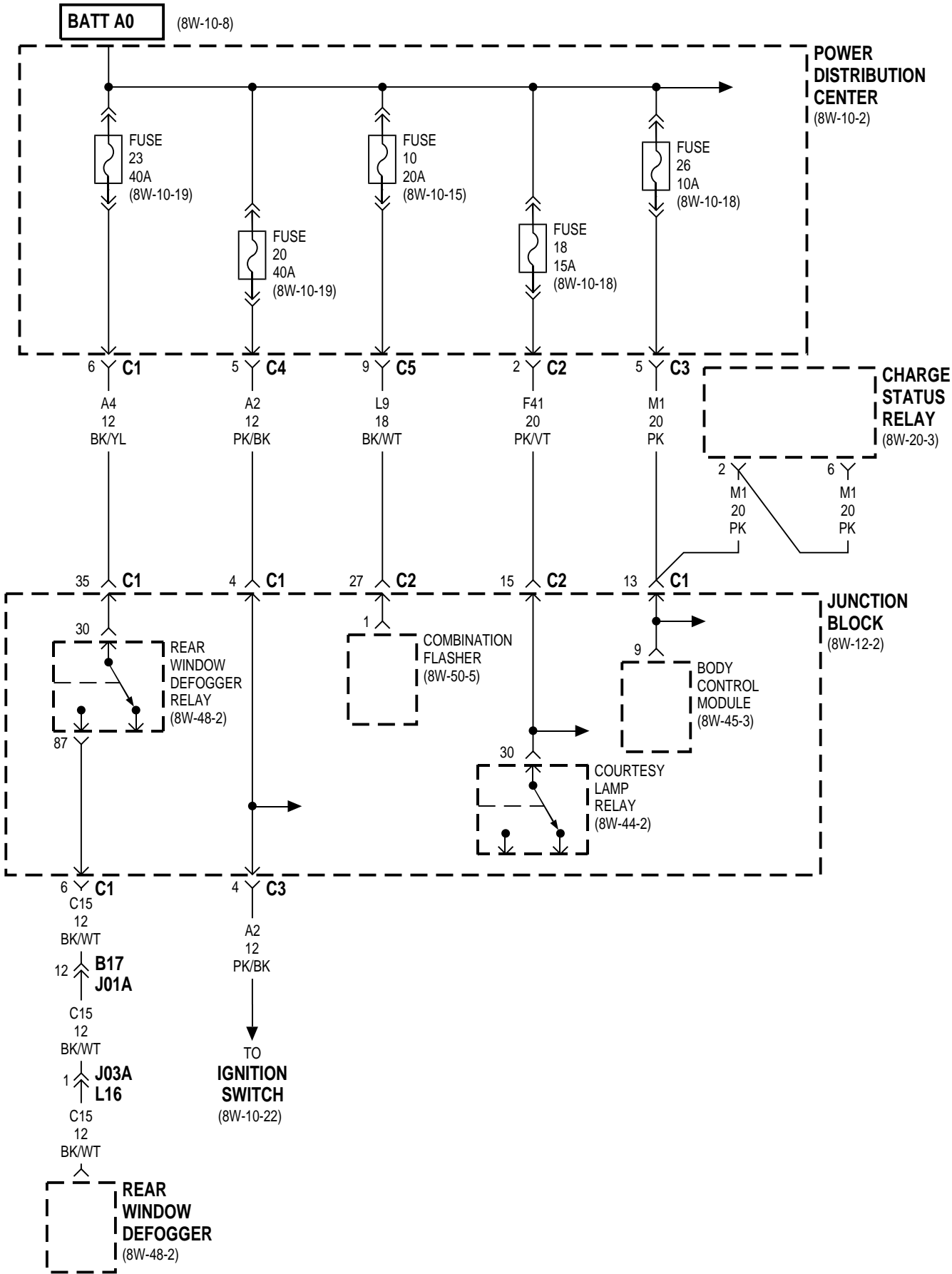


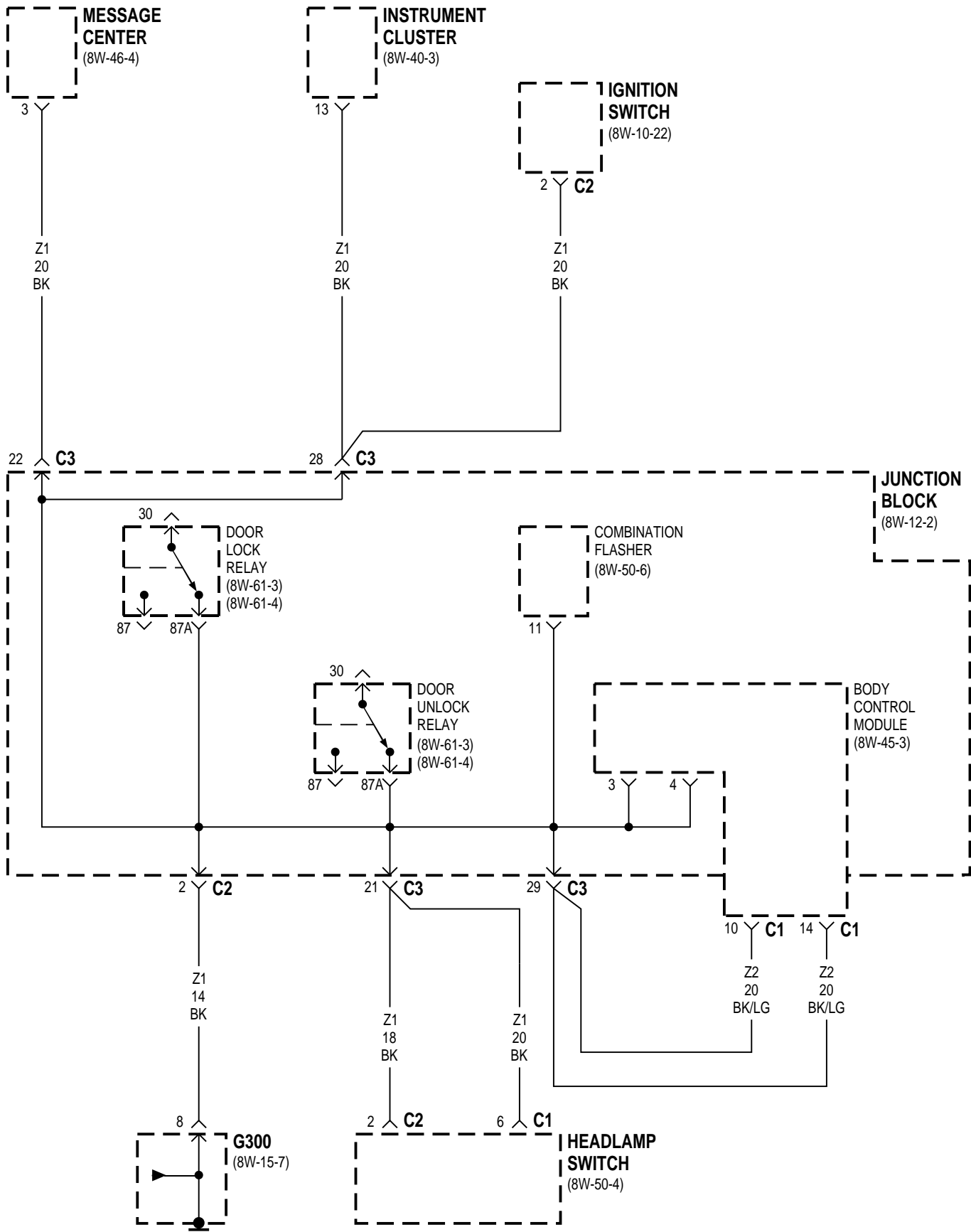


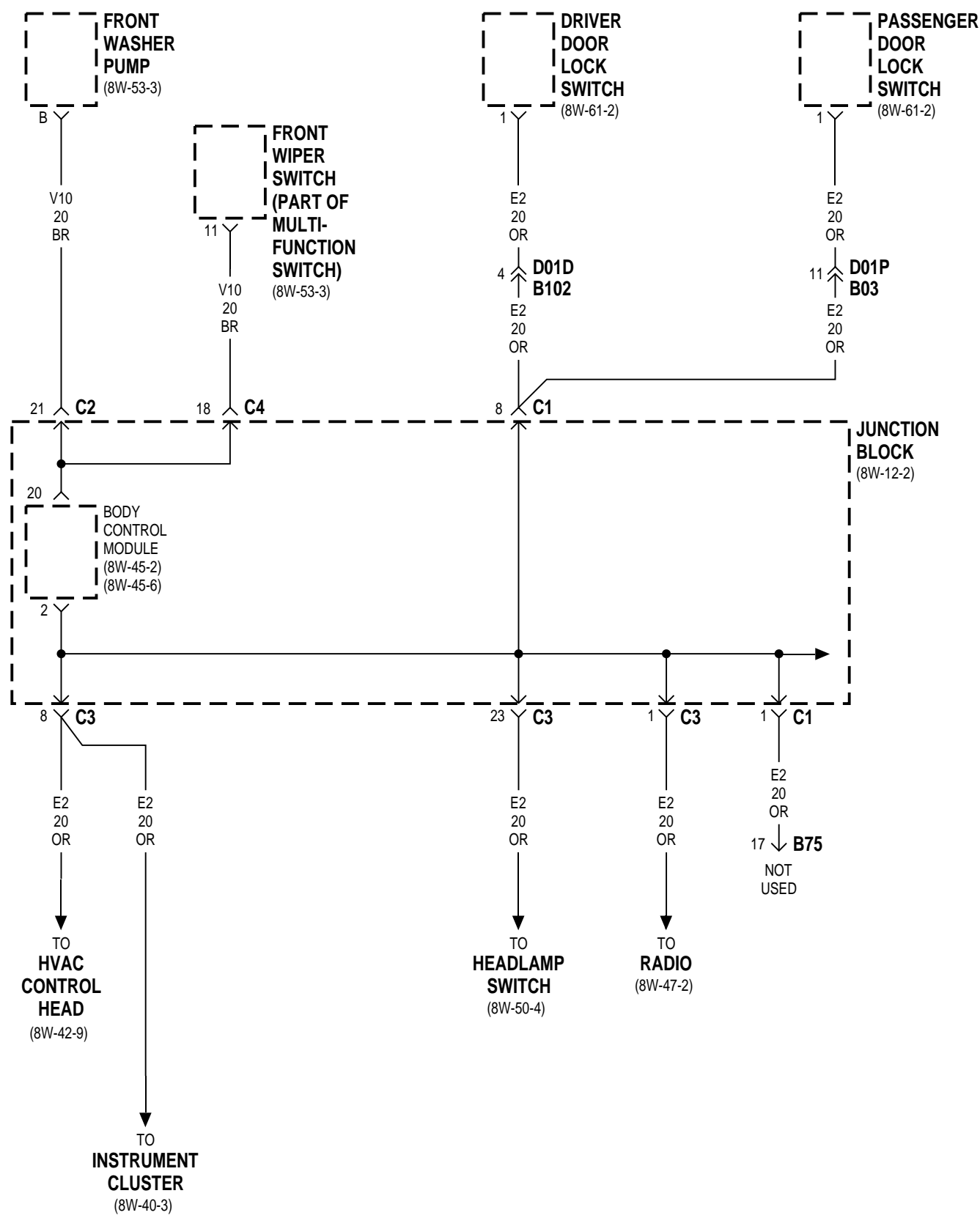


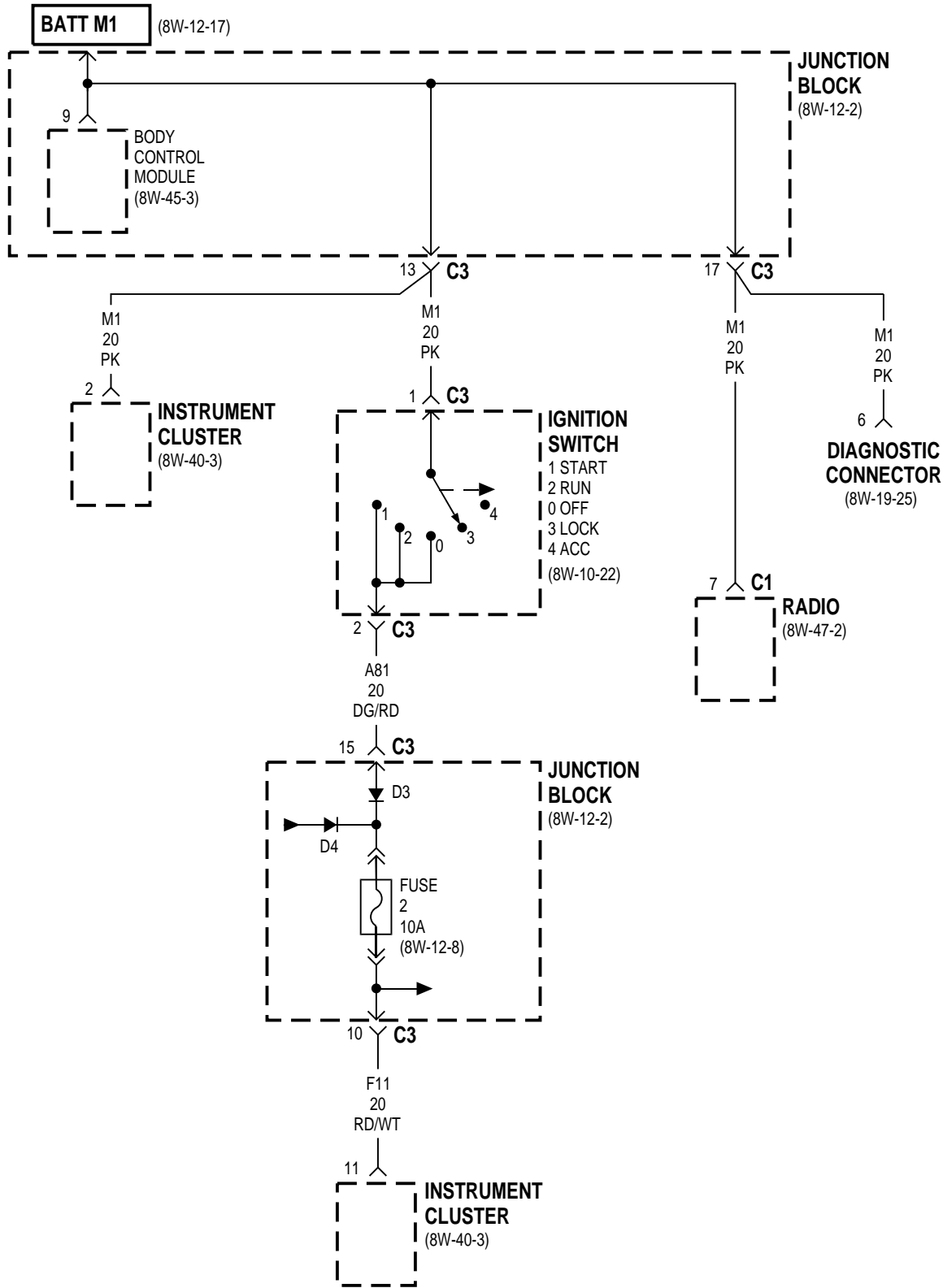


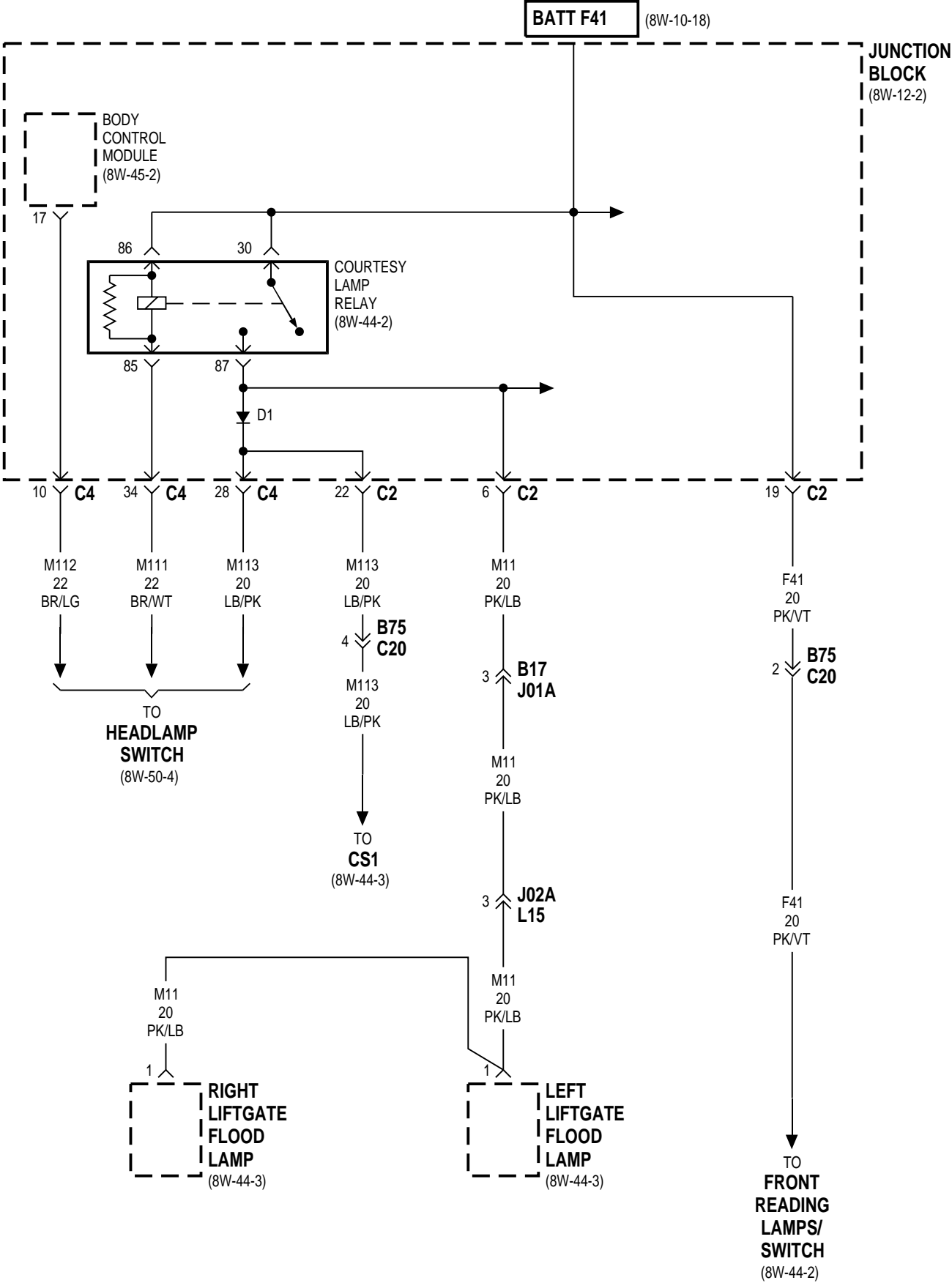


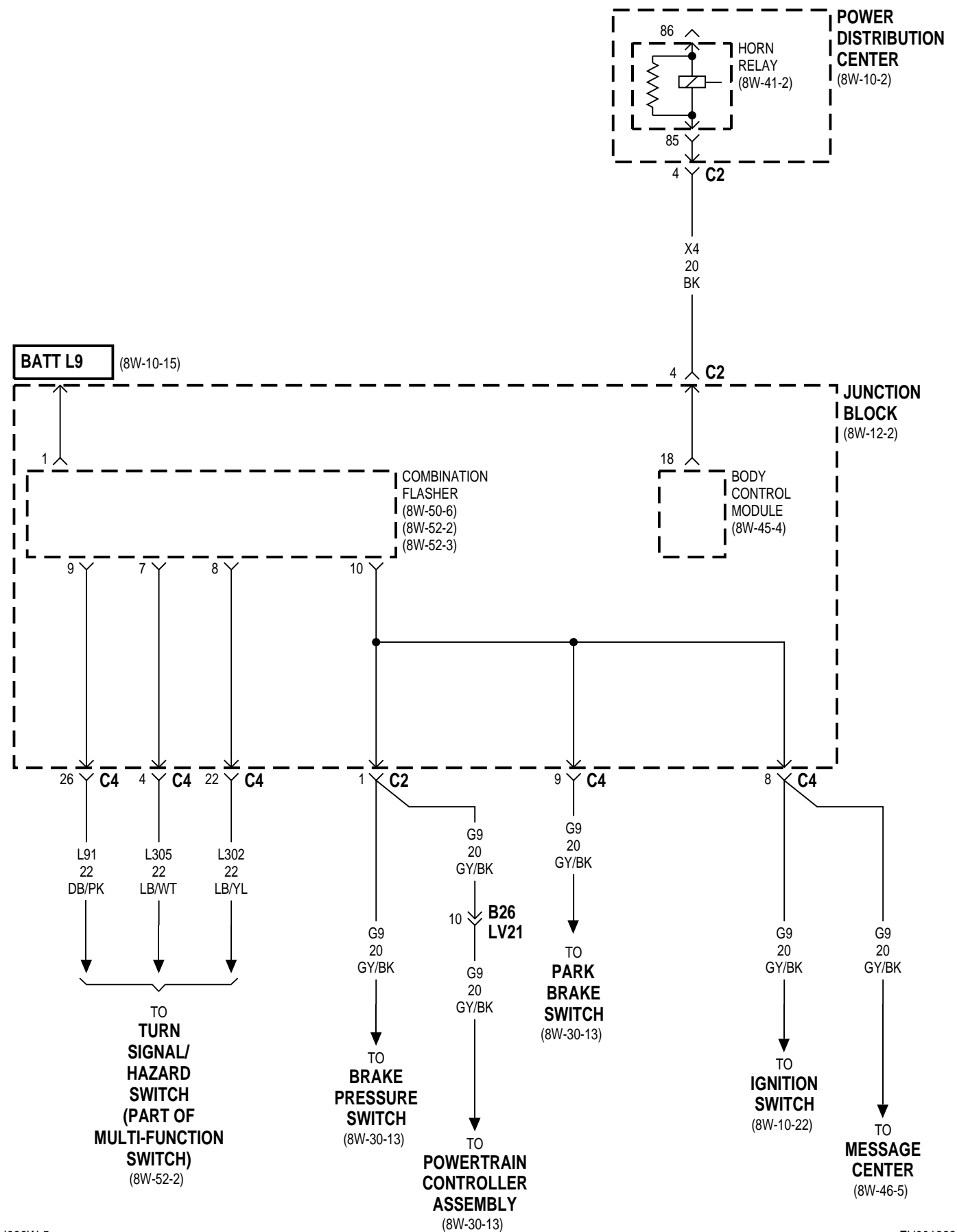


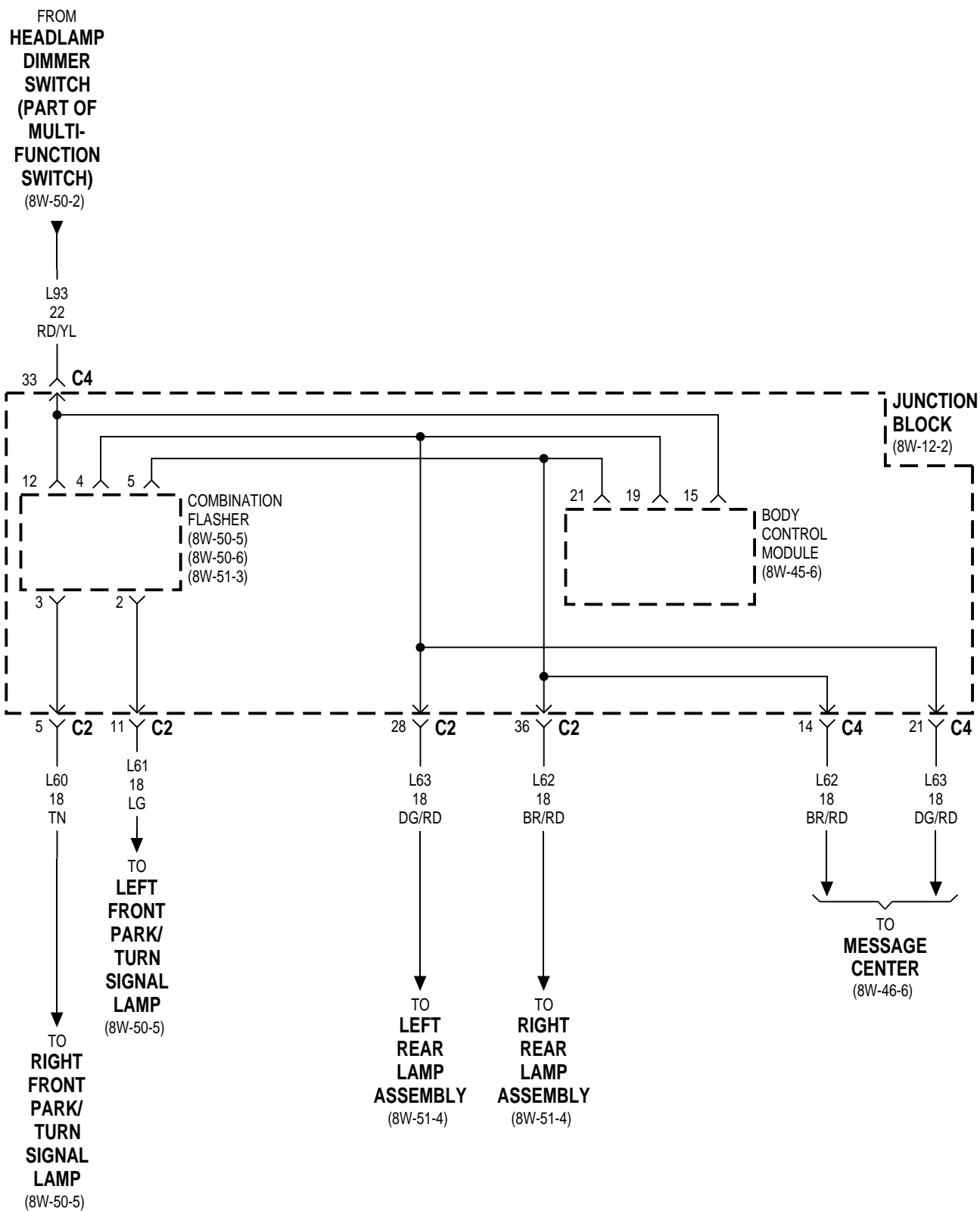












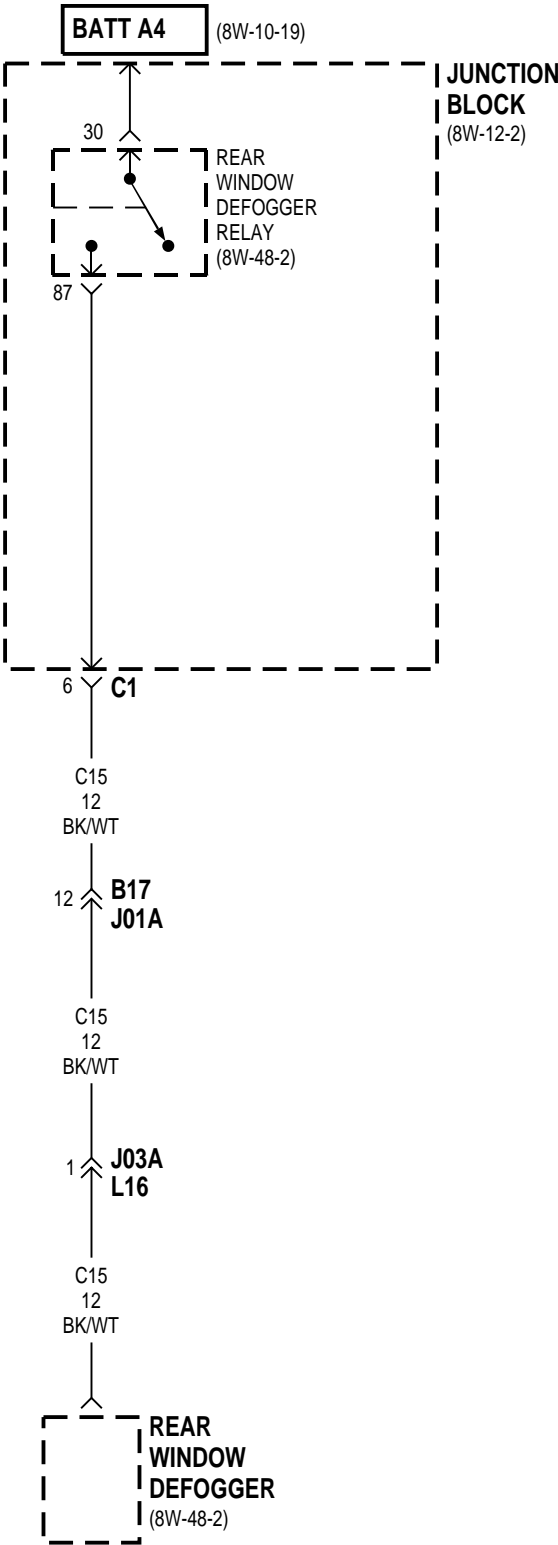
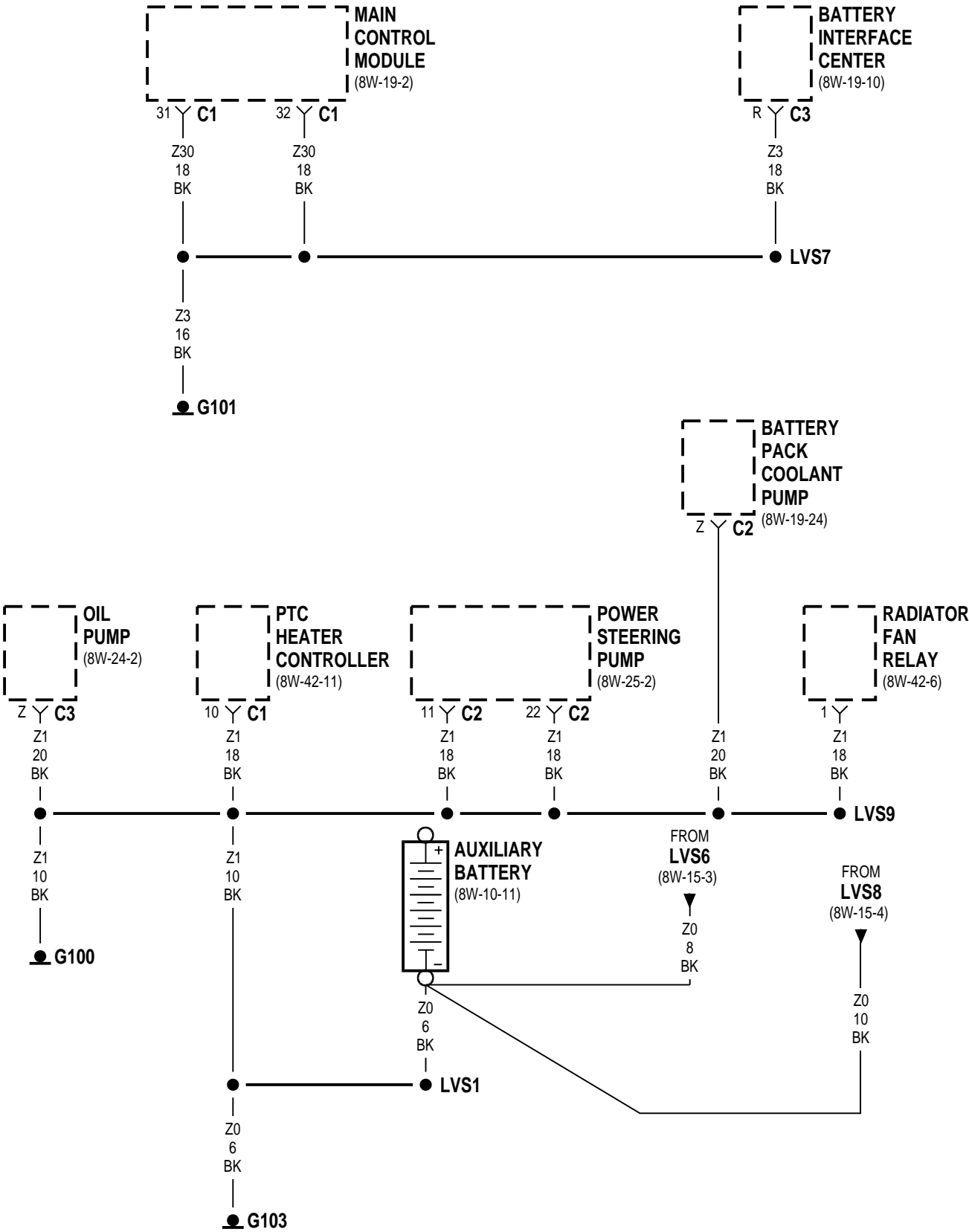
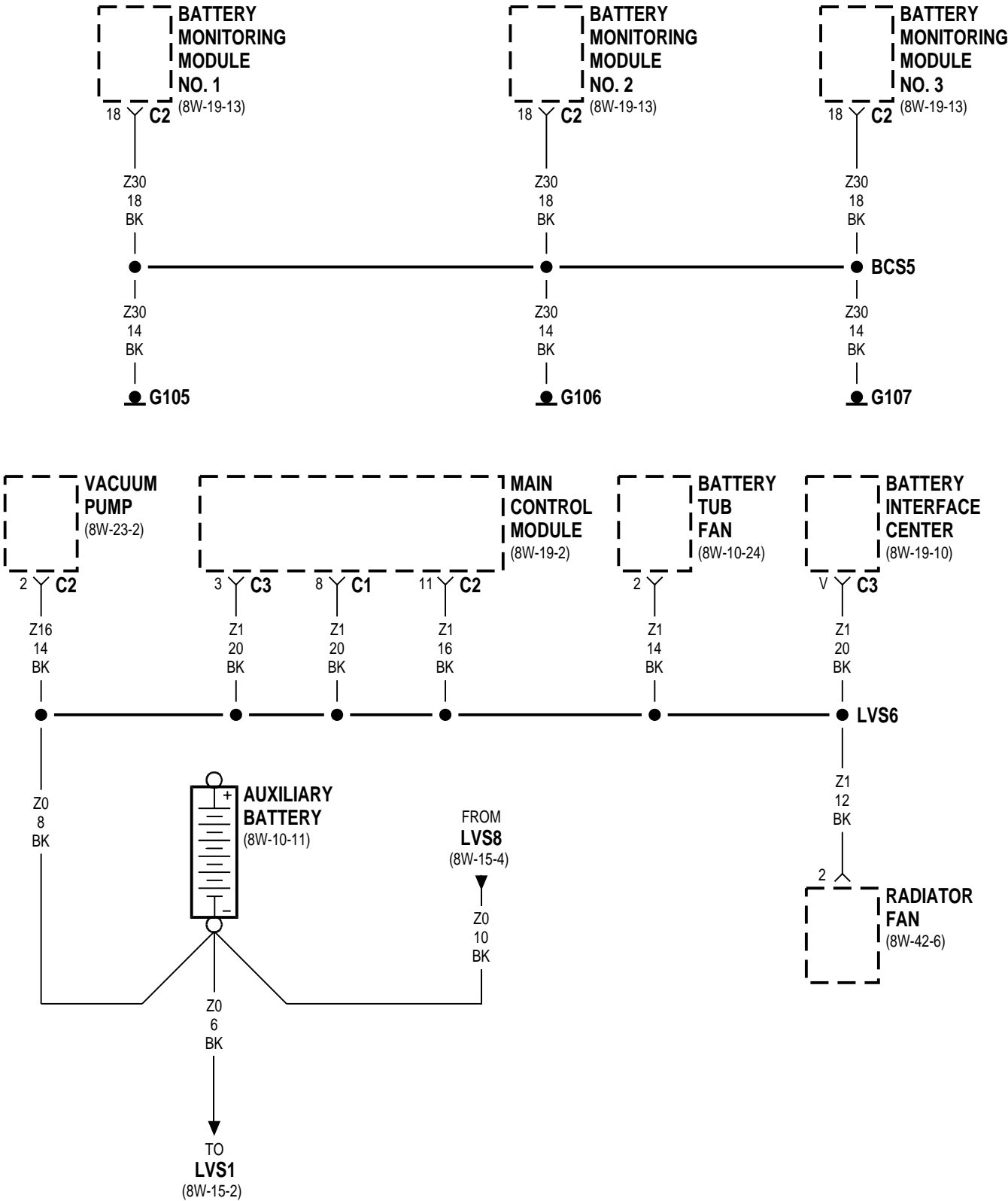
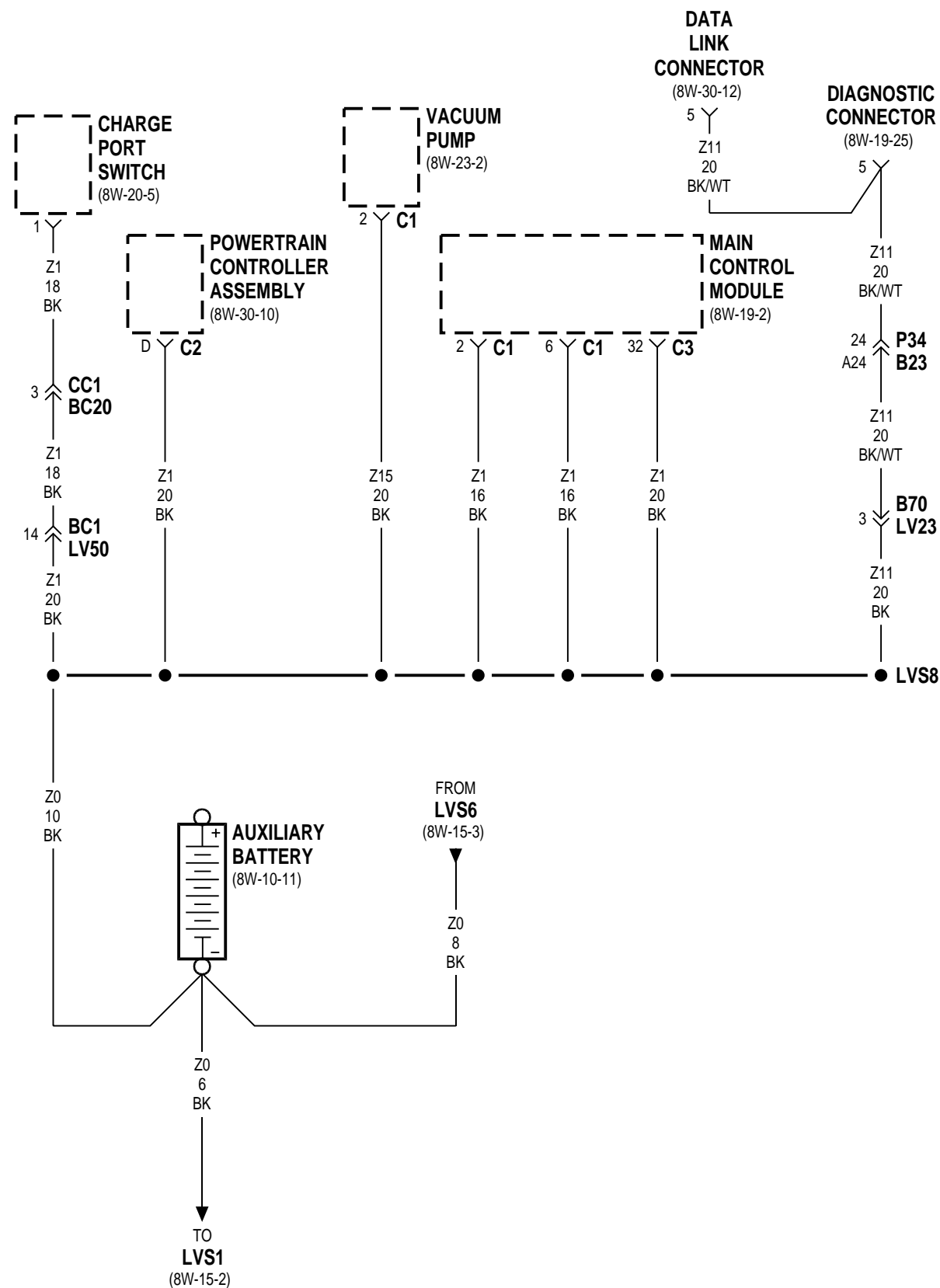


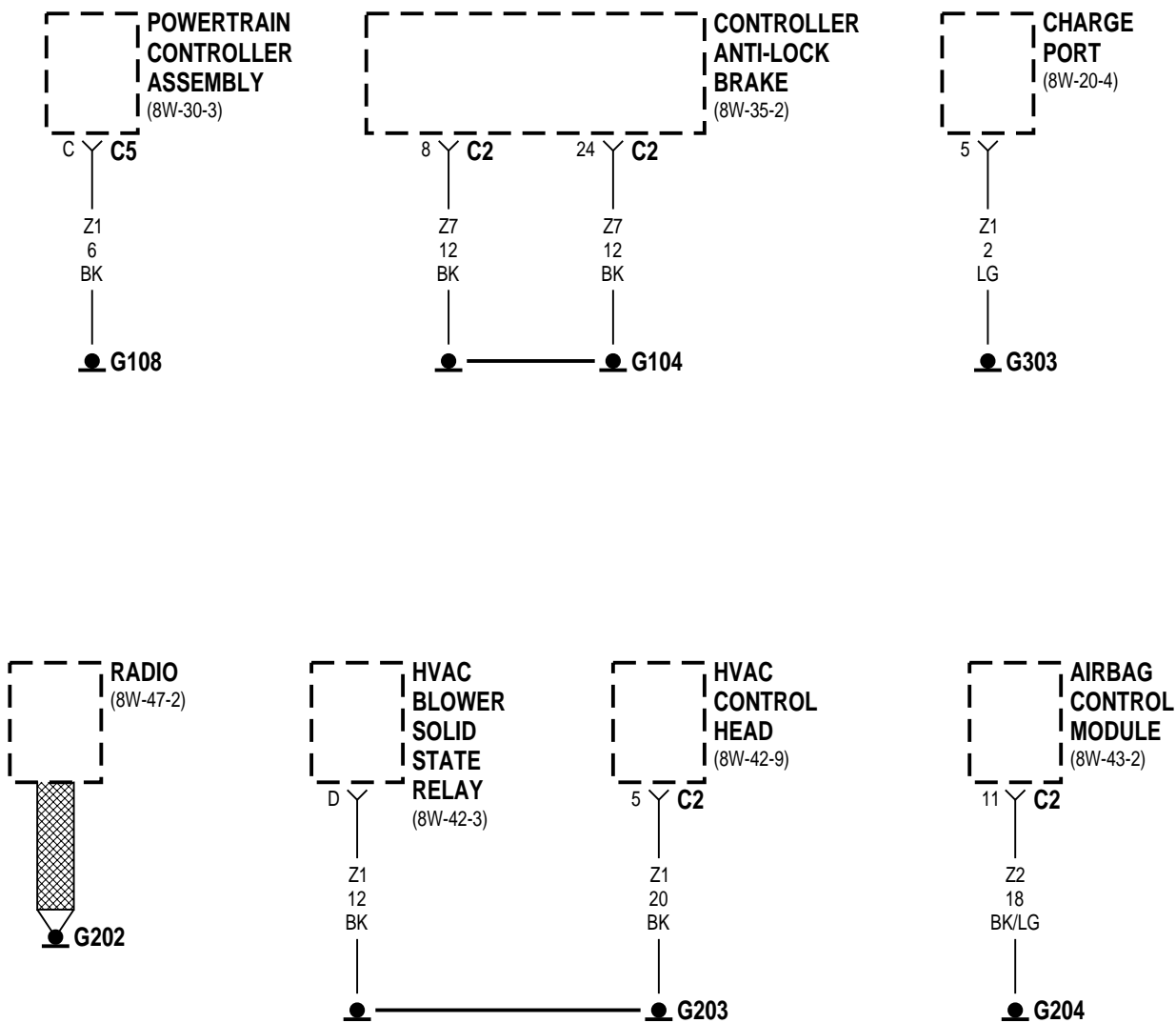
TABLE OF CONTENTS

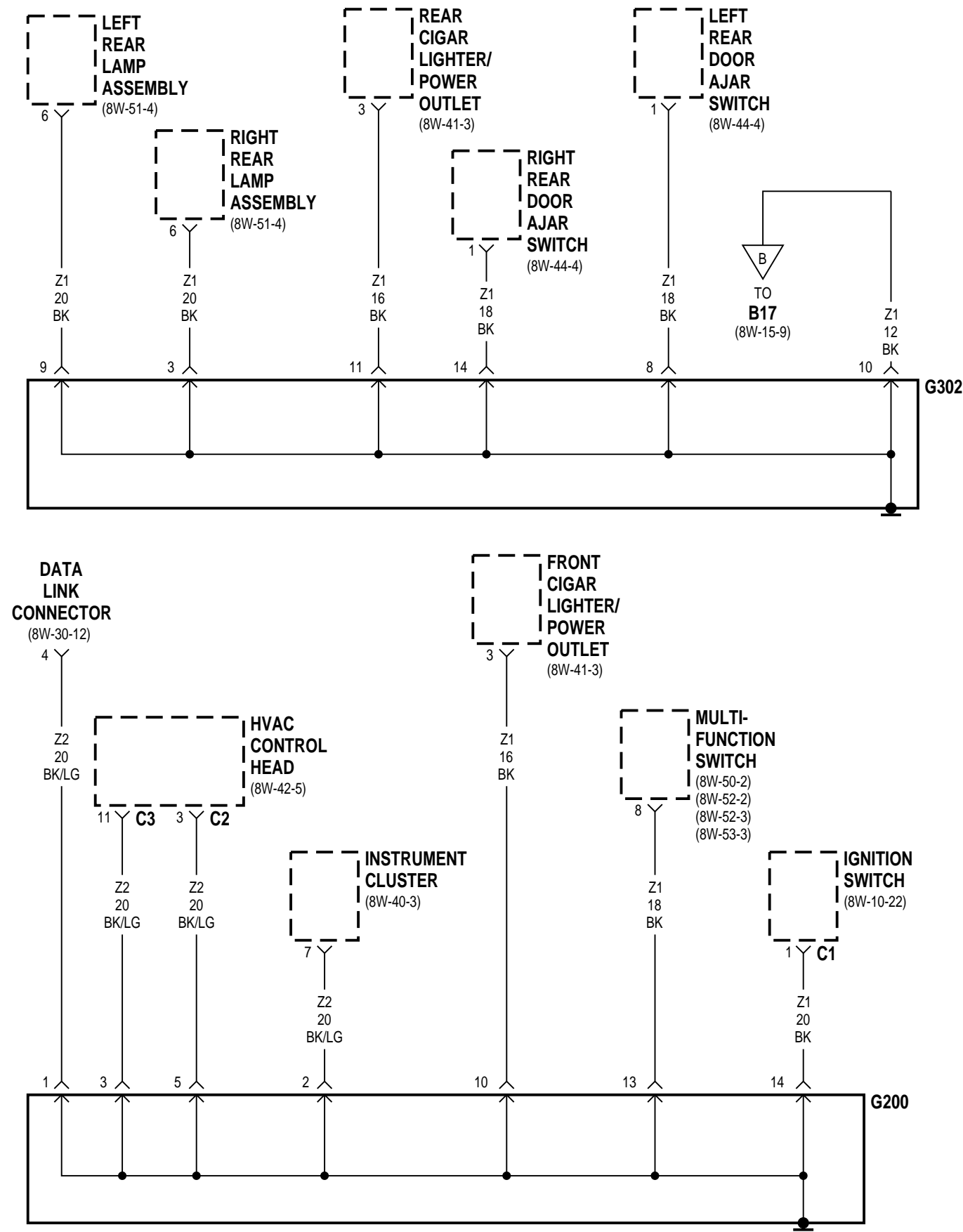
PAGE	PAGE
A/C COMPRESSOR CONTROLLER	8W-15-8
AIRBAG CONTROL MODULE	8W-15-5
AUXILIARY BATTERY	8W-15-2, 3, 4
BATTERY INTERFACE CENTER	8W-15-2, 3
BATTERY MONITORING MODULE NO. 1 . . .	8W-15-3
BATTERY MONITORING MODULE NO. 2 . . .	8W-15-3
BATTERY MONITORING MODULE NO. 3 . . .	8W-15-3
BATTERY PACK COOLANT PUMP	8W-15-2
BATTERY TUB FAN	8W-15-3
BCS5	8W-15-3
BRAKE LAMP SWITCH	8W-15-7
BRAKE PRESSURE SWITCH	8W-15-7
CENTER HIGH MOUNTED STOP LAMP . . .	8W-15-9
CHARGE PORT	8W-15-5
CHARGE PORT SWITCH	8W-15-4
CONTROLLER ANTI-LOCK BRAKE	8W-15-5
DATA LINK CONNECTOR	8W-15-4, 6
DIAGNOSTIC CONNECTOR	8W-15-4
DRIVER DOOR LOCK SWITCH	8W-15-8
FRONT CIGAR LIGHTER/POWER OUTLET . .	8W-15-6
G100	8W-15-2
G101	8W-15-2
G103	8W-15-2
G104	8W-15-5
G105	8W-15-3
G106	8W-15-3
G107	8W-15-3
G108	8W-15-5
G200	8W-15-6
G202	8W-15-5
G203	8W-15-5
G204	8W-15-5
G300	8W-15-7
G301	8W-15-8
G302	8W-15-6, 9
G303	8W-15-5
G400	8W-15-9
HIGH NOTE HORN	8W-15-8
HVAC BLOWER SOLID STATE RELAY	8W-15-5
HVAC CONTROL HEAD	8W-15-5, 6
IGNITION SWITCH	8W-15-6
INSTRUMENT CLUSTER	8W-15-6
JUNCTION BLOCK	8W-15-7
LEFT FRONT PARK/TURN SIGNAL LAMP . .	8W-15-7
LEFT HEADLAMP	8W-15-7
LEFT LIFTGATE FLOOD LAMP	8W-15-9
LEFT REAR DOOR AJAR SWITCH	8W-15-6
LEFT REAR LAMP ASSEMBLY	8W-15-6
LICENSE LAMP	8W-15-9
LIFTGATE AJAR SWITCH	8W-15-9
LOW NOTE HORN	8W-15-8
LVS1	8W-15-2, 3, 4
LVS6	8W-15-2, 3, 4
LVS7	8W-15-2
LVS8	8W-15-2, 3, 4
LVS9	8W-15-2
MAIN CONTROL MODULE	8W-15-2, 3, 4
MULTI-FUNCTION SWITCH	8W-15-6
OIL PUMP	8W-15-2
PASSENGER DOOR LOCK SWITCH	8W-15-8
POWER DISTRIBUTION CENTER	8W-15-7
POWER STEERING PUMP	8W-15-2
POWERTRAIN CONTROLLER	
ASSEMBLY	8W-15-4, 5
PTC HEATER CONTROLLER	8W-15-2
RADIATOR FAN	8W-15-3
RADIATOR FAN RELAY	8W-15-2
RADIO	8W-15-5
REAR CIGAR LIGHTER/POWER OUTLET . .	8W-15-6
REAR WINDOW DEFOGGER	8W-15-9
REAR WIPER MOTOR	8W-15-9
RIGHT FRONT PARK/TURN SIGNAL	
LAMP	8W-15-8
RIGHT HEADLAMP	8W-15-8
RIGHT LIFTGATE FLOOD LAMP	8W-15-9
RIGHT REAR DOOR AJAR SWITCH	8W-15-6
RIGHT REAR LAMP ASSEMBLY	8W-15-6
SEAT BELT SWITCH	8W-15-7
VACUUM PUMP	8W-15-3, 4
VACUUM PUMP RELAY MODULE	8W-15-8
WASHER FLUID LEVEL SWITCH	8W-15-8
WIPER MODULE	8W-15-7

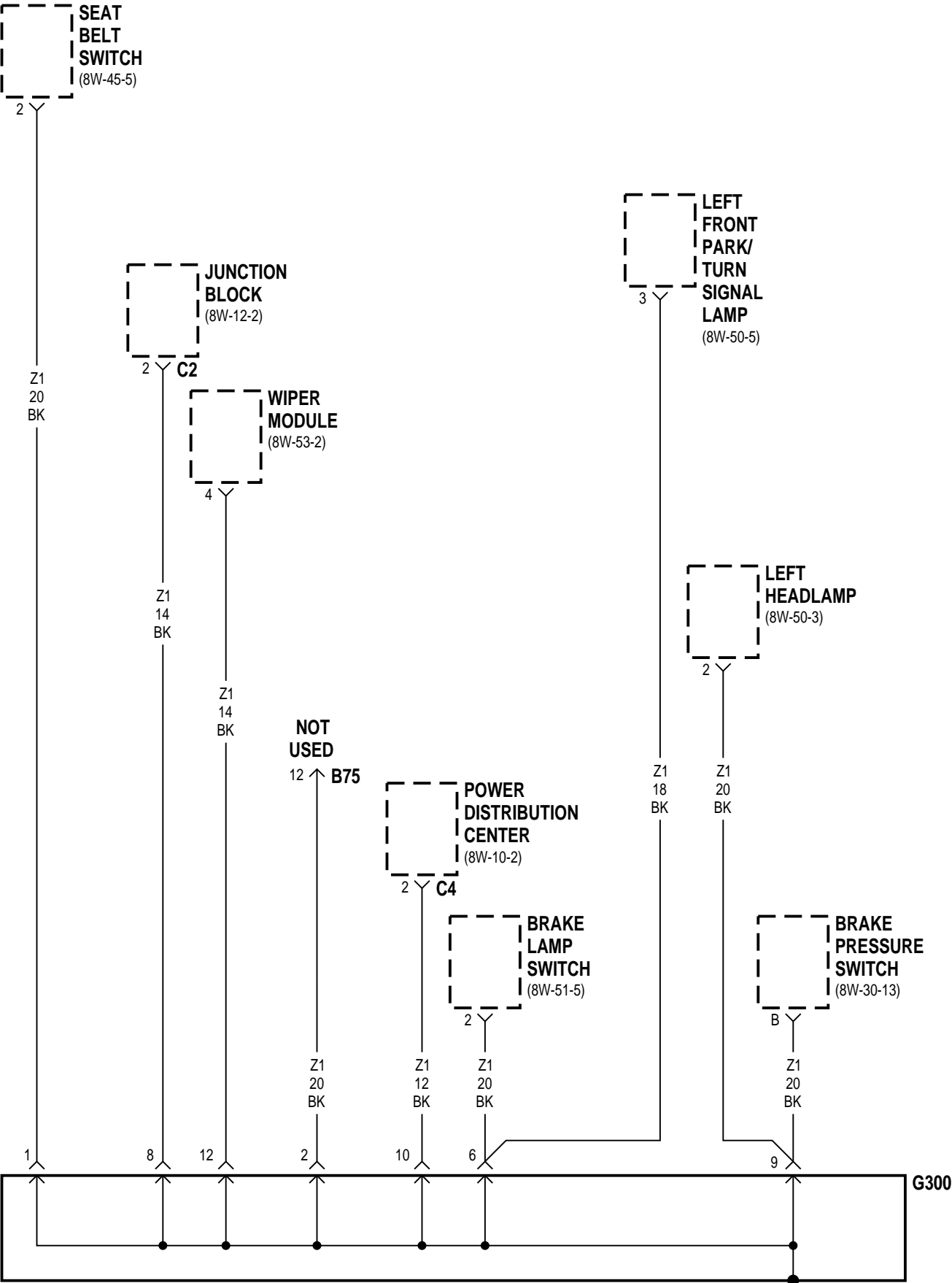


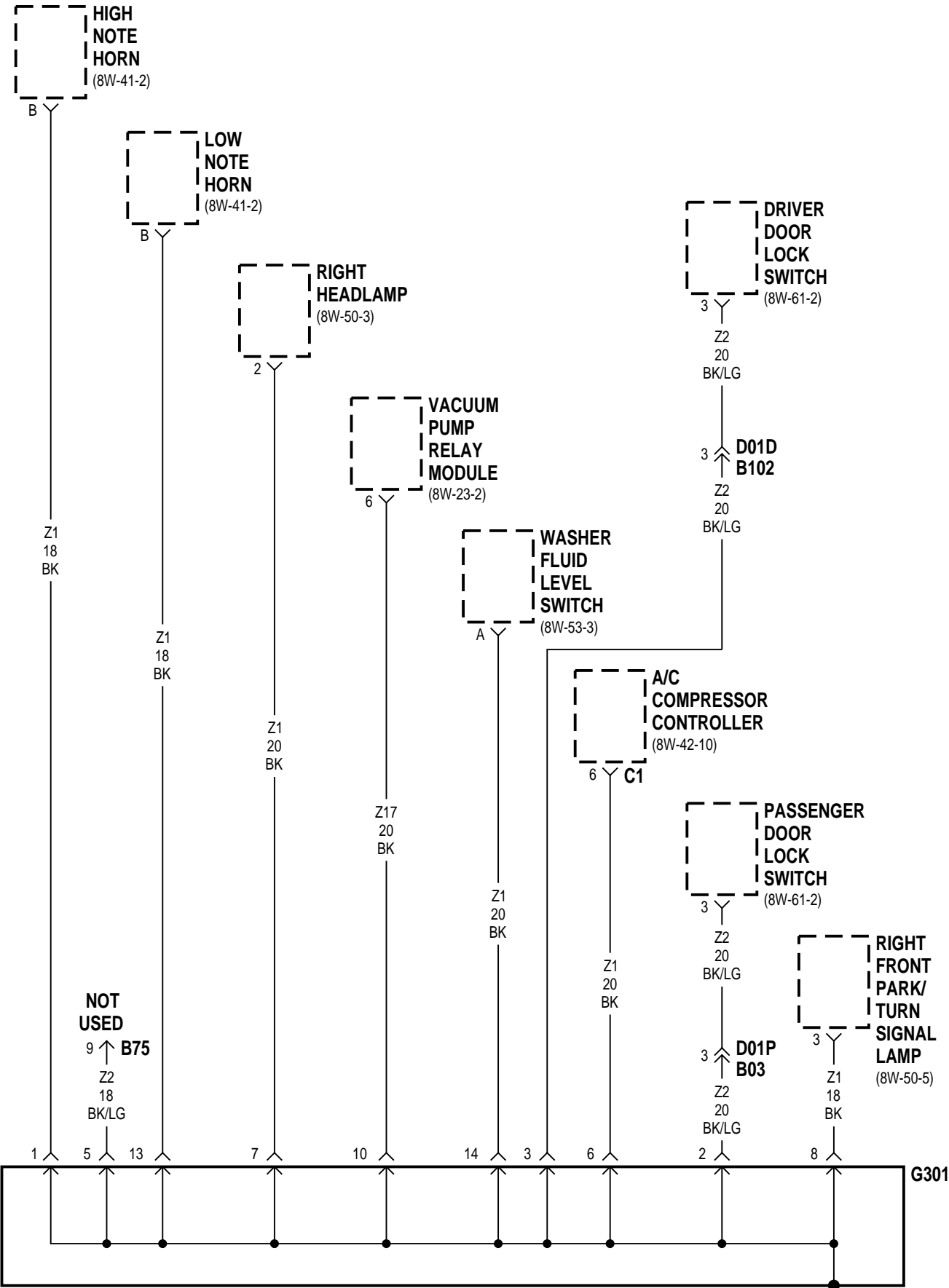












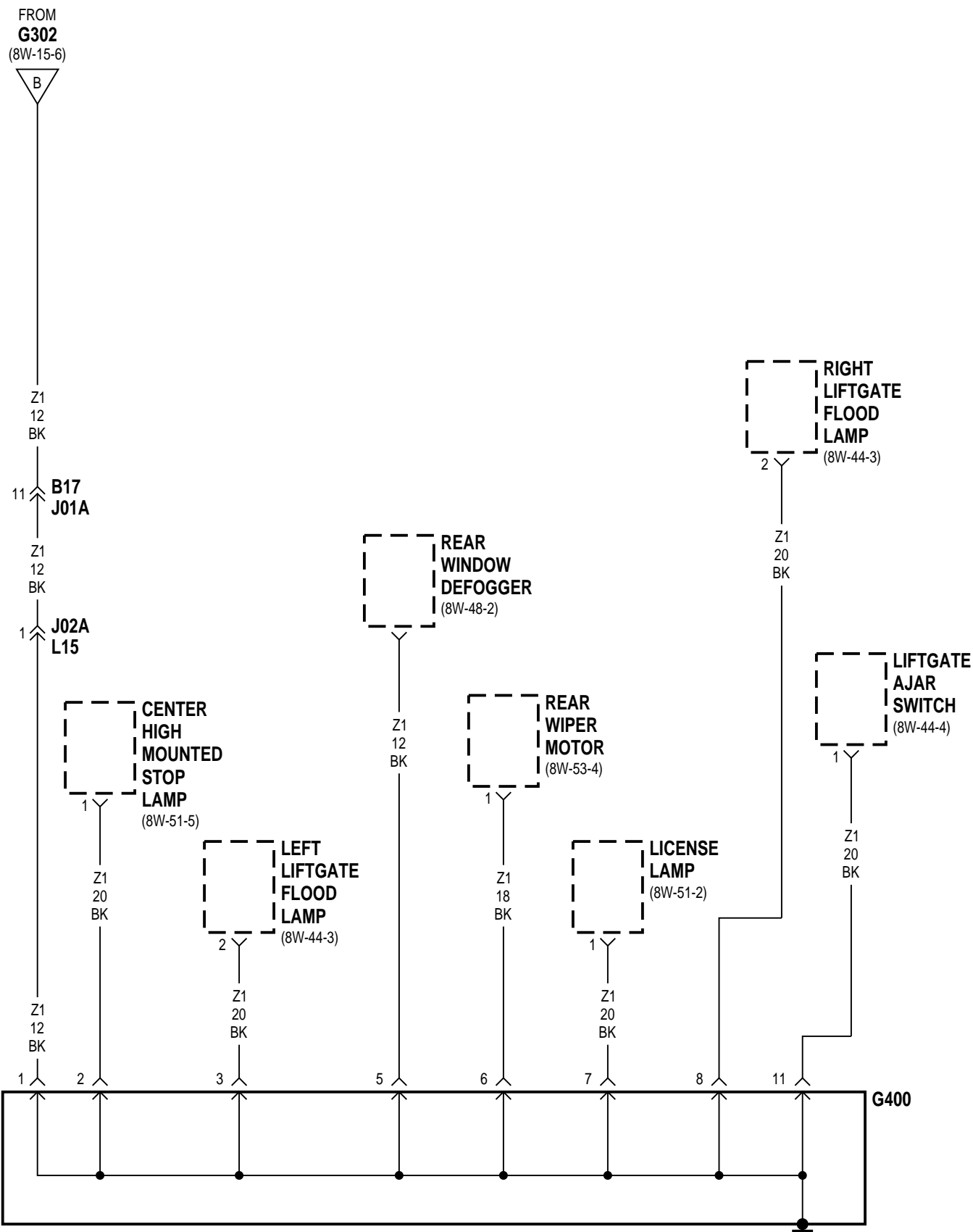
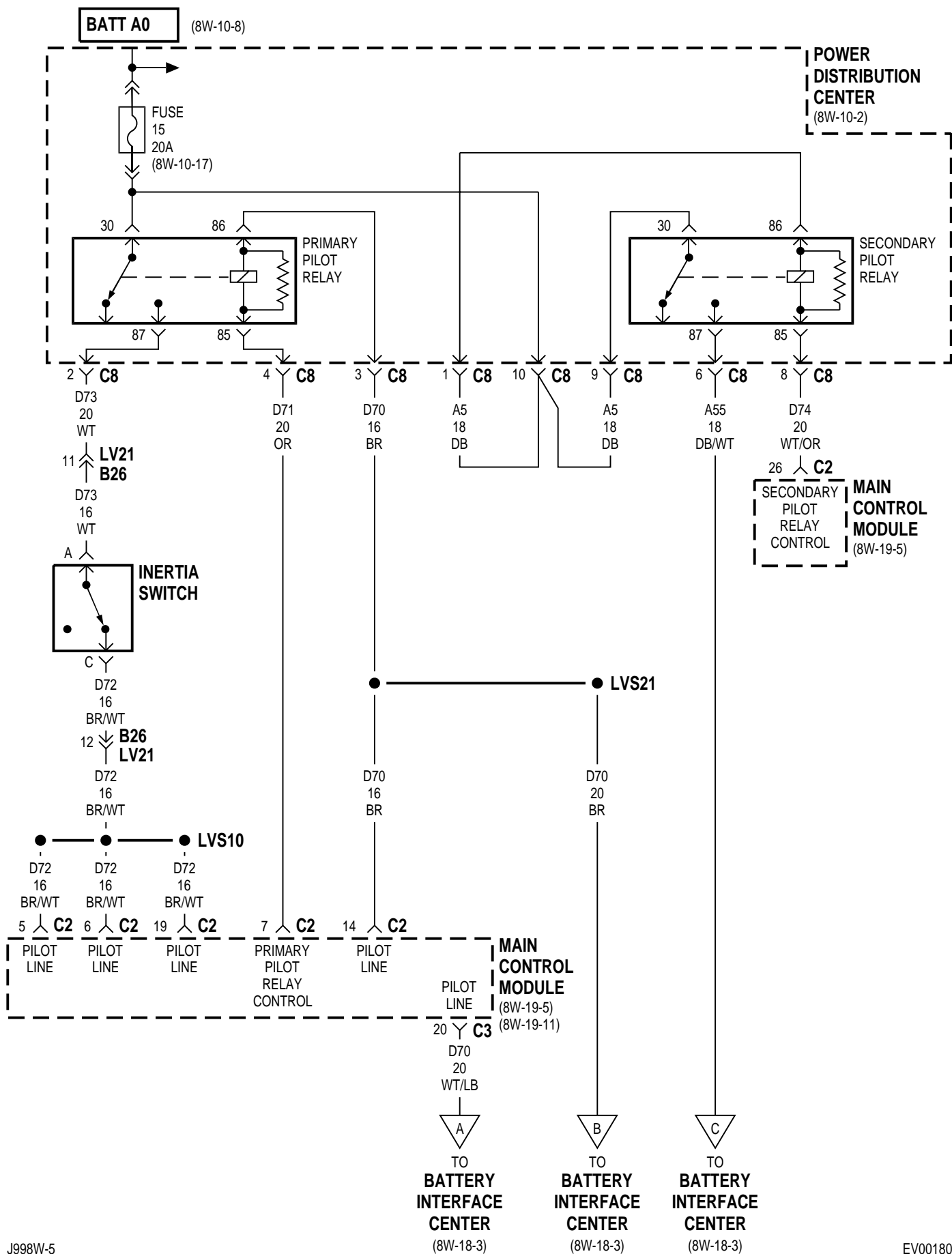
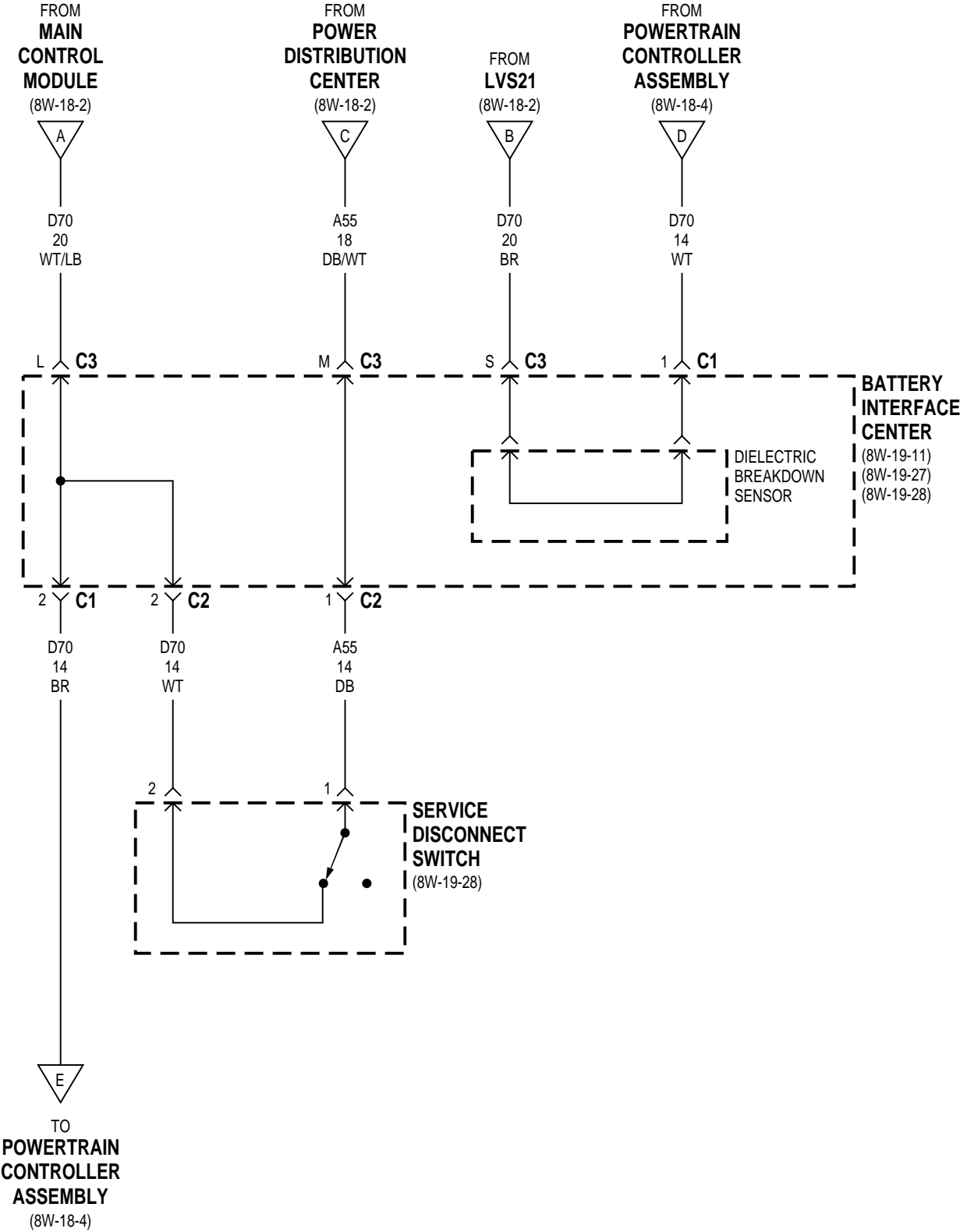


TABLE OF CONTENTS

	PAGE		PAGE
A/C COMPRESSOR	8W-18-4	OIL PUMP	8W-18-4
A/C COMPRESSOR CONTROLLER	8W-18-4	POWER DISTRIBUTION BOX INTERLOCK	
BATTERY INTERFACE CENTER	8W-18-2, 3, 4	SWITCH	8W-18-4
BATTERY PACK COOLANT PUMP	8W-18-4	POWER DISTRIBUTION CENTER	8W-18-2, 3
DIELECTRIC BREAKDOWN SENSOR	8W-18-3	POWER STEERING PUMP	8W-18-4
FUSE 15 (PDC)	8W-18-2	POWERTRAIN CONTROLLER	
HVAC CONTROL HEAD	8W-18-4	ASSEMBLY	8W-18-3, 4
INERTIA SWITCH	8W-18-2	PRIMARY PILOT RELAY	8W-18-2
LVS10	8W-18-2	PTC HEATER	8W-18-4
LVS21	8W-18-2, 3	PTC HEATER CONTROLLER	8W-18-4
MAIN CONTROL MODULE	8W-18-2, 3	SECONDARY PILOT RELAY	8W-18-2
		SERVICE DISCONNECT SWITCH	8W-18-3





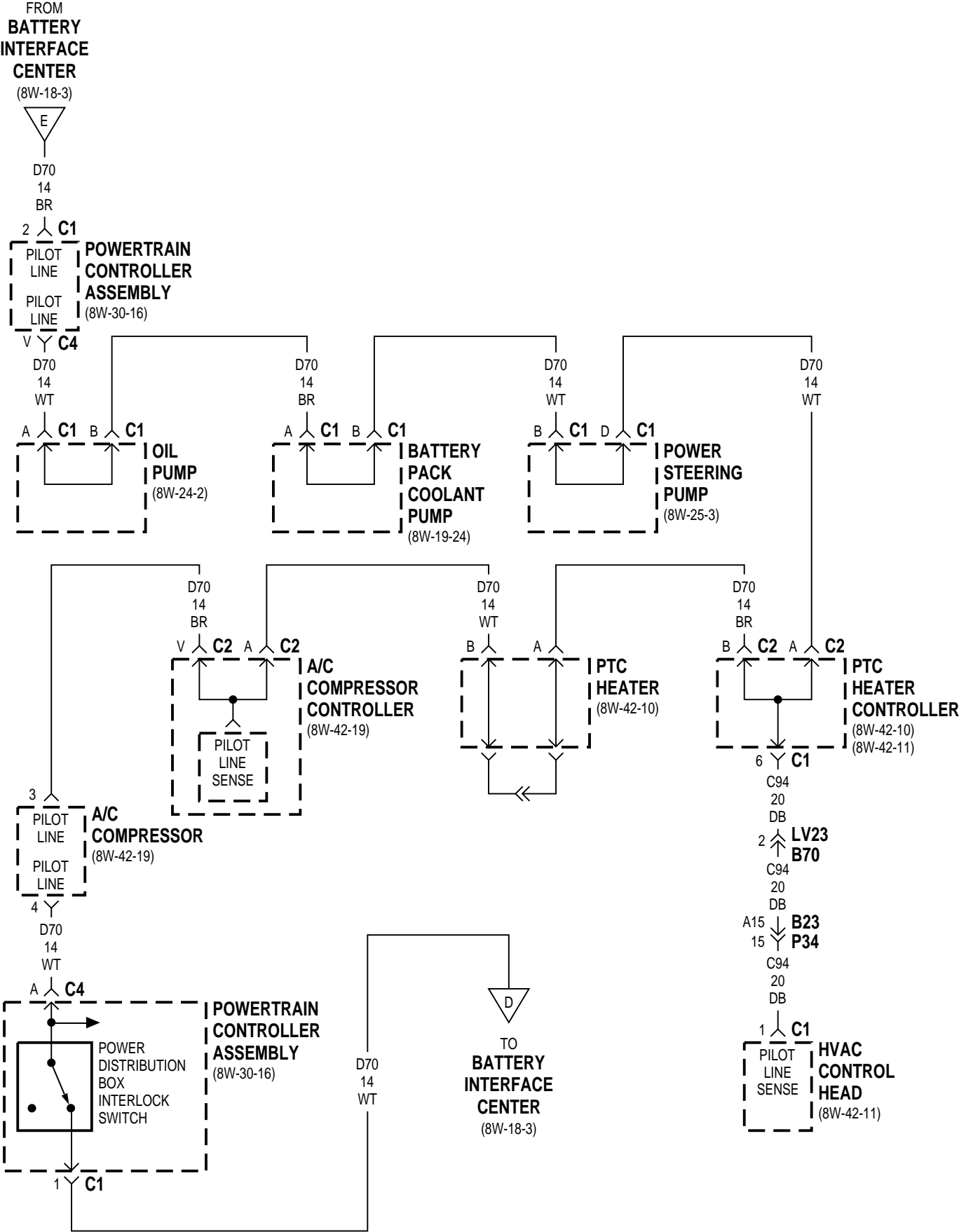
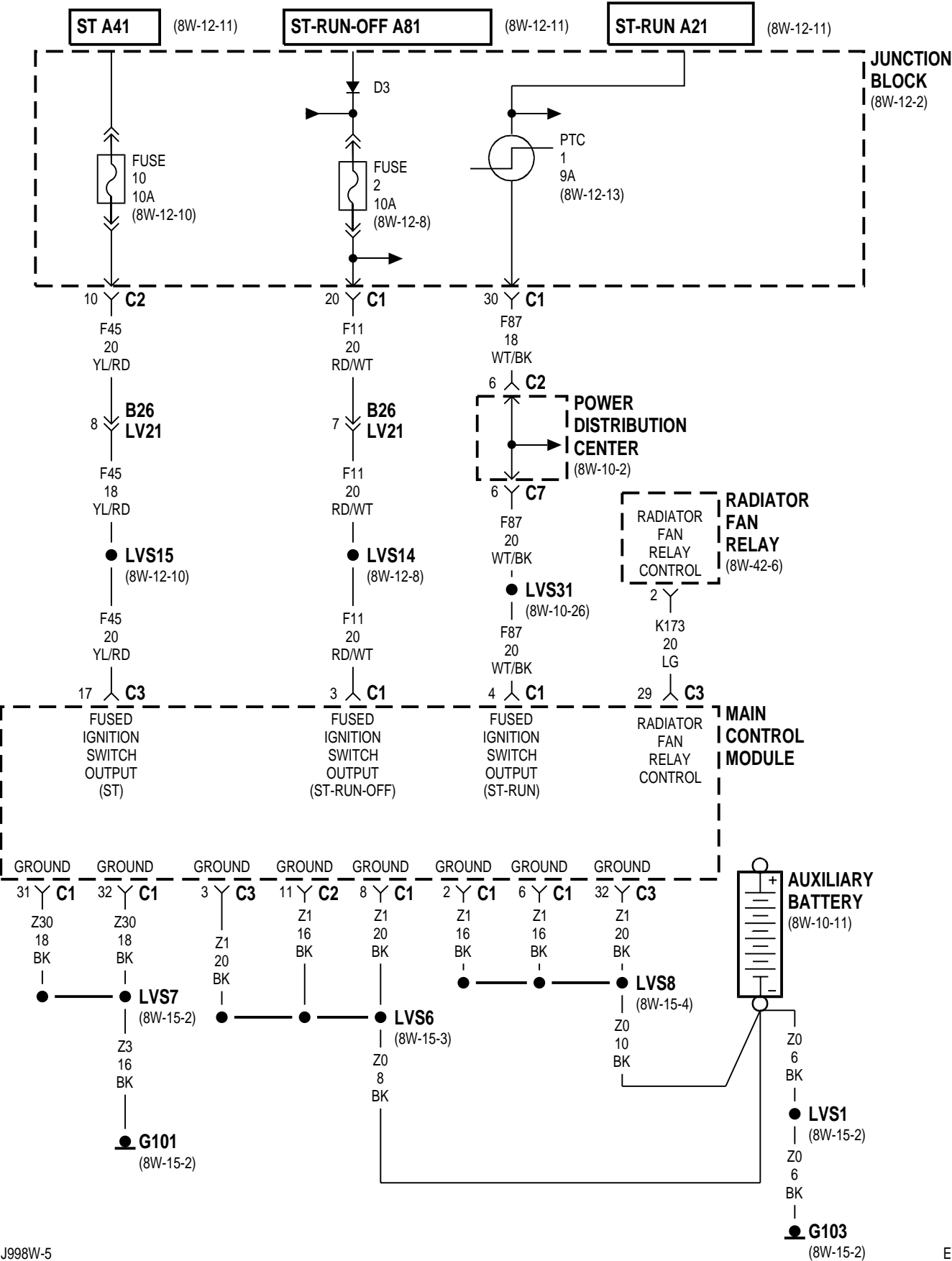
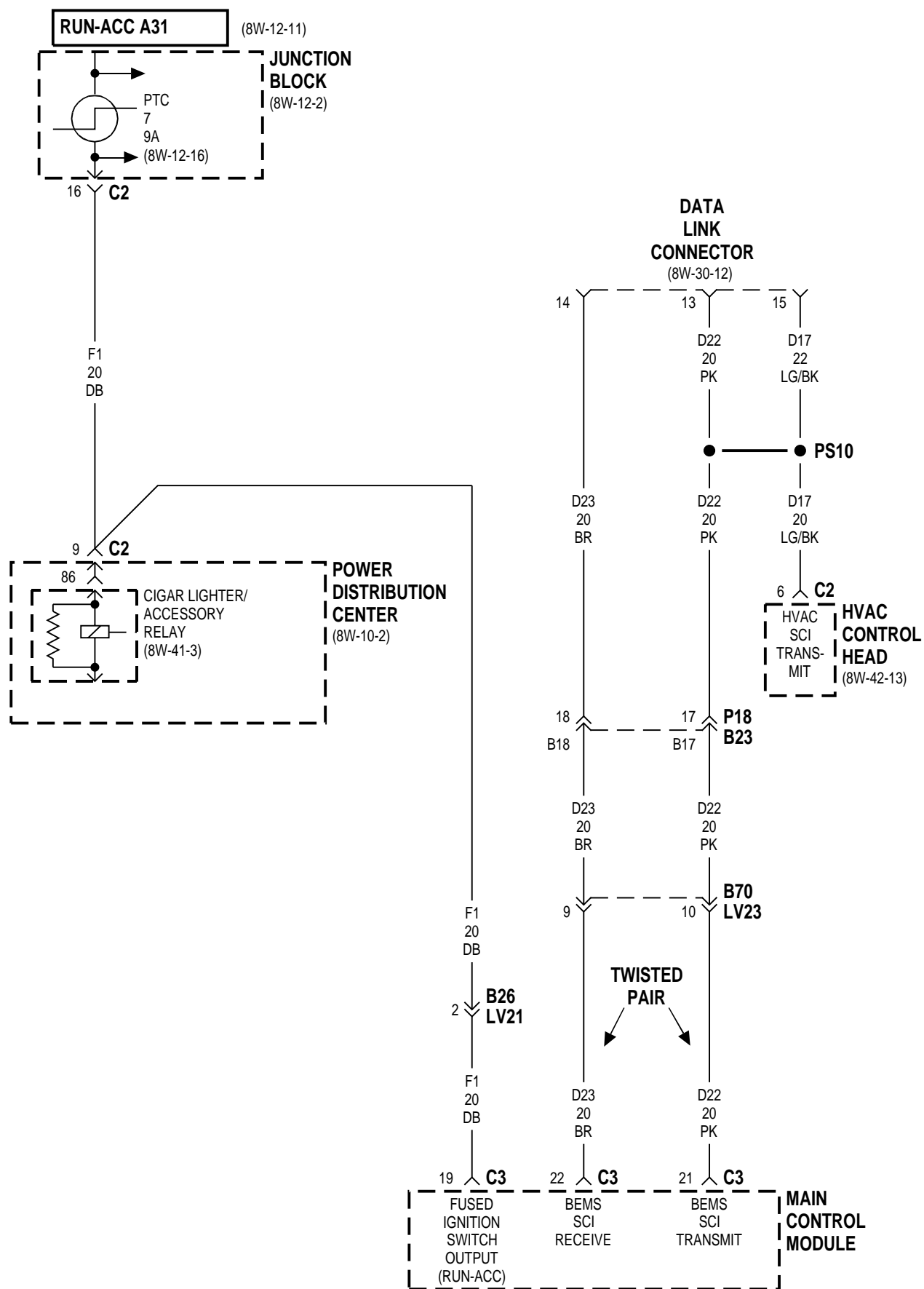
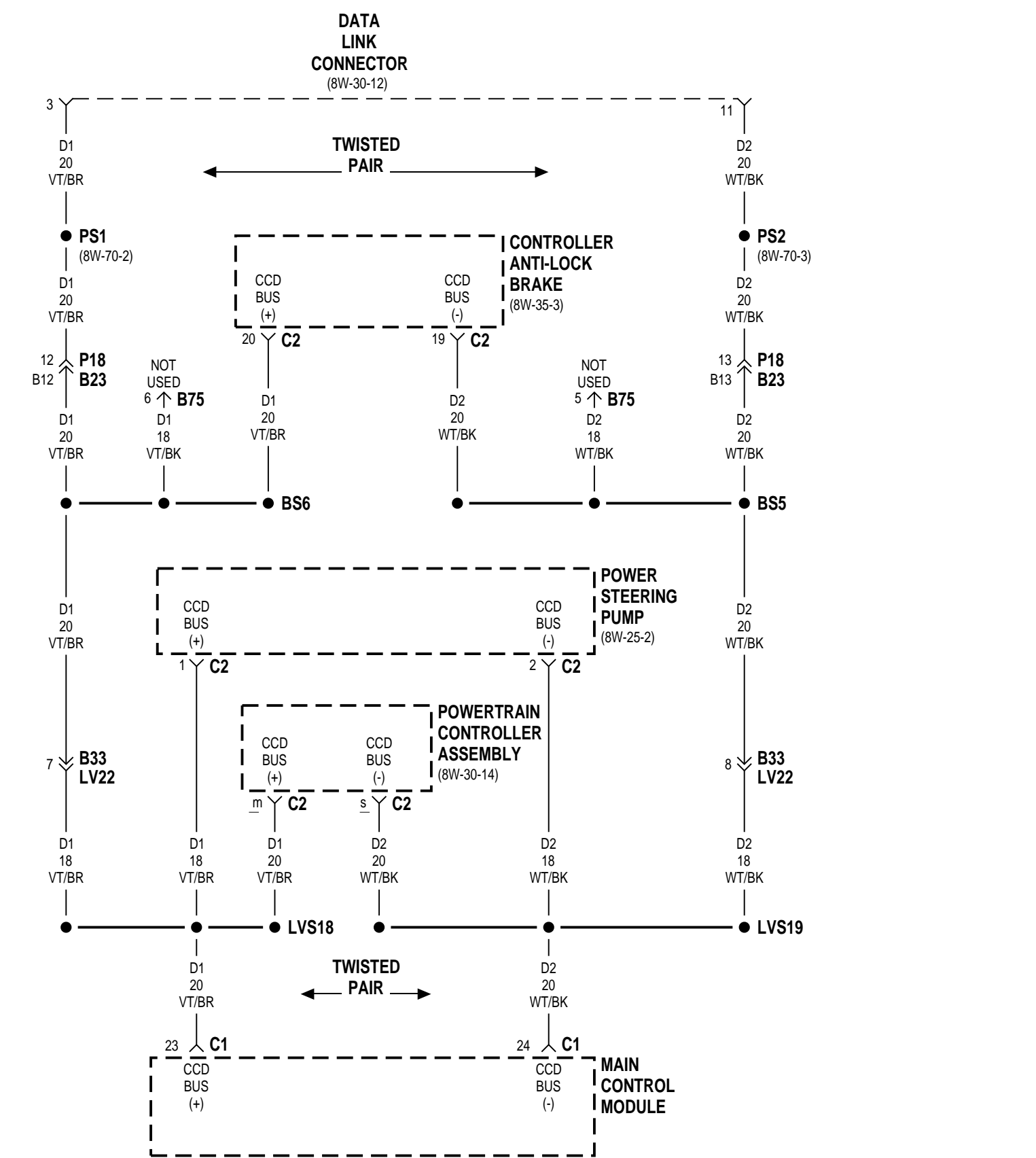


