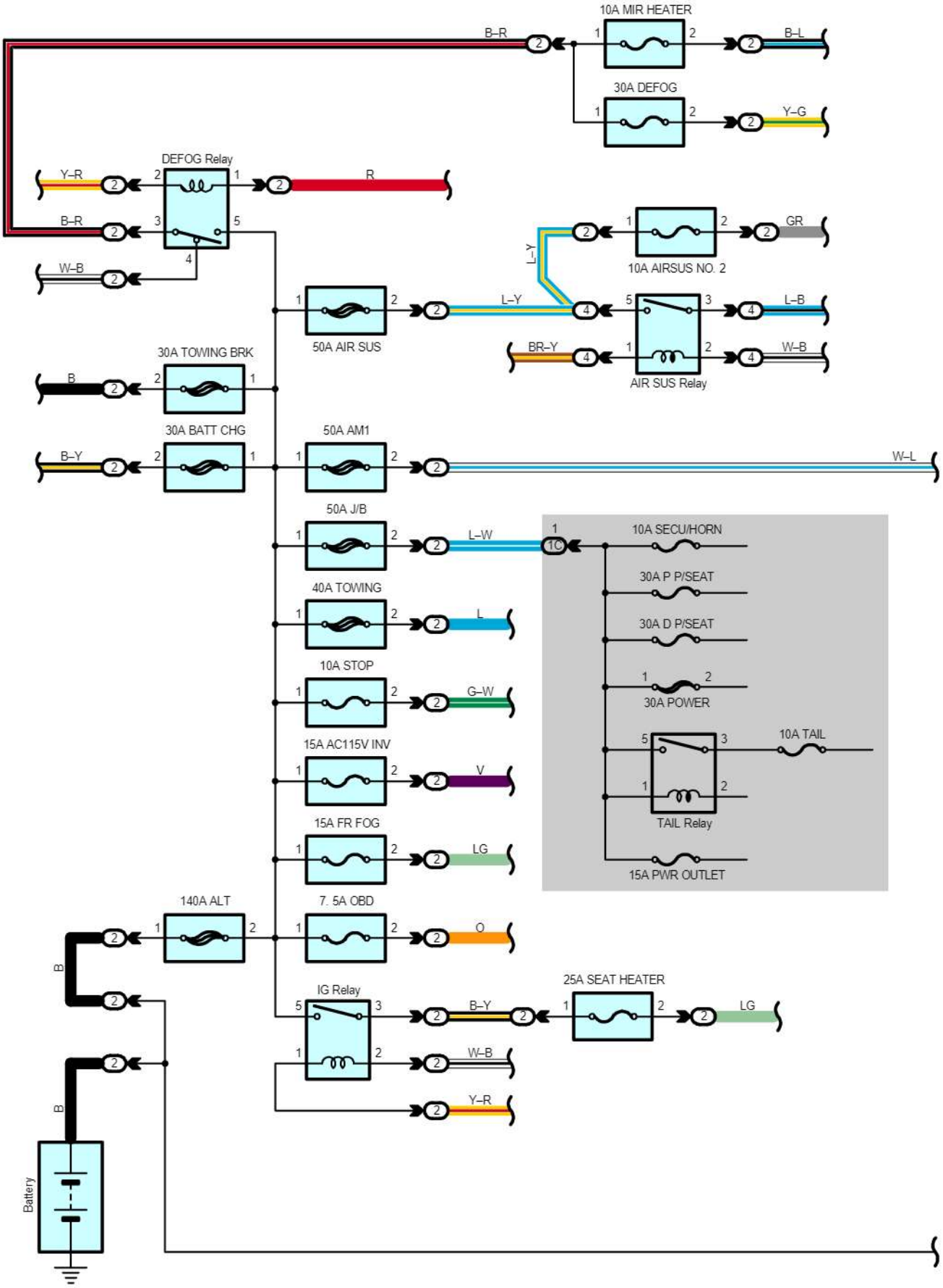
2004 4RUNNER ELECTRICAL WIRING DIAGRAM SYSTEM CIRCUITS

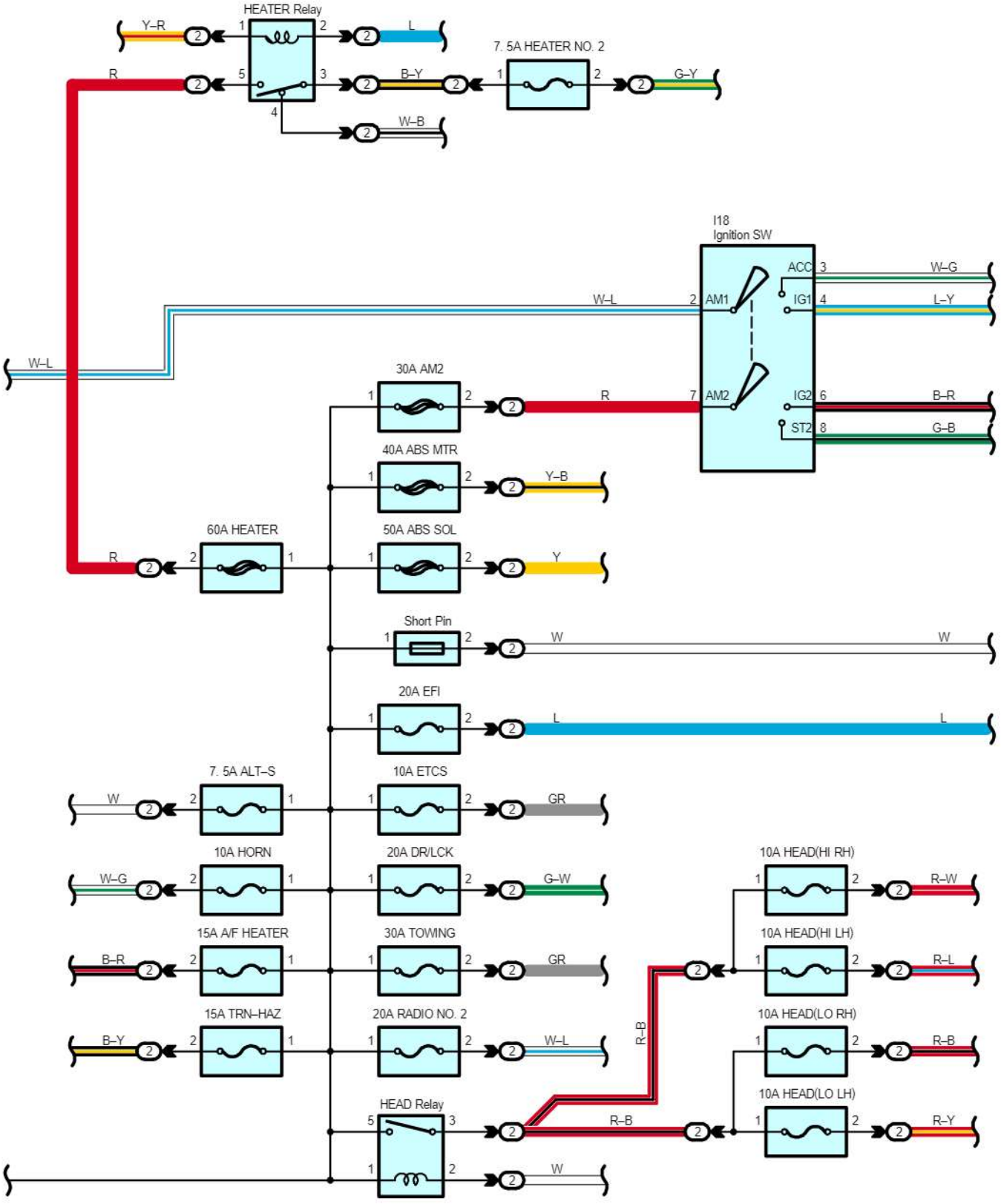
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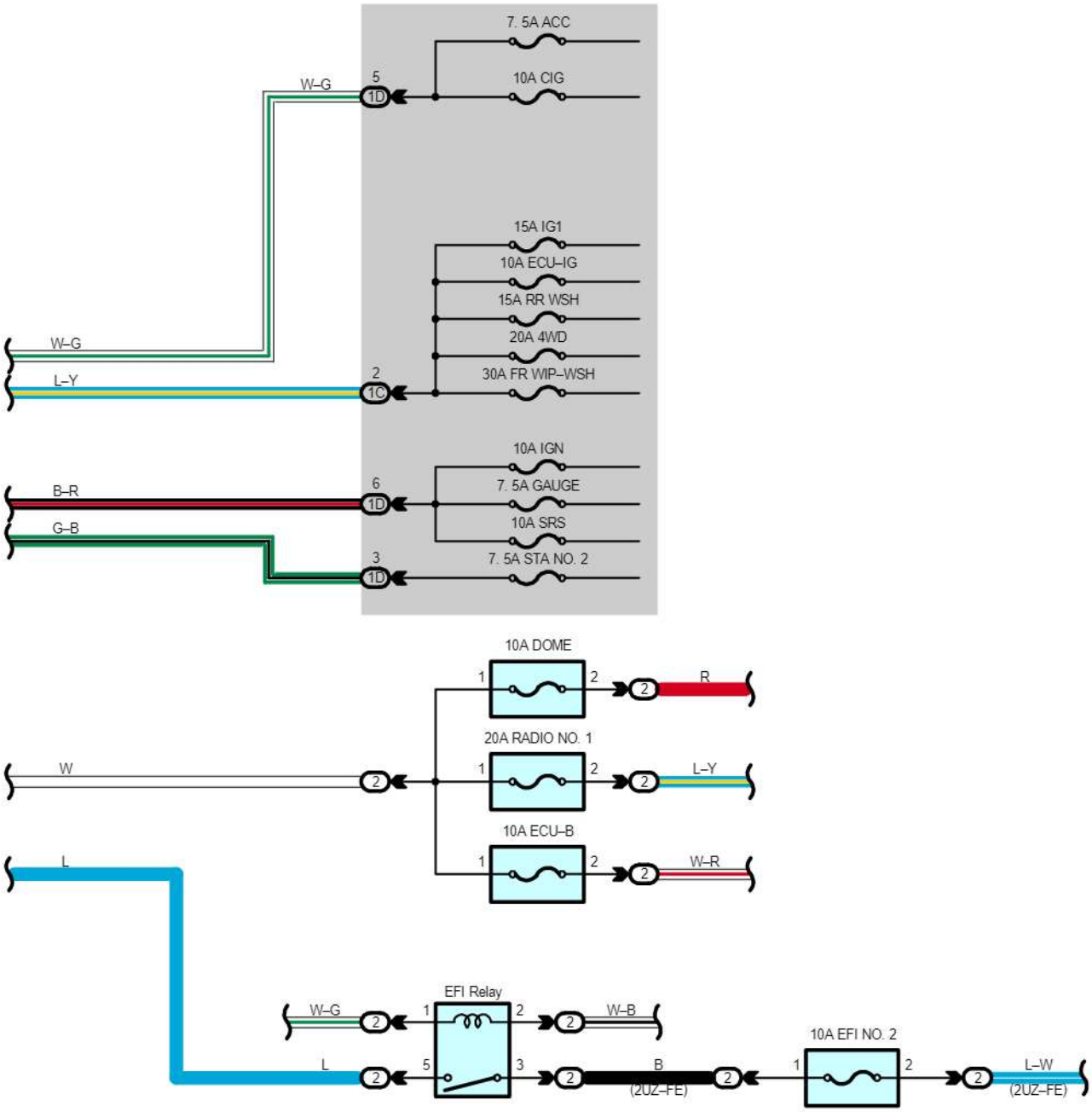
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Service Hints

HEAD Relay

5–3 : Closed with light control SW at HEAD position or dimmer SW at FLASH position
Closed with engine running and parking brake lever released (w/ daytime running light)

I18 Ignition SW

2–3 : Closed with ignition key at ACC or ON position
2–4 : Closed with ignition key at ON or ST position
7–6 : Closed with ignition key at ON or ST position
7–8 : Closed with ignition key at ST position

TAIL Relay

3–5 : Closed with light control SW at TAIL or HEAD position

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
I18	37				

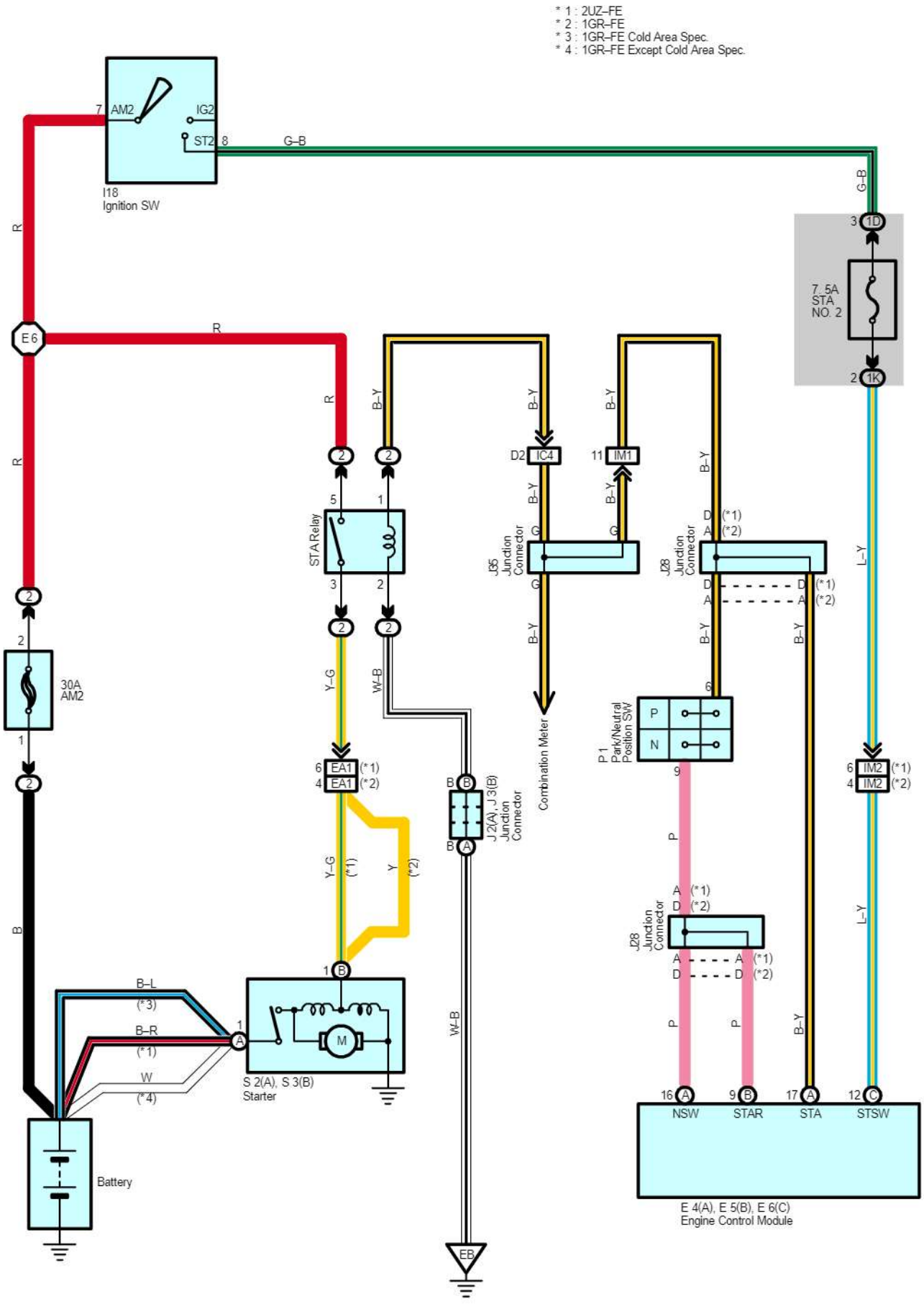
⬭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)
4	23	Engine Room R/B No.4 (Engine Compartment Left)