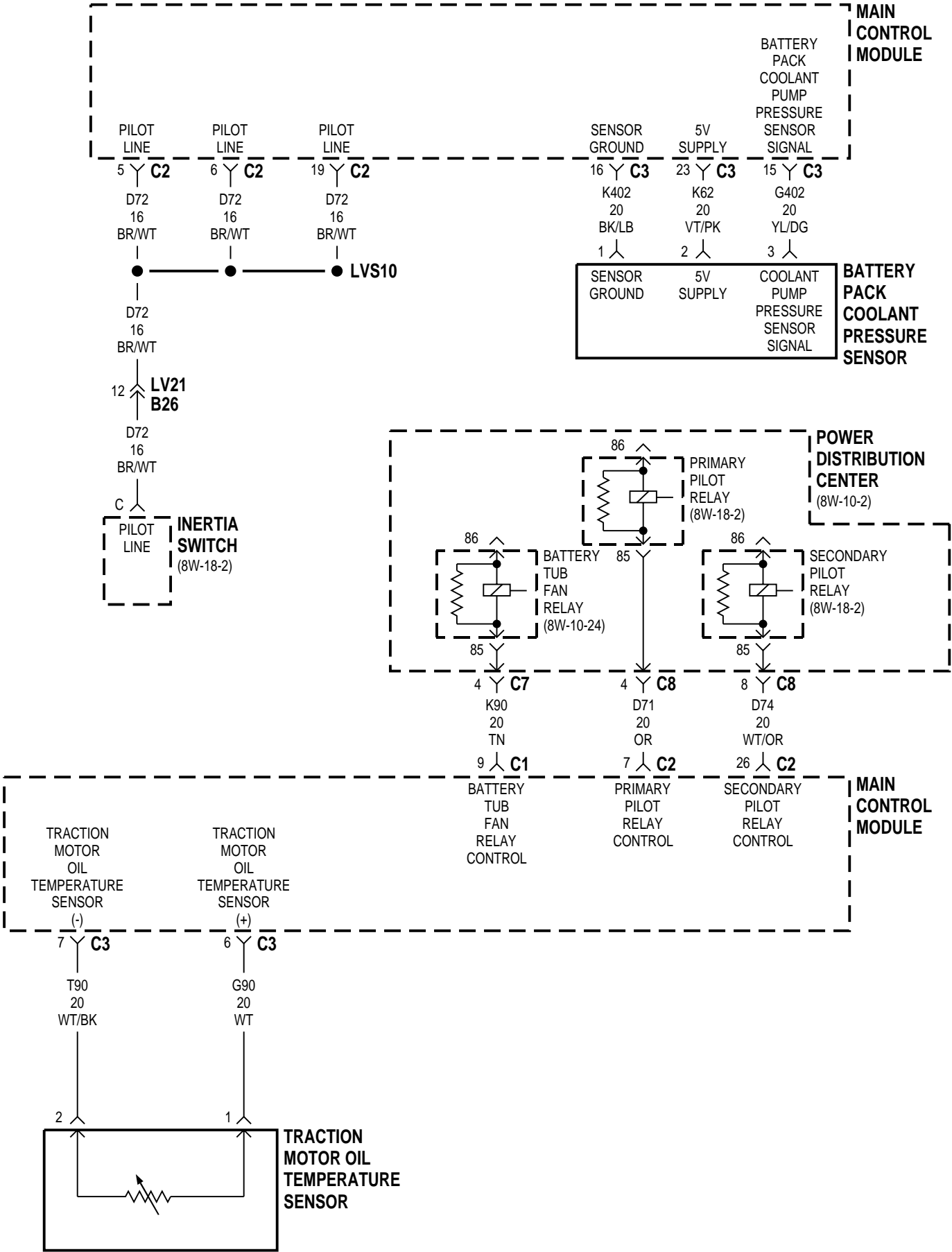
TABLE OF CONTENTS

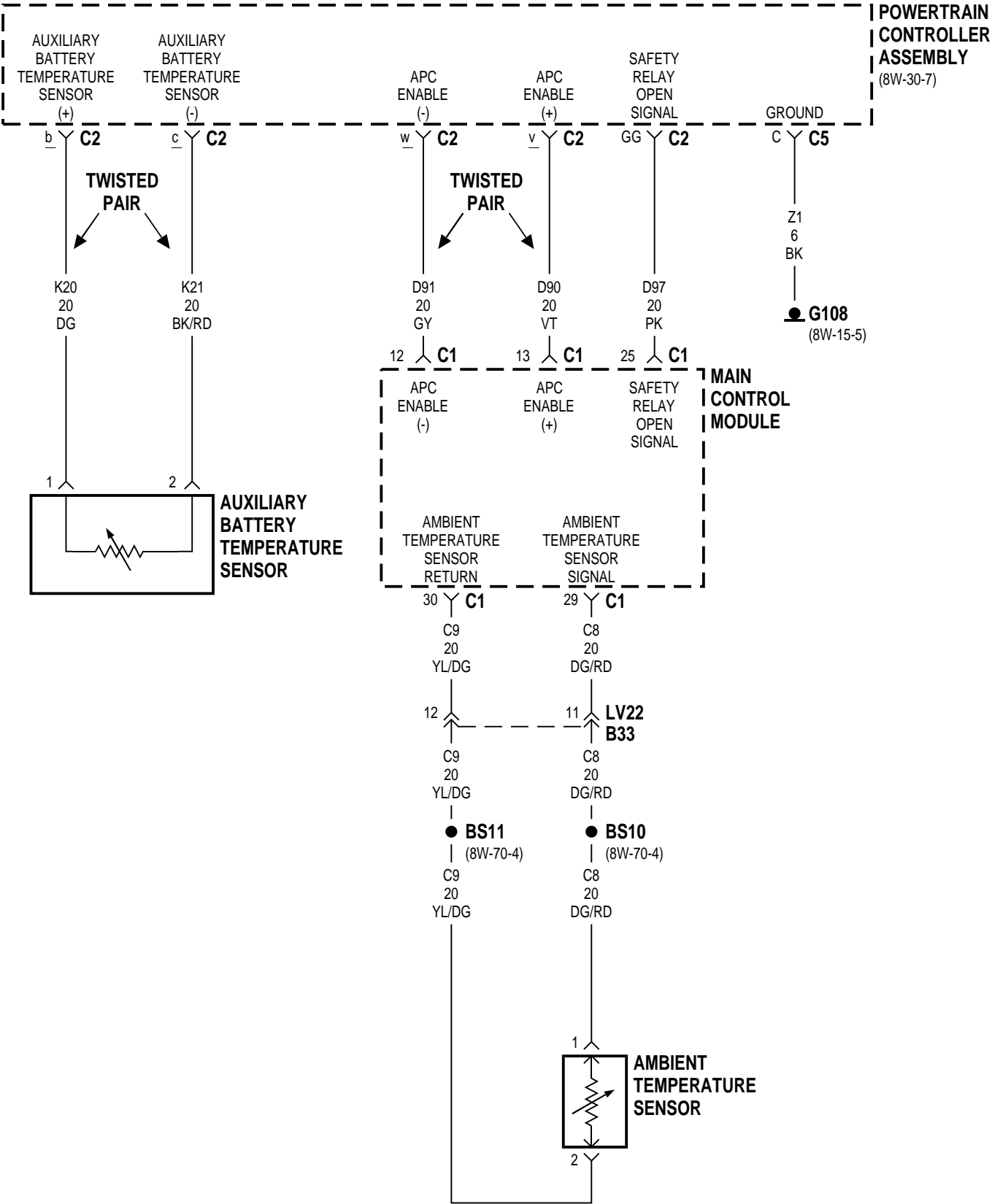
	PAGE		PAGE
AMBIENT TEMPERATURE SENSOR	8W-19-6	G106	8W-19-13
AUXILIARY BATTERY	8W-19-2, 10, 25	G107	8W-19-13
AUXILIARY BATTERY TEMP SENSOR	8W-19-6	G108	8W-19-6
BATTERY TEMPERATURE SENSORS	8W-19-14	G303	8W-19-29
BIC 8W-19-9, 10, 11, 12, 20, 21, 22, 25, 27, 28, 29, 30, 31		HEAT EXCHANGER TEMPERATURE	
BMM NO. 1	8W-19-12, 13, 14, 15, 19, 21, 22, 23	SENSOR	8W-19-7
BMM NO. 2	8W-19-12, 13, 15, 16, 19, 21, 22, 23	HVAC CONTROL HEAD	8W-19-3
BMM NO. 3 ...	8W-19-12, 13, 16, 17, 18, 19, 21, 22, 23	HVAC WAKE-UP RELAY	8W-19-24
BATTERIES	8W-19-14, 26	INERTIA SWITCH	8W-19-5
BATTERY MODULES	8W-19-26	JUNCTION BLOCK	8W-19-2, 3, 25
BATTERY PACK COOLANT PRESSURE		LVS1	8W-19-2, 10
SENSOR	8W-19-5	LVS6	8W-19-2, 10
BATTERY PACK COOLANT PUMP	8W-19-24	LVS7	8W-19-2, 10
BATTERY PACK INLET COOLANT TEMP		LVS8	8W-19-2, 25
SENSOR	8W-19-8	LVS9	8W-19-24
BATTERY PACK OUTLET COOLANT TEMP		LVS10	8W-19-5
SENSOR	8W-19-8	LVS14	8W-19-2
BATTERY TUB	8W-19-28, 30, 31	LVS15	8W-19-2
BATTERY TUB FAN RELAY	8W-19-5	LVS16	8W-19-10
BCS1	8W-19-19	LVS18	8W-19-4
BCS2	8W-19-19	LVS19	8W-19-4
BCS3	8W-19-12	LVS20	8W-19-12
BCS4	8W-19-12	LVS21	8W-19-11
BCS5	8W-19-13	LVS31	8W-19-2
BCS6	8W-19-21	LVS40	8W-19-19, 20, 25
BCS7	8W-19-23	LVS41	8W-19-19, 20, 25
BCS8	8W-19-23	LVS45	8W-19-12
BCS9	8W-19-23	LVS51	8W-19-22
BCS16	8W-19-22	LVS52	8W-19-21
BMS1	8W-19-15	LVS70	8W-19-24
BMS2	8W-19-16	MCM 8W-19-2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 20, 21, 22, 24, 29	
BMS3	8W-19-18	MESSAGE CENTER	8W-19-7
BS5	8W-19-4	OIL PUMP	8W-19-24
BS6	8W-19-4	POWER BRIDGE	8W-19-30
BS10	8W-19-6	POWER DISTRIBUTION CENTER .	8W-19-2, 3, 5, 10, 11, 24
BS11	8W-19-6	POWER STEERING PUMP	8W-19-4, 24
CCS1	8W-19-29	POWERTRAIN CONTROLLER	
CCS2	8W-19-29	ASSEMBLY	8W-19-4, 6, 24, 27, 30
CHARGE PORT	8W-19-28, 29, 31	POWERTRAIN CONTROLLER ASSEMBLY	
CHARGE PORT SWITCH	8W-19-8	RELAY	8W-19-30
CHARGE STATUS RELAY	8W-19-8	PRIMARY PILOT RELAY	8W-19-5
CIGAR LIGHTER/ACCESSORY RELAY	8W-19-3	PS1	8W-19-4
CONTROLLER ANTI-LOCK BRAKE	8W-19-4	PS2	8W-19-4
DATA LINK CONNECTOR	8W-19-3, 4, 8, 25	PS10	8W-19-3
DIAGNOSTIC CONNECTOR	8W-19-11, 20, 25	PTC 1 (JB)	8W-19-2
FUSE 2 (JB)	8W-19-2	PTC 7 (JB)	8W-19-3
FUSE 10 (JB)	8W-19-2	RADIATOR FAN RELAY	8W-19-2
FUSE 16 (PDC)	8W-19-10	SECONDARY PILOT RELAY	8W-19-5
FUSE 17 (PDC)	8W-19-24	SERVICE DISCONNECT	
G100	8W-19-24	SWITCH	8W-19-26, 28, 30, 31
G101	8W-19-2, 10	TRACTION MOTOR OIL TEMPERATURE	
G103	8W-19-2, 10	SENSOR	8W-19-5
G105	8W-19-13		

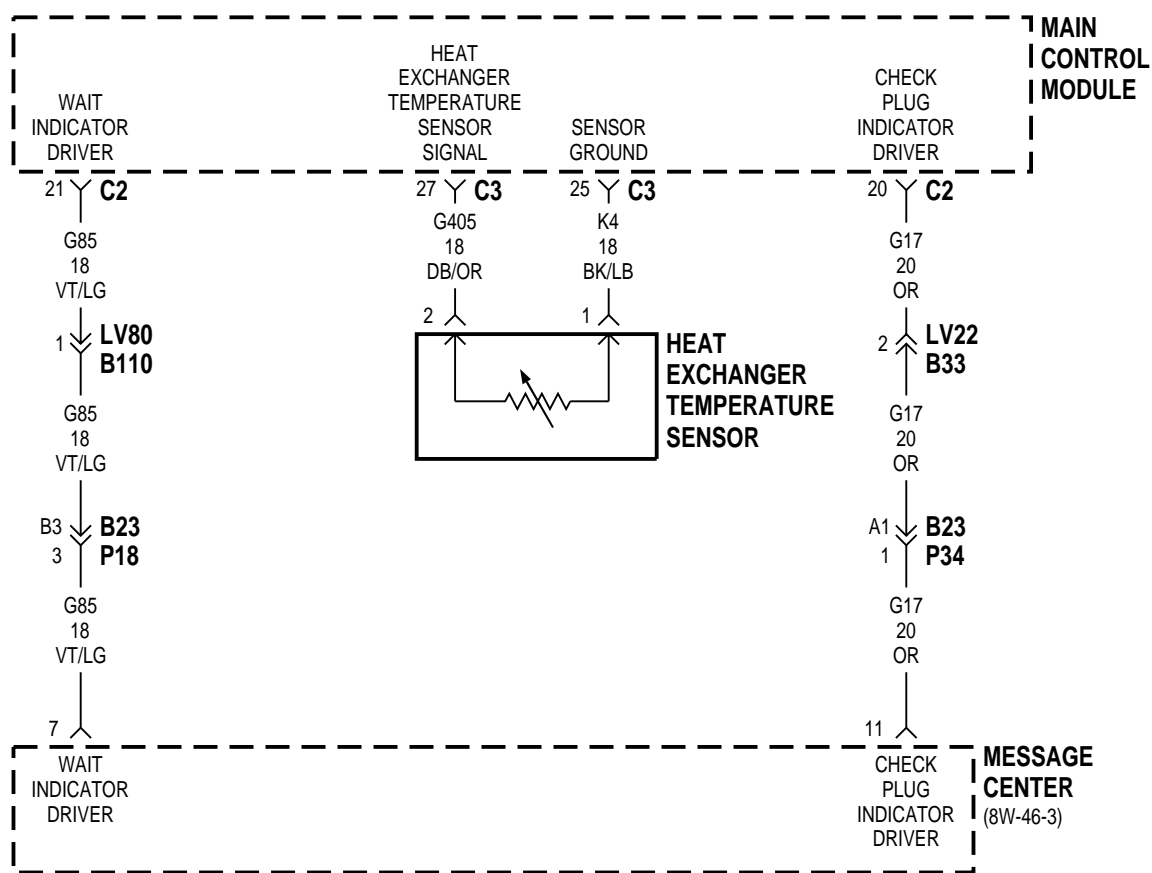


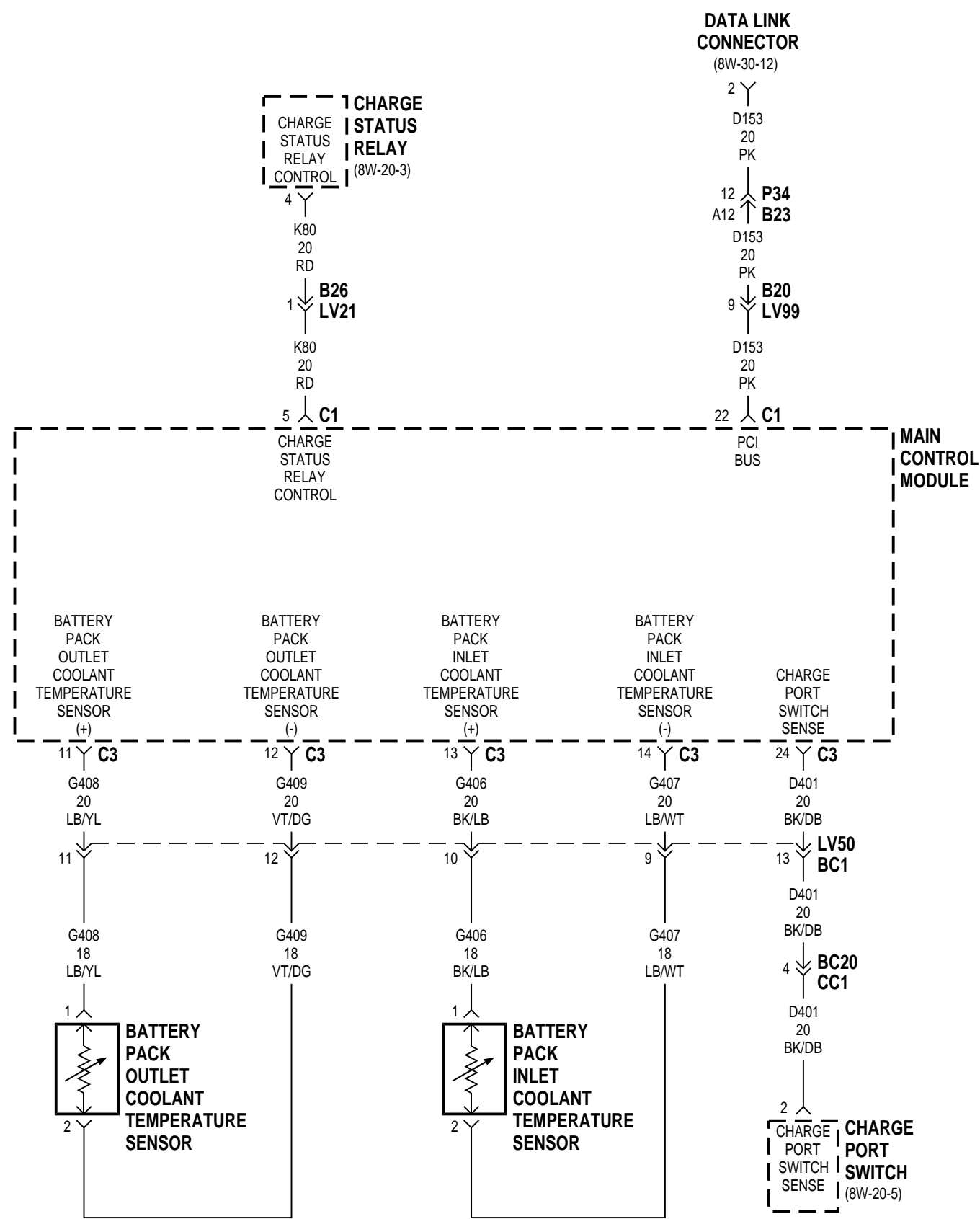




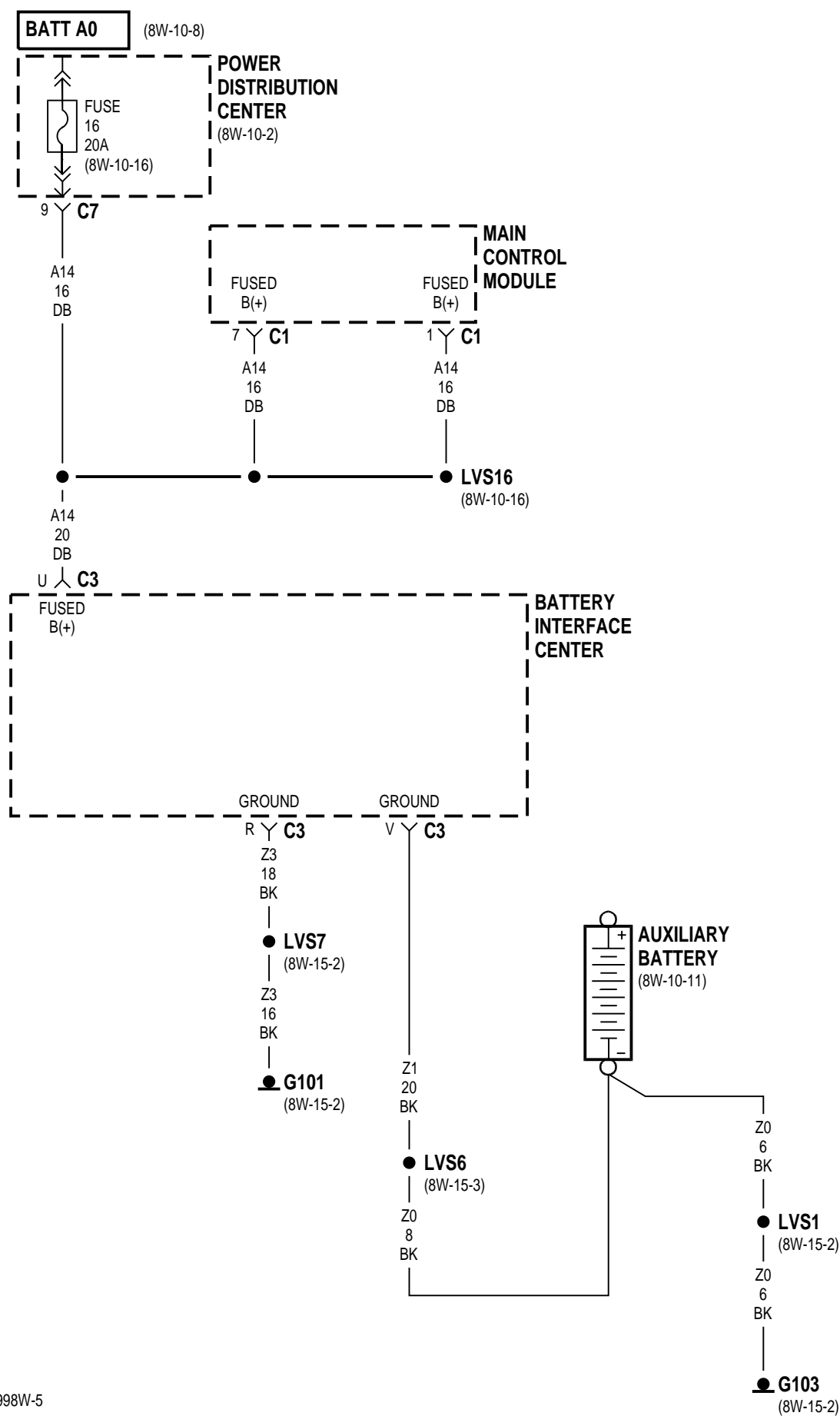


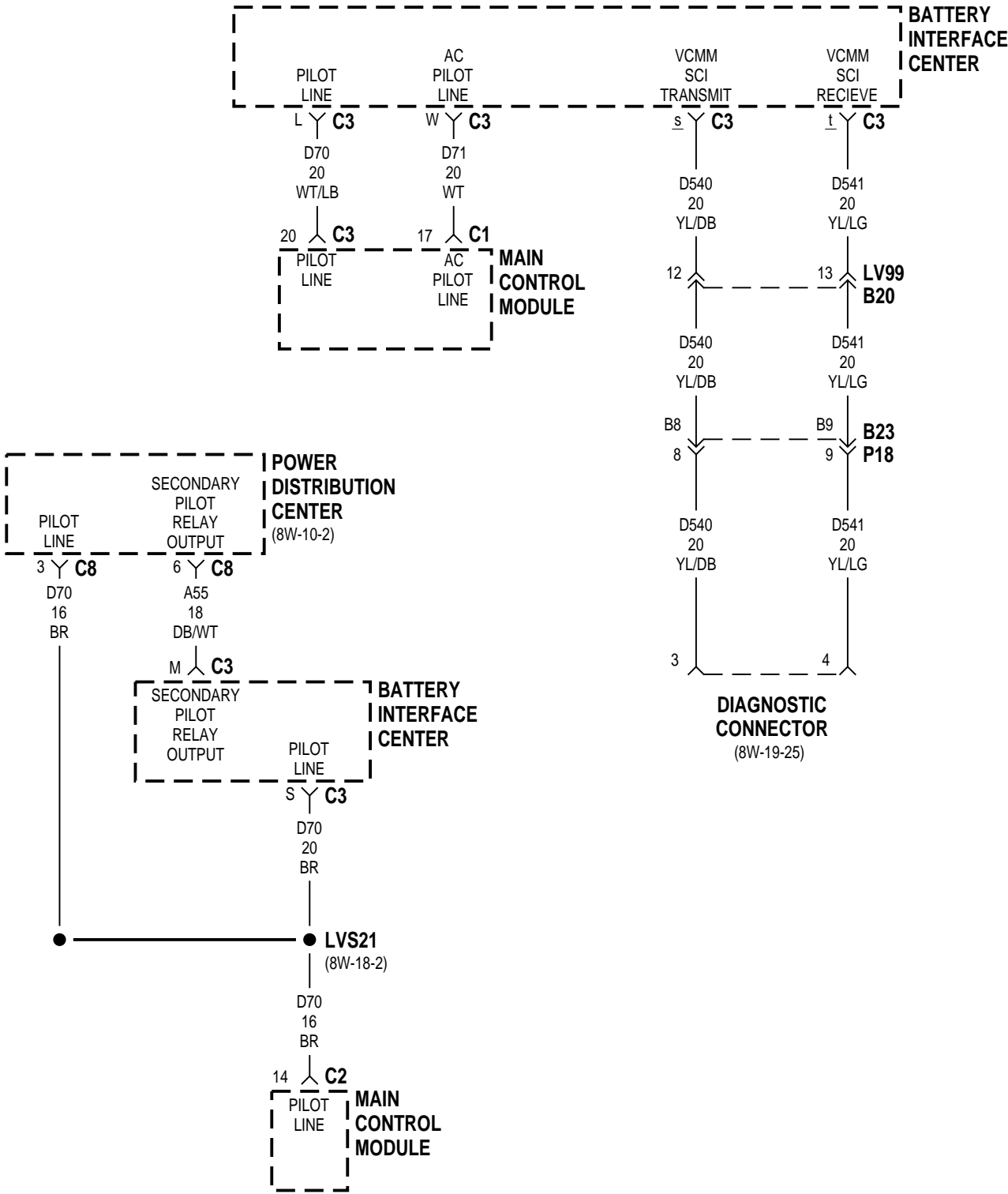


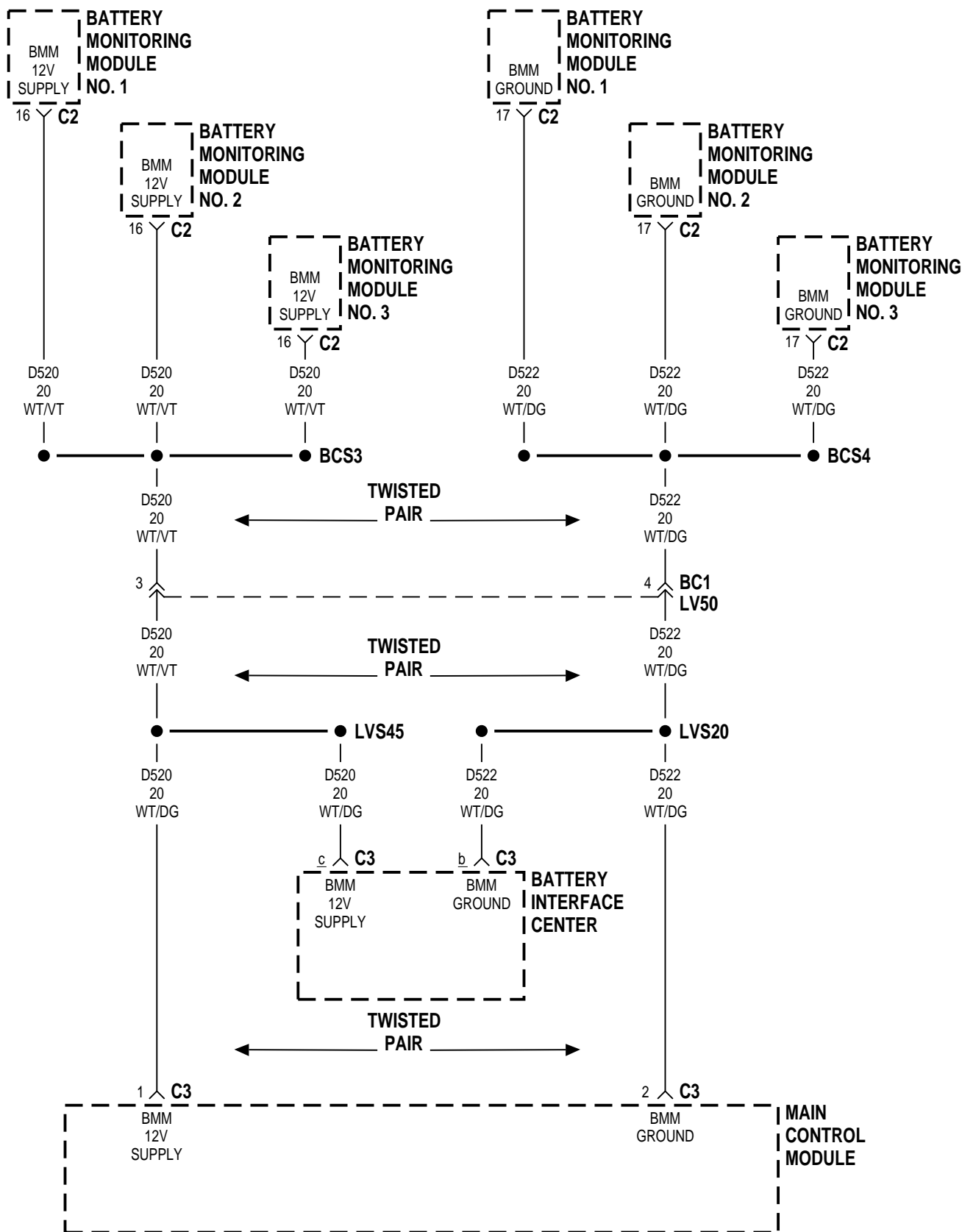


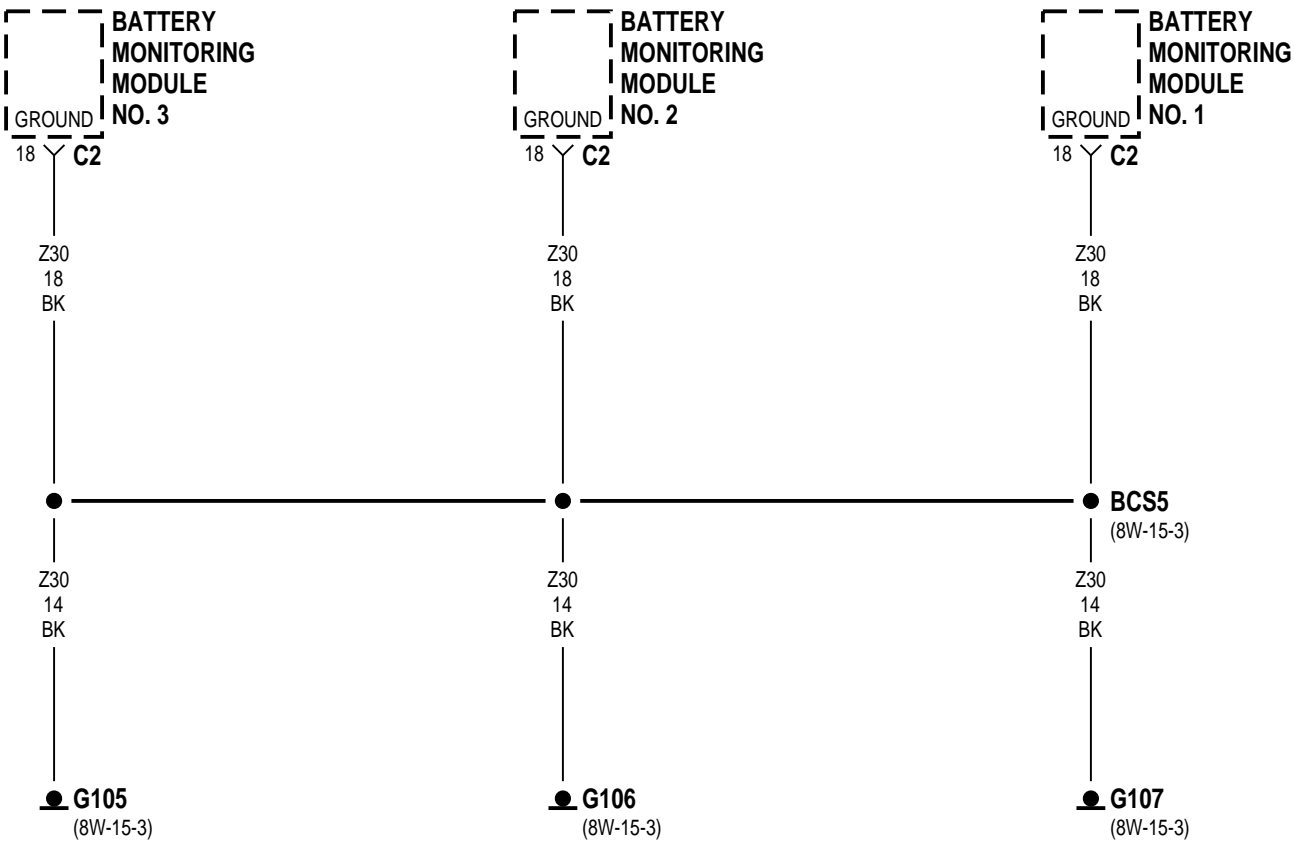


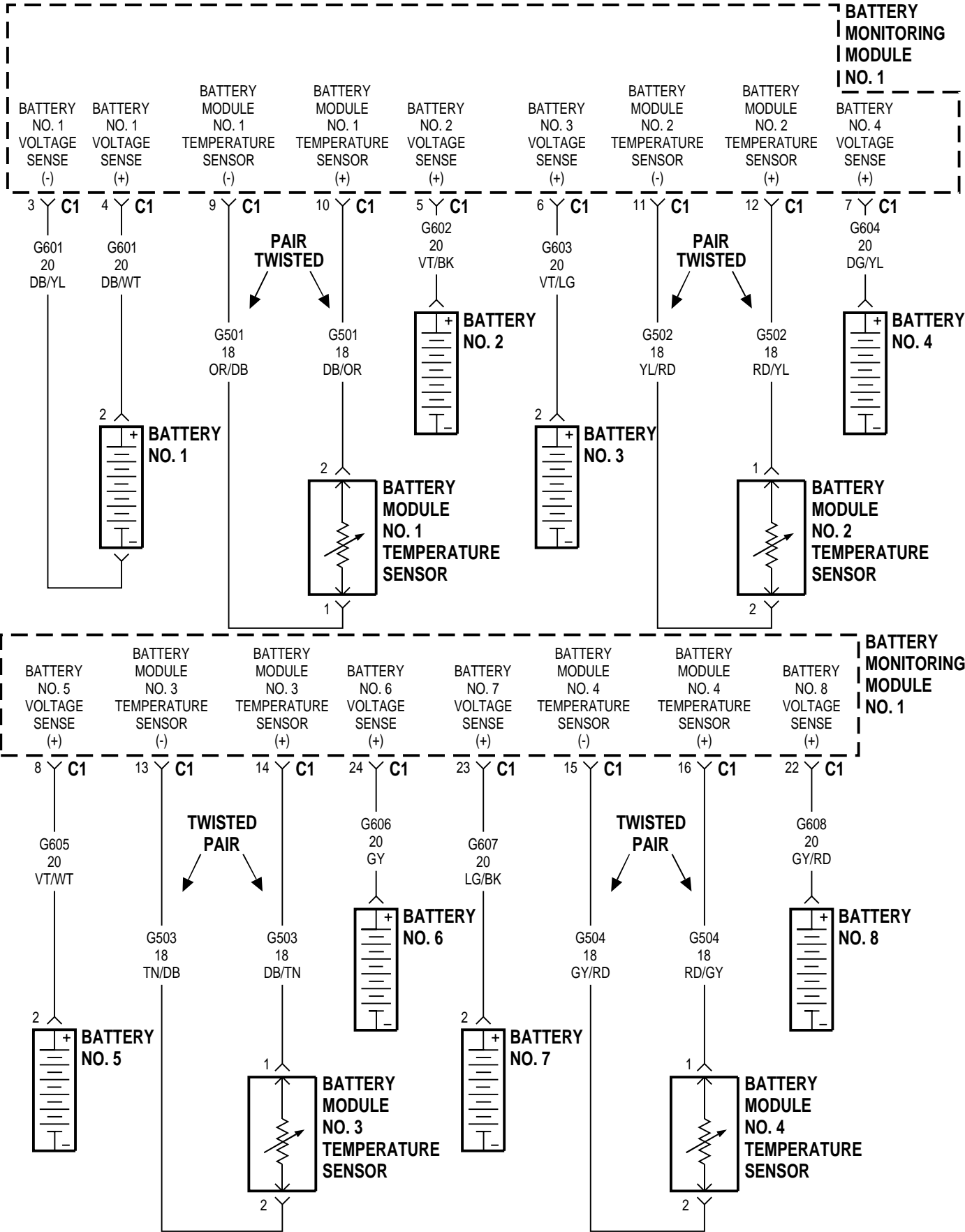


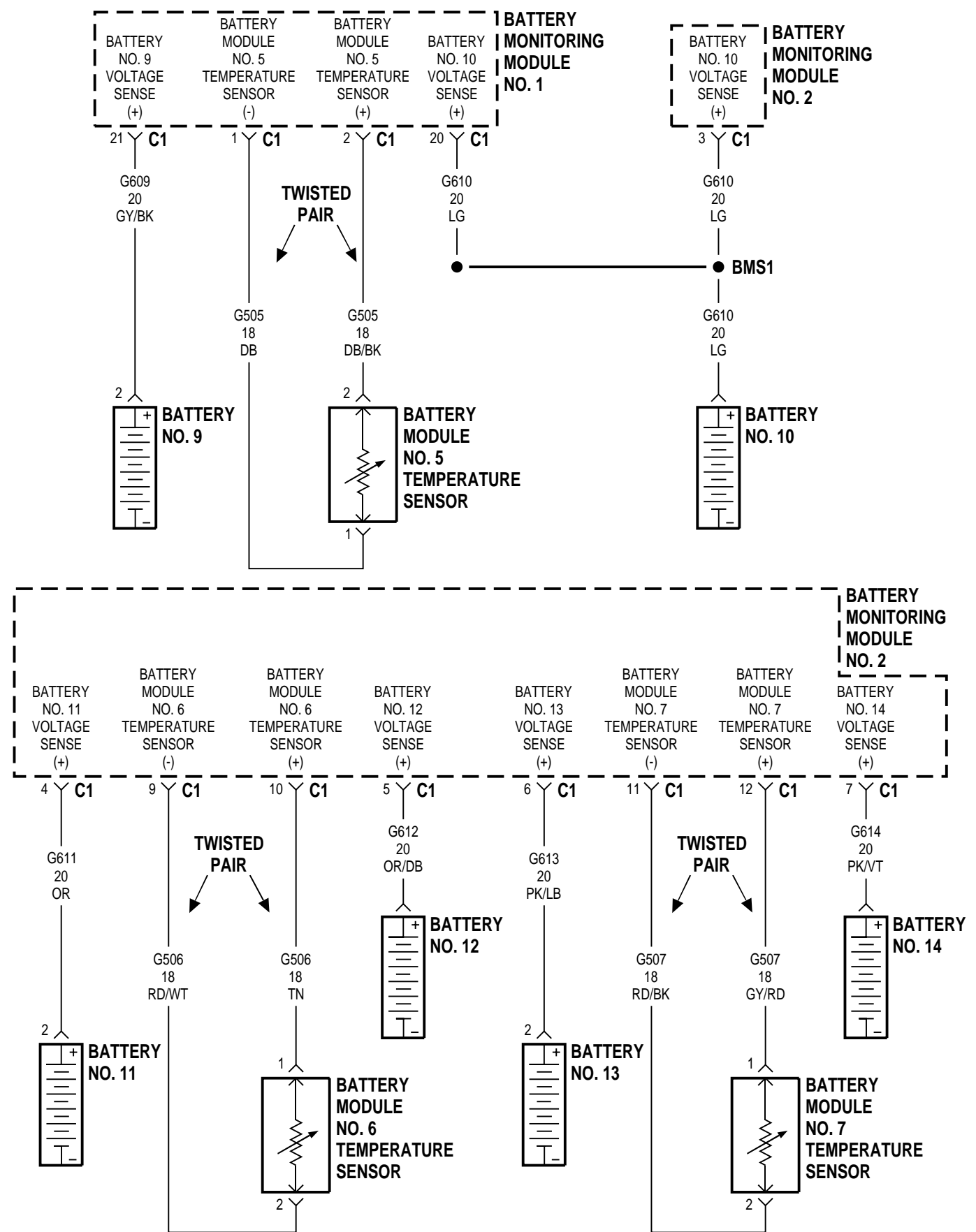


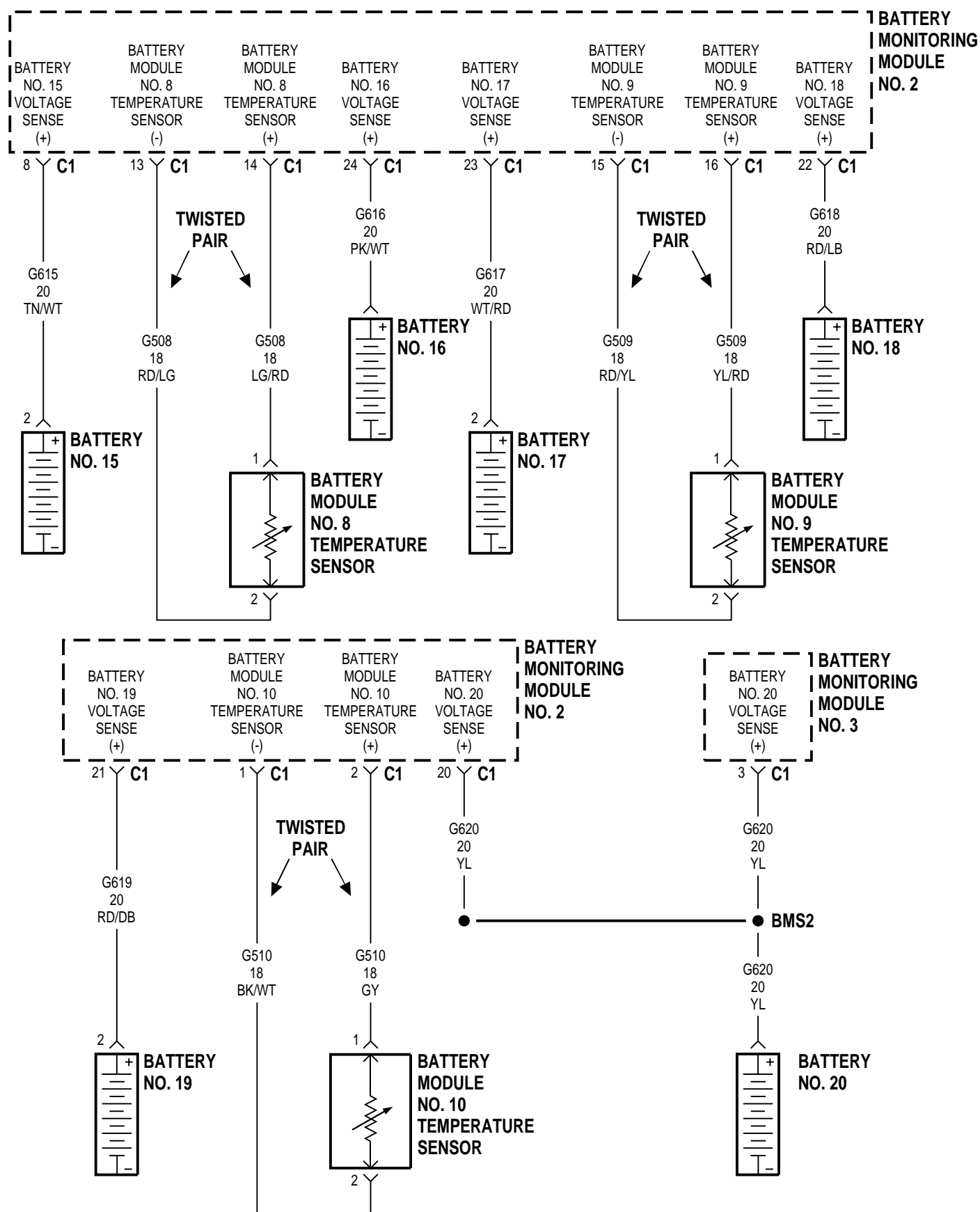


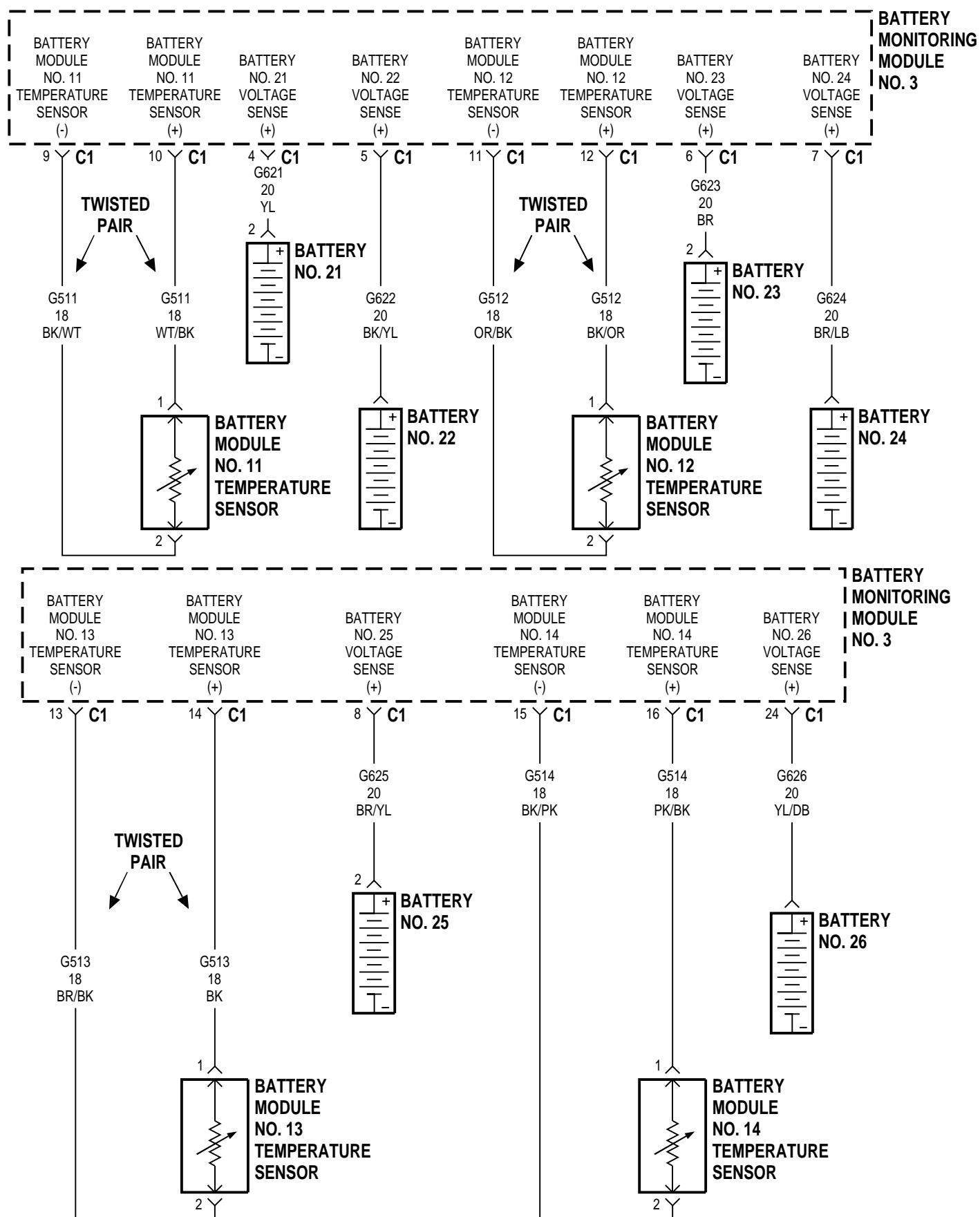


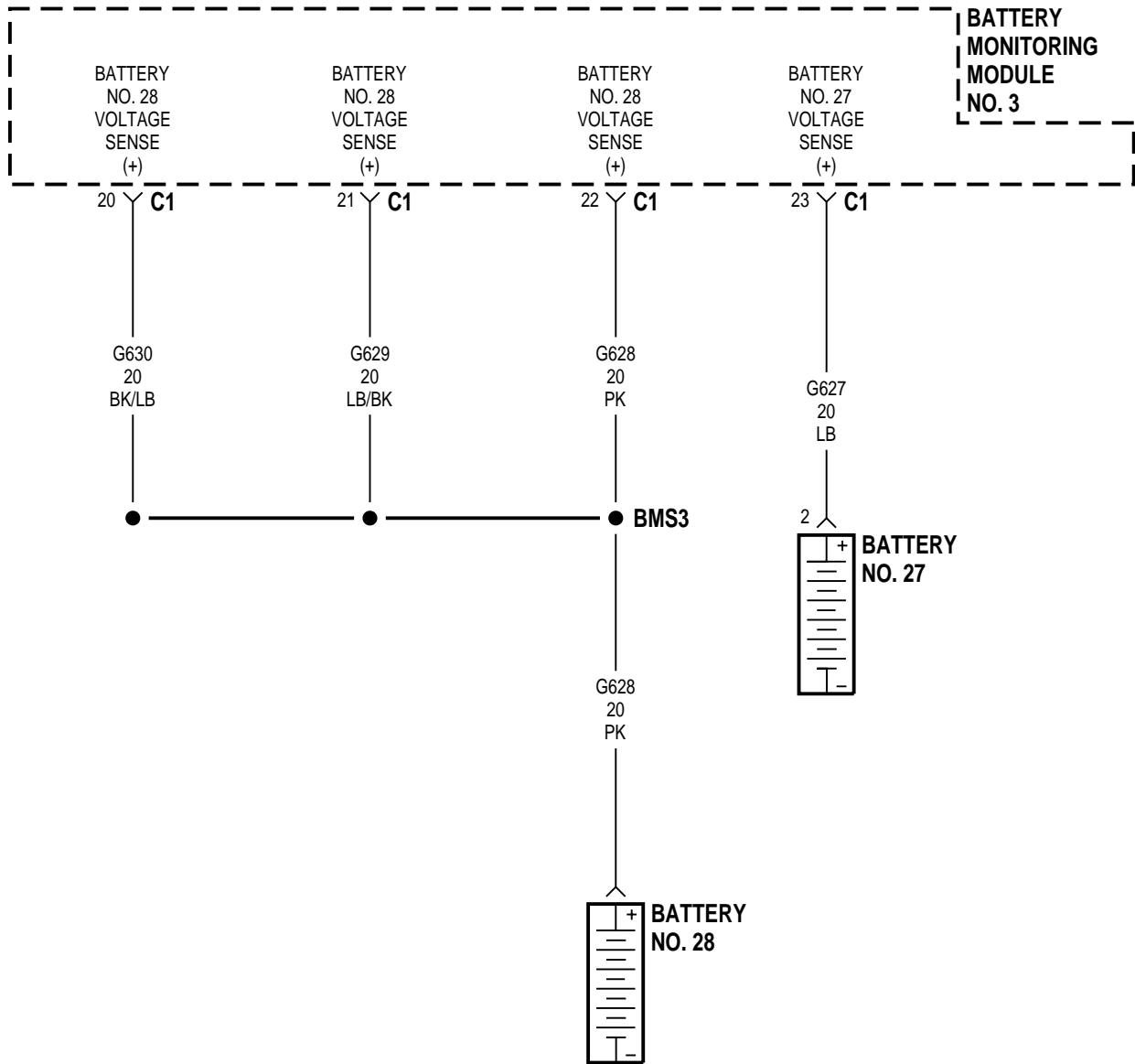


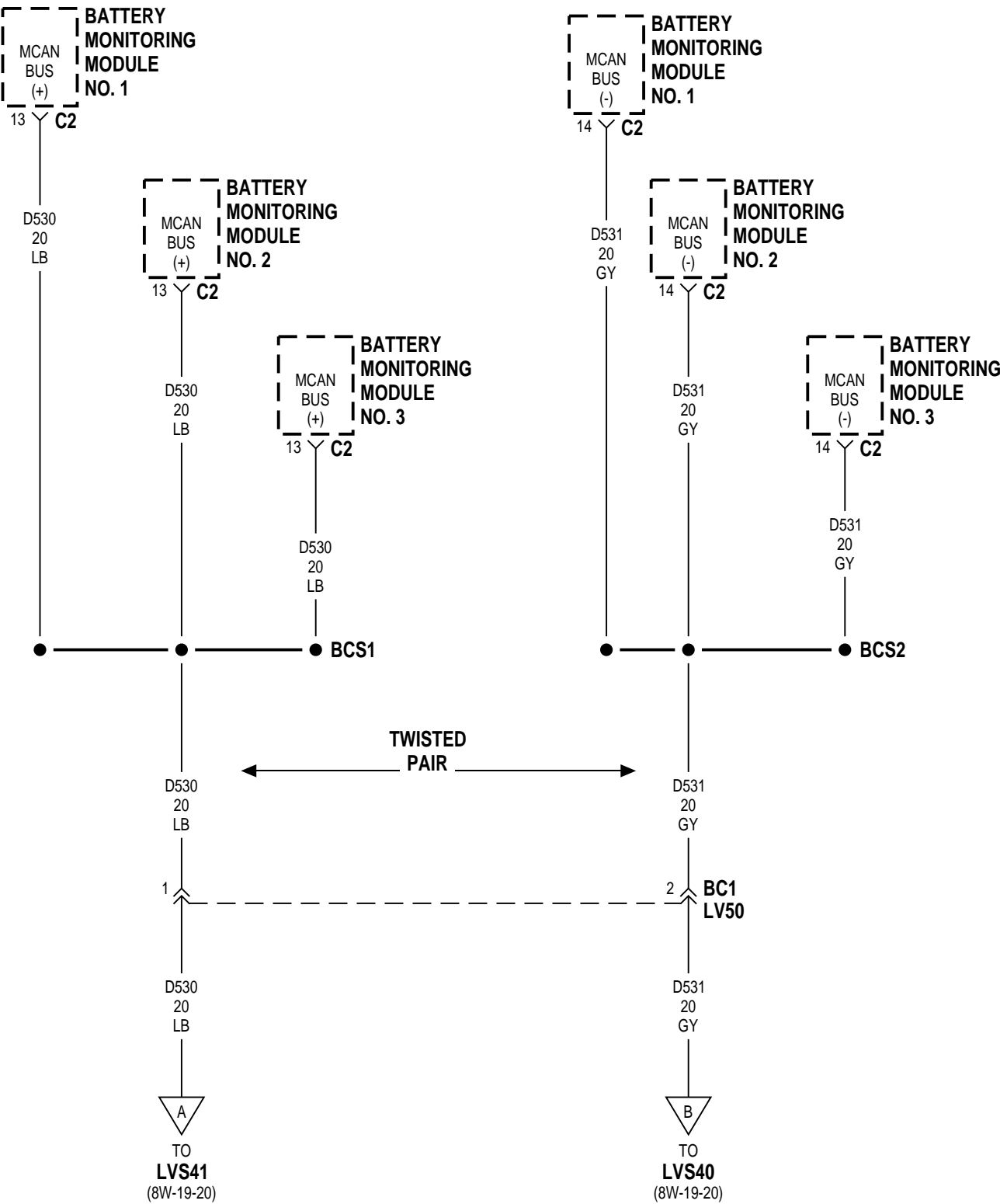


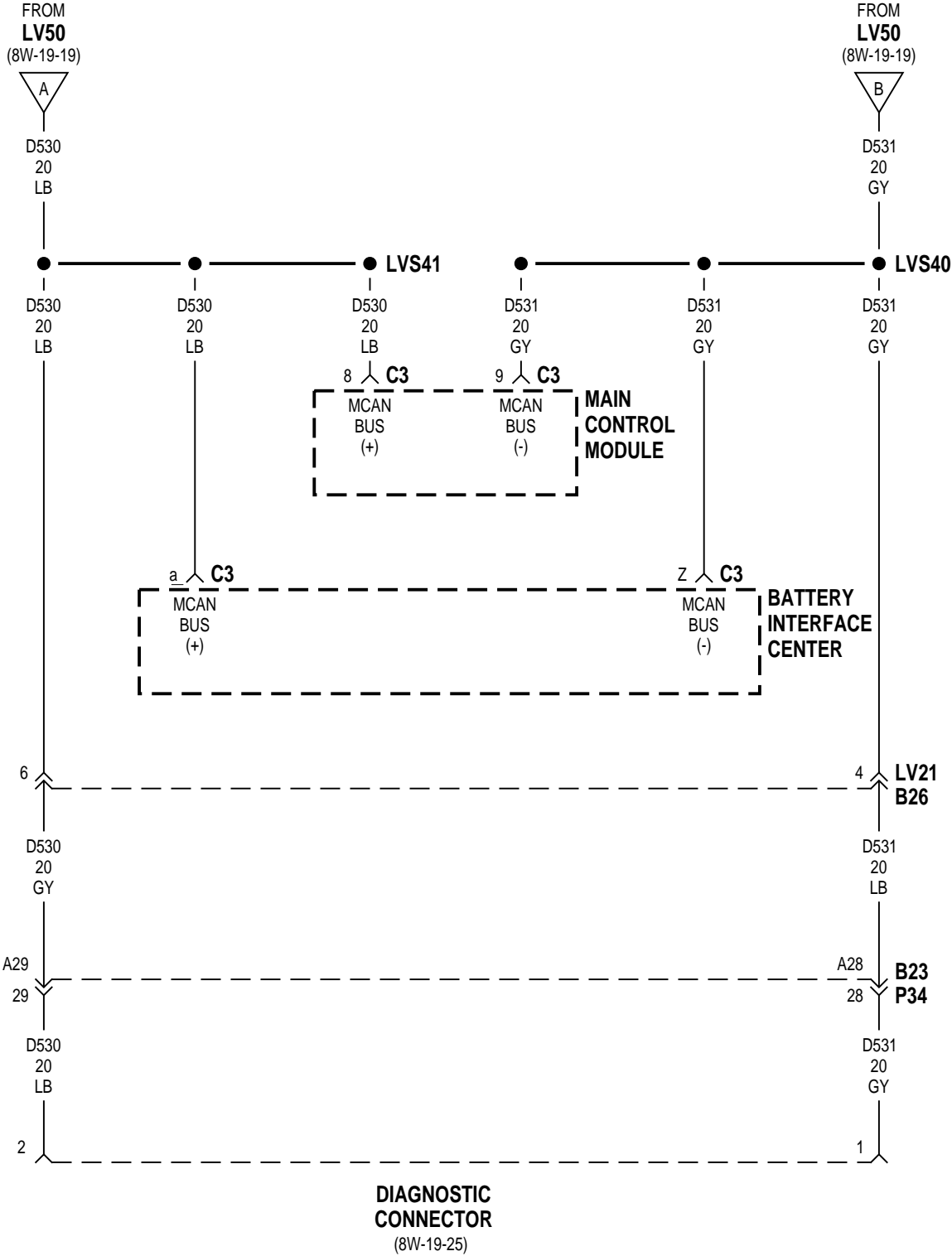


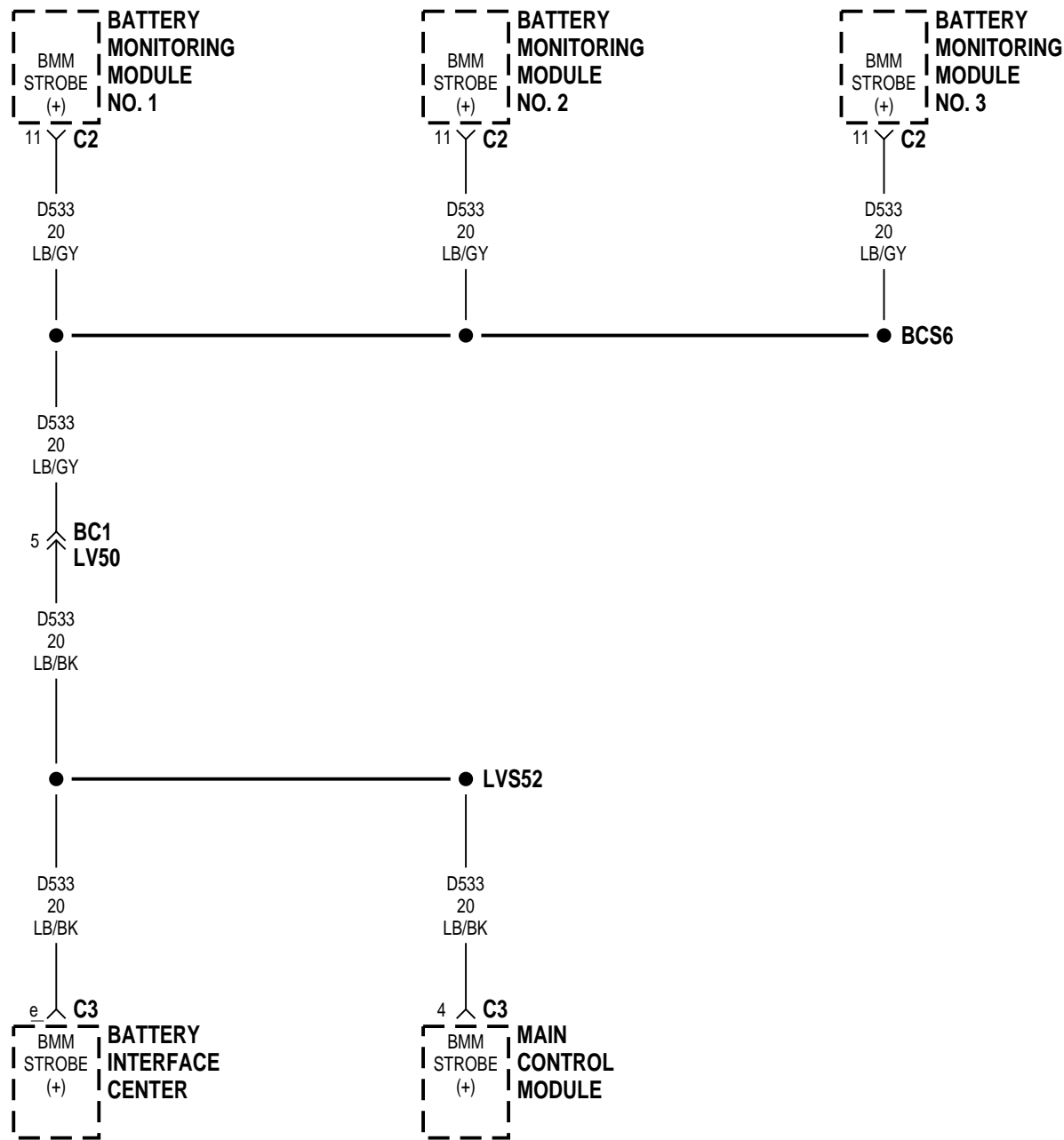


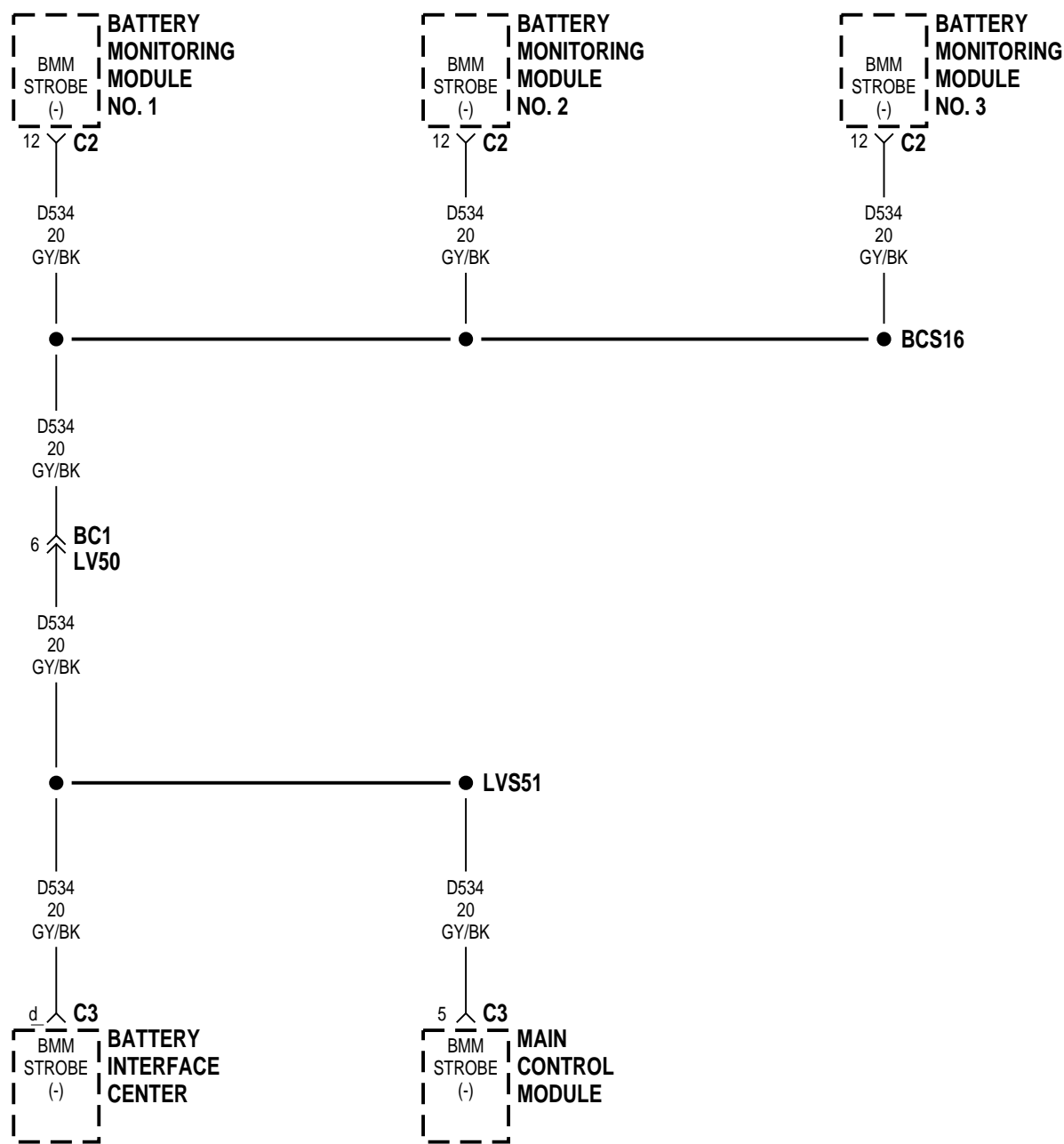


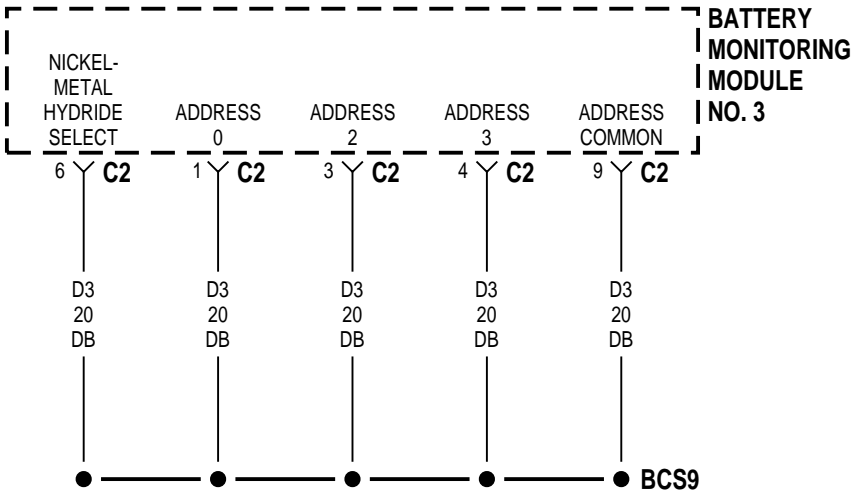
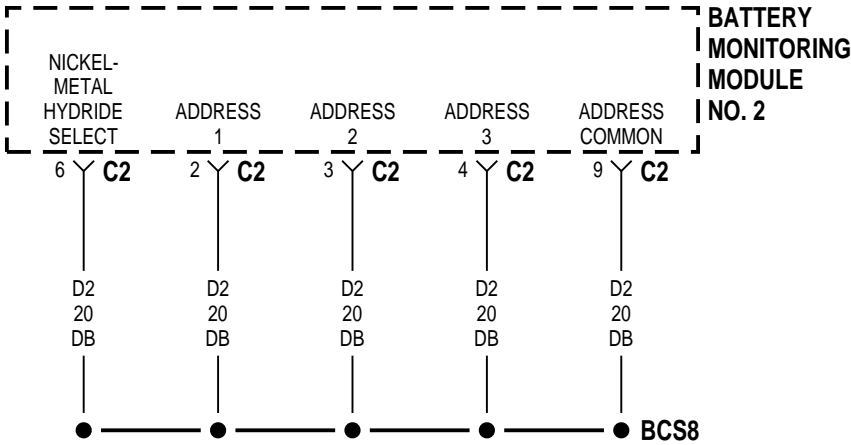
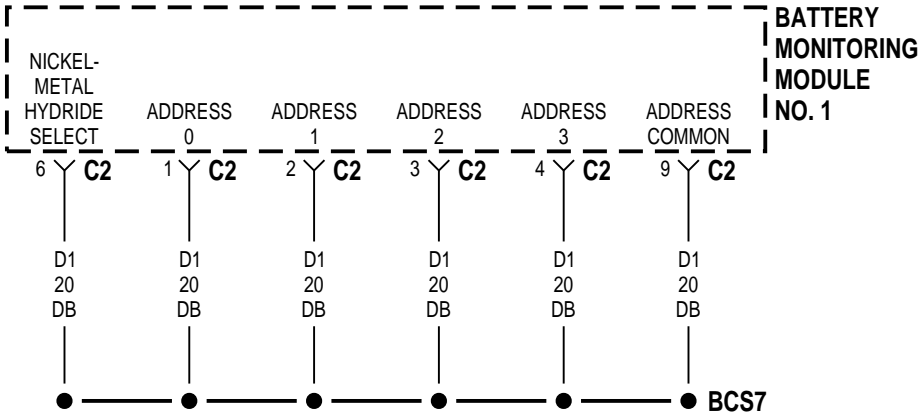




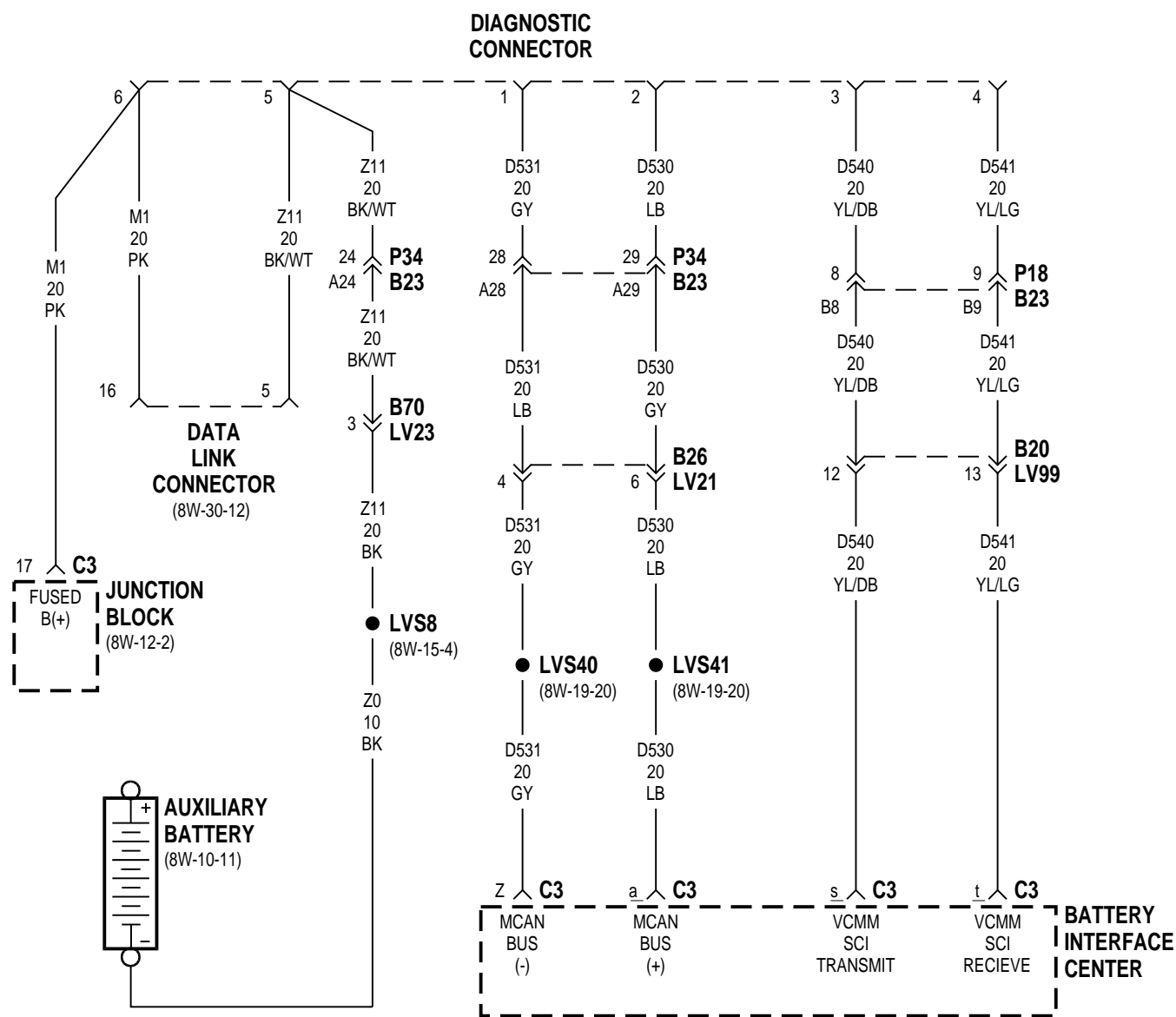


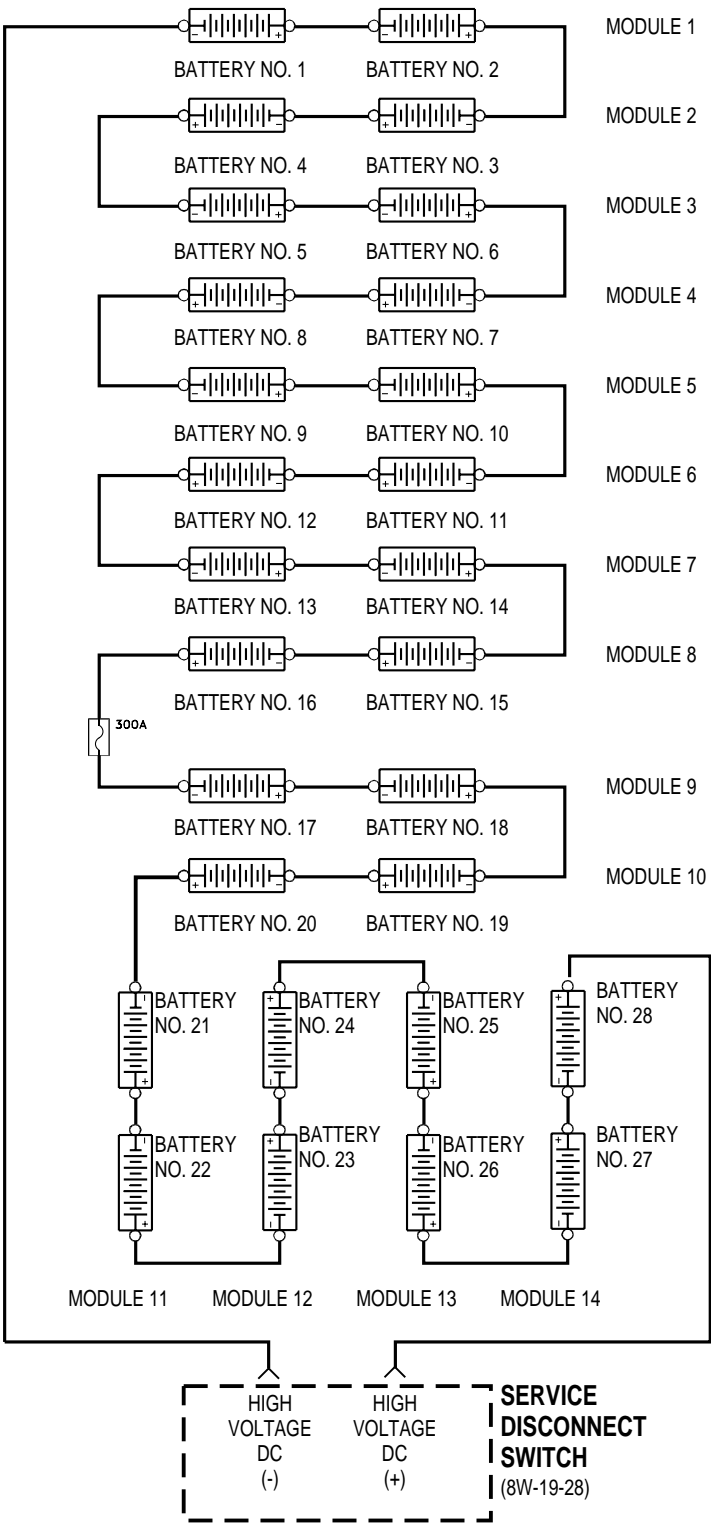


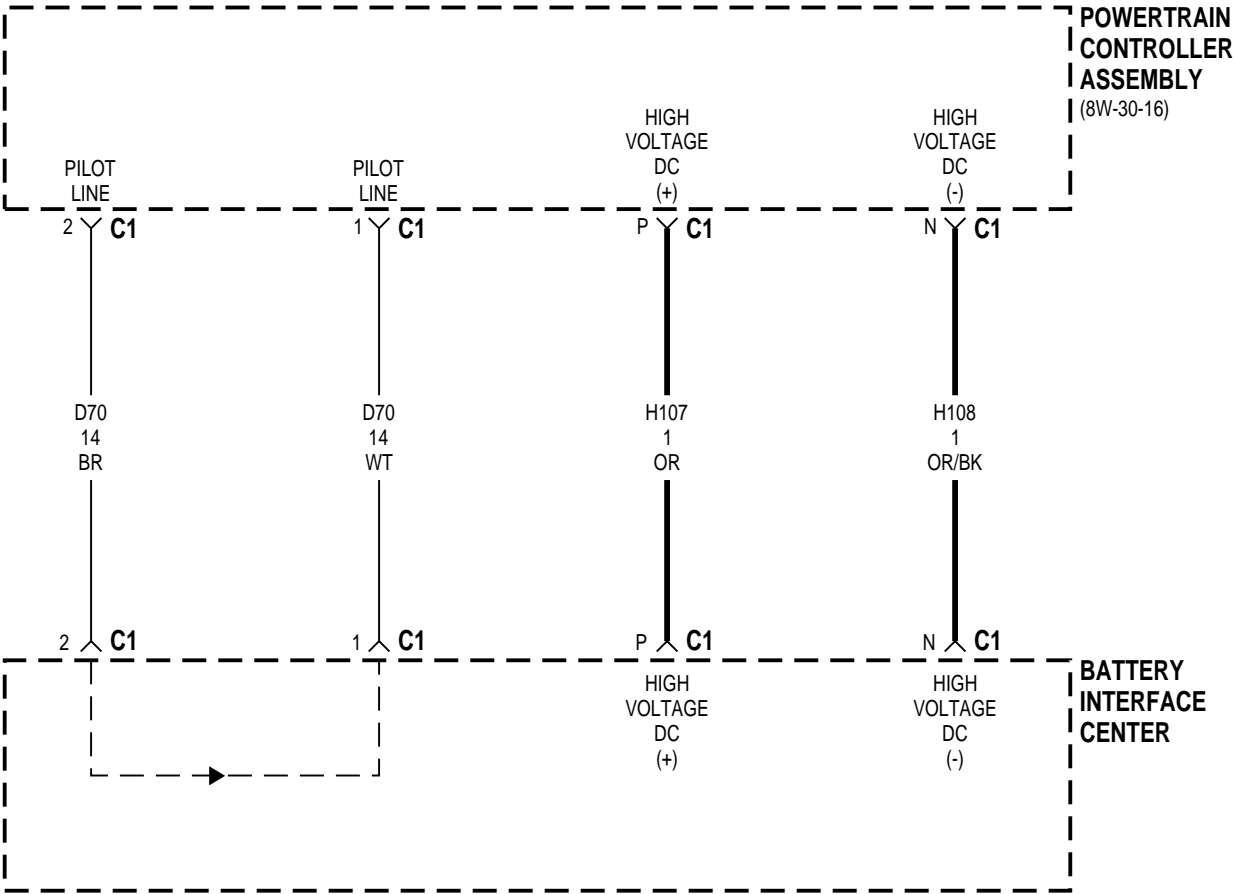


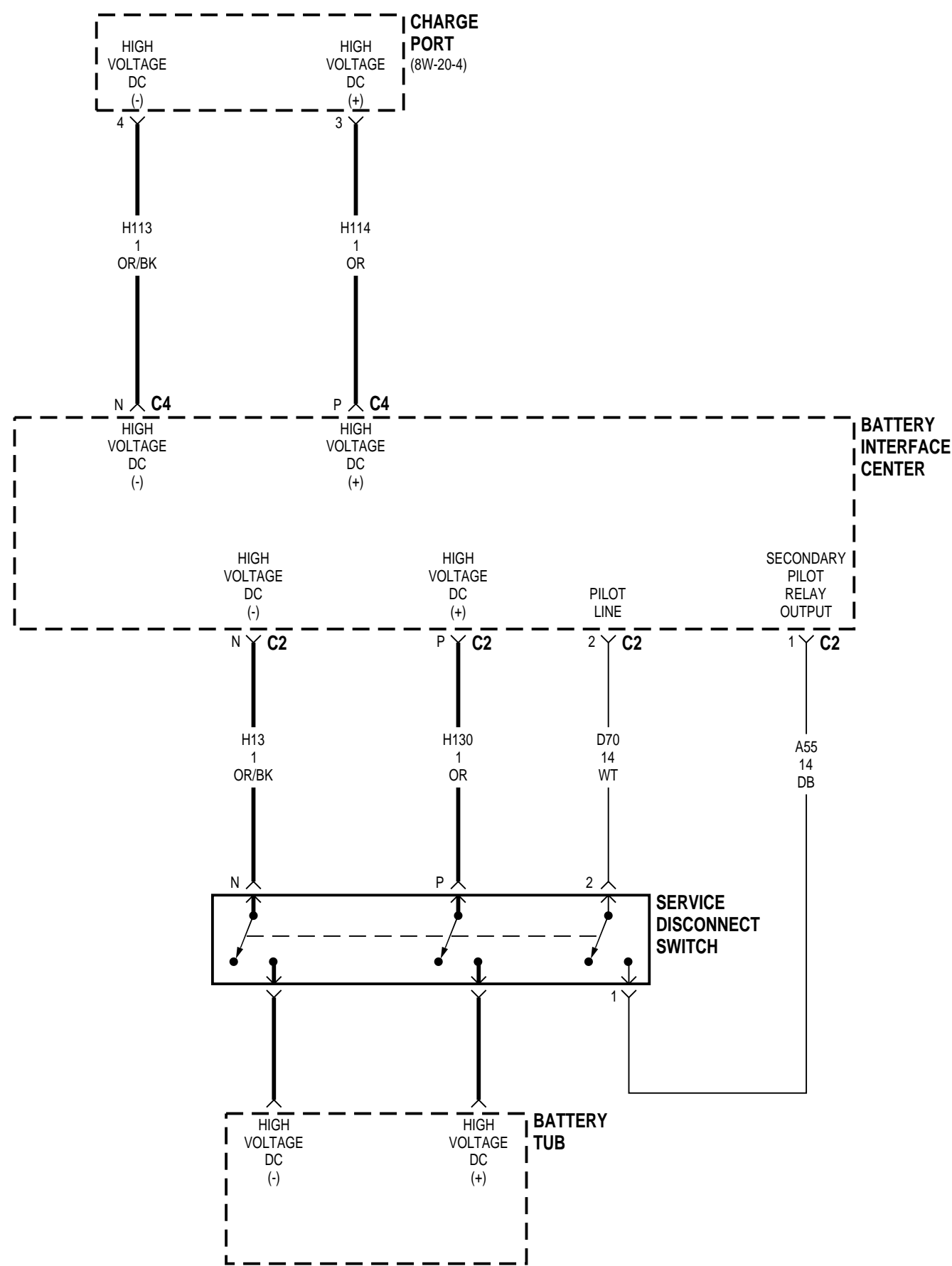


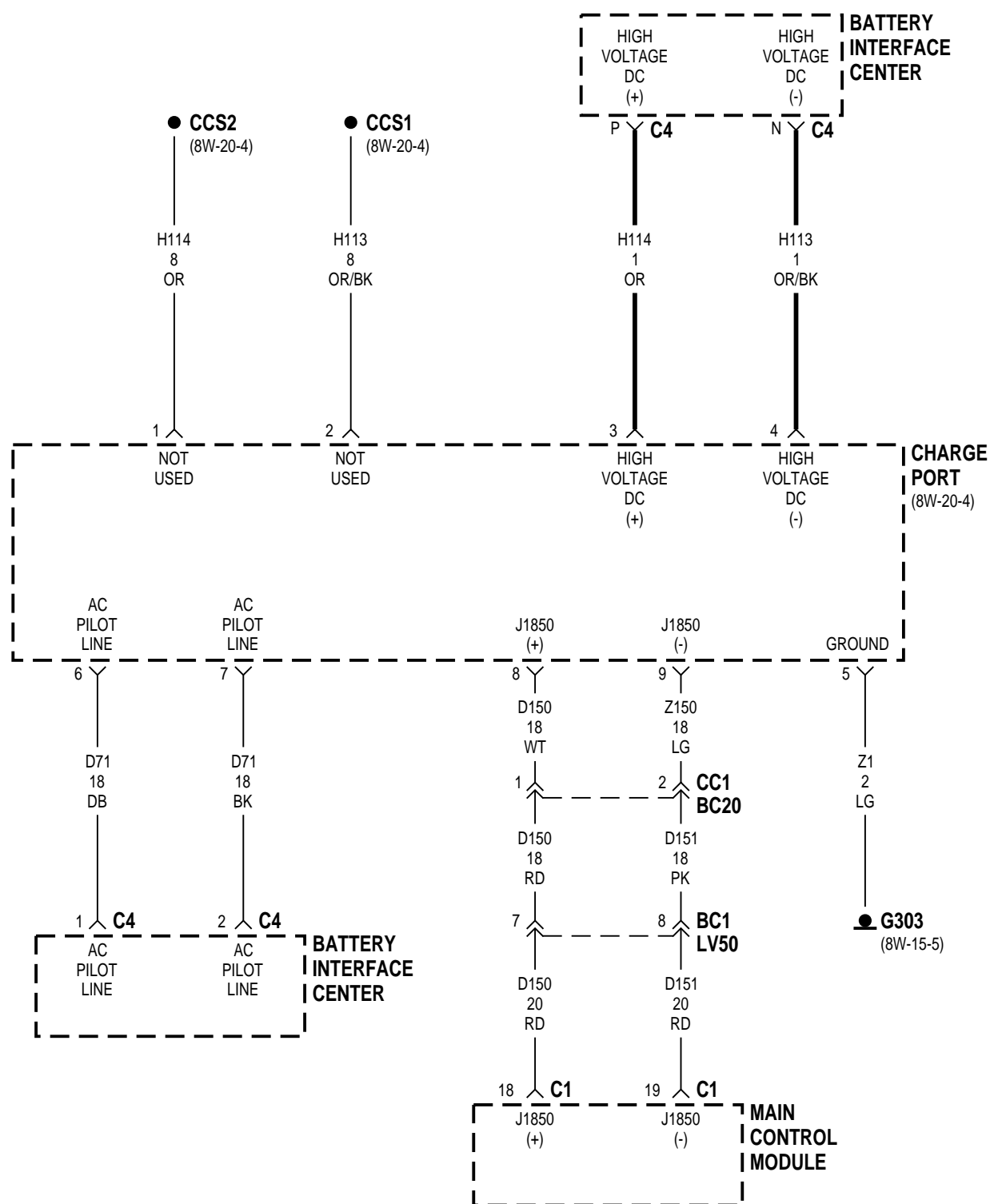












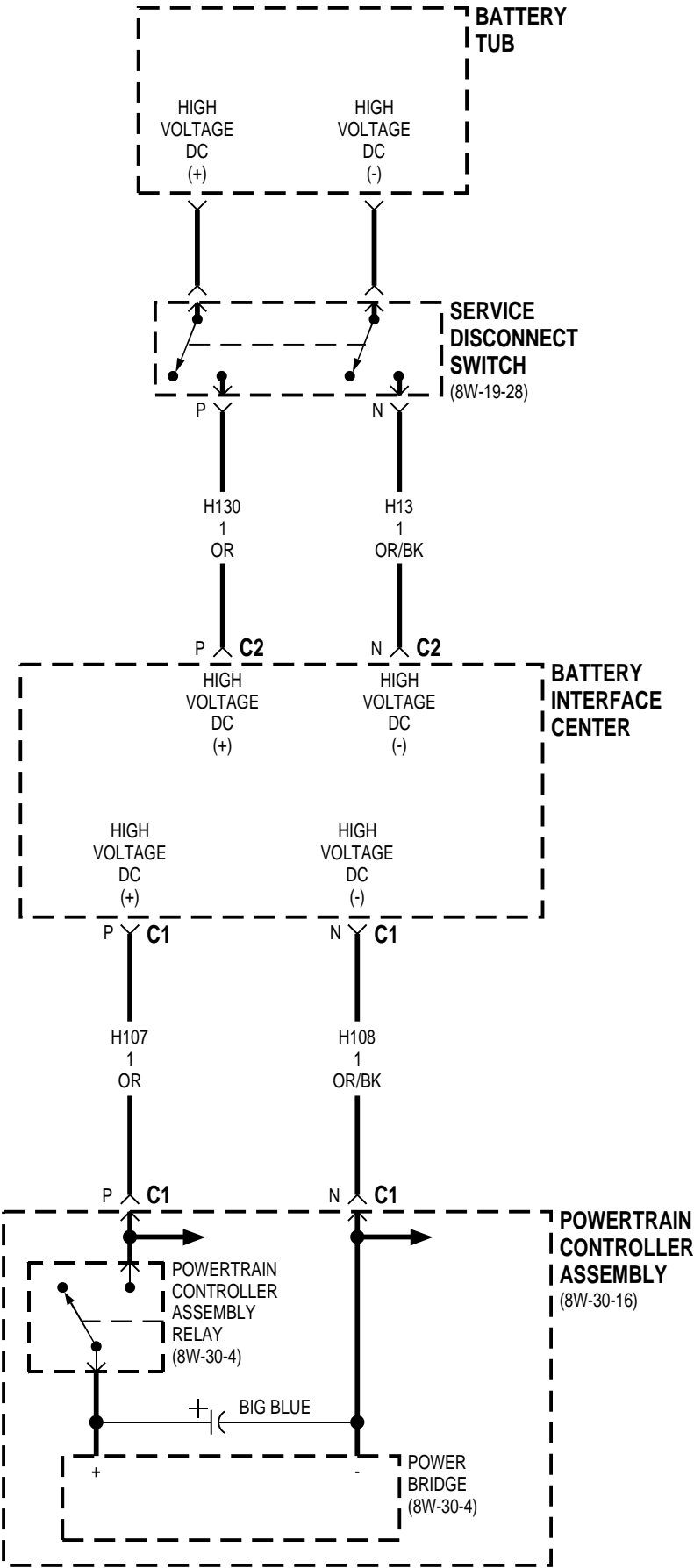
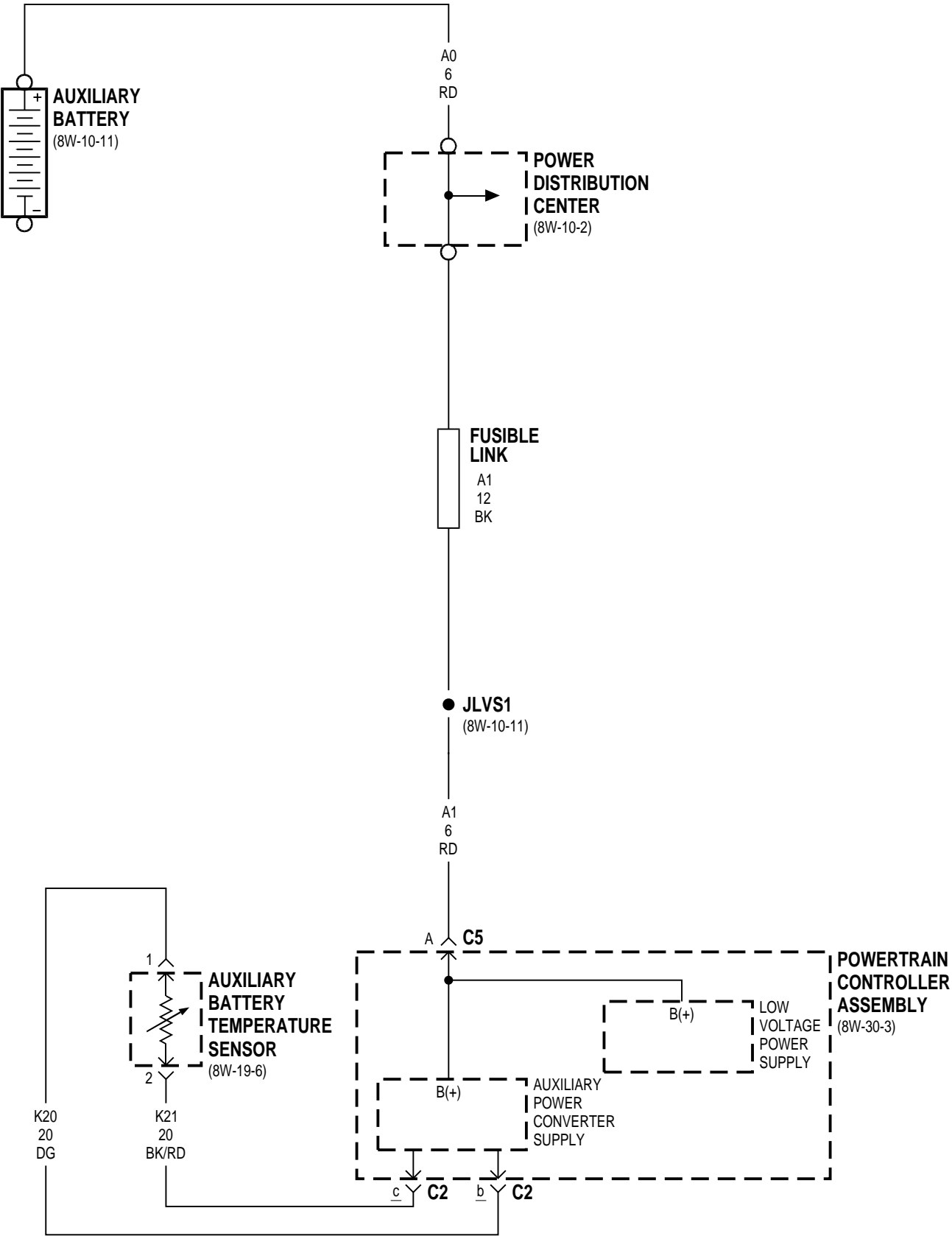
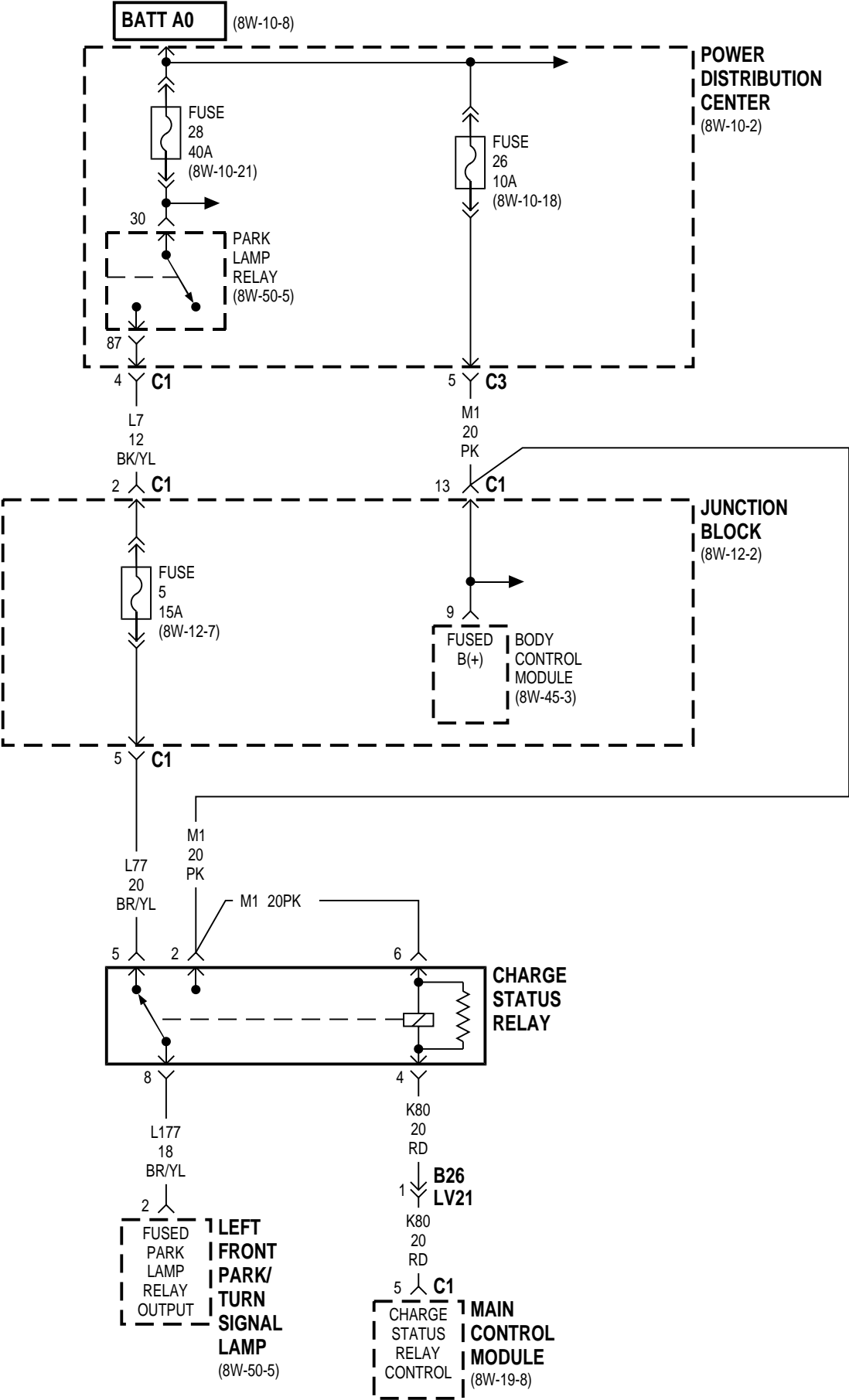
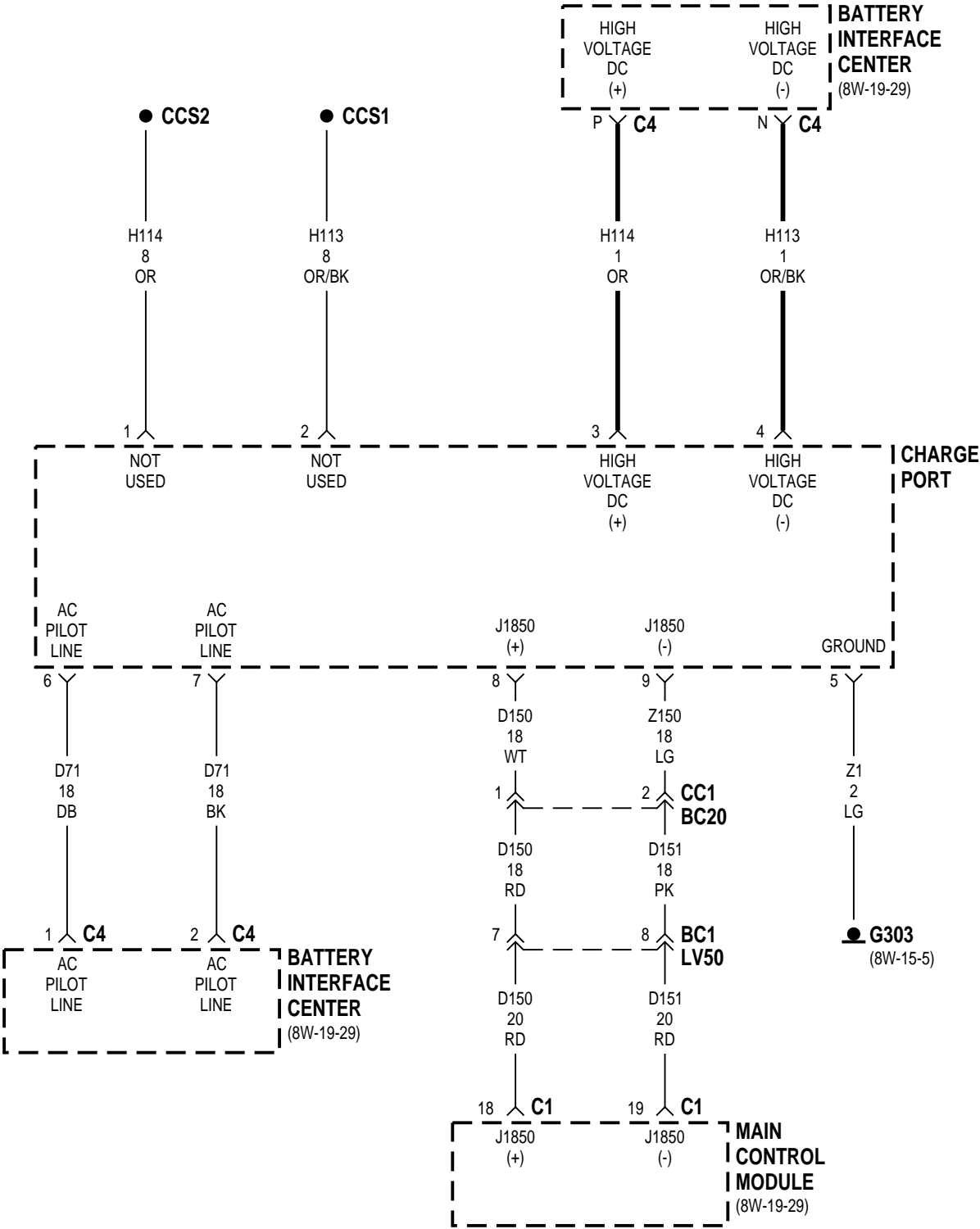