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1D		

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Service Hints

I18 Ignition SW

7–8 : Closed with the ignition SW at ST position

S2 (A), S3 (B) Starter

Points closed with the shift lever at P or N position and the ignition SW at ST position

: Parts Location

Code		See Page	Code		See Page	Code		See Page
E4	A	37	J3	B	33 (2UZ–FE)	S2	A	33 (2UZ–FE)
E5	B	37			35 (1GR–FE)			35 (1GR–FE)
E6	C	37	J28		38	S3	B	33 (2UZ–FE)
I18		37	J35		38			35 (1GR–FE)
J2	A	33 (2UZ–FE)	P1		33 (2UZ–FE)			
		35 (1GR–FE)			35 (1GR–FE)			

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1K	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	44 (2UZ–FE)	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
	46 (1GR–FE)	
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IM2		

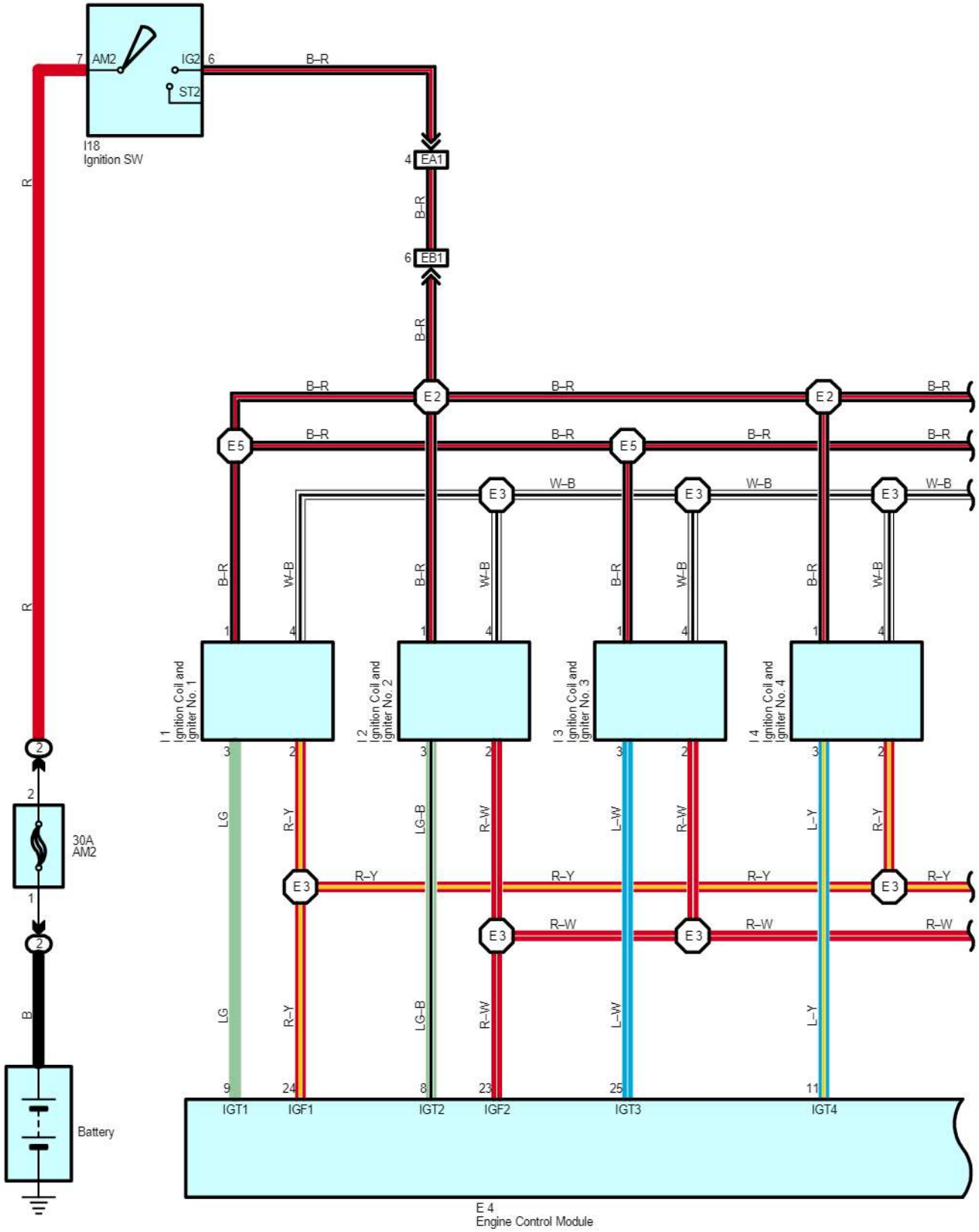
: Ground Points

Code	See Page	Ground Points Location
EB	44 (2UZ–FE)	Front Left Fender
	46 (1GR–FE)	

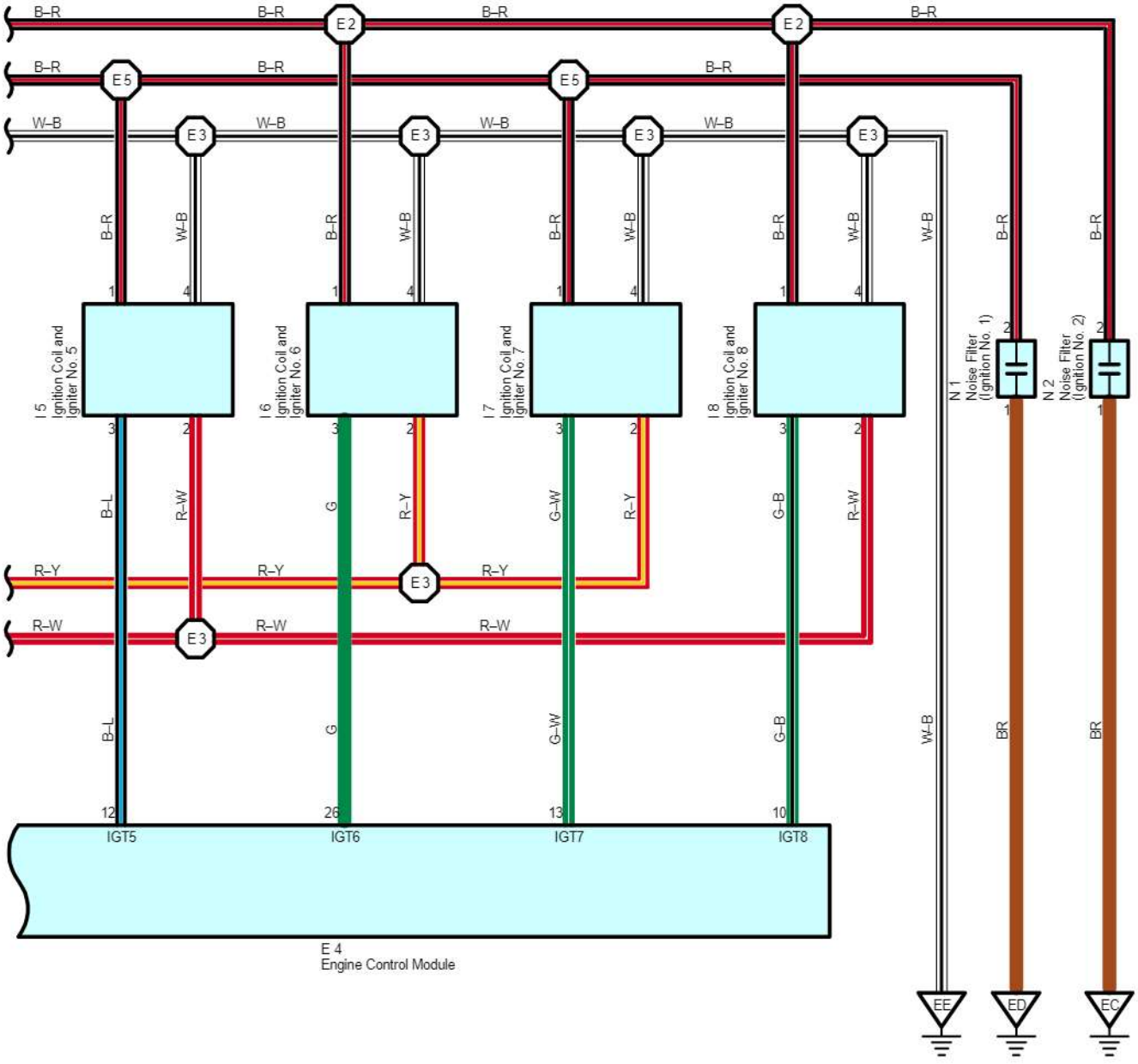
: Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E6	44 (2UZ–FE)	Engine Room Main Wire	E6	46 (1GR–FE)	Engine Room Main Wire

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Service Hints

I18 Ignition SW

7–6 : Closed with the ignition SW at ON or ST position

: Parts Location

Code	See Page	Code	See Page	Code	See Page
E4	37	I4	33 (2UZ–FE)	I8	33 (2UZ–FE)
I1	33 (2UZ–FE)	I5	33 (2UZ–FE)	I18	37
I2	33 (2UZ–FE)	I6	33 (2UZ–FE)	N1	33 (2UZ–FE)
I3	33 (2UZ–FE)	I7	33 (2UZ–FE)	N2	33 (2UZ–FE)

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	44 (2UZ–FE)	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
EB1	44 (2UZ–FE)	Engine No.2 Wire and Engine Wire (Near the Starter)

: Ground Points

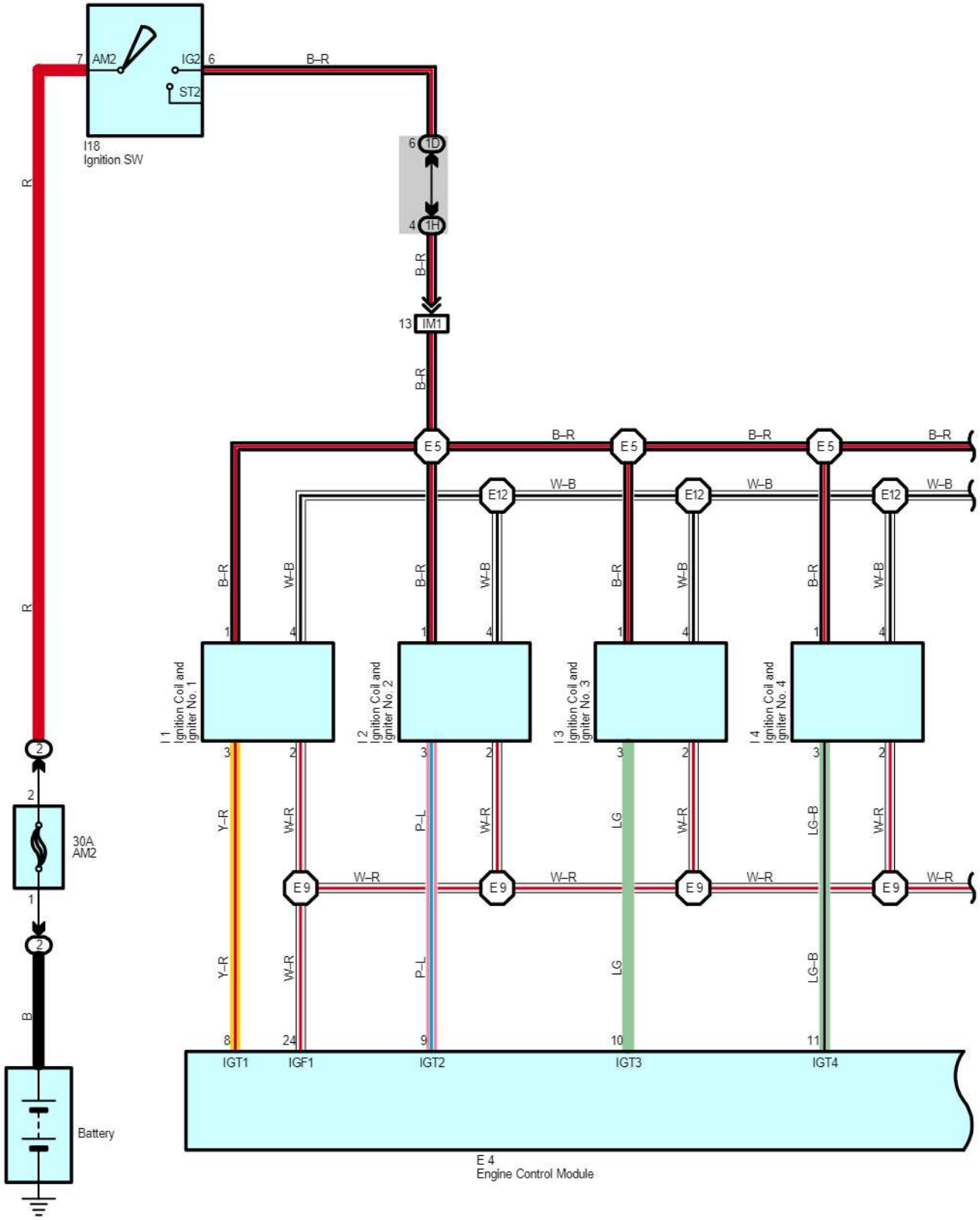
Code	See Page	Ground Points Location
EC	44 (2UZ–FE)	Right Bank Cylinder Head
ED	44 (2UZ–FE)	Left Bank Cylinder Head
EE	44 (2UZ–FE)	Rear Side of Right Bank Cylinder Block

: Splice Points

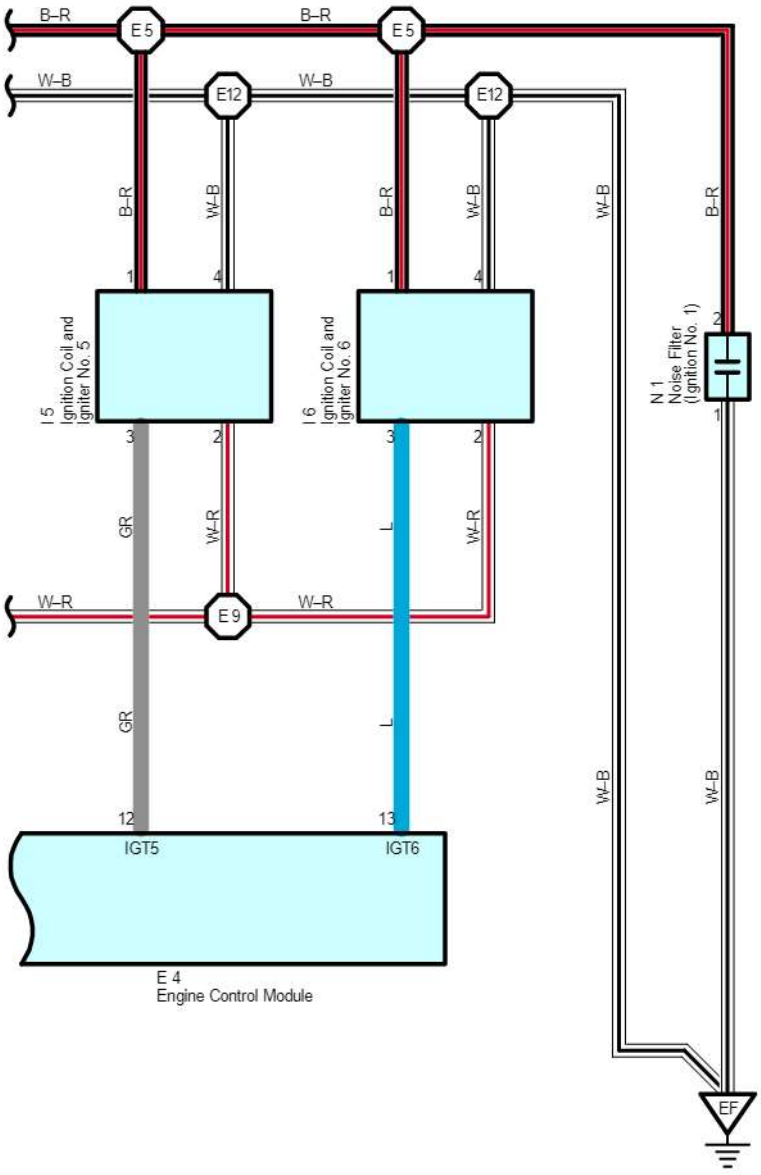
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E2	44 (2UZ–FE)	Engine Wire	E5	44 (2UZ–FE)	Engine Wire
E3					

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Ignition (1GR–FE)

Service Hints

I18 Ignition SW

7–6 : Closed with the ignition SW at ON or ST position

: Parts Location

Code	See Page	Code	See Page	Code	See Page
E4	37	I3	35 (1GR–FE)	I6	35 (1GR–FE)
I1	35 (1GR–FE)	I4	35 (1GR–FE)	I18	37
I2	35 (1GR–FE)	I5	35 (1GR–FE)	N1	35 (1GR–FE)

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1H	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)

: Ground Points

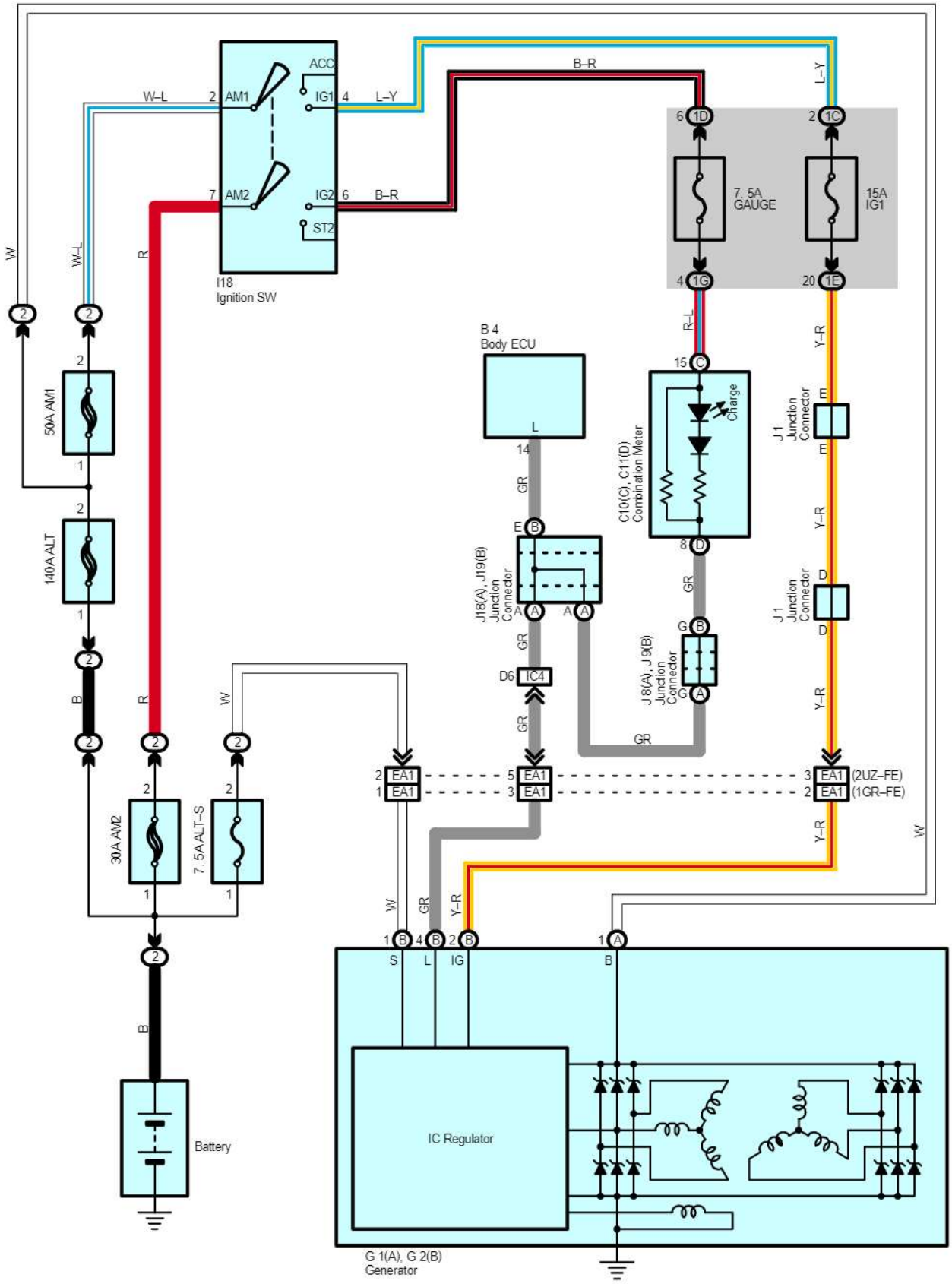
Code	See Page	Ground Points Location
EF	46 (1GR–FE)	Rear Side of Left Bank Cylinder Block

: Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E5	46 (1GR–FE)	Engine Wire	E12	46 (1GR–FE)	Engine Wire
E9					

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Service Hints

G2 (B) Generator

(B) 1–Ground : 13.2–14.0 volts with the engine running at 5000 rpm and 115°C (239°F)
(B) 4–Ground : 0–4 volts with the ignition SW at ON position and the engine not running

○ : Parts Location

Code		See Page	Code		See Page	Code		See Page
B4		36	G2	B	32 (2UZ–FE)	J8	A	38
C10	C	37			34 (1GR–FE)	J9	B	38
C11	D	37	I18		37	J18	A	38
G1	A	32 (2UZ–FE)	J1		33 (2UZ–FE)	J19	B	38
		34 (1GR–FE)			35 (1GR–FE)			

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

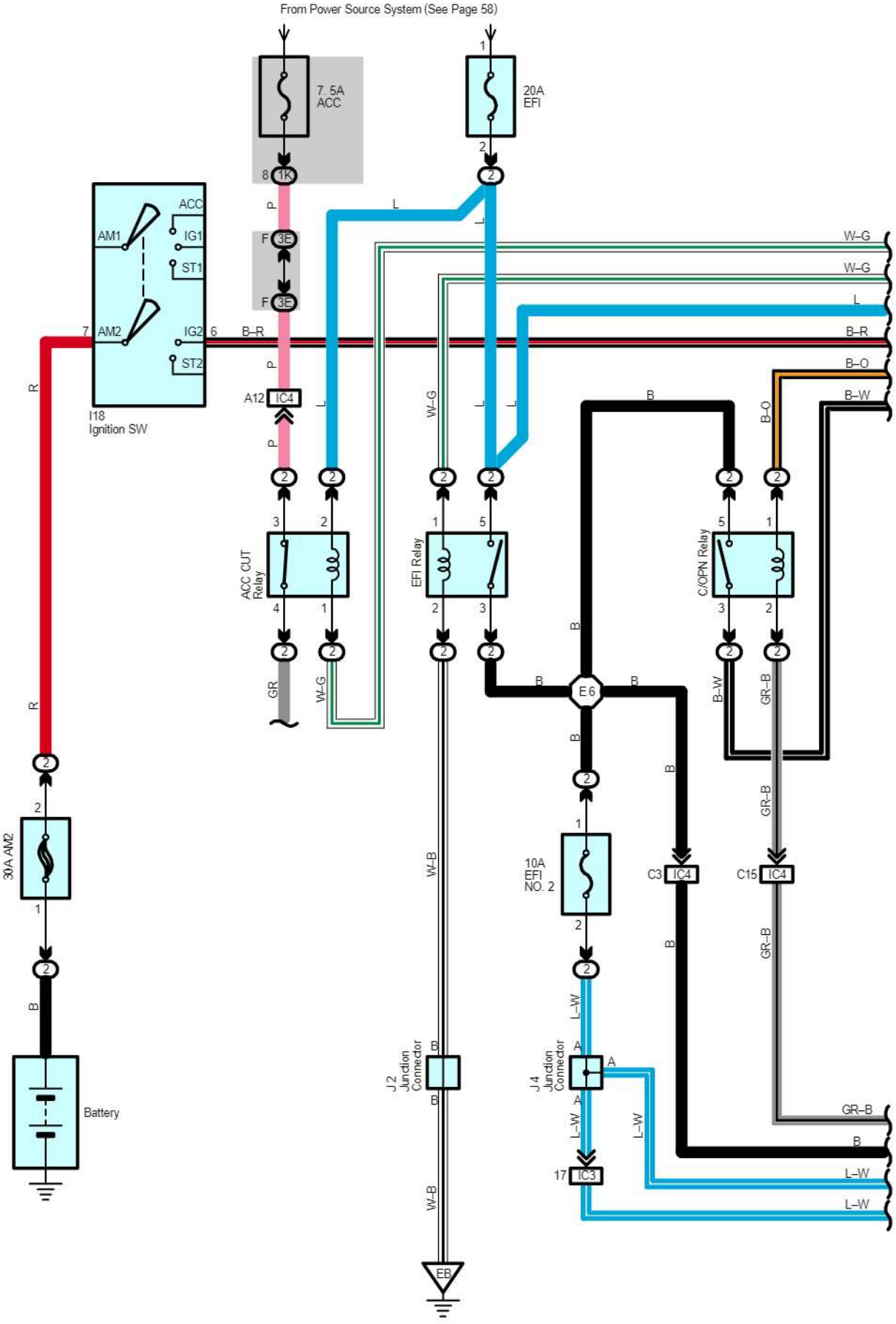
▭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1D		
1E		
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