TABLE OF CONTENTS

	PAGE		PAGE
AUXILIARY BATTERY	8W–20–2, 5	FUSE 26 (PDC)	8W–20–3
AUXILIARY BATTERY TEMPERATURE		FUSE 28 (PDC)	8W–20–3
SENSOR	8W–20–2	FUSIBLE LINK	8W–20–2
AUXILIARY POWER CONVERTER		G303	8W–20–4
SUPPLY	8W–20–2	JLVS1	8W–20–2
BATTERY INTERFACE CENTER	8W–20–4	JUNCTION BLOCK	8W–20–3
BODY CONTROL MODULE	8W–20–3	LEFT FRONT PARK/TURN SIGNAL LAMP ..	8W–20–3
CCS1	8W–20–4	LOW VOLTAGE POWER SUPPLY	8W–20–2
CCS2	8W–20–4	LVS8	8W–20–5
CHARGE PORT	8W–20–4	MAIN CONTROL MODULE	8W–20–3, 4, 5
CHARGE PORT SWITCH	8W–20–5	PARK LAMP RELAY	8W–20–3
CHARGE STATUS RELAY	8W–20–3	POWER DISTRIBUTION CENTER	8W–20–2, 3
FUSE 5 (JB)	8W–20–3	POWERTRAIN CONTROLLER ASSEMBLY .	8W–20–2







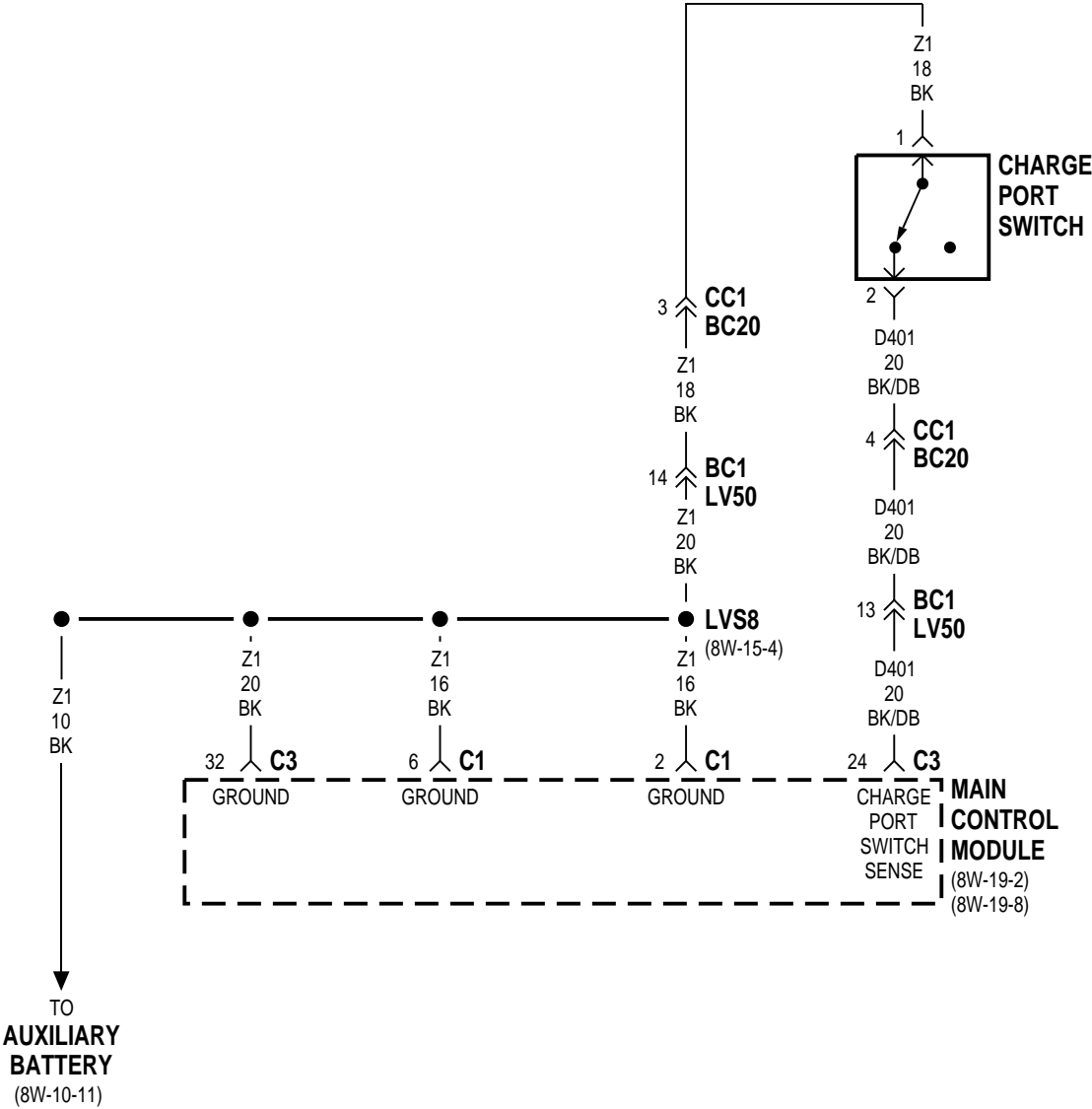


TABLE OF CONTENTS

	PAGE		PAGE
AUXILIARY BATTERY	8W-23-2	JUNCTION BLOCK	8W-23-2
CHARGE PORT SWITCH	8W-23-2	LVS1	8W-23-2
FUSE 12 (JB)	8W-23-2	LVS6	8W-23-2
FUSE 14 (PDC)	8W-23-2	LVS8	8W-23-2
G103	8W-23-2	POWER DISTRIBUTION CENTER	8W-23-2
G301	8W-23-2	VACUUM PUMP	8W-23-2
		VACUUM PUMP RELAY MODULE	8W-23-2

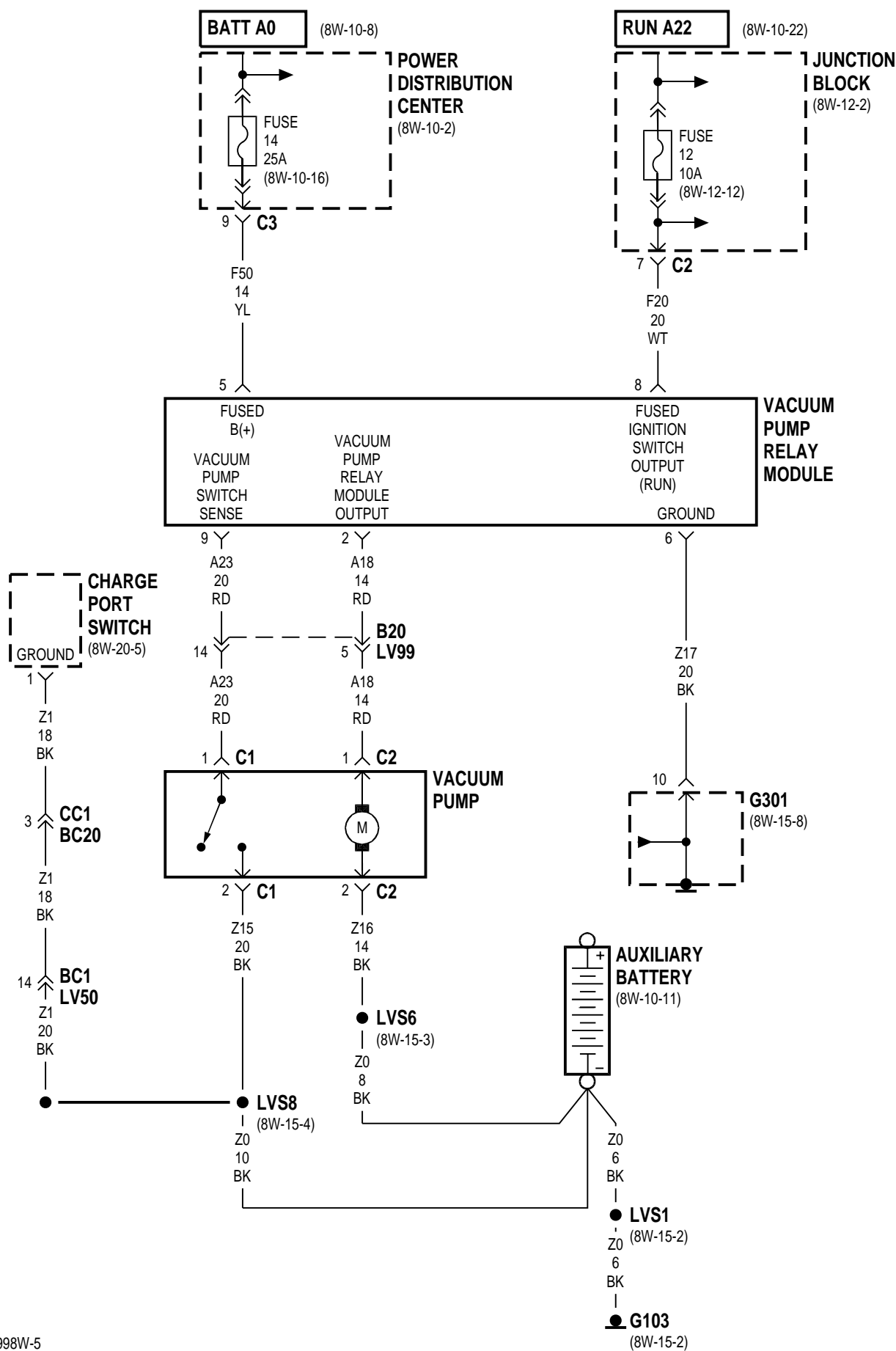
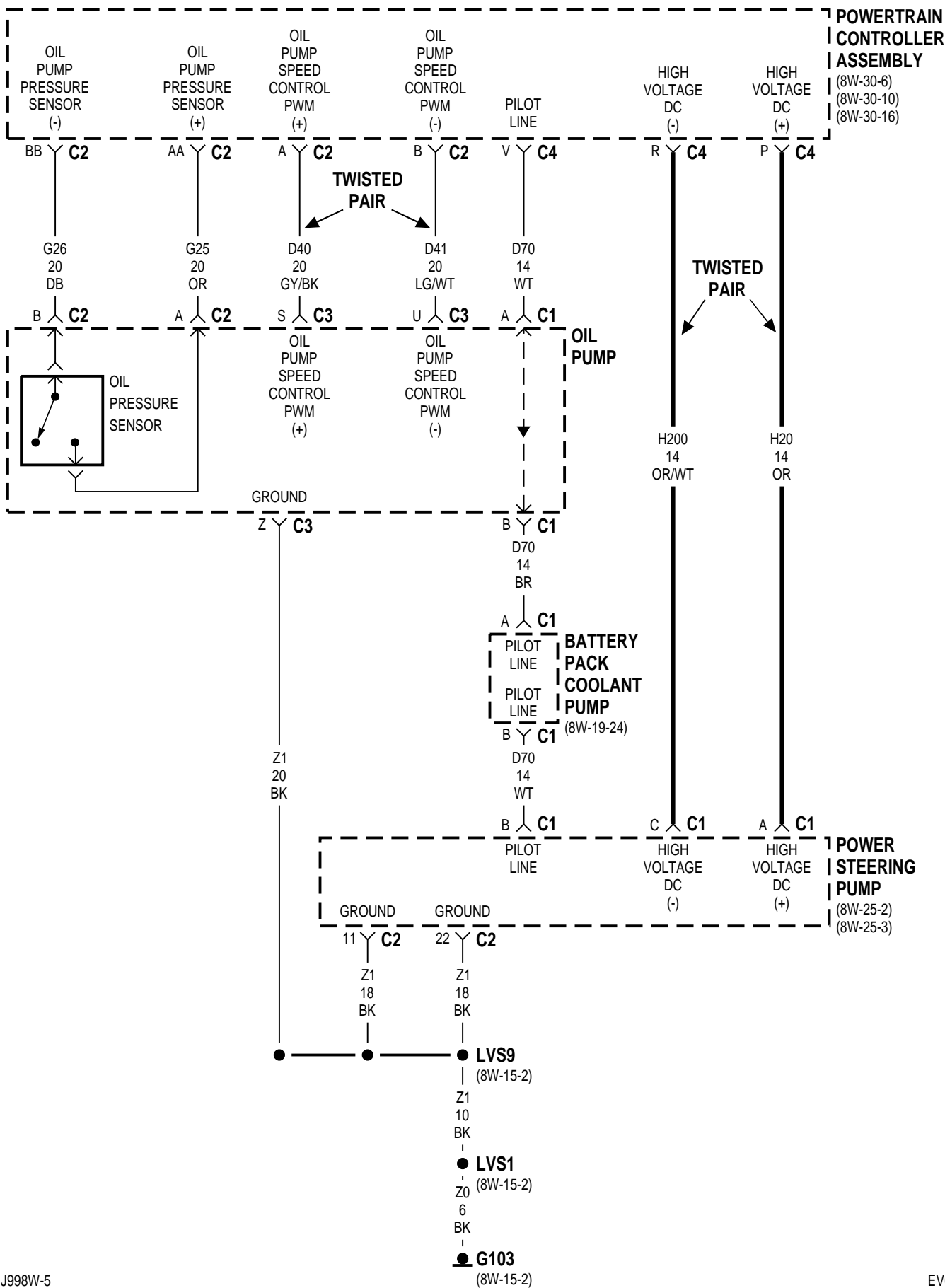


TABLE OF CONTENTS

	PAGE		PAGE
BATTERY INTERFACE CENTER	8W-24-3	OIL PRESSURE SENSOR	8W-24-2
BATTERY PACK COOLANT PUMP	8W-24-2	OIL PUMP	8W-24-2, 3
FUSE 12 (JB)	8W-24-3	POWER STEERING PUMP	8W-24-2, 3
G103	8W-24-2	POWERTRAIN CONTROLLER	
JUNCTION BLOCK	8W-24-3	ASSEMBLY	8W-24-2, 3
LVS1	8W-24-2	POWERTRAIN CONTROLLER	
LVS2	8W-24-3	ASSEMBLY RELAY	8W-24-3
LVS9	8W-24-2	VACUUM PUMP RELAY MODULE	8W-24-3



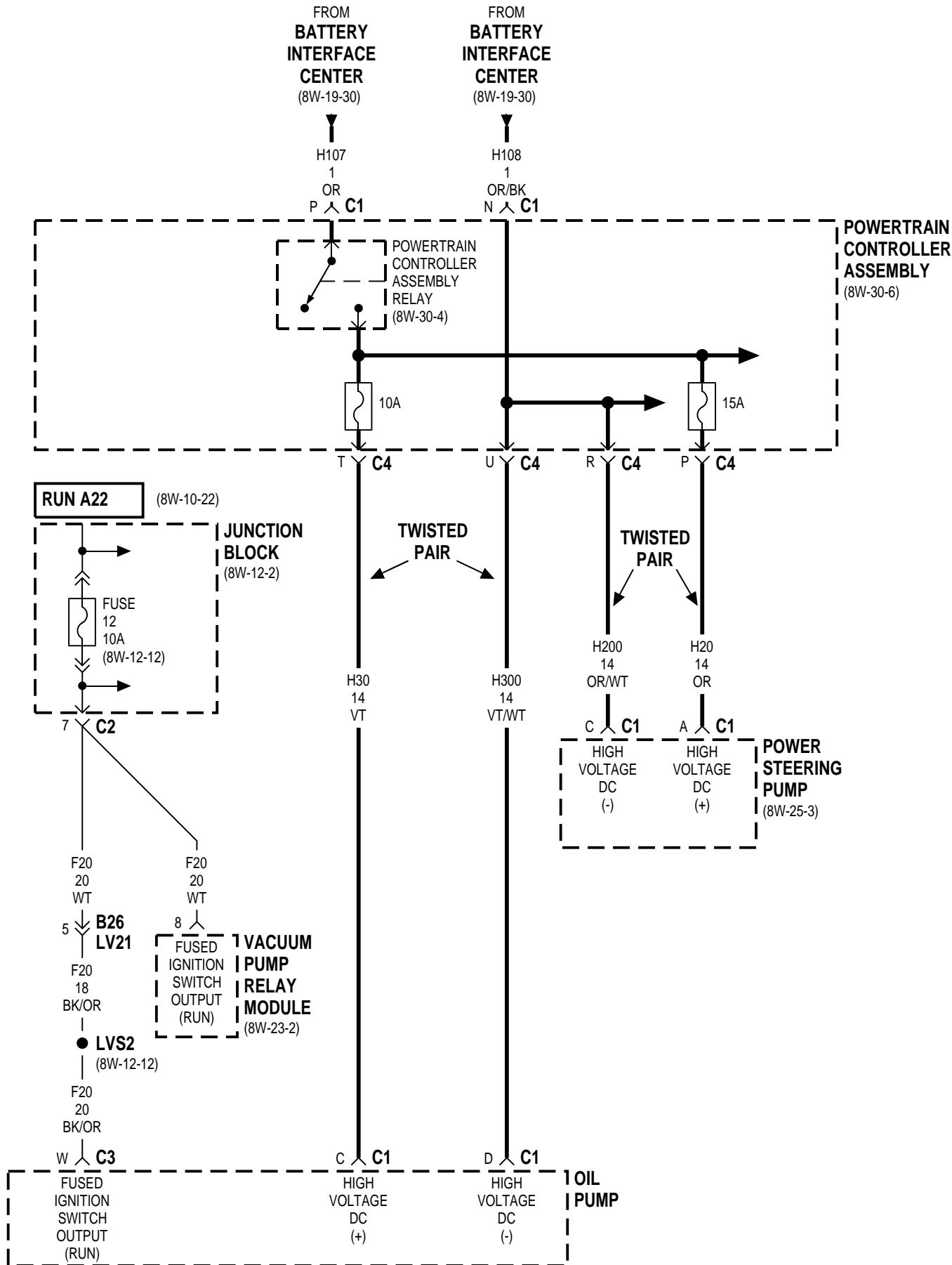
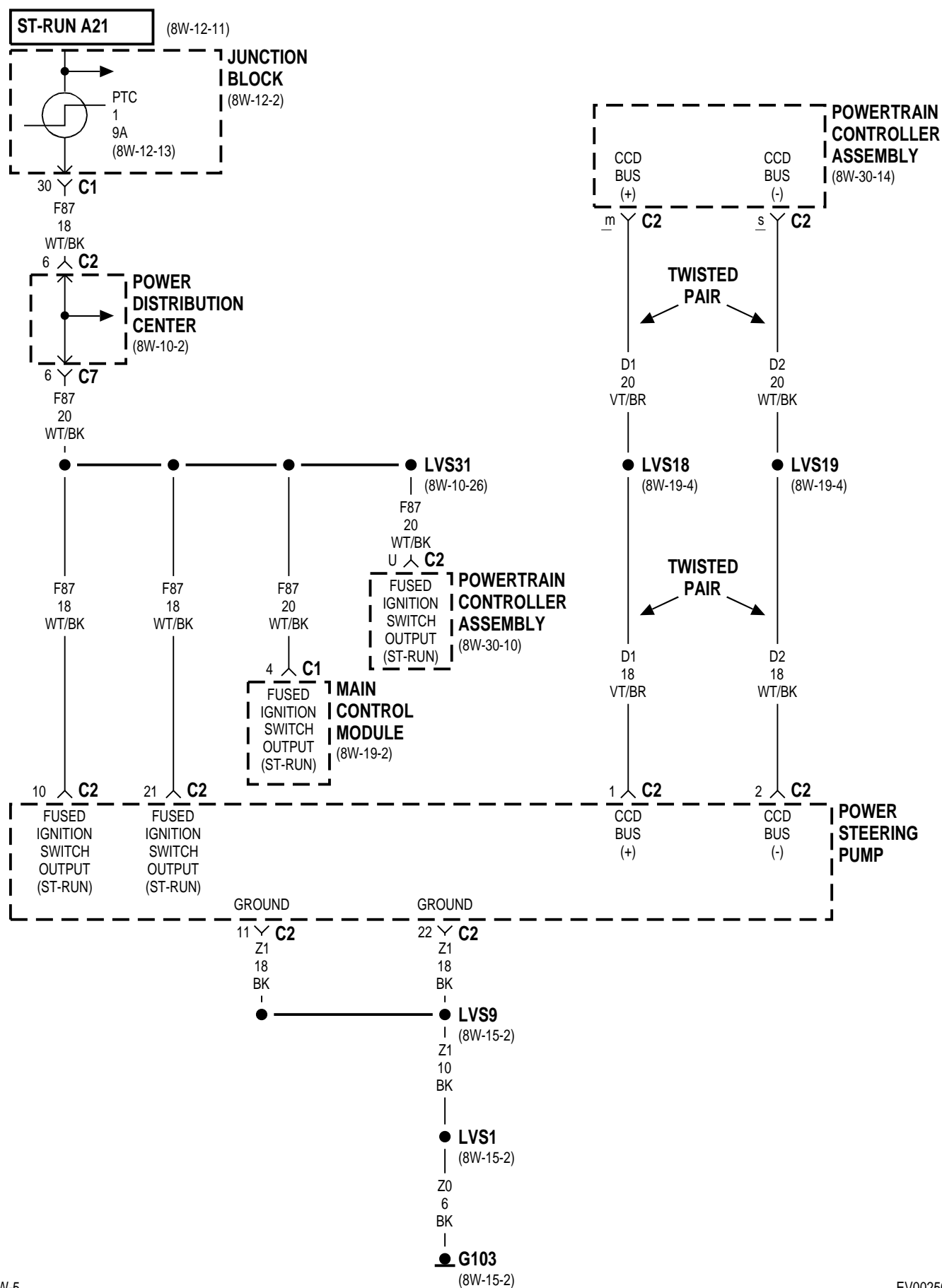


TABLE OF CONTENTS

	PAGE		PAGE
BATTERY PACK COOLANT PUMP	8W-25-3	LVS31	8W-25-2
G103	8W-25-2	MAIN CONTROL MODULE	8W-25-2
JUNCTION BLOCK	8W-25-2	POWER DISTRIBUTION CENTER	8W-25-2
LVS1	8W-25-2	POWER STEERING PUMP	8W-25-2, 3
LVS9	8W-25-2	POWERTRAIN CONTROLLER	
LVS18	8W-25-2	ASSEMBLY	8W-25-2, 3
LVS19	8W-25-2	PTC 1 (JB)	8W-25-2
		PTC HEATER CONTROLLER	8W-25-3



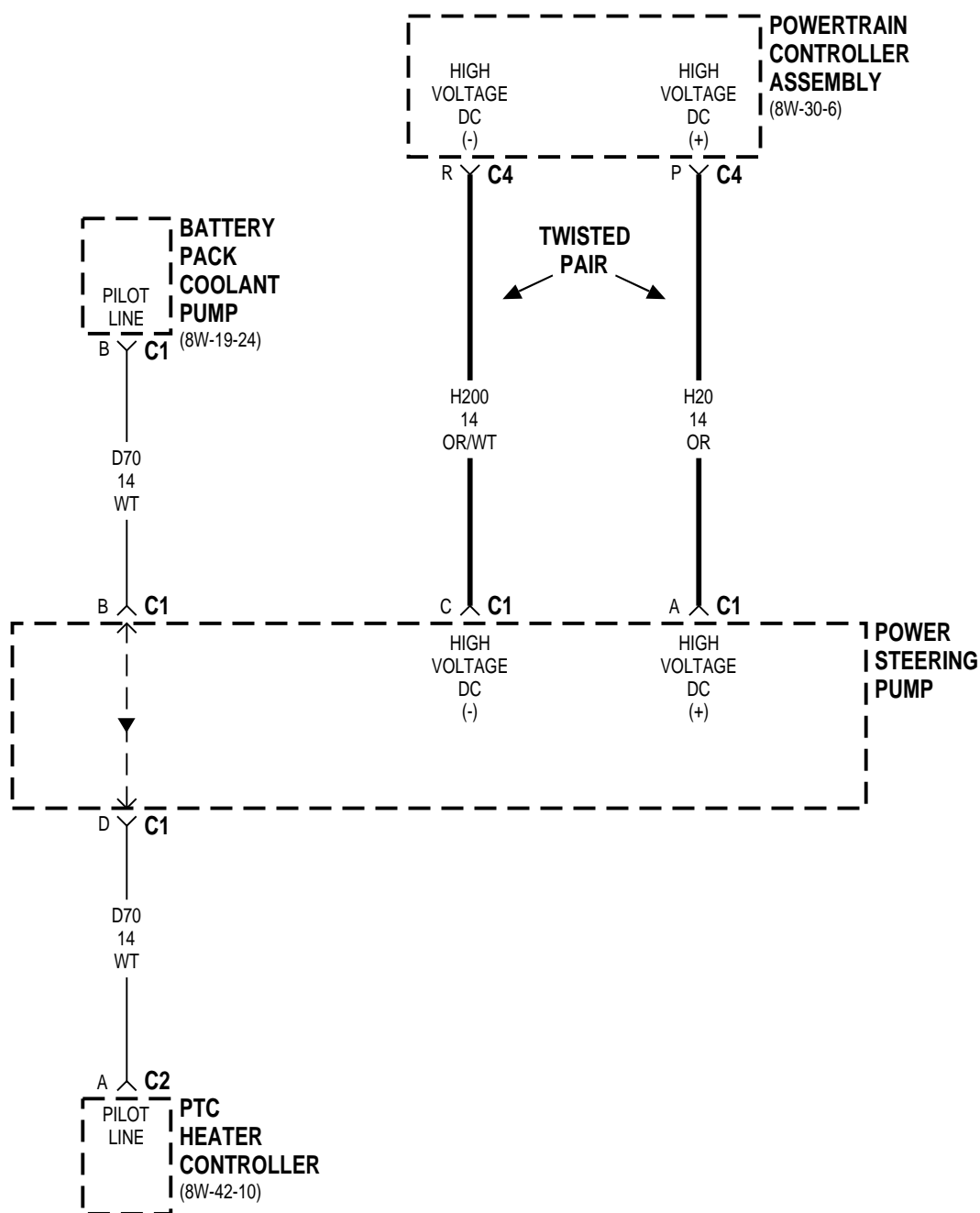
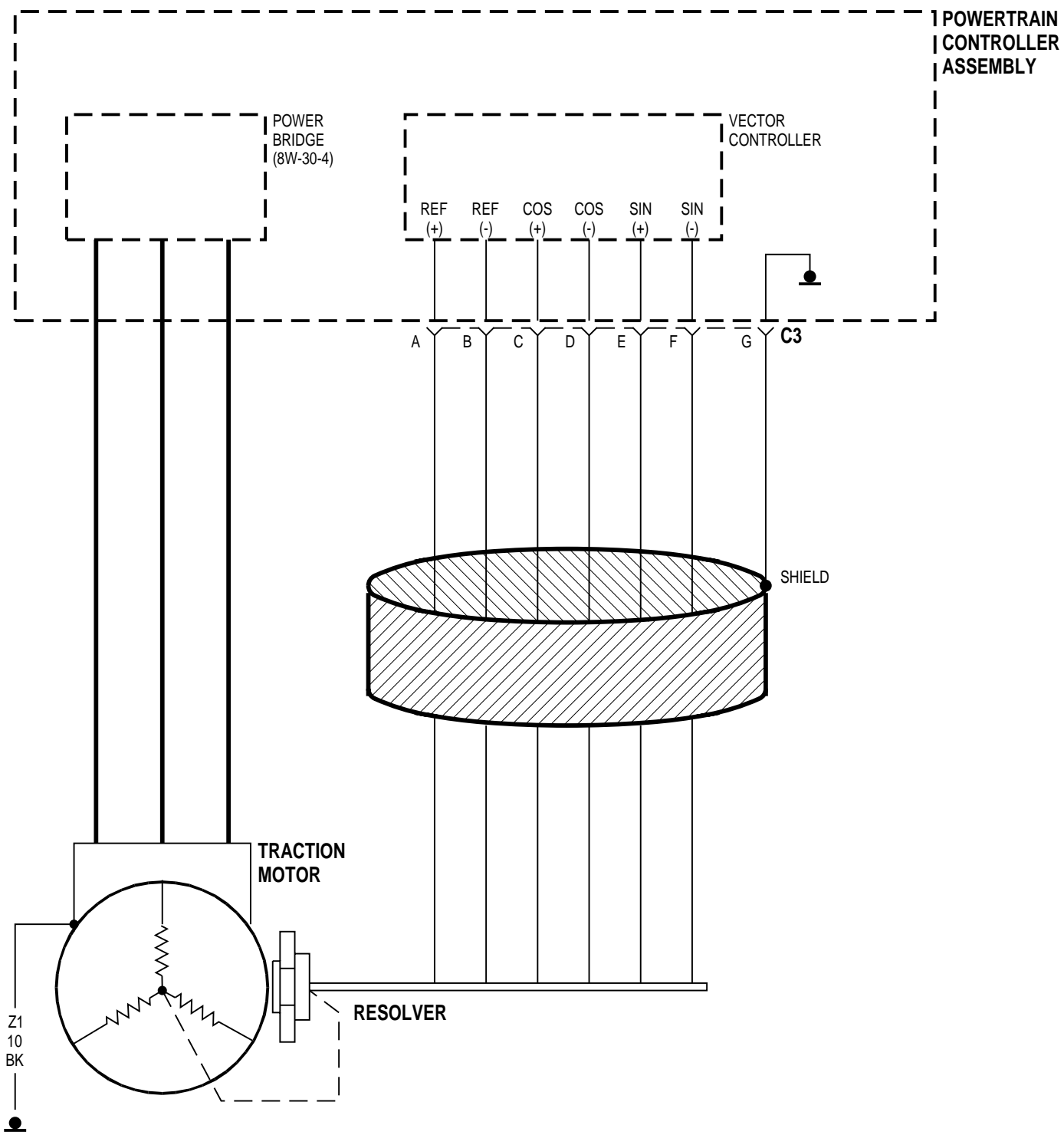
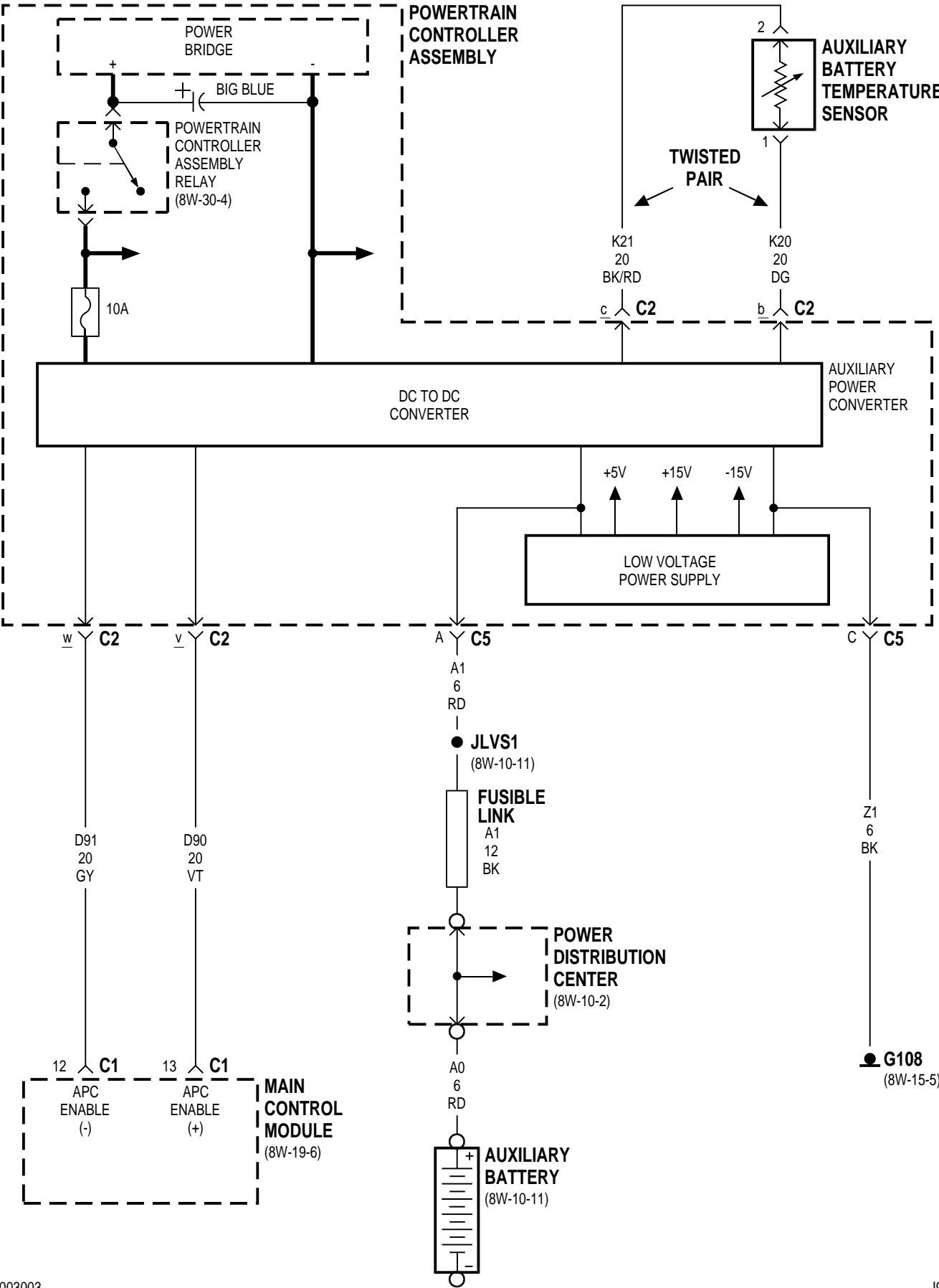
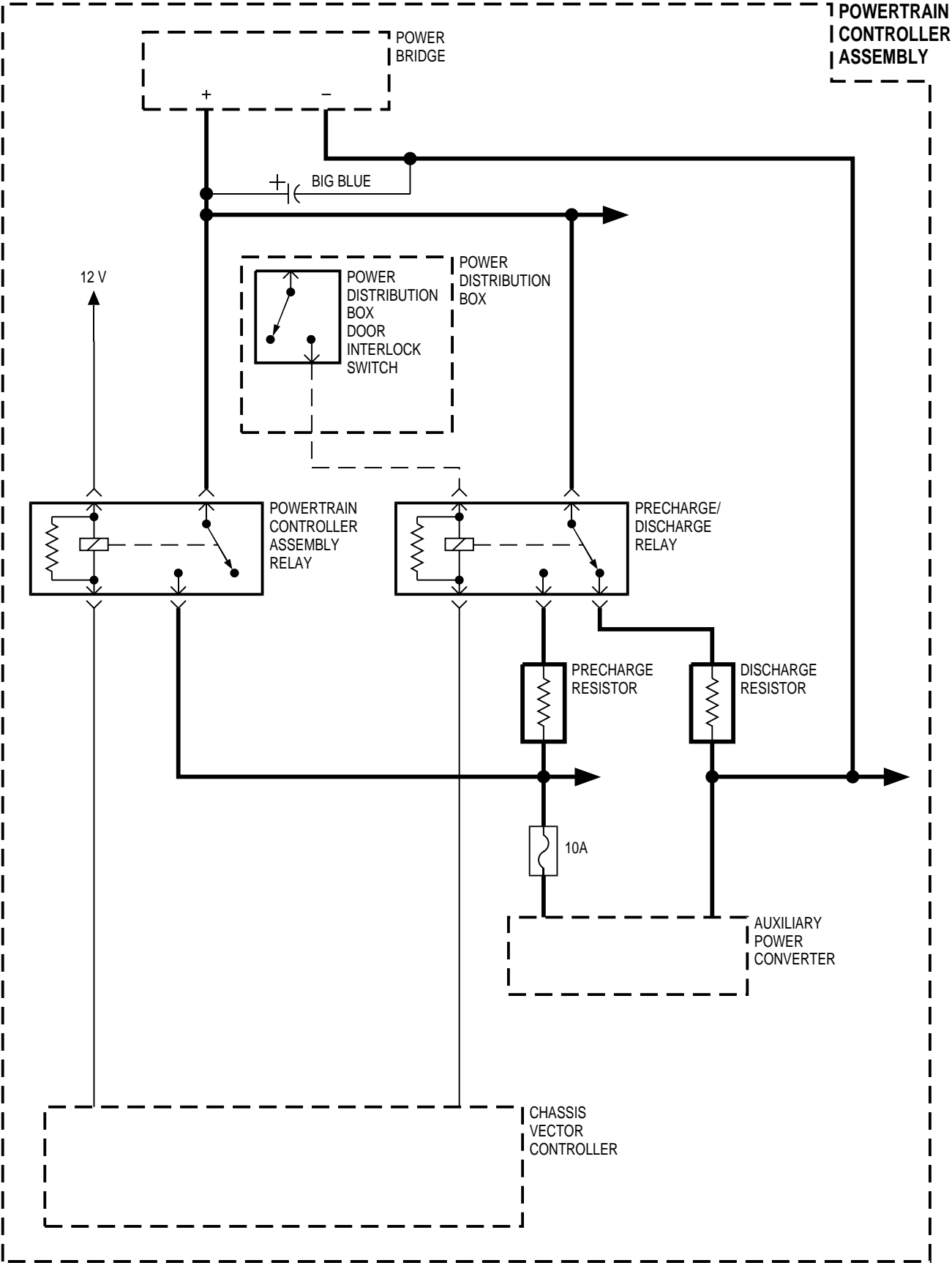


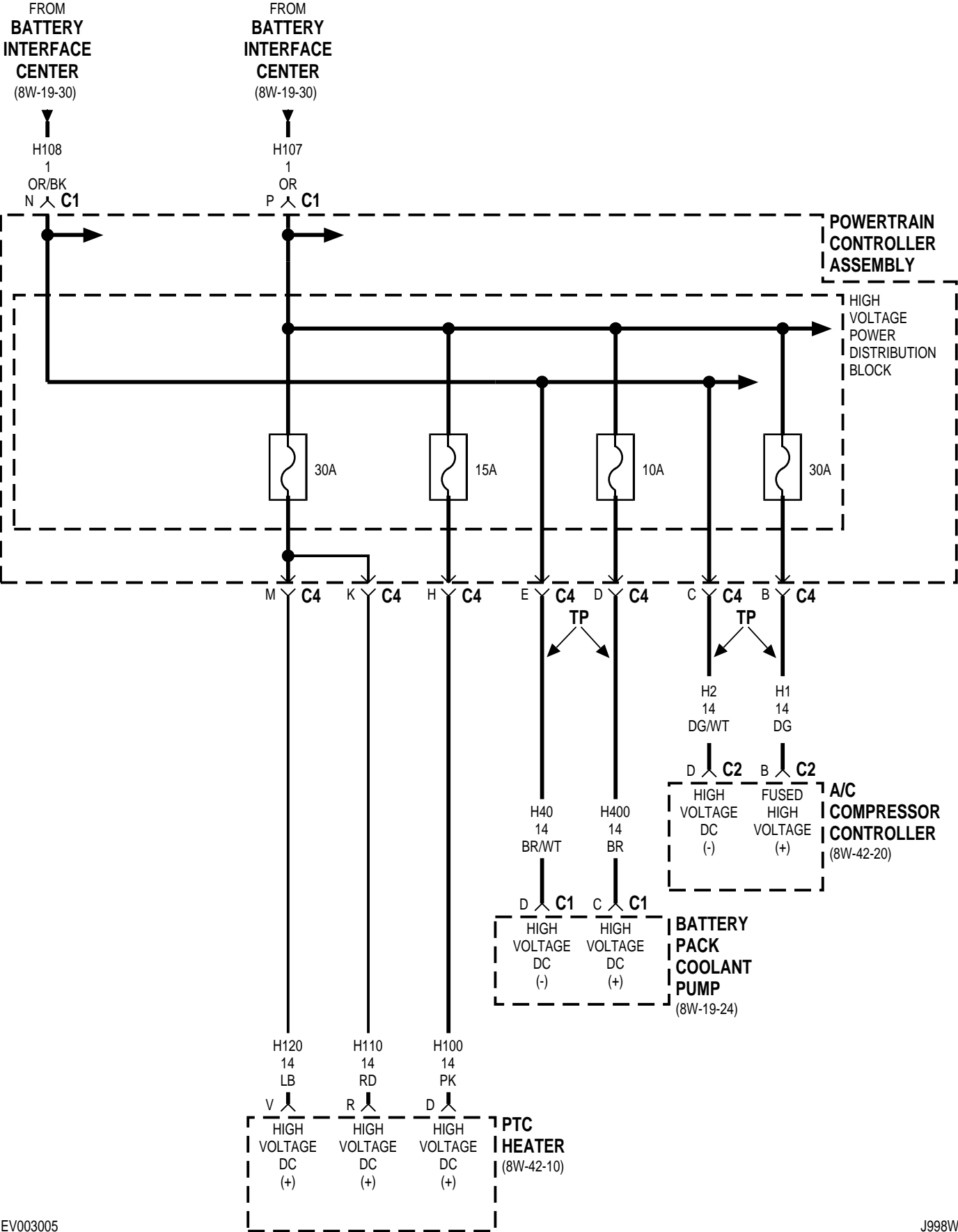
TABLE OF CONTENTS

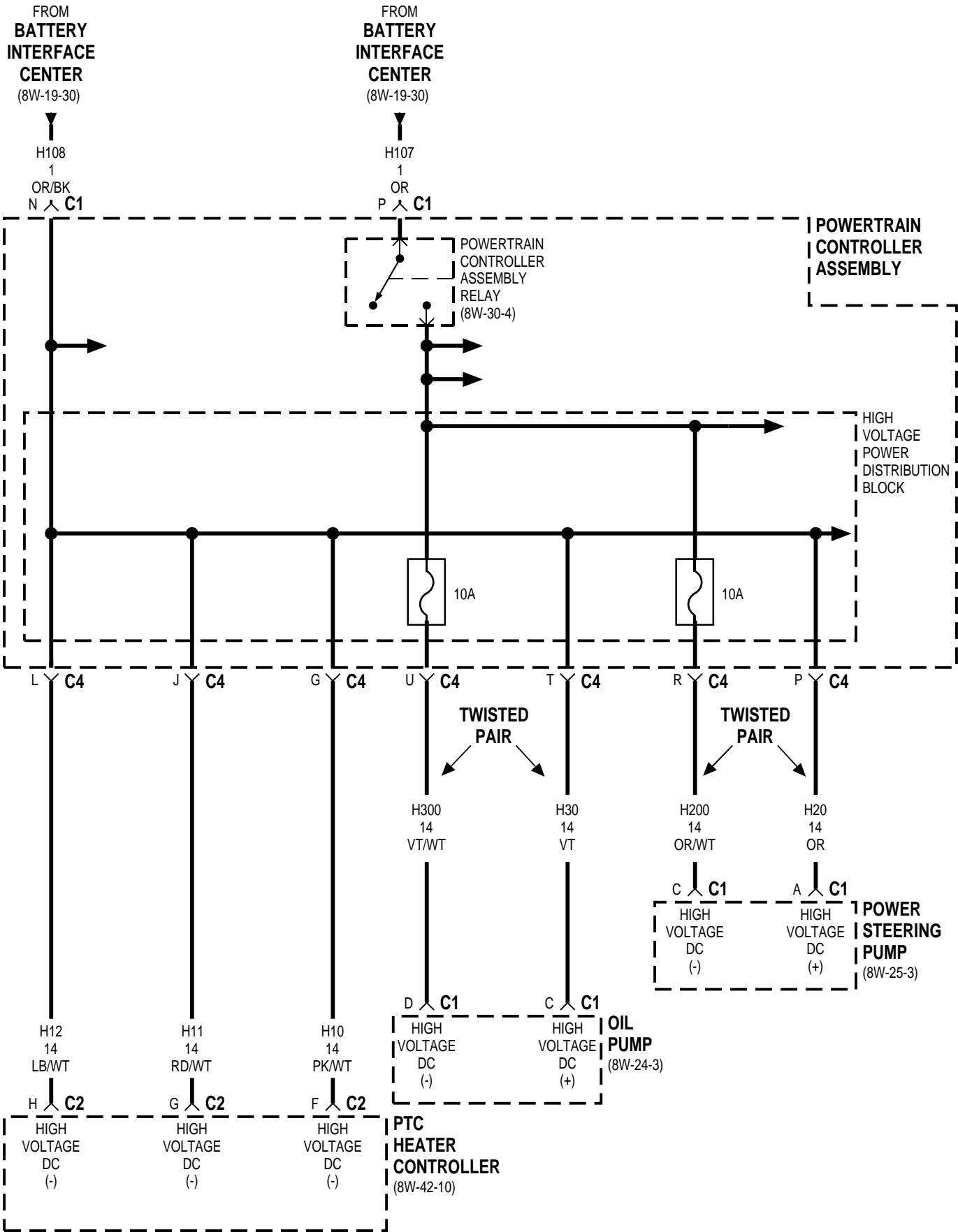
	PAGE		PAGE
A/C COMPRESSOR	8W-30-16	LEFT REAR LAMP ASSEMBLY	8W-30-9
A/C COMPRESSOR CONTROLLER	8W-30-5, 16	LVS1	8W-30-10, 11
ACCELERATOR PEDAL MODULE	8W-30-15	LVS2	8W-30-9
ACCELERATOR IDLE POSITION		LVS6	8W-30-11
SWITCH	8W-30-15	LVS7	8W-30-11
AUXILIARY BATTERY	8W-30-3, 7, 10, 11	LVS8	8W-30-10, 11
AUXILIARY BATTERY TEMPERATURE		LVS12	8W-30-13
SENSOR	8W-30-3, 7	LVS14	8W-30-8
AUXILIARY POWER CONVERTER	8W-30-3, 4	LVS15	8W-30-8
BATTERY INTERFACE CENTER ..	8W-30-5, 6, 11, 16	LVS17	8W-30-13
BATTERY PACK COOLANT PUMP	8W-30-5	LVS18	8W-30-14
BRAKE LAMP SWITCH	8W-30-14	LVS19	8W-30-14
BRAKE PRESSURE SENSOR NO. 1	8W-30-13	LVS31	8W-30-10
BRAKE PRESSURE SENSOR NO. 2	8W-30-13	LVS60	8W-30-14
BRAKE PRESSURE SWITCH	8W-30-13	LVS61	8W-30-14
BS2	8W-30-9	MAIN CONTROL MODULE	8W-30-3, 7, 8, 11, 12
BS3	8W-30-15	MESSAGE CENTER	8W-30-13
BS4	8W-30-14	OIL PUMP	8W-30-6, 10, 16
BS5	8W-30-14	PARK BRAKE SWITCH	8W-30-13
BS6	8W-30-14	POWER BRIDGE	8W-30-2, 4
CHASSIS VECTOR CONTROLLER	8W-30-4	POWER DISTRIBUTION BOX	8W-30-4
COMBINATION FLASHER	8W-30-13	POWER DISTRIBUTION BOX DOOR INTERLOCK	
CONTROLLER ANTI-LOCK BRAKE	8W-30-14	SWITCH	8W-30-4
DATA LINK CONNECTOR	8W-30-12	POWER DISTRIBUTION CENTER	8W-30-3, 7
DIAGNOSTIC CONNECTOR	8W-30-12	POWER STEERING PUMP	8W-30-6, 10
DISCHARGE RESISTOR	8W-30-4	POWERTRAIN CONTROLLER	
FUSE 2 (JB)	8W-30-8	ASSEMBLY 8W-30-2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,	
FUSE 10 (JB)	8W-30-8	14, 15, 16	
FUSE 12 (JB)	8W-30-9	POWERTRAIN CONTROLLER ASSEMBLY	
FUSIBLE LINK	8W-30-3, 7	RELAY	8W-30-3, 4, 6
G101	8W-30-11	PRECHARGE RESISTOR	8W-30-4
G103	8W-30-10, 11	PRECHARGE/DISCHARGE RELAY	8W-30-4
G108	8W-30-3, 7	PS1	8W-30-12
G200	8W-30-12	PS2	8W-30-12
G300	8W-30-13, 14	PS10	8W-30-12
G302	8W-30-9	PTC HEATER	8W-30-5
HIGH VOLTAGE POWER DISTRIBUTION		PTC HEATER CONTROLLER	8W-30-6
BLOCK	8W-30-5, 6	RESOLVER	8W-30-2
HVAC CONTROL HEAD	8W-30-12	RIGHT REAR LAMP ASSEMBLY	8W-30-9
INSTRUMENT CLUSTER	8W-30-12	TRACTION MOTOR	8W-30-2
JLVS1	8W-30-3, 7	TRANSMISSION RANGE SWITCH	8W-30-9
JUNCTION BLOCK	8W-30-8, 9, 13	VACUUM PUMP RELAY MODULE	8W-30-9
LEFT FRONT PARK/TURN SIGNAL		VECTOR CONTROLLER	8W-30-2
LAMP	8W-30-14		

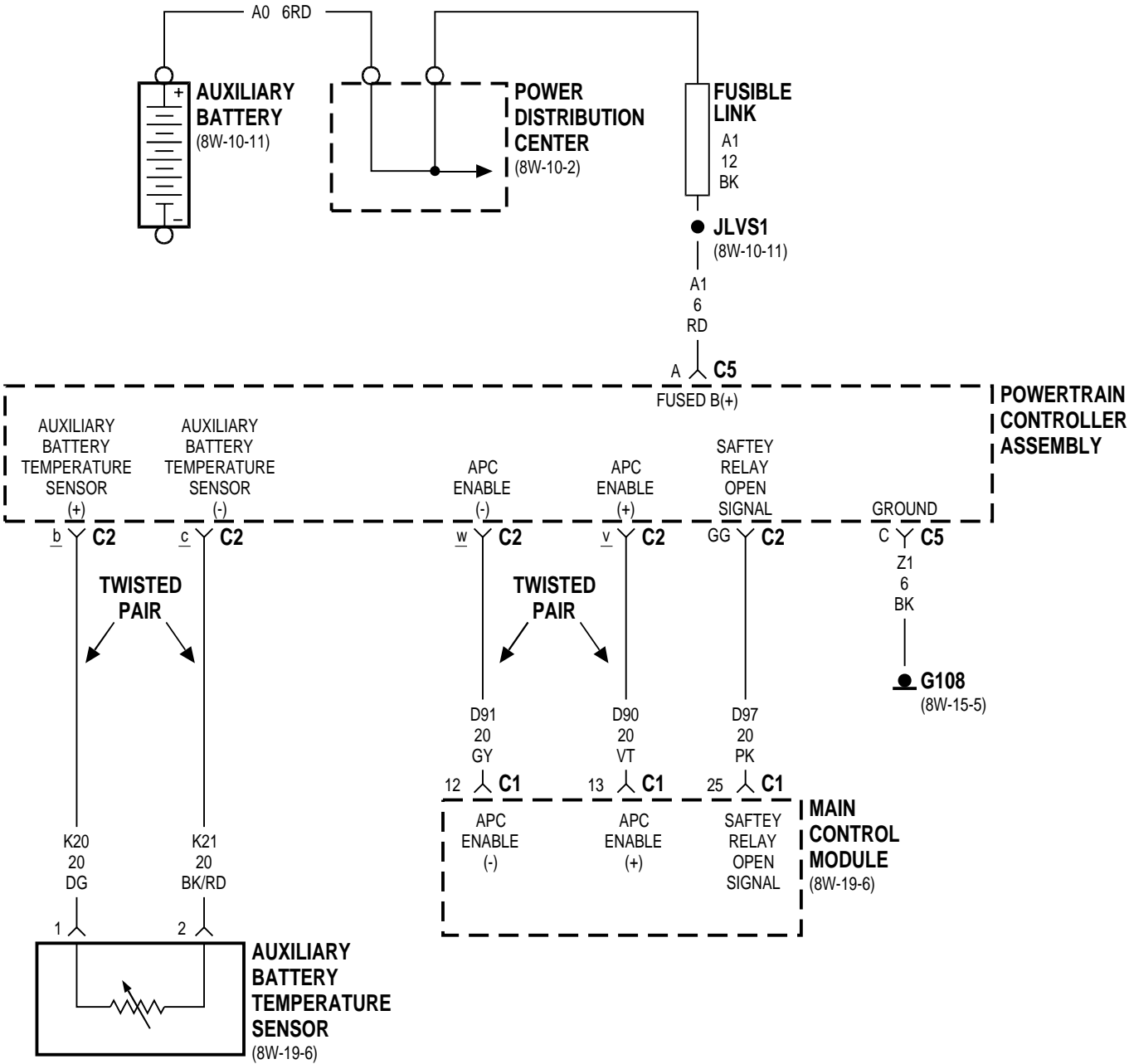


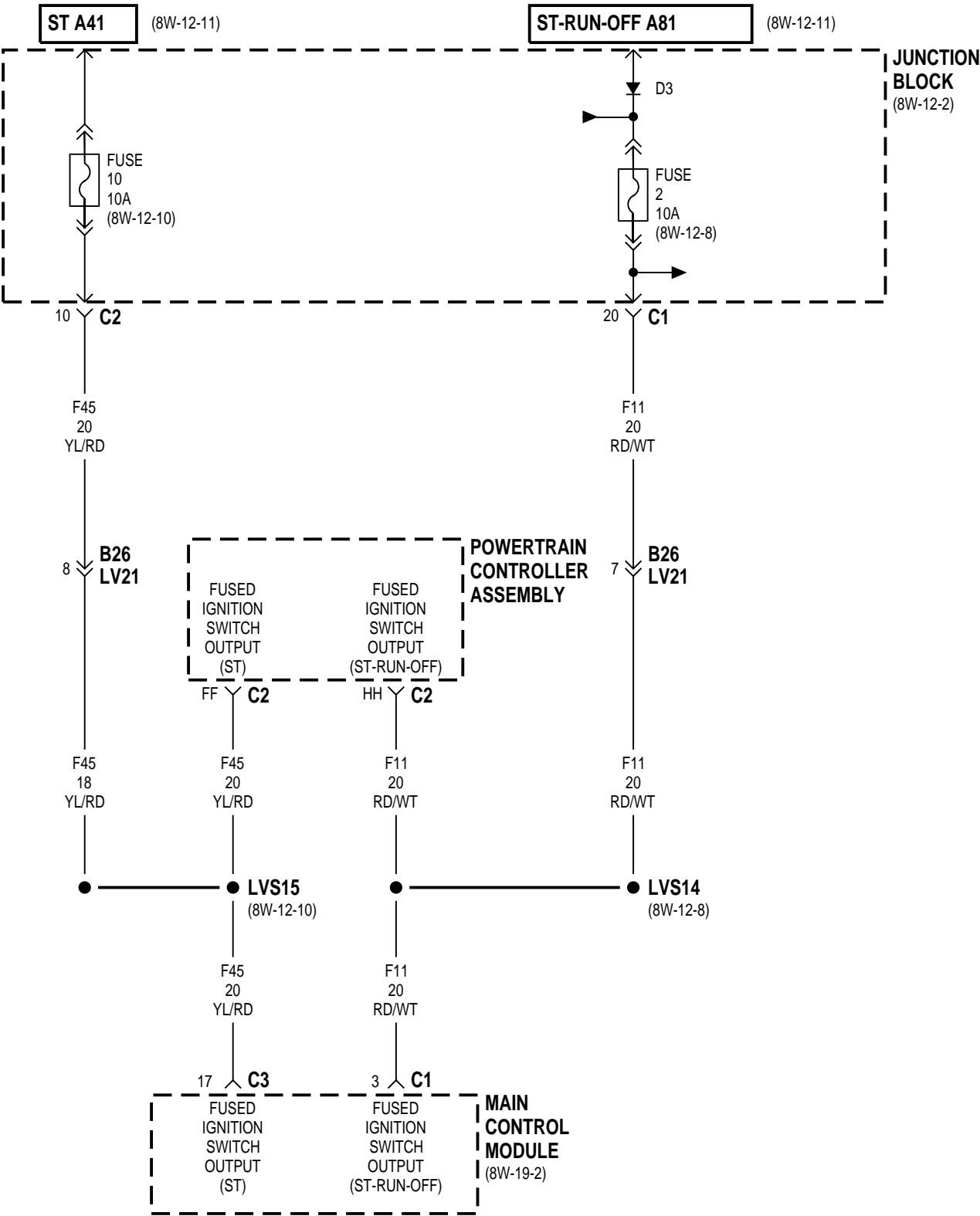


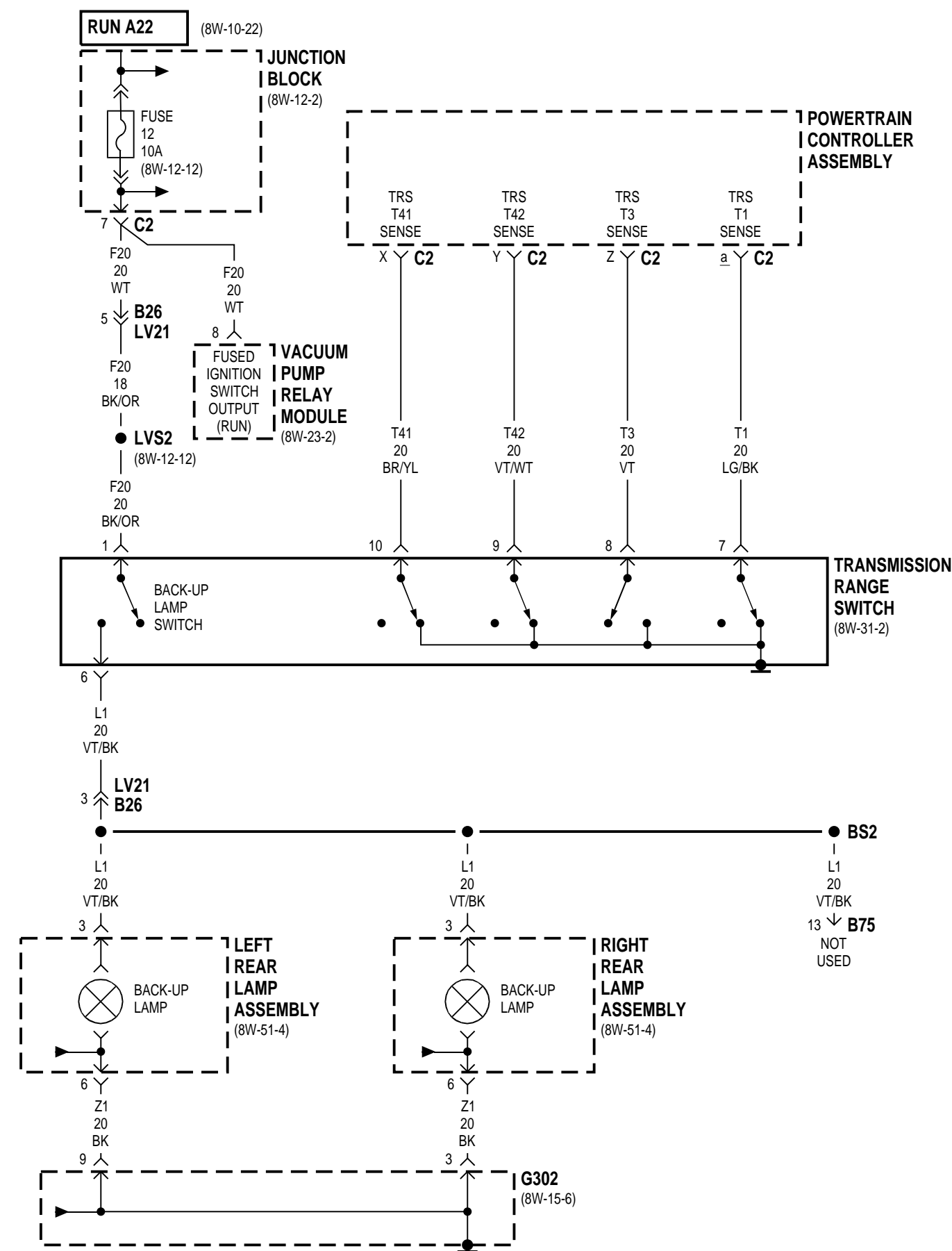


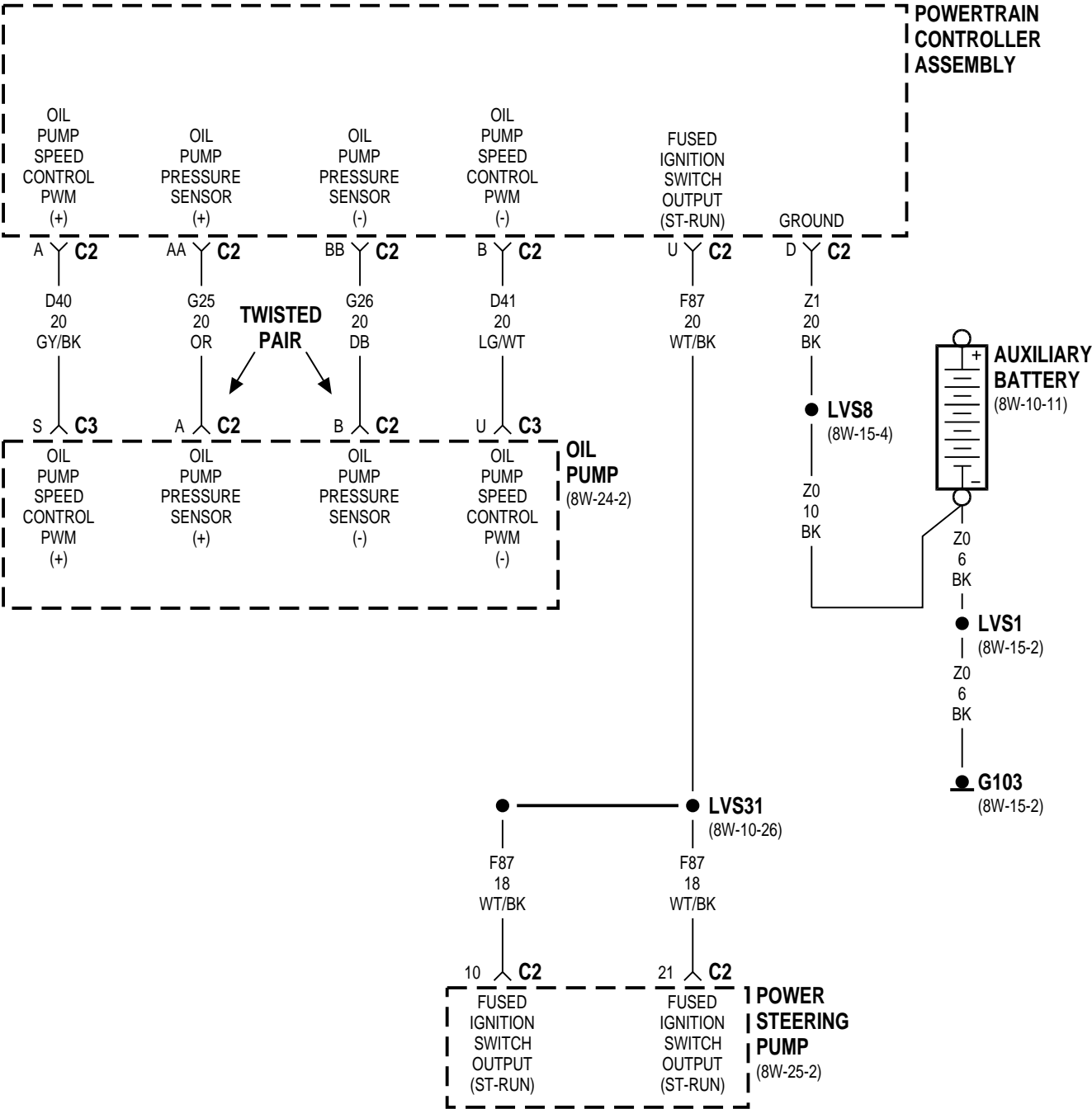


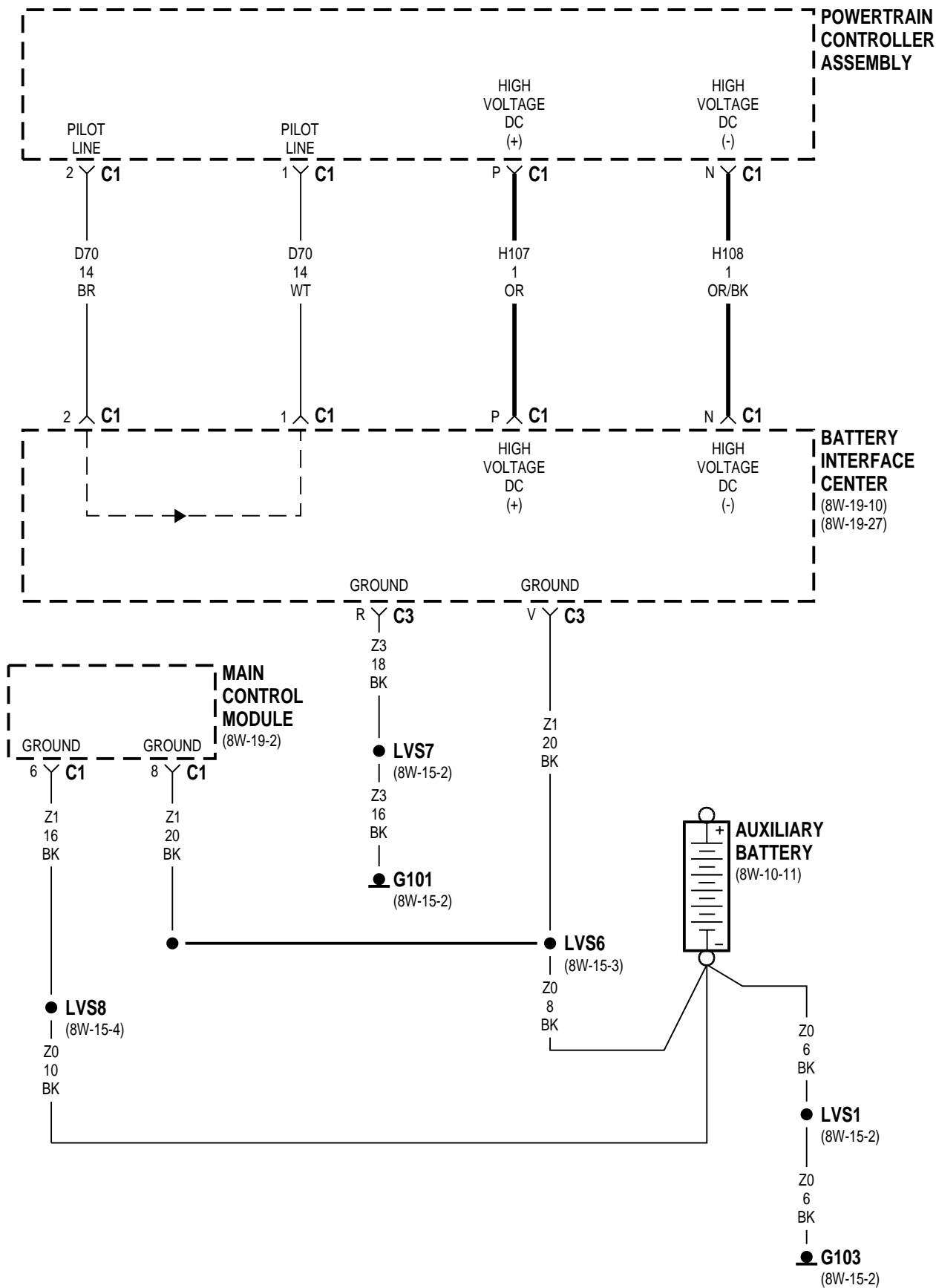


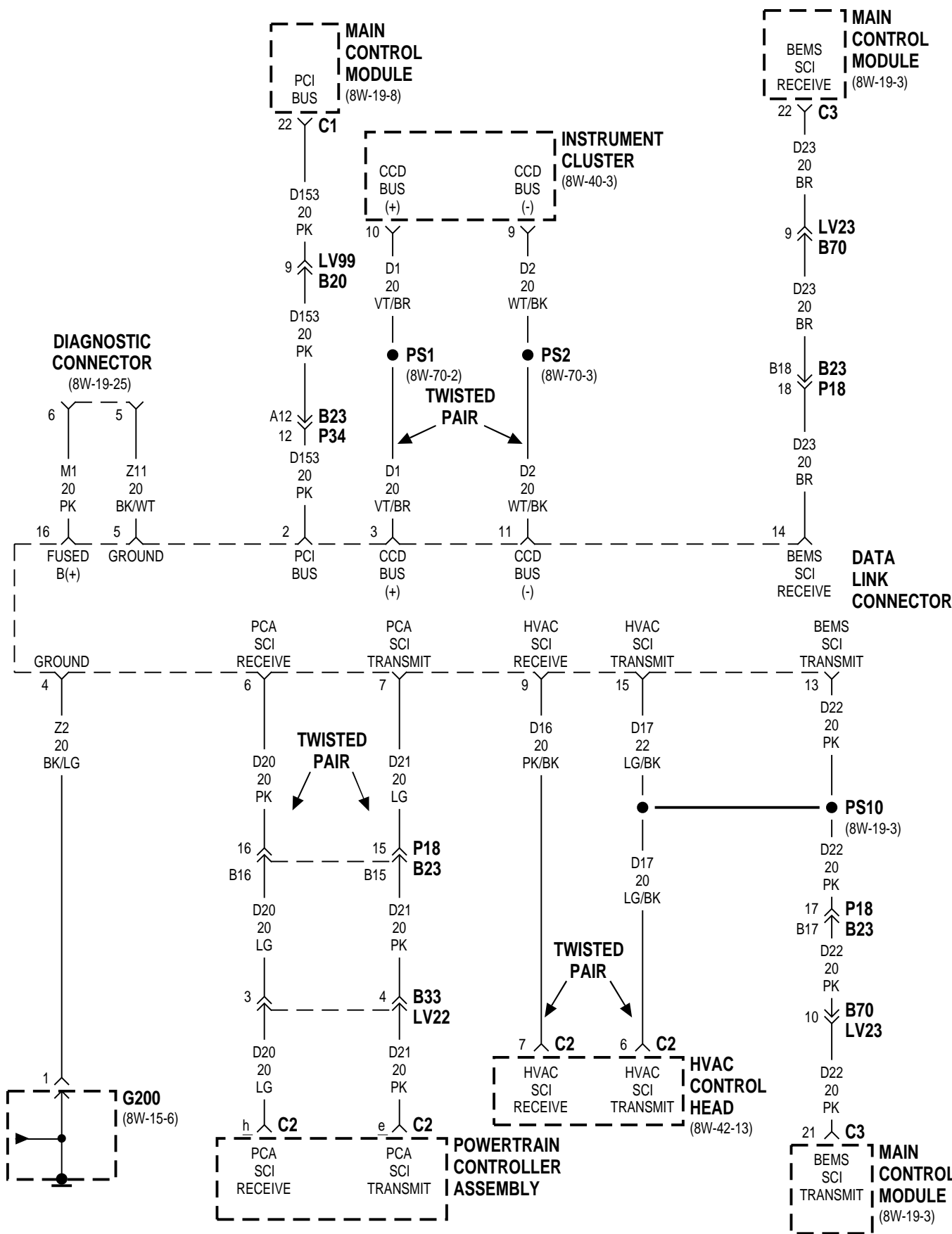




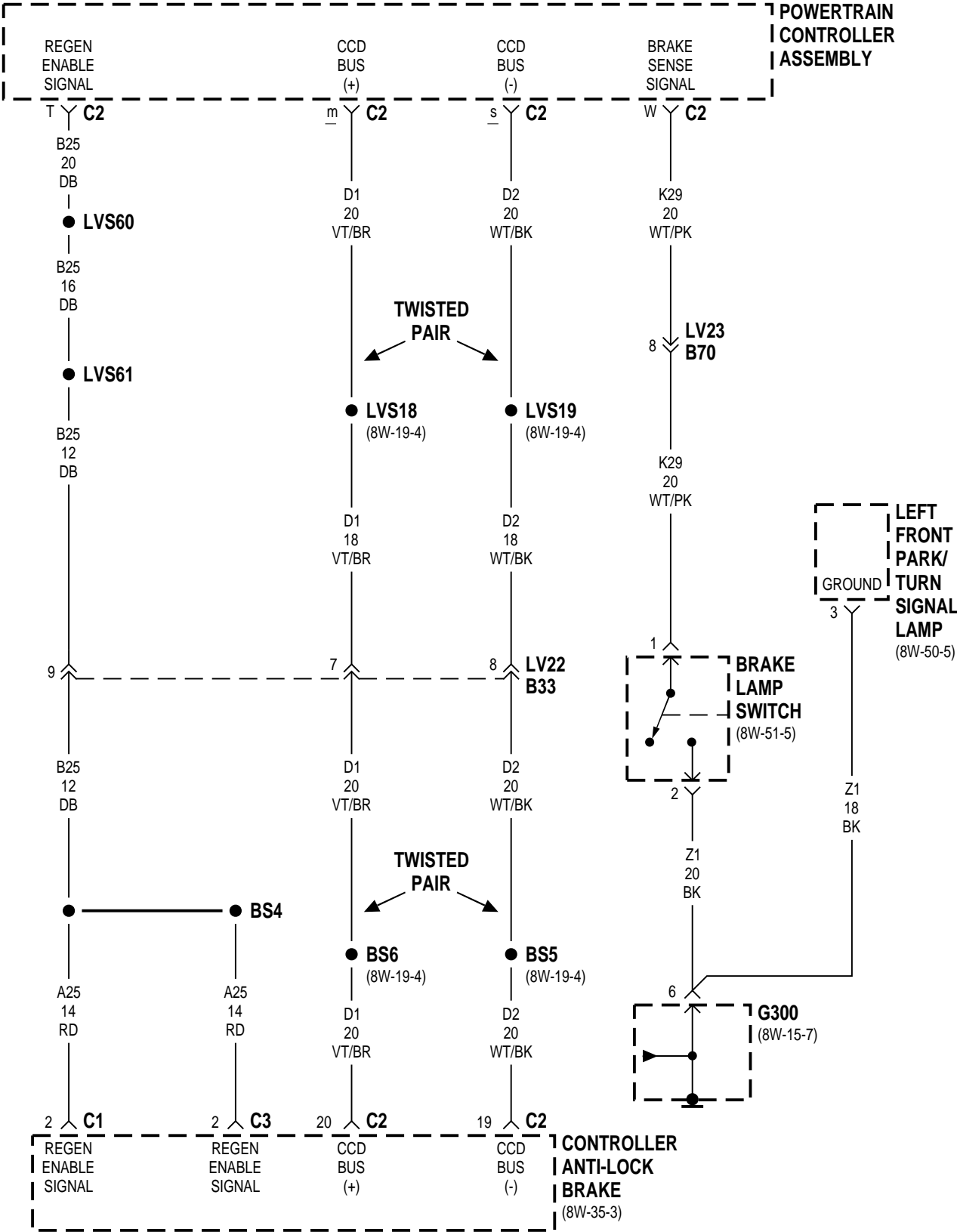














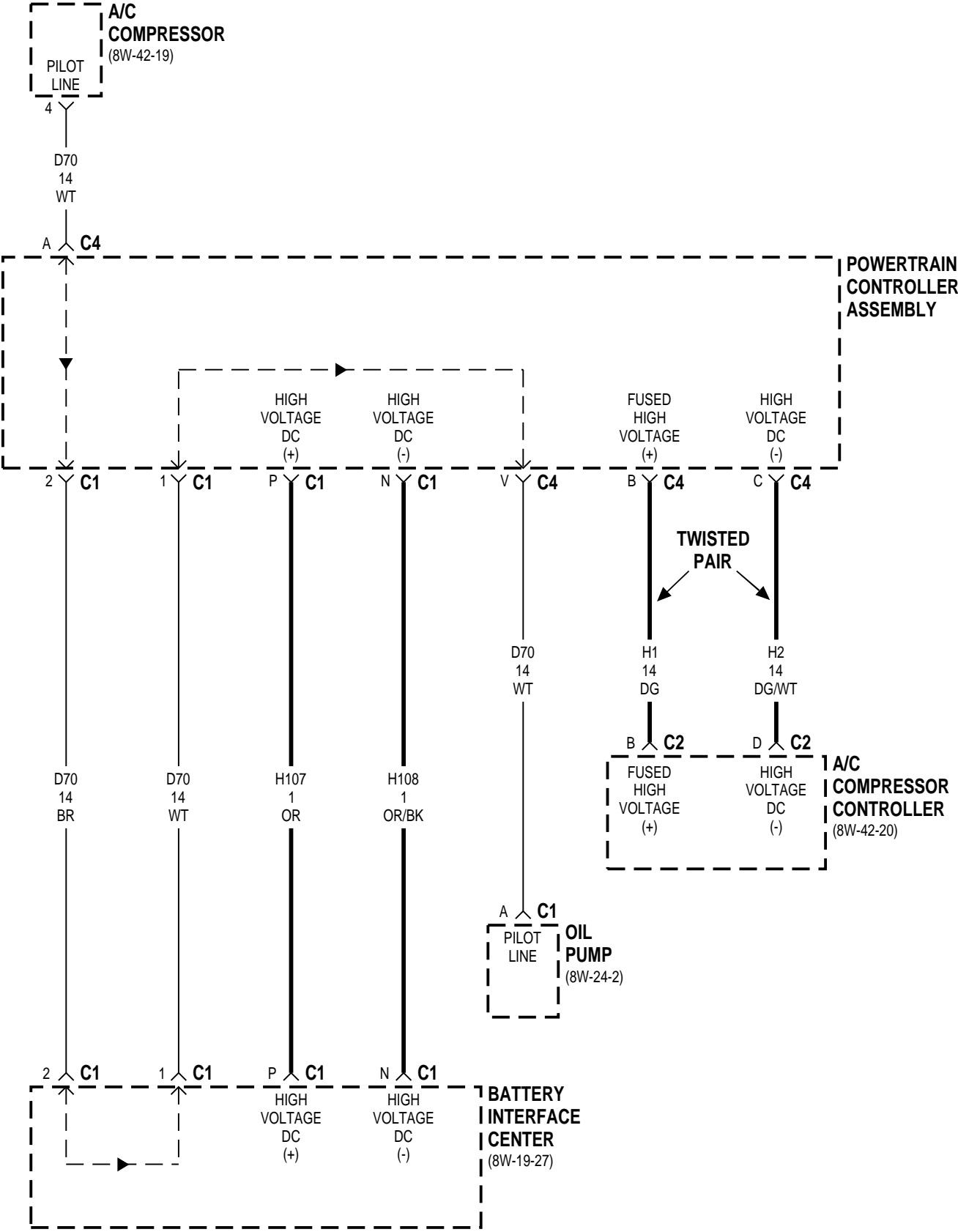


TABLE OF CONTENTS

	PAGE		PAGE
BS2	8W-31-2	LVS2	8W-31-2
FUSE 12 (JB)	8W-31-2	POWERTRAIN CONTROLLER ASSEMBLY .	8W-31-2
G302	8W-31-2	RIGHT REAR LAMP ASSEMBLY	8W-31-2
JUNCTION BLOCK	8W-31-2	TRANSMISSION RANGE SWITCH	8W-31-2
LEFT REAR LAMP ASSEMBLY	8W-31-2	VACUUM PUMP RELAY MODULE	8W-31-2

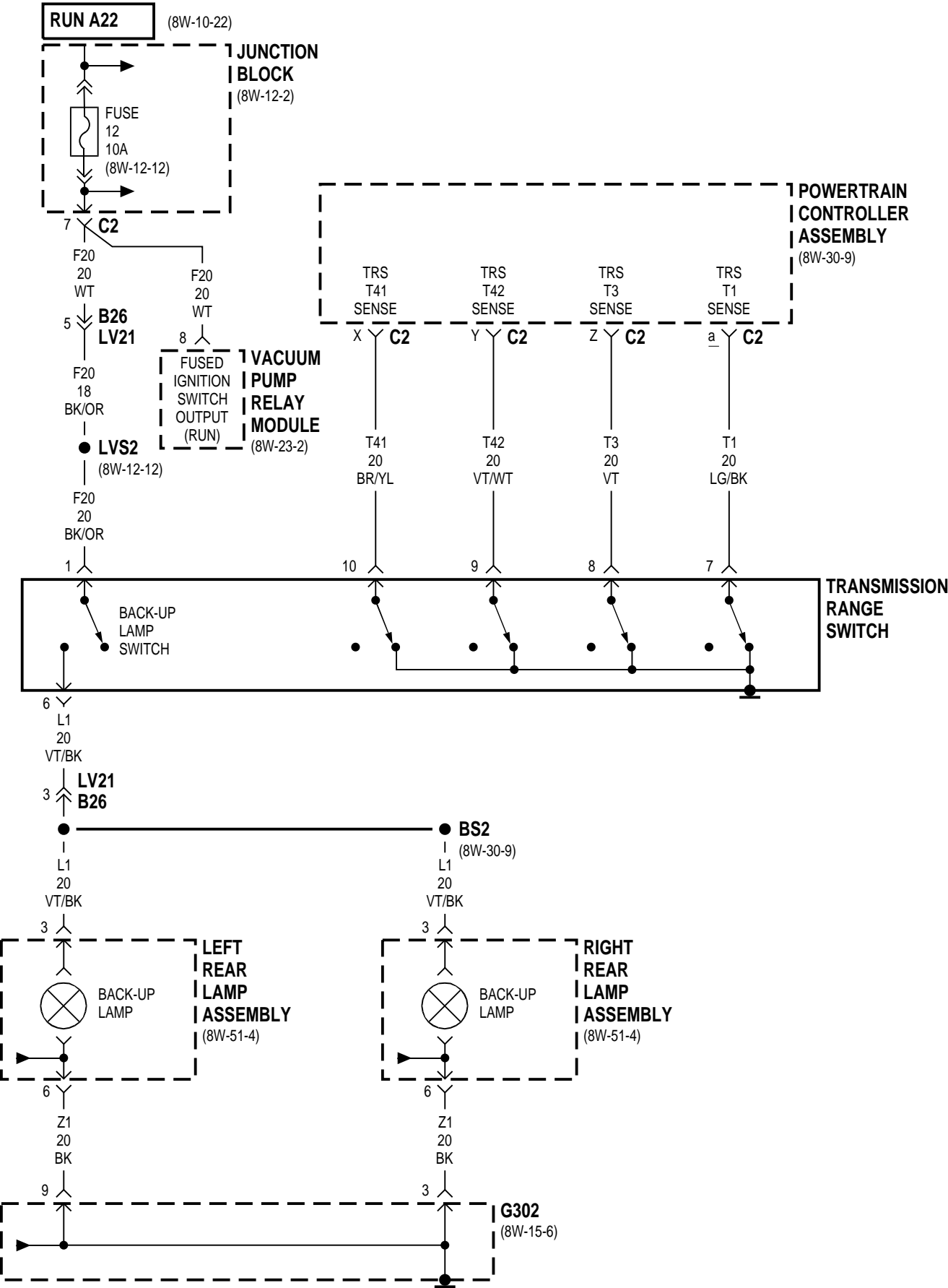
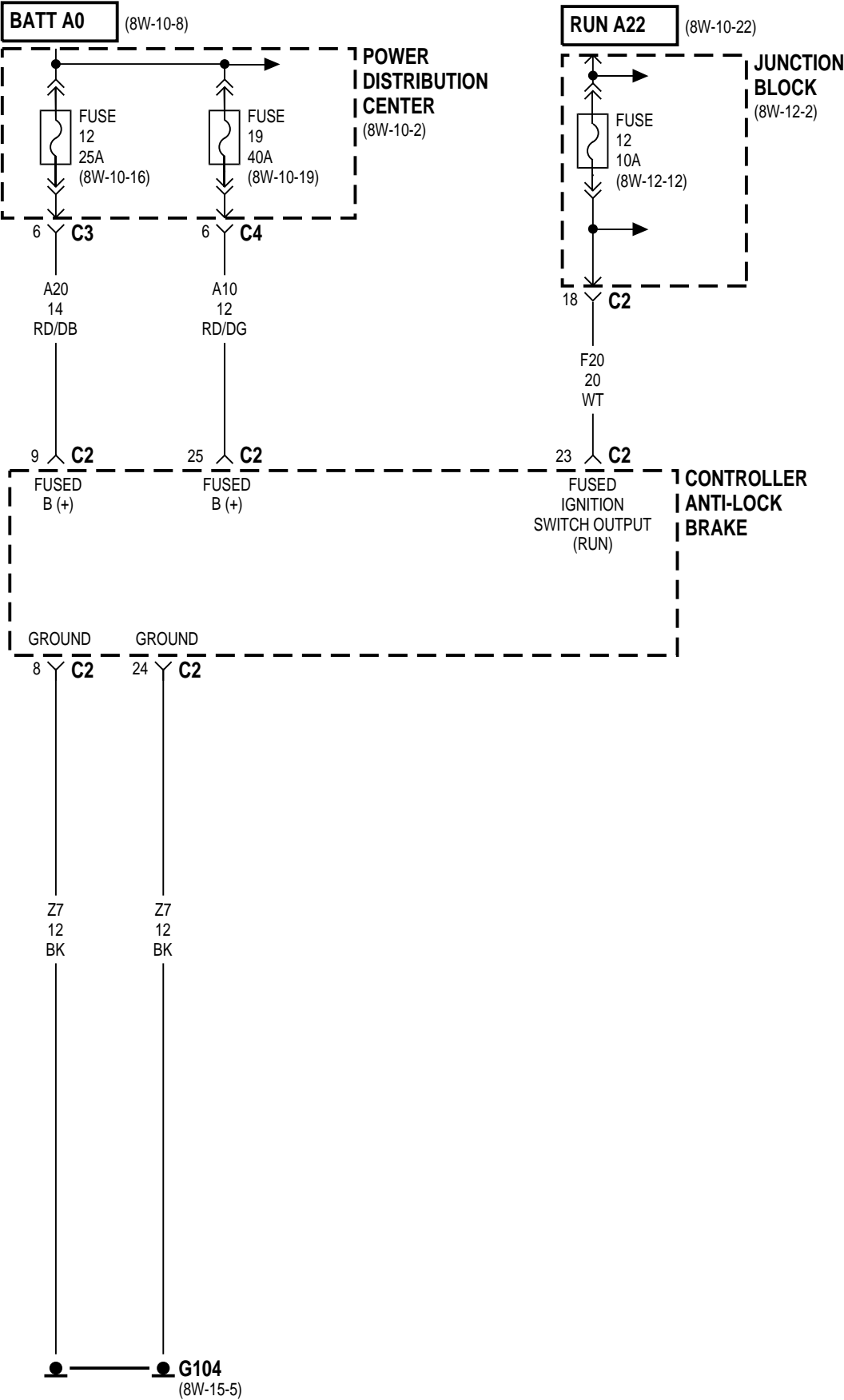
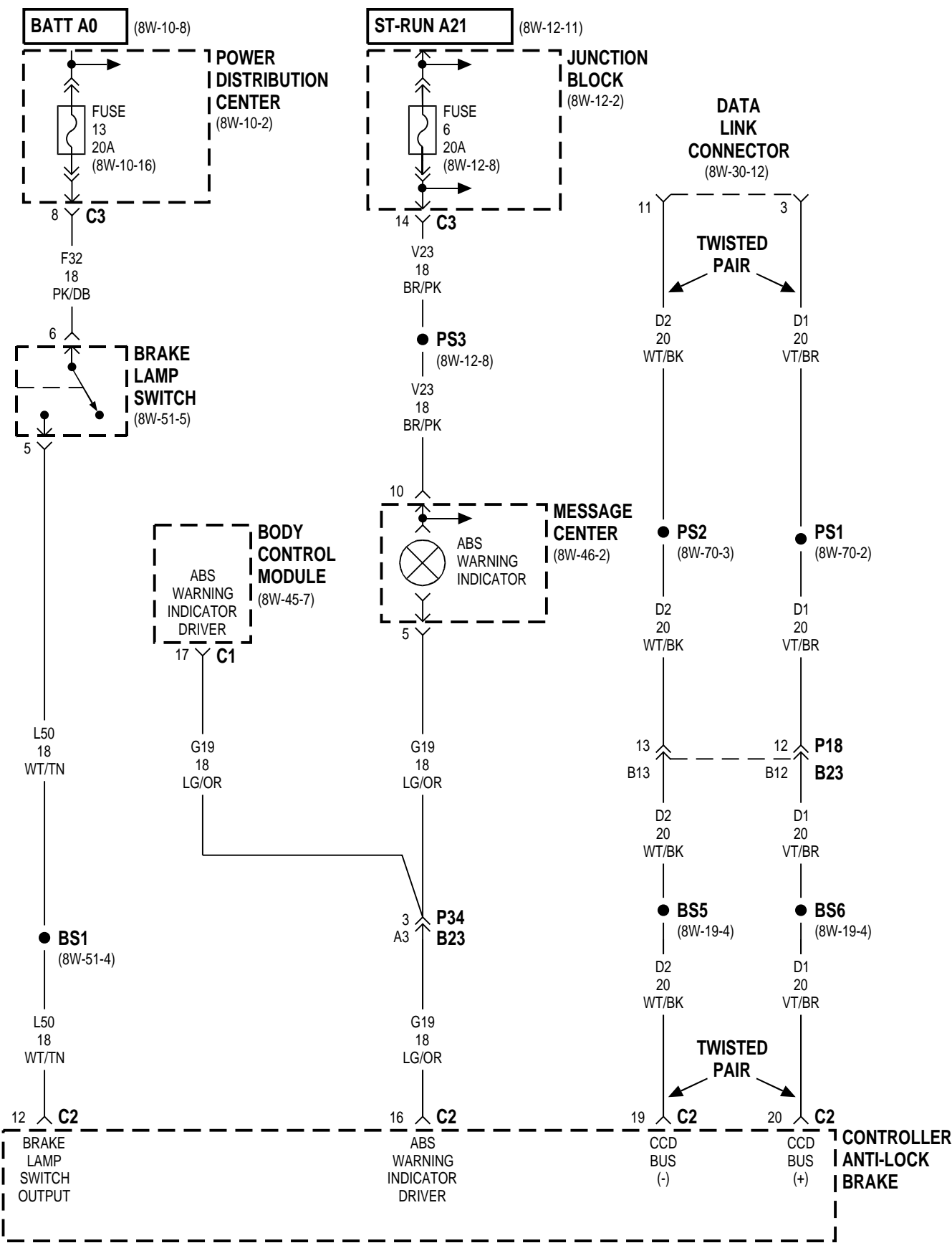
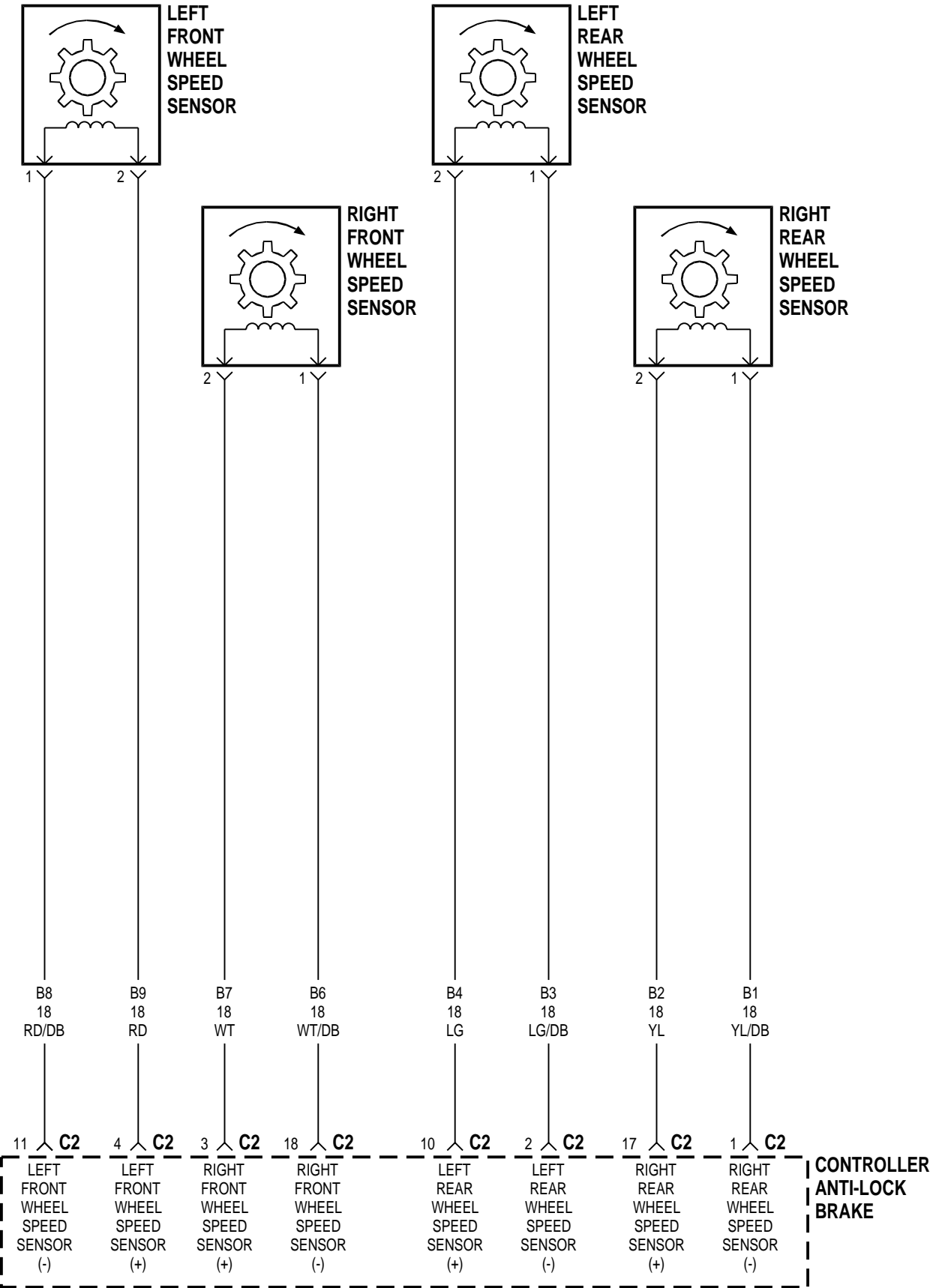


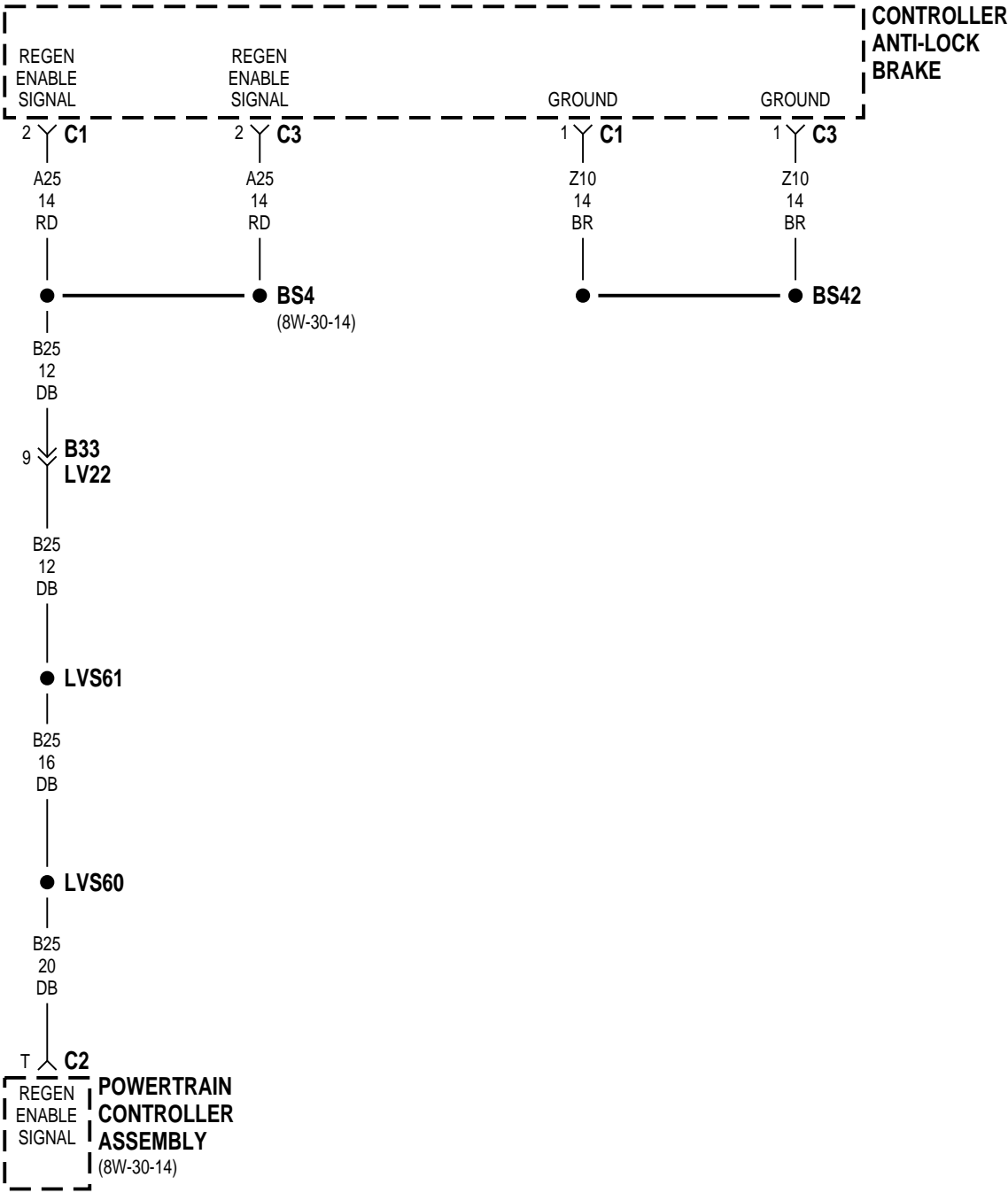
TABLE OF CONTENTS

	PAGE		PAGE
ABS WARNING INDICATOR	8W-35-3	G104	8W-35-2
BODY CONTROL MODULE	8W-35-3	G200	8W-35-6
BRAKE LAMP SWITCH	8W-35-3	G300	8W-35-6
BRAKE PRESSURE SWITCH	8W-35-6	IGNITION SWITCH	8W-35-6
BS1	8W-35-3	JUNCTION BLOCK	8W-35-2, 3, 6
BS4	8W-35-5	LEFT FRONT WHEEL SPEED SENSOR	8W-35-4
BS5	8W-35-3	LEFT REAR WHEEL SPEED SENSOR	8W-35-4
BS6	8W-35-3	LVS60	8W-35-5
BS42	8W-35-5	LVS61	8W-35-5
COMBINATION FLASHER	8W-35-6	MESSAGE CENTER	8W-35-3, 6
CONTROLLER ANTI-LOCK		PARK BRAKE SWITCH	8W-35-6
BRAKE	8W-35-2, 3, 4, 5	POWER DISTRIBUTION CENTER	8W-35-2, 3
DATA LINK CONNECTOR	8W-35-3	POWERTRAIN CONTROLLER	
FUSE 6 (JB)	8W-35-3, 6	ASSEMBLY	8W-35-5, 6
FUSE 12 (JB)	8W-35-2	PS1	8W-35-3
FUSE 12 (PDC)	8W-35-2	PS2	8W-35-3
FUSE 13 (PDC)	8W-35-3	PS3	8W-35-3, 6
FUSE 19 (PDC)	8W-35-2	RIGHT FRONT WHEEL SPEED SENSOR ..	8W-35-4
		RIGHT REAR WHEEL SPEED SENSOR	8W-35-4









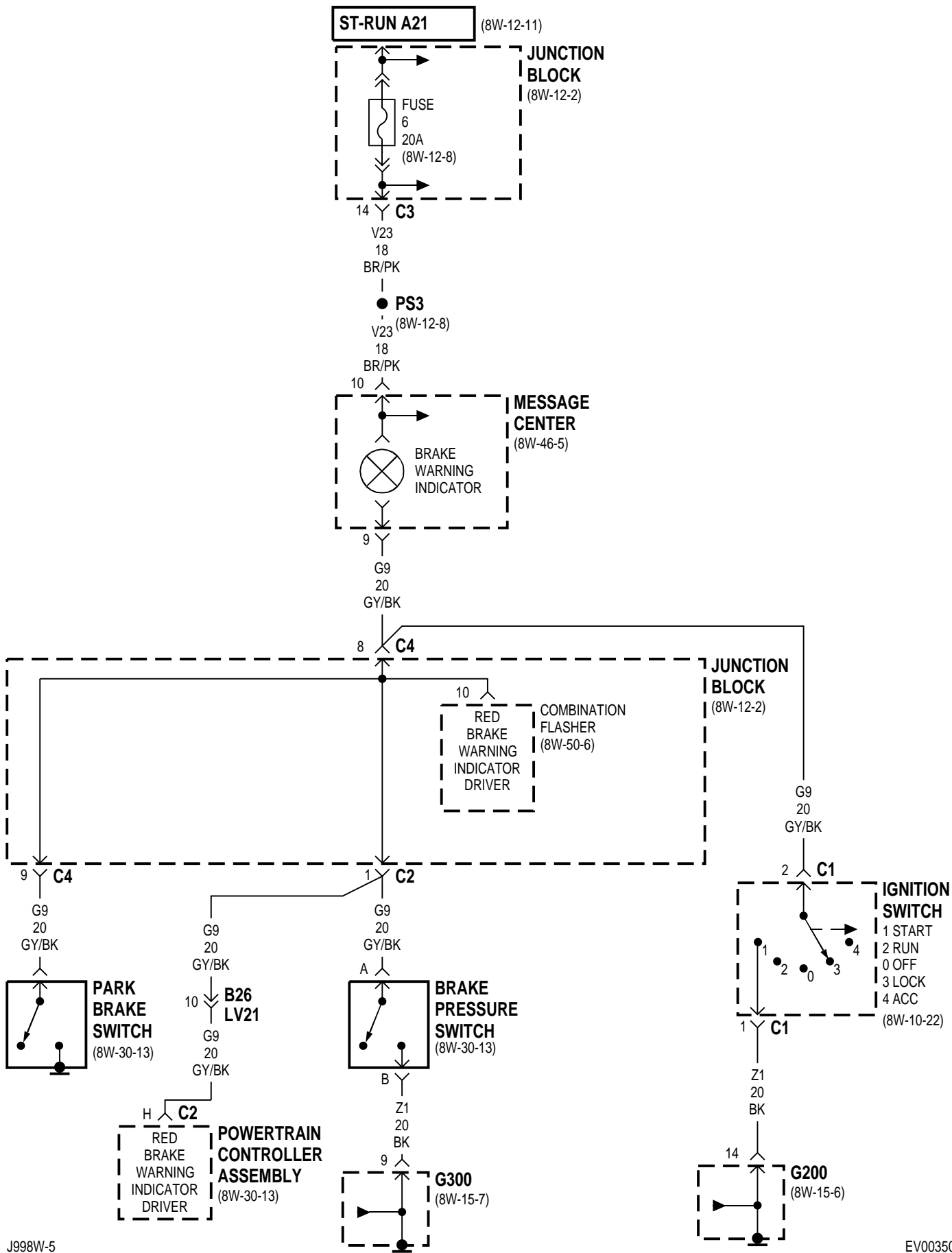
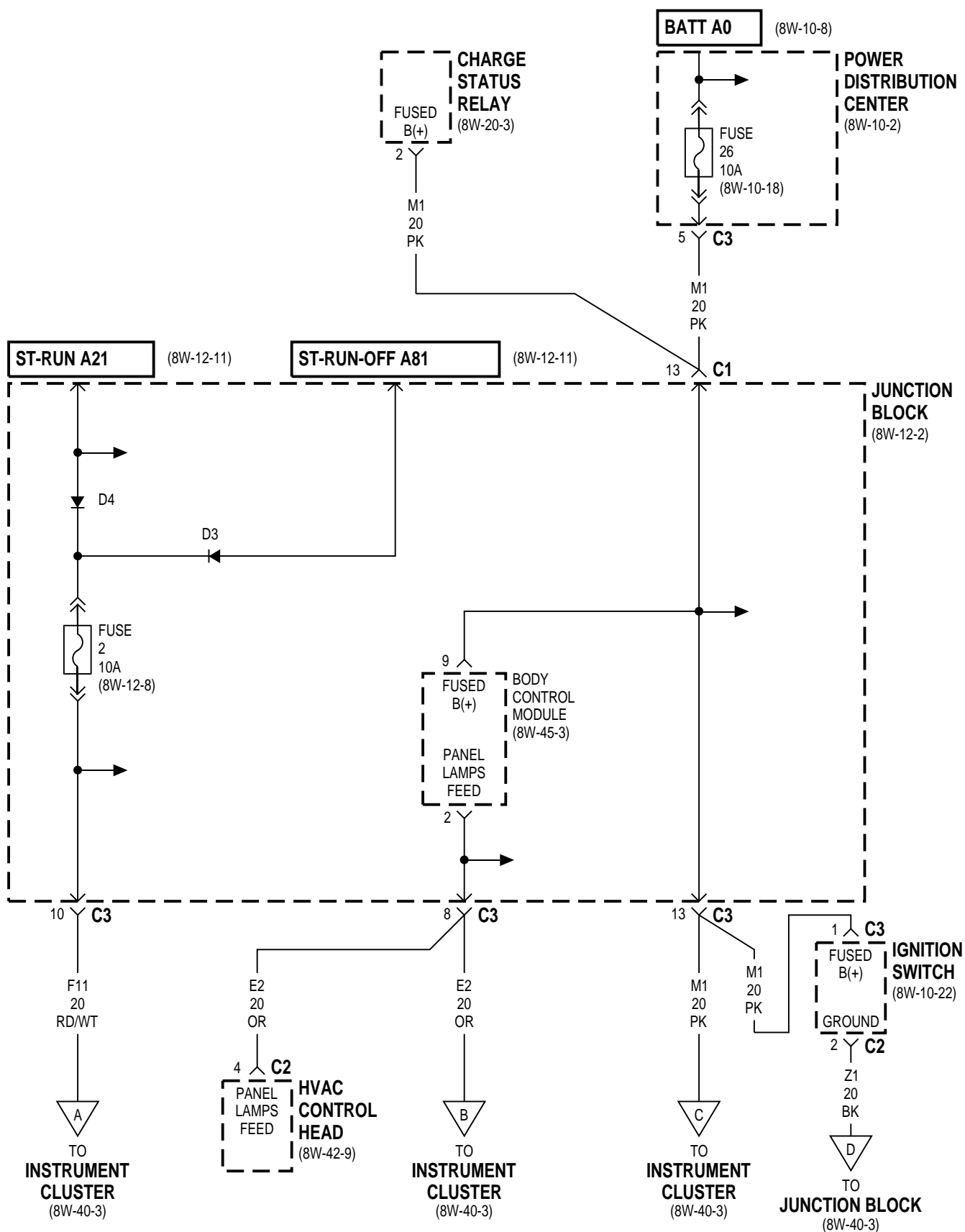


TABLE OF CONTENTS

	PAGE		PAGE
BODY CONTROL MODULE	8W-40-2	HVAC CONTROL HEAD	8W-40-2
CHARGE STATUS RELAY	8W-40-2	IGNITION SWITCH	8W-40-2, 3
DATA LINK CONNECTOR	8W-40-3	INSTRUMENT CLUSTER	8W-40-3
FUSE 2 (JB)	8W-40-2	JUNCTION BLOCK	8W-40-2, 3
FUSE 26 (PDC)	8W-40-2	POWER DISTRIBUTION CENTER	8W-40-2
G200	8W-40-3	PS1	8W-40-3
G300	8W-40-3	PS2	8W-40-3



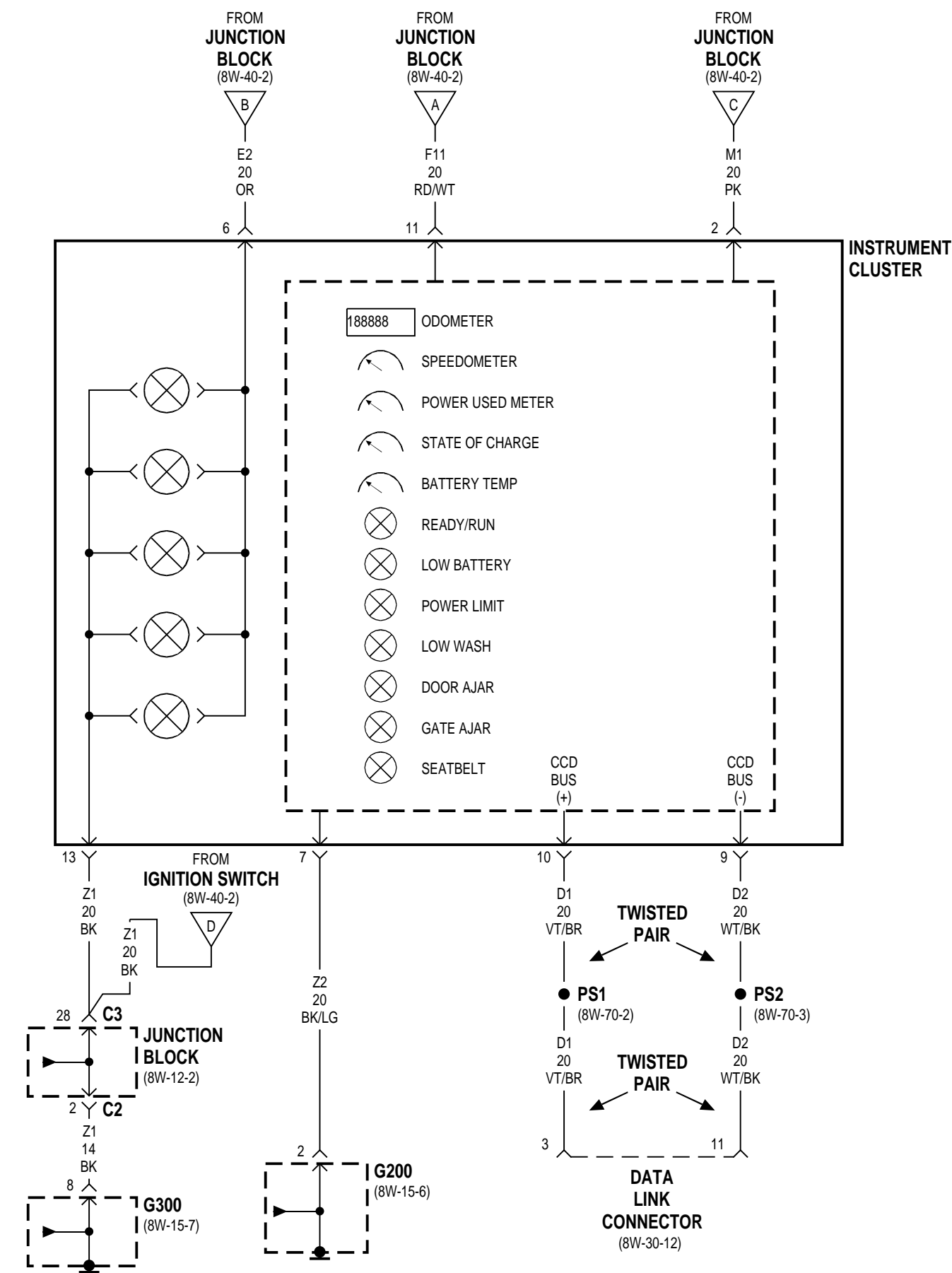
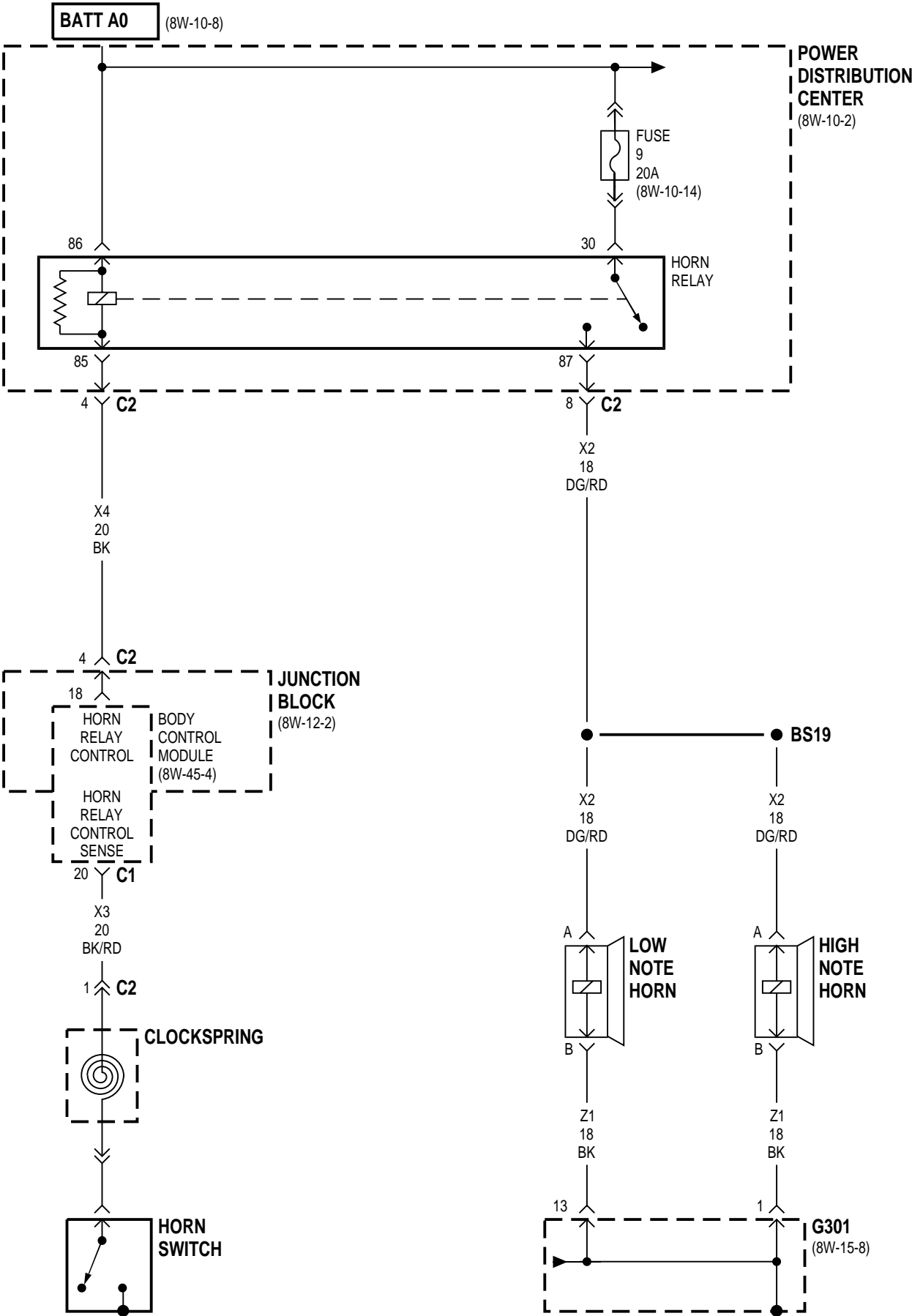


TABLE OF CONTENTS

	PAGE		PAGE
BODY CONTROL MODULE	8W-41-2	G302	8W-41-3
BS19	8W-41-2	HIGH NOTE HORN	8W-41-2
CIGAR LIGHTER/ACCESSORY RELAY	8W-41-3	HORN RELAY	8W-41-2
CLOCKSPRING	8W-41-2	HORN SWITCH	8W-41-2
FRONT CIGAR LIGHTER/POWER		JUNCTION BLOCK	8W-41-2, 3
OUTLET	8W-41-3	LOW NOTE HORN	8W-41-2
FUSE 8 (PDC)	8W-41-3	MAIN CONTROL MODULE	8W-41-3
FUSE 9 (PDC)	8W-41-2	POWER DISTRIBUTION CENTER	8W-41-2, 3
G200	8W-41-3	PTC 7 (JB)	8W-41-3
G300	8W-41-3	REAR CIGAR LIGHTER/POWER OUTLET ..	8W-41-3
G301	8W-41-2		



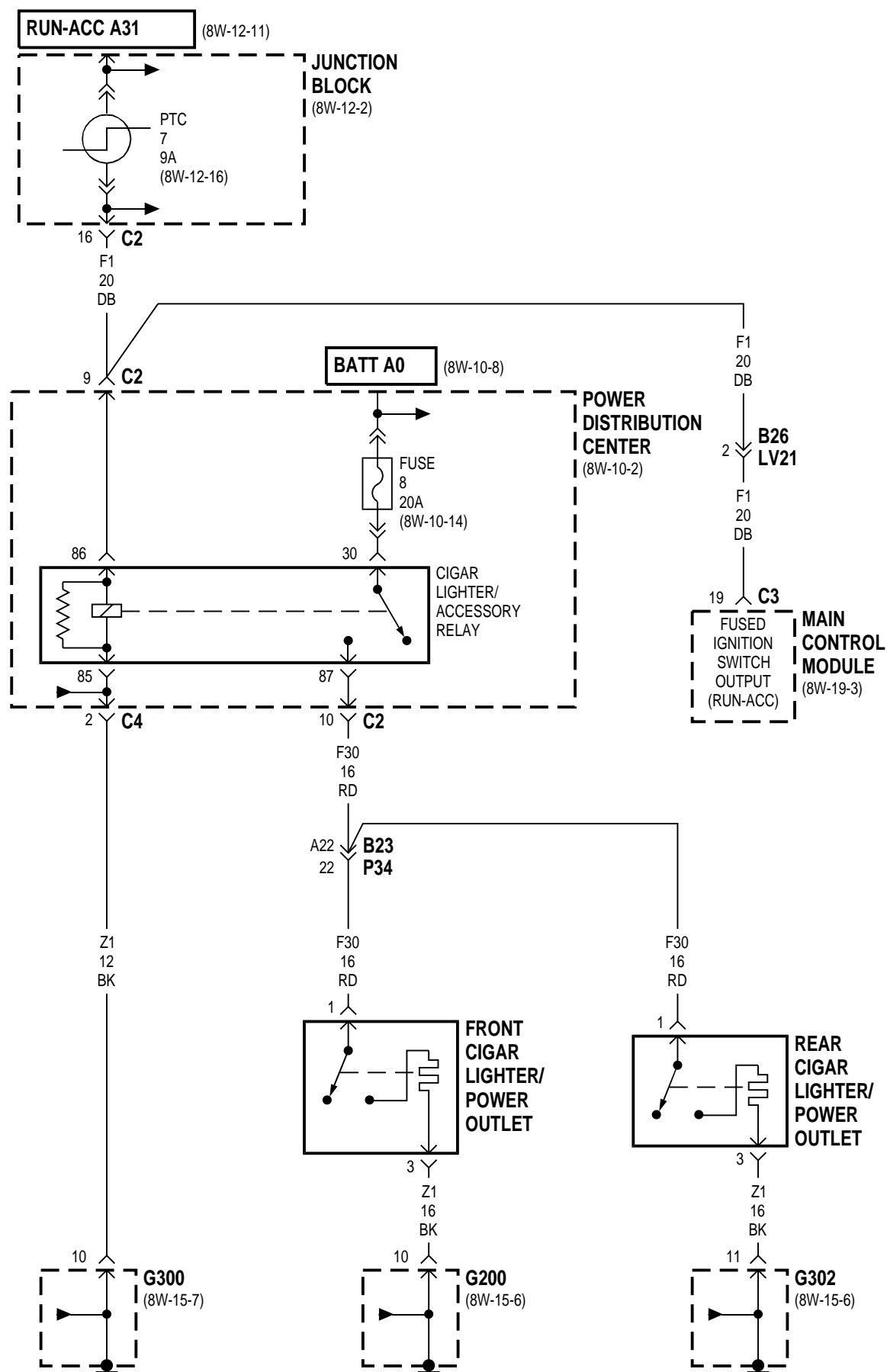
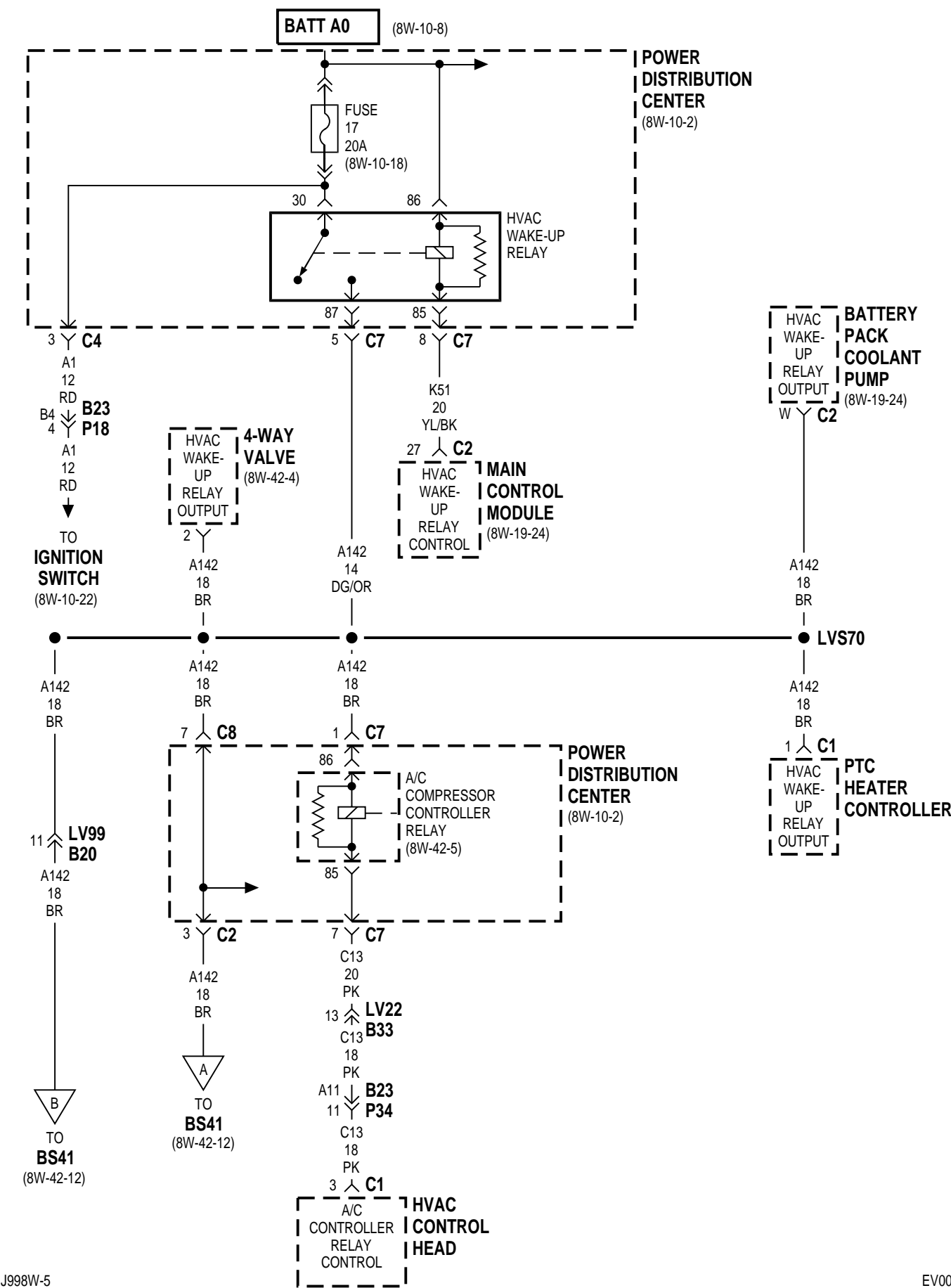
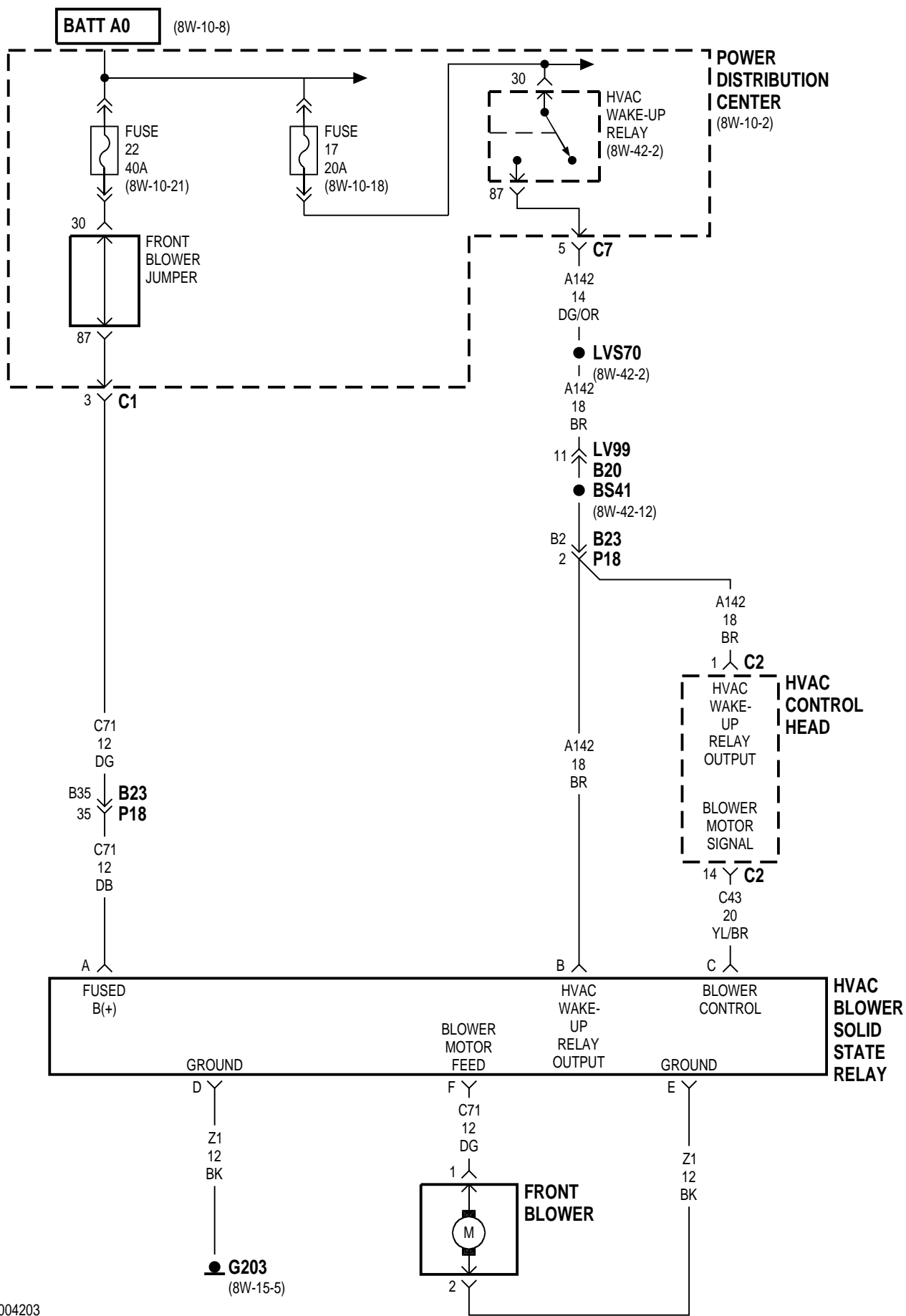
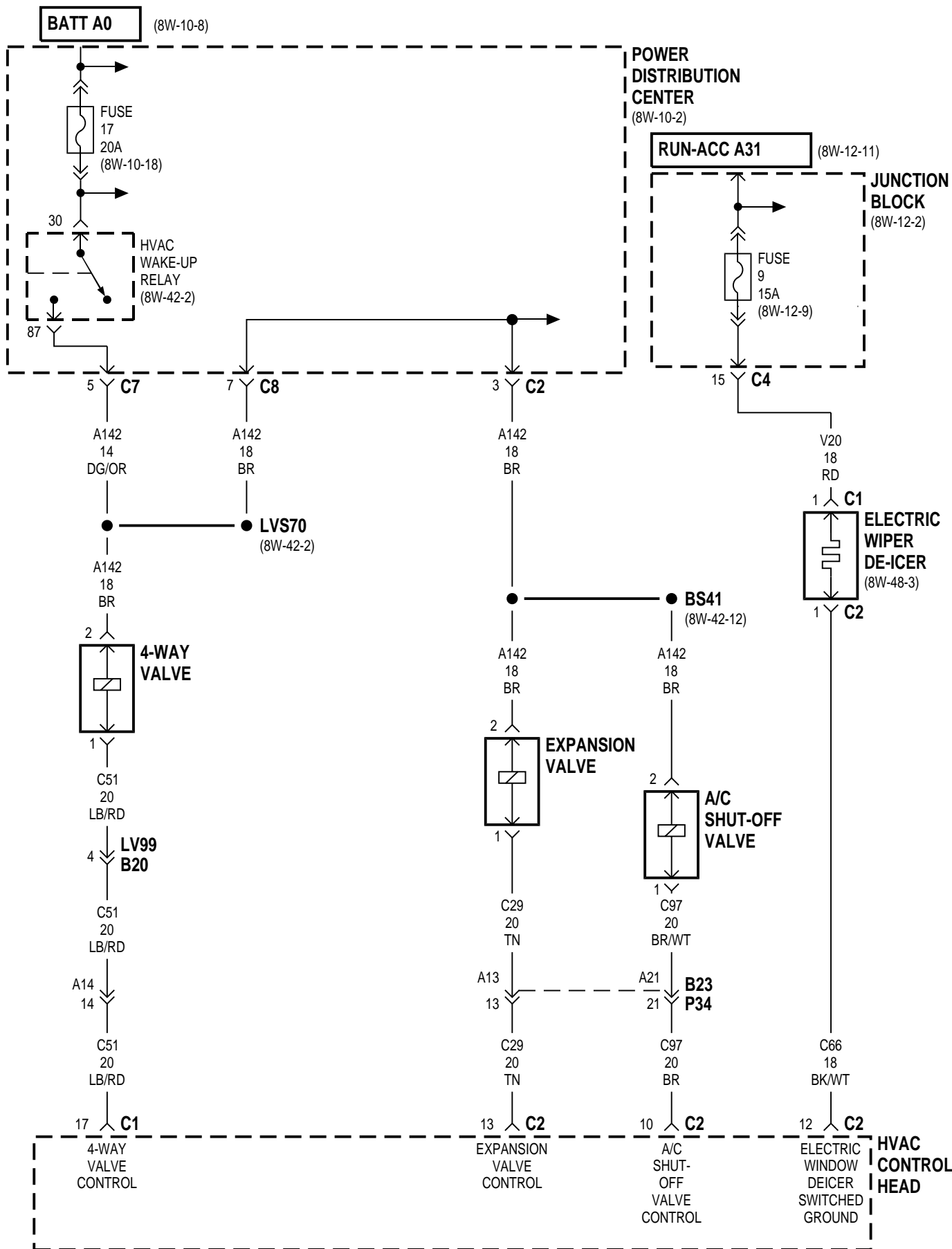


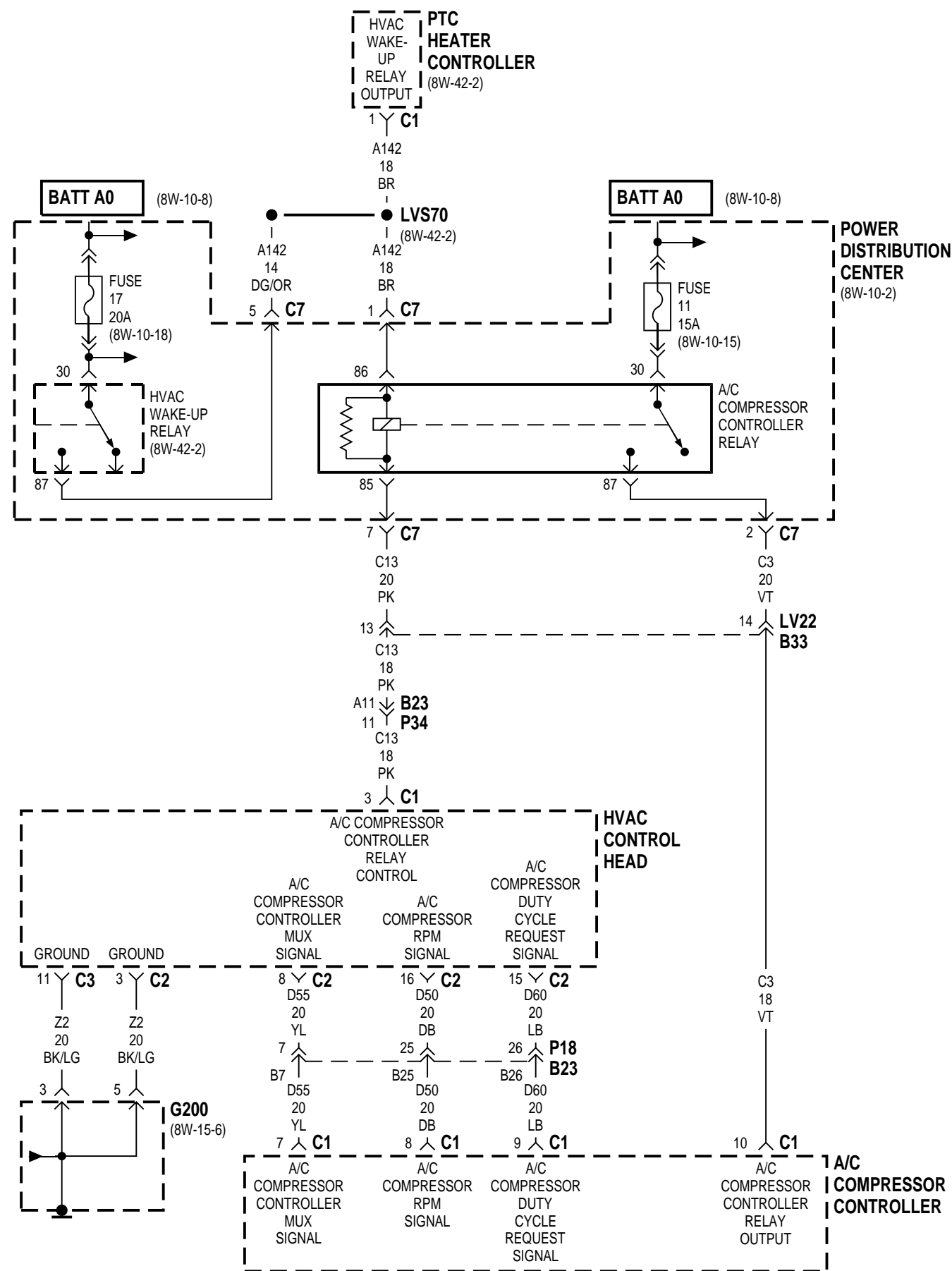
TABLE OF CONTENTS

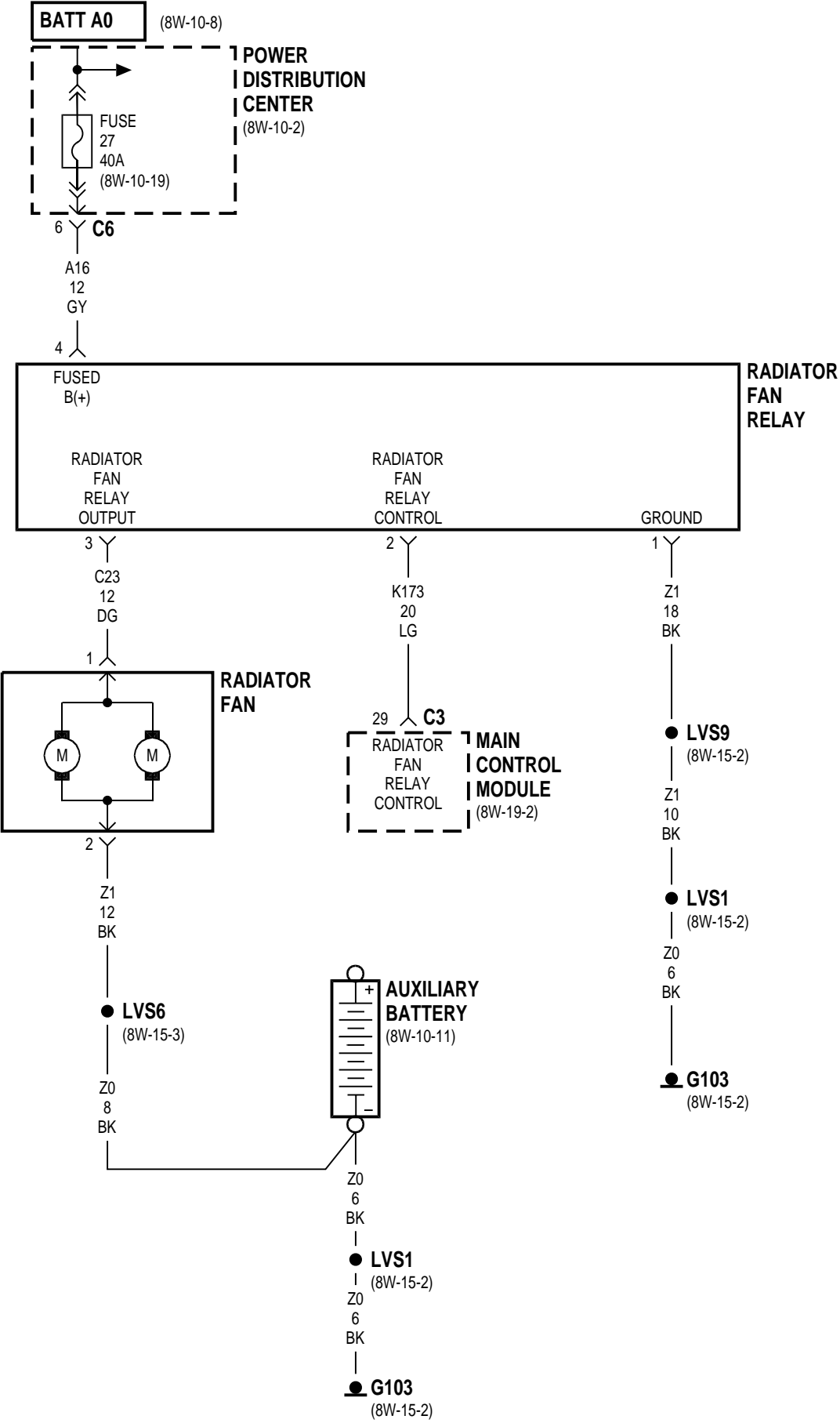
PAGE	PAGE
A/C COMPRESSOR 8W-42-19, 20	INSTRUMENT CLUSTER 8W-42-9
A/C COMPRESSOR CONTROLLER 8W-42-5, 10, 19, 20	JOS1 8W-42-14, 15, 16, 17
A/C COMPRESSOR CONTROLLER RELAY 8W-42-2, 5, 13	JOS2 8W-42-14, 15, 16, 18
A/C COMPRESSOR TEMPERATURE SENSOR 8W-42-18	JOS3 8W-42-14, 15, 16
A/C SHUT-OFF VALVE 8W-42-4, 12	JUNCTION BLOCK 8W-42-4, 8, 9, 13
AUXILIARY BATTERY 8W-42-6	LOW PRESSURE SENSOR 8W-42-18
BATTERY INTERFACE CENTER 8W-42-10, 20	LVS1 8W-42-6, 11
BATTERY PACK COOLANT PUMP 8W-42-2	LVS6 8W-42-6
BLEND DOOR ACTUATOR 8W-42-15	LVS9 8W-42-11
BODY CONTROL MODULE 8W-42-9	LVS9 8W-42-6
BS41 8W-42-2, 3, 4, 7, 8, 9, 12	LVS32 8W-42-17, 18, 19
DATA LINK CONNECTOR 8W-42-13	LVS33 8W-42-14, 15, 16, 18
ELECTRIC WIPER DE-ICER 8W-42-4	LVS70 8W-42-2, 3, 4, 5, 7, 8, 12
EXPANSION VALVE 8W-42-4, 12	MAIN CONTROL MODULE 8W-42-2, 6
FLOOR DUCT TEMPERATURE SENSOR . 8W-42-17	MODE DOOR ACTUATOR 8W-42-16
FRONT BLOWER 8W-42-3	OIL PUMP 8W-42-20
FRONT BLOWER JUMPER 8W-42-3	PANEL DUCT TEMPERATURE SENSOR .. 8W-42-17
FUSE 9 (JB) 8W-42-4	POST-INSIDE COIL TEMPERATURE SENSOR 8W-42-17
FUSE 11 (PDC) 8W-42-5	POWER DISTRIBUTION CENTER 8W-42-2, 3, 4, 5, 6, 7, 8, 12, 13
FUSE 17 (PDC) 8W-42-2, 3, 4, 5, 8	POWER STEERING PUMP 8W-42-10
FUSE 22 (PDC) 8W-42-3	POWERTRAIN CONTROLLER ASSEMBLY 8W-42-10, 19, 20
FUSE 27 (PDC) 8W-42-6	PRE-INSIDE COIL TEMPERATURE SENSOR 8W-42-17
G103 8W-42-6, 11	PS1 8W-42-13
G200 8W-42-5, 7, 8, 9	PS2 8W-42-13
G203 8W-42-3, 9	PS10 8W-42-13
G301 8W-42-10	PTC HEATER 8W-42-10, 19
HIGH PRESSURE SENSOR 8W-42-14, 15, 16, 17, 18	PTC HEATER CONTROLLER 8W-42-2, 5, 10, 11
HVAC BLOWER SOLID STATE RELAY .. 8W-42-3, 12	RADIATOR FAN 8W-42-6
HVAC CONTROL HEAD 8W-42-2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	RADIATOR FAN RELAY 8W-42-6
HVAC WAKE-UP RELAY 8W-42-2, 3, 4, 5, 7, 8	REAR WINDOW DEFOGGER RELAY ... 8W-42-8, 13
IGNITION SWITCH 8W-42-2	RECIRCULATION DOOR ACTUATOR 8W-42-14
INSIDE COIL TEMPERATURE SENSOR ... 8W-42-17	SUCTION LINE TEMPERATURE SENSOR 8W-42-18