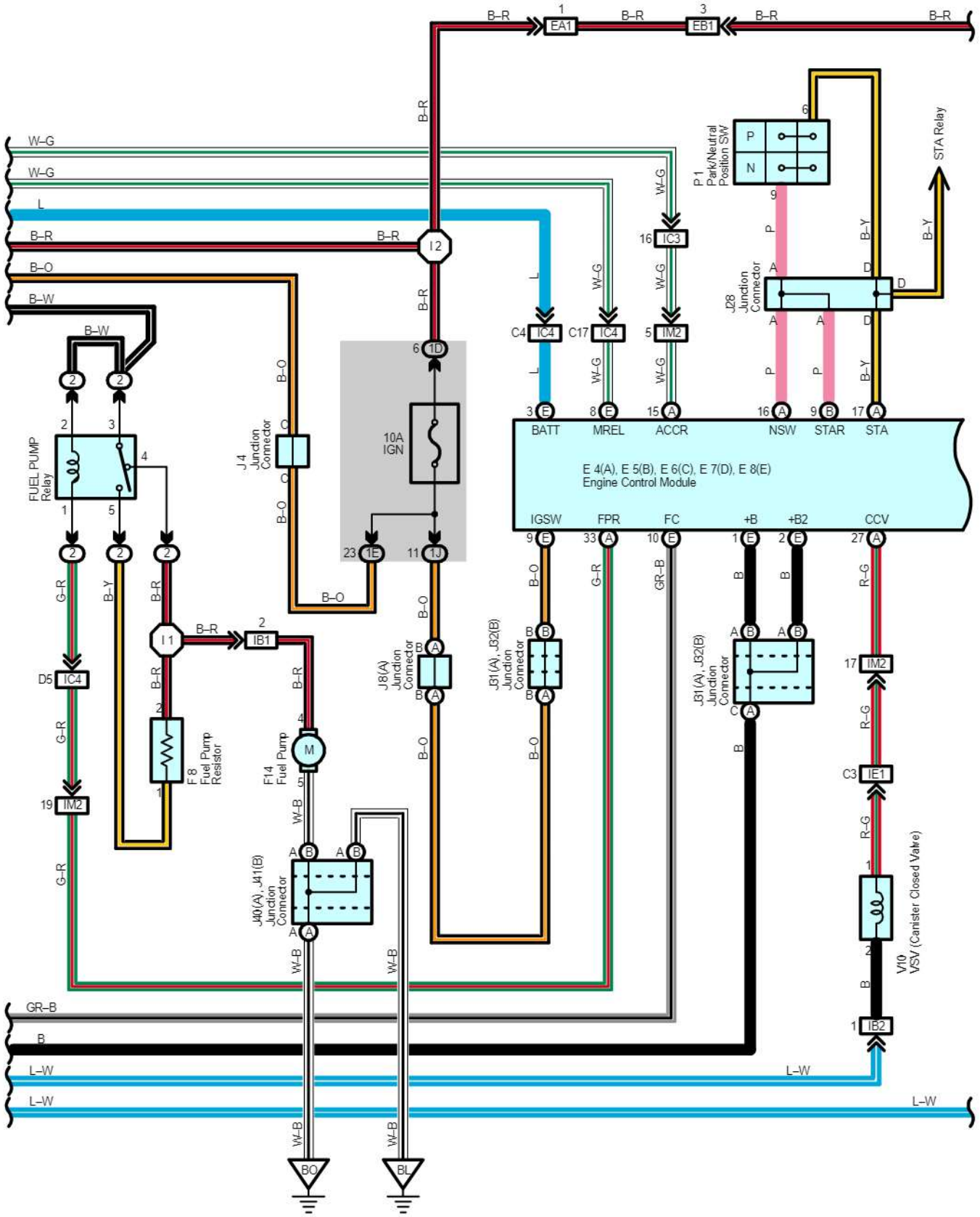
▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	44 (2UZ–FE)	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
	46 (1GR–FE)	
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)

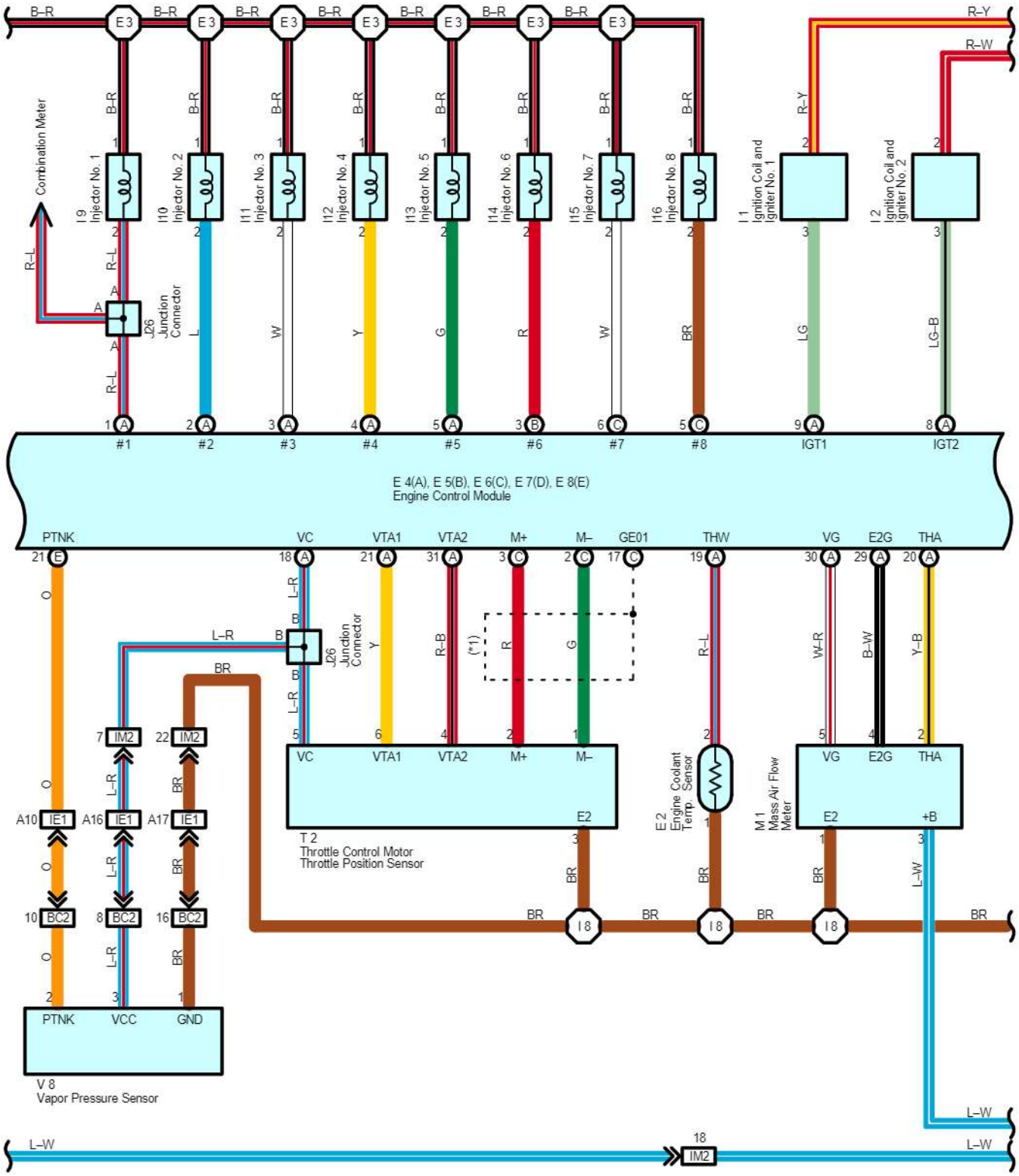
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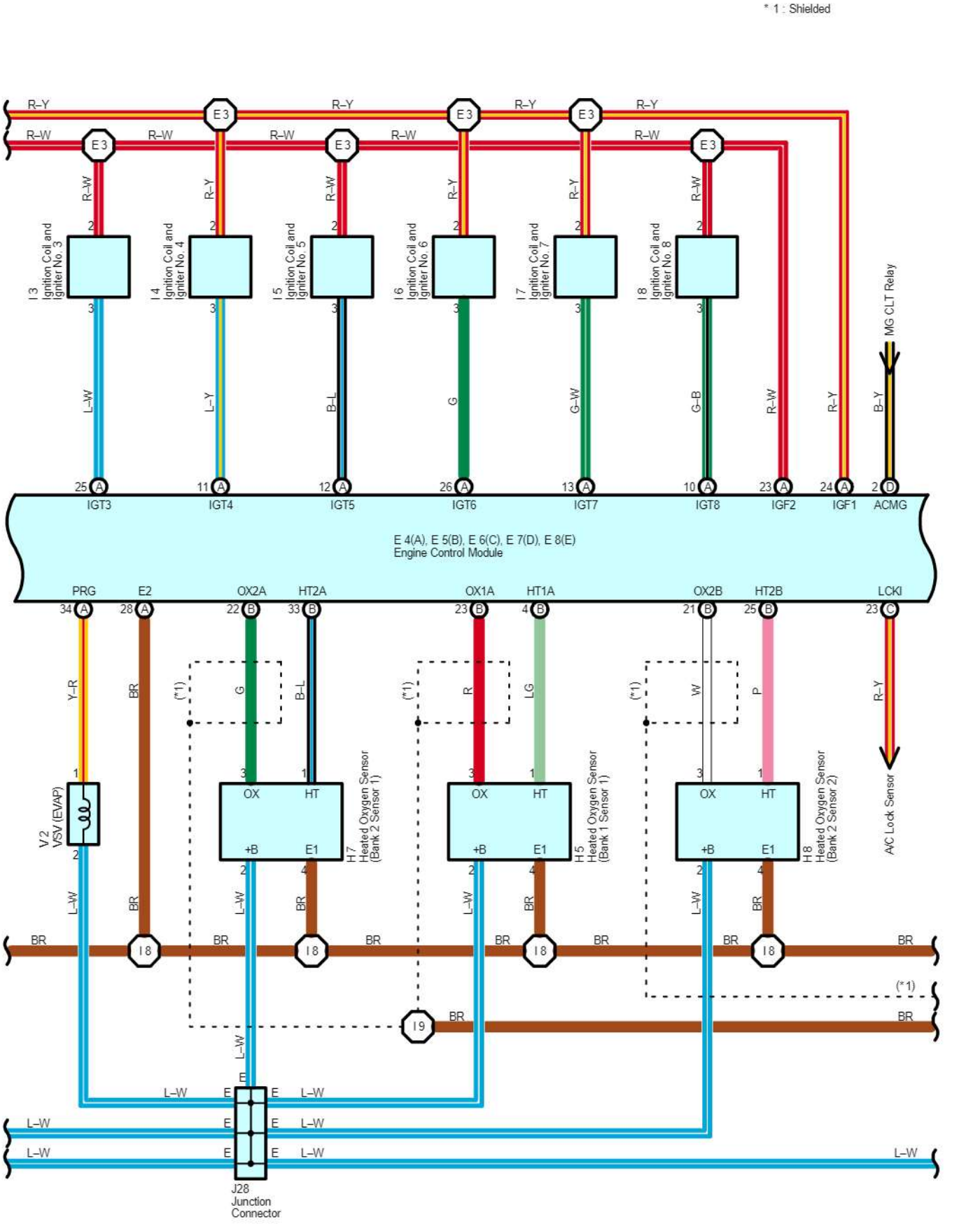
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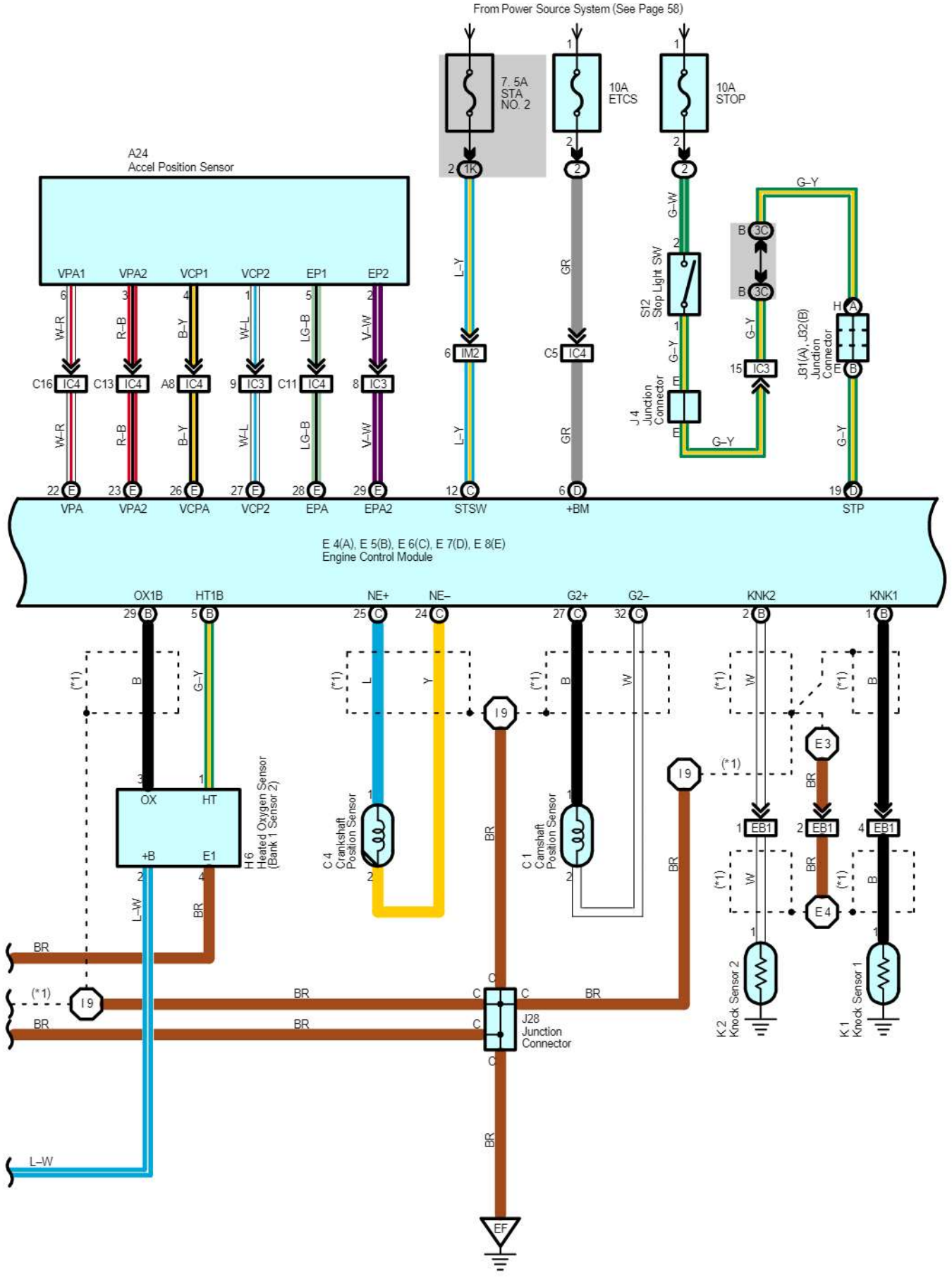
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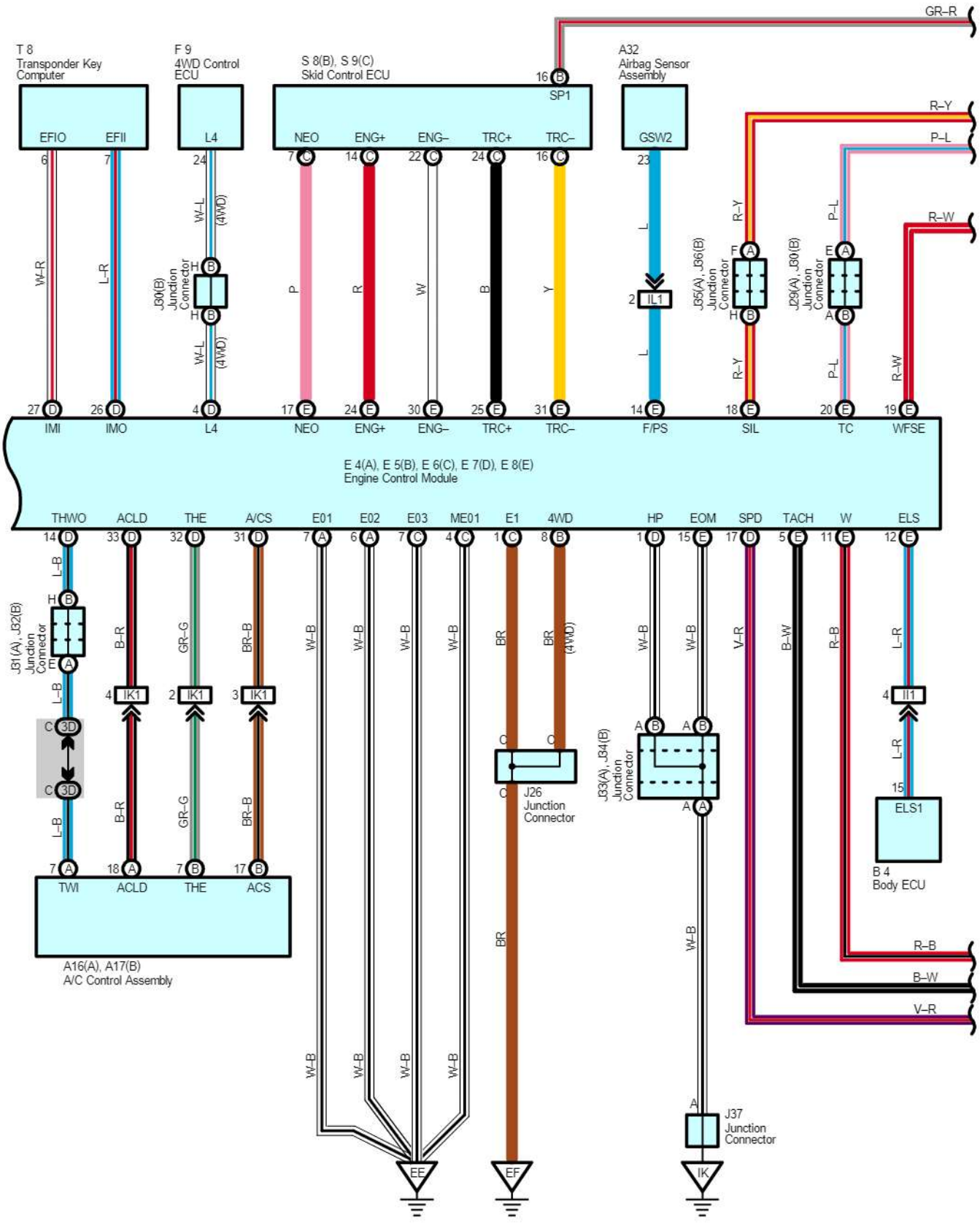


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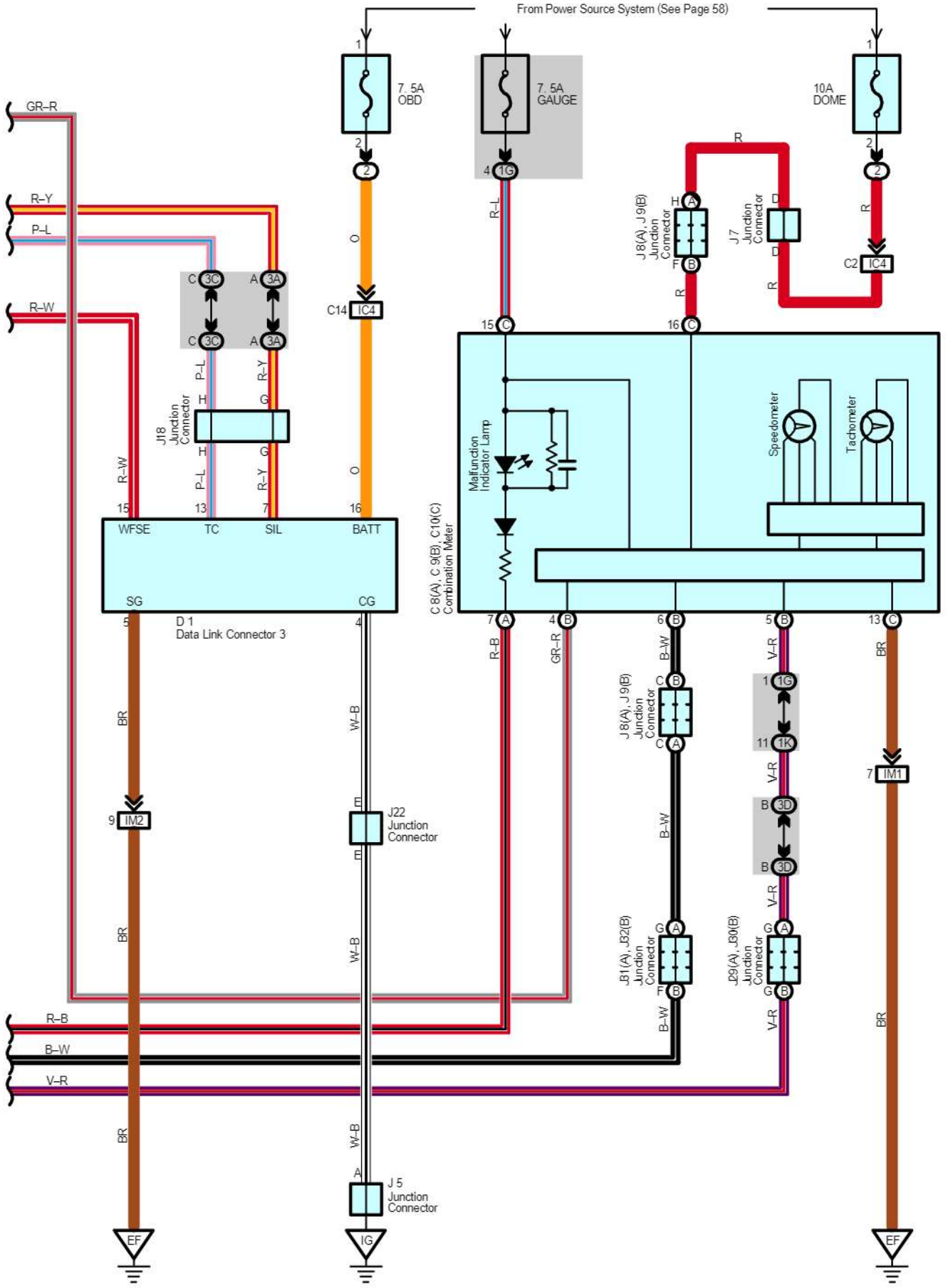


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* 1 : Shielded



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System Outline

The engine control system utilizes a microcomputer and maintains overall control of the engine, transmission etc. An outline of the engine control is given here.

1. Input Signals

(1) Engine coolant temp. signal circuit

The engine coolant temp. sensor detects the engine coolant temp. and has a built–in thermistor with a resistance which varies according to the engine coolant temp. The engine coolant temp. is input into TERMINAL THW of the engine control module as a control signal.

(2) Intake air temp. signal circuit

The intake air temp. sensor is installed in the mass air flow meter and detects the intake air temp., which is input as a control signal to TERMINAL THA of the engine control module.

(3) Oxygen sensor signal circuit

The oxygen density in the exhaust emission is detected and is input as a control signal from the heated oxygen sensors to TERMINALS OX1A, OX1B, OX2A and OX2B of the engine control module.

(4) RPM signal circuit

The camshaft position is detected by the camshaft position sensor and is input into TERMINAL G2+ of the engine control module as a control signal. Also, the engine RPM is detected by the crankshaft position sensor and the signal is input into TERMINAL NE+ of the engine control module.

(5) Throttle position sensor signal circuit

The throttle position sensor detects the throttle valve opening angle as a control signal, which is input into TERMINALS VTA1 and VTA2 of the engine control module.

(6) Vehicle speed circuit

The vehicle speed sensor detects the vehicle speed, and the signal is input into TERMINAL SPD of the engine control module via the combination meter, from TERMINAL SP1 of the skid control ECU.

(7) Battery signal circuit

Voltage is constantly applied to TERMINAL BATT of the engine control module. When the ignition SW is turned on, the voltage for engine control module start up power supply is applied through the EFI relay, to TERMINALS +B and +B2 of the engine control module. The current from the IGN fuse flows to TERMINAL IGSW of the engine control module, and voltage is constantly applied to TERMINAL +BM.

(8) Intake air volume signal circuit

The intake air volume is detected by the mass air flow meter, and is input as a control signal to TERMINAL VG of the engine control module.

(9) Stop light SW signal circuit

The stop light SW is used to detect whether the vehicle is braking or not, and the signal is input into TERMINAL STP of the engine control module as a control signal.

(10) Starter signal circuit

To confirm whether the engine is cranking, the voltage applied to the starter motor when the engine is cranking is detected, and is input into TERMINAL STA of the engine control module as a control signal.

(11) Engine knock signal circuit

Engine knocking is detected by the knock sensors, and is input into TERMINALS KNK1 and KNK2 of the engine control module as a control signal.

(12) A/C SW signal system

The operating voltage of the A/C magnetic clutch is detected and input in the form of a control signal to TERMINAL A/CS of the engine control module.

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2. Control System

* SFI system
  The SFI system monitors the engine condition through the signals input from each sensors to the engine control module. The control signal is sent to the engine control module TERMINALS #1, #2, #3, #4, #5, #6, #7 and #8 to operate the injector (Fuel injection). The SFI system controls the fuel injection by the engine control module in response to the driving conditions.
* ESA system
  The ESA system monitors the engine condition through the signals input from each sensors to the engine control module. The best ignition timing is decided according to this data and the data memorized in the engine control module. The control signal is output to TERMINALS IGT1, IGT2, IGT3, IGT4, IGT5, IGT6, IGT7 and IGT8, and these signals control the igniter to provide the best ignition timing.
* Heated oxygen sensor heater control system
  The heated oxygen sensor heater control system turns the heater on when the intake air volume is low (Temp. of exhaust emission is low), and warms up the heated oxygen sensors to improve their detection performance. The engine control module evaluates the signals from each sensors, and outputs current to TERMINALS HT1A, HT1B, HT2A or HT2B to control the heater.
* Fuel pump control system
  The engine control module supplies current to TERMINAL FPR, and controls the operation speed of the fuel pump with the FUEL PUMP relay.
* ACIS
  The ACIS includes a valve in the bulkhead separating the surge tank into two parts. This valve is opened and closed in accordance with the driving conditions to control the intake manifold length in two stages, for increased engine output in all ranges from low to high speeds.
* ETCS–i
  The ETCS–i controls the engine output at its optimal level in accordance with the opening of the accelerator pedal, under all driving conditions.
* Engine start control system
  The engine control module allows power to be supplied from the TERMINAL STAR to the STA relay via park/neutral position SW until complete combustion is confirmed by engine RPM after the detection of ignition SW ST signal by the TERMINAL STSW.
  With this arrangement, engine can be started without holding the ignition key in the ST position. At the same time, the TERMINAL ACCR is controlled so that the engine control module turns off ACC CUT relay, shutting off power to the accessories.

3. Diagnosis System

When there is a malfunction in the engine control module signal system, the malfunctioning system is recorded in the memory. The malfunctioning system can be found by reading the code displayed on the malfunction indicator lamp.

4. Fail–Safe System

When a malfunction has occurred in any system, there is a possibility of causing engine trouble due to continued control based on that system. In that case, the fail–safe system either controls the system using the data (Standard values) recorded in the engine control module memory, or else stops the engine.

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Service Hints

EFI Relay

5–3 : Closed with the ignition SW at ON position

E2 Engine Coolant Temp. Sensor

1–2 : Approx. 15.0 kΩ (–20°C, –4°F)
: Approx. 2.45 kΩ (20°C, 68°F)
: Approx. 0.32 kΩ (80°C, 176°F)
: Approx. 0.14 kΩ (110°C, 230°F)

E4 (A), E5 (B), E6 (C), E7 (D), E8 (E) Engine Control Module

BATT–E1 : Always 9.0–14.0 volts
+BM–E1 : Always 9.0–14.0 volts
IGSW–E1 : 9.0–14.0 volts with the ignition SW at ON position
+B, +B2–E1 : 9.0–14.0 volts with the ignition SW at ON position
VC–E1 : 4.5–5.5 volts with the ignition SW at ON position
VTA2–E1 : 2.0–2.9 volts with the ignition SW on and throttle valve fully closed
: 4.7–5.1 volts with the ignition SW on and throttle valve fully open
VTA1–E1 : 0.4–1.0 volts with the ignition SW on and throttle valve fully closed
: 3.2–4.8 volts with the ignition SW on and throttle valve fully open
VPA–E1 : 0.3–0.9 volts with the ignition SW on and throttle valve fully closed
: 3.2–4.8 volts with the ignition SW on and throttle valve fully open
VPA2–E1 : 1.8–2.7 volts with the ignition SW on and throttle valve fully closed
: 4.7–5.1 volts with the ignition SW on and throttle valve fully open
THA–E1 : 0.5–3.4 volts with the idling, intake air temp. 0°C (32°F) –80°C (176°F)
THW–E1 : 0.2–1.0 volts with the idling, engine coolant temp. 60°C (140°F) –120°C (248°F)
STA–E1 : 6.0 volts or more with the engine cranking
W–E1 : 9.0–14.0 volts with the idling and malfunction indicator lamp off
SPD–E1 : Pulse generation with the vehicle moving
STP–E1 : 7.5–14.0 volts with the brake pedal depressed

○ : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
A16 A	36	I2	33 (2UZ–FE)	J28	38
A17 B	36	I3	33 (2UZ–FE)	J29 A	38
A24	36	I4	33 (2UZ–FE)	J30 B	38
A32	36	I5	33 (2UZ–FE)	J31 A	38
B4	36	I6	33 (2UZ–FE)	J32 B	38
C1	32 (2UZ–FE)	I7	33 (2UZ–FE)	J33 A	38
C4	32 (2UZ–FE)	I8	33 (2UZ–FE)	J34 B	38
C8 A	37	I9	33 (2UZ–FE)	J35 A	38
C9 B	37	I10	33 (2UZ–FE)	J36 B	38
C10 C	37	I11	33 (2UZ–FE)	J37	38
D1	37	I12	33 (2UZ–FE)	J40 A	40
E2	32 (2UZ–FE)	I13	33 (2UZ–FE)	J41 B	40
E4 A	37	I14	33 (2UZ–FE)	K1	33 (2UZ–FE)
E5 B	37	I15	33 (2UZ–FE)	K2	33 (2UZ–FE)
E6 C	37	I16	33 (2UZ–FE)	M1	33 (2UZ–FE)
E7 D	37	I18	37	P1	33 (2UZ–FE)
E8 E	37	J2	33 (2UZ–FE)	S8 B	39
F8	32 (2UZ–FE)	J4	38	S9 C	39
F9	37	J5	38	S12	39
F14	40	J7	38	T2	33 (2UZ–FE)
H5	32 (2UZ–FE)	J8 A	38	T8	39
H6	32 (2UZ–FE)	J9 B	38	V2	33 (2UZ–FE)
H7	32 (2UZ–FE)	J18	38	V8	41
H8	32 (2UZ–FE)	J22	38	V10	41
I1	33 (2UZ–FE)	J26	38		

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: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1E		
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3C		
3D		
3E		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	44 (2UZ–FE)	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
EB1	44 (2UZ–FE)	Engine No.2 Wire and Engine Wire (Near the Starter)
IB1	48	Floor No.2 Wire and Engine Room Main Wire (Left Kick Panel)
IB2		
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
II1	50	Instrument Panel Wire and Instrument Panel Wire (Instrument Panel Brace LH)
IK1	50	Instrument Panel Wire and Instrument Panel Wire (Left Upper Side of the Glove Box)
IL1	50	Instrument Panel Wire and Instrument Panel Wire (Right Upper Side of the Glove Box)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IM2		
BC2	54	Frame Wire and Floor No.2 Wire (Under the Rear LH Seat)

: Ground Points

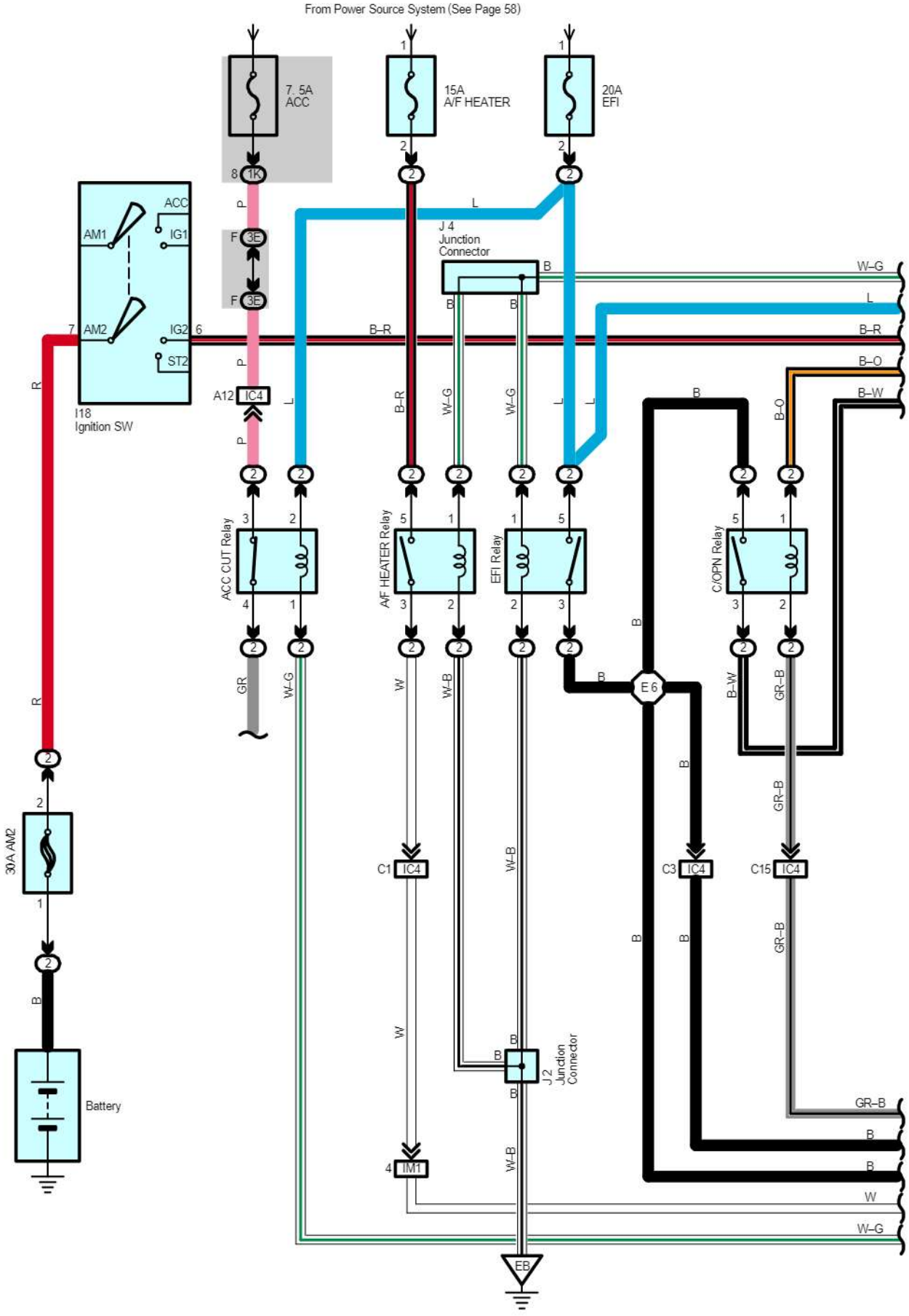
Code	See Page	Ground Points Location
EB	44 (2UZ–FE)	Front Left Fender
EE	44 (2UZ–FE)	Rear Side of Right Bank Cylinder Block
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
IG	48	Left Kick Panel
IK	48	Right Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

: Splice Points

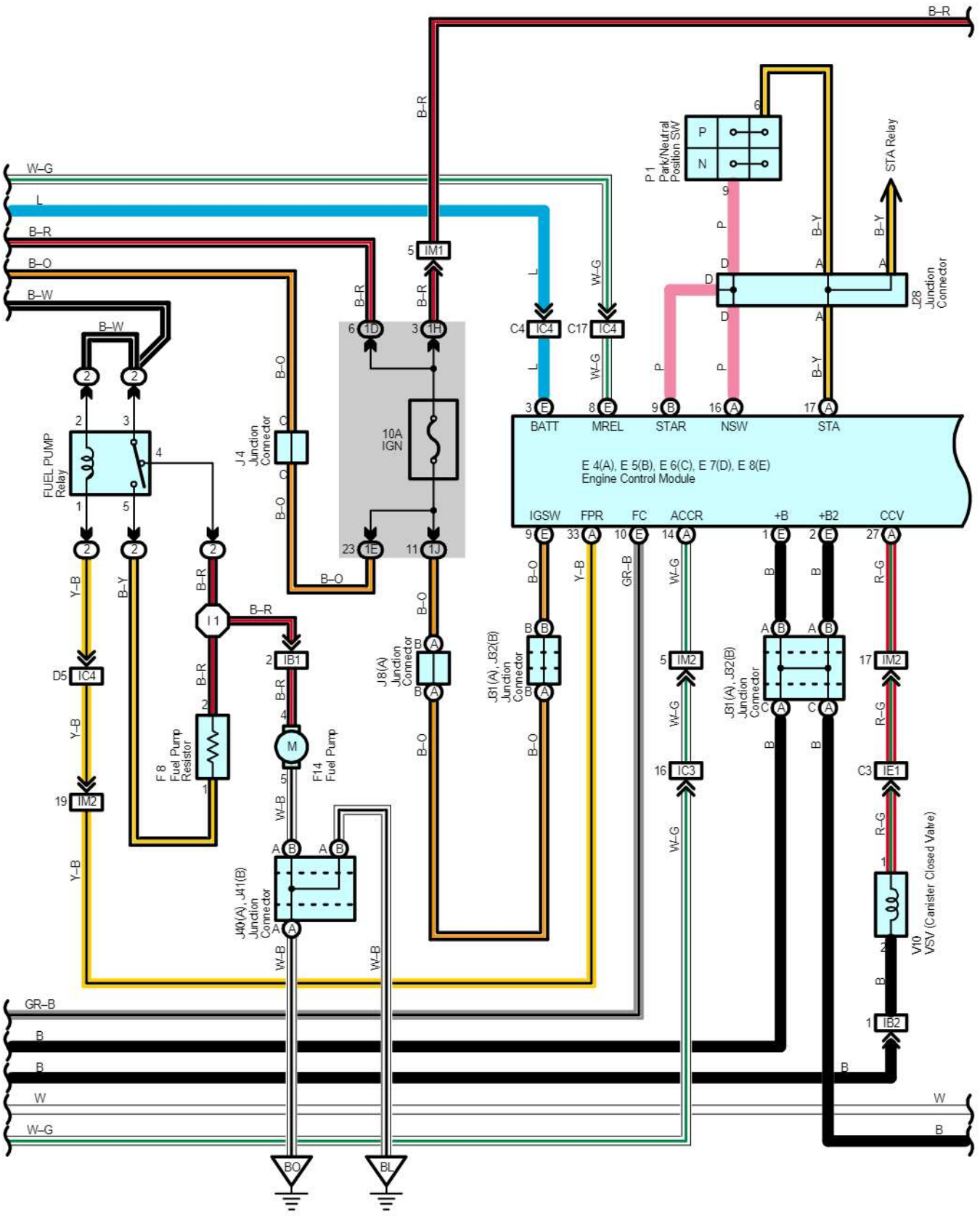
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E3	44 (2UZ–FE)	Engine Wire	I2	50	Engine Room Main Wire
E4	44 (2UZ–FE)	Engine No.2 Wire	I8	50	Engine Wire
E6	44 (2UZ–FE)	Engine Room Main Wire	I9		
I1	50				