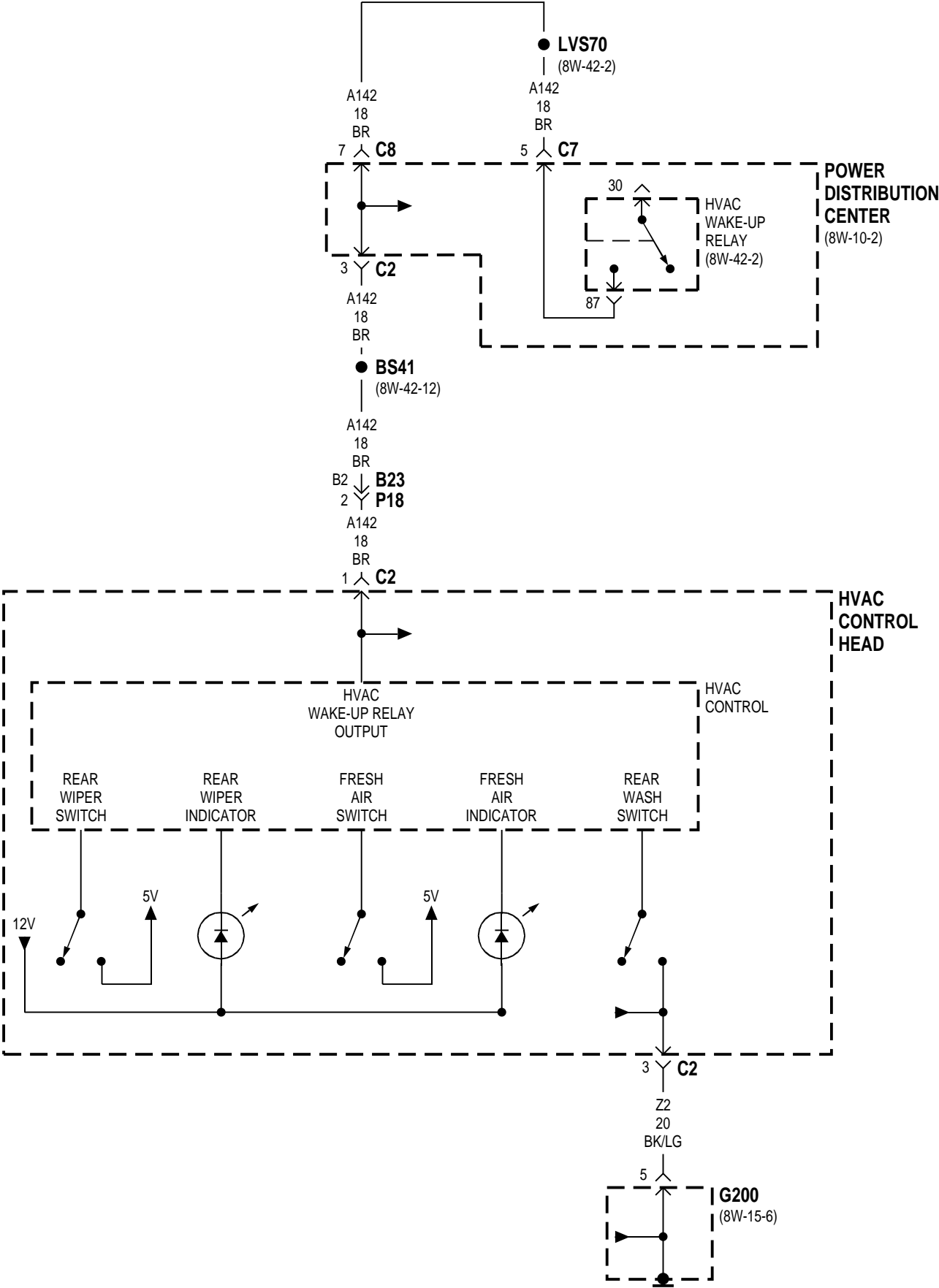


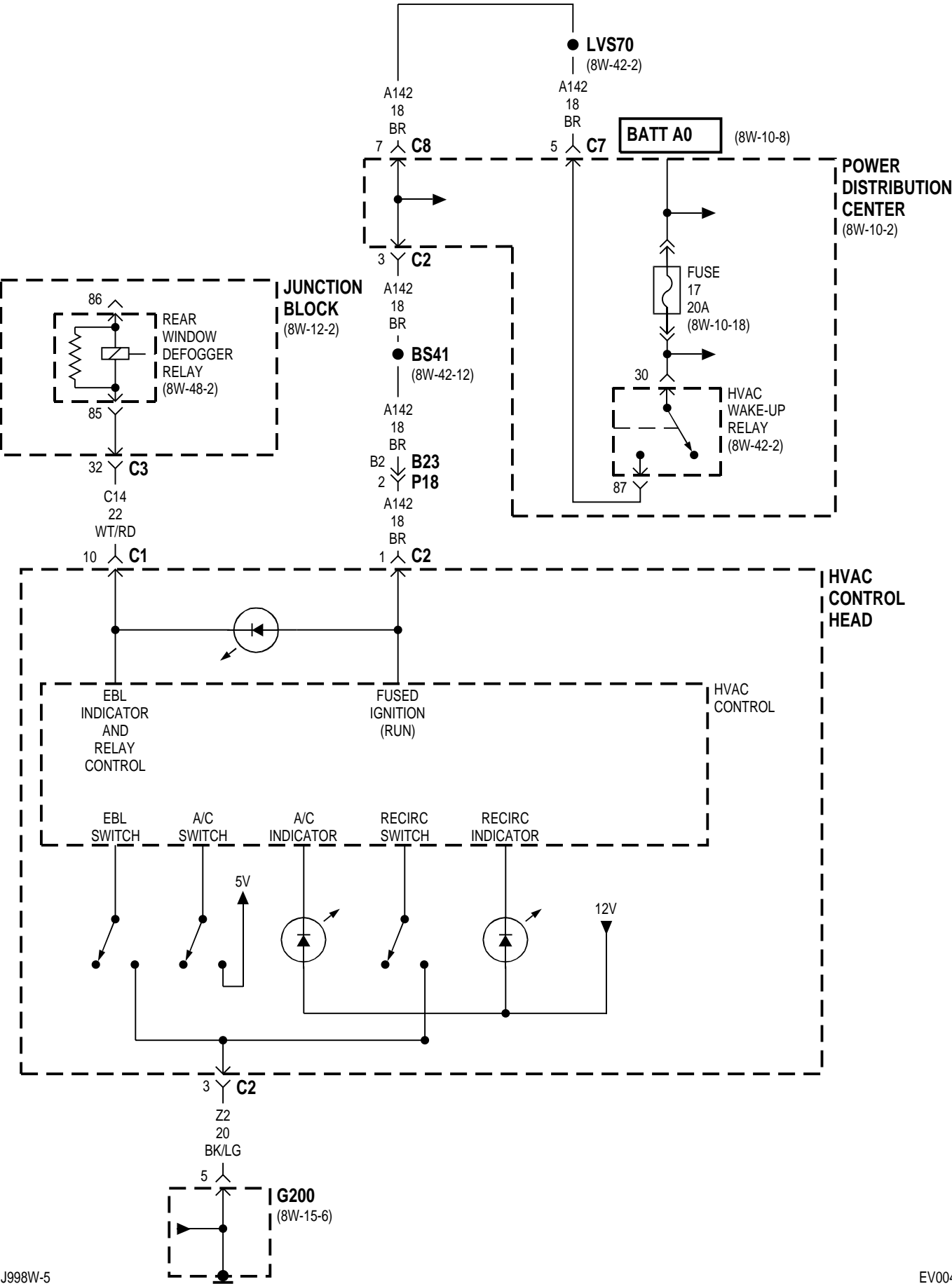




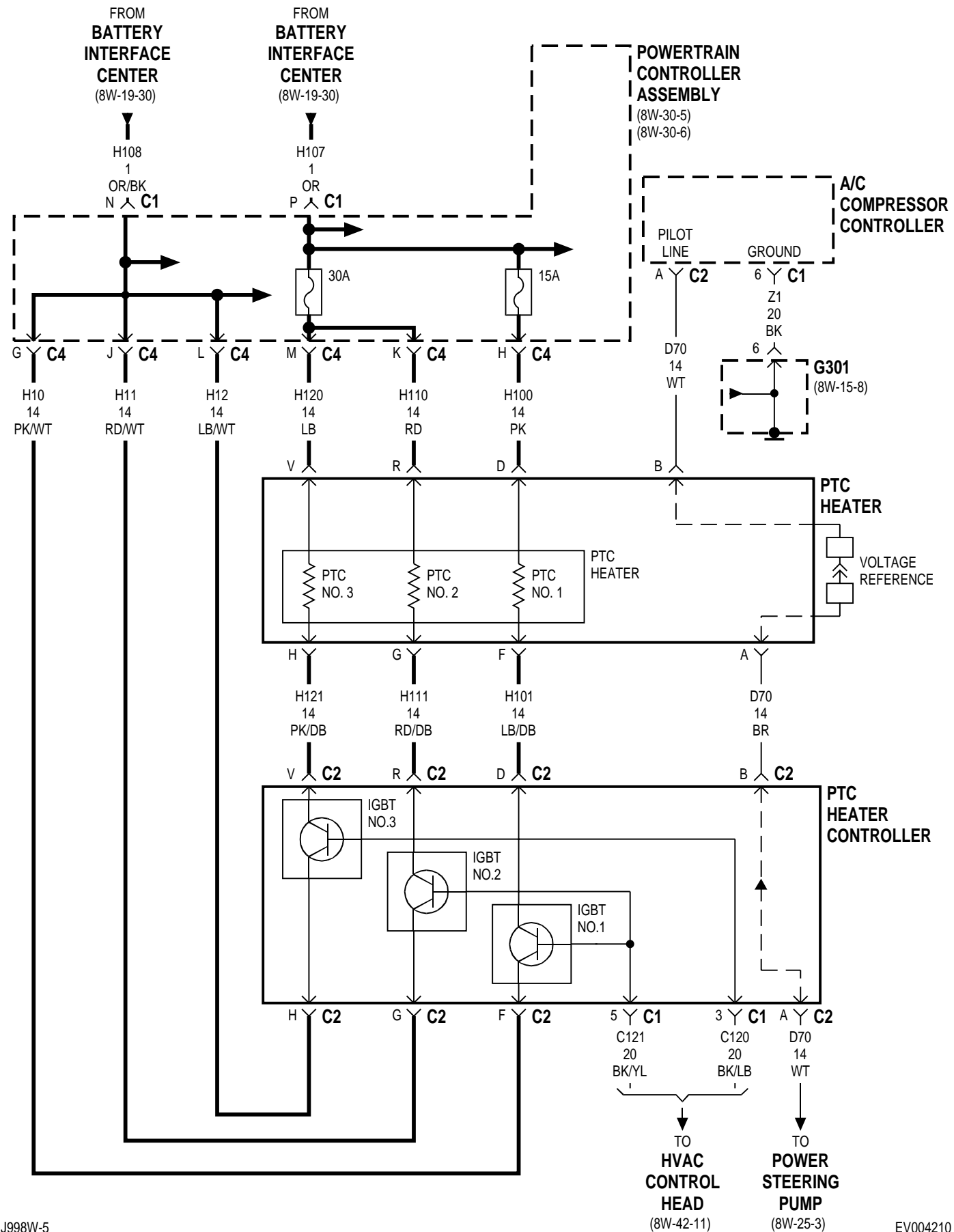


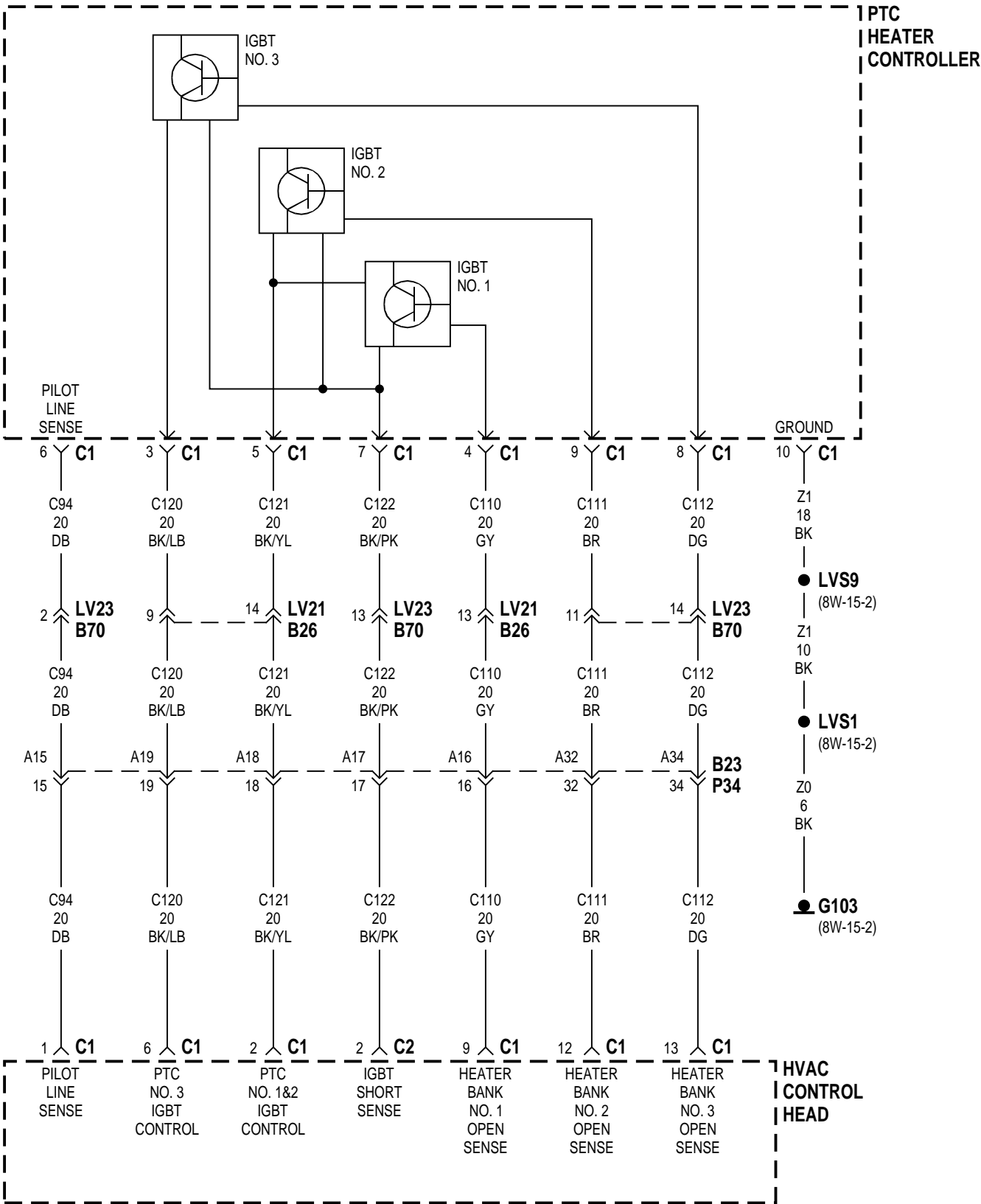


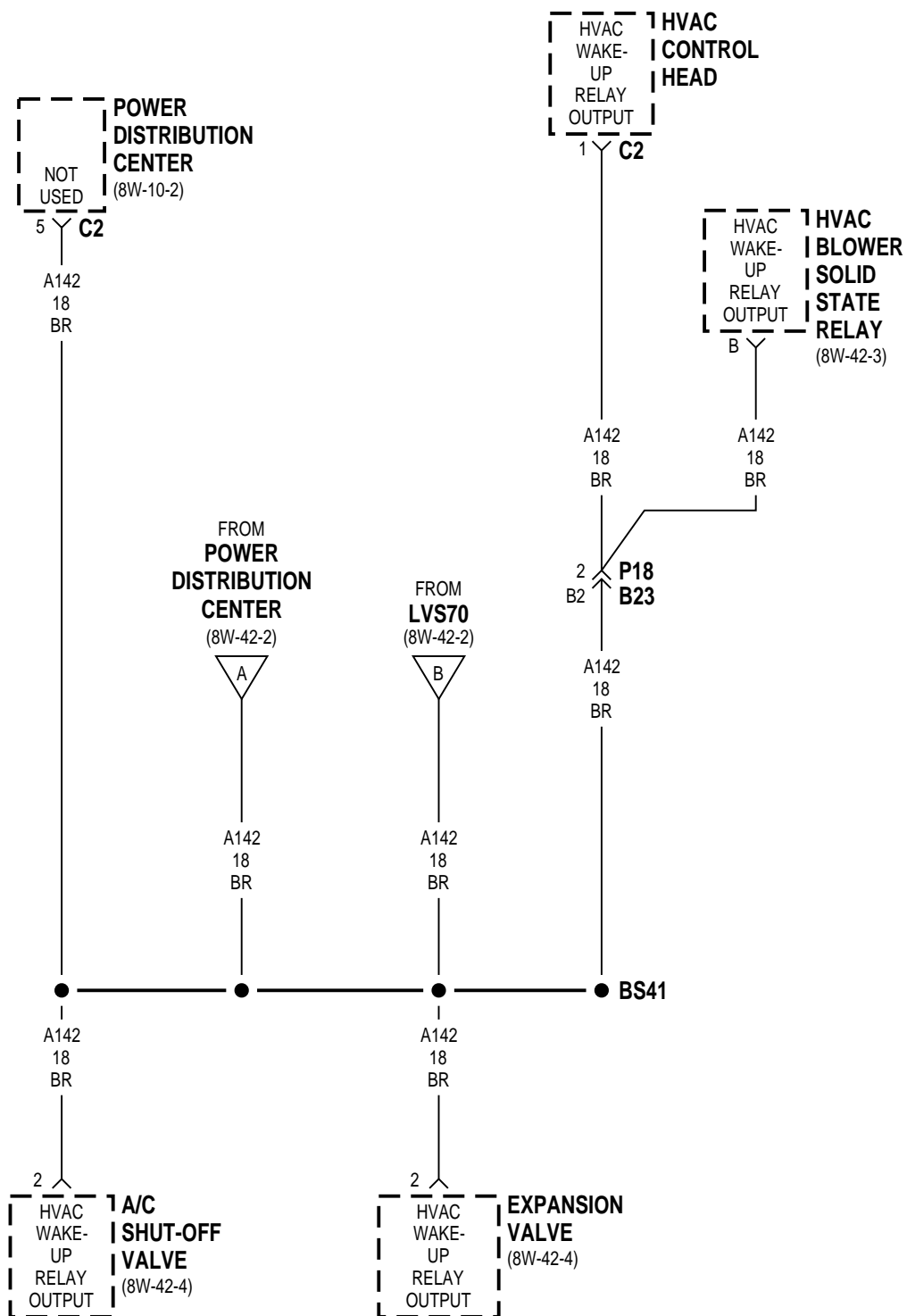


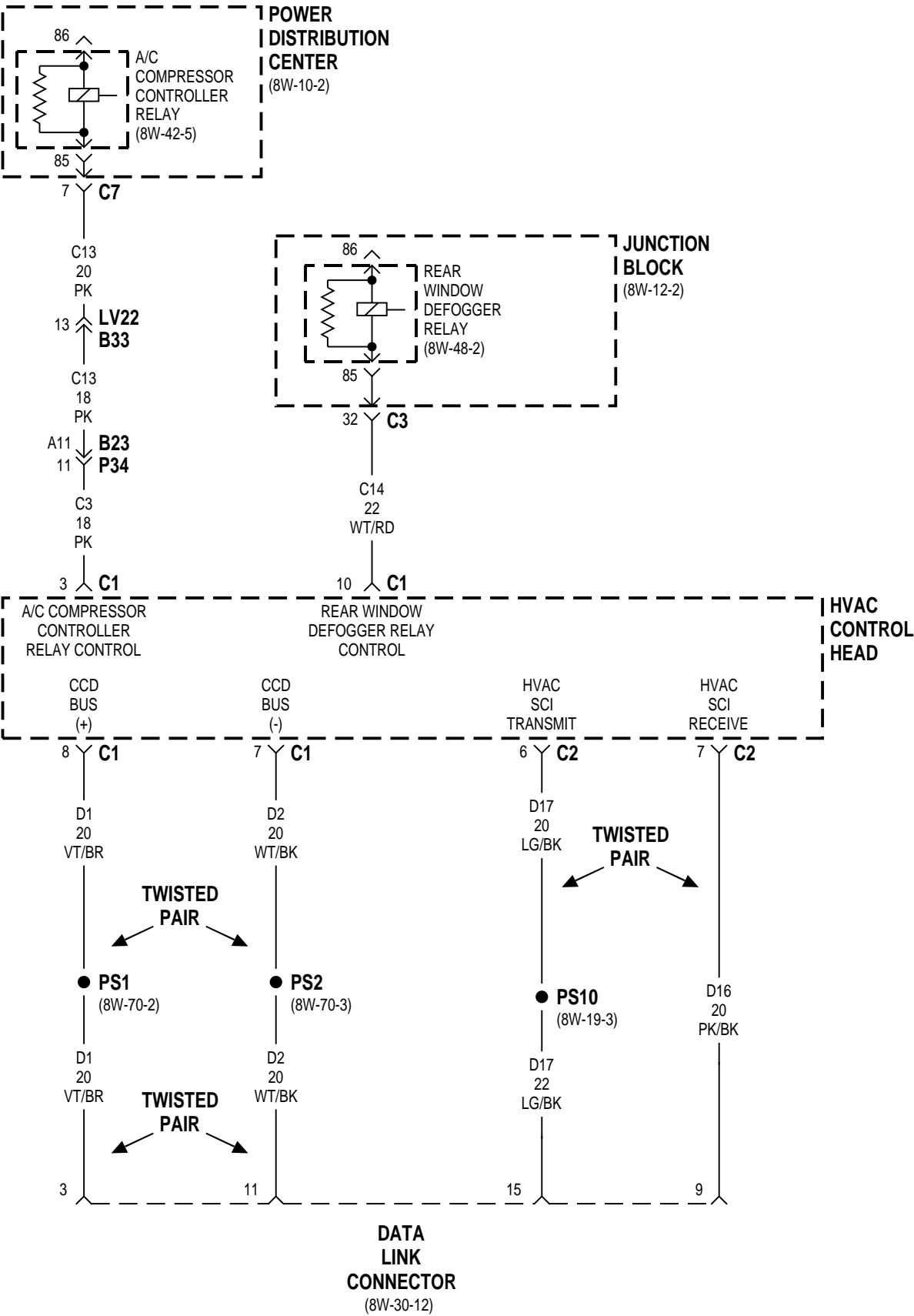


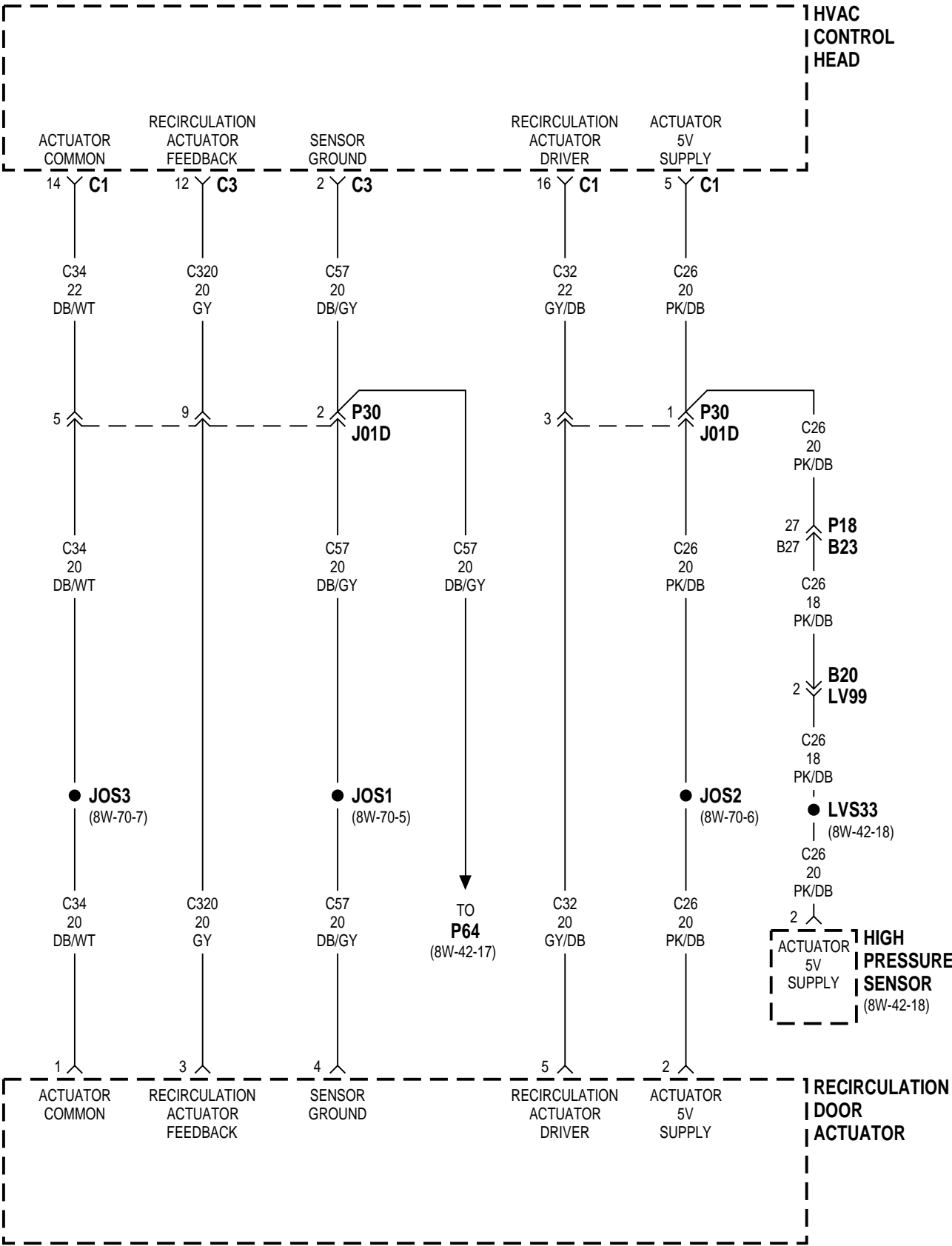


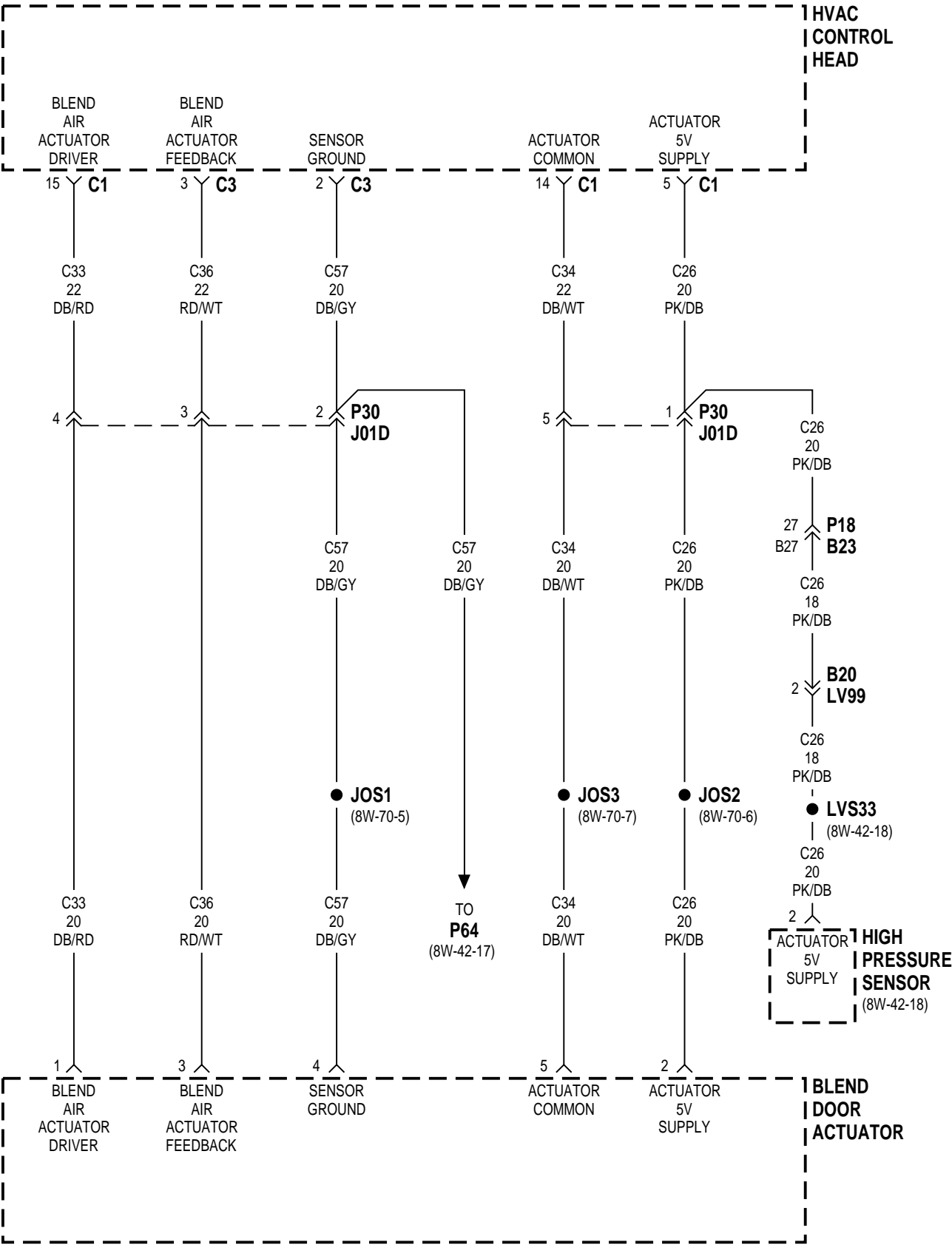


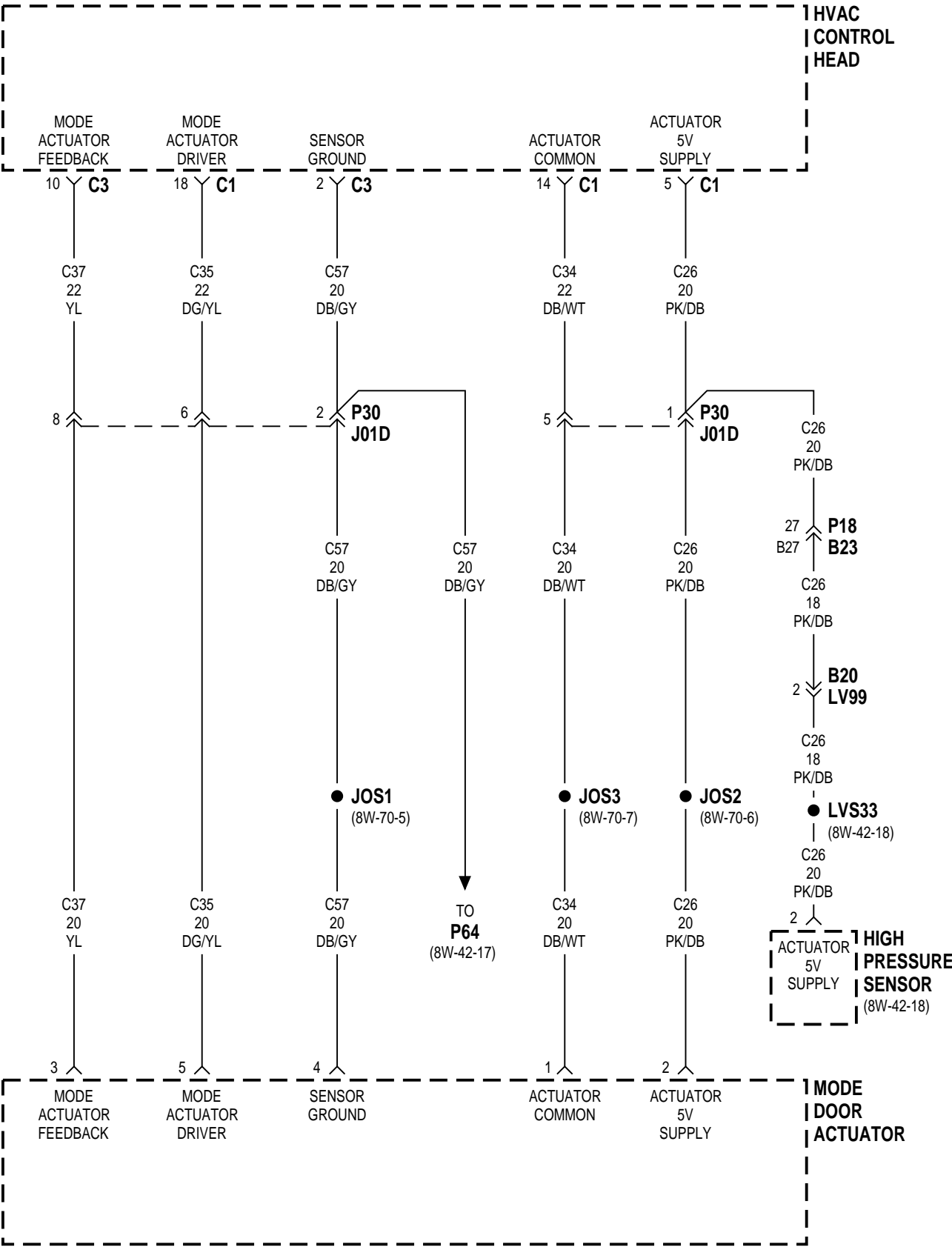


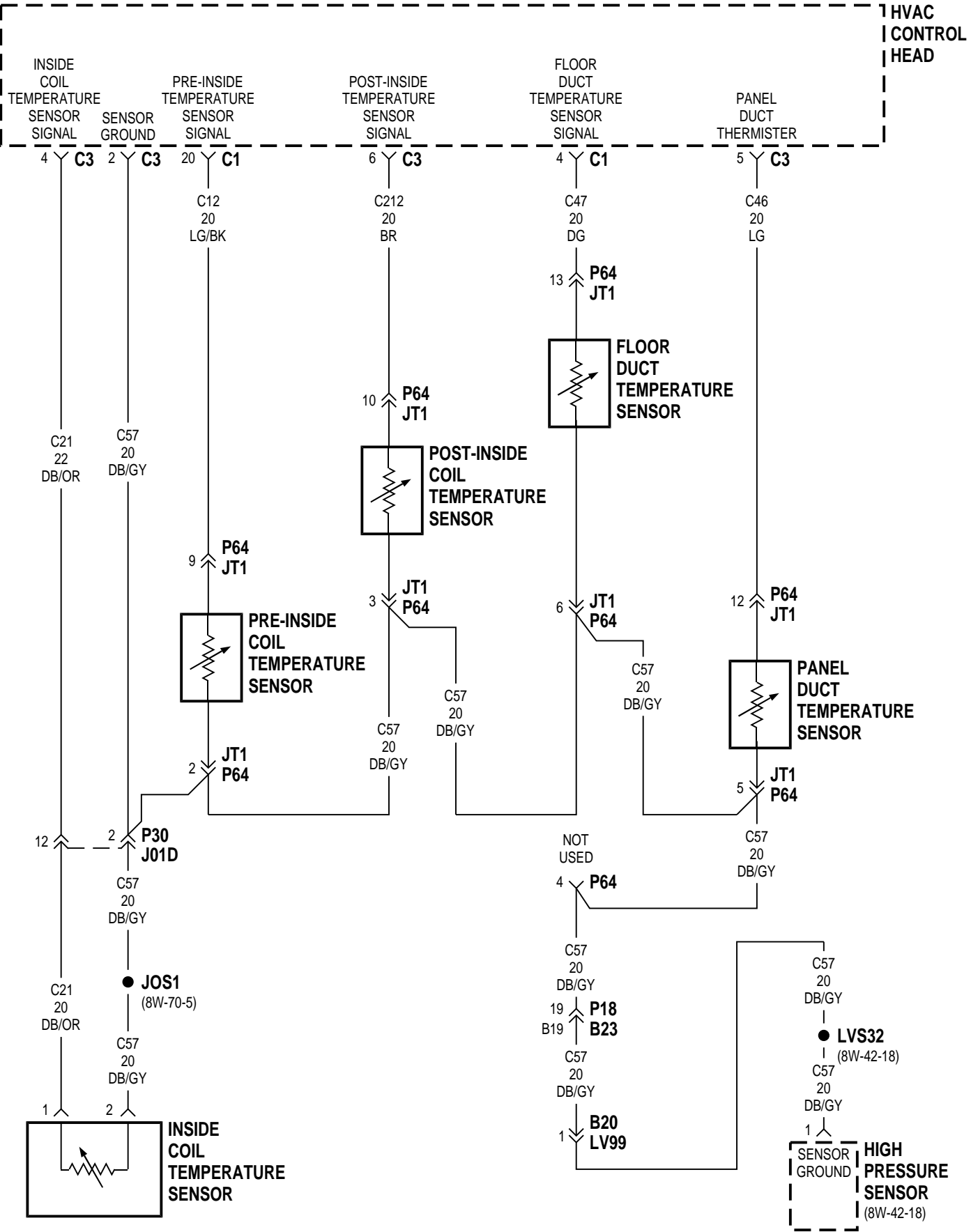


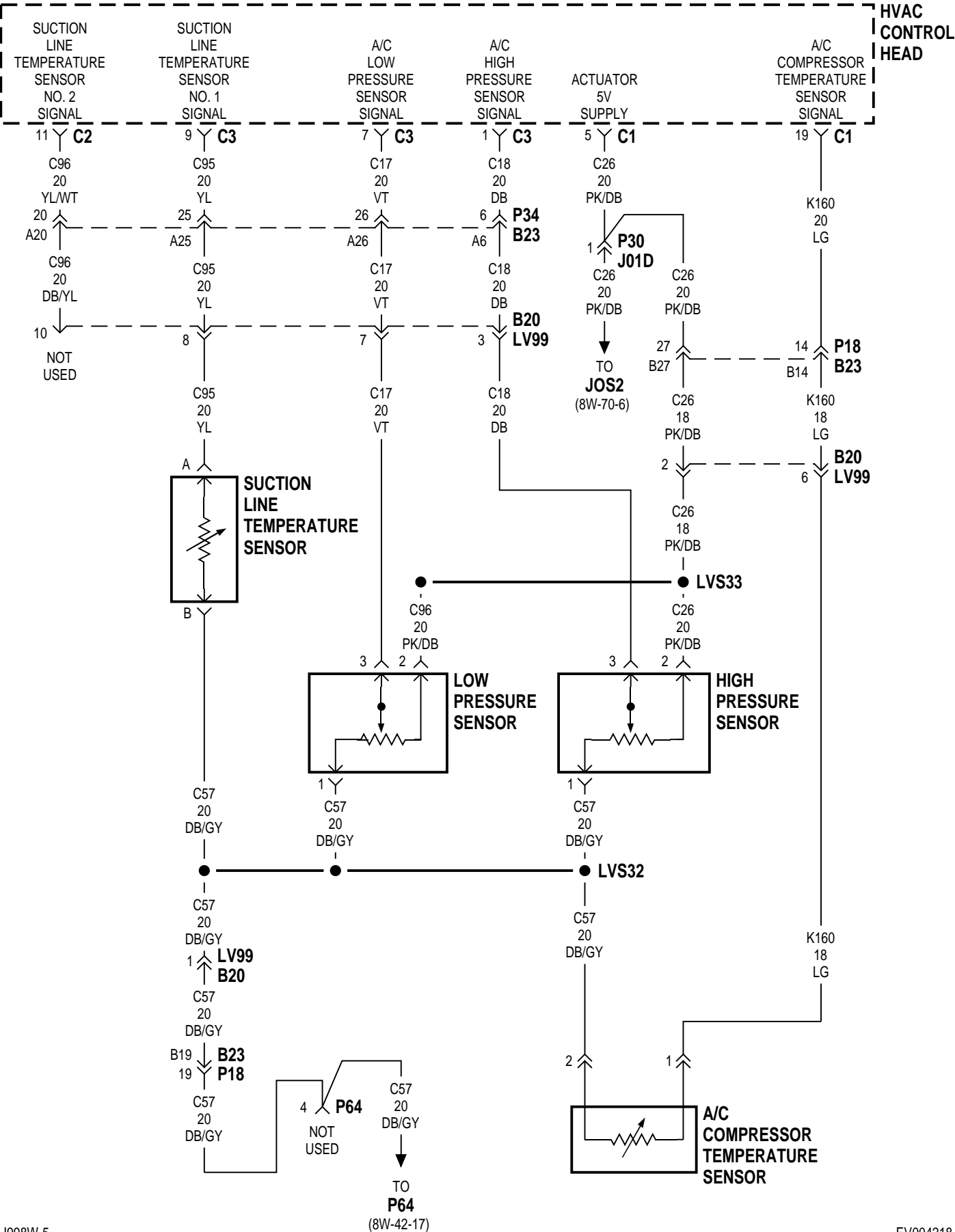


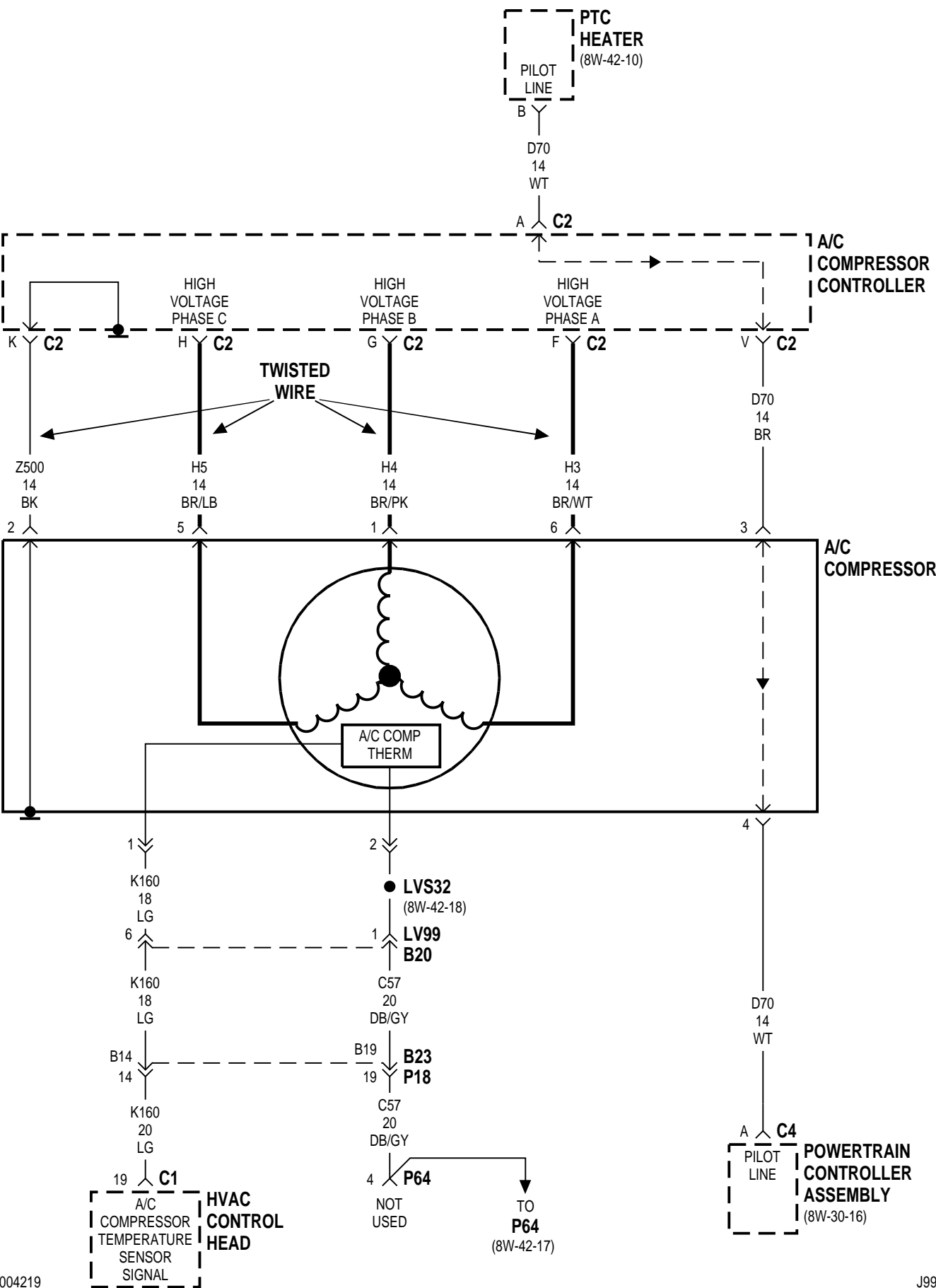












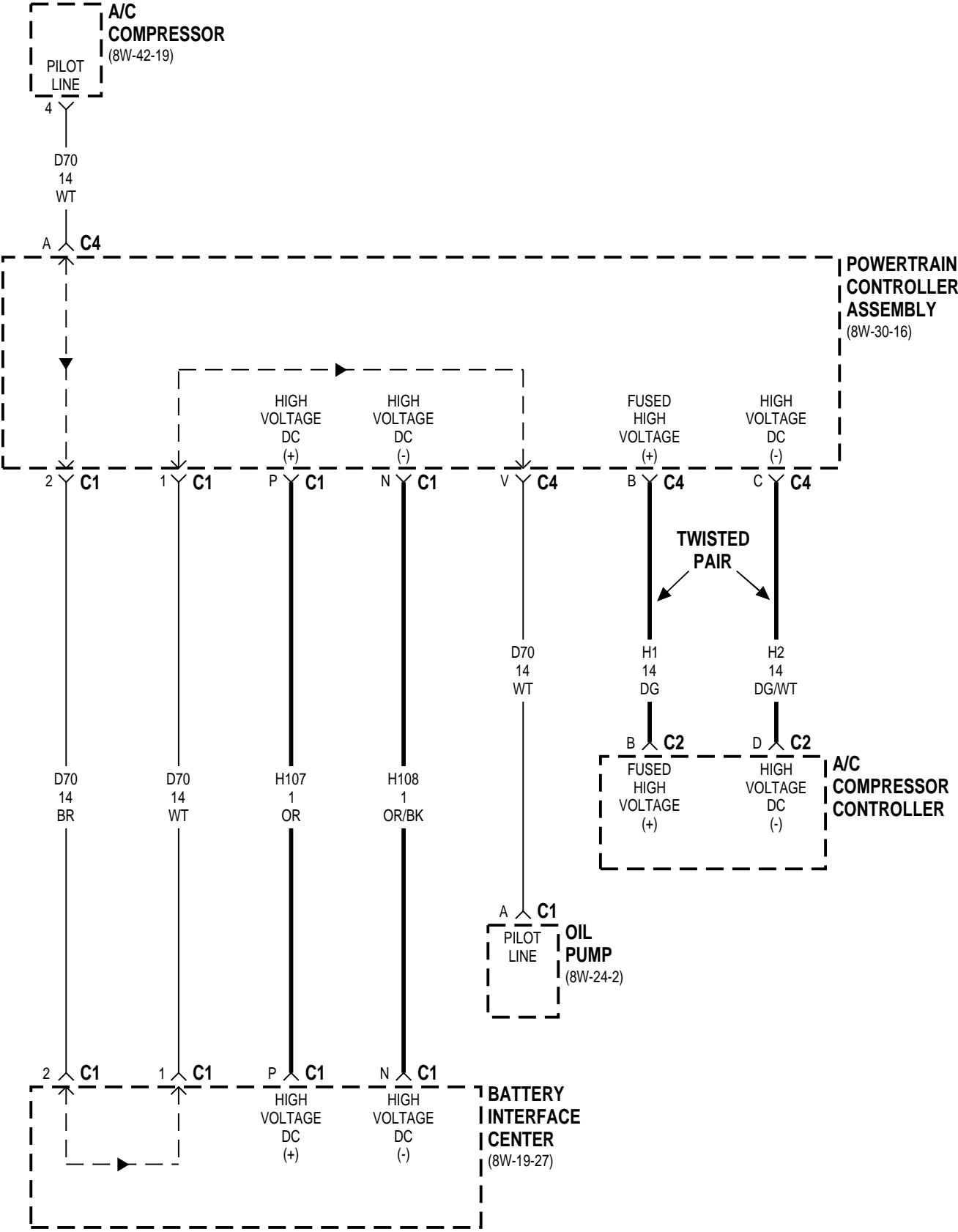
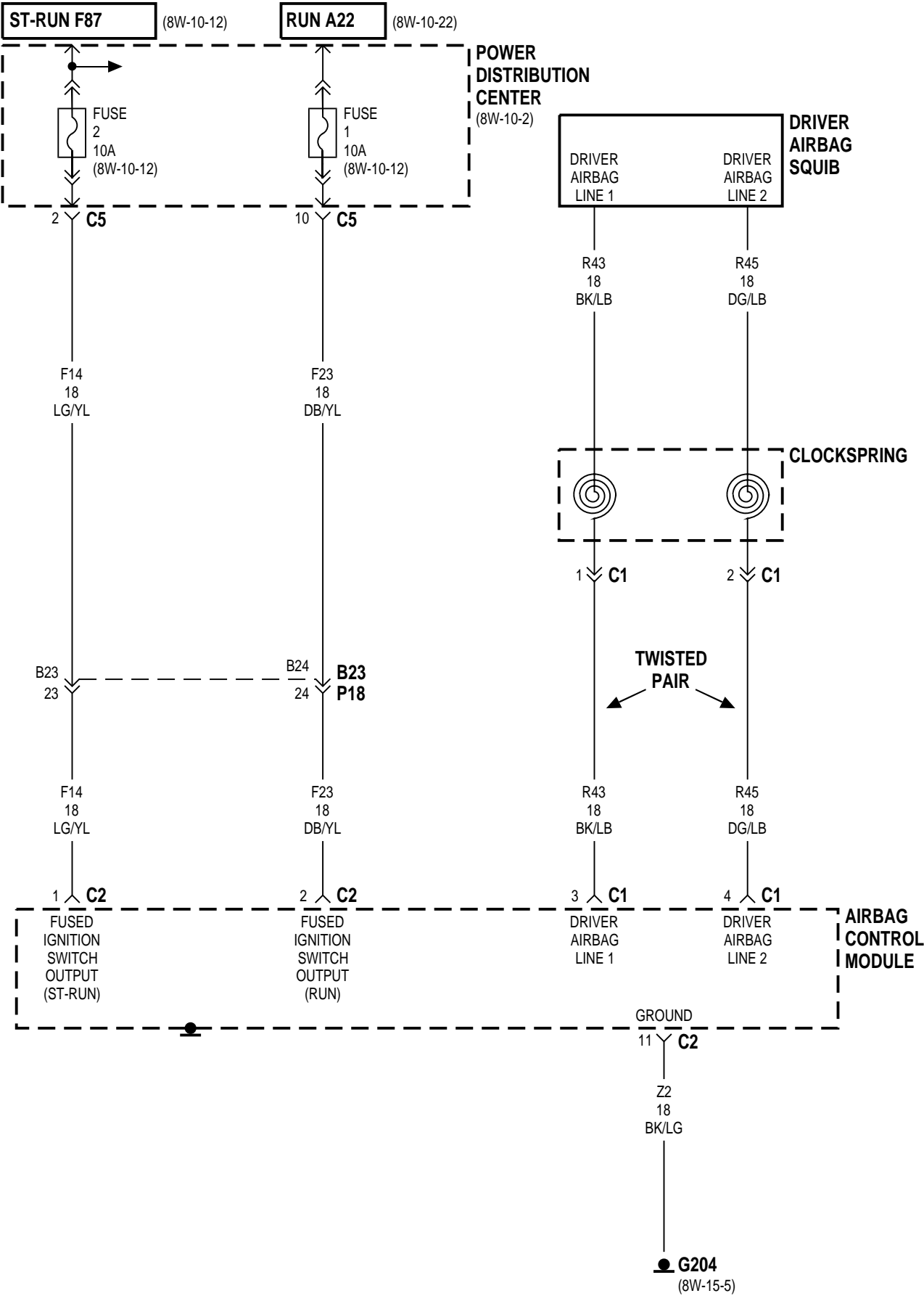


TABLE OF CONTENTS

	PAGE		PAGE
AIRBAG CONTROL MODULE	8W-43-2, 3	G204	8W-43-2
AIRBAG WARNING INDICATOR	8W-43-3	JUNCTION BLOCK	8W-43-3
CLOCKSPRING	8W-43-2	MESSAGE CENTER	8W-43-3
DATA LINK CONNECTOR	8W-43-3	PASSENGER AIRBAG SQUIB	8W-43-3
DRIVER AIRBAG SQUIB	8W-43-2	POWER DISTRIBUTION CENTER	8W-43-2
FUSE 1 (PDC)	8W-43-2	PS1	8W-43-3
FUSE 2 (PDC)	8W-43-2	PS2	8W-43-3
FUSE 6 (JB)	8W-43-3	PS3	8W-43-3



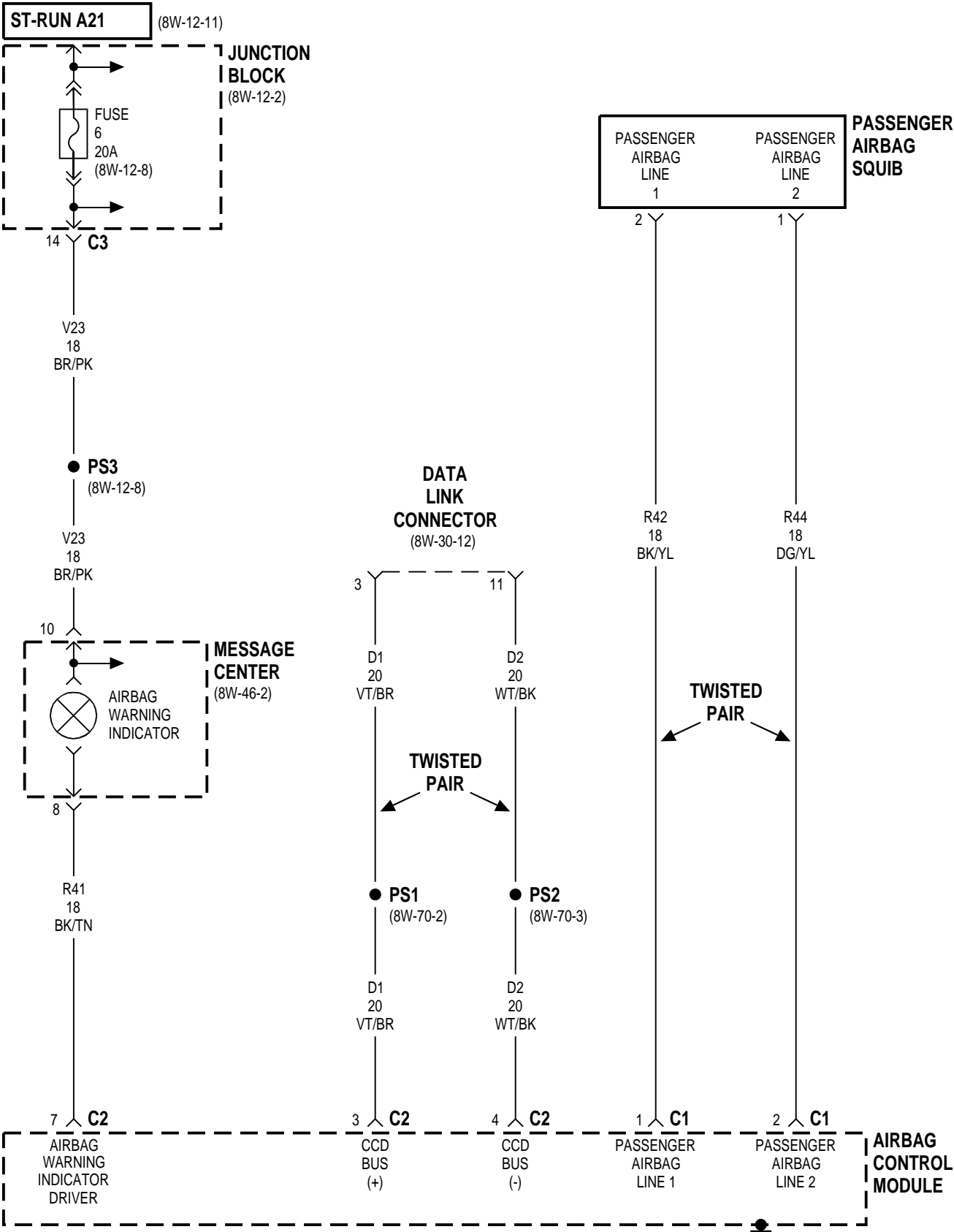
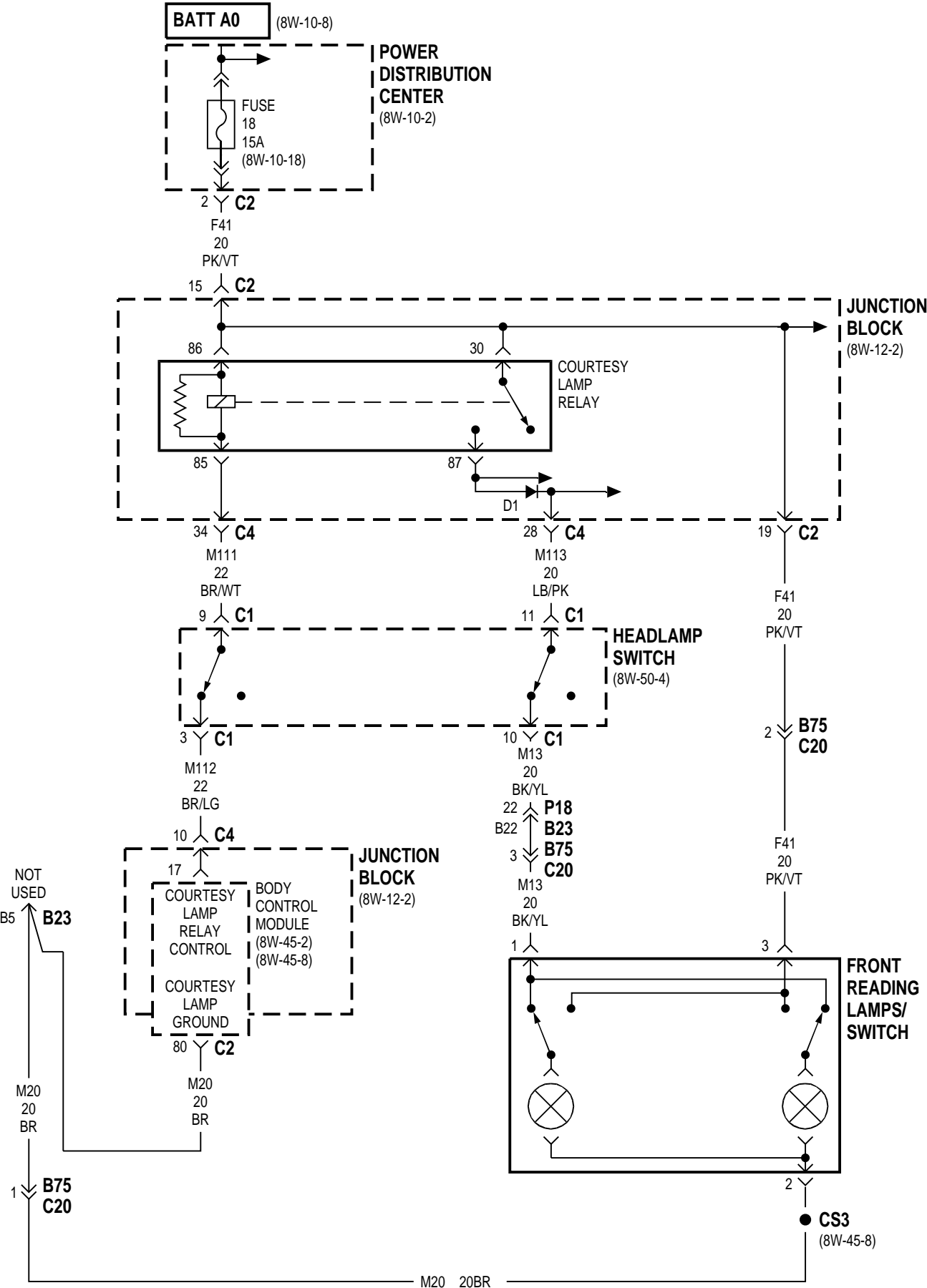
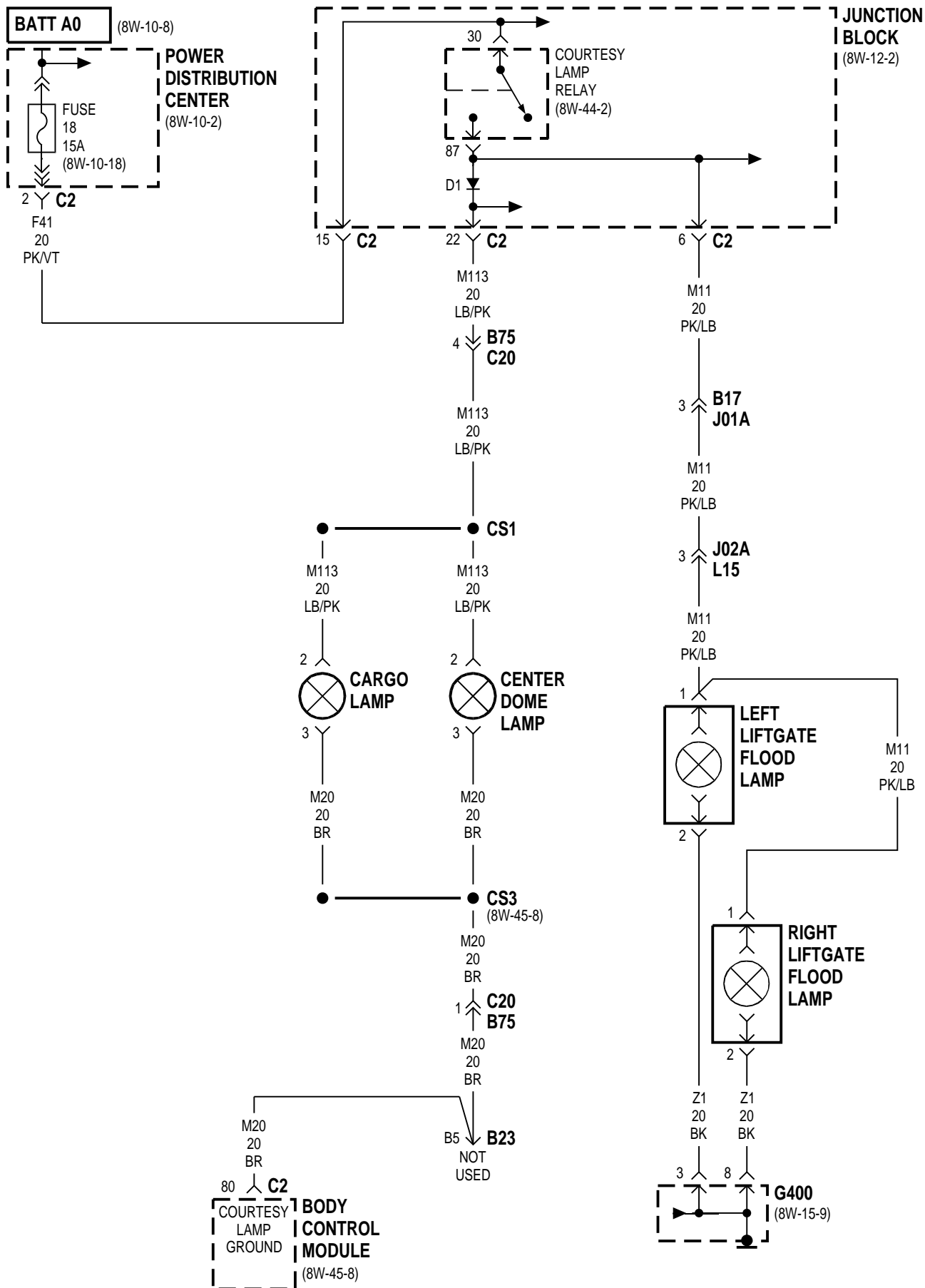
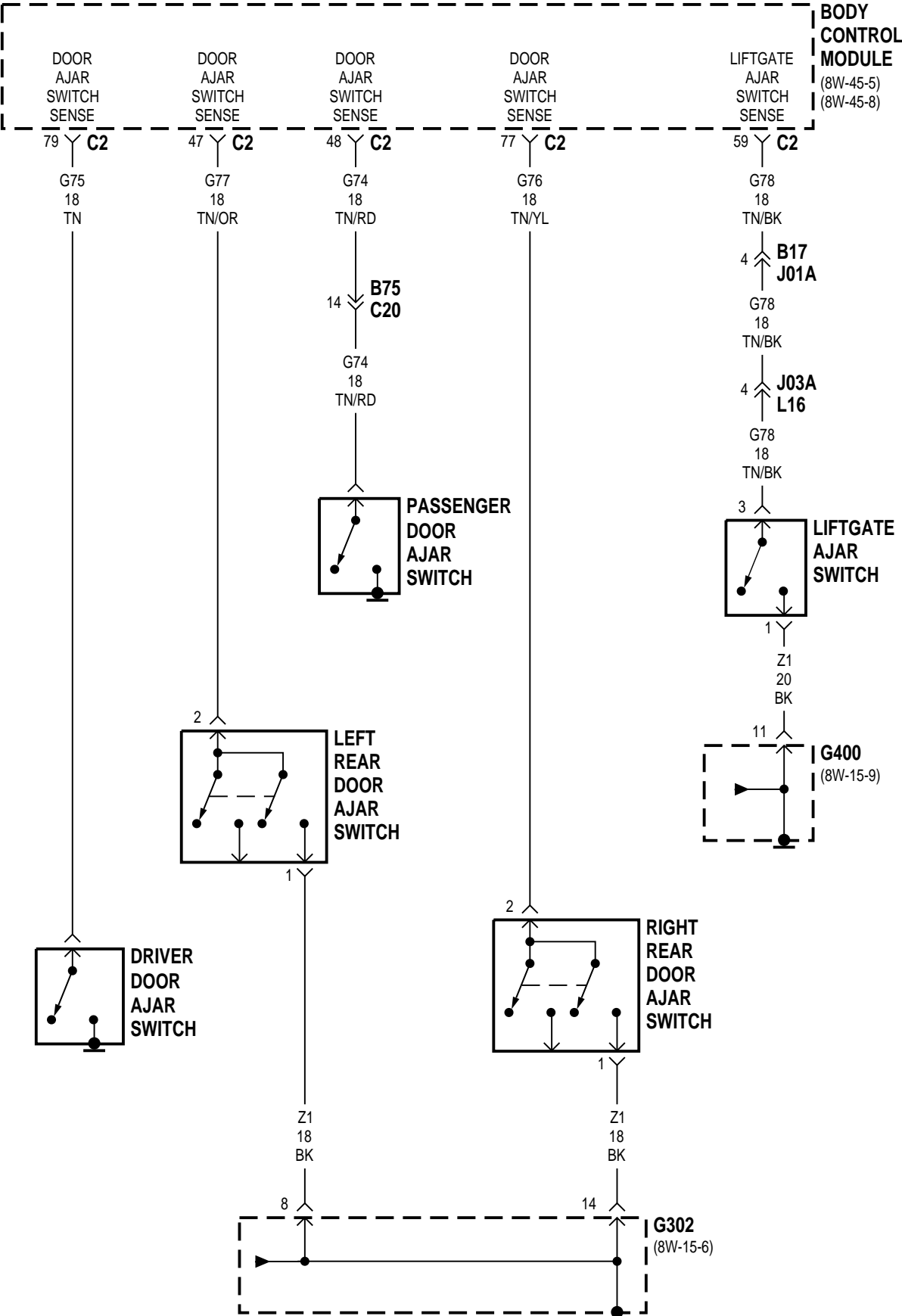


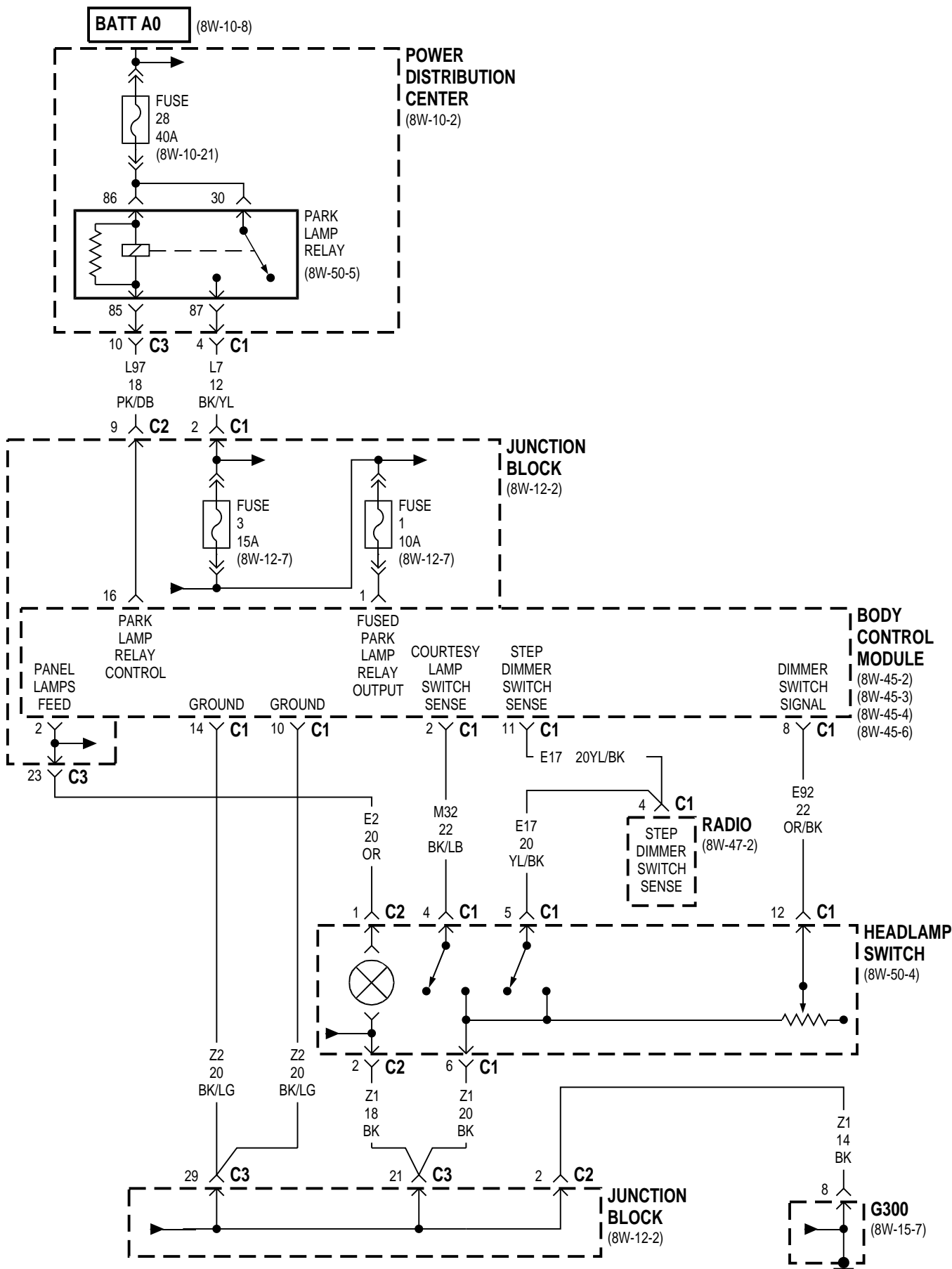
TABLE OF CONTENTS

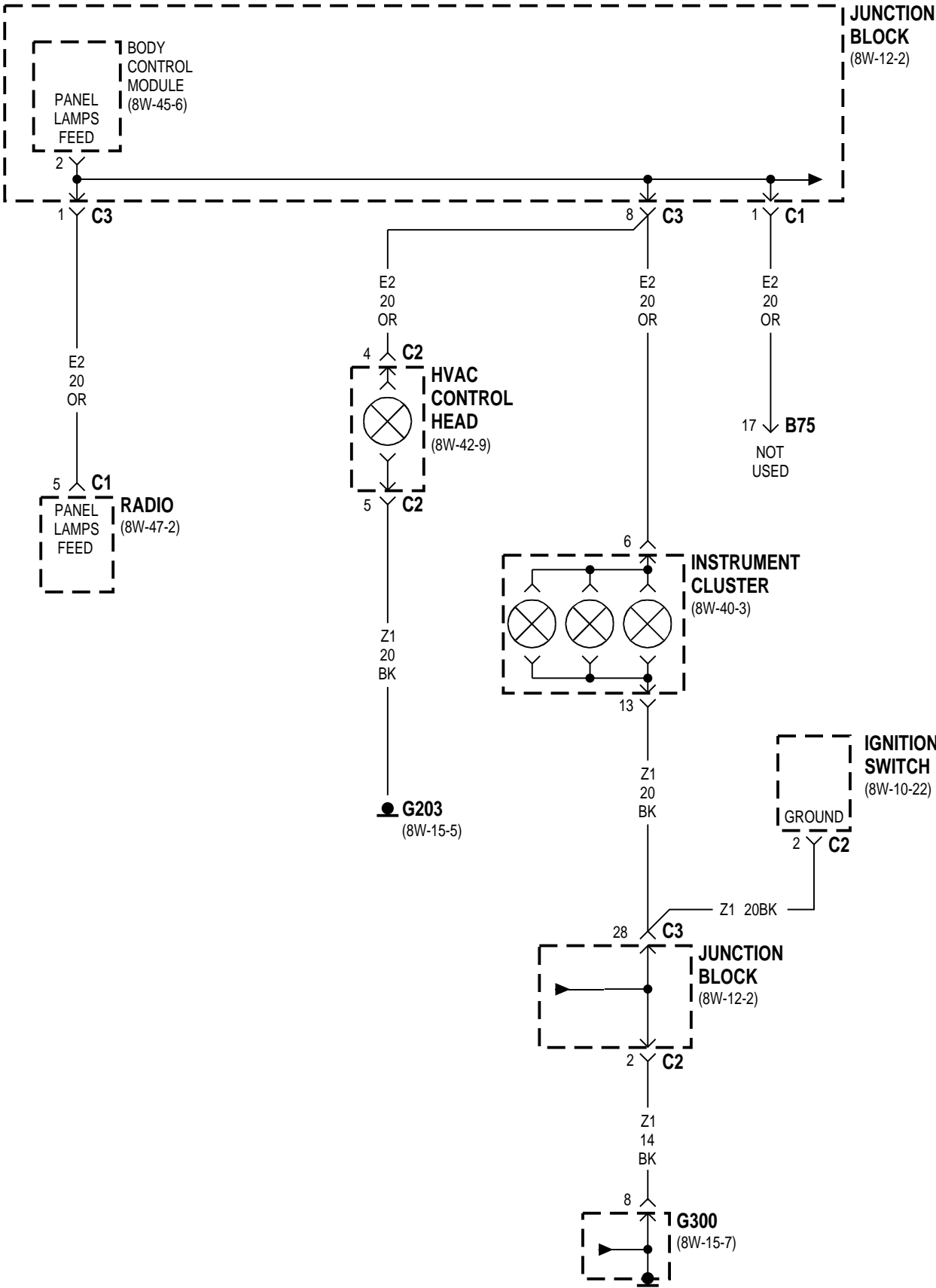
	PAGE		PAGE
BODY CONTROL MODULE	8W-44-2, 3, 4, 5, 6, 7	G400	8W-44-3, 4
CARGO LAMP	8W-44-3	HEADLAMP SWITCH	8W-44-2, 5
CENTER DOME LAMP	8W-44-3	HVAC CONTROL HEAD	8W-44-6
COURTESY LAMP RELAY	8W-44-2, 3	IGNITION SWITCH	8W-44-6
CS1	8W-44-3	INSTRUMENT CLUSTER	8W-44-6
CS3	8W-44-2, 3	JUNCTION BLOCK	8W-44-2, 3, 5, 6, 7
DRIVER DOOR AJAR SWITCH	8W-44-4	LEFT LIFTGATE FLOOD LAMP	8W-44-3
DRIVER DOOR LOCK SWITCH	8W-44-7	LEFT REAR DOOR AJAR SWITCH	8W-44-4
FRONT READING LAMPS/SWITCH	8W-44-2	LIFTGATE AJAR SWITCH	8W-44-4
FUSE 1 (JB)	8W-44-5	PARK LAMP RELAY	8W-44-5
FUSE 3 (JB)	8W-44-5	PASSENGER DOOR AJAR SWITCH	8W-44-4
FUSE 18 (PDC)	8W-44-2, 3	PASSENGER DOOR LOCK SWITCH	8W-44-7
FUSE 28 (PDC)	8W-44-5	POWER DISTRIBUTION CENTER	8W-44-2, 3, 5
G203	8W-44-6	RADIO	8W-44-5, 6
G300	8W-44-5, 6	RIGHT LIFTGATE FLOOD LAMP	8W-44-3
G301	8W-44-7	RIGHT REAR DOOR AJAR SWITCH	8W-44-4
G302	8W-44-4		











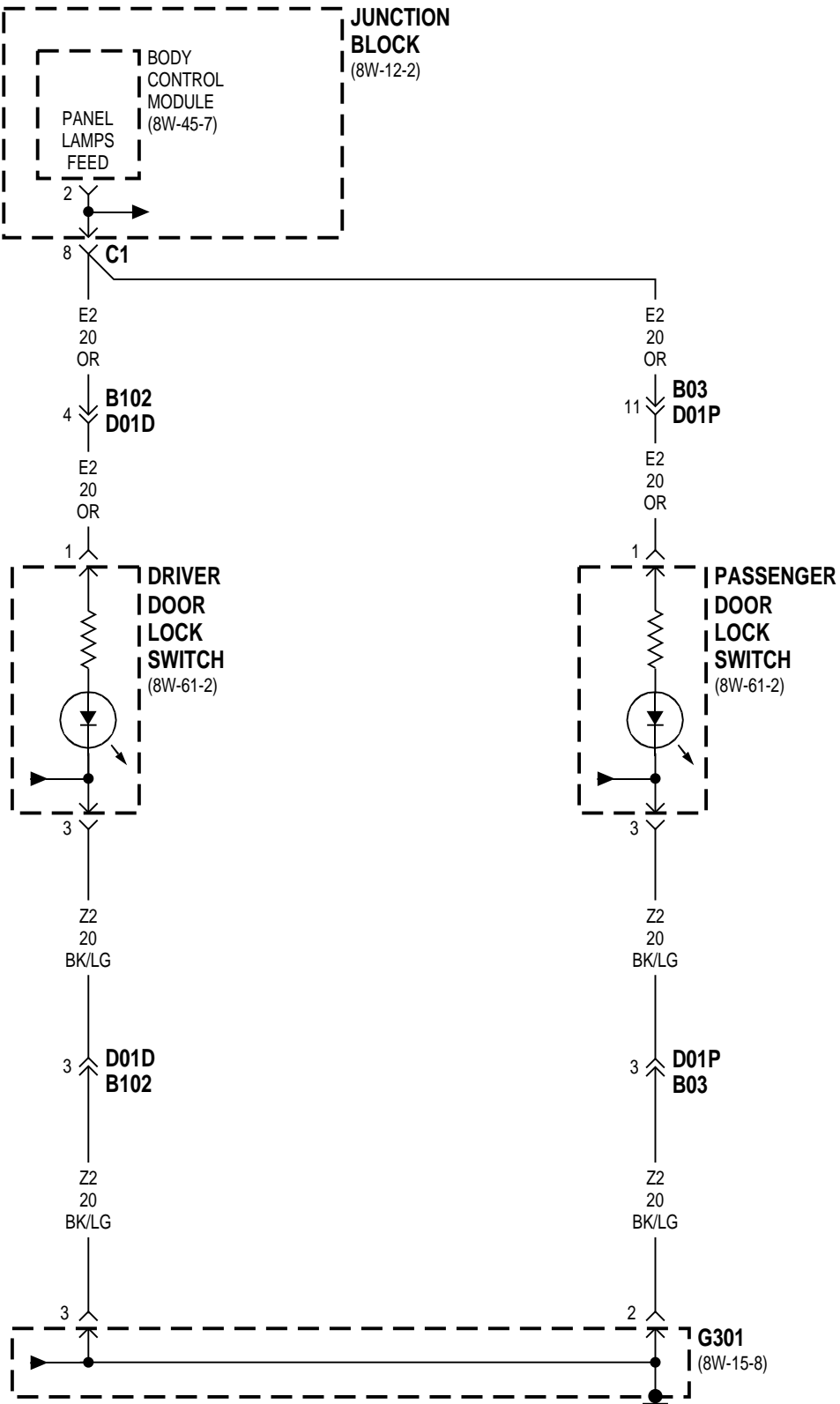
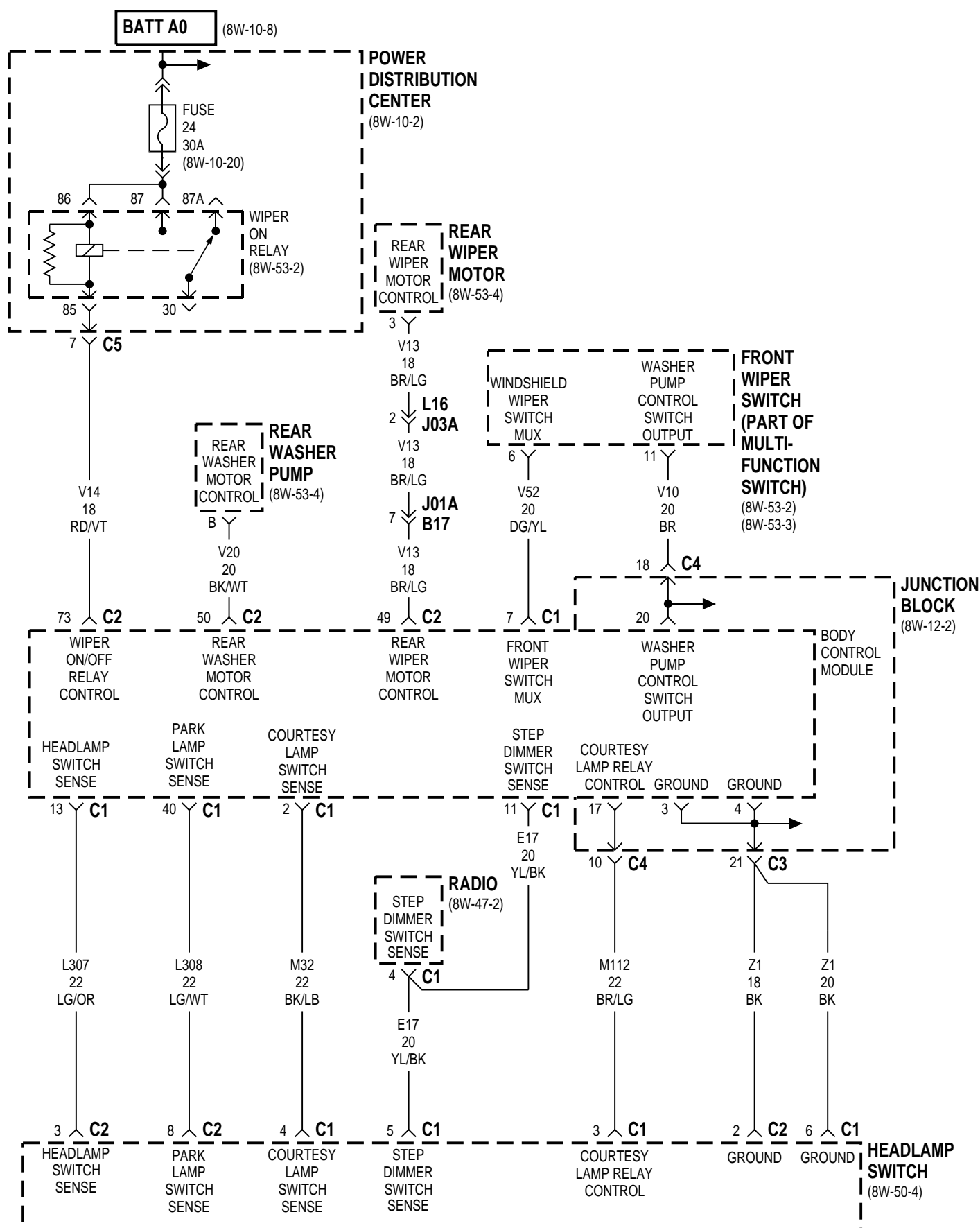
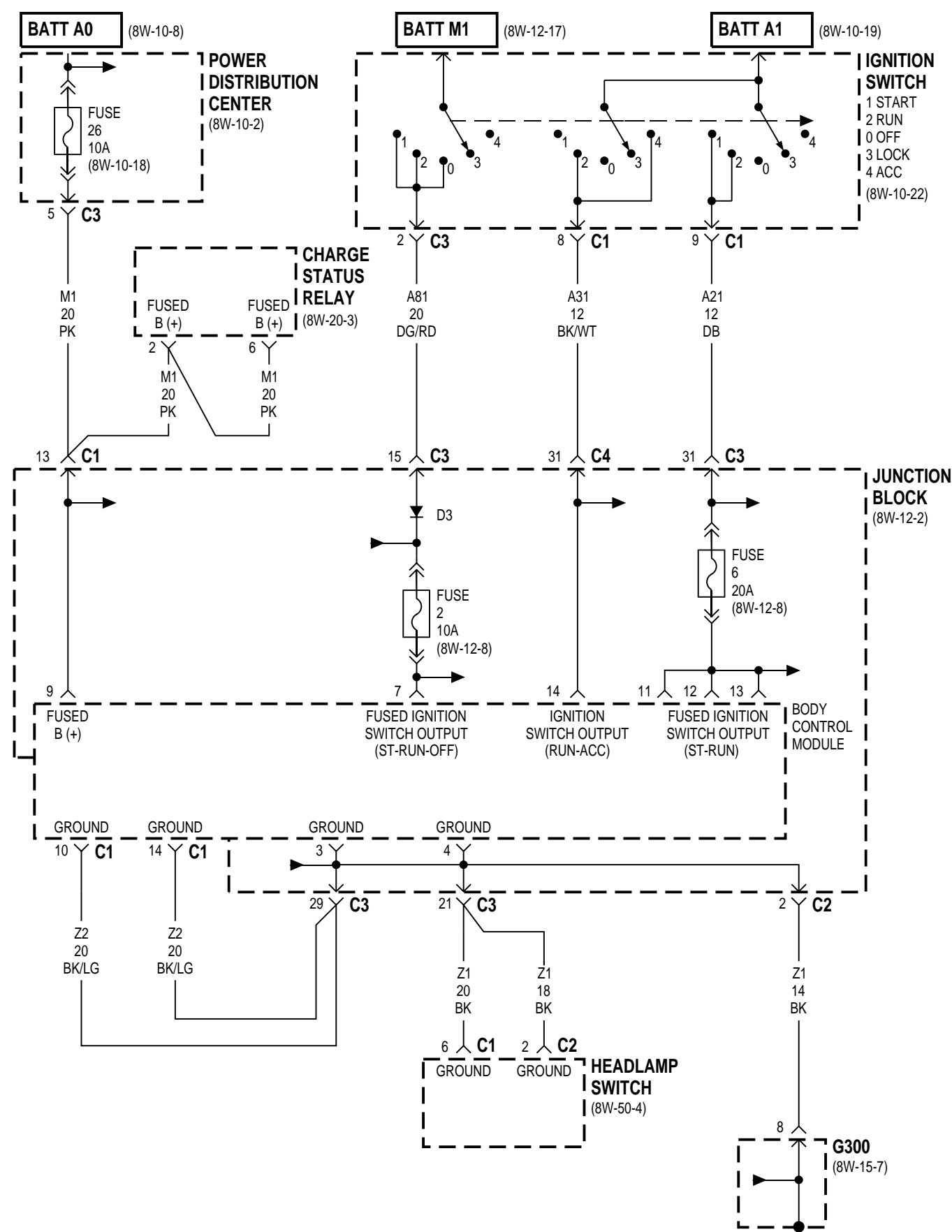


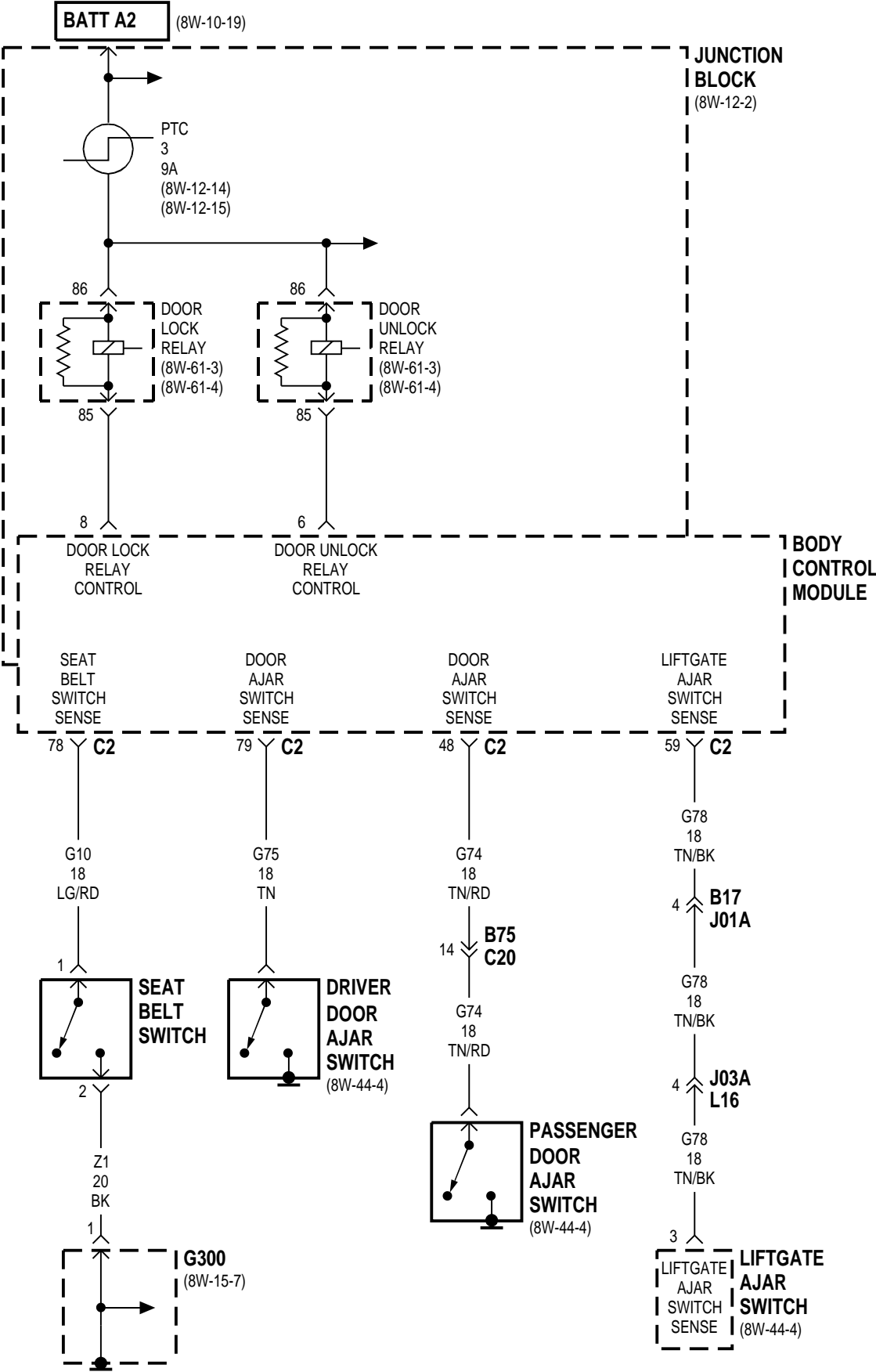
TABLE OF CONTENTS

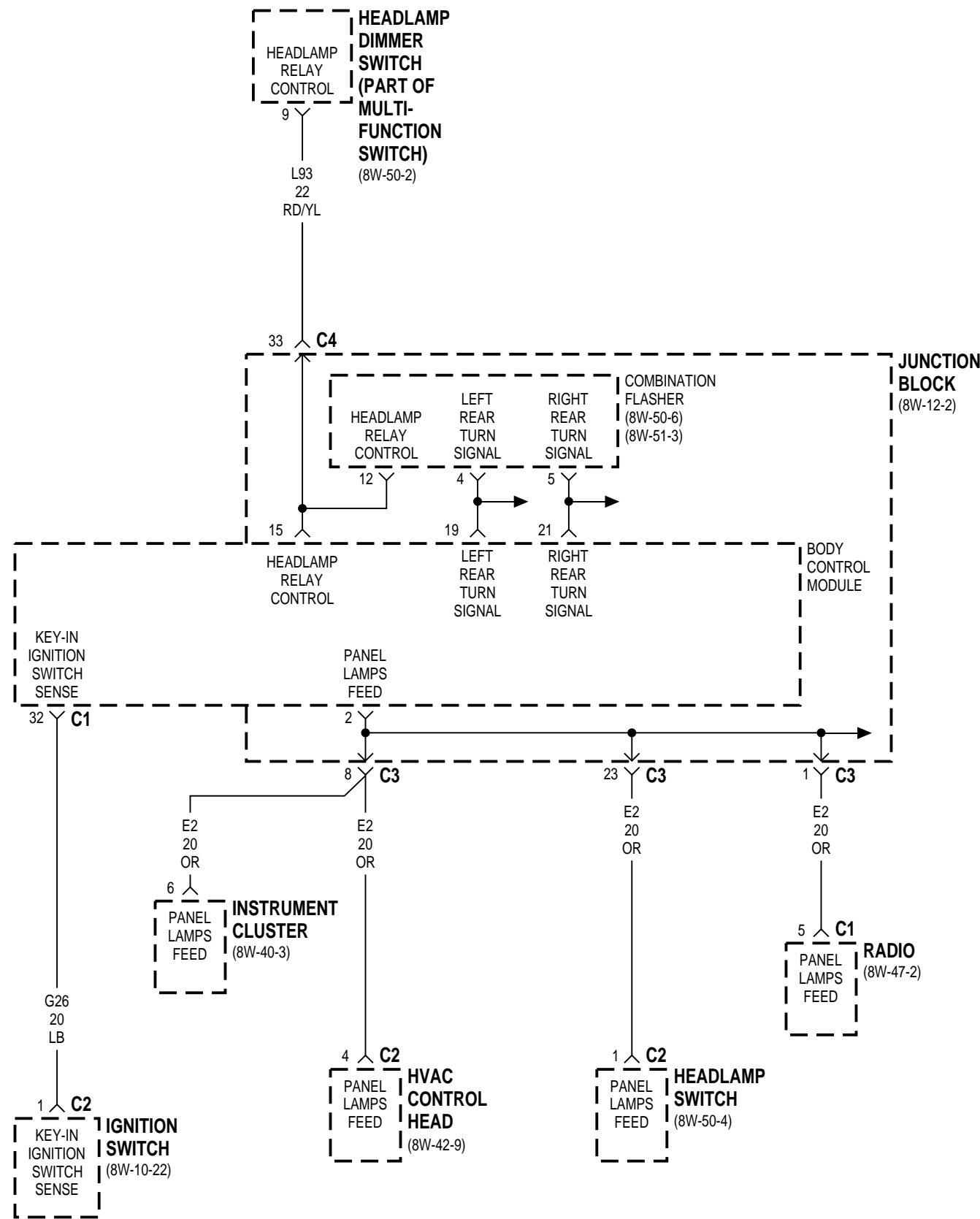
	PAGE		PAGE
BODY CONTROL MODULE . .	8W-45-2, 3, 4, 5, 6, 7, 8	HEADLAMP DIMMER SWITCH	8W-45-6
CARGO LAMP	8W-45-8	HEADLAMP SWITCH	8W-45-2, 3, 4, 6
CENTER DOME LAMP	8W-45-8	HORN RELAY	8W-45-4
CHARGE STATUS RELAY	8W-45-3	HVAC CONTROL HEAD	8W-45-6
CLOCKSPRING	8W-45-4	IGNITION SWITCH	8W-45-3, 6
COMBINATION FLASHER	8W-45-6	INSTRUMENT CLUSTER	8W-45-6
CONTROLLER ANTI-LOCK BRAKE	8W-45-7	JUNCTION BLOCK	8W-45-2, 3, 4, 5, 6, 7
CS3	8W-45-8	LEFT REAR DOOR AJAR SWITCH	8W-45-8
DATA LINK CONNECTOR	8W-45-4	LIFTGATE AJAR SWITCH	8W-45-5
DOOR LOCK RELAY	8W-45-5	MESSAGE CENTER	8W-45-7
DOOR UNLOCK RELAY	8W-45-5	PARK LAMP RELAY	8W-45-4
DRIVER DOOR AJAR SWITCH	8W-45-5	PASSENGER DOOR AJAR SWITCH . . .	8W-45-5, 7, 8
DRIVER DOOR LOCK SWITCH	8W-45-7, 8	POWER DISTRIBUTION CENTER	8W-45-2, 3, 4
FRONT READING LAMPS/SWITCH	8W-45-8	PS1	8W-45-4
FRONT WIPER SWITCH	8W-45-2	PS2	8W-45-4
FUSE 1 (JB)	8W-45-4	PTC 3 (JB)	8W-45-5
FUSE 2 (JB)	8W-45-3	RADIO	8W-45-2, 6
FUSE 3 (JB)	8W-45-4	REAR WASHER PUMP	8W-45-2
FUSE 6 (JB)	8W-45-3	REAR WIPER MOTOR	8W-45-2
FUSE 24 (PDC)	8W-45-2	RIGHT REAR DOOR AJAR SWITCH	8W-45-8
FUSE 26 (PDC)	8W-45-3	SEAT BELT SWITCH	8W-45-5
FUSE 28 (PDC)	8W-45-4	WASHER FLUID LEVEL SWITCH	8W-45-4
G300	8W-45-3, 5	WIPER MODULE	8W-45-4
		WIPER ON RELAY	8W-45-2

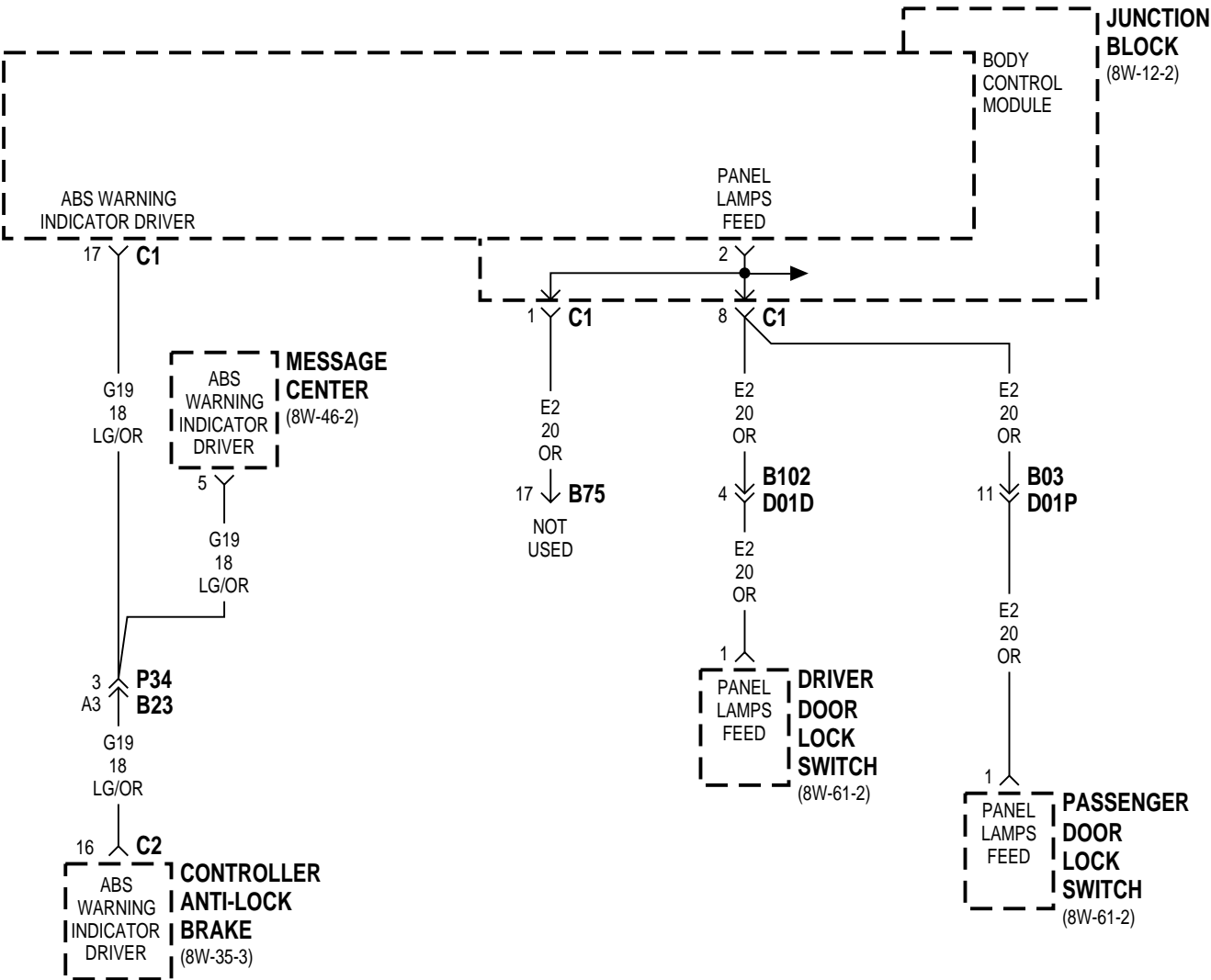












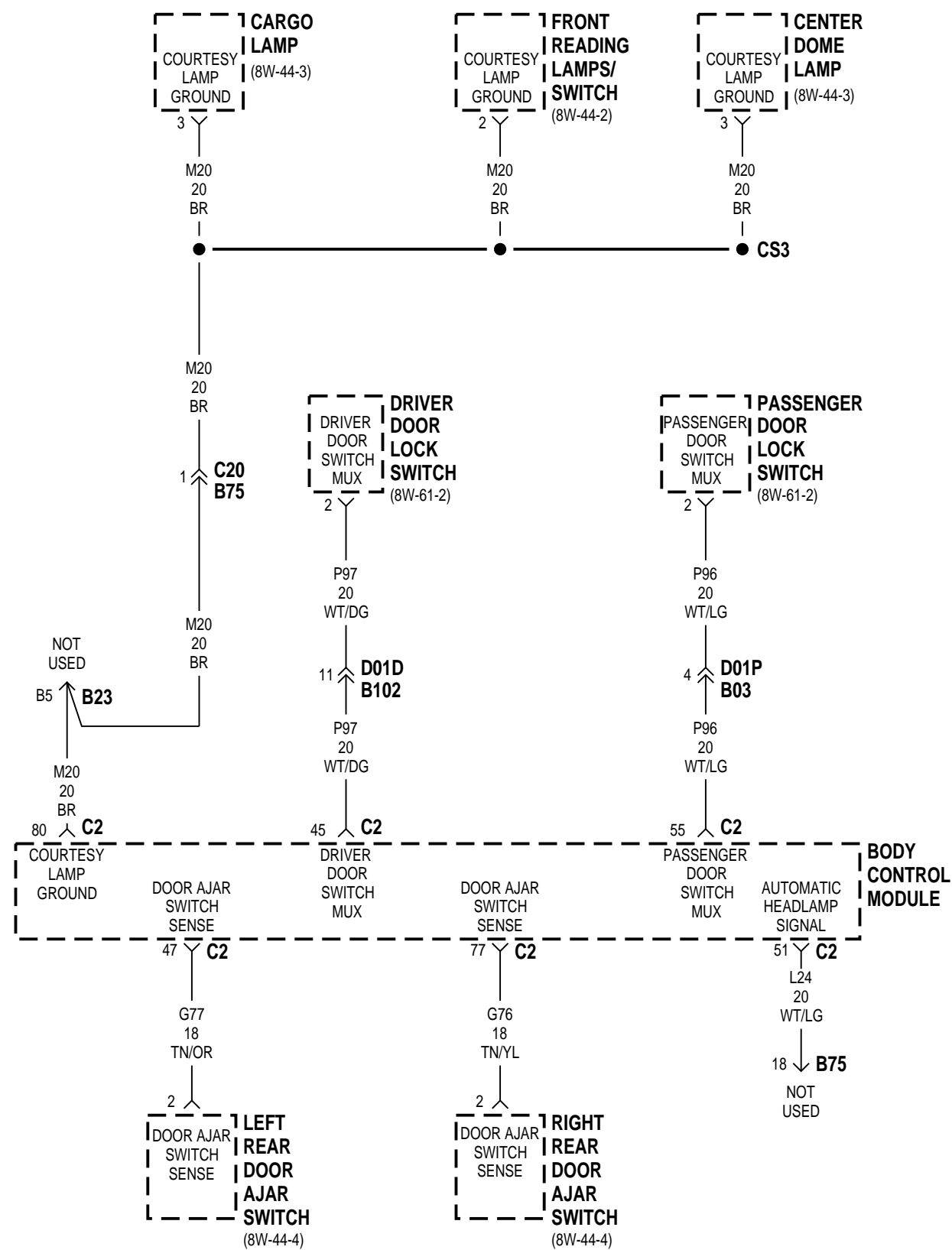
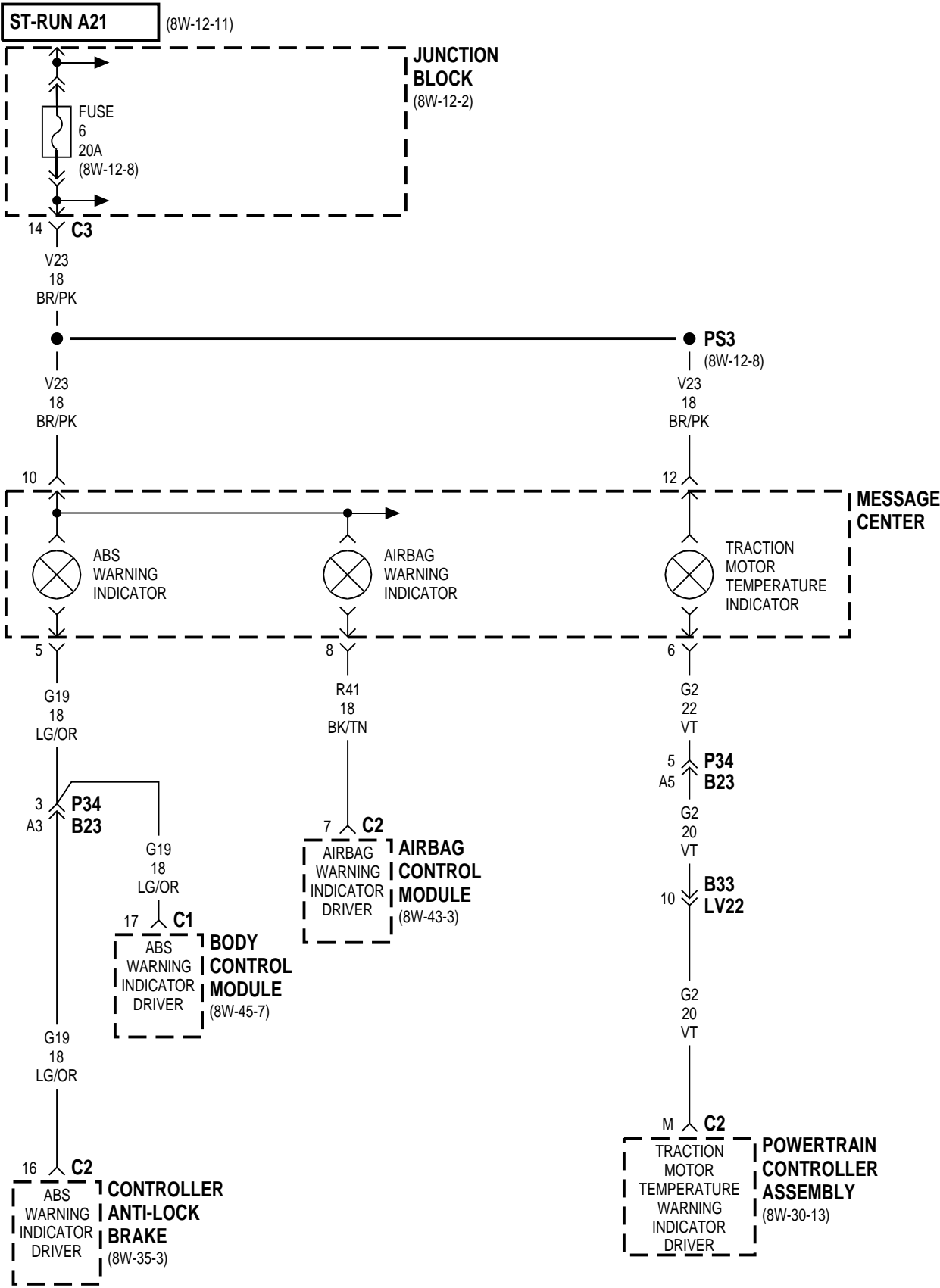
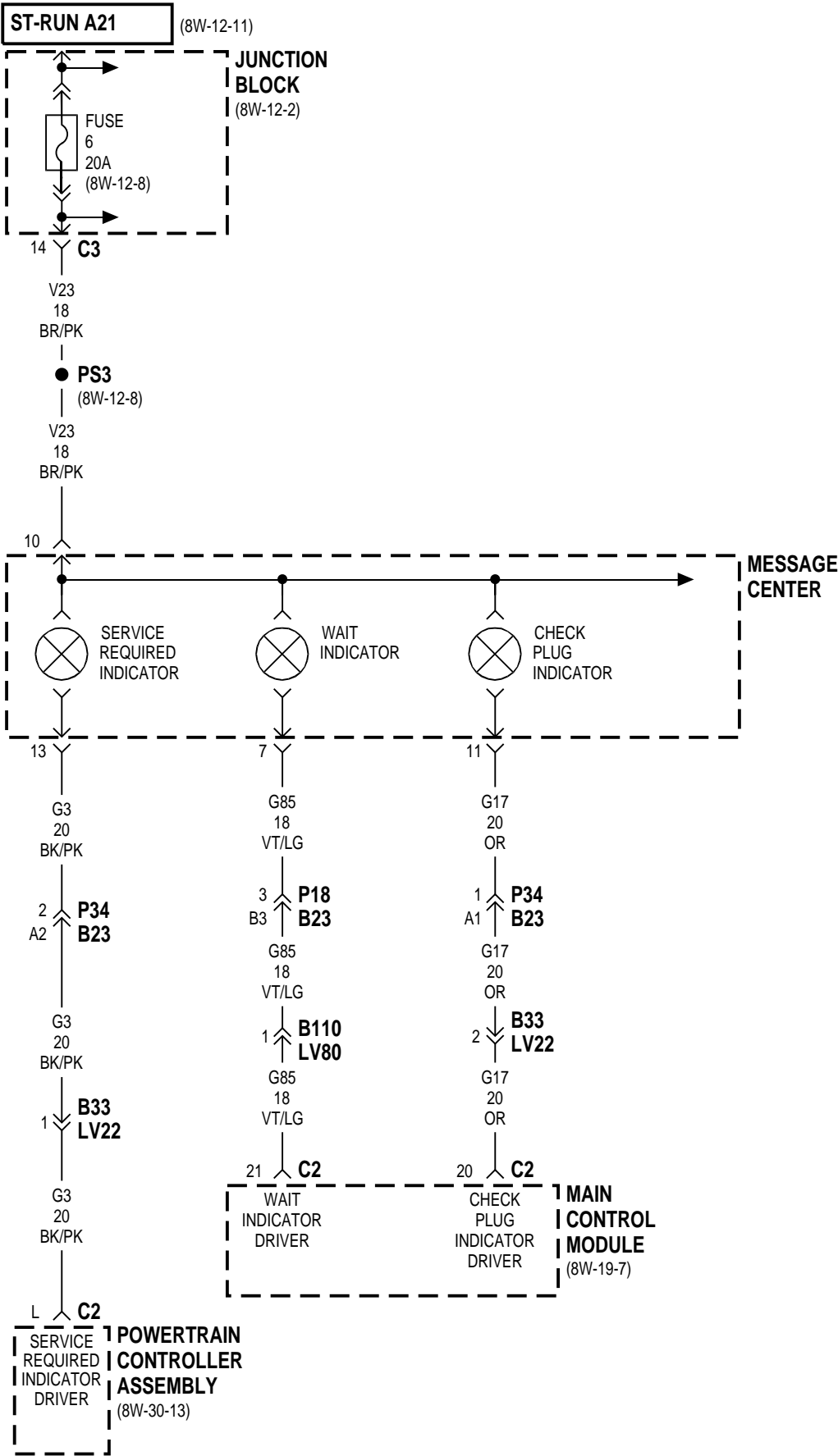
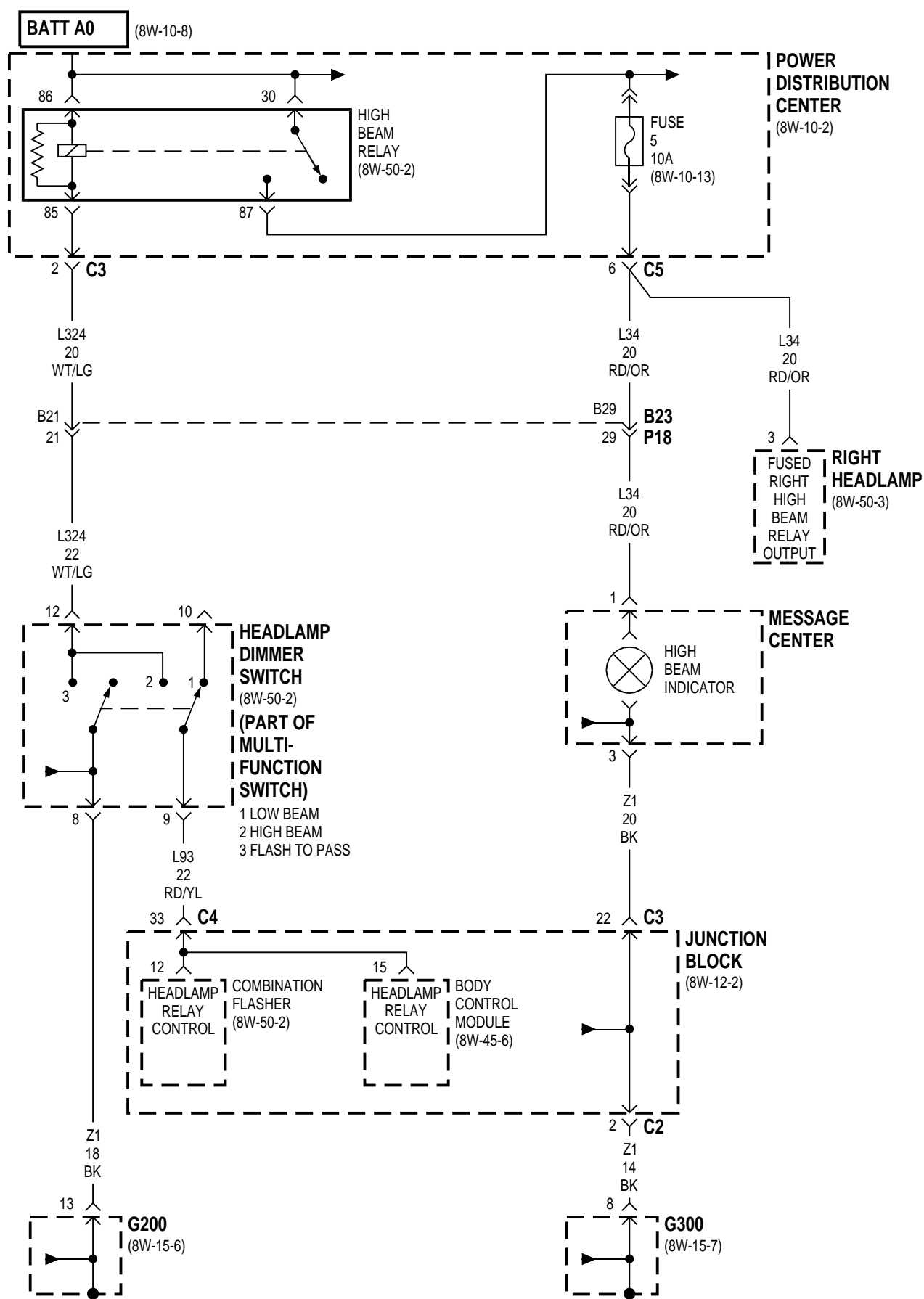