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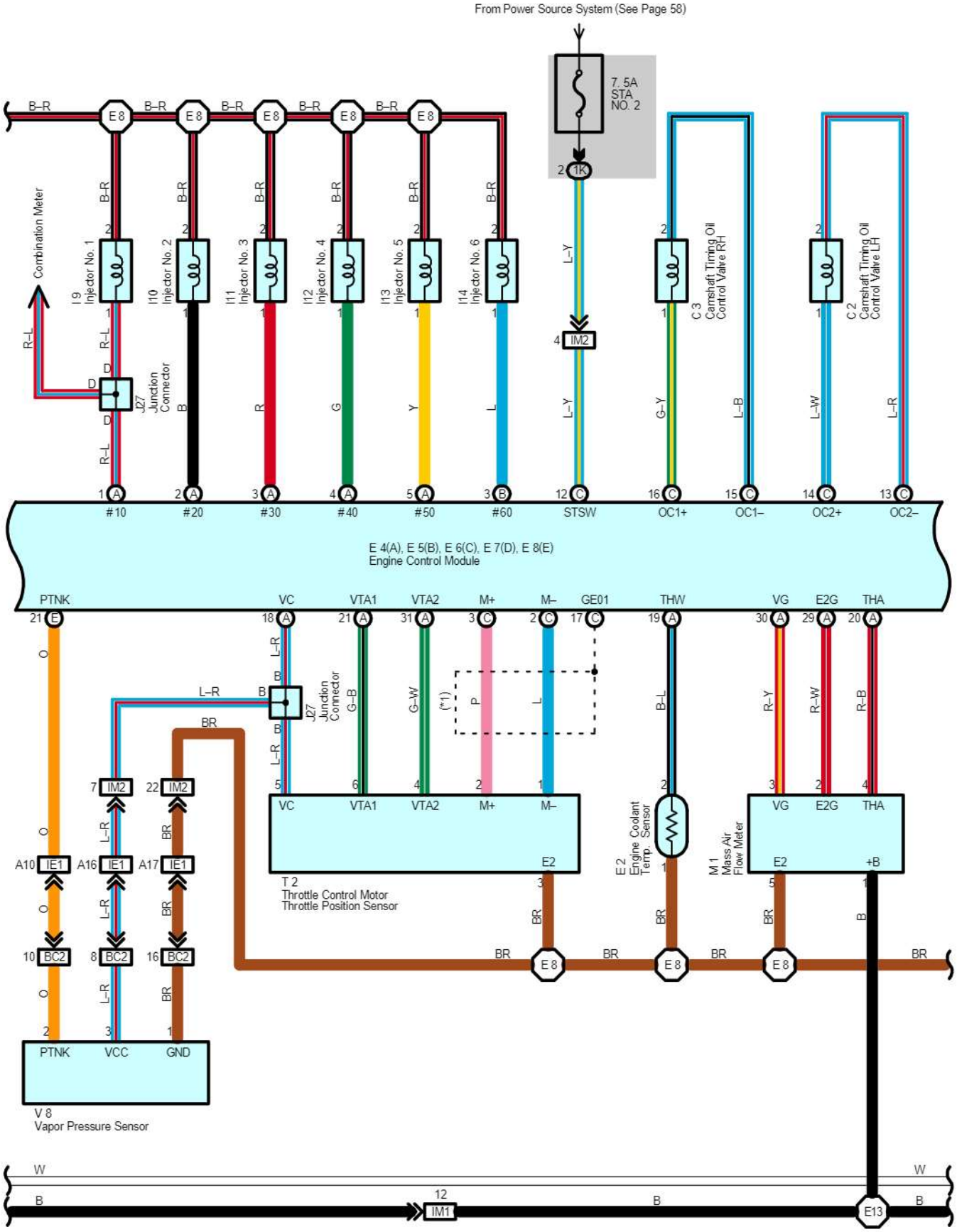
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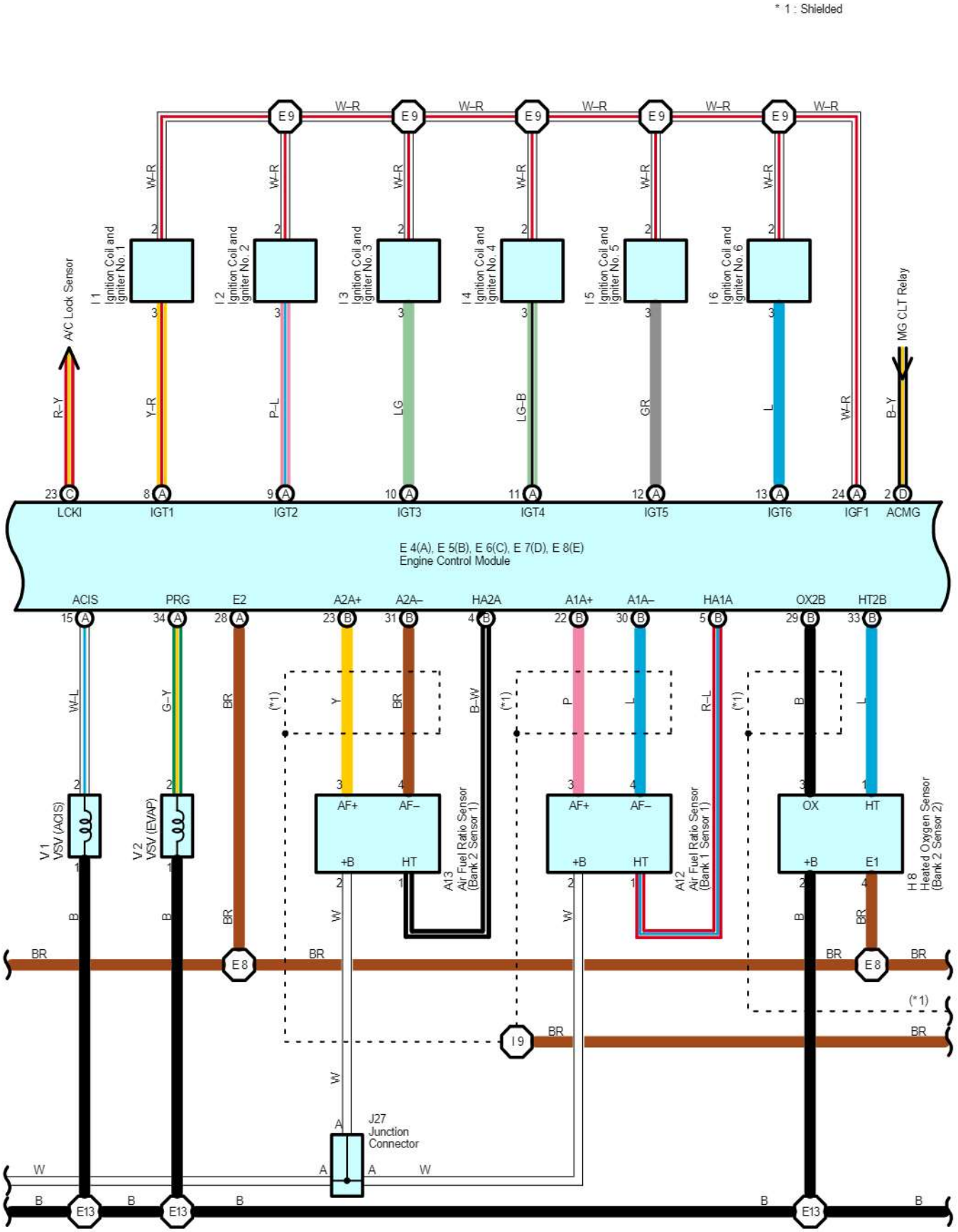
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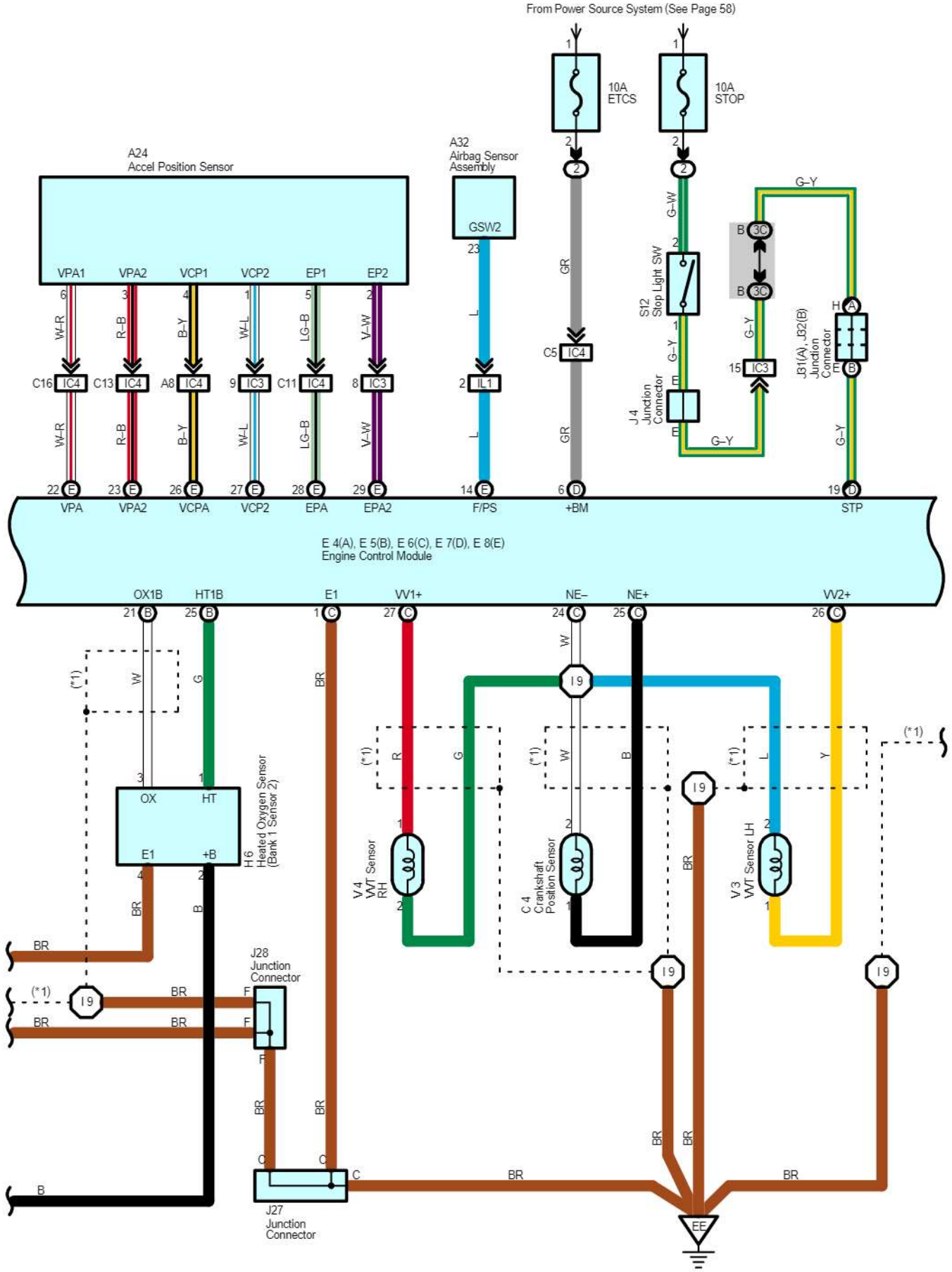
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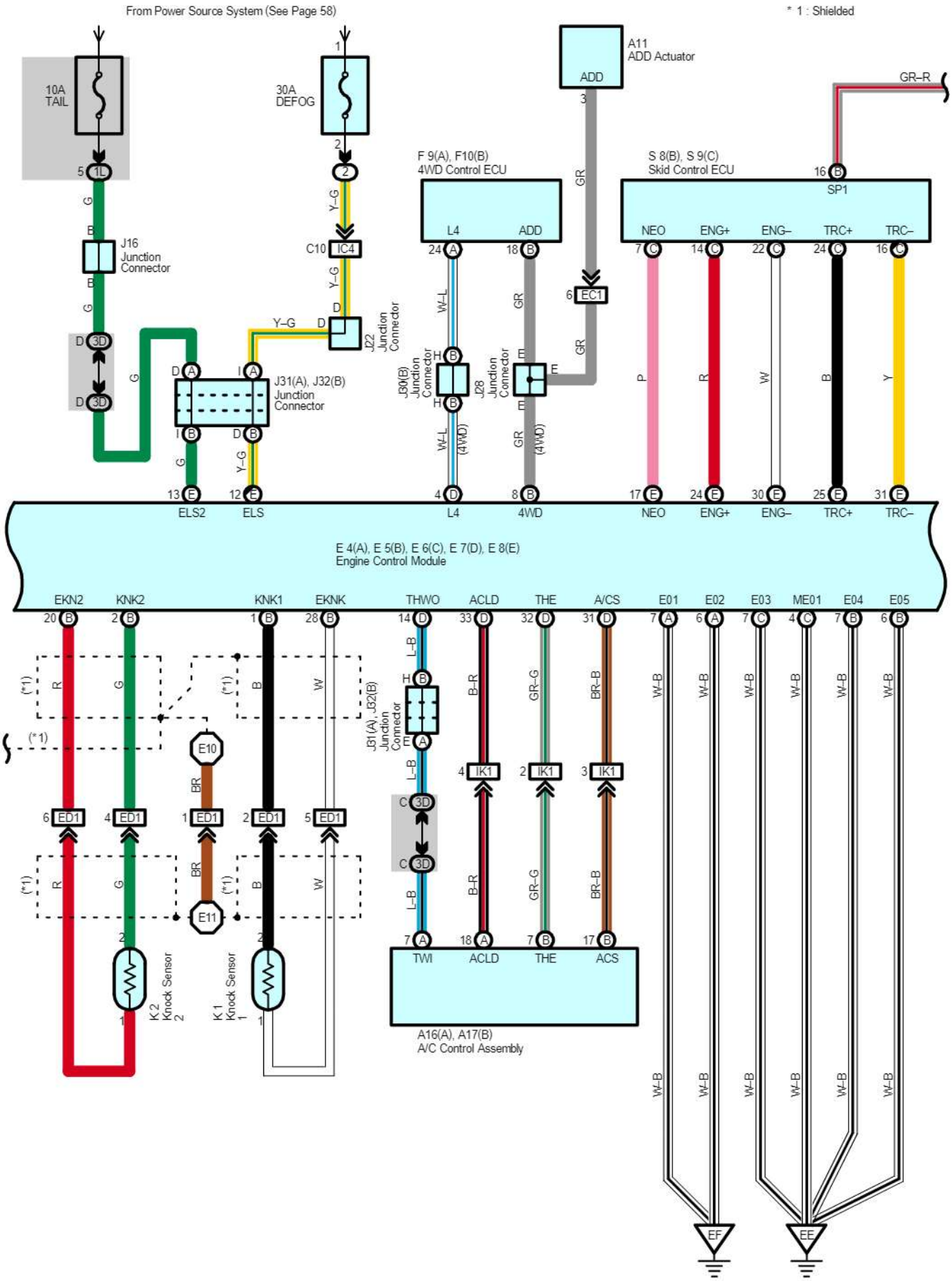
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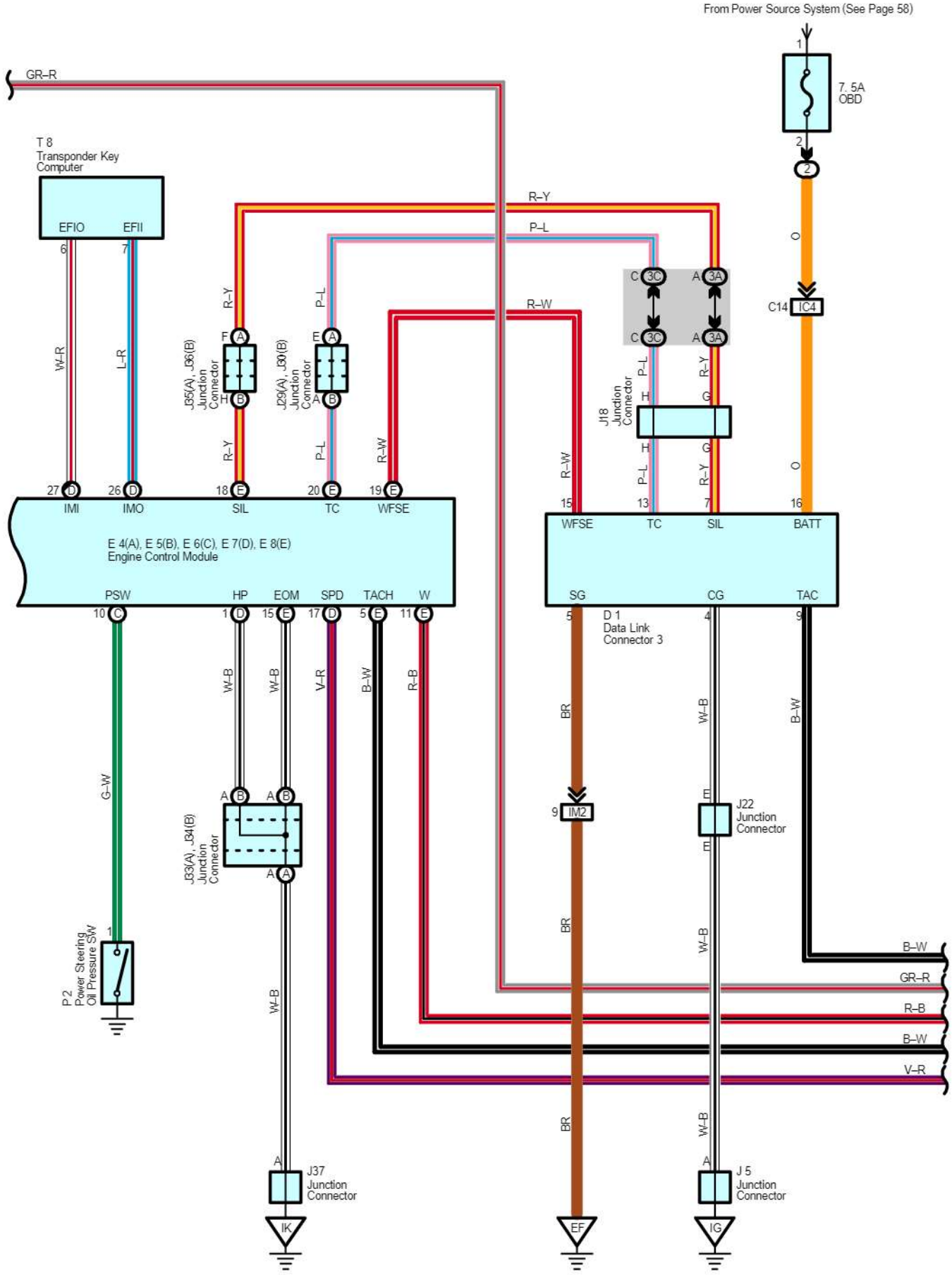
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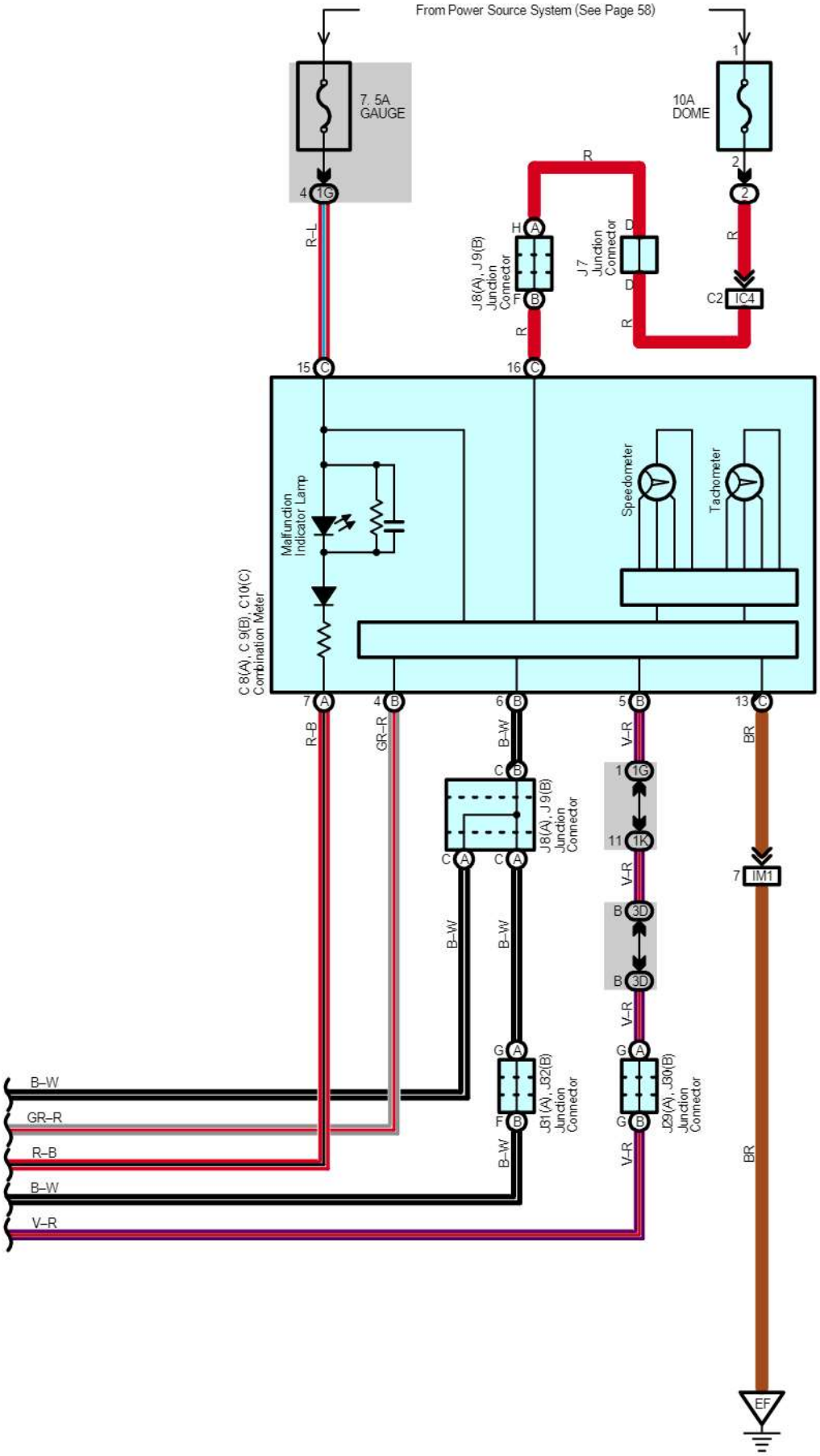
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System Outline