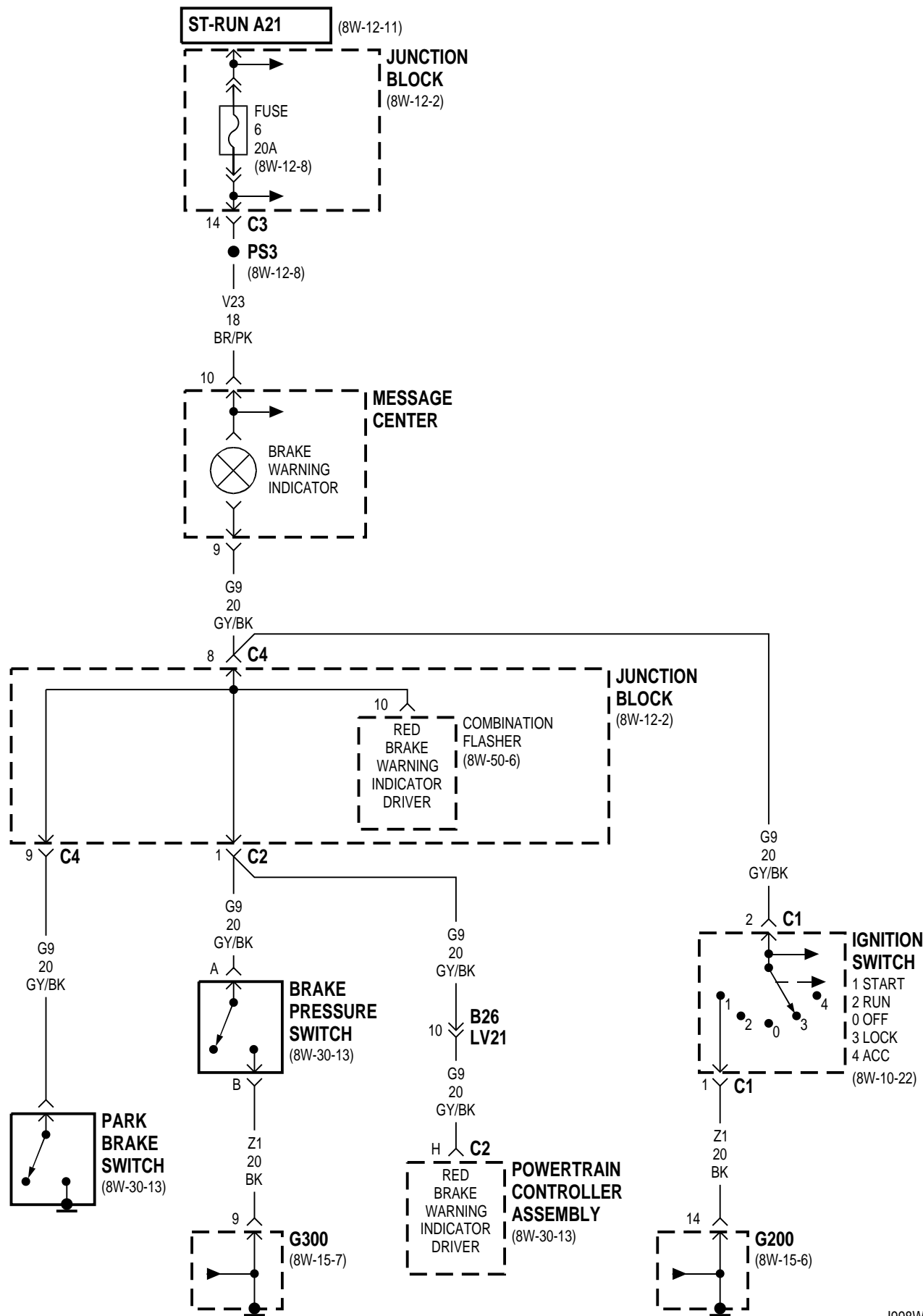
TABLE OF CONTENTS

	PAGE		PAGE
ABS WARNING INDICATOR	8W-46-2	LEFT REAR LAMP ASSEMBLY	8W-46-6
AIRBAG CONTROL MODULE	8W-46-2	LEFT TURN INDICATOR	8W-46-6
AIRBAG WARNING INDICATOR	8W-46-2	MAIN CONTROL MODULE	8W-46-3
BODY CONTROL MODULE	8W-46-2, 4, 6	MESSAGE CENTER	8W-46-2, 3, 4, 5, 6
BRAKE PRESSURE SWITCH	8W-46-5	PARK BRAKE SWITCH	8W-46-5
BRAKE WARNING INDICATOR	8W-46-5	POWER DISTRIBUTION CENTER	8W-46-4
CHECK PLUG INDICATOR	8W-46-3	POWERTRAIN CONTROLLER	
COMBINATION FLASHER	8W-46-4, 5, 6	ASSEMBLY	8W-46-2, 3, 5
CONTROLLER ANTI-LOCK BRAKE	8W-46-2	PS3	8W-46-2, 3, 5
FUSE 5 (PDC)	8W-46-4	RIGHT HEADLAMP	8W-46-4
FUSE 6 (JB)	8W-46-2, 3, 5	RIGHT REAR LAMP ASSEMBLY	8W-46-6
G200	8W-46-4, 5, 6	RIGHT TURN INDICATOR	8W-46-6
G300	8W-46-4, 5, 6	SERVICE REQUIRED INDICATOR	8W-46-3
HEADLAMP DIMMER SWITCH	8W-46-4	TRACTION MOTOR TEMPERATURE	
HIGH BEAM INDICATOR	8W-46-4	INDICATOR	8W-46-2
HIGH BEAM RELAY	8W-46-4	TURN SIGNAL/HAZARD SWITCH	8W-46-6
IGNITION SWITCH	8W-46-5	WAIT INDICATOR	8W-46-3
JUNCTION BLOCK	8W-46-2, 3, 4, 5, 6		









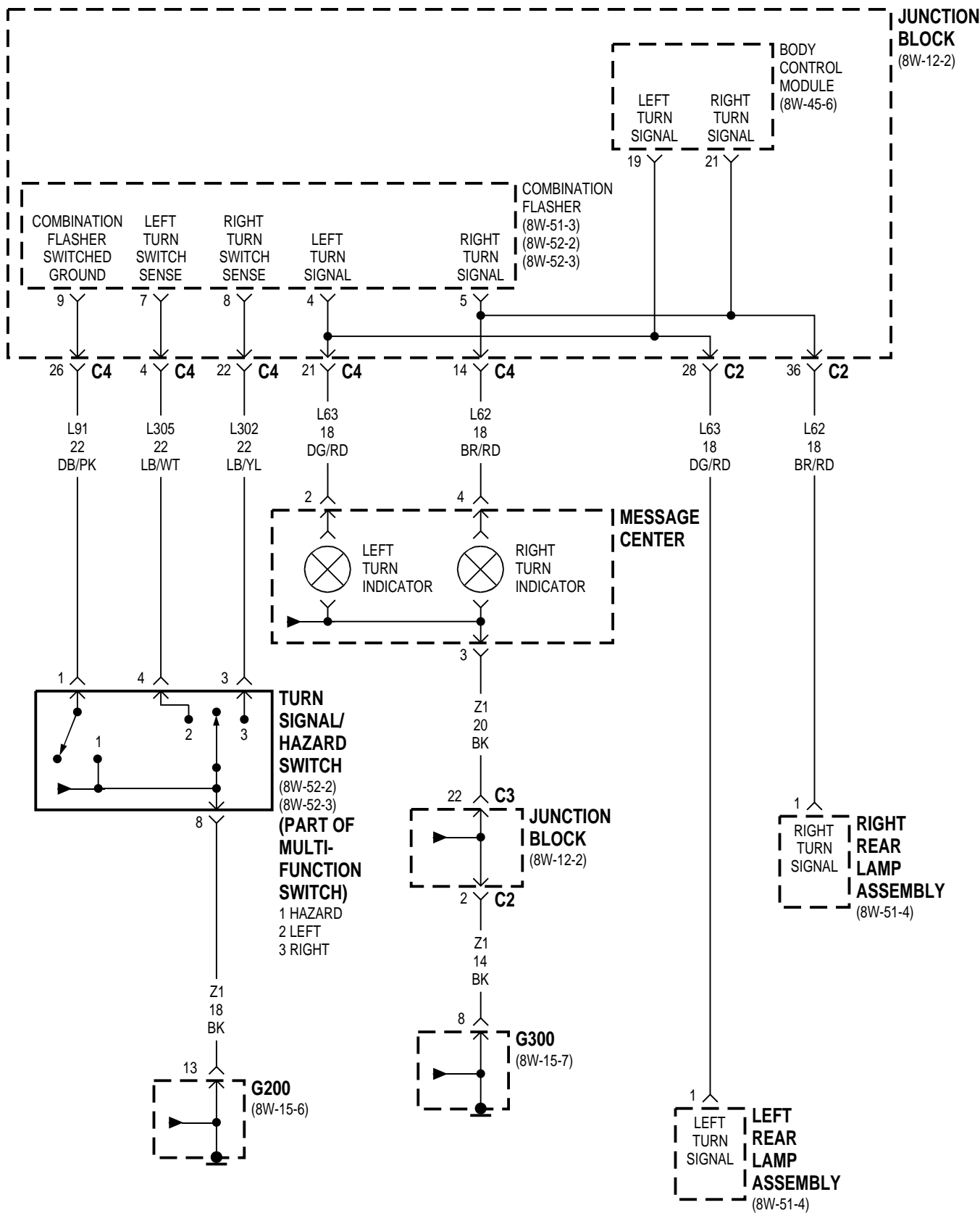
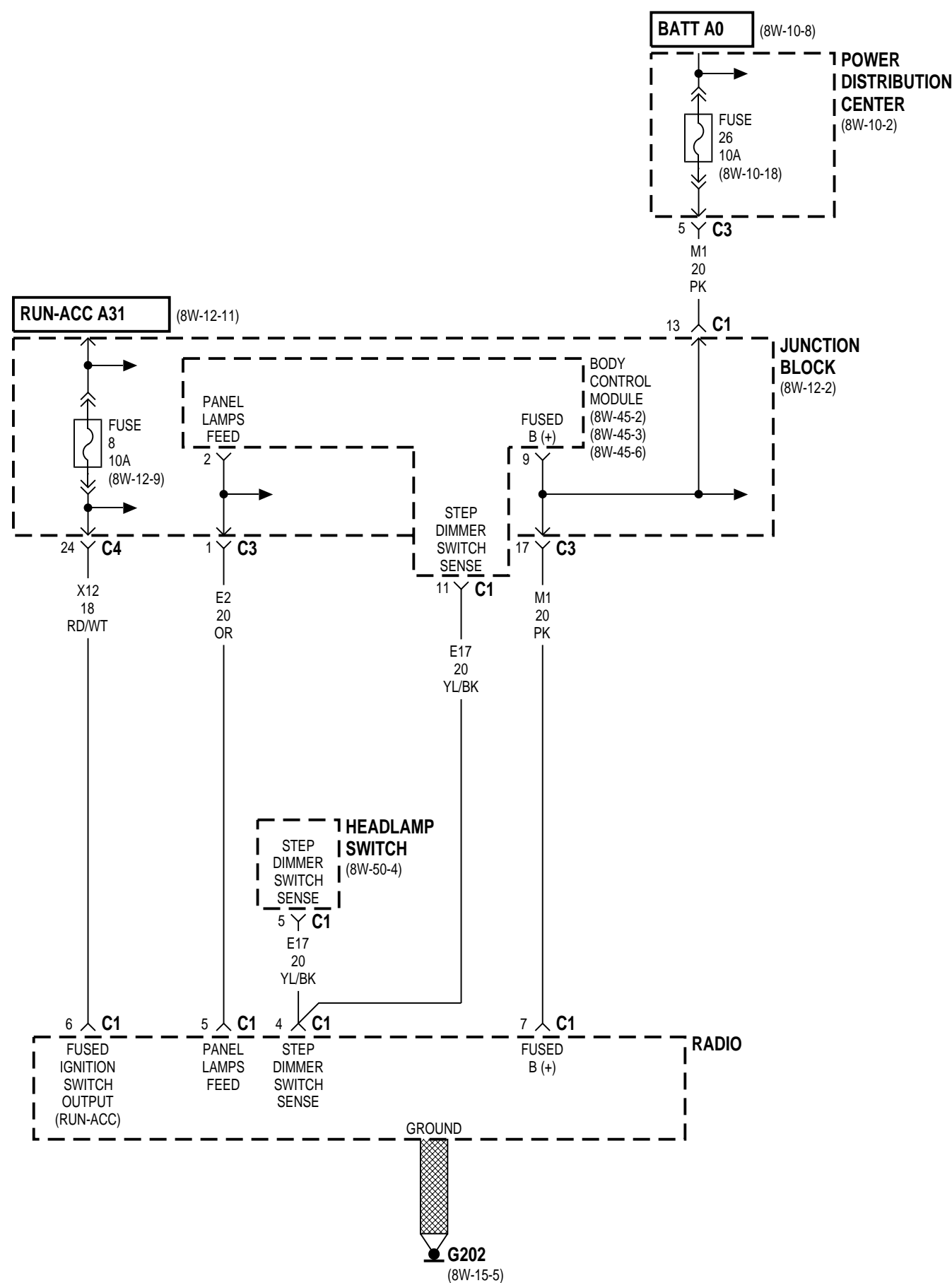


TABLE OF CONTENTS

	PAGE		PAGE
BODY CONTROL MODULE	8W-47-2	LEFT FRONT SPEAKER	8W-47-3
FUSE 8 (JB)	8W-47-2	LEFT REAR SPEAKER	8W-47-3
FUSE 26 (PDC)	8W-47-2	POWER DISTRIBUTION CENTER	8W-47-2
G202	8W-47-2	RADIO	8W-47-2, 3
HEADLAMP SWITCH	8W-47-2	RIGHT FRONT SPEAKER	8W-47-3
JUNCTION BLOCK	8W-47-2	RIGHT REAR SPEAKER	8W-47-3



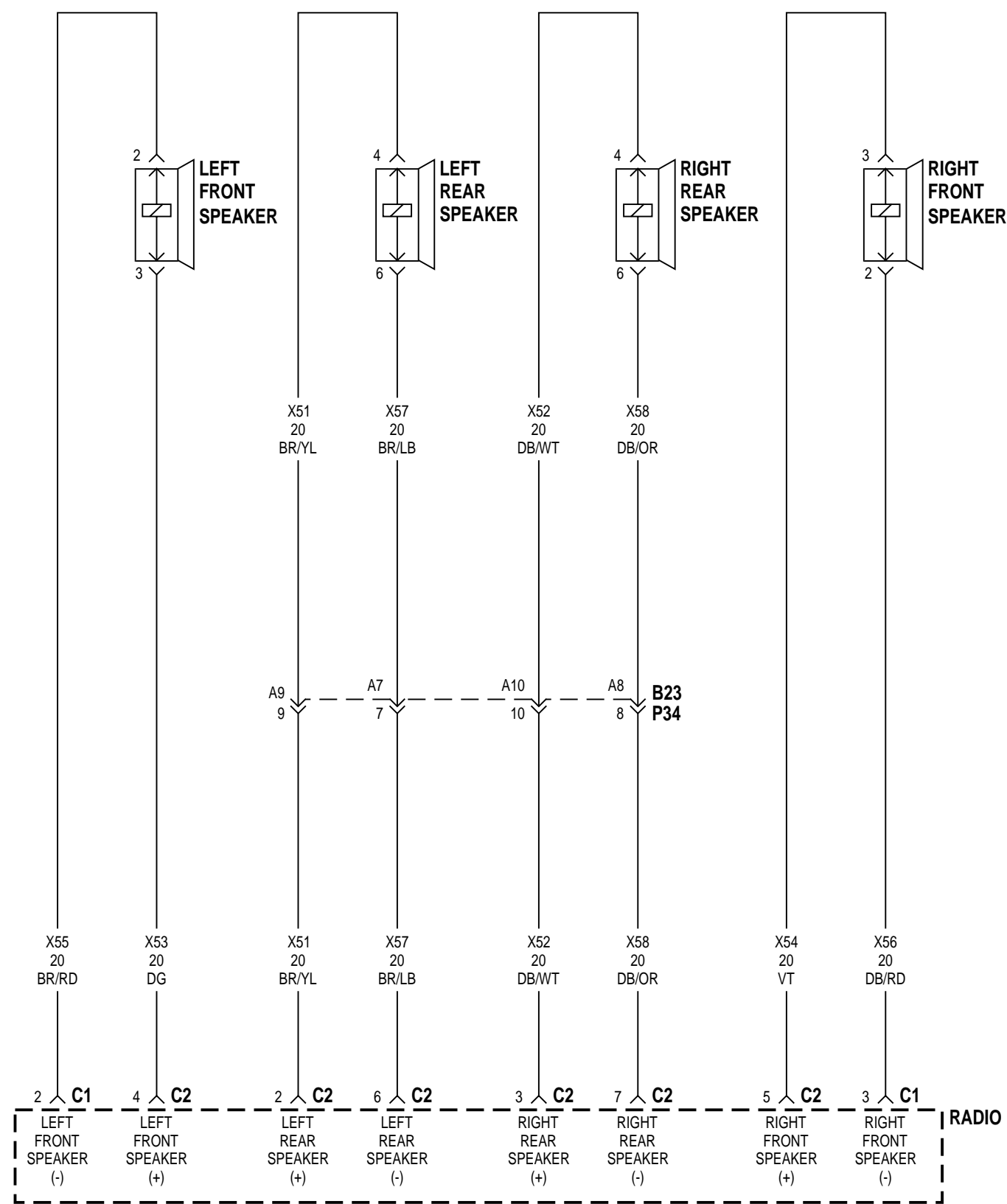
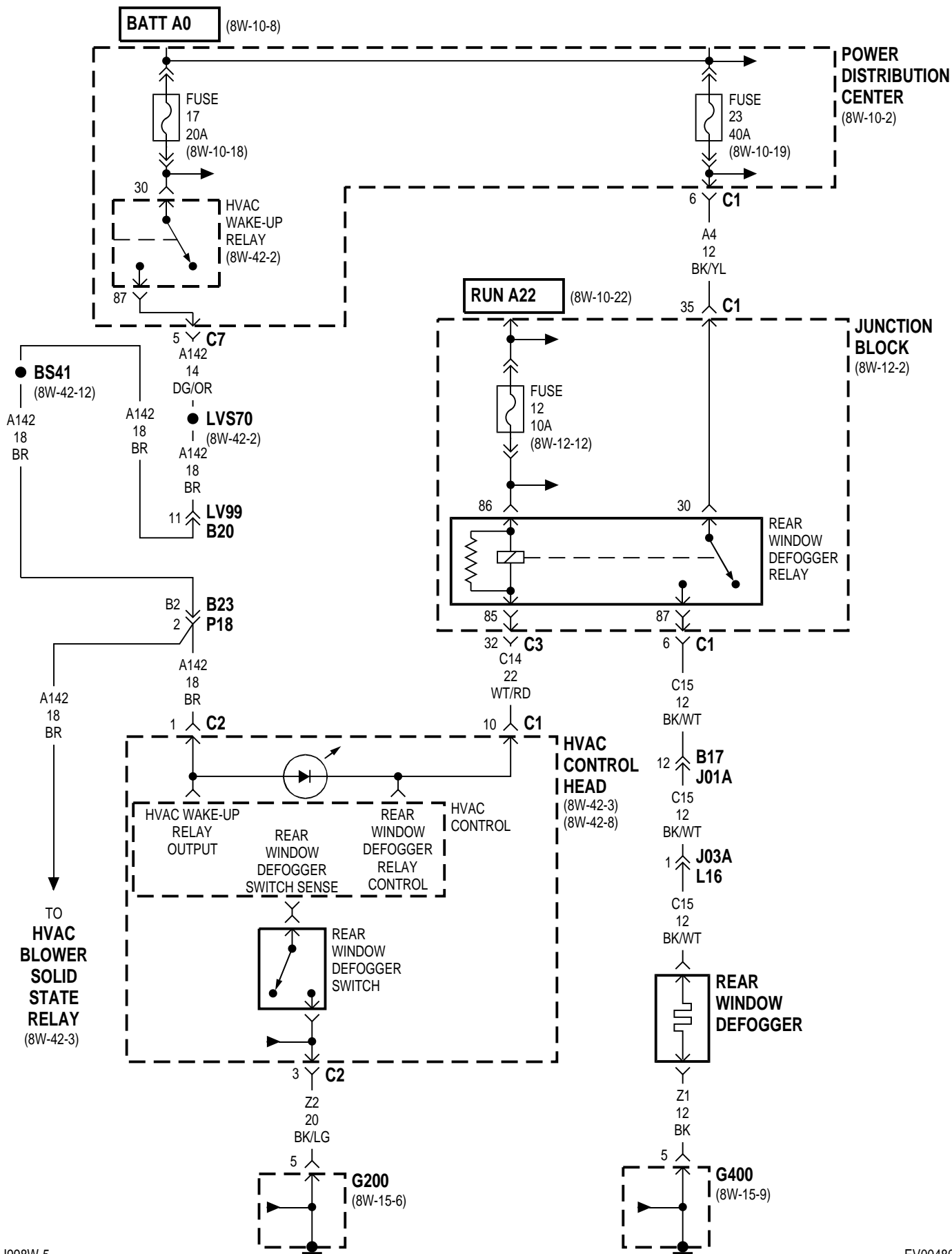


TABLE OF CONTENTS

	PAGE		PAGE
BS41	8W-48-2	HVAC CONTROL	8W-48-2, 3
ELECTRIC WIPER DE-ICER	8W-48-3	HVAC CONTROL HEAD	8W-48-2, 3
FUSE 9 (JB)	8W-48-3	HVAC WAKE-UP RELAY	8W-48-2
FUSE 12 (JB)	8W-48-2	JUNCTION BLOCK	8W-48-2, 3
FUSE 17 (PDC)	8W-48-2	LVS70	8W-48-2
FUSE 23 (PDC)	8W-48-2	POWER DISTRIBUTION CENTER	8W-48-2
G200	8W-48-2	REAR WINDOW DEFOGGER	8W-48-2
G400	8W-48-2	REAR WINDOW DEFOGGER RELAY	8W-48-2
HVAC BLOWER SOLID STATE RELAY	8W-48-2	REAR WINDOW DEFOGGER SWITCH	8W-48-2



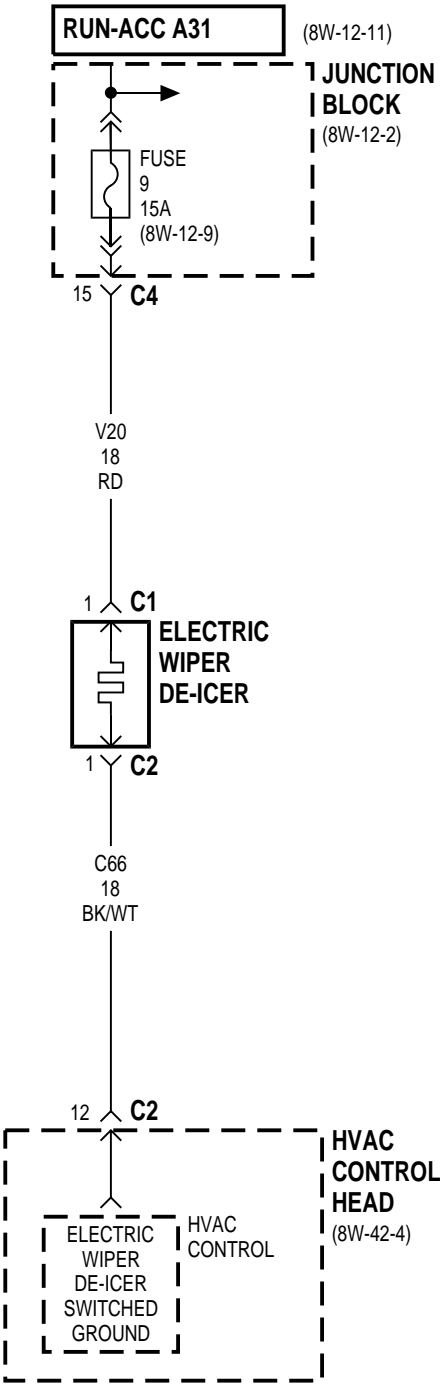
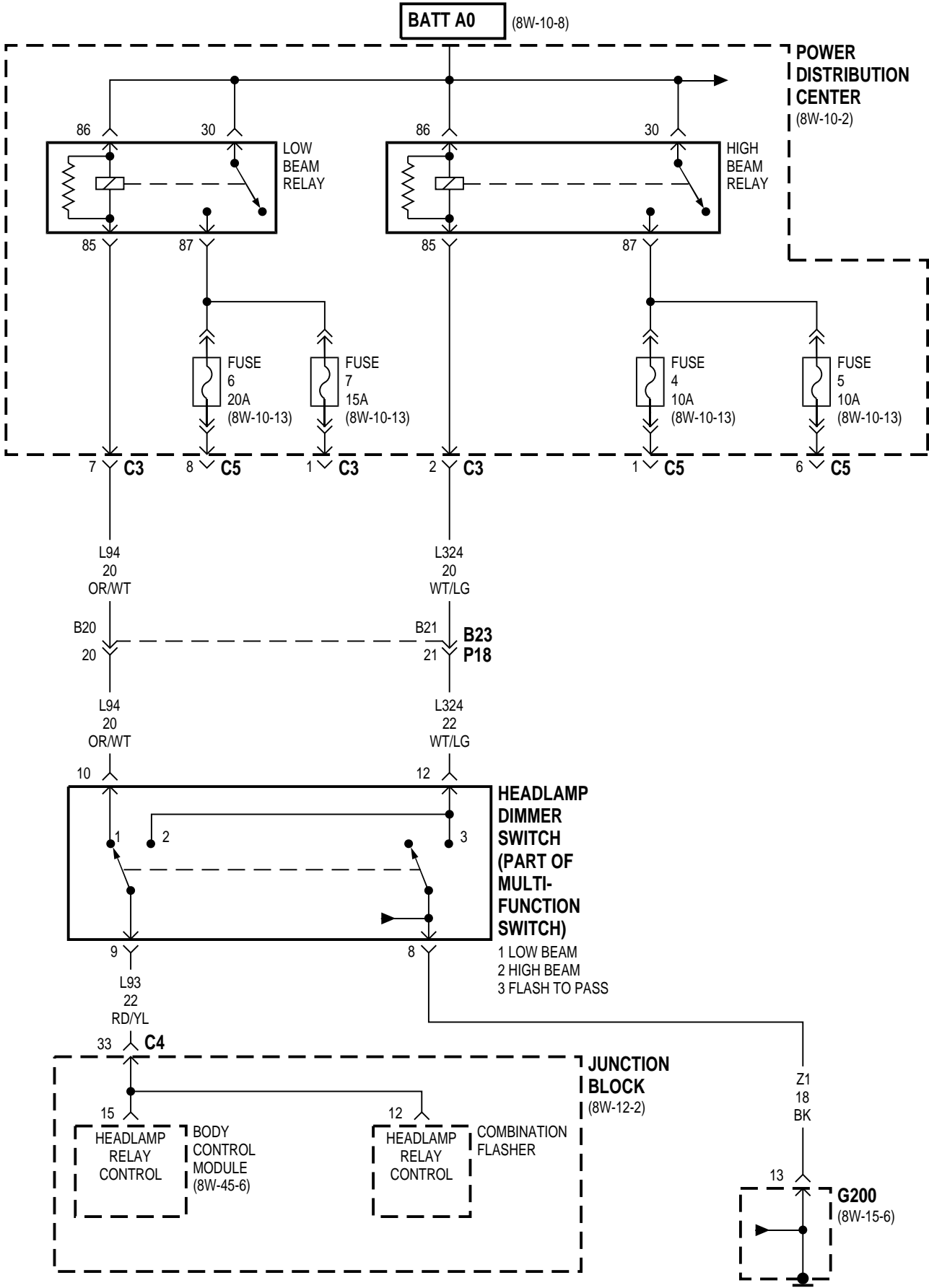
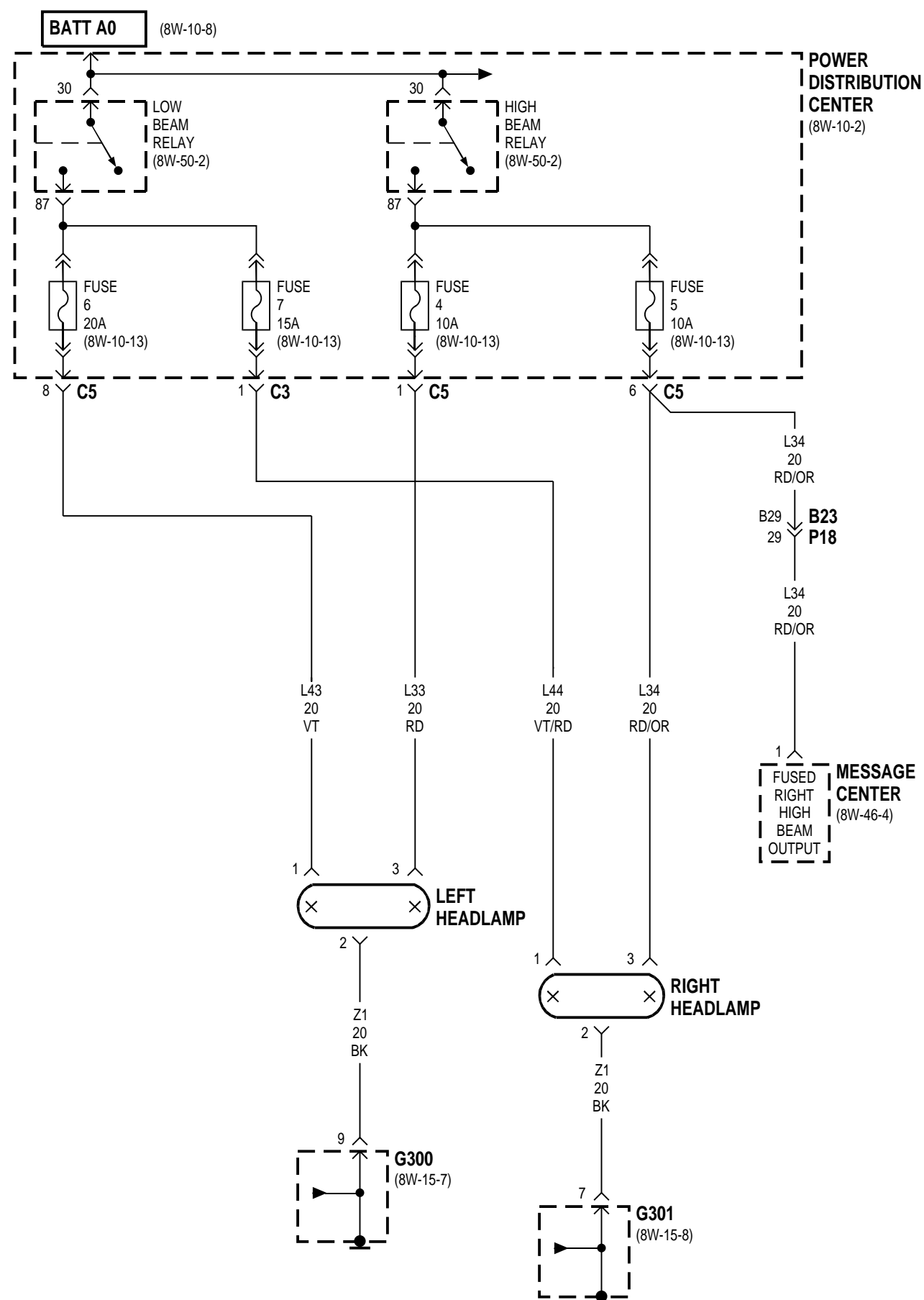
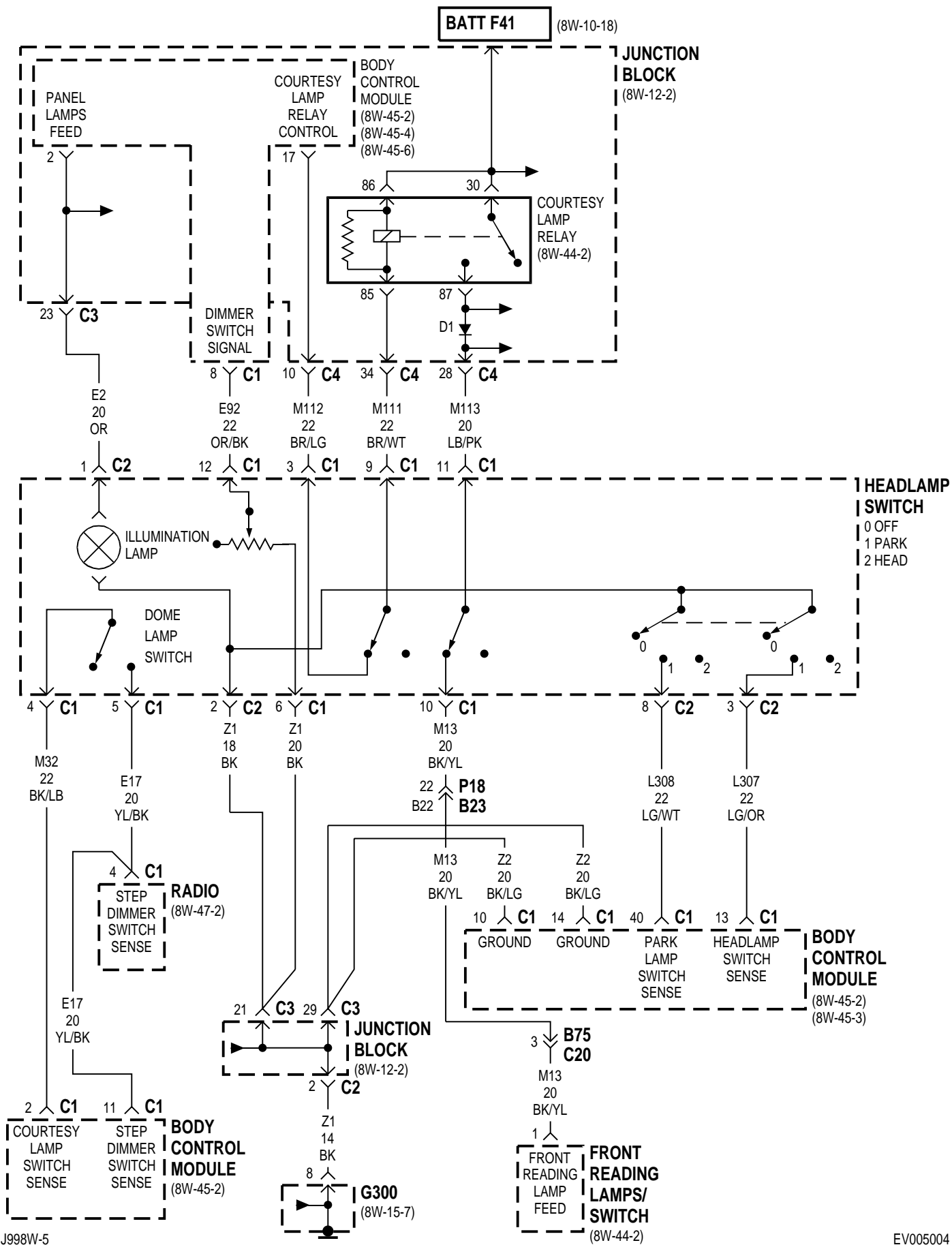


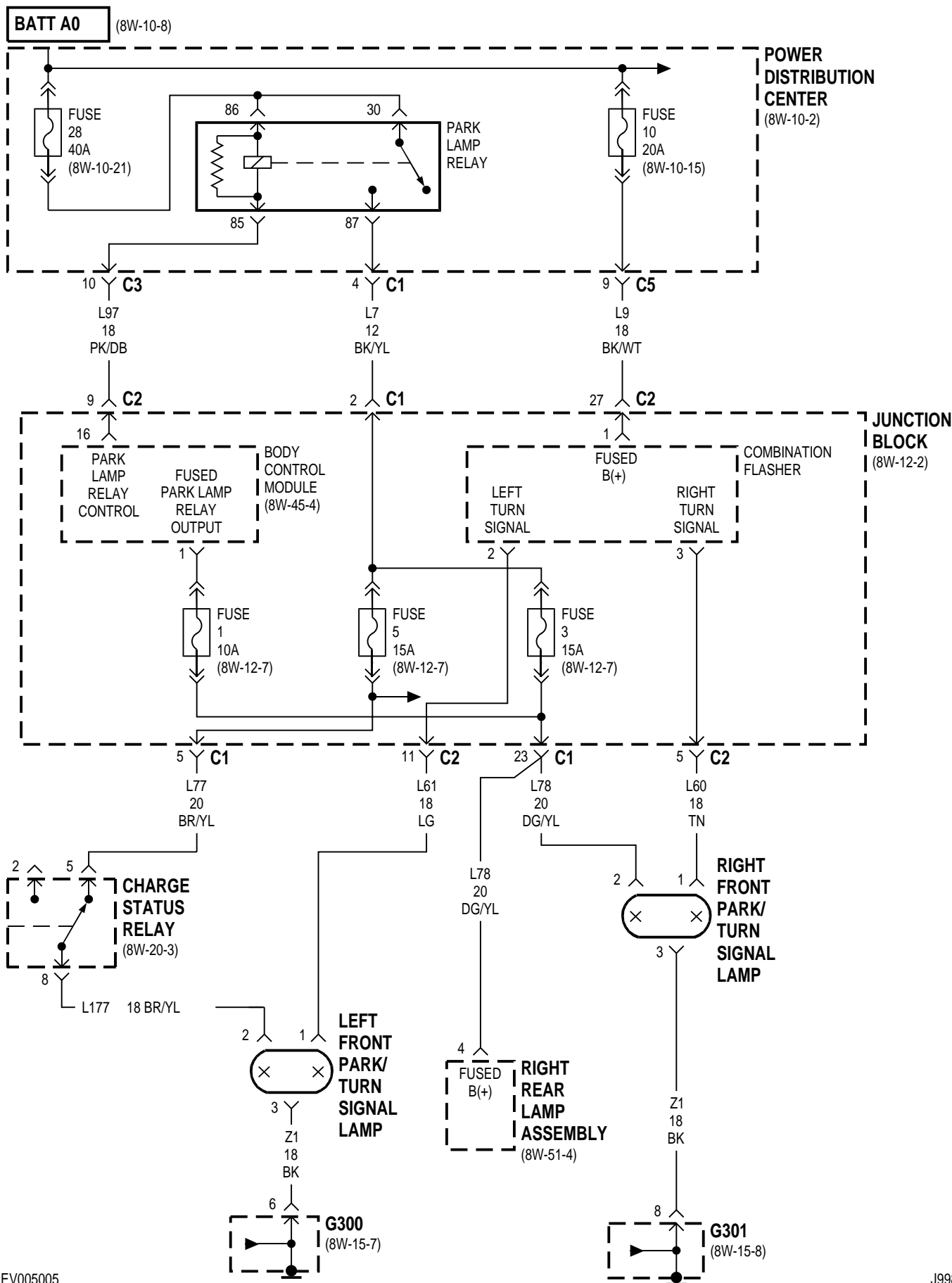
TABLE OF CONTENTS

	PAGE		PAGE
BODY CONTROL MODULE	8W-50-2, 4, 5, 6	G301	8W-50-3, 5
CHARGE STATUS RELAY	8W-50-5	HEADLAMP DIMMER SWITCH	8W-50-2, 6
COMBINATION FLASHER	8W-50-2, 5, 6	HEADLAMP SWITCH	8W-50-4
COURTESY LAMP RELAY	8W-50-4	HIGH BEAM RELAY	8W-50-2, 3
DOMELAMP SWITCH	8W-50-4	IGNITION SWITCH	8W-50-6
FRONT READING LAMPS/SWITCH	8W-50-4	ILLUMINATION LAMP	8W-50-4
FUSE 1 (JB)	8W-50-5	JUNCTION BLOCK	8W-50-2, 4, 5, 6
FUSE 3 (JB)	8W-50-5	LEFT FRONT PARK/TURN SIGNAL LAMP ..	8W-50-5
FUSE 4 (PDC)	8W-50-2, 3	LEFT HEADLAMP	8W-50-3
FUSE 5 (JB)	8W-50-5	LOW BEAM RELAY	8W-50-2, 3
FUSE 5 (PDC)	8W-50-2, 3	MESSAGE CENTER	8W-50-3, 6
FUSE 6 (PDC)	8W-50-2, 3	PARK LAMP RELAY	8W-50-5
FUSE 7 (PDC)	8W-50-2, 3	POWER DISTRIBUTION CENTER	8W-50-2, 3, 5
FUSE 10 (PDC)	8W-50-5	RADIO	8W-50-4
FUSE 12 (JB)	8W-50-6	RIGHT FRONT PARK/TURN SIGNAL	
FUSE 28 (PDC)	8W-50-5	LAMP	8W-50-5
G200	8W-50-2, 6	RIGHT HEADLAMP	8W-50-3
G300	8W-50-3, 4, 5, 6	RIGHT REAR LAMP ASSEMBLY	8W-50-5









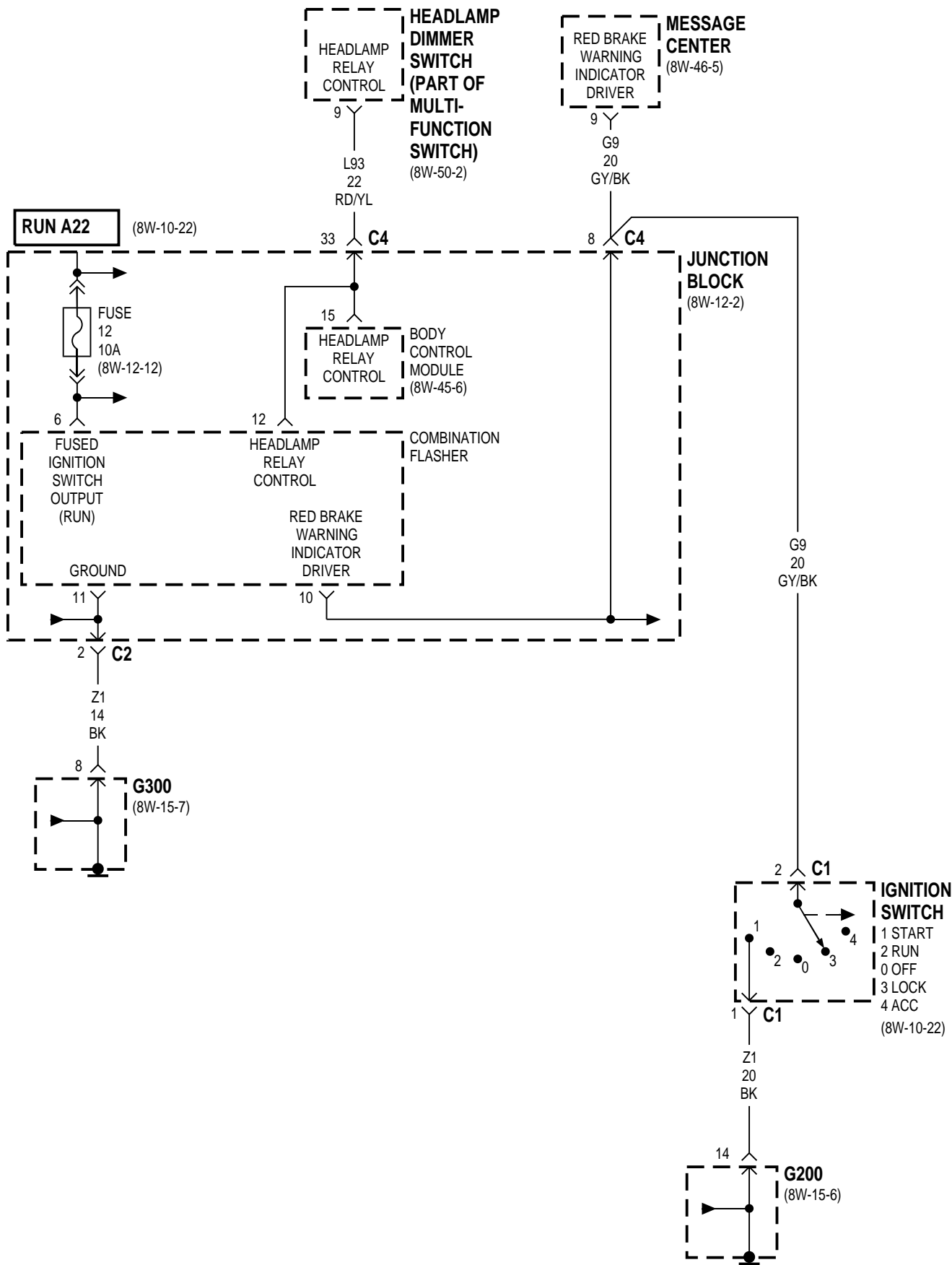
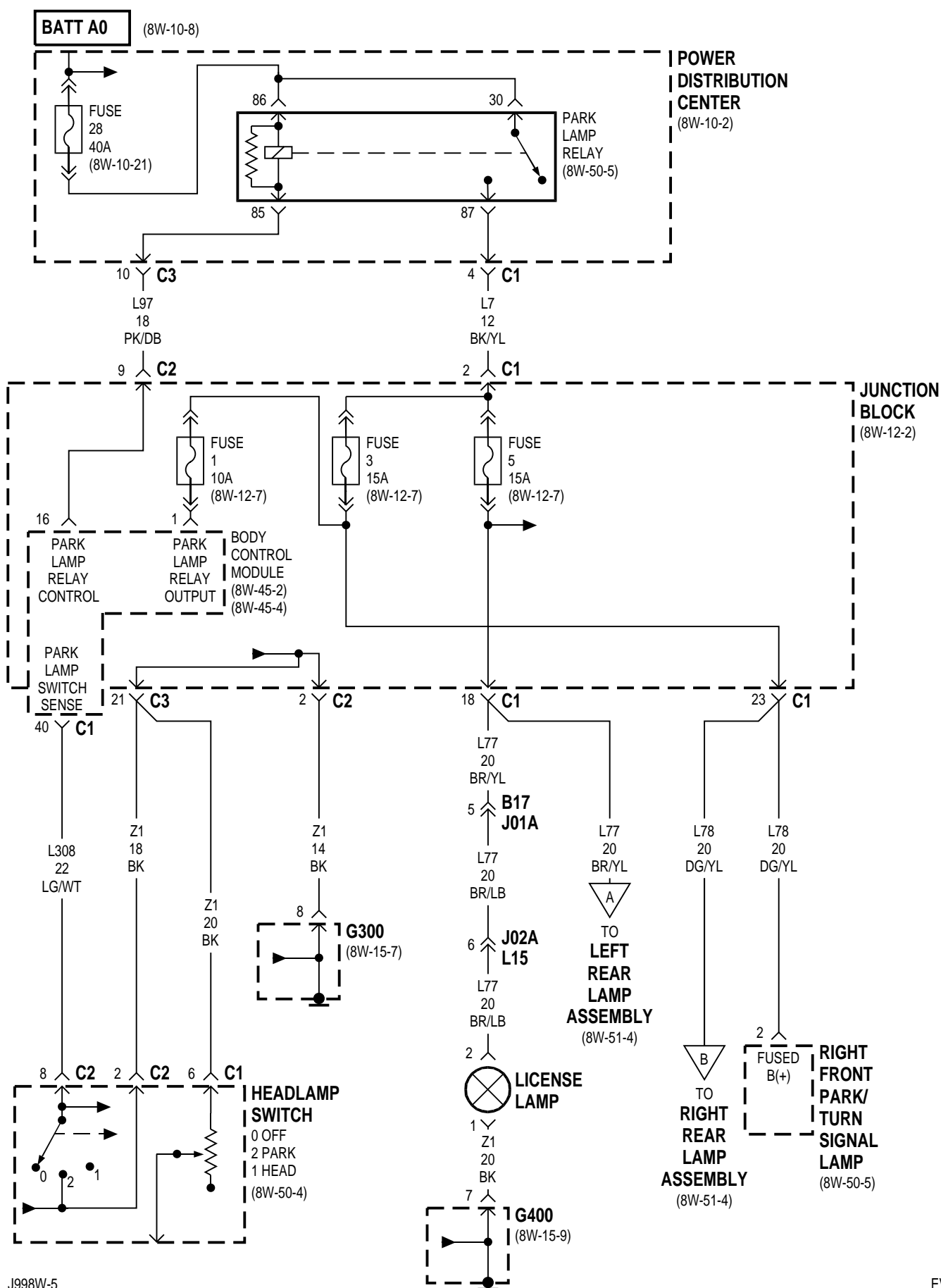
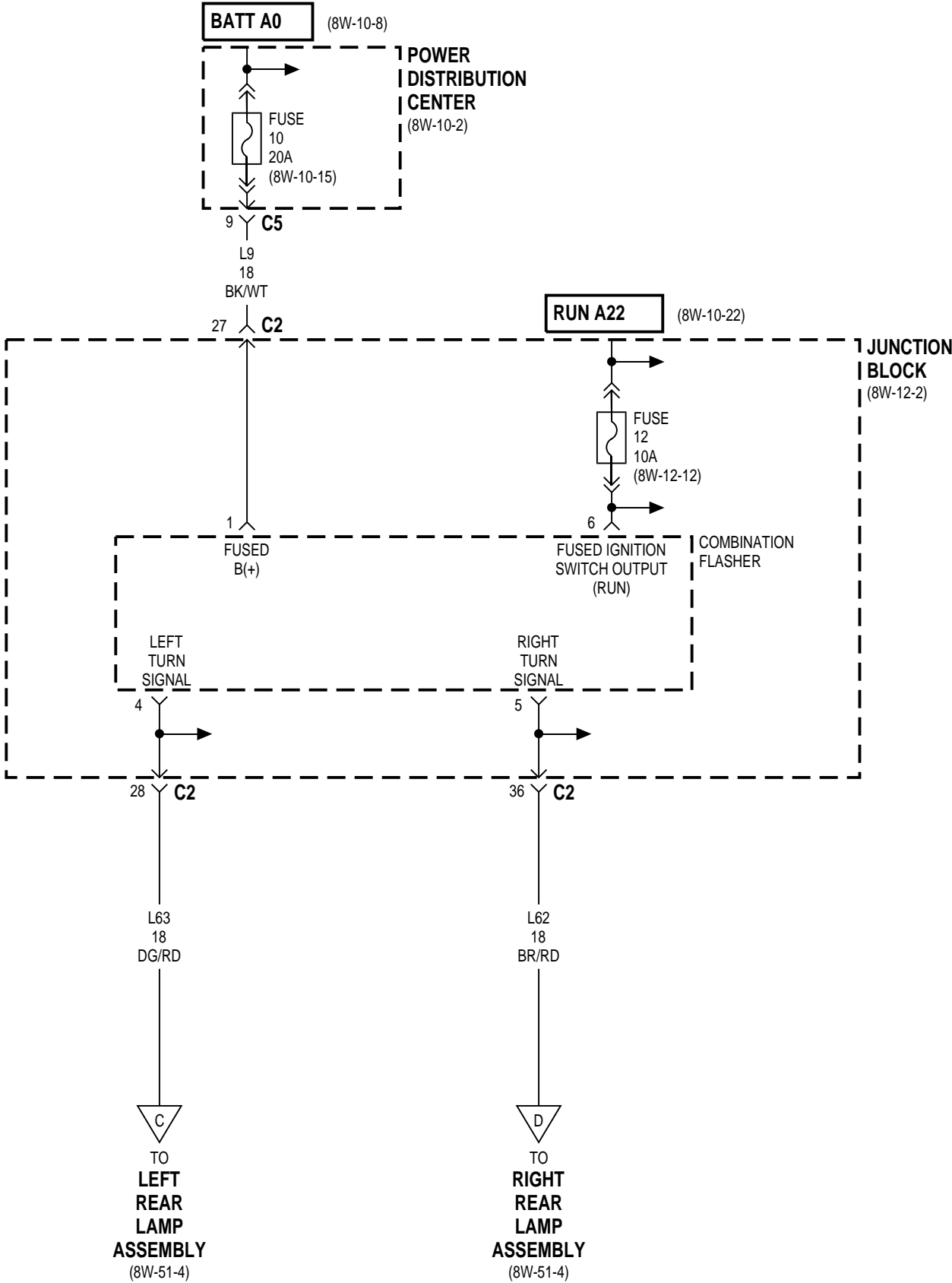
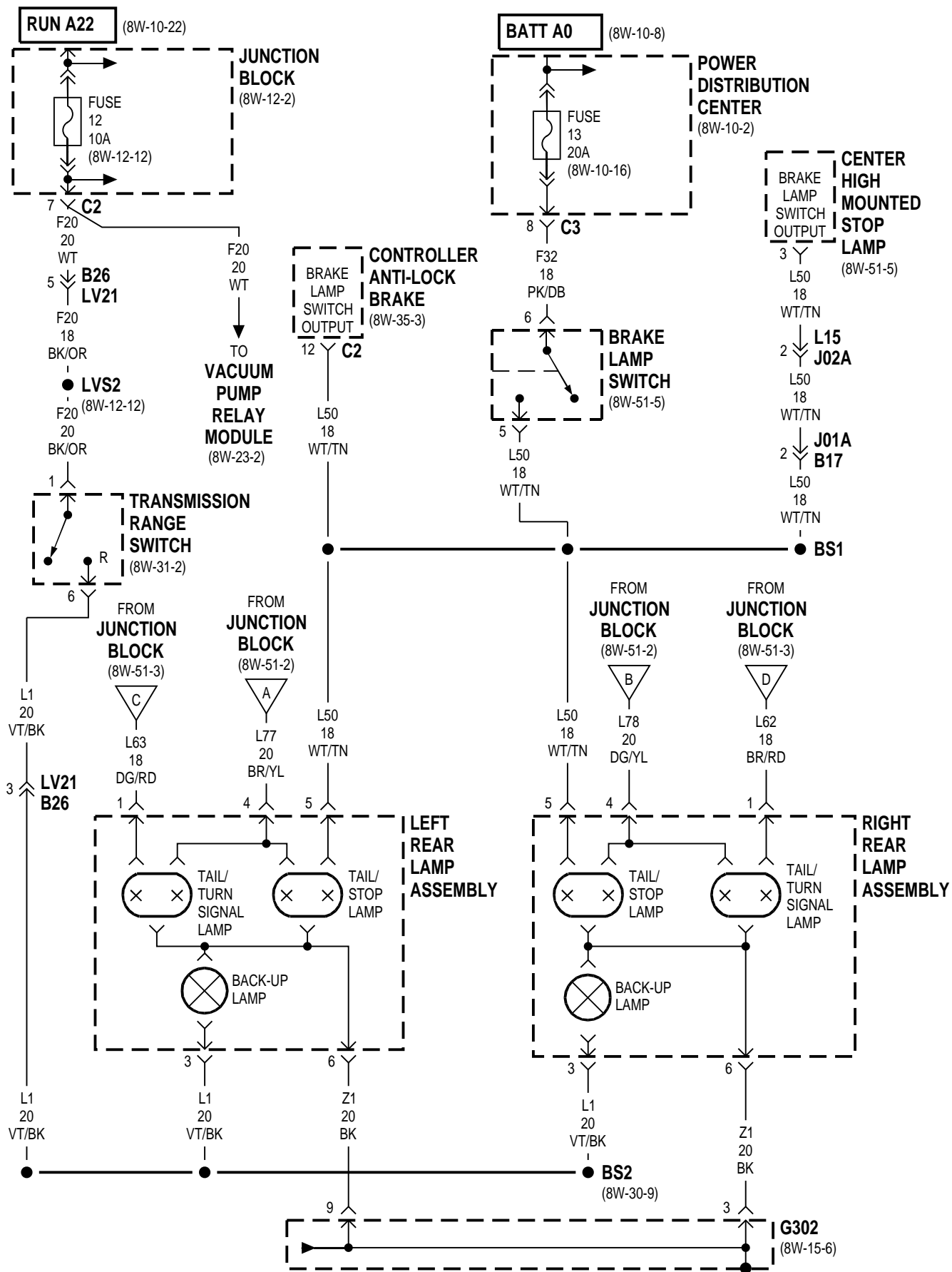


TABLE OF CONTENTS

	PAGE		PAGE
BACK-UP LAMP	8W-51-4	G302	8W-51-4
BODY CONTROL MODULE	8W-51-2	G400	8W-51-2, 5
BRAKE LAMP SWITCH	8W-51-4, 5	HEADLAMP SWITCH	8W-51-2
BS1	8W-51-4, 5	JUNCTION BLOCK	8W-51-2, 3, 4
BS2	8W-51-4	LEFT REAR LAMP ASSEMBLY	8W-51-4
CENTER HIGH MOUNTED STOP LAMP	8W-51-4, 5	LICENSE LAMP	8W-51-2
COMBINATION FLASHER	8W-51-3	LVS2	8W-51-4
CONTROLLER ANTI-LOCK BRAKE	8W-51-4	PARK LAMP RELAY	8W-51-2
FUSE 1 (JB)	8W-51-2	POWER DISTRIBUTION CENTER ...	8W-51-2, 3, 4, 5
FUSE 3 (JB)	8W-51-2	POWERTRAIN CONTROLLER ASSEMBLY	8W-51-5
FUSE 5 (JB)	8W-51-2	RIGHT FRONT PARK/TURN SIGNAL LAMP	8W-51-2
FUSE 10 (PDC)	8W-51-3	RIGHT REAR LAMP ASSEMBLY	8W-51-4
FUSE 12 (JB)	8W-51-3, 4	TAIL/STOP LAMP	8W-51-4
FUSE 13 (PDC)	8W-51-4, 5	TAIL/TURN SIGNAL LAMP	8W-51-4
FUSE 28 (PDC)	8W-51-2	TRANSMISSION RANGE SWITCH	8W-51-4
G300	8W-51-2, 5	VACUUM PUMP RELAY MODULE	8W-51-4







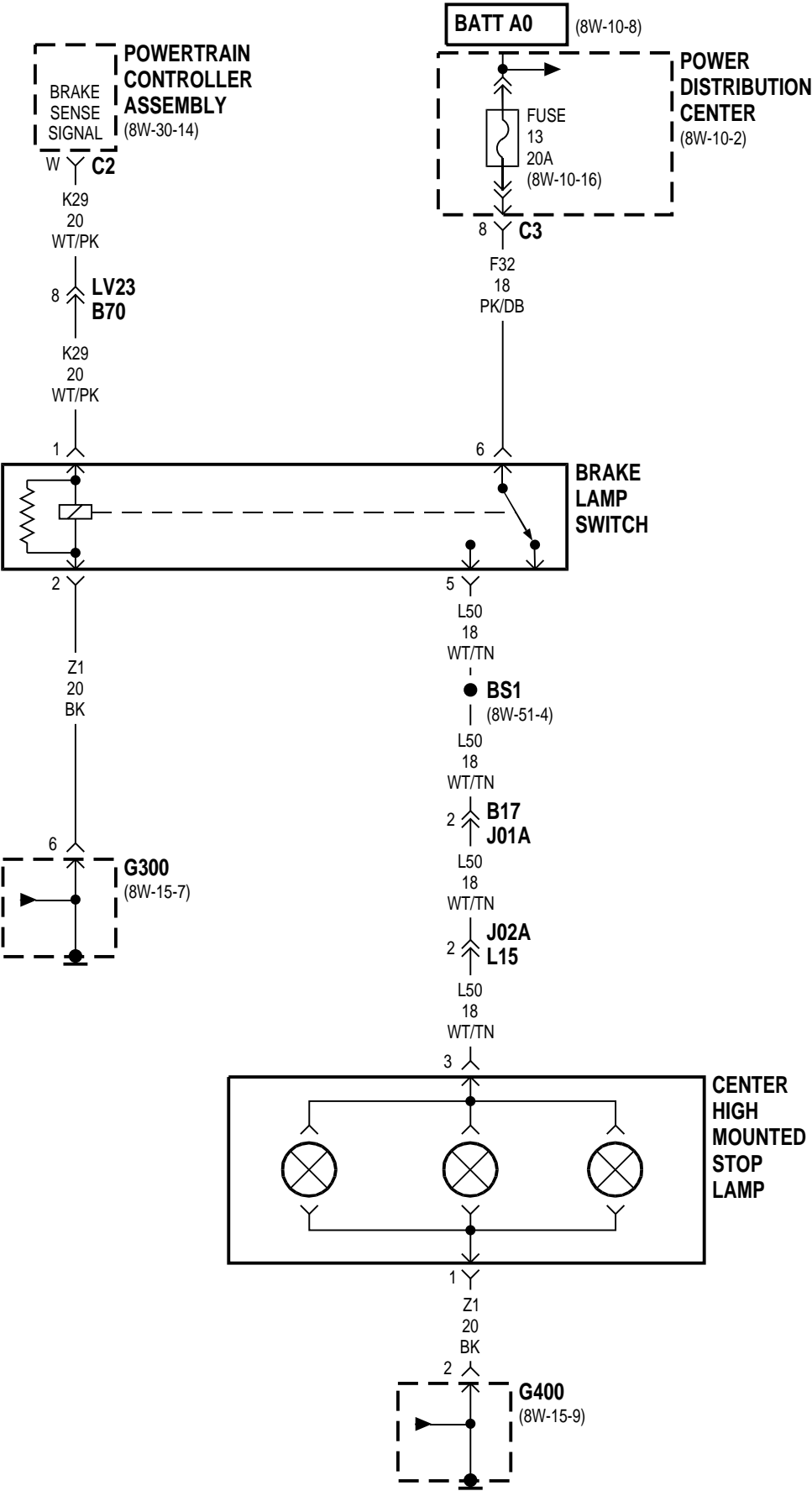
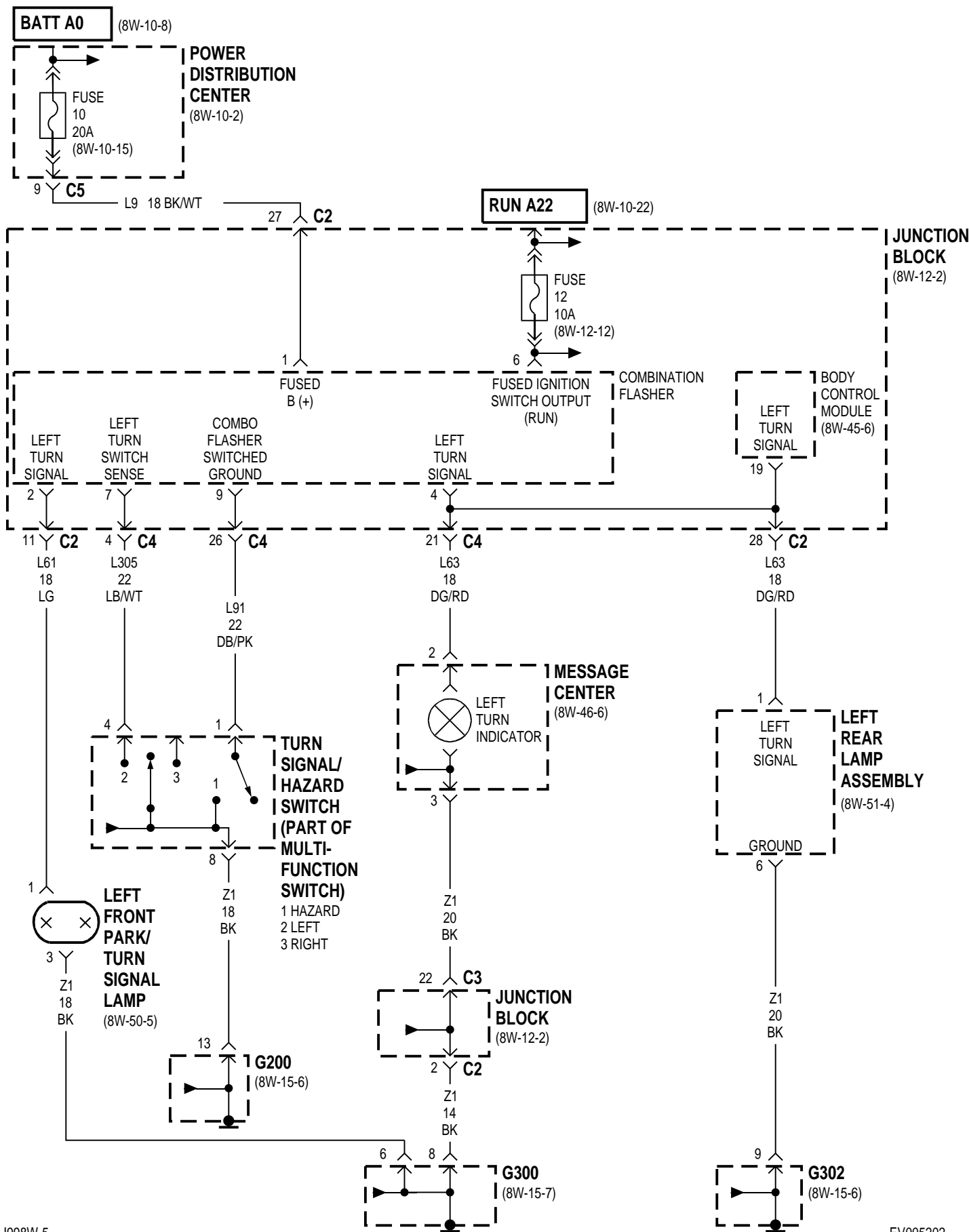


TABLE OF CONTENTS

	PAGE		PAGE
BODY CONTROL MODULE	8W-52-2, 3	LEFT REAR LAMP ASSEMBLY	8W-52-2
COMBINATION FLASHER	8W-52-2, 3	LEFT TURN INDICATOR	8W-52-2
FUSE 10 (PDC)	8W-52-2, 3	MESSAGE CENTER	8W-52-2, 3
FUSE 12 (JB)	8W-52-2, 3	POWER DISTRIBUTION CENTER	8W-52-2, 3
G200	8W-52-2, 3	RIGHT FRONT PARK/TURN SIGNAL	
G300	8W-52-2, 3	LAMP	8W-52-3
G301	8W-52-3	RIGHT REAR LAMP ASSEMBLY	8W-52-3
G302	8W-52-2, 3	RIGHT TURN INDICATOR	8W-52-3
JUNCTION BLOCK	8W-52-2, 3	TURN SIGNAL/HAZARD SWITCH	8W-52-2, 3
LEFT FRONT PARK/TURN SIGNAL			
LAMP	8W-52-2		



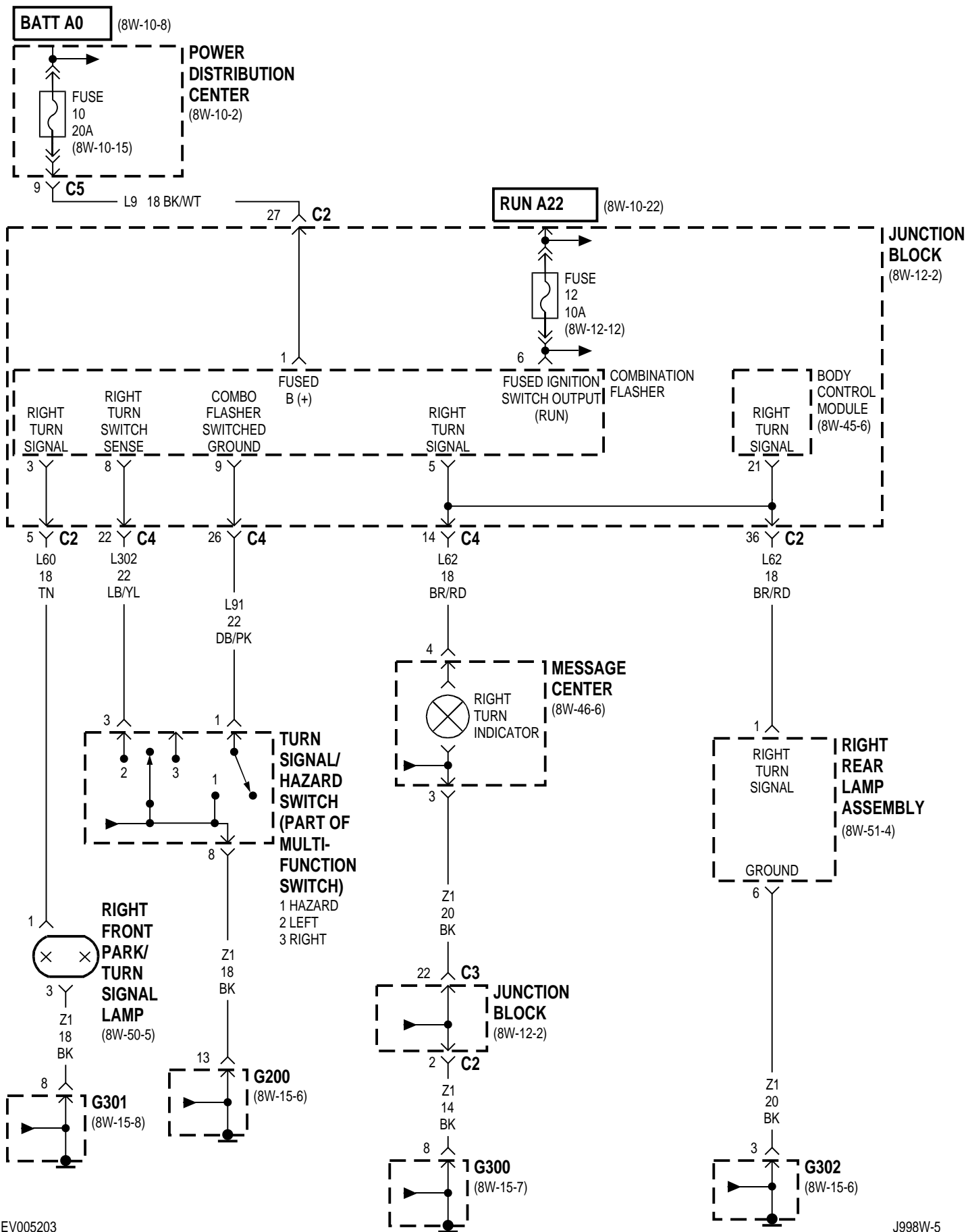
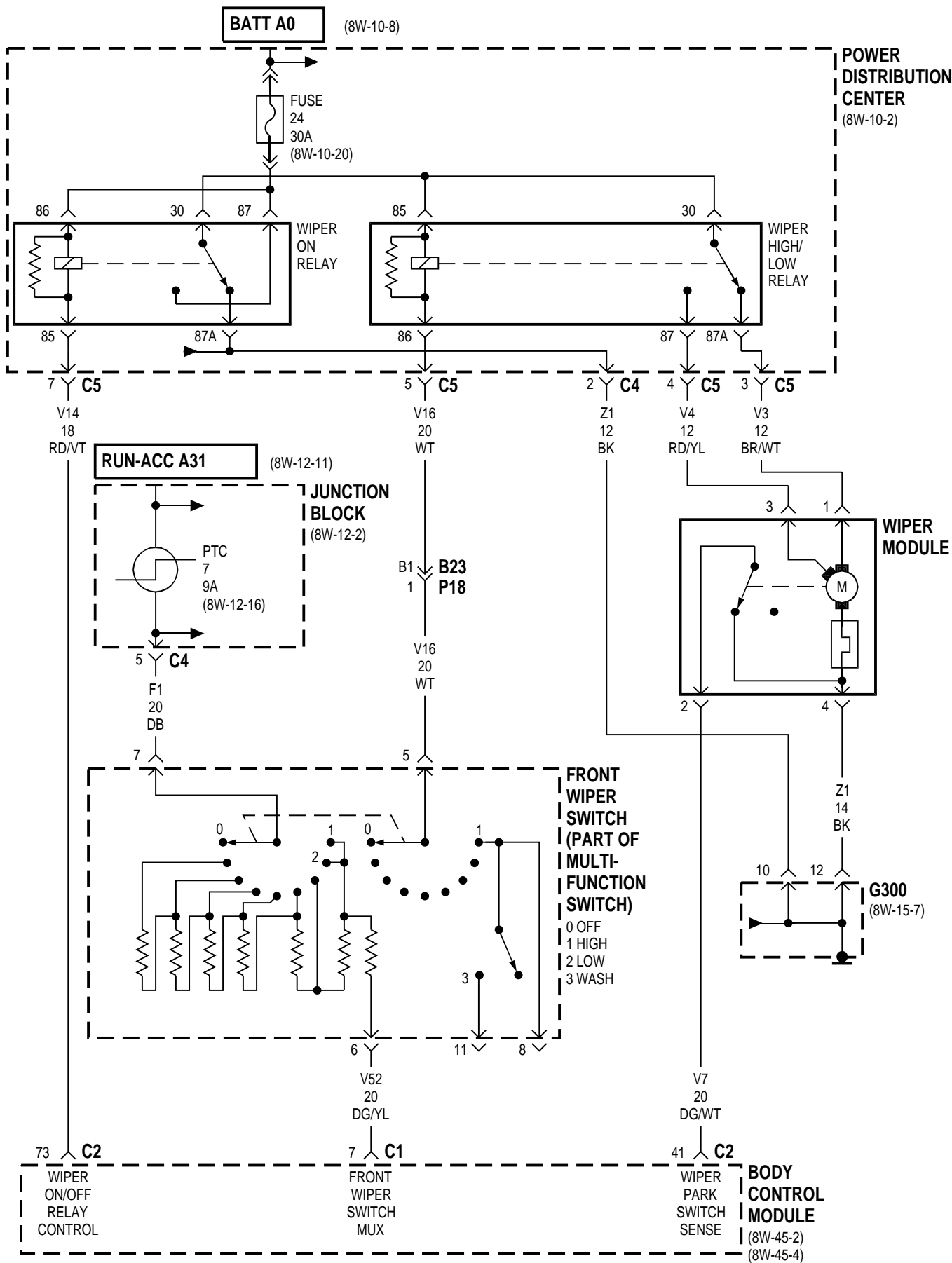


TABLE OF CONTENTS

	PAGE		PAGE
BODY CONTROL MODULE	8W-53-2, 3, 4	PS2	8W-53-4
FRONT WASHER PUMP	8W-53-3, 4	PTC 7 (JB)	8W-53-2, 3, 4
FRONT WIPER SWITCH	8W-53-2, 3	REAR WASHER PUMP	8W-53-3, 4
FUSE 6 (JB)	8W-53-4	REAR WASHER SWITCH	8W-53-4
FUSE 24 (PDC)	8W-53-2, 3	REAR WIPER DELAY ON INDICATOR	8W-53-4
G200	8W-53-3, 4	REAR WIPER DELAY SWITCH	8W-53-4
G300	8W-53-2, 3	REAR WIPER MOTOR	8W-53-4
G301	8W-53-3	REAR WIPER ON INDICATOR	8W-53-4
G400	8W-53-4	REAR WIPER ON SWITCH	8W-53-4
HVAC CONTROL	8W-53-4	WASHER FLUID LEVEL SWITCH	8W-53-3
HVAC CONTROL HEAD	8W-53-4	WIPER HIGH/LOW RELAY	8W-53-2, 3
JUNCTION BLOCK	8W-53-2, 3, 4	WIPER MODULE	8W-53-2
POWER DISTRIBUTION CENTER	8W-53-2, 3	WIPER ON RELAY	8W-53-2, 3
PS1	8W-53-4		





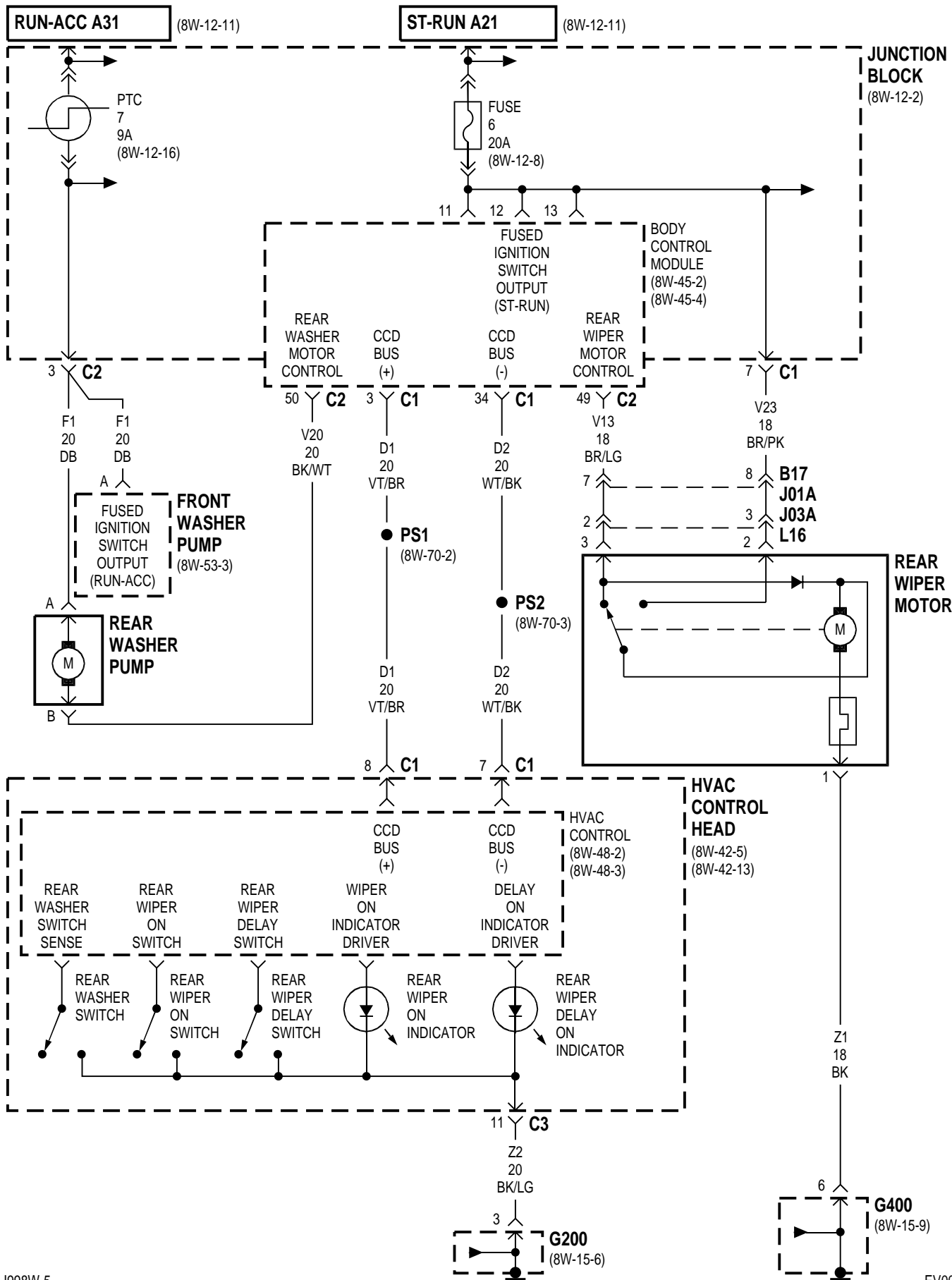
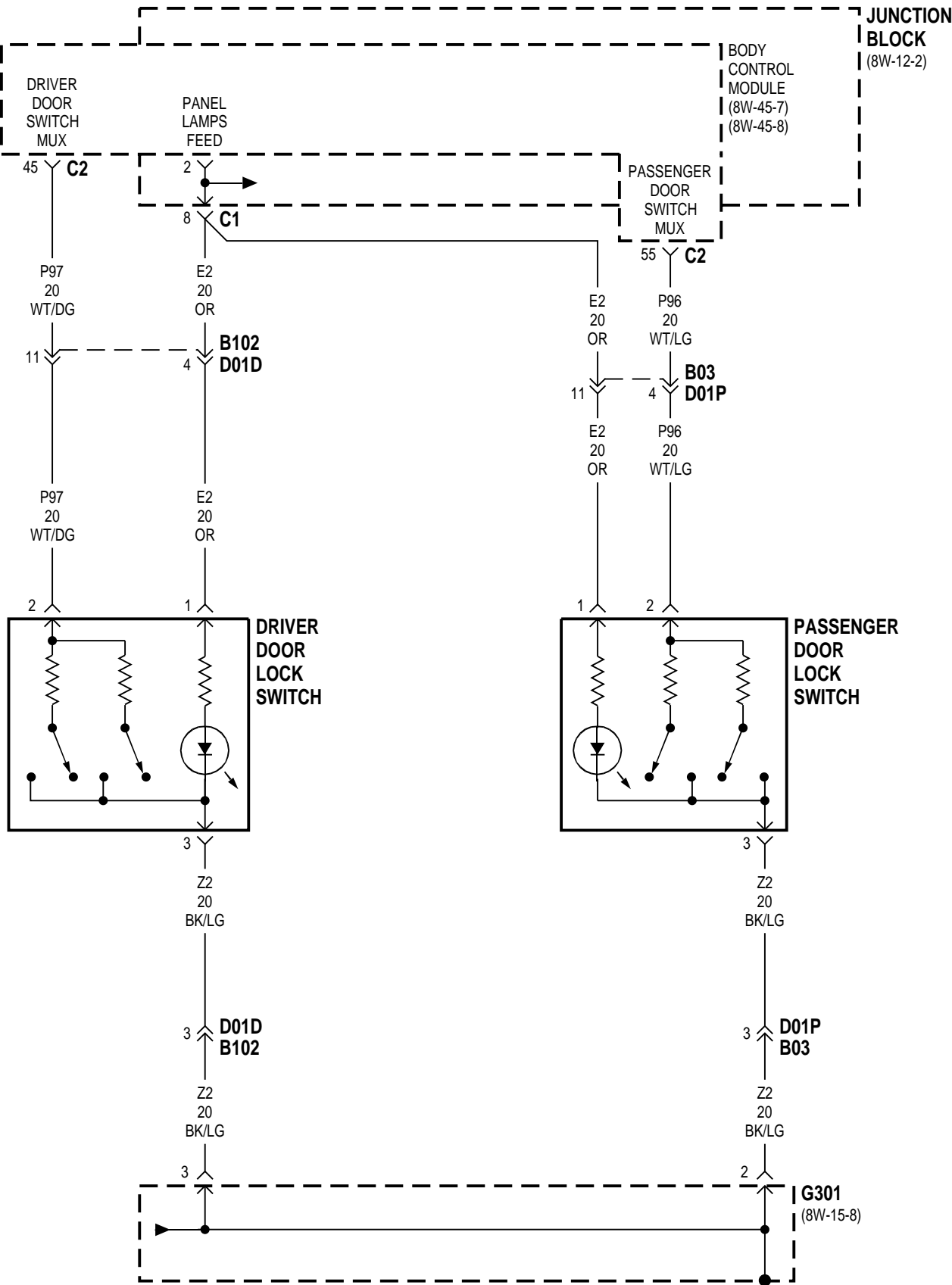
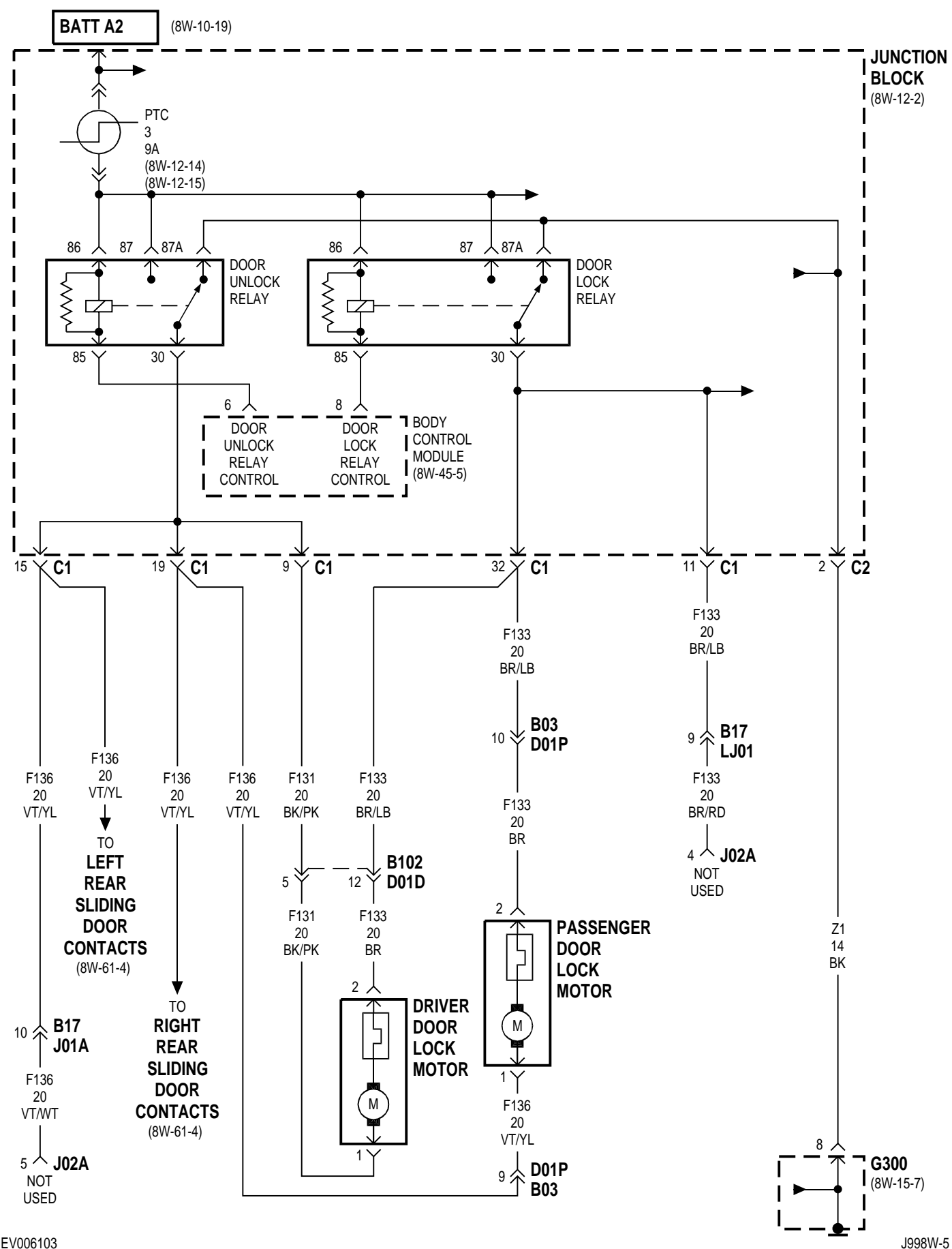


TABLE OF CONTENTS

	PAGE		PAGE
BODY CONTROL MODULE	8W-61-2, 3, 4	LEFT REAR SLIDING DOOR LOCK	
DOOR LOCK RELAY	8W-61-3, 4	MOTOR	8W-61-4
DOOR UNLOCK RELAY	8W-61-3, 4	PASSENGER DOOR LOCK MOTOR	8W-61-3, 4
DRIVER DOOR LOCK MOTOR	8W-61-3	PASSENGER DOOR LOCK SWITCH	8W-61-2
DRIVER DOOR LOCK SWITCH	8W-61-2	PTC 3 (JB)	8W-61-3, 4
G300	8W-61-3, 4	RIGHT REAR SLIDING DOOR	
G301	8W-61-2	CONTACTS	8W-61-3, 4
JUNCTION BLOCK	8W-61-2, 3, 4	RIGHT REAR SLIDING DOOR LOCK	
LEFT REAR SLIDING DOOR		MOTOR	8W-61-4
CONTACTS	8W-61-3, 4		





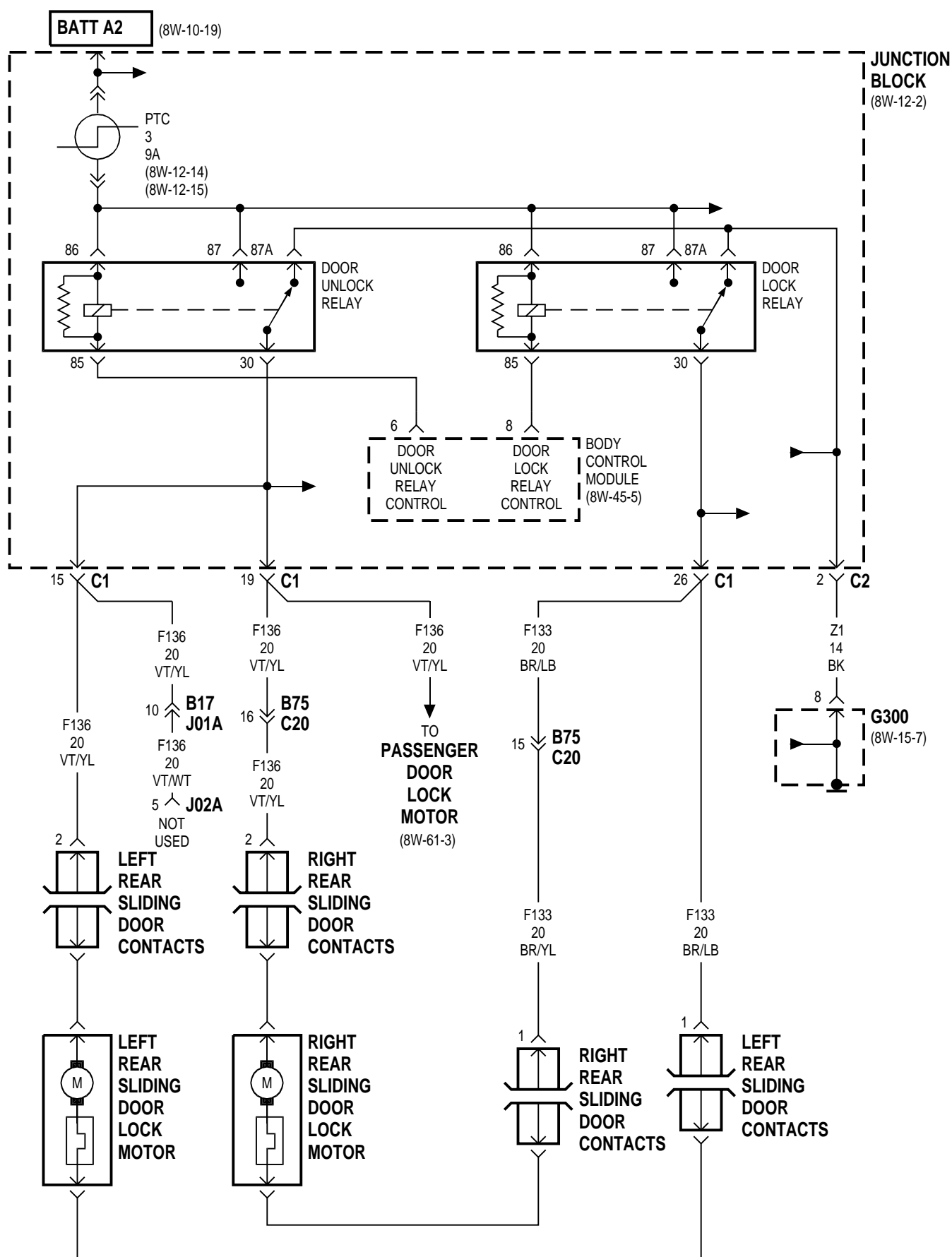
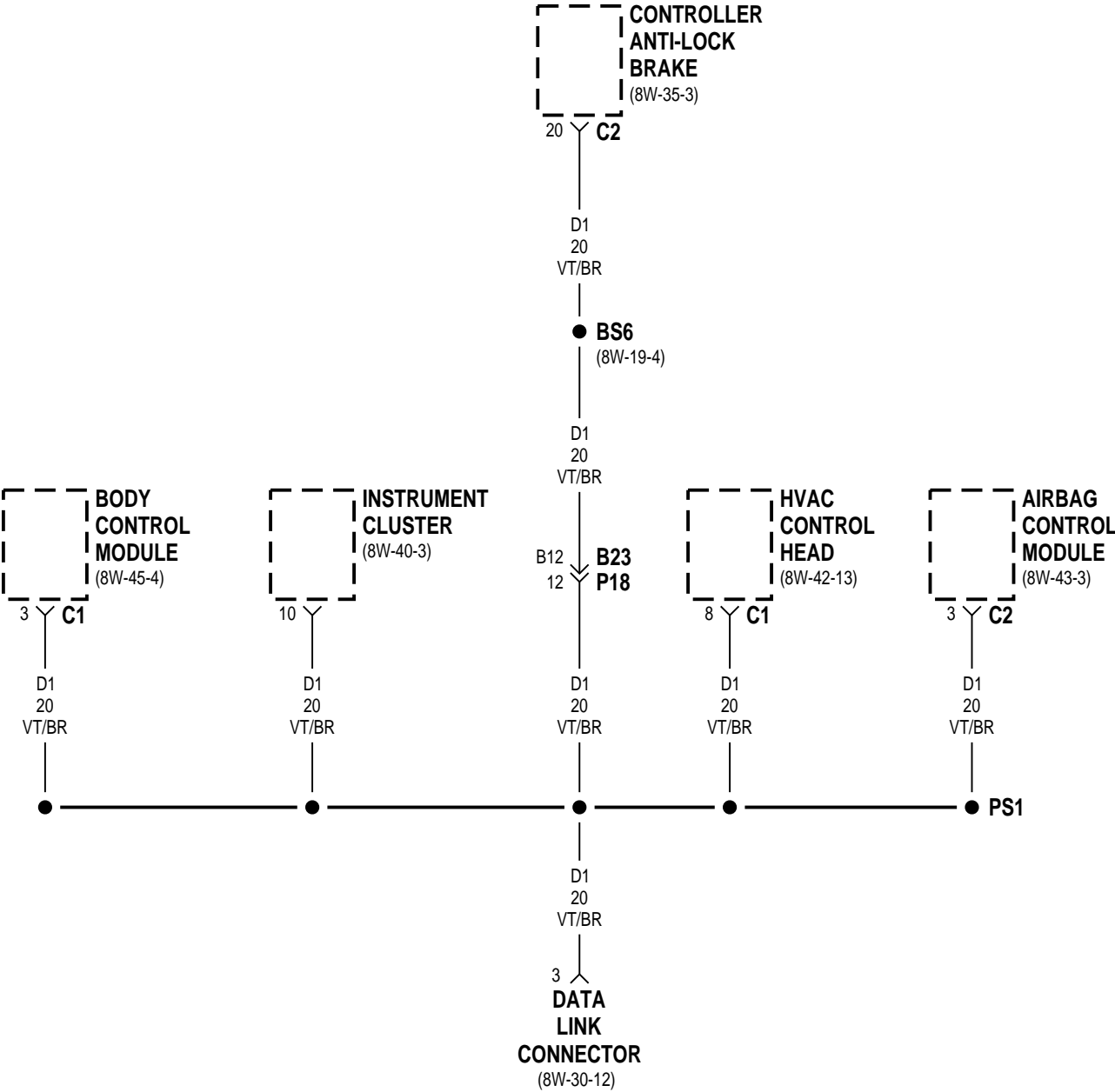
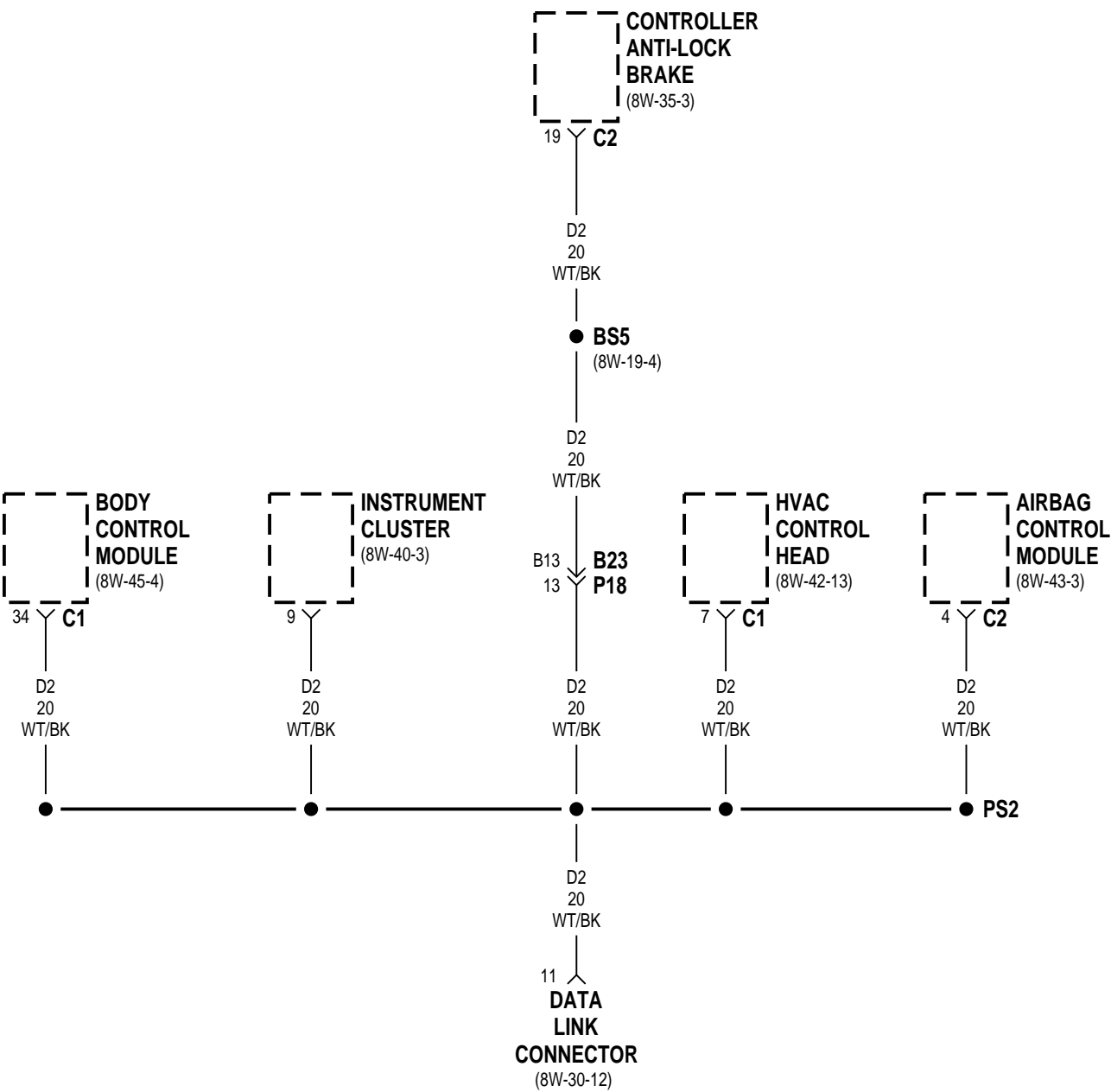
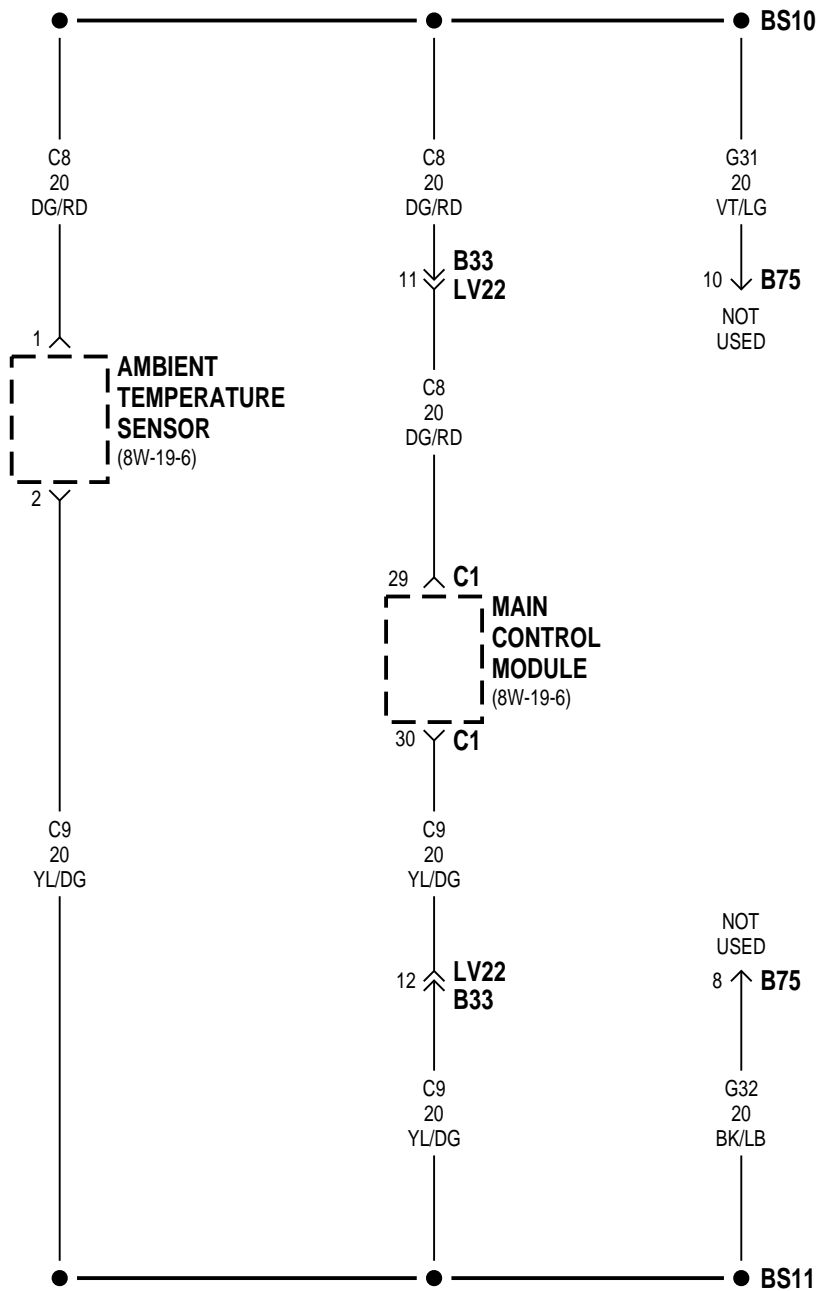


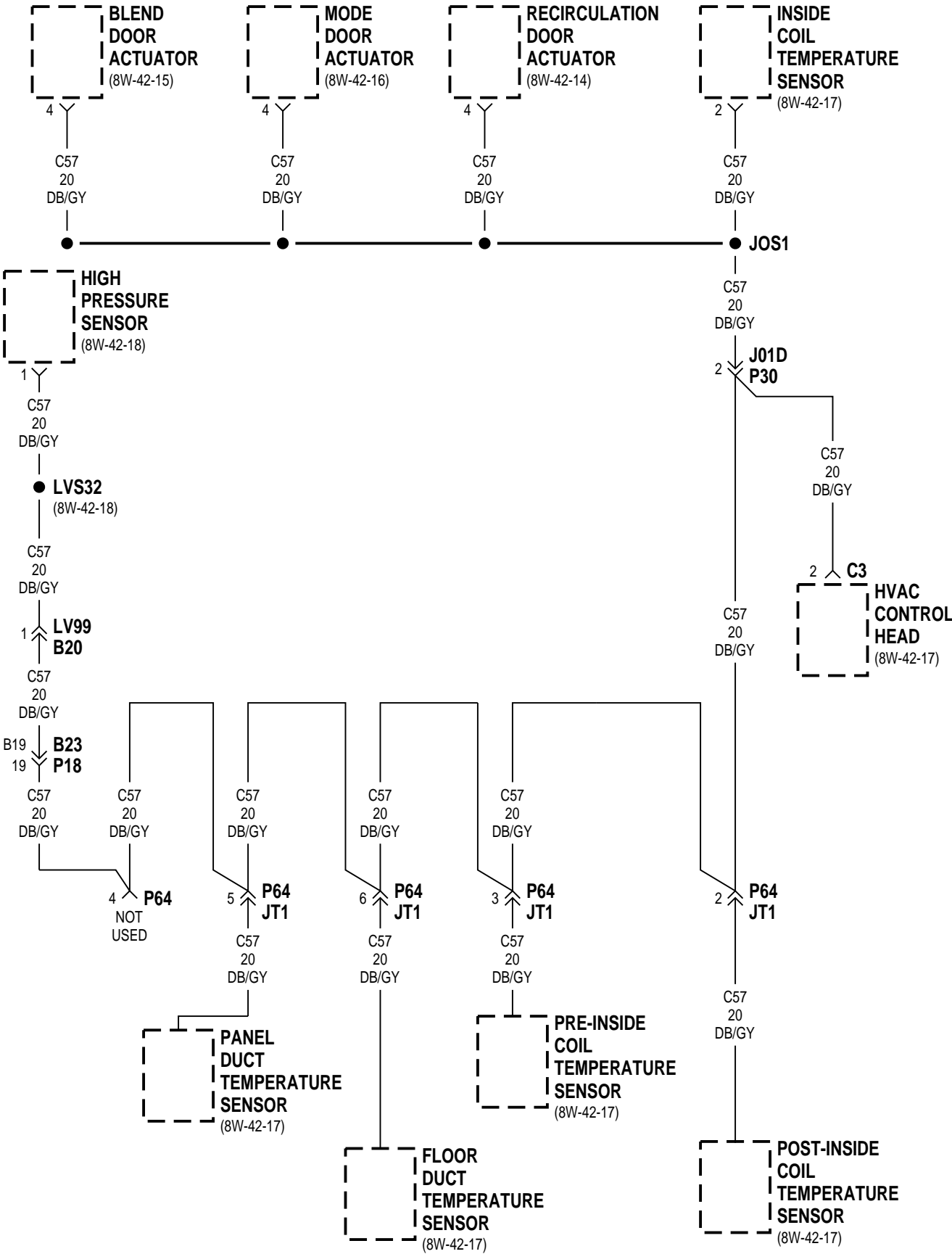
TABLE OF CONTENTS

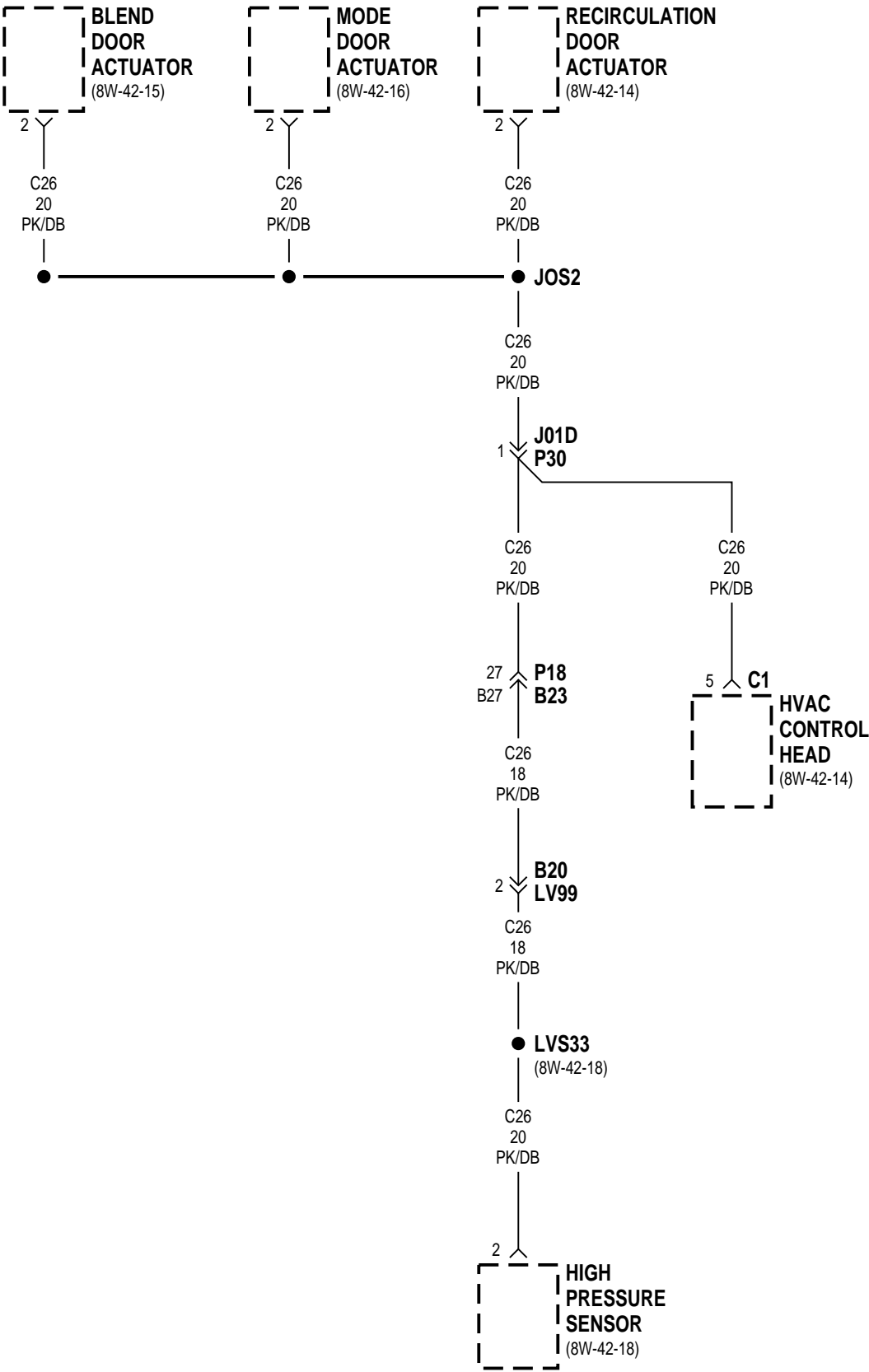
	PAGE		PAGE
BCS1	8W-19	LVS1	8W-15
BCS2	8W-19	LVS2	8W-12
BCS3	8W-19	LVS6	8W-15
BCS4	8W-19	LVS7	8W-15
BCS5	8W-15	LVS8	8W-15
BCS6	8W-19	LVS9	8W-15
BCS7	8W-19	LVS10	8W-18, 19
BCS8	8W-19	LVS12	8W-30
BCS9	8W-19	LVS14	8W-12
BCS16	8W-19	LVS15	8W-12
BMS1	8W-19	LVS16	8W-10
BMS2	8W-19	LVS17	8W-30
BMS3	8W-19	LVS18	8W-19
BS1	8W-51	LVS19	8W-19
BS2	8W-30	LVS20	8W-19
BS3	8W-30	LVS21	8W-18
BS4	8W-30	LVS31	8W-10
BS5	8W-19	LVS32	8W-42
BS6	8W-19	LVS33	8W-42
BS10	8W-70	LVS40	8W-19
BS11	8W-70	LVS41	8W-19
BS19	8W-41	LVS45	8W-19
BS41	8W-42	LVS51	8W-19
BS42	8W-35	LVS52	8W-19
CCS1	8W-20	LVS60	8W-30, 35
CCS2	8W-20	LVS61	8W-30, 35
CS1	8W-44	LVS70	8W-42
CS3	8W-45	PS1	8W-70
JLVS1	8W-10	PS2	8W-70
JOS1	8W-70	PS3	8W-12
JOS2	8W-70	PS10	8W-19
JOS3	8W-70		











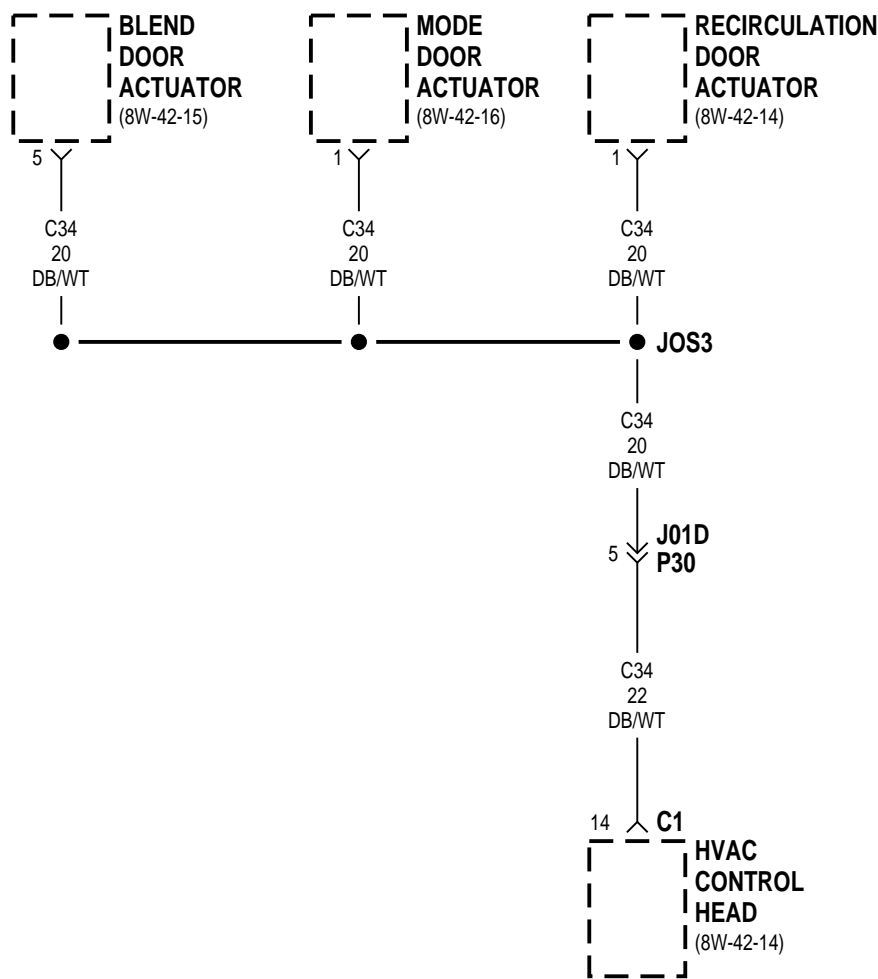
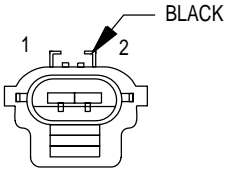


TABLE OF CONTENTS

	PAGE		PAGE
4-WAY VALVE	8W-80-4	BATTERY NO. 1	8W-80-18
A/C COMPRESSOR	8W-80-4	BATTERY NO. 3	8W-80-18
A/C COMPRESSOR CONTROLLER	8W-80-4	BATTERY NO. 5	8W-80-18
A/C COMPRESSOR TEMPERATURE SENSOR	8W-80-5	BATTERY NO. 7	8W-80-18
A/C SHUT-OFF VALVE	8W-80-5	BATTERY NO. 9	8W-80-18
ACCELERATOR PEDAL MODULE	8W-80-6	BATTERY NO. 11	8W-80-18
AIRBAG CONTROL MODULE	8W-80-6	BATTERY NO. 13	8W-80-18
AMBIENT TEMPERATURE SENSOR	8W-80-6	BATTERY NO. 15	8W-80-18
AUXILIARY BATTERY TEMPERATURE SENSOR	8W-80-7	BATTERY NO. 17	8W-80-19
B03	8W-80-27	BATTERY NO. 19	8W-80-19
B17	8W-80-7	BATTERY NO. 21	8W-80-19
B20	8W-80-45	BATTERY NO. 23	8W-80-19
B26	8W-80-44	BATTERY NO. 25	8W-80-19
B33	8W-80-44	BATTERY NO. 27	8W-80-19
B70	8W-80-45	BATTERY PACK COOLANT PRESSURE SENSOR	8W-80-20
B75	8W-80-24	BATTERY PACK COOLANT PUMP	8W-80-20
B102	8W-80-27	BATTERY PACK INLET COOLANT TEMPERATURE SENSOR	8W-80-21
B110	8W-80-7	BATTERY PACK OUTLET COOLANT TEMPERATURE SENSOR	8W-80-21
BATTERY INTERFACE CENTER	8W-80-8, 9, , 11	BATTERY TUB FAN	8W-80-21
BATTERY MODULE NO. 1 TEMPERATURE SENSOR	8W-80-11	BC1	8W-80-21
BATTERY MODULE NO. 2 TEMPERATURE SENSOR	8W-80-11	BC20	8W-80-25
BATTERY MODULE NO. 3 TEMPERATURE SENSOR	8W-80-11	BLEND DOOR ACTUATOR	8W-80-22
BATTERY MODULE NO. 4 TEMPERATURE SENSOR	8W-80-12	BODY CONTROL MODULE	8W-80-22, 23
BATTERY MODULE NO. 5 TEMPERATURE SENSOR	8W-80-12	BRAKE LAMP SWITCH	8W-80-24
BATTERY MODULE NO. 6 TEMPERATURE SENSOR	8W-80-12	BRAKE PRESSURE SENSOR NO. 1	8W-80-24
BATTERY MODULE NO. 7 TEMPERATURE SENSOR	8W-80-12	BRAKE PRESSURE SENSOR NO. 2	8W-80-24
BATTERY MODULE NO. 8 TEMPERATURE SENSOR	8W-80-12	BRAKE PRESSURE SWITCH	8W-80-24
BATTERY MODULE NO. 9 TEMPERATURE SENSOR	8W-80-12	C20	8W-80-24
BATTERY MODULE NO. 10 TEMPERATURE SENSOR	8W-80-13	CARGO LAMP	8W-80-25
BATTERY MODULE NO. 11 TEMPERATURE SENSOR	8W-80-13	CC1	8W-80-25
BATTERY MODULE NO. 12 TEMPERATURE SENSOR	8W-80-13	CENTER DOME LAMP	8W-80-25
BATTERY MODULE NO. 13 TEMPERATURE SENSOR	8W-80-13	CENTER HIGH MOUNTED STOP LAMP	8W-80-25
BATTERY MODULE NO. 14 TEMPERATURE SENSOR	8W-80-13	CHARGE PORT	8W-80-25
BATTERY MONITORING MODULE NO. 1	8W-80-14, 15	CHARGE PORT SWITCH	8W-80-25
BATTERY MONITORING MODULE NO. 2	8W-80-15, 16	CHARGE STATUS RELAY	8W-80-26
BATTERY MONITORING MODULE NO. 3	8W-80-16, 17	CLOCKSPRING	8W-80-26
		CONTROLLER ANTI-LOCK BRAKE	8W-80-26
		D01D	8W-80-27
		D01P	8W-80-27
		DATA LINK CONNECTOR	8W-80-27
		DIAGNOSTIC CONNECTOR	8W-80-28
		DRIVER DOOR LOCK MOTOR	8W-80-28
		DRIVER DOOR LOCK SWITCH	8W-80-28
		ELECTRIC WIPER DE-ICER	8W-80-28
		EXPANSION VALVE	8W-80-29
		FRONT BLOWER	8W-80-29
		FRONT CIGAR LIGHTER/POWER OUTLET	8W-80-30
		FRONT READING LAMPS/SWITCH	8W-80-30
		FRONT WASHER PUMP	8W-80-30

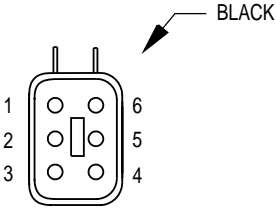
	PAGE		PAGE
G200	8W-80-30	LEFT REAR SPEAKER	8W-80-43
G300	8W-80-31	LEFT REAR WHEEL SPEED SENSOR	8W-80-43
G301	8W-80-31	LICENSE LAMP	8W-80-43
G302	8W-80-31	LIFTGATE AJAR SWITCH	8W-80-43
G400	8W-80-32	LOW NOTE HORN	8W-80-43
HEADLAMP SWITCH	8W-80-33	LOW PRESSURE SENSOR	8W-80-44
HEAT EXCHANGER TEMPERATURE		LV21	8W-80-44
SENSOR	8W-80-33	LV22	8W-80-44
HIGH NOTE HORN	8W-80-33	LV50	8W-80-21
HIGH PRESSURE SENSOR	8W-80-33	LV80	8W-80-7
HVAC BLOWER SOLID STATE RELAY	8W-80-34	LV23	8W-80-45
HVAC CONTROL HEAD	8W-80-34, 35	LV99	8W-80-45
IGNITION SWITCH	8W-80-36	MAIN CONTROL MODULE	8W-80-46, 47, 48
INERTIA SWITCH	8W-80-36	MESSAGE CENTER	8W-80-49
INSIDE COIL TEMPERATURE SENSOR ...	8W-80-36	MODE DOOR ACTUATOR	8W-80-49
INSTRUMENT CLUSTER	8W-80-37	OIL PUMP	8W-80-49, 50
J01A	8W-80-7	P30	8W-80-50
J02A	8W-80-37	P64	8W-80-50
J03A	8W-80-37	JO1D	8W-80-50
JUNCTION BLOCK	8W-80-38, 39, 40, 41		
L15	8W-80-37		
L16	8W-80-37		
LEFT FRONT PARK/TURN SIGNAL			
LAMP	8W-80-41		
LEFT FRONT SPEAKER	8W-80-41		
LEFT FRONT WHEEL SPEED SENSOR ...	8W-80-42		
LEFT HEADLAMP	8W-80-42		
LEFT LIFTGATE FLOOD LAMP	8W-80-42		
LEFT REAR DOOR AJAR SWITCH	8W-80-42		
LEFT REAR LAMP ASSEMBLY	8W-80-42		
LEFT REAR SLIDING DOOR CONTACT ...	8W-80-43		

	PAGE		PAGE
JT1	8W-80-50	RIGHT FRONT SPEAKER	8W-80-62
P18	8W-80-51	RIGHT FRONT WHEEL SPEED	
B23	8W-80-51	SENSOR	8W-80-62
P34	8W-80-52	RIGHT HEADLAMP	8W-80-62
B23	8W-80-52	RIGHT LIFTGATE FLOOD LAMP	8W-80-63
PASSENGER AIRBAG SQUIB	8W-80-52	RIGHT REAR DOOR AJAR SWITCH	8W-80-63
PASSENGER DOOR LOCK MOTOR	8W-80-53	RIGHT REAR LAMP ASSEMBLY	8W-80-63
PASSENGER DOOR LOCK SWITCH	8W-80-53	RIGHT REAR SLIDING DOOR	
POWER DISTRIBUTION CENTER ..	8W-80-53, 54, 55	CONTACTS	8W-80-63
POWER STEERING PUMP	8W-80-55, 56	RIGHT REAR SPEAKER	8W-80-63
POWERTRAIN CONTROLLER		RIGHT REAR WHEEL SPEED SENSOR ...	8W-80-63
ASSEMBLY	8W-80-56, 57, 58, 59	SEAT BELT SWITCH	8W-80-64
PRNDL ILLUMINATOR	8W-80-59	SECONDARY PILOT RELAY	8W-18
PTC HEATER	8W-80-59	SERVICE DISCONNECT SWITCH	8W-80-64
PTC HEATER CONTROLLER	8W-80-60	SUCTION LINE TEMPERATURE	
RADIATOR FAN	8W-80-60	SENSOR	8W-80-64
RADIATOR FAN RELAY	8W-80-60	TRACTION MOTOR OIL TEMPERATURE	
RADIO	8W-80-61	SENSOR	8W-80-65
REAR CIGAR LIGHTER/POWER			
OUTLET	8W-80-61	TRANSMISSION RANGE SWITCH	8W-80-65
REAR WASHER PUMP	8W-80-61	VACUUM PUMP	8W-80-65
REAR WIPER MOTOR	8W-80-61	VACUUM PUMP RELAY MODULE	8W-80-65
RECIRCULATION DOOR ACTUATOR	8W-80-61		
RIGHT FRONT PARK/TURN SIGNAL		WASHER FLUID LEVEL SWITCH	8W-80-66
LAMP	8W-80-62	WIPER MODULE	8W-80-66



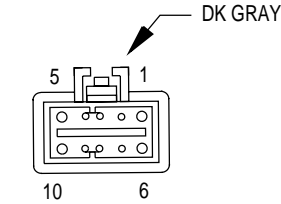
4-WAY
VALVE

CAV	CIRCUIT	FUNCTION
1	C51 20LB/RD	4-WAY VALVE CONTROL
2	A142 18BR	HVAC WAKE-UP RELAY OUTPUT



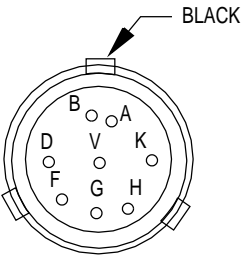
A/C
COMPRESSOR

CAV	CIRCUIT	FUNCTION
1	H4 14 BR/PK	HIGH VOLTAGE PHASE B
2	Z500 14 BK	GROUND
3	D70 14BR	PILOT LINE
4	D70 14WT	PILOT LINE
5	H5 14 BR/LB	HIGH VOLTAGE PHASE C
6	H3 14BR/WT	HIGH VOLTAGE PHASE A



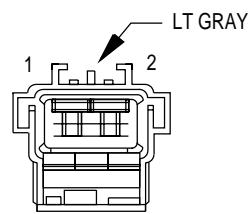
A/C
COMPRESSOR
CONTROLLER - C1

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	Z1 20BK	GROUND
7	D55 20YL	A/C COMPRESSOR CONTROLLER MUX SIGNAL
8	D50 20DB	A/C COMPRESSOR RPM SIGNAL
9	D60 20LB	A/C COMPRESSOR DUTY CYCLE REQUEST SIGNAL
10	C3 18VT	A/C CONTROL RELAY OUTPUT



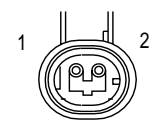
A/C
COMPRESSOR
CONTROLLER - C2

CAV	CIRCUIT	FUNCTION
A	D70 14WT	PILOT LINE
B	H1 14DG	FUSED HIGH VOLTAGE (+)
D	H2 14DG/WT	HIGH VOLTAGE DC (-)
F	H3 14BR/WT	HIGH VOLTAGE PHASE A
G	H4 14BR/PK	HIGH VOLTAGE PHASE B
H	H5 14BR/LB	HIGH VOLTAGE PHASE C
K	Z500 14BK	GROUND
V	D70 14BR	PILOT LINE



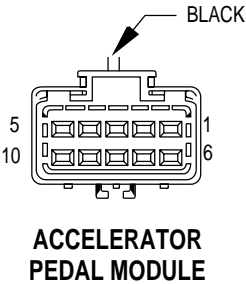
A/C
COMPRESSOR
TEMPERATURE
SENSOR

CAV	CIRCUIT	FUNCTION
1	K160 18LG	A/C COMPRESSOR TEMPERATURE SENSOR SIGNAL
2	C57 20DB/GY	SENSOR GROUND

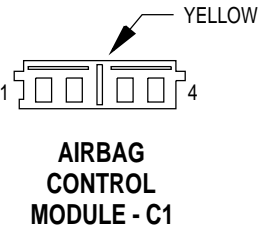


A/C SHUT-OFF
VALVE

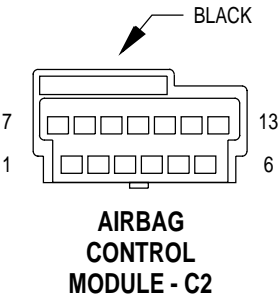
CAV	CIRCUIT	FUNCTION
1	C97 20BR/WT	A/C SHUT-OFF VALVE CONTROL
2	A142 18BR	HVAC WAKE-UP RELAY OUTPUT



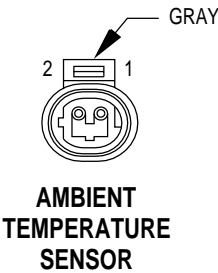
CAV	CIRCUIT	FUNCTION
1	-	-
2	K101 20WT	ACCELERATOR PEDAL POSITION SENSOR NO. 2 SIGNAL
3	K4 20BK/LB	ACCELERATOR PEDAL SENSOR GROUND
4	-	-
5	K100 20PK	ACCELERATOR PEDAL IDLE SWITCH SENSE
6	-	-
7	K101 20WT	ACCELERATOR PEDAL POSITION SENSOR NO. 1 SIGNAL
8	K4 20BK/LB	SENSOR GROUND
9	-	-
10	K6 20VT/WT	5V SUPPLY



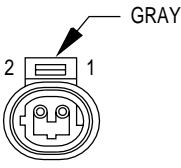
CAV	CIRCUIT	FUNCTION
1	R42 18BK/YL	PASSENGER AIRBAG LINE 1
2	R44 18DG/YL	PASSENGER AIRBAG LINE 2
3	R43 18BK/LB	DRIVER AIRBAG LINE 1
4	R45 18DG/LB	DRIVER AIRBAG LINE 2



CAV	CIRCUIT	FUNCTION
1	F14 18LG/YL	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
2	F23 18 DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN)
3	D1 20VT/BR	CCD BUS(+)
4	D2 20WT/BK	CCD BUS(-)
5	-	-
6	-	-
7	R41 18BK/TN	AIRBAG WARNING INDICATOR DRIVER
8	-	-
9	-	-
10	-	-
11	Z2 18BK/LG	GROUND
12	-	-
13	-	-

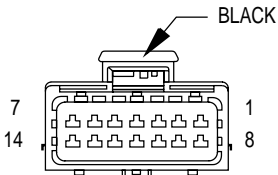


CAV	CIRCUIT	FUNCTION
1	C8 20DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL
2	C9 20YL/DG	AMBIENT TEMPERATURE SENSOR RETURN



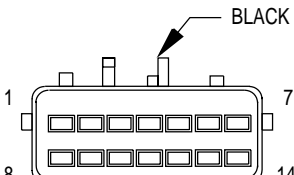
AUXILIARY
BATTERY
TEMPERATURE
SENSOR

CAV	CIRCUIT	FUNCTION
1	K20 20DG	AUXILIARY BATTERY TEMPERATURE SENSOR(+)
2	K21 20BK/RD	AUXILIARY BATTERY TEMPERATURE SENSOR(-)



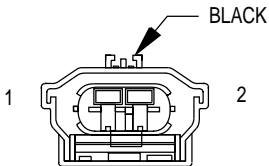
B17

CAV	CIRCUIT
1	-
2	L50 18WT/TN
3	M11 20PK/LB
4	G78 18TN/BK
5	L77 20BR/YL
6	-
7	V13 18BR/LG
8	V23 18BR/PK
9	F133 20BR/LB
10	F136 20VT/YL
11	Z1 12BK
12	C15 12BK/WT



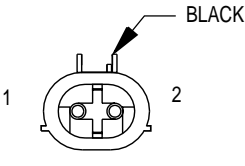
J01A

CAV	CIRCUIT
1	-
2	L50 18WT/TN
3	M11 20PK/LB
4	G78 18TN/BK
5	L77 20BR/LB
6	P98 20WT/RD
7	V13 18BR/LG
8	V23 18BR/PK
9	F133 20BR/RD
10	F136 20VT/WT
11	Z1 12BK
12	C15 12BK/WT



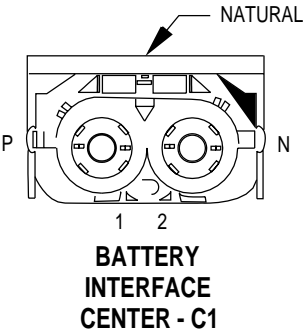
B110

CAV	CIRCUIT
1	G85 18VT/LG
2	-

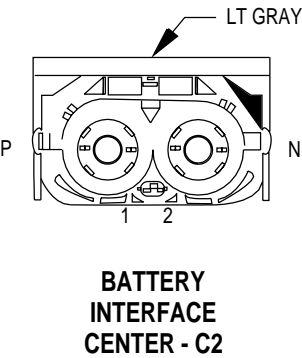


LV80

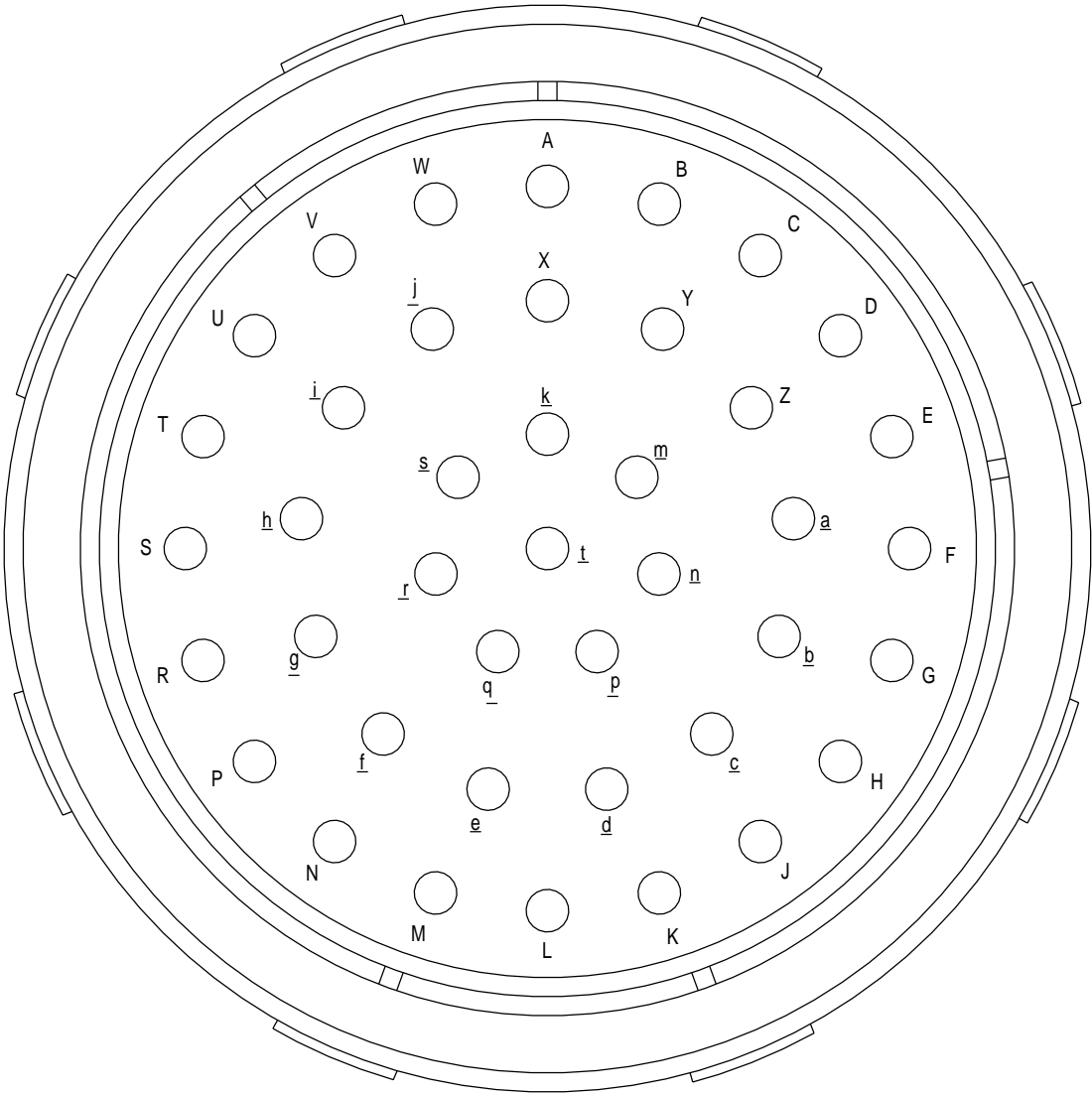
CAV	CIRCUIT
1	G85 18VT/LG
2	-



CAV	CIRCUIT	FUNCTION
1	D70 14WT	PILOT LINE
2	D70 14BR	PILOT LINE
N	H108 1OR/BK	HIGH VOLTAGE DC (-)
P	H107 1OR	HIGH VOLTAGE DC(+)



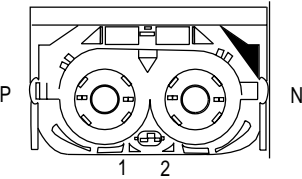
CAV	CIRCUIT	FUNCTION
1	A55 14DB	SECONDARY PILOT RELAY OUTPUT
2	D70 14WT	PILOT LINE
N	H13 1OR/BK	HIGH VOLTAGE DC (-)
P	H130 1OR	HIGH VOLTAGE DC (+)



BATTERY INTERFACE CENTER - C3

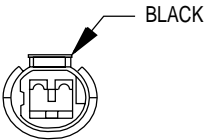
BATTERY INTERFACE CENTER - C3

CAV	CIRCUIT	FUNCTION
A	D580 20RD/VT	SAFETY RELAY NO. 1 CONTROL
<u>a</u>	D530 20LB	MCAN BUS(+)
B	D581 20RD/LG	SAFTEY RELAY NO. 1 STATUS
<u>b</u>	D522 20WT/DG	BMM GROUND
C	D582 20OR/VT	SAFTEY RELAY NO. 2 CONTROL
<u>c</u>	D520 20WT/DG	BMM 12V SUPPLY
D	D583 20OR/LG	SAFETY RELAY NO. 2 STATUS
<u>d</u>	D534 20GY/BK	BMM STROBE (-)
E	D584 20RD/WT	ISOLATION RELAY NO. 1 CONTROL
<u>e</u>	D533 20LB/BK	BMM STROBE (+)
F	D585 20RD/GY	ISOLATION RELAY NO. 1 STATUS
<u>f</u>	-	-
G	D586 20OR/WT	ISOLATION RELAY NO. 2 CONTROL
<u>g</u>	-	-
H	D587 20OR/GY	ISOLATION RELAY NO. 2 STATUS
<u>h</u>	-	-
<u>i</u>	-	-
J	D500 20YL	DIELECTRIC BREAKDOWN SENSOR SIGNAL
<u>j</u>	-	-
K	D589 20PK	PRECHARGE RELAY CONTROL
<u>k</u>	-	-
L	D70 20WT/LB	PILOT LINE
M	A55 18DB/WT	SECONDARY PILOT RELAY OUTPUT
<u>m</u>	-	-
N	-	-
<u>n</u>	-	-
P	-	-
<u>p</u>	-	-
<u>q</u>	-	-
R	Z3 18BK	GROUND
<u>r</u>	-	-
S	D70 20BR	PILOT LINE
<u>s</u>	-	-
T	-	-
<u>t</u>	-	-
U	A14 20DB	FUSED B(+)
V	Z1 20BK	GROUND
W	D71 20WT	AC PILOT LINE
X	D551 20VT	VCMM STROBE (-)
Y	D550 20VT/DG	VCMM STROBE (+)
Z	D531 20GY	MCAN BUS (-)



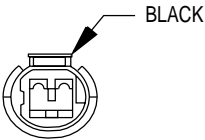
BATTERY
INTERFACE
CENTER - C4

CAV	CIRCUIT	FUNCTION
1	D71 18DB	AC PILOT LINE
2	D71 18BK	AC PILOT LINE
N	H113 1OR/BK	HIGH VOLTAGE DC (-)
P	H114 1OR	HIGH VOLTAGE DC(+)



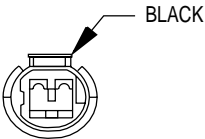
BATTERY MODULE NO. 1
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G501 18OR/DB	BATTERY MODULE NO. 1 TEMPERATURE SENSOR (-)
2	G501 18DB/OR	BATTERY MODULE NO. 1 TEMPERATURE SENSOR (+)



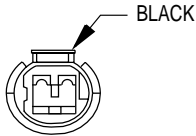
BATTERY MODULE NO. 2
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G502 18RD/YL	BATTERY MODULE NO. 2 TEMPERATURE SENSOR (-)
2	G502 18YL/RD	BATTERY MODULE NO. 2 TEMPERATURE SENSOR (+)



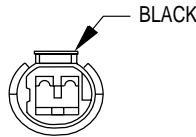
BATTERY MODULE NO. 3
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G503 18DB/TN	BATTERY MODULE NO. 3 TEMPERATURE SENSOR (-)
2	G503 18TN/DB	BATTERY MODULE NO. 3 TEMPERATURE SENSOR (+)



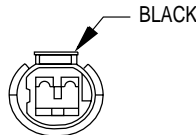
BATTERY MODULE NO. 4
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G504 18RD/GY	BATTERY MODULE NO. 4 TEMPERATURE SENSOR (-)
2	G504 18GY/RD	BATTERY MODULE NO. 4 TEMPERATURE SENSOR (+)



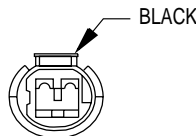
BATTERY MODULE NO. 5
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G505 18DB	BATTERY MODULE NO. 5 TEMPERATURE SENSOR (-)
2	G505 18DB/BK	BATTERY MODULE NO. 5 TEMPERATURE SENSOR (+)



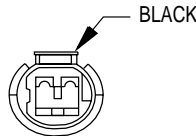
BATTERY MODULE NO. 6
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G506 18TN	BATTERY MODULE NO. 6 TEMPERATURE SENSOR (-)
2	G506 18RD/WT	BATTERY MODULE NO. 6 TEMPERATURE SENSOR (+)



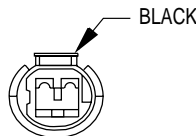
BATTERY MODULE NO. 7
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G507 18GY/RD	BATTERY MODULE NO. 7 TEMPERATURE SENSOR (-)
2	G507 18RD/BK	BATTERY MODULE NO. 7 TEMPERATURE SENSOR (+)



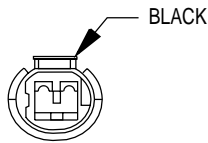
BATTERY MODULE NO. 8
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G508 18LG/RD	BATTERY MODULE NO. 8 TEMPERATURE SENSOR (-)
2	G508 18RD/LG	BATTERY MODULE NO. 8 TEMPERATURE SENSOR (+)



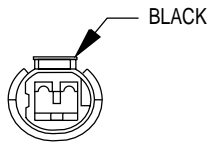
BATTERY MODULE NO. 9
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G509 18YL/RD	BATTERY MODULE NO. 9 TEMPERATURE SENSOR (-)
2	G509 18RD/YL	BATTERY MODULE NO. 9 TEMPERATURE SENSOR (+)



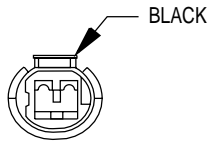
BATTERY MODULE NO. 10
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G510 18GY	BATTERY MODULE NO. 10 TEMPERATURE SENSOR (-)
2	G510 18BK/WT	BATTERY MODULE NO. 10 TEMPERATURE SENSOR (+)



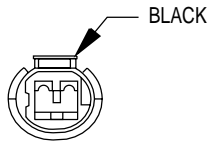
BATTERY MODULE NO. 11
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G511 18WT/BK	BATTERY MODULE NO. 11 TEMPERATURE SENSOR (-)
2	G511 18BK/WT	BATTERY MODULE NO. 11 TEMPERATURE SENSOR (+)



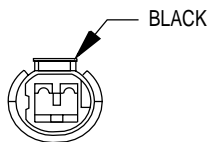
BATTERY MODULE NO. 12
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G512 18BK/OR	BATTERY MODULE NO. 12 TEMPERATURE SENSOR (-)
2	G512 18OR/BK	BATTERY MODULE NO. 12 TEMPERATURE SENSOR (+)



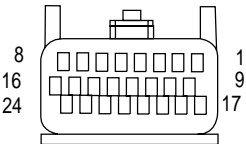
BATTERY MODULE NO. 13
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G513 18BK	BATTERY MODULE NO. 13 TEMPERATURE SENSOR (-)
2	G513 18BR/BK	BATTERY MODULE NO. 13 TEMPERATURE SENSOR (+)



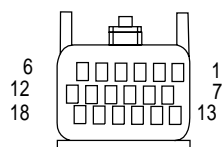
BATTERY MODULE NO. 14
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G514 18PK/BK	BATTERY MODULE NO. 14 TEMPERATURE SENSOR (-)
2	G514 18BK/PK	BATTERY MODULE NO. 14 TEMPERATURE SENSOR (+)



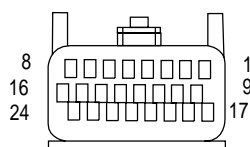
**BATTERY
MONITORING
MODULE NO. 1 - C1**

CAV	CIRCUIT	FUNCTION
1	G505 18DB	BATTERY MODULE NO. 5 TEMPERATURE SENSOR(-)
2	G505 18DB/BK	BATTERY MODULE NO. 5 TEMPERATURE SENSOR(+)
3	G601 20DB/YL	BATTERY NO. 1 VOLTAGE SENSE (-)
4	G601 20DB/WT	BATTERY NO. 1 VOLTAGE SENSE (+)
5	G602 20VT/BK	BATTERY NO. 2 VOLTAGE SENSE (+)
6	G603 20VT/LG	BATTERY NO. 3 VOLTAGE SENSE (+)
7	G604 20DG/YL	BATTERY NO. 4 VOLTAGE SENSE (+)
8	G605 20VT/WT	BATTERY NO. 5 VOLTAGE SENSE (+)
9	G501 18OR/DB	BATTERY MODULE NO. 1 TEMPERATURE SENSOR(-)
10	G501 18DB/OR	BATTERY MODULE NO. 1 TEMPERATURE SENSOR(+)
11	G502 18YL/RD	BATTERY MODULE NO. 2 TEMPERATURE SENSOR(-)
12	G502 18RD/YL	BATTERY MODULE NO. 2 TEMPERATURE SENSOR(+)
13	G503 18TN/DB	BATTERY MODULE NO. 3 TEMPERATURE SENSOR(-)
14	G503 18DB/TN	BATTERY MODULE NO. 3 TEMPERATURE SENSOR(+)
15	G504 18GY/RD	BATTERY MODULE NO. 4 TEMPERATURE SENSOR(-)
16	G504 18RD/GY	BATTERY MODULE NO. 4 TEMPERATURE SENSOR(+)
17	-	-
18	-	-
19	-	-
20	G610 20LG	BATTERY NO. 10 VOLTAGE SENSE (+)
21	G609 20GY/BK	BATTERY NO. 9 VOLTAGE SENSE (+)
22	G608 20GY/RD	BATTERY NO. 8 VOLTAGE SENSE (+)
23	G607 20LG/BK	BATTERY NO. 7 VOLTAGE SENSE (+)
24	G606 20GY	BATTERY NO. 6 VOLTAGE SENSE (+)



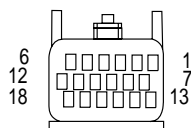
**BATTERY
MONITORING
MODULE NO. 1 - C2**

CAV	CIRCUIT	FUNCTION
1	D1 20DB	ADDRESS 0
2	D1 20DB	ADDRESS 1
3	D1 20DB	ADDRESS 2
4	D1 20DB	ADDRESS 3
5	-	-
6	D1 20DB	NICKEL-METAL HYDRIDE SELECT
7	-	-
8	-	-
9	D1 20DB	ADDRESS COMMON
10	-	-
11	D533 20LB/GY	BMM STROBE (+)
12	D534 20GY/BK	BMM STROBE (-)
13	D530 20LB	MCAN BUS(+)
14	D531 20GY	MCAN BUS(-)
15	-	-
16	D520 20WT/VT	BMM 12V SUPPLY
17	D522 20WT/DG	BMM GROUND
18	Z30 18BK	GROUND



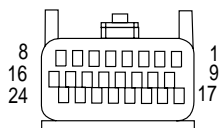
**BATTERY
MONITORING
MODULE NO. 2 - C1**

CAV	CIRCUIT	FUNCTION
1	G510 18BK/WT	BATTERY MODULE NO. 10 TEMPERATURE SENSOR (-)
2	G510 18GY	BATTERY MODULE NO. 10 TEMPERATURE SENSOR (+)
3	G610 20LG	BATTERY NO. 10 VOLTAGE SENSE (+)
4	G611 20OR	BATTERY NO. 11 VOLTAGE SENSE (+)
5	G612 20OR/DB	BATTERY NO. 12 VOLTAGE SENSE (+)
6	G613 20PK/LB	BATTERY NO. 13 VOLTAGE SENSE (+)
7	G614 20PK/VT	BATTERY NO. 14 VOLTAGE SENSE (+)
8	G615 20TN/WT	BATTERY NO. 15 VOLTAGE SENSE (+)
9	G506 18RD/WT	BATTERY MODULE NO. 6 TEMPERATURE SENSOR (-)
10	G506 18TN	BATTERY MODULE NO. 6 TEMPERATURE SENSOR (+)
11	G507 18RD/BK	BATTERY MODULE NO. 7 TEMPERATURE SENSOR (-)
12	G507 18GY/RD	BATTERY MODULE NO. 7 TEMPERATURE SENSOR (+)
13	G508 18RD/LG	BATTERY MODULE NO. 8 TEMPERATURE SENSOR (-)
14	G508 18LG/RD	BATTERY MODULE NO. 8 TEMPERATURE SENSOR (+)
15	G509 18RD/YL	BATTERY MODULE NO. 9 TEMPERATURE SENSOR (-)
16	G509 18YL/RD	BATTERY MODULE NO. 9 TEMPERATURE SENSOR (+)
17	-	-
18	-	-
19	-	-
20	G620 20YL	BATTERY NO. 20 VOLTAGE SENSE (+)
21	G619 20RD/DB	BATTERY NO. 19 VOLTAGE SENSE (+)
22	G618 20RD/LB	BATTERY NO. 18 VOLTAGE SENSE (+)
23	G617 20WT/RD	BATTERY NO. 17 VOLTAGE SENSE (+)
24	G616 20PK/WT	BATTERY NO. 16 VOLTAGE SENSE (+)



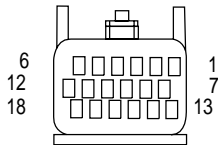
**BATTERY
MONITORING
MODULE NO. 2 - C2**

CAV	CIRCUIT	FUNCTION
1	-	-
2	D2 20DB	ADDRESS 1
3	D2 20DB	ADDRESS 2
4	D2 20DB	ADDRESS 3
5	-	-
6	D2 20DB	NICKEL-METAL HYDRIDE SELECT
7	-	-
8	-	-
9	D2 20DB	ADDRESS COMMON
10	-	-
11	D533 20LB/GY	BMM STROBE (+)
12	D534 20GY/BK	BMM STROBE (-)
13	D530 20LB	MCAN BUS(+)
14	D531 20GY	MCAN BUS(-)
15	D531 20GY	MCAN BUS(-)
16	D520 20WT/VT	BMM 12V SUPPLY
17	D522 20WT/DG	BMM GROUND
18	Z30 18BK	GROUND



**BATTERY
MONITORING
MODULE NO. 3 - C1**

CAV	CIRCUIT	FUNCTION
1	G515 18BK/LB	BATTERY MODULE NO. 15 TEMPERATURE SENSOR (-)
2	G515 18LB	BATTERY MODULE NO. 15 TEMPERATURE SENSOR (+)
3	G620 20YL	BATTERY NO. 20 VOLTAGE SENSE (+)
4	G621 20YL	BATTERY NO. 21 VOLTAGE SENSE (+)
5	G622 20BK/YL	BATTERY NO. 22 VOLTAGE SENSE (+)
6	G623 20BR	BATTERY NO. 23 VOLTAGE SENSE (+)
7	G624 20BR/LB	BATTERY NO. 24 VOLTAGE SENSE (+)
8	G625 20BR/YL	BATTERY NO. 25 VOLTAGE SENSE (+)
9	G511 18BK/WT	BATTERY MODULE NO. 11 TEMPERATURE SENSOR (-)
10	G511 18WT/BK	BATTERY MODULE NO. 11 TEMPERATURE SENSOR (+)
11	G512 18OR/BK	BATTERY MODULE NO. 12 TEMPERATURE SENSOR (-)
12	G512 18BK/OR	BATTERY MODULE NO. 12 TEMPERATURE SENSOR (+)
13	G513 18BR/BK	BATTERY MODULE NO. 13 TEMPERATURE SENSOR (-)
14	G513 18BK	BATTERY MODULE NO. 13 TEMPERATURE SENSOR (+)
15	G514 18BK/PK	BATTERY MODULE NO. 14 TEMPERATURE SENSOR (-)
16	G514 18PK/BK	BATTERY MODULE NO. 14 TEMPERATURE SENSOR (+)
17	-	-
18	-	-
19	-	-
20	G630 20BK/LB	BATTERY NO. 28 VOLTAGE SENSE (+)
21	G629 20LB/BK	BATTERY NO. 28 VOLTAGE SENSE (+)
22	G628 20PK	BATTERY NO. 28 VOLTAGE SENSE (+)
23	G627 20LB	BATTERY NO. 27 VOLTAGE SENSE (+)
24	G626 20YL/DB	BATTERY NO. 26 VOLTAGE SENSE (+)



**BATTERY
MONITORING
MODULE NO. 3 - C2**

CAV	CIRCUIT	FUNCTION
1	D3 20DB	ADDRESS 0
2	-	-
3	D3 20DB	ADDRESS 2
4	D3 20DB	ADDRESS 3
5	-	-
6	D3 20DB	NICKEL-METAL HYDRIDE SELECT
7	-	-
8	-	-
9	D3 20DB	ADDRESS COMMON
10	-	-
11	D533 20LB/GY	BMM STROBE (+)
12	D534 20GY/BK	BMM STROBE (-)
13	D530 20LB	MCAN BUS(+)
14	D531 20GY	MCAN BUS(-)
15	-	-
16	D520 20WT/VT	BMM 12V SUPPLY
17	D522 20WT/DG	BMM GROUND
18	Z30 18BK	GROUND



**BATTERY NO. 1
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G601 20DB/WT	BATTERY NO. 1 VOLTAGE SENSE



**BATTERY NO. 3
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G603 20VT/LG	BATTERY NO. 3 VOLTAGE SENSE



**BATTERY NO. 5
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G605 20VT/WT	BATTERY NO. 5 VOLTAGE SENSE



**BATTERY NO. 7
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G607 20LG/BK	BATTERY NO. 7 VOLTAGE SENSE



**BATTERY NO. 9
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G609 20GY/BK	BATTERY NO. 9 VOLTAGE SENSE



**BATTERY NO. 11
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G611 20OR	BATTERY NO. 11 VOLTAGE SENSE



**BATTERY NO. 13
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G613 20PK/LB	BATTERY NO. 13 VOLTAGE SENSE



**BATTERY NO. 15
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G615 20TN/WT	BATTERY NO. 15 VOLTAGE SENSE



**BATTERY NO. 17
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G617 20WT/RD	BATTERY NO. 17 VOLTAGE SENSE



**BATTERY NO. 19
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G619 20RD/DB	BATTERY NO. 19 VOLTAGE SENSE



**BATTERY NO. 21
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G621 20YL	BATTERY NO. 21 VOLTAGE SENSE



**BATTERY NO. 23
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G623 20BR	BATTERY NO. 23 VOLTAGE SENSE



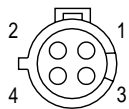
**BATTERY NO. 25
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G625 20BR/YL	BATTERY NO. 25 VOLTAGE SENSE



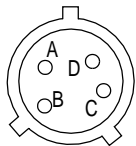
**BATTERY NO. 27
VOLTAGE SENSE CONNECTOR**

CAV	CIRCUIT	FUNCTION
1	-	-
2	G627 20LB	BATTERY NO. 27 VOLTAGE SENSE



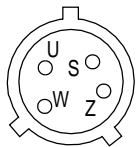
BATTERY PACK COOLANT
PUMP PRESSURE SENSOR

CAV	CIRCUIT	FUNCTION
1	K402 20BK/LB	SENSOR GROUND
2	K62 20VT/PK	5V SUPPLY
3	G402 20YL/DG	COOLANT PUMP PRESSURE SENSOR SIGNAL
4	-	-



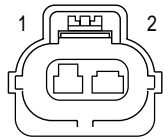
BATTERY PACK
COOLANT PUMP - C1

CAV	CIRCUIT	FUNCTION
A	D70 14BR	PILOT LINE
B	D70 14WT	PILOT LINE
C	H400 14BR	HIGH VOLTAGE DC(+)
D	H40 14BR/WT	HIGH VOLTAGE DC(-)



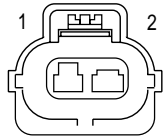
BATTERY PACK
COOLANT PUMP - C2

CAV	CIRCUIT	FUNCTION
S	K500 20LG/WT	BATTERY PACK COOLANT PUMP PWM SIGNAL (+)
U	K501 20LG/BK	BATTERY PACK COOLANT PUMP PWM SIGNAL (-)
W	A142 18BR	HVAC WAKE-UP RELAY OUTPUT
Z	Z1 20BK	GROUND



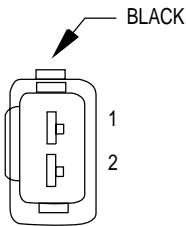
BATTERY PACK INLET COOLANT
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G406 18BK/LB	BATTERY PACK INLET COOLANT TEMPERATURE (+)
2	G407 18LB/WT	BATTERY PACK INLET COOLANT TEMPERATURE (-)



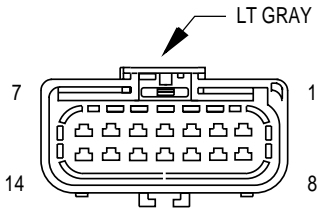
BATTERY PACK OUTLET COOLANT
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G408 18LB/YL	BATTERY PACK OUTLET COOLANT TEMPERATURE (+)
2	G409 18VT/DG	BATTERY PACK OUTLET COOLANT TEMPERATURE (-)



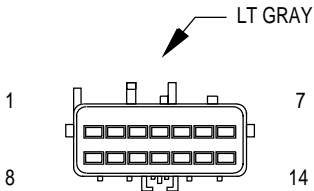
BATTERY TUB
FAN

CAV	CIRCUIT	FUNCTION
1	T40 14BR/LB	BATTERY TUB FAN RELAY OUTPUT
2	Z1 14BK	GROUND



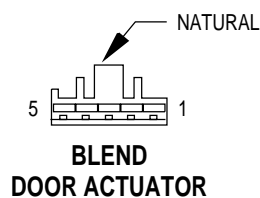
BC1

CAV	CIRCUIT
1	D531 20LG
2	D530 20LB
3	D520 20WT/VT
4	D522 20WT/DG
5	D533 20LB/GY
6	D534 20GY/BK
7	D150 18RD
8	D151 18PK
9	G407 18LB/WT
10	G406 18BK/LB
11	G408 18LB/YL
12	G409 18VT/DG
13	D401 20BK/DB
14	Z1 18BK

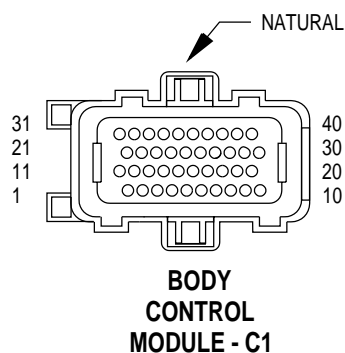


LV50

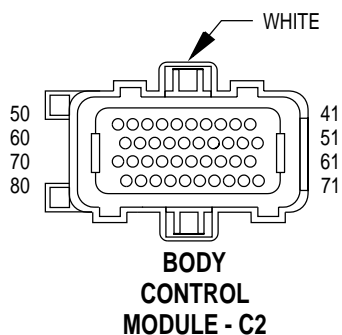
CAV	CIRCUIT
1	D531 20LG
2	D530 20LB
3	D520 20WT/VT
4	D522 20WT/DG
5	D533 20LB/BK
6	D534 20GY/BK
7	D150 20RD
8	D151 20RD
9	G407 20LB/WT
10	G406 20BK/LB
11	G408 20LB/YL
12	G409 20VT/DG
13	D401 20BK/DB
14	Z1 20BK



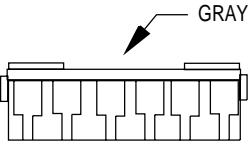
CAV	CIRCUIT	FUNCTION
1	C33 20DB/RD	BLEND AIR ACTUATOR DRIVER
2	C26 20PK/DB	ACTUATOR 5V SUPPLY
3	C36 20RD/WT	BLEND AIR ACTUATOR FEEDBACK
4	C57 20DB/GY	SENSOR GROUND
5	C34 20DB/WT	ACTUATOR COMMON



CAV	CIRCUIT	FUNCTION
1	-	-
2	M32 22BK/LB	COURTESY LAMP SWITCH SENSE
3	D1 20VT/BR	CCD BUS(+)
4	-	-
5	-	-
6	-	-
7	V52 20DG/YL	FRONT WIPER SWITCH MUX
8	E92 22OR/BK	DIMMER SWITCH SIGNAL
9	-	-
10	Z2 20BK/LG	GROUND
11	E17 20YL/BK	STEP DIMMER SWITCH SENSE
12	-	-
13	L307 22LG/OR	HEADLAMP SWITCH SENSE
14	Z2 20BK/LG	GROUND
15	-	-
16	-	-
17	G19 18LG/OR	ABS WARNING INDICATOR DRIVER
18	-	-
19	-	-
20	X3 20BK/RD	HORN RELAY CONTROL SENSE
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	G26 20LB	KEY-IN IGNITION SWITCH SENSE
33	-	-
34	D2 20WT/BK	CCD BUS(-)
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	L308 22LG/WT	PARK LAMP SWITCH SENSE

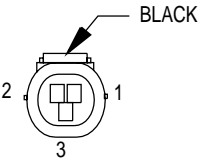


CAV	CIRCUIT	FUNCTION
41	V7 20DG/WT	WIPER PARK SWITCH SENSE
42	-	-
43	-	-
44	-	-
45	P97 20WT/DG	DRIVER DOOR SWITCH MUX
46	-	-
47	G77 18TN/OR	DOOR AJAR SWITCH SENSE
48	G74 18TN/RD	DOOR AJAR SWITCH SENSE
49	V13 18BR/LG	REAR WIPER MOTOR CONTROL
50	V20 20BK/WT	REAR WASHER MOTOR CONTROL
51	L24 20WT/LG	AUTOMATIC HEADLAMP SIGNAL
52	-	-
53	-	-
54	-	-
55	P96 20WT/LG	PASSENGER DOOR SWITCH MUX
56	-	-
57	-	-
58	G29 20BK/TN	WASHER FLUID SWITCH SENSE
59	G78 18TN/BK	LIFTGATE AJAR SWITCH SENSE
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
65	-	-
66	-	-
67	-	-
68	-	-
69	-	-
70	-	-
71	-	-
72	-	-
73	V14 18RD/VT	WIPER ON/OFF RELAY CONTROL
74	-	-
75	-	-
76	-	-
77	G76 18TN/YL	DOOR AJAR SWITCH SENSE
78	G10 18LG/RD	SEAT BELT SWITCH SENSE
79	G75 18TN	DOOR AJAR SWITCH SENSE
80	M20 20BR	COURTESY LAMP GROUND



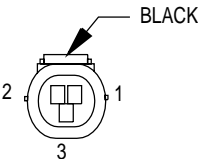
BRAKE LAMP SWITCH

CAV	CIRCUIT	FUNCTION
1	K29 20WT/PK	BRAKE LAMP SWITCH SENSE
2	Z1 20BK	GROUND
3	-	-
4	-	-
5	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
6	F32 18PK/DB	FUSED B (+)



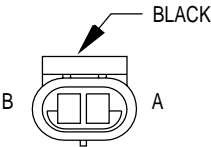
BRAKE PRESSURE SENSOR NO. 1

CAV	CIRCUIT	FUNCTION
1	K4 20BK/LB	SENSOR GROUND
2	K6 20VT/WT	5V SUPPLY
3	B31 20RD	BRAKE PRESSURE SENSOR NO. 1 SIGNAL



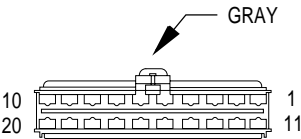
BRAKE PRESSURE SENSOR NO. 2

CAV	CIRCUIT	FUNCTION
1	K40 20BK/LB	SENSOR GROUND
2	K6 20VT/WT	5V SUPPLY
3	B30 20RD/WT	BRAKE PRESSURE SENSOR NO. 2 SIGNAL



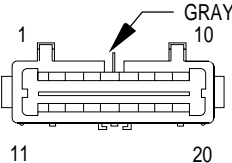
BRAKE PRESSURE SWITCH

CAV	CIRCUIT	FUNCTION
A	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
B	Z1 20BK	GROUND



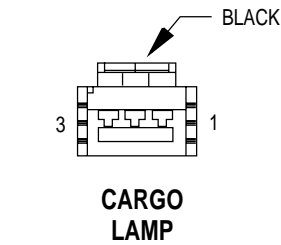
C20

CAV	CIRCUIT
1	M20 20BR
2	F41 20PK/VT
3	M13 20BK/YL
4	M113 20LB/PK
5	-
6	-
7	-
8	-
9	-
10	-
11	-
12	-
13	-
14	G74 18TN/RD
15	F133 20BR/YL
16	F136 20VT/YL
17	-
18	-
19	-
20	-

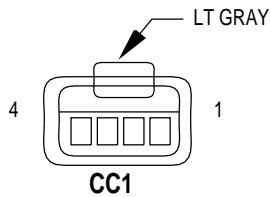


B75

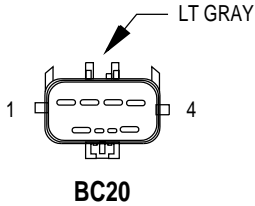
CAV	CIRCUIT
1	M20 20BR
2	F41 20PK/VT
3	M13 20BK/YL
4	M113 20LB/PK
5	D2 18WT/BK
6	D1 18VT/BK
7	-
8	G32 20BK/LB
9	Z2 18BK/LG
10	G31 20VT/LG
11	V23 18BR/PK
12	Z1 20BK
13	L1 20VT/BK
14	G74 18TN/RD
15	F133 20BR/LB
16	F136 20VT/YL
17	E2 20OR
18	L24 20WT/LG
19	-
20	-



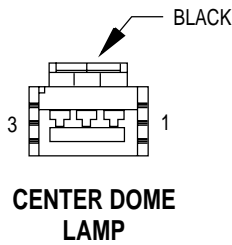
CAV	CIRCUIT	FUNCTION
1	-	-
2	M113 20LB/PK	READING LAMP FEED
3	M20 20BR	COURTESY LAMP GROUND



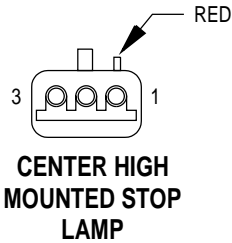
CAV	CIRCUIT
1	D150 18WT
2	Z150 18LG
3	Z1 18BK
4	D401 20BK/DB



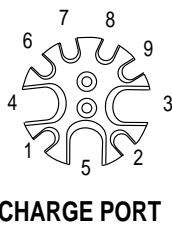
CAV	CIRCUIT
1	D150 18RD
2	D151 18PK
3	Z1 18BK
4	D401 20BK/DB



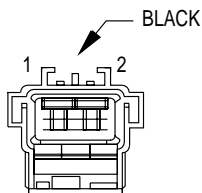
CAV	CIRCUIT	FUNCTION
1	-	-
2	M113 20LB/PK	READING LAMP FEED
3	M20 20BR	COURTESY LAMP GROUND



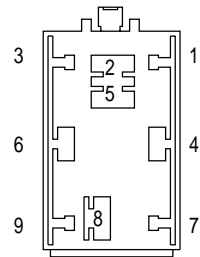
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	-	-
3	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT



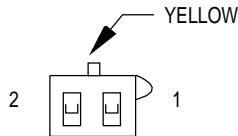
CAV	CIRCUIT	FUNCTION
1	H114 8OR	NOT USED
2	H113 8OR/BK	NOT USED
3	H114 1OR	HIGH VOLTAGE DC(+)
4	H113 1OR/BK	HIGH VOLTAGE DC(-)
5	Z1 2LG	GROUND
6	D71 18DB	AC PILOT LINE
7	D71 18BK	AC PILOT LINE
8	D150 18WT	J1850 (+)
9	Z150 18LG	J1850 (-)



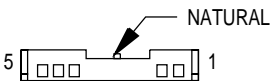
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	D401 20BK/DB	CHARGE PORT SWITCH SENSE



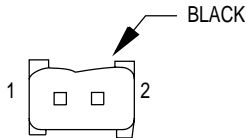
CHARGE STATUS
RELAY



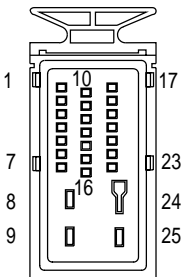
CLOCKSPRING - C1



CLOCKSPRING - C2



CONTROLLER
ANTI-LOCK
BRAKE - C1



CONTROLLER
ANTI-LOCK
BRAKE - C2

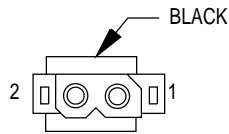
CAV	CIRCUIT	FUNCTION
1	-	-
2	M1 20PK	FUSED B(+)
3	M1 20PK	FUSED B(+)
4	K80 20RD	CHARGE STATUS RELAY CONTROL
5	L77 20BR/YL	FUSED PARK LAMP RELAY OUTPUT
6	M1 20PK	FUSED B(+)
7	-	-
8	L177 18BR/YL	CHARGE STATUS RELAY OUTPUT
9	-	-

CAV	CIRCUIT	FUNCTION
1	R43 18BK/LB	DRIVER AIRBAG LINE 1
2	R45 18DG/LB	DRIVER AIRBAG LINE 2

CAV	CIRCUIT	FUNCTION
1	X3 20BK/RD	HORN RELAY CONTROL
2	-	-
3	-	-
4	-	-
5	-	-

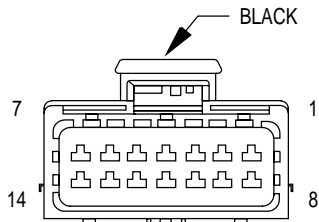
CAV	CIRCUIT	FUNCTION
1	Z10 14BR	GROUND
2	A25 14RD	REGEN ENABLE SIGNAL

CAV	CIRCUIT	FUNCTION
1	B1 18YL/DB	RIGHT REAR WHEEL SPEED SENSOR(-)
2	B3 18LG/DB	LEFT REAR WHEEL SPEED SENSOR(-)
3	B7 18WT	RIGHT FRONT WHEEL SPEED SENSOR(+)
4	B9 18RD	LEFT FRONT WHEEL SPEED SENSOR(+)
8	Z7 12BK	GROUND
9	A20 14RD/DB	FUSED B(+)
10	B4 18LG	LEFT REAR WHEEL SPEED SENSOR(+)
11	B8 18RD/DB	LEFT FRONT WHEEL SPEED SENSOR(-)
12	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
16	G19 18LG/OR	ABS WARNING INDICATOR DRIVER
17	B2 18YL	RIGHT REAR WHEEL SPEED SENSOR(+)
18	B6 18WT/DB	RIGHT FRONT WHEEL SPEED SENSOR(-)
19	D2 20WT/BK	CCD BUS (-)
20	D1 20VT/BR	CCD BUS (+)
21	-	-
22	-	-
23	F20 20WT	FUSED IGNITION SWITCH OUTPUT (RUN)
24	Z7 12BK	GROUND
25	A10 12RD/DG	FUSED B(+)



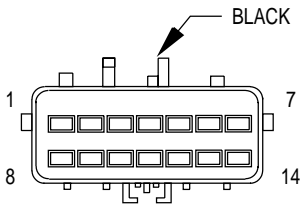
CONTROLLER
ANTI-LOCK
BRAKE - C3

CAV	CIRCUIT	FUNCTION
1	Z10 14BR	GROUND
2	A25 14RD	REGEN ENABLE SIGNAL



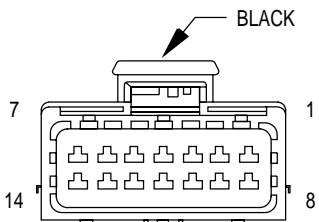
D01D

CAV	CIRCUIT
1	-
2	-
3	Z2 20BK/LG
4	E2 20OR
5	F131 20BK/PK
6	-
7	-
8	-
9	-
10	-
11	P97 20WT/DG
12	F133 20BR
13	-
14	-



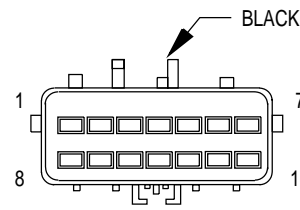
B102

CAV	CIRCUIT
1	-
2	-
3	Z2 20BK/LG
4	E2 20OR
5	F131 20BK/PK
6	-
7	-
8	-
9	-
10	-
11	P97 20WT/DG
12	F133 20BR/LB
13	-
14	-



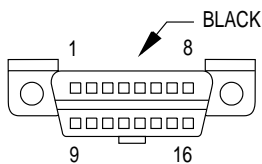
D01P

CAV	CIRCUIT
1	-
2	-
3	Z2 20BK/LG
4	P96 20WT/LG
5	-
6	-
7	-
8	-
9	F136 20VT/YL
10	F133 20BR
11	E2 20OR
12	-
13	-
14	-



B03

CAV	CIRCUIT
1	-
2	-
3	Z2 20BK/LG
4	P96 20WT/LG
5	-
6	-
7	-
8	-
9	F136 20VT/YL
10	F133 20BR/LB
11	E2 20OR
12	-
13	-
14	-



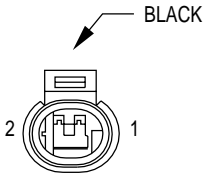
DATA LINK
CONNECTOR

CAV	CIRCUIT	FUNCTION
1	-	-
2	D153 20PK	PCI BUS
3	D1 20VT/BR	CCD BUS (+)
4	Z2 20BK/LG	GROUND
5	Z11 20BK/WT	GROUND
6	D20 20PK	PCA SCI RECIEVE
7	D21 20LG	PCA SCI TRANSMIT
8	-	-
9	D16 20PK/BK	HVAC SCI RECIEVE
10	-	-
11	D2 20WT/BK	CCD BUS(-)
12	-	-
13	D22 20PK	BEMS SCI TRANSMIT
14	D23 20BR	BEMS SCI RECEIVE
15	D17 22LG/BK	HVAC SCI TRANSMIT
16	M1 20PK	FUSED B (+)



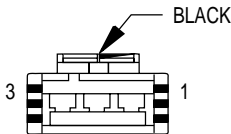
DIAGNOSTIC
CONNECTOR

CAV	CIRCUIT	FUNCTION
1	D531 20GY	MCAN BUS(-)
2	D530 20LB	MCAN BUS(+)
3	D540 20YL/DB	VCMM SCI TRANSMIT
4	D541 20YL/LG	VCMM SCI RECIEVE
5	Z11 20BK/WT	GROUND
	Z11 20BK/WT	GROUND
6	M1 20PK	FUSED B(+)
	M1 20PK	FUSED B(+)



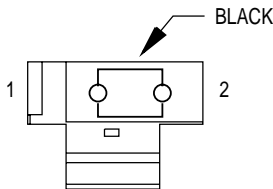
DRIVER DOOR
LOCK MOTOR

CAV	CIRCUIT	FUNCTION
1	F131 20BK/PK	DOOR UNLOCK RELAY OUTPUT
2	F133 20BR	LOCK RELAY OUTPUT



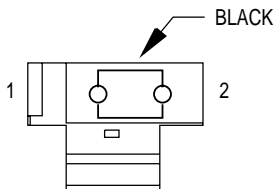
DRIVER DOOR
LOCK SWITCH

CAV	CIRCUIT	FUNCTION
1	E2 20OR	PANEL LAMPS FEED
2	P97 20WT/DG	DRIVER DOOR SWITCH MUX
3	Z2 20BK/LG	GROUND



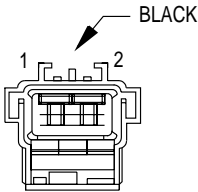
ELECTRIC
WIPER DE-ICER-C1

CAV	CIRCUIT	FUNCTION
1	V20 18RD	WIPER/DEICE
2	-	-



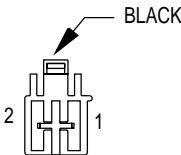
ELECTRIC
WIPER DE-ICER-C2

CAV	CIRCUIT	FUNCTION
1	C66 18BK/WT	ELECTRIC WIPER DE-ICER SWITCHED GROUND
2	-	-



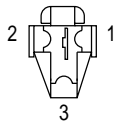
EXPANSION
VALVE

CAV	CIRCUIT	FUNCTION
1	C29 20TN	EXPANSION VALVE CONTROL
2	A142 18BR	HVAC WAKE-UP RELAY OUTPUT



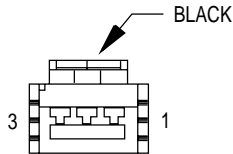
FRONT
BLOWER

CAV	CIRCUIT	FUNCTION
1	C71 12DG	BLOWER MOTOR DRIVER
2	Z1 12BK	GROUND



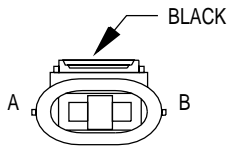
FRONT CIGAR LIGHTER/
POWER OUTLET

CAV	CIRCUIT	FUNCTION
1	F30 16RD	FUSED B(+)
2	-	-
3	Z1 16BK	GROUND



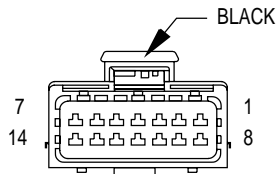
FRONT
READING LAMPS/
SWITCH

CAV	CIRCUIT	FUNCTION
1	M13 20BK/YL	FRONT READING LAMP FEED
2	M20 20BR	COURTESY LAMP GROUND
3	F41 20PK/VT	FUSED (B+)



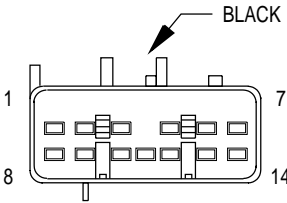
FRONT WASHER
PUMP

CAV	CIRCUIT	FUNCTION
A	F1 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
B	V10 20BR	WASHER PUMP CONTROL SWITCH OUTPUT

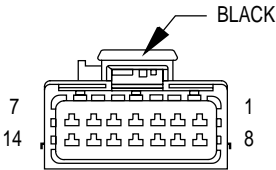


G200

CAV	CIRCUIT
1	Z2 20BK/LG
2	Z2 20BK/LG
3	Z2 20BK/LG
4	-
5	Z2 20BK/LG
6	-
7	-
8	-
9	-
10	Z1 16BK
11	-
12	-
13	Z1 18BK
14	Z1 20BK

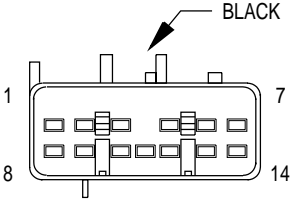


CAV	CIRCUIT
1	GROUND BUS BAR
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

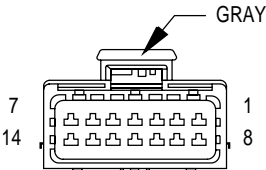


G300

CAV	CIRCUIT
1	Z1 20BK
2	Z1 20BK
3	Z1 18BK
4	-
5	-
6	Z1 20BK Z1 18BK
7	-
8	Z1 14BK
9	Z1 20BK Z1 20BK
10	Z1 12BK
11	-
12	Z1 14BK
13	-
14	-

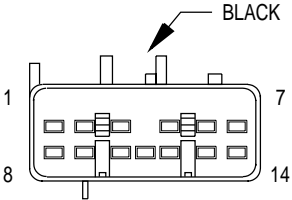


CAV	CIRCUIT
1	GROUND BUS BAR
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

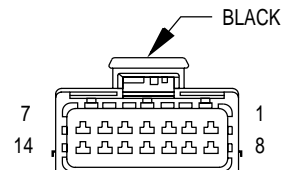


G301

CAV	CIRCUIT
1	Z1 18BK
2	Z2 20BK/LG
3	Z2 20BK/LG
4	-
5	Z2 18BK/LG
6	Z1 20BK
7	Z1 20BK
8	Z1 18BK
9	-
10	Z17 20BK
11	-
12	-
13	Z1 18BK
14	Z1 20BK

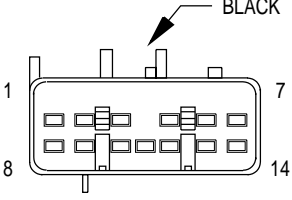


CAV	CIRCUIT
1	GROUND BUS BAR
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

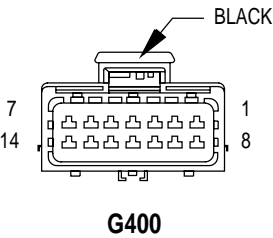


G302

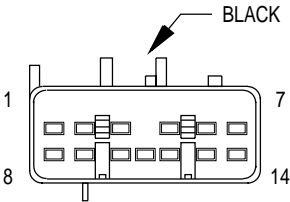
CAV	CIRCUIT
1	-
2	-
3	Z1 20BK
4	-
5	-
6	-
7	-
8	Z1 18BK
9	Z1 20BK
10	Z1 12BK
11	Z1 16BK
12	-
13	-
14	Z1 18BK



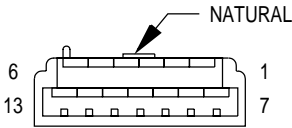
CAV	CIRCUIT
1	GROUND BUS BAR
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	



CAV	CIRCUIT
1	Z1 12BK
2	Z1 20BK
3	Z1 20BK
4	-
5	Z1 12BK
6	Z1 18BK
7	Z1 20BK
8	Z1 20BK
9	-
10	-
11	Z1 20BK
12	-
13	-
14	-

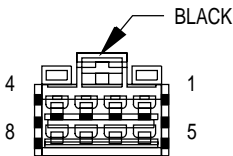


CAV	CIRCUIT
1	GROUND BUS BAR
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	



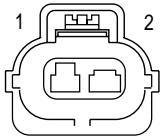
HEADLAMP SWITCH - C1

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	M112 22BR/LG	COURTESY LAMP RELAY CONTROL
4	M32 22BK/LB	COURTESY LAMP SWITCH SENSE
5	E17 20YL/BK	STEP DIMMER SWITCH SENSE
6	Z1 20BK	GROUND
7	-	-
8	-	-
9	M111 22BR/WT	SWITCHED COURTESY LAMP RELAY CONTROL
10	M13 20BK/YL	FRONT READING LAMP FEED
11	M113 20LB/PK	READING LAMP FEED
12	E92 22OR/BK	DIMMER SWITCH SIGNAL
13	-	-



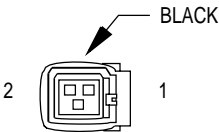
HEADLAMP SWITCH - C2

CAV	CIRCUIT	FUNCTION
1	E2 20OR	PANEL LAMPS FEED
2	Z1 18BK	GROUND
3	L307 22LG/OR	HEADLAMP SWITCH SENSE
4	-	-
5	-	-
6	-	-
7	-	-
8	L308 22LG/WT	PARK LAMP SWITCH SENSE



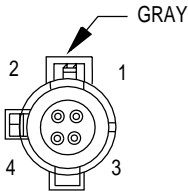
HEAT EXCHANGER TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	K4 18BK/LB	SENSOR GROUND
2	G405 18DB/OR	HEAT EXCHANGER TEMPERATURE SENSOR SIGNAL



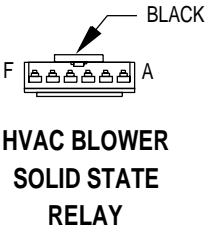
HIGH NOTE HORN

CAV	CIRCUIT	FUNCTION
A	X2 18DG/RD	HORN RELAY OUTPUT
B	Z1 18BK	GROUND

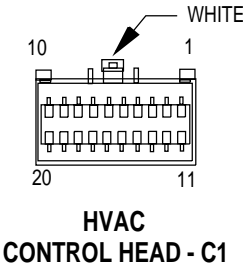


HIGH PRESSURE SENSOR

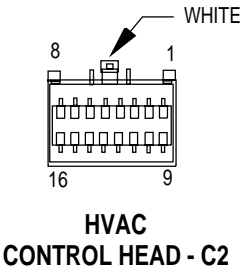
CAV	CIRCUIT	FUNCTION
1	C57 20DB/GY	SENSOR GROUND
2	C26 20PK/DB	ACTUATOR 5V SUPPLY
3	C18 20DB	A/C PRESSURE SIGNAL
4	-	-



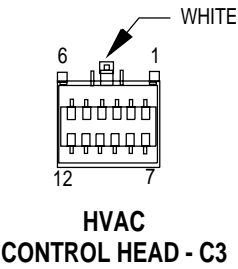
CAV	CIRCUIT	FUNCTION
A	C71 12DB	FUSED B(+)
B	A142 18BR	HVAC WAKE-UP RELAY OUTPUT
C	C43 20YL/BR	BLOWER CONTROL
D	Z1 12BK	GROUND
E	Z1 12BK	GROUND
F	C71 12DG	BLOWER MOTOR FEED



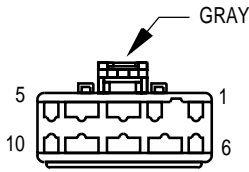
CAV	CIRCUIT	FUNCTION
1	C94 20DB	PILOT LINE SENSE
2	C121 20BK/YL	PTC NO. 1 AND 2 IGBT CONTROL
3	C13 18PK	A/C COMPRESSOR CONTROLLER RELAY CONTROL
4	C47 20DG	FLOOR DUCT TEMPERATURE SENSOR SIGNAL
5	C26 20PK/DB	ACTUATOR 5V SUPPLY
6	C120 20BK/LB	PTC NO. 3 IGBT CONTROL
7	D2 20WT/BK	CCD BUS (-)
8	D1 20VT/BR	CCD BUS (+)
9	C110 20GY	HEATER BANK NO. 1 OPEN SENSE
10	C14 22WT/RD	REAR WINDOW DEFOGGER RELAY CONTROL
11	C30 20TN/WT	/
12	C111 20BR	HEATER BANK NO. 2 OPEN SENSE
13	C112 20DG	HEATER BANK NO. 3 OPEN SENSE
14	C34 22DB/WT	ACTUATOR COMMON
15	C33 22DB/RD	BLEND AIR ACTUATOR DRIVER
16	C32 22GY/DB	RECIRCULATION ACTUATOR DRIVER
17	C51 20LB/RD	4-WAY VALVE CONTROL
18	C35 22DG/YL	MODE ACUATOR DRIVER
19	K160 20LG	A/C COMPRESSOR TEMPERATURE SENSOR SIGNAL
20	C12 20LG/BK	PRE-INPUT TEMPERATURE SENSOR SIGNAL



CAV	CIRCUIT	FUNCTION
1	A142 18BR	HVAC WAKE-UP RELAY OUTPUT
2	C122 20BK/PK	IGBT SHORT SENSE
3	Z2 20BK/LG	GROUND
4	E2 20OR	PANEL LAMPS FEED
5	Z1 20BK	GROUND
6	D17 20LG/BK	HVAC SCI TRANSMIT
7	D16 20PK/BK	HVAC SCI RECEIVE
8	D55 20YL	A/C COMPRESSOR CONTROLLER MUX SIGNAL
9	C98 20BR/WT	/
10	C97 20BR	A/C SHUT-OFF VALVE CONTROL
11	-	-
12	C66 18BK/WT	ELECTRIC WIPER DE-ICER SWITCHED GROUND
13	C29 20TN	EXPANSION VALVE CONTROL
14	C43 20YL/BR	BLOWER MOTOR SIGNAL
15	D60 20LB	A/C COMPRESSOR DUTY CYCLE REQUEST SIGNAL
16	D50 20DB	A/C COMPRESSOR RPM SIGNAL

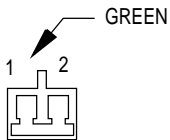


CAV	CIRCUIT	FUNCTION
1	C18 20DB	A/C HIGH PRESSURE SENSOR SIGNAL
2	C57 20DB/GY	SENSOR GROUND
3	C36 22RD/WT	BLEND AIR ACTUATOR FEEDBACK
4	C21 22DB/OR	COIL TEMPERATURE SENSOR SIGNAL
5	C46 20LG	PANEL DUCT THERMISTOR
6	C212 20BR	PRE-INSIDE COIL OUTPUT THERMISTOR
7	C17 20VT	A/C LOW PRESSURE SENSOR SIGNAL
8	-	/
9	C95 20YL	SUCTION LINE TEMPERATURE SENSOR NO. 1 SIGNAL
10	C37 22YL	MODE ACTUATOR FEEDBACK
11	Z2 20BK/LG	GROUND
12	C320 20GY	RECIRCULATION ACTUATOR FEEDBACK



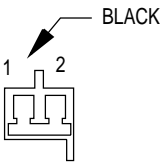
IGNITION
SWITCH - C1

CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
3	A2 12PK/BK	FUSED B (+)
4	A22 12BK/OR	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
5	-	-
6	-	-
7	A1 12RD	FUSED B (+)
8	A31 12BK/WT	ACCESSORY FEED
9	A21 12DB	START-RUN
10	A41 12YL	STARTER RELAY



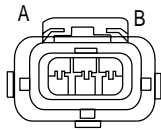
IGNITION
SWITCH - C2

CAV	CIRCUIT	FUNCTION
1	G26 20LB	KEY-IN IGNITION SWITCH SENSE
2	Z1 20BK	GROUND



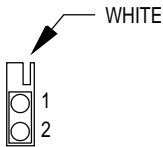
IGNITION
SWITCH - C3

CAV	CIRCUIT	FUNCTION
1	M1 20PK	FUSED B (+)
2	A81 20DG/RD	IGNITION SWITCH OUTPUT (ST-RUN-OFF)



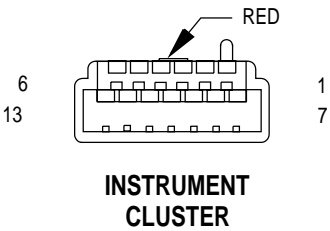
INERTIA
SWITCH

CAV	CIRCUIT	FUNCTION
A	D73 16WT	PRIMARY PILOT RELAY OUTPUT
B	-	-
C	D72 16BR/WT	PILOT LINE

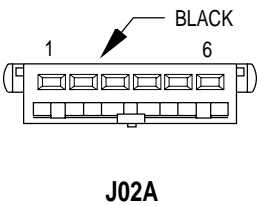


INSIDE COIL
TEMPERATURE SENSOR

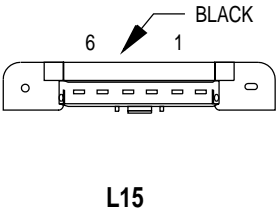
CAV	CIRCUIT	FUNCTION
1	C21 20DB/OR	INSIDE COIL TEMPERATURE SENSOR SIGNAL
2	C57 20DB/GY	SENSOR GROUND



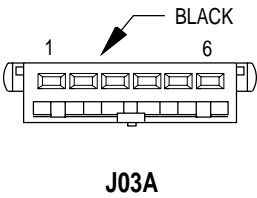
CAV	CIRCUIT	FUNCTION
1	-	-
2	M1 20PK	FUSED B (+)
3	-	-
4	-	-
5	-	-
6	E2 20OR	PANEL LAMPS FEED
7	Z2 20BK/LG	GROUND
8	-	-
9	D2 20WT/BK	CCD BUS (-)
10	D1 20VT/BR	CCD BUS (+)
11	F11 20RD/WT	FUSED IGNITION SWITCH OUTPUT (ST-RUN-OFF)
12	-	-
13	Z1 20BK	GROUND



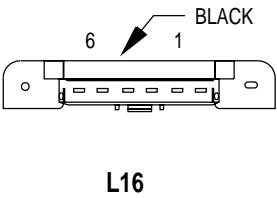
CAV	CIRCUIT
1	Z1 12BK
2	L50 18WT/TN
3	M11 20PK/LB
4	F133 20BR/RD
5	F136 20VT/WT
6	L77 20BR/LB



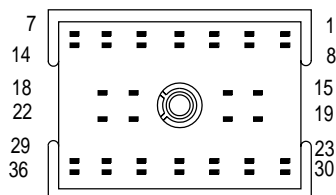
CAV	CIRCUIT
1	Z1 12BK
2	L50 18WT/TN
3	M11 20PK/LB
4	-
5	-
6	L77 20BR/LB



CAV	CIRCUIT
1	C15 12BK/WT
2	V13 18BR/LG
3	V23 18BR/PK
4	G78 18TN/BK
5	-
6	P98 20WT/RD

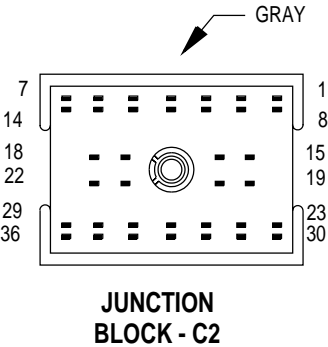


CAV	CIRCUIT
1	C15 12BK/WT
2	V13 18BR/LG
3	V23 18BR/PK
4	G78 18TN/BK
5	-
6	-

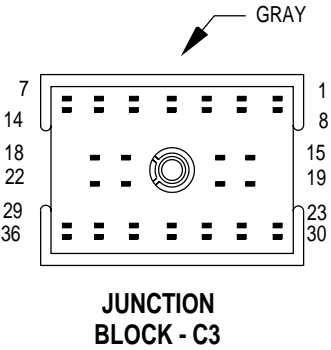


**JUNCTION
BLOCK - C1**

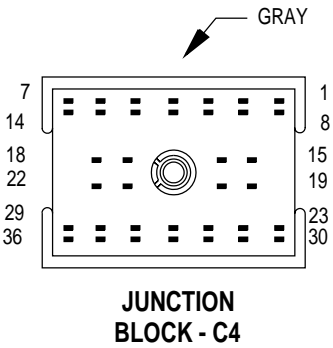
CAV	CIRCUIT	FUNCTION
1	E2 20OR	PANEL LAMPS FEED
2	L7 12BK/YL	PARK LAMP RELAY OUTPUT
3	-	-
4	A2 12PK/BK	FUSED B(+)
5	L77 20BR/YL	FUSED PARK LAMP RELAY OUTPUT
6	C15 12BK/WT	REAR WINDOW DEFOGGER RELAY OUTPUT
7	V23 18BR/PK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
8	E2 20OR	PANEL LAMPS FEED
	E2 20OR	PANEL LAMPS FEED
9	F131 20BK/PK	DRIVER UNLOCK RELAY OUTPUT
10	-	-
11	F133 20BR/LB	LOCK RELAY OUTPUT
12	-	-
13	M1 20PK	FUSED B(+)
	M1 20PK	FUSED B(+)
14	V23 18BR/PK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
15	F136 20VT/YL	UNLOCK RELAY OUTPUT
	F136 20VT/YL	UNLOCK RELAY OUTPUT
16	-	-
17	-	-
18	L77 20BR/YL	FUSED PARK LAMP RELAY OUTPUT
	L77 20BR/YL	FUSED PARK LAMP RELAY OUTPUT
19	F136 20VT/YL	UNLOCK RELAY OUTPUT
	F136 20VT/YL	UNLOCK RELAY OUTPUT
20	F11 20RD/WT	FUSED IGNITION SWITCH OUTPUT (ST-RUN-OFF)
21	-	-
22	-	-
23	L78 20DG/YL	FUSED PARK LAMP RELAY OUTPUT
	L78 20DG/YL	FUSED PARK LAMP RELAY OUTPUT
24	-	-
25	-	-
26	F133 20BR/LB	LOCK RELAY OUTPUT
	F133 20BR/LB	LOCK RELAY OUTPUT
27	-	-
28	-	-
29	-	-
30	F87 18WT/BK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
31	-	-
32	F133 20BR/LB	LOCK RELAY OUTPUT
	F133 20BR/LB	LOCK RELAY OUTPUT
33	-	-
34	-	-
35	A4 12BK/YL	FUSED B(+)
36	-	-



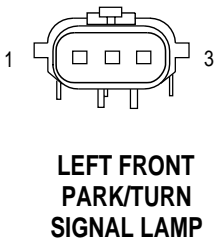
CAV	CIRCUIT	FUNCTION
1	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
2	Z1 14BK	GROUND
3	F1 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
	F1 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
4	X4 20BK	HORN RELAY CONTROL
5	L60 18TN	RIGHT TURN SIGNAL
6	M11 20PK/LB	COURTESY LAMP RELAY OUTPUT
7	F20 20WT	FUSED IGNITION SWITCH OUTPUT (RUN)
	F20 20WT	FUSED IGNITION SWITCH OUTPUT (RUN)
8	-	-
9	L97 18PK/DB	PARK LAMP RELAY CONTROL
10	F45 20YL/RD	FUSED IGNITION SWITCH OUTPUT (ST)
11	L61 18LG	LEFT TURN SIGNAL
12	-	-
13	-	-
14	-	-
15	F41 20PK/VT	FUSED B(+)
16	F1 20DB	FUSED B(+)
17	-	-
18	F20 20WT	FUSED IGNITION SWITCH OUTPUT
19	F41 20PK/VT	FUSED B(+)
20	-	-
21	V10 20BR	WASHER PUMP CONTROL
22	M113 20LB/PK	READING LAMP FEED
23	-	-
24	-	-
25	-	-
26	-	-
27	L9 18BK/WT	FUSED B(+)
28	L63 18DG/RD	LEFT TURN SIGNAL
29	-	-
30	-	-
31	A22 12BK/OR	IGNITION SWITCH OUTPUT (RUN)
32	-	-
33	-	-
34	-	-
35	-	-
36	L62 18BR/RD	RIGHT TURN SIGNAL



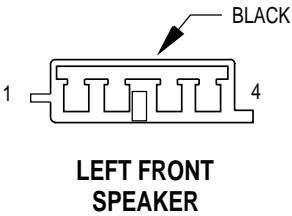
CAV	CIRCUIT	FUNCTION
1	E2 20OR	PANEL LAMPS FEED
2	-	-
3	-	-
4	A2 12PK/BK	FUSED B(+)
5	-	-
6	-	-
7	A41 12YL	FUSED IGNITION SWITCH OUTPUT (ST)
8	E2 20OR	PANEL LAMPS FEED
	E2 20OR	PANEL LAMPS FEED
9	-	-
10	F11 20RD/WT	IGNITION SWITCH OUTPUT (RUN-ACC)
11	-	-
12	-	-
13	M1 20PK	FUSED B(+)
	M1 20PK	FUSED B(+)
14	V23 18BR/PK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
15	A81 20DG/RD	IGNITION SWITCH OUTPUT (ST-RUN-OFF)
16	-	-
17	M1 20PK	FUSED B(+)
18	-	-
19	-	-
20	-	-
21	Z1 20BK	GROUND
	Z1 18BK	GROUND
22	Z1 20BK	GROUND
23	E2 20OR	PANEL LAMPS FEED
24	-	-
25	-	-
26	-	-
27	-	-
28	Z1 20BK	GROUND
	Z1 20BK	GROUND
29	Z2 20BK/LG	GROUND
	Z2 20BK/LG	GROUND
30	-	-
31	A21 12DB	IGNITION SWITCH OUTPUT (ST-RUN)
32	C14 22WT/RD	REAR WINDOW DEFOGGER RELAY CONTROL
33	-	-
34	-	-
35	-	-
36	-	-



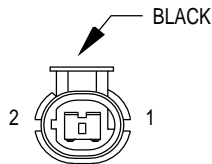
CAV	CIRCUIT	FUNCTION
1	-	-
2	A22 12BK/OR	IGNITION SWITCH OUTPUT (RUN)
3	-	-
4	L305 22LB/WT	LEFT TURN SWITCH SENSE
5	F1 20DB	FUSED B(+)
6	-	-
7	-	-
8	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
9	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
10	M112 22BR/LG	COURTESY LAMP RELAY CONTROL
11	-	-
12	-	-
13	-	-
14	L62 18BR/RD	RIGHT TURN SIGNAL
15	V20 18RD	WIPER/DEICE
16	-	-
17	-	-
18	V10 20BR	WASHER PUMP CONTROL SWITCH OUTPUT
19	-	-
20	-	-
21	L63 18DG/RD	LEFT TURN SIGNAL
22	L302 22LB/YL	RIGHT TURN SWITCH SENSE
23	-	-
24	X12 18RD/WT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
25	-	-
26	L91 22 DB/PK	COMBINATION FLASHER SWITCHED GROUND
27	-	-
28	M113 20LB/PK	READING LAMP FEED
29	-	-
30	-	-
31	A31 12BK/WT	IGNITION SWITCH OUTPUT (RUN-ACC)
32	-	-
33	L93 22RD/YL	HEADLAMP RELAY CONTROL
34	M111 22BR/WT	SWITCHED COURTESY LAMP RELAY CONTROL
35	-	-
36	-	-



CAV	CIRCUIT	FUNCTION
1	L61 18LG	LEFT TURN SIGNAL
2	L177 20BR/YL	FUSED PARK LAMP RELAY OUTPUT
3	Z1 18BK	GROUND

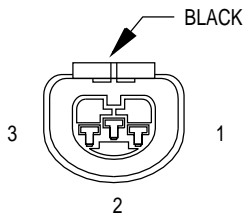


CAV	CIRCUIT	FUNCTION
1	-	-
2	X55 20BR/RD	LEFT FRONT SPEAKER (-)
3	X53 20DG	LEFT FRONT SPEAKER (+)
4	-	-



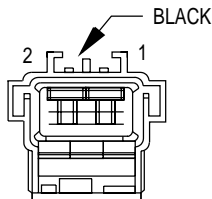
LEFT FRONT WHEEL
SPEED SENSOR

CAV	CIRCUIT	FUNCTION
1	B8 18RD/DB	LEFT FRONT WHEEL SPEED SENSOR (-)
2	B9 18RD	LEFT FRONT WHEEL SPEED SENSOR (+)



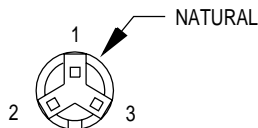
LEFT HEADLAMP

CAV	CIRCUIT	FUNCTION
1	L43 20VT	FUSED LEFT LOW BEAM OUTPUT
2	Z1 20BK	GROUND
3	L33 20RD	FUSED LEFT HIGH BEAM OUTPUT



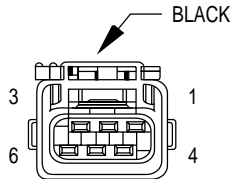
LEFT LIFTGATE
FLOOD LAMP

CAV	CIRCUIT	FUNCTION
1	M11 20PK/LB	COURTESY LAMP RELAY OUTPUT
	M11 20PK/LB	COURTESY LAMP RELAY OUTPUT
2	Z1 20BK	GROUND



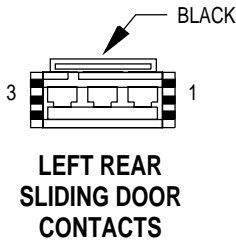
LEFT REAR
DOOR AJAR
SWITCH

CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	G77 18TN/OR	DOOR AJAR SWITCH SENSE
3	-	-

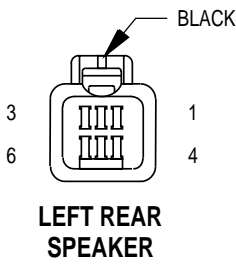


LEFT REAR
LAMP ASSEMBLY

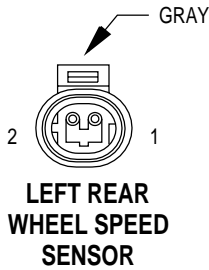
CAV	CIRCUIT	FUNCTION
1	L63 18DG/RD	LEFT TURN SIGNAL
2	-	-
3	L1 20VT/BK	BACK-UP LAMP FEED
4	L77 20BR/YL	FUSED PARK LAMP RELAY OUTPUT
5	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
6	Z1 20BK	GROUND



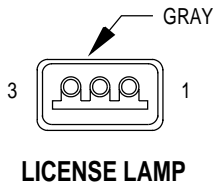
CAV	CIRCUIT	FUNCTION
1	F133 20BR/LB	LOCK RELAY OUTPUT
2	F136 20VT/YL	UNLOCK RELAY OUTPUT
3	-	-



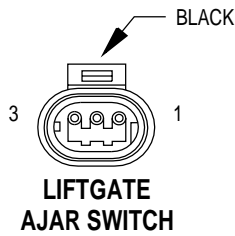
CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	X51 20BR/YL	LEFT REAR SPEAKER (+)
5	-	-
6	X57 20BR/LB	LEFT REAR SPEAKER (-)



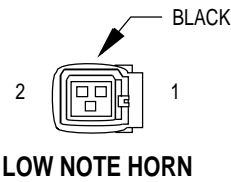
CAV	CIRCUIT	FUNCTION
1	B3 18LG/DB	LEFT REAR WHEEL SPEED SENSOR (-)
2	B4 18LG	LEFT REAR WHEEL SPEED SENSOR (+)



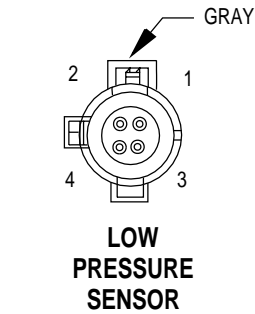
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	L77 20BR/LB	FUSED PARK LAMP RELAY OUTPUT
3	-	-



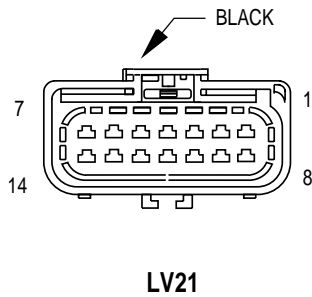
CAV	CIRCUIT	FUNCTION
1	Z1 20BK	GROUND
2	-	-
3	G78 18TN/BK	LIFTGATE AJAR SWITCH SENSE



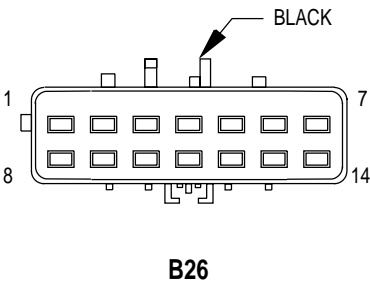
CAV	CIRCUIT	FUNCTION
A	X2 18DG/RD	HORN RELAY OUTPUT
B	Z1 18BK	GROUND



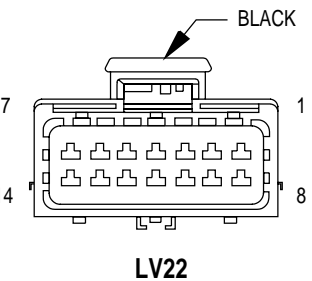
CAV	CIRCUIT	FUNCTION
1	C57 20DB/GY	SENSOR GROUND
2	C26 20PK/DB	5V SUPPLY
3	C17 20VT	SENSOR SIGNAL
4	-	-



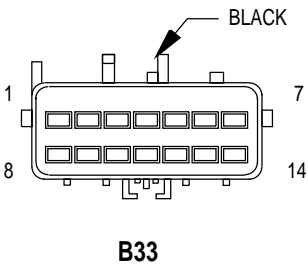
CAV	CIRCUIT
1	K80 20RD
2	F1 20DB
3	L1 20VT/BK
4	D531 20GY
5	F20 18BK/OR
6	D530 20LB
7	F11 20RD/WT
8	F45 18YL/RD
9	C120 20BK/LB
10	G9 20GY/BK
11	D73 20WT
12	D72 16BR/WT
13	C110 20GY
14	C121 20BK/YL



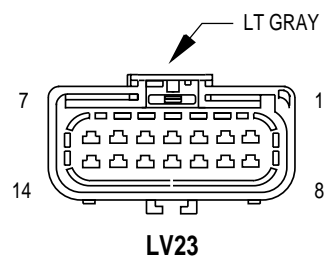
CAV	CIRCUIT
1	K80 20RD
2	F1 20DB
3	L1 20VT/BK
4	D531 20LB
5	F20 20WT
6	D530 20GY
7	F11 20RD/WT
8	F45 20YL/RD
9	C120 20BK/LB
10	G9 20GY/BK
11	D73 16WT
12	D72 16BR/WT
13	C110 20GY
14	C121 20BK/YL



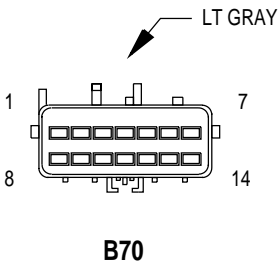
CAV	CIRCUIT
1	G3 20BK/PK
2	G17 20OR
3	D20 20LG
4	D21 20PK
5	K101 20WT
6	K4 20BK/LB
7	D1 18VT/BR
8	D2 18WT/BK
9	B25 12DB
10	G2 20VT
11	C8 20DG/RD
12	C9 20YL/DG
13	C13 20PK
14	C3 20VT



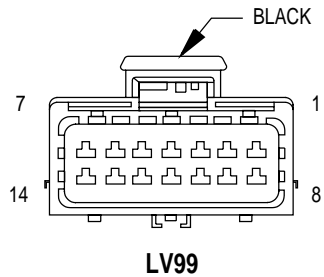
CAV	CIRCUIT
1	G3 20BK/PK
2	G17 20OR
3	D20 20LG
4	D21 20PK
5	K101 20WT
6	K4 20BK/LB
7	D1 20VT/BR
8	D2 20WT/BK
9	B25 12DB
10	G2 20VT
11	C8 20DG/RD
12	C9 20YL/DG
13	C13 18PK
14	C3 18VT



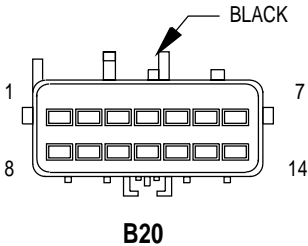
CAV	CIRCUIT
1	K4 20BK/LB
2	C94 20DB
3	Z11 20BK
4	K6 20VT/WT
5	K100 20PK
6	K101 20WT
7	K4 20BK/LB
8	K29 20WT/PK
9	D23 20BR
10	D22 20PK
11	C111 20BR
12	C98 20BR
13	C122 20BK/PK
14	C112 20DG



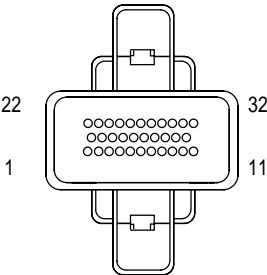
CAV	CIRCUIT
1	K4 20BK/LB
2	C94 20DB
3	Z11 20BK/WT
4	K6 20VT/WT
5	K100 20PK
6	K101 20WT
7	K4 20BK/LB
8	K29 20WT/PK
9	D23 20BR
10	D22 20PK
11	C111 20BR
12	C98 20BR/WT
13	C122 20BK/PK
14	C112 20DG



CAV	CIRCUIT
1	C57 20DB/GY
2	C26 18PK/DB
3	C18 20DB
4	C51 20LB/RD
5	A18 14RD
6	K160 18LG
7	C17 20VT
8	C95 20YL
9	D153 20PK
10	-
11	A142 18BR
12	D540 20YL/DB
13	D541 20YL/LG
14	A23 20RD

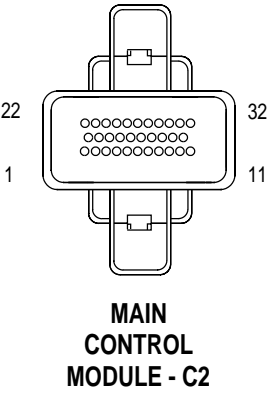


CAV	CIRCUIT
1	C57 20DB/GY
2	C26 18PK/DB
3	C18 20DB
4	C51 20LB/RD
5	A18 14RD
6	K160 18LG
7	C17 20VT
8	C95 20YL
9	D153 20PK
10	C96 20DB/YL
11	A142 18BR
12	D540 20YL/DB
13	D541 20YL/LG
14	A23 20RD

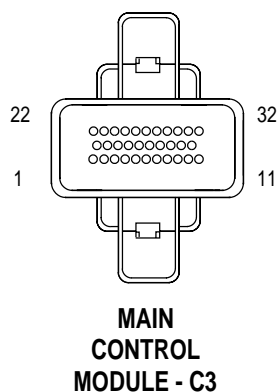


MAIN
CONTROL
MODULE - C1

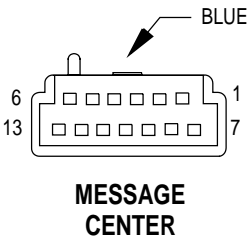
CAV	CIRCUIT	FUNCTION
1	A14 16DB	FUSED B(+)
2	Z1 16BK	GROUND
3	F11 20RD/WT	FUSED IGNITION SWITCH OUTPUT (ST-RUN-OFF)
4	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
5	K80 20RD	CHARGE STATUS RELAY CONTROL
6	Z1 16BK	GROUND
7	A14 16DB	FUSED B(+)
8	Z1 20BK	GROUND
9	K90 20TN	BATTERY TUB FAN RELAY CONTROL
10	-	-
11	-	-
12	D91 20GY	APC ENABLE (-)
13	D90 20VT	APC ENABLE (+)
14	-	-
15	-	-
16	-	-
17	D71 20WT	AC PILOT LINE
18	D150 20RD	J1850 (+)
19	D151 20RD	J1850 (-)
20	-	-
21	-	-
22	D153 20PK	PCI BUS
23	D1 20VT/BR	CCD BUS (+)
24	D2 20WT/BK	CCD BUS (-)
25	D97 20PK	SAFETY RELAY OPEN SIGNAL
26	-	-
27	-	-
28	-	-
29	C8 20DG/RD	AMBIENT TEMPERATURE SENSOR SIGNAL
30	C9 20YL/DG	AMBIENT TEMPERATURE SENSOR RETURN
31	Z30 18BK	GROUND
32	Z30 18BK	GROUND



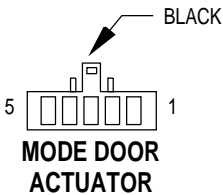
CAV	CIRCUIT	FUNCTION
1	D580 20RD/VT	SAFETY RELAY NO. 1 CONTROL
2	D582 20OR/VT	SAFETY RELAY NO. 2 CONTROL
3	D584 20RD/WT	ISOLATION RELAY NO. 1 CONTROL
4	D586 20OR/WT	ISOLATION RELAY NO. 2 CONTROL
5	D72 16BR/WT	PILOT LINE
6	D72 16BR/WT	PILOT LINE
7	D71 20OR	PRIMARY PILOT RELAY CONTROL
8	-	-
9	-	-
10	-	-
11	Z1 16BK	GROUND
12	D585 20RD/GY	ISOLATION RELAY NO. 1 STATUS
13	D587 20OR/GY	ISOLATION RELAY NO. 2 STATUS
14	D70 16BR	PILOT LINE
15	D550 20VT/DG	VCMM STROBE (+)
16	D581 20RD/LG	SAFETY RELAY NO. 1 STATUS
17	D583 20OR/LG	SAFETY RELAY NO. 2 STATUS
18	D500 20YL	DIELECTRIC BREAKDOWN SENSOR SIGNAL
19	D72 16BR/WT	PILOT LINE
20	G17 20OR	CHECK PLUG INDICATOR DRIVER
21	G85 18VT/LG	WAIT INDICATOR DRIVER
22	-	-
23	-	-
24	-	-
25	D551 20VT	VCMM STROBE (-)
26	D74 20WT/OR	SECONDARY PILOT RELAY CONTROL
27	K51 20YL/BK	HVAC WAKE-UP RELAY CONTROL
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-



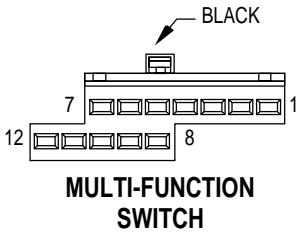
CAV	CIRCUIT	FUNCTION
1	D520 20WT/DG	BMM 12V SUPPLY
2	D522 20WT/DG	BMM GROUND
3	Z1 20BK	GROUND
4	D533 20LB/BK	BMM STROBE (+)
5	D534 20GY/BK	BMM STROBE (-)
6	G90 20WT	TRACTION MOTOR OIL TEMPERATURE SENSOR (+)
7	T90 20WT/BK	TRACTION MOTOR OIL TEMPERATURE SENSOR (-)
8	D530 20LB	MCAN BUS(+)
9	D531 20GY	MCAN BUS(-)
10	-	-
11	G408 20LB/YL	BATTERY PACK OUTLET COOLANT TEMPERATURE SENSOR (+)
12	G409 20VT/DG	BATTERY PACK OUTLET COOLANT TEMPERATURE SENSOR (-)
13	G406 20BK/LB	BATTERY PACK INLET COOLANT TEMPERATURE SENSOR (+)
14	G407 20LB/WT	BATTERY PACK INLET COOLANT TEMPERATURE SENSOR (-)
15	G402 20YL/DG	BATTERY PACK COOLANT PUMP PRESSURE SENSOR SIGNAL
16	K402 20BK/LB	SENSOR GROUND
17	F45 20YL/RD	FUSED IGNITION SWITCH OUTPUT (ST)
18	K500 20LG/WT	BATTERY PACK COOLANT PUMP PWM SIGNAL (+)
19	F1 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
20	D70 20WT/LB	PILOT LINE
21	D22 20PK	BEMS SCI TRANSMIT
22	D23 20BR	BEMS SCI RECIEVE
23	K62 20VT/PK	5V SUPPLY
24	D401 20BK/DB	CHARGE PORT SWITCH SENSE
25	K4 18BK/LB	SENSOR GROUND
26	-	-
27	G405 18DB/OR	HEAT EXCHANGER TEMPERATURE SENSOR SIGNAL
28	K501 20LG/BK	BATTERY PACK COOLANT PUMP PWM SIGNAL (-)
29	K173 20LG	RADIATOR FAN RELAY CONTROL
30	-	-
31	D589 20PK	PRECHARGE RELAY CONTROL
32	Z1 20BK	GROUND



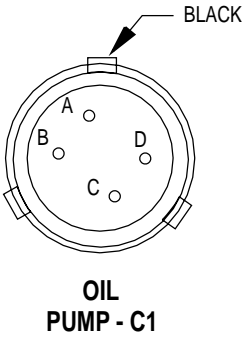
CAV	CIRCUIT	FUNCTION
1	L34 20RD/OR	FUSED RIGHT HIGH BEAM OUTPUT
2	L63 18DG/RD	LEFT TURN SIGNAL
3	Z1 20BK	GROUND
4	L62 18BR/RD	RIGHT TURN SIGNAL
5	G19 18LG/OR	ABS WARNING INDICATOR DRIVER
6	G2 22VT	TRACTION MOTOR TEMPERATURE WARNING INDICATOR DRIVER
7	G85 18VT/LG	WAIT INDICATOR DRIVER
8	R41 18BK/TN	AIRBAG WARNING INDICATOR DRIVER
9	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
10	V23 18BR/PK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
11	G17 20OR	CHECK PLUG INDICATOR DRIVER
12	V23 18BR/PK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
13	G3 20BK/PK	SERVICE REQUIRED INDICATOR DRIVER



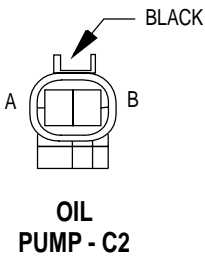
CAV	CIRCUIT	FUNCTION
1	C34 20DB/WT	ACTUATOR COMMON
2	C26 20PK/DB	ACTUATOR 5V SUPPLY
3	C37 20YL	MODE ACTUATOR FEEDBACK
4	C57 20DB/GY	SENSOR GROUND
5	C35 20DG/YL	MODE ACTUATOR DRIVER



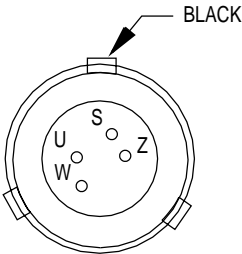
CAV	CIRCUIT	FUNCTION
1	L91 22DB/PK	COMBINATION FLASHER SWITCHED GROUND
2	-	-
3	L302 22LB/YL	RIGHT TURN SWITCH SENSE
4	L305 22LB/WT	LEFT TURN SWITCH SENSE
5	V16 20WT	WIPER HIGH/LOW RELAY CONTROL
6	V52 20DG/YL	WINDSHIELD WIPER SWITCH MUX
7	F1 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
8	Z1 18BK	GROUND
9	L93 22RD/YL	HEADLAMP RELAY CONTROL
10	L94 20OR/WT	LOW BEAM RELAY CONTROL
11	V10 20BR	WASHER PUMP CONTROL SWITCH OUTPUT
12	L324 22WT/LG	HIGH BEAM RELAY CONTROL



CAV	CIRCUIT	FUNCTION
A	D70 14WT	PILOT LINE
B	D70 14BR	PILOT LINE
C	H30 14VT	HIGH VOLTAGE DC(+)
D	H300 14VT/WT	HIGH VOLTAGE DC(-)

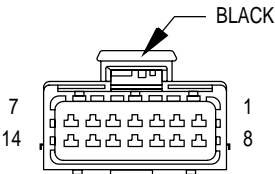


CAV	CIRCUIT	FUNCTION
A	G25 20OR	OIL PUMP PRESSURE SENSOR (+)
B	G26 20DB	OIL PUMP PRESSURE SENSOR (-)



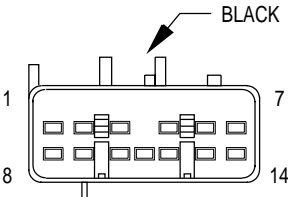
OIL
PUMP - C3

CAV	CIRCUIT	FUNCTION
S	D40 20GY/BK	OIL PUMP SPEED CONTROL PWM (+)
U	D41 20LG/WT	OIL PUMP SPEED CONTROL PWM (-)
W	F20 20BK/OR	FUSED IGNITION SWITCH OUTPUT (RUN)
Z	Z1 20BK	GROUND



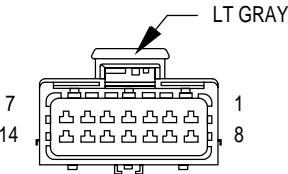
P30

CAV	CIRCUIT
1	C26 20PK/DB
	C26 20PK/DB
2	C57 20DB/GY
	C57 20DB/GY
3	C32 22GY/DB
4	C33 22DB/RD
5	C34 22DB/WT
6	C35 22DG/YL
7	C36 22RD/WT
8	C37 22YL
9	C320 20GY
10	-
11	-
12	C21 22DB/OR
13	-
14	-



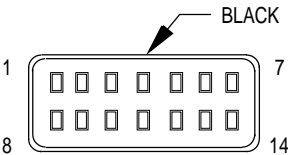
J01D

CAV	CIRCUIT
1	C26 20PK/DB
2	C57 20DB/GY
3	C32 20GY/DB
4	C33 20DB/RD
5	C34 20DB/WT
6	C35 20DG/YL
7	C36 20RD/WT
8	C37 20YL
9	C320 20GY
10	-
11	-
12	C21 20DB/OR
13	-
14	-



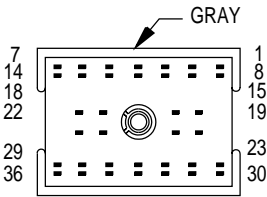
P64

CAV	CIRCUIT
1	-
2	C57 20DB/GY
	C57 20DB/GY
3	C57 20DB/GY
	C57 20DB/GY
4	C57 20DB/GY
	C57 20DB/GY
5	C57 20DB/GY
	C57 20DB/GY
6	C57 20DB/GY
6	C57 20DB/GY
	C57 20DB/GY
7	-
8	-
9	C12 20LG/BK
10	C212 20BR
11	C126 20OR
12	C46 20LG
13	C47 20DG
14	-



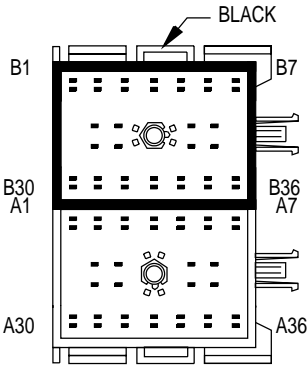
JT1

CAV	CIRCUIT
1	-
2	C57 20DB/GY
3	C57 20DB/GY
4	-
5	C57 20DB/GY
6	C57 20DB/GY
7	-
8	-
9	C12 20LG/BK
10	C212 20BR
11	-
12	C46 20LG
13	C47 20DG
14	-



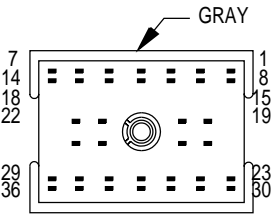
P18

CAV	CIRCUIT
1	V16 20WT
2	A142 18BR
3	A142 18BR
4	G85 18VT/LG
5	A1 12RD
6	-
7	D55 20YL
8	D540 20YL/DB
9	D541 20YL/LG
10	-
11	-
12	D1 20VT/BR
13	D2 20WT/BK
14	K160 20LG
15	D21 20LG
16	D20 20PK
17	D22 20PK
18	D23 20BR
19	C57 20DB/GY
20	L94 20OR/WT
21	L324 22WT/LG
22	M13 20BK/YL
23	F14 18LG/YL
24	F23 18DB/YL
25	D50 20DB
26	D60 20LB
27	C26 20PK/DB
28	-
29	L34 20RD/OR
30	-
31	-
32	-
33	-
34	-
35	C71 12DB
36	-



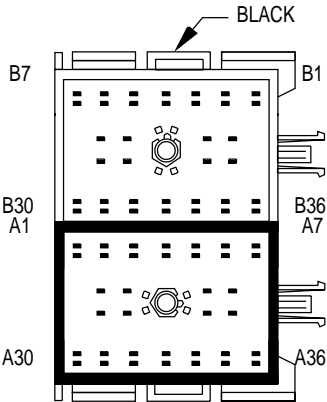
B23

CAV	CIRCUIT
B1	V16 20WT
B2	A142 18BR
B3	G85 18VT/LG
B4	A1 12RD
B5	M20 20BR
B6	-
B7	D55 20YL
B8	D540 20YL/DB
B9	D541 20YL/LG
B10	-
B11	-
B12	D1 20VT/BR
B13	D2 20WT/BK
B14	K160 18LG
B15	D21 20PK
B16	D20 20LG
B17	D22 20PK
B18	D23 20BR
B19	C57 20DB/GY
B20	L94 20OR/WT
B21	L324 20WT/LG
B22	M13 20BK/YL
B23	F14 18LG/YL
B24	F23 18DB/YL
B25	D50 20DB
B26	D60 20LB
B27	C26 18 PK/DB
B28	-
B29	L34 20RD/OR
B30	-
B31	-
B32	-
B33	-
B34	-
B35	C71 12DG
B36	-



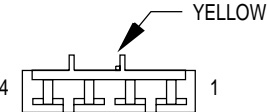
P34

CAV	CIRCUIT
1	G17 20OR
2	G3 20BK/PK
3	G19 18LG/OR
	G19 18LG/OR
4	-
5	G2 22VT
6	C18 20DB
7	X57 20BR/LB
8	X58 20DB/OR
9	X51 20BR/YL
10	X52 20DB/WT
11	C13 18PK
12	D153 20PK
13	C29 20TN
14	C51 20LB/RD
15	C94 20DB
16	C110 20GY
17	C122 20BK/PK
18	C121 20BK/YL
19	C120 20BK/LB
20	C96 20YL/WT
21	C97 20BR
22	F30 16RD
23	C98 20BR/WT
24	Z11 20BK/WT
25	C95 20YL
26	C17 20VT
27	C30 20TN/WT
28	D531 20GY
29	D530 20LB
30	-
31	-
32	C111 20BR
33	-
34	C112 20DG



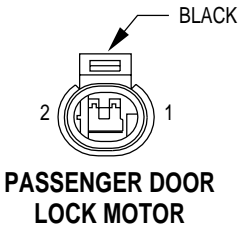
B23

CAV	CIRCUIT
A1	G17 20OR
A2	G3 20BK/PK
A3	G19 18LG/OR
A4	-
A5	G2 20VT
A6	C18 20DB
A7	X57 20BR/LB
A8	X58 20DB/OR
A9	X51 20BR/YL
A10	X52 20DB/WT
A11	C13 18PK
A12	D153 20PK
A13	C29 20TN
A14	C51 20LB/RD
A15	C94 20DB
A16	C110 20GY
A17	C122 20BK/PK
A18	C121 20BK/YL
A19	C120 20BK/LB
A20	C96 20DB/YL
A21	C97 20BR/WT
A22	F30 16RD
A22	F30 16RD
A23	C98 20BR
A24	Z11 20BK/WT
A25	C95 20YL
A26	C17 20VT
A27	C30 20TN/WT
A28	D531 20LB
A29	D530 20GY
A30	-
A31	-
A32	C111 20BR
A33	-
A34	C112 20DG

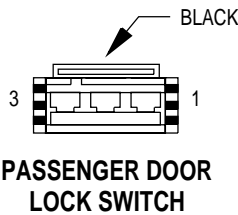


PASSENGER
AIRBAG SQUIB

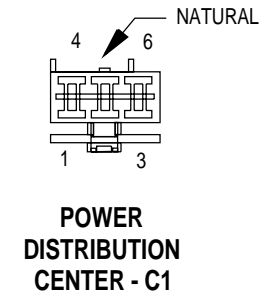
CAV	CIRCUIT	FUNCTION
1	R44 18DG/YL	PASSENGER AIRBAG LINE 2
2	R42 18BK/YL	PASSENGER AIRBAG LINE 1
3	-	-
4	-	-



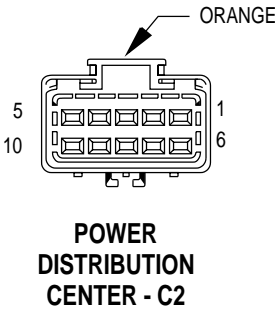
CAV	CIRCUIT	FUNCTION
1	F136 20VT/YL	UNLOCK RELAY OUTPUT
2	F133 20BR	LOCK RELAY OUTPUT



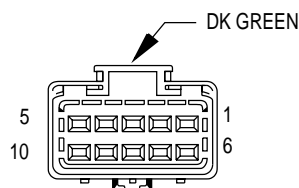
CAV	CIRCUIT	FUNCTION
1	E2 20OR	PANEL LAMPS FEED
2	P96 20WT/LG	PASSENGER DOOR SWITCH MUX
3	Z2 20BK/LG	GROUND



CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	C71 12DG	BLOWER MOTOR DRIVER
4	L7 12BK/YL	PARK LAMP RELAY OUTPUT
5	-	-
6	A4 12BK/YL	FUSED B(+)

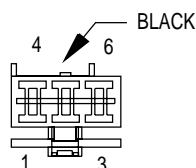


CAV	CIRCUIT	FUNCTION
1	-	-
2	F41 20PK/VT	FUSED B (+)
3	A142 18BR	HVAC WAKE-UP RELAY OUTPUT
4	X4 20BK	HORN RELAY CONTROL
5	A142 18BR	HVAC WAKE-UP RELAY OUTPUT
6	F87 18WT/BK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
7	-	-
8	X2 18DG/RD	HORN RELAY OUTPUT
9	F1 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
	F1 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
10	F30 16RD	FUSED B(+)



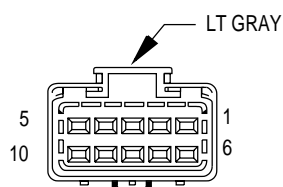
**POWER
DISTRIBUTION
CENTER - C3**

CAV	CIRCUIT	FUNCTION
1	L44 20VT/RD	FUSED RIGHT LOW BEAM OUTPUT
2	L324 20WT/LG	HIGH BEAM RELAY CONTROL
3	-	-
4	-	-
5	M1 20PK	FUSED B(+)
6	A20 14RD/DB	FUSED B(+)
7	L94 20OR/WT	LOW BEAM RELAY CONTROL
8	F32 18PK/DB	FUSED B(+)
9	A51 14YL	FUSED B(+)
10	L97 18PK/DB	PARK LAMP RELAY CONTROL



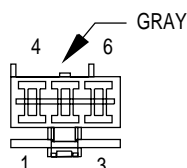
**POWER
DISTRIBUTION
CENTER - C4**

CAV	CIRCUIT	FUNCTION
1	A22 12BK/OR	FUSED IGNITION SWITCH OUTPUT (RUN)
2	Z1 12BK	GROUND
3	A1 12RD	FUSED B(+)
4	-	-
5	A2 12PK/BK	FUSED B(+)
6	A10 12RD/DG	FUSED B(+)



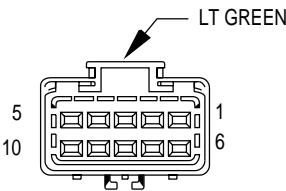
**POWER
DISTRIBUTION
CENTER - C5**

CAV	CIRCUIT	FUNCTION
1	L33 20RD	FUSED LEFT HIGH BEAM OUTPUT
2	F14 18LG/YL	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
3	V3 12BR/WT	LOW SPEED WIPER SWITCH OUTPUT
4	V4 12RD/YL	WIPER HIGH SPEED OUTPUT
5	V16 20WT	WIPER HIGH/LOW RELAY CONTROL
6	L34 20RD/OR	FUSED RIGHT HIGH BEAM OUTPUT
	L34 20RD/OR	FUSED RIGHT HIGH BEAM OUTPUT
7	V14 18RD/VT	WIPER ON/OFF RELAY CONTROL
8	L43 20VT	FUSED LEFT LOW BEAM OUTPUT
9	L9 18BK/WT	FUSED FLASHER FEED
10	F23 18DB/YL	FUSED IGNITION SWITCH OUTPUT (RUN)



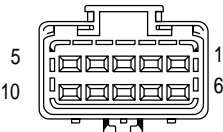
**POWER
DISTRIBUTION
CENTER - C6**

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	T40 14BR/LB	BATTERY FAN RELAY OUTPUT
4	-	-
5	-	-
6	A16 12GY	FUSED B(+)



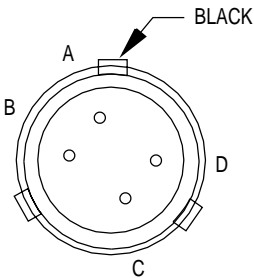
POWER
DISTRIBUTION
CENTER - C7

CAV	CIRCUIT	FUNCTION
1	A142 18BR	HVAC WAKE-UP RELAY OUTPUT
2	C3 20VT	A/C COMPRESSOR CLUTCH RELAY OUTPUT
3	-	-
4	K90 20TN	BATTERY TUBS FAN RELAY CONTROL
5	A142 14DG/OR	HVAC WAKE-UP RELAY OUTPUT
6	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
7	C13 20PK	A/C COMPRESSOR CONTROLLER RELAY CONTROL
8	K51 20YL/BK	BATTERY FANS RELAY CONTROL
9	A14 16DB	FUSED B (+)
10	-	-



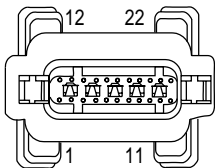
POWER
DISTRIBUTION
CENTER - C8

CAV	CIRCUIT	FUNCTION
1	A5 18DB	FUSED B(+)
2	D73 20WT	PRIMARY PILOT RELAY OUTPUT
3	D70 16BR	PILOT LINE
4	D71 20OR	PRIMARY PILOT RELAY CONTROL
5	-	-
6	A55 18DB/WT	SECONDARY PILOT RELAY OUTPUT
7	A142 18BR	HVAC WAKE-UP RELAY OUTPUT
8	D74 20WT/OR	SECONDARY PILOT RELAY CONTROL
9	A5 18DB	FUSED B(+)
10	A5 18DB	FUSED B(+)
	A5 18DB	FUSED B(+)



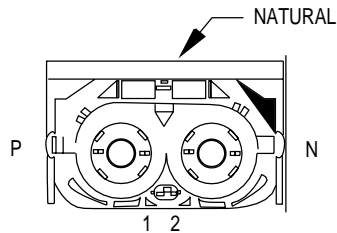
POWER STEERING
PUMP - C1

CAV	CIRCUIT	FUNCTION
A	H20 14OR	HIGH VOLTAGE DC(+)
B	D70 14WT	PILOT LINE
C	H200 14OR/WT	HIGH VOLTAGE DC(-)
D	D70 14WT	PILOT LINE



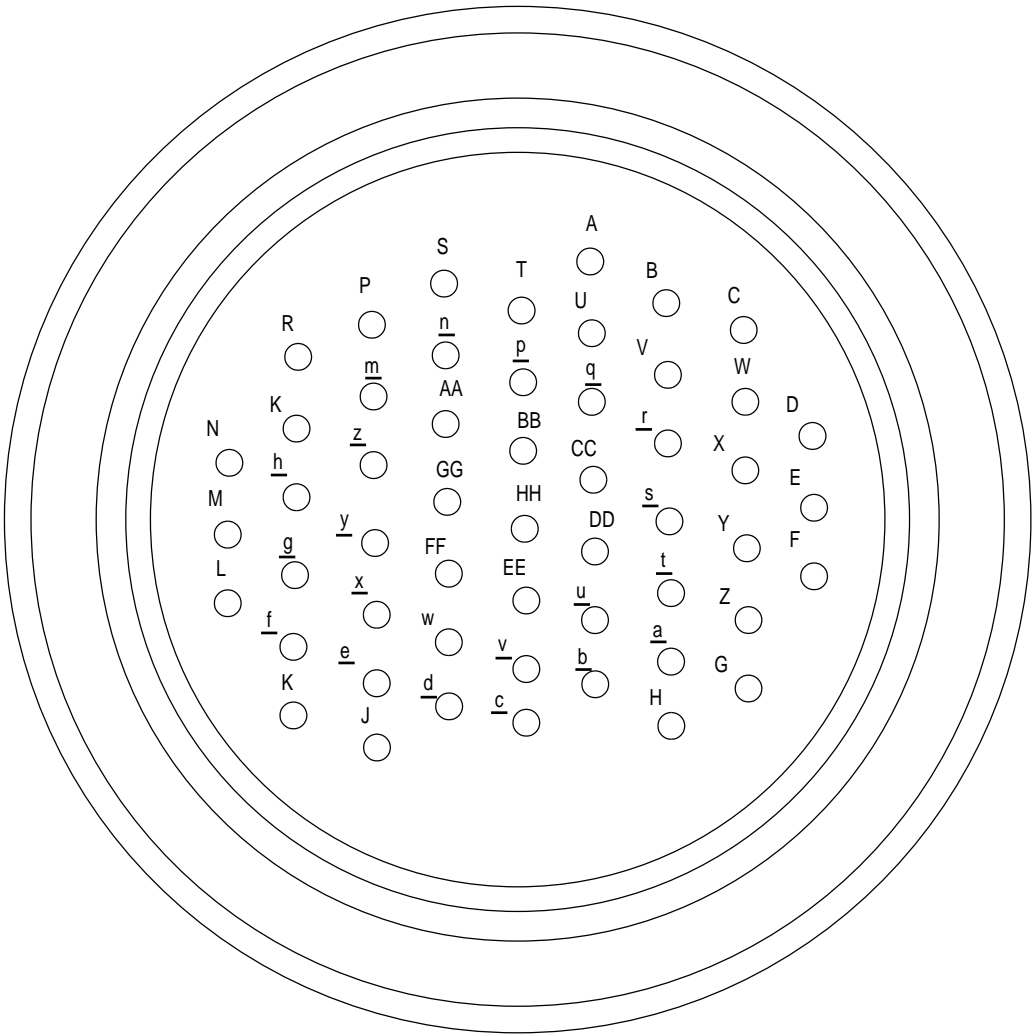
POWER STEERING
PUMP - C2

CAV	CIRCUIT	FUNCTION
1	D1 18VT/BR	CCD BUS (+)
2	D2 18WT/BK	CCD BUS (-)
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	F87 18WT/BK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
11	Z1 18BK	GROUND
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	F87 18WT/BK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
22	Z1 18BK	GROUND



POWERTRAIN
CONTROLLER
ASSEMBLY - C1

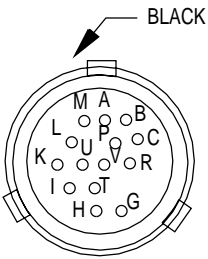
CAV	CIRCUIT	FUNCTION
1	D70 14WT	PILOT LINE
2	D70 14BR	PILOT LINE
N	H108 1OR/BK	HIGH VOLTAGE DC (-)
P	H107 1OR	HIGH VOLTAGE DC (+)



POWERTRAIN CONTROLLER ASSEMBLY - C2

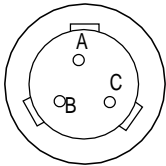
**POWERTRAIN
CONTROLLER
ASSEMBLY - C2**

CAV	CIRCUIT	FUNCTION
A	D40 20GY/BK	OIL PUMP SPEED CONTROL PWM (+)
<u>a</u>	T1 20LG/BK	TRS T1 SENSE
AA	G25 20OR	OIL PUMP PRESSURE SENSOR (+)
B	D41 20LG/WT	OIL PUMP SPEED CONTROL PWM (-)
<u>b</u>	K20 20DG	AUXILIARY BATTERY TEMPERATURE SENSOR (+)
BB	G26 20DB	OIL PUMP PRESSURE SENSOR (-)
C	-	-
<u>c</u>	K21 20BK/RD	AUXILIARY BATTERY TEMPERATURE SENSOR (-)
CC	K4 20 BK/LB	SENSOR GROUND
D	Z1 20BK	GROUND
<u>d</u>	B30 20RD/WT	BRAKE PRESSURE SENSOR NO. 2 SIGNAL
DD	-	-
E	-	-
<u>e</u>	D21 20PK	PCA SCI TRANSMIT
EE	K4 20BK/LB	SENSOR GROUND
F	-	-
<u>f</u>	K4 20BK/LB	SENSOR GROUND
FF	F45 20YL/RD	FUSED IGNITION SWITCH OUTPUT (ST)
G	-	-
<u>g</u>	K6 20VT/WT	5V SUPPLY
GG	D97 20PK	SAFETY RELAY OPEN SIGNAL
H	G9 20GY/BK	RED BRAKE WARNING INDICATOR DRIVER
<u>h</u>	D20 20LG	PCA SCI RECEIVE
HH	F11 20RD/WT	FUSED IGNITION SWITCH OUTPUT (ST-RUN-OFF)
J	-	-
K	-	-
<u>k</u>	B31 20RD	BRAKE PRESSURE SENSOR NO. 1 SIGNAL
L	G3 20BK/PK	SERVICE REQUIRED INDICATOR DRIVER
M	G2 20VT	TRACTION MOTOR TEMPERATURE WARNING INDICATOR DRIVER
<u>m</u>	D1 20VT/BR	CCD BUS (+)
N	K4 20BK/LB	SENSOR GROUND
<u>n</u>	K101 20WT	ACCELERATOR PEDAL POSITION SENSOR NO. 2 SIGNAL
P	K4 20BK/LB	SENSOR GROUND
<u>p</u>	K4 20BK/LB	SENSOR GROUND
<u>q</u>	K6 20VT/WT	5V SUPPLY
R	-	-
<u>r</u>	K101 20WT	ACCELERATOR PEDAL POSITION SENSOR NO. 1 SIGNAL
S	-	-
<u>s</u>	D2 20WT/BK	CCD BUS (-)
T	B25 20DB	REGEN ENABLE SIGNAL
<u>t</u>	K6 20VT/WT	5V SUPPLY
U	F87 20WT/BK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
<u>u</u>	-	-
V	K100 20PK	ACCELERATOR PEDAL IDLE SWITCH SENSE
<u>v</u>	D90 20VT	APC ENABLE (+)
W	K29 20WT/PK	BRAKE SENSE SIGNAL
<u>w</u>	D91 20GY	APC ENABLE (-)
X	T41 20BR/YL	TRS T41 SENSE
<u>x</u>	-	-
Y	T42 20VT/WT	TRS T42 SENSE
<u>y</u>	-	-
Z	T3 20VT	TRS T3 SENSE
<u>z</u>	K4 20BK/LB	SENSOR GROUND



POWERTRAIN
CONTROLLER
ASSEMBLY - C4

CAV	CIRCUIT	FUNCTION
A	D70 14WT	PILOT LINE
B	H1 14DG	FUSED HIGH VOLTAGE (+)
C	H2 14DG/WT	HIGH VOLTAGE DC(-)
D	H400 14BR	HIGH VOLTAGE DC(+)
E	H40 14BR/WT	HIGH VOLTAGE DC(-)
G	H10 14PK/WT	HIGH VOLTAGE DC(-)
H	H100 14PK	HIGH VOLTAGE DC(+)
J	H11 14RD/WT	HIGH VOLTAGE DC(-)
K	H110 14RD	HIGH VOLTAGE DC(+)
L	H12 14LB/WT	HIGH VOLTAGE DC(-)
M	H120 14LB	HIGH VOLTAGE DC(+)
P	H20 14OR	HIGH VOLTAGE DC(+)
R	H200 14OR/WT	HIGH VOLTAGE DC(-)
T	H30 14VT	HIGH VOLTAGE DC(+)
U	H300 14VT/WT	HIGH VOLTAGE DC(-)
V	D70 14WT	PILOT LINE



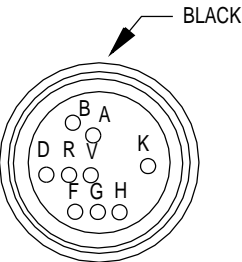
POWERTRAIN
CONTROLLER
ASSEMBLY - C5

CAV	CIRCUIT	FUNCTION
A	A1 6RD	FUSED B (+)
B	-	-
C	Z1 6BK	GROUND



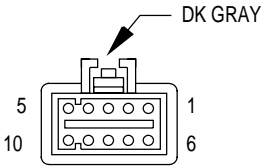
PRNDL
ILLUMINATOR

CAV	CIRCUIT	FUNCTION
1	M1 20PK	FUSED B(+)
2	A81 20DG/RD	IGNITION SWITCH OUTPUT (ST-RUN-OFF)



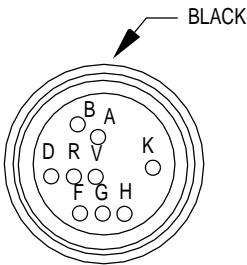
PTC
HEATER

CAV	CIRCUIT	FUNCTION
A	D70 14BR	PILOT LINE
B	D70 14WT	PILOT LINE
D	H100 14PK	HIGH VOLTAGE DC(+)
F	H101 14LB/DB	HIGH VOLTAGE DC(-)
G	H111 14RD/DB	HIGH VOLTAGE DC(-)
H	H121 14PK/DB	HIGH VOLTAGE DC(-)
K	-	-
R	H110 14RD	HIGH VOLTAGE DC(+)
V	H120 14LB	HIGH VOLTAGE DC(+)



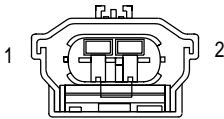
**PTC
HEATER
CONTROLLER - C1**

CAV	CIRCUIT	FUNCTION
1	A142 18BR	HVAC WAKE-UP RELAY OUTPUT
2	-	-
3	C120 20BK/LB	PTC NO. 3 IGBT CONTROL
4	C110 20GY	HEATER BANK NO. 1 OPEN SENSE
5	C121 20BK/YL	PTC NO. 1 AND 2 IGBT CONTROL
6	C94 20DB	PILOT LINE SENSE
7	C122 20BK/PK	IGBT SHORT SENSE
8	C112 20DG	HEATER BANK NO. 3 OPEN SENSE
9	C111 20BR	HEATER BANK NO. 2 OPEN SENSE
10	Z1 18BK	GROUND



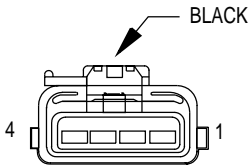
**PTC
HEATER
CONTROLLER - C2**

CAV	CIRCUIT	FUNCTION
A	D70 14WT	PILOT LINE
B	D70 14BR	PILOT LINE
D	H101 14LB/DB	HIGH VOLTAGE DC(-)
F	H10 14PK/WT	HIGH VOLTAGE DC(-)
G	H11 14RD/WT	HIGH VOLTAGE DC(-)
H	H12 14LB/WT	HIGH VOLTAGE DC(-)
K	-	-
R	H111 14RD/DB	HIGH VOLTAGE DC(-)
V	H121 14PK/DB	HIGH VOLTAGE DC(-)



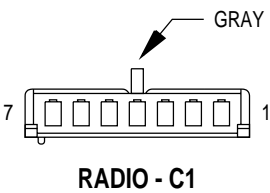
**RADIATOR
FAN**

CAV	CIRCUIT	FUNCTION
1	C23 12DG	RADIATOR FAN RELAY OUTPUT
2	Z1 12BK	GROUND

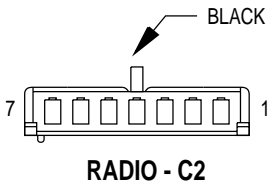


**RADIATOR FAN
RELAY
(SOLID STATE)**

CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	K173 20LG	RADIATOR FAN RELAY CONTROL
3	C23 12DG	RADIATOR FAN RELAY OUTPUT
4	A16 12GY	FUSED B (+)



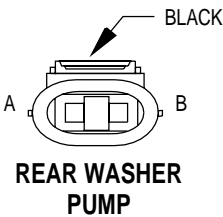
CAV	CIRCUIT	FUNCTION
1	-	-
2	X55 20BR/RD	LEFT FRONT SPEAKER (-)
3	X56 20DB/RD	RIGHT FRONT SPEAKER (-)
4	E17 20YL/BK	STEP DIMMER SWITCH SENSE
	E17 20YL/BK	STEP DIMMER SWITCH SENSE
5	E2 20OR	PANEL LAMPS FEED
6	X12 18RD/WT	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
7	M1 20PK	FUSED B(+)



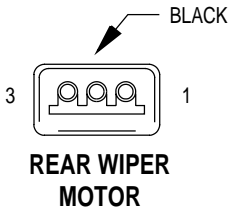
CAV	CIRCUIT	FUNCTION
1	-	-
2	X51 20BR/YL	LEFT REAR SPEAKER (+)
3	X52 20DB/WT	RIGHT REAR SPEAKER (+)
4	X53 20DG	LEFT FRONT SPEAKER (+)
5	X54 20VT	RIGHT FRONT SPEAKER (+)
6	X57 20BR/LB	LEFT REAR SPEAKER (-)
7	X58 20DB/OR	RIGHT REAR SPEAKER (-)



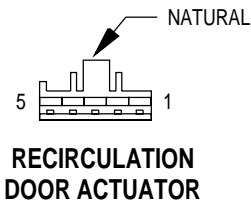
CAV	CIRCUIT	FUNCTION
1	F30 16RD	FUSED B(+)
2	-	-
3	Z1 16BK	GROUND



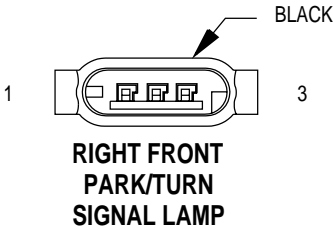
CAV	CIRCUIT	FUNCTION
A	F1 20DB	FUSED IGNITION SWITCH OUTPUT (RUN-ACC)
B	V20 20BK/WT	REAR WASHER MOTOR CONTROL



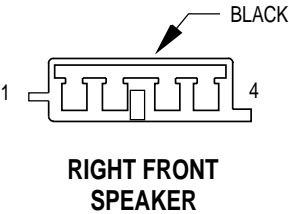
CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	V23 18BR/PK	FUSED IGNITION SWITCH OUTPUT (ST-RUN)
3	V13 18BR/LG	REAR WIPER MOTOR CONTROL



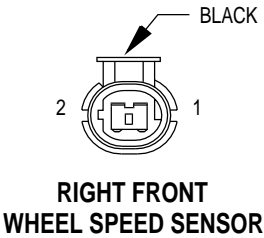
CAV	CIRCUIT	FUNCTION
1	C34 20DB/WT	ACTUATOR COMMON
2	C26 20PK/DB	ACTUATOR 5V SUPPLY
3	C320 20GY	RECIRCULATION ACTUATOR FEEDBACK
4	C57 20DB/GY	SENSOR GROUND
5	C32 20GY/DB	RECIRCULATION ACTUATOR DRIVER



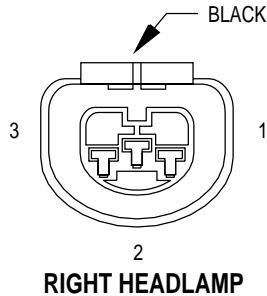
CAV	CIRCUIT	FUNCTION
1	L60 18TN	RIGHT TURN SIGNAL
2	L78 20DG/YL	FUSED B(+)
3	Z1 18BK	GROUND



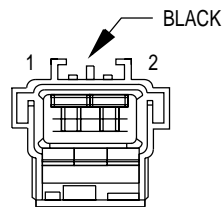
CAV	CIRCUIT	FUNCTION
1	-	-
2	X56 20DB/RD	RIGHT FRONT SPEAKER (-)
3	X54 20VT	RIGHT FRONT SPEAKER (+)
4	-	-



CAV	CIRCUIT	FUNCTION
1	B6 18WT/DB	RIGHT FRONT WHEEL SPEED SENSOR (-)
2	B7 18WT	RIGHT FRONT WHEEL SPEED SENSOR (+)

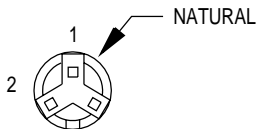


CAV	CIRCUIT	FUNCTION
1	L44 20VT/RD	FUSED RIGHT LOW BEAM RELAY OUTPUT
2	Z1 20BK	GROUND
3	L34 20RD/OR	FUSED RIGHT HIGH BEAM RELAY OUTPUT



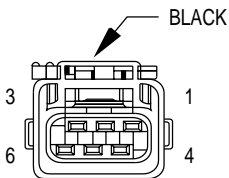
RIGHT LIFTGATE
FLOOD LAMP

CAV	CIRCUIT	FUNCTION
1	M11 20PK/LB	COURTESY LAMP RELAY OUTPUT
2	Z1 20BK	GROUND



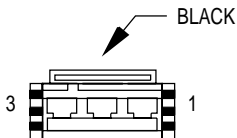
RIGHT REAR
DOOR AJAR
SWITCH

CAV	CIRCUIT	FUNCTION
1	Z1 18BK	GROUND
2	G76 18TN/YL	DOOR AJAR SWITCH SENSE
3	-	-



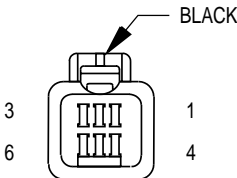
RIGHT REAR
LAMP ASSEMBLY

CAV	CIRCUIT	FUNCTION
1	L62 18BR/RD	RIGHT TURN SIGNAL
2	-	-
3	L1 20VT/BK	BACK-UP LAMP FEED
4	L78 20DG/YL	FUSED B(+)
5	L50 18WT/TN	BRAKE LAMP SWITCH OUTPUT
6	Z1 20BK	GROUND



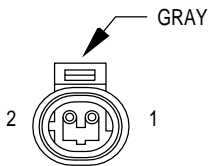
RIGHT REAR
SLIDING DOOR
CONTACTS

CAV	CIRCUIT	FUNCTION
1	F133 20BR/YL	LOCK RELAY OUTPUT
2	F136 20VT/YL	UNLOCK RELAY OUTPUT
3	-	-



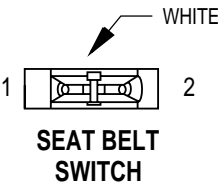
RIGHT REAR
SPEAKER

CAV	CIRCUIT	FUNCTION
1	-	-
2	-	-
3	-	-
4	X52 20DB/WT	RIGHT REAR SPEAKER (+)
5	-	-
6	X58 20DB/OR	RIGHT REAR SPEAKER (-)

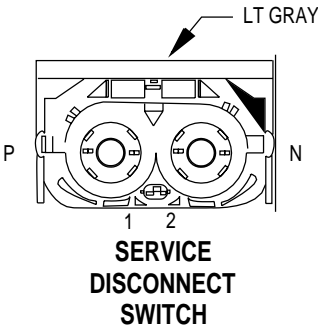


RIGHT REAR
WHEEL SPEED
SENSOR

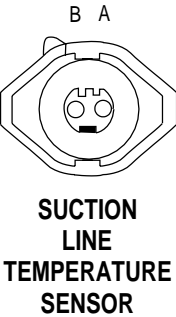
CAV	CIRCUIT	FUNCTION
1	B1 18YL/DB	RIGHT REAR WHEEL SPEED SENSOR (-)
2	B2 18YL	RIGHT REAR WHEEL SPEED SENSOR (+)



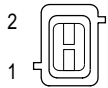
CAV	CIRCUIT	FUNCTION
1	G10 18LG/RD	SEAT BELT SWITCH SENSE
2	Z1 20BK	GROUND



CAV	CIRCUIT	FUNCTION
1	A55 14DB	SECONDARY PILOT RELAY OUTPUT
2	D70 14WT	PILOT LINE
N	H13 10R/BK	HIGH VOLTAGE DC (-)
P	H130 10R	HIGH VOLTAGE DC (+)

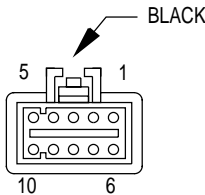


CAV	CIRCUIT	FUNCTION
A	C95 20YL	SUCTION LINE TEMPERATURE SENSOR NO. 1 SIGNAL
B	C57 20DB/GY	GROUND



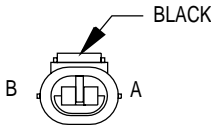
TRACTION MOTOR OIL
TEMPERATURE SENSOR

CAV	CIRCUIT	FUNCTION
1	G90 20WT	TRACTION MOTOR OIL TEMPERATURE SENSOR (+)
2	T90 20WT/BK	TRACTION MOTOR OIL TEMPERATURE SENSOR (-)



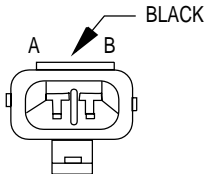
TRANSMISSION
RANGE SWITCH

CAV	CIRCUIT	FUNCTION
1	F20 20BK/OR	FUSED IGNITION SWITCH OUTPUT (RUN)
2	-	-
3	-	-
4	-	-
5	-	-
6	L1 20VT/BK	BACK-UP LAMP FEED
7	T1 20LG/BK	TRS T1 SENSE
8	T3 20VT	TRS T3 SENSE
9	T42 20VT/WT	TRS T42 SENSE
10	T41 20BR/YL	TRS T41 SENSE



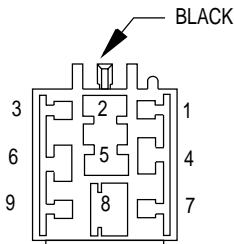
VACUUM PUMP - C1

CAV	CIRCUIT	FUNCTION
1	A23 20RD	VACUUM PUMP SWITCH SENSE
2	Z15 20BK	GROUND



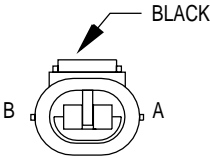
VACUUM PUMP - C2

CAV	CIRCUIT	FUNCTION
1	A18 14RD	VACUUM PUMP RELAY MODULE OUTPUT
2	Z16 14BK	GROUND



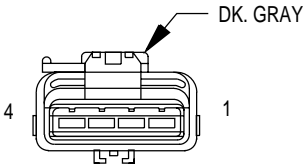
VACUUM PUMP
RELAY MODULE

CAV	CIRCUIT	FUNCTION
1	-	-
2	A18 14RD	VACUUM PUMP RELAY MODULE OUTPUT
3	-	-
4	-	-
5	F50 14YL	FUSED B (+)
6	Z17 20BK	GROUND
7	-	-
8	F20 20WT	FUSED IGNITION SWITCH OUTPUT (RUN)
9	A23 20RD	VACUUM PUMP SWITCH SENSE



WASHER FLUID
LEVEL SWITCH

CAV	CIRCUIT	FUNCTION
A	Z1 20BK	GROUND
B	G29 20BK/TN	WASHER FLUID SWITCH SENSE



WIPER
MODULE

CAV	CIRCUIT	FUNCTION
1	V3 12BR/WT	WIPER HIGH/LOW RELAY LOW SPEED OUTPUT
2	V7 20DG/WT	WIPER PARK SWITCH SENSE
3	V4 12RD/YL	WIPER HIGH/LOW RELAY HIGH SPEED OUTPUT
4	Z1 14BK	GROUND