The engine control system utilizes a microcomputer and maintains overall control of the engine, transmission etc. An outline of the engine control is given here.

1. Input Signals

(1) Engine coolant temp. signal circuit

The engine coolant temp. sensor detects the engine coolant temp. and has a built–in thermistor with a resistance which varies according to the engine coolant temp. The engine coolant temp. is input into TERMINAL THW of the engine control module as a control signal.

(2) Intake air temp. signal circuit

The intake air temp. sensor is installed in the mass air flow meter and detects the intake air temp., which is input as a control signal to TERMINAL THA of the engine control module.

(3) Oxygen sensor signal circuit

The oxygen density in the exhaust emission is detected and is input as a control signal from the heated oxygen sensors to TERMINALS OX1B and OX2B of the engine control module.

(4) RPM signal circuit

The camshaft position is detected by the VVT sensor LH and RH, and is input into TERMINALS VV1+ and VV2+ of the engine control module as a control signal. Also, the engine RPM is detected by the crankshaft position sensor and the signal is input into TERMINAL NE+ of the engine control module.

(5) Throttle position sensor signal circuit

The throttle position sensor detects the throttle valve opening angle as a control signal, which is input into TERMINALS VTA1 and VTA2 of the engine control module.

(6) Vehicle speed circuit

The vehicle speed sensor detects the vehicle speed, and the signal is input into TERMINAL SPD of the engine control module via the combination meter, from TERMINAL SP1 of the skid control ECU.

(7) Battery signal circuit

Voltage is constantly applied to TERMINAL BATT of the engine control module. When the ignition SW is turned on, the voltage for engine control module start up power supply is applied through the EFI relay, to TERMINALS +B and +B2 of the engine control module. The current from the IGN fuse flows to TERMINAL IGSW of the engine control module, and voltage is constantly applied to TERMINAL +BM.

(8) Intake air volume signal circuit

The intake air volume is detected by the mass air flow meter, and is input as a control signal to TERMINAL VG of the engine control module.

(9) Stop light SW signal circuit

The stop light SW is used to detect whether the vehicle is braking or not, and the signal is input into TERMINAL STP of the engine control module as a control signal.

(10) Starter signal circuit

To confirm whether the engine is cranking, the voltage applied to the starter motor when the engine is cranking is detected, and is input into TERMINAL STA of the engine control module as a control signal.

(11) Engine knock signal circuit

Engine knocking is detected by the knock sensors, and is input into TERMINALS KNK1 and KNK2 of the engine control module as a control signal.

(12) A/C SW signal system

The operating voltage of the A/C magnetic clutch is detected and input in the form of a control signal to TERMINAL A/CS of the engine control module.

(13) Air fuel ratio signal circuit

The air fuel ratio is detected and input as a control signal into TERMINALS AFL+, AFR+ of the engine control module.

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2. Control System

* SFI system
  The SFI system monitors the engine condition through the signals input from each sensors to the engine control module. The control signal is sent to the engine control module TERMINALS #10, #20, #30, #40, #50 and #60 to operate the injector (Fuel injection). The SFI system controls the fuel injection by the engine control module in response to the driving conditions.
* ESA system
  The ESA system monitors the engine condition through the signals input from each sensors to the engine control module. The best ignition timing is decided according to this data and the data memorized in the engine control module. The control signal is output to TERMINALS IGT1, IGT2, IGT3, IGT4, IGT5 and IGT6, and these signals control the igniter to provide the best ignition timing.
* Heated oxygen sensor heater control system
  The heated oxygen sensor heater control system turns the heater on when the intake air volume is low (Temp. of exhaust emission is low), and warms up the heated oxygen sensors to improve their detection performance. The engine control module evaluates the signals from each sensors, and outputs current to TERMINALS HT1B or HT2B to control the heater.
* Air fuel ratio sensor heater control system
  The air fuel ratio sensor heater control system turns the heater on when the intake air volume is low (Temp. of exhaust emission is low), and warms up the air fuel ratio sensor to improve detection performance of the sensor.
  The engine control module evaluates the signals from each sensor, current is output to TERMINALS HA1A and HA2A, controlling the heater.
* Fuel pump control system
  The engine control module supplies current to TERMINAL FPR, and controls the operation speed of the fuel pump with the FUEL PUMP relay.
* ACIS
  The ACIS includes a valve in the bulkhead separating the surge tank into two parts. This valve is opened and closed in accordance with the driving conditions to control the intake manifold length in two stages, for increased engine output in all ranges from low to high speeds.
* ETCS–i
  The ETCS–i controls the engine output at its optimal level in accordance with the opening of the accelerator pedal, under all driving conditions.
* Engine start control system
  The engine control module allows power to be supplied from the TERMINAL STAR to the STA relay via park/neutral position SW until complete combustion is confirmed by engine RPM after the detection of ignition SW ST signal by the TERMINAL STSW.
  With this arrangement, engine can be started without holding the ignition key in the ST position. At the same time, the TERMINAL ACCR is controlled so that the engine control module turns off ACC CUT relay, shutting off power to the accessories.
* VVT–i
  Controls the intake camshaft to an optimal valve timing in accordance with the engine condition.

3. Diagnosis System

When there is a malfunction in the engine control module signal system, the malfunctioning system is recorded in the memory. The malfunctioning system can be found by reading the code displayed on the malfunction indicator lamp.

4. Fail–Safe System

When a malfunction has occurred in any system, there is a possibility of causing engine trouble due to continued control based on that system. In that case, the fail–safe system either controls the system using the data (Standard values) recorded in the engine control module memory, or else stops the engine.

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Service Hints

EFI Relay

5–3 : Closed with the ignition SW at ON position

E2 Engine Coolant Temp. Sensor

1–2 : Approx. 15.0 kΩ (–20°C, –4°F)
: Approx. 2.45 kΩ (20°C, 68°F)
: Approx. 0.32 kΩ (80°C, 176°F)
: Approx. 0.14 kΩ (110°C, 230°F)

E4 (A), E5 (B), E6 (C), E7 (D), E8 (E) Engine Control Module

BATT–E1 : Always 9.0–14.0 volts
+BM–E1 : Always 9.0–14.0 volts
IGSW–E1 : 9.0–14.0 volts with the ignition SW at ON position
+B, +B2–E1 : 9.0–14.0 volts with the ignition SW at ON position
VC–E1 : 4.5–5.5 volts with the ignition SW at ON position
VTA2–E1 : 2.0–2.9 volts with the ignition SW on and throttle valve fully closed
: 4.7–5.1 volts with the ignition SW on and throttle valve fully open
VTA1–E1 : 0.4–1.0 volts with the ignition SW on and throttle valve fully closed
: 3.2–4.8 volts with the ignition SW on and throttle valve fully open
VPA–E1 : 0.3–0.9 volts with the ignition SW on and throttle valve fully closed
: 3.2–4.8 volts with the ignition SW on and throttle valve fully open
VPA2–E1 : 1.8–2.7 volts with the ignition SW on and throttle valve fully closed
: 4.7–5.1 volts with the ignition SW on and throttle valve fully open
THA–E1 : 0.5–3.4 volts with the idling, intake air temp. 0°C (32°F) –80°C (176°F)
THW–E1 : 0.2–1.0 volts with the idling, engine coolant temp. 60°C (140°F) –120°C (248°F)
STA–E1 : 6.0 volts or more with the engine cranking
W–E1 : 9.0–14.0 volts with the idling and malfunction indicator lamp off
SPD–E1 : Pulse generation with the vehicle moving
STP–E1 : 7.5–14.0 volts with the brake pedal depressed

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○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A11	34 (1GR–FE)	I1	35 (1GR–FE)	J31 A	38
A12	34 (1GR–FE)	I2	35 (1GR–FE)	J32 B	38
A13	34 (1GR–FE)	I3	35 (1GR–FE)	J33 A	38
A16 A	36	I4	35 (1GR–FE)	J34 B	38
A17 B	36	I5	35 (1GR–FE)	J35 A	38
A24	36	I6	35 (1GR–FE)	J36 B	38
A32	36	I9	35 (1GR–FE)	J37	38
C2	34 (1GR–FE)	I10	35 (1GR–FE)	J40 A	40
C3	34 (1GR–FE)	I11	35 (1GR–FE)	J41 B	40
C4	34 (1GR–FE)	I12	35 (1GR–FE)	K1	35 (1GR–FE)
C8 A	37	I13	35 (1GR–FE)	K2	35 (1GR–FE)
C9 B	37	I14	35 (1GR–FE)	M1	35 (1GR–FE)
C10 C	37	I18	37	P1	35 (1GR–FE)
D1	37	J2	35 (1GR–FE)	P2	35 (1GR–FE)
E2	34 (1GR–FE)	J4	38	S8 B	39
E4 A	37	J5	38	S9 C	39
E5 B	37	J7	38	S12	39
E6 C	37	J8 A	38	T2	35 (1GR–FE)
E7 D	37	J9 B	38	T8	39
E8 E	37	J16	38	V1	35 (1GR–FE)
F8	34 (1GR–FE)	J18	38	V2	35 (1GR–FE)
F9 A	37	J22	38	V3	35 (1GR–FE)
F10 B	37	J27	38	V4	35 (1GR–FE)
F14	40	J28	38	V8	41
H6	34 (1GR–FE)	J29 A	38	V10	41
H8	34 (1GR–FE)	J30 B	38		

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

▭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1E		
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1H		
1J		
1K		
1L		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3C		
3D		
3E		

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: **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EC1	46 (1GR–FE)	Engine Wire and Differential Wire (Near the Front Differential)
ED1	46 (1GR–FE)	Engine Wire and Sensor Wire (Rear Side of Right Bank Cylinder Block)
IB1	48	Floor No.2 Wire and Engine Room Main Wire (Left Kick Panel)
IB2		
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IK1	50	Instrument Panel Wire and Instrument Panel Wire (Left Upper Side of the Glove Box)
IL1	50	Instrument Panel Wire and Instrument Panel Wire (Right Upper Side of the Glove Box)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IM2		
BC2	54	Frame Wire and Floor No.2 Wire (Under the Rear LH Seat)

: **Ground Points**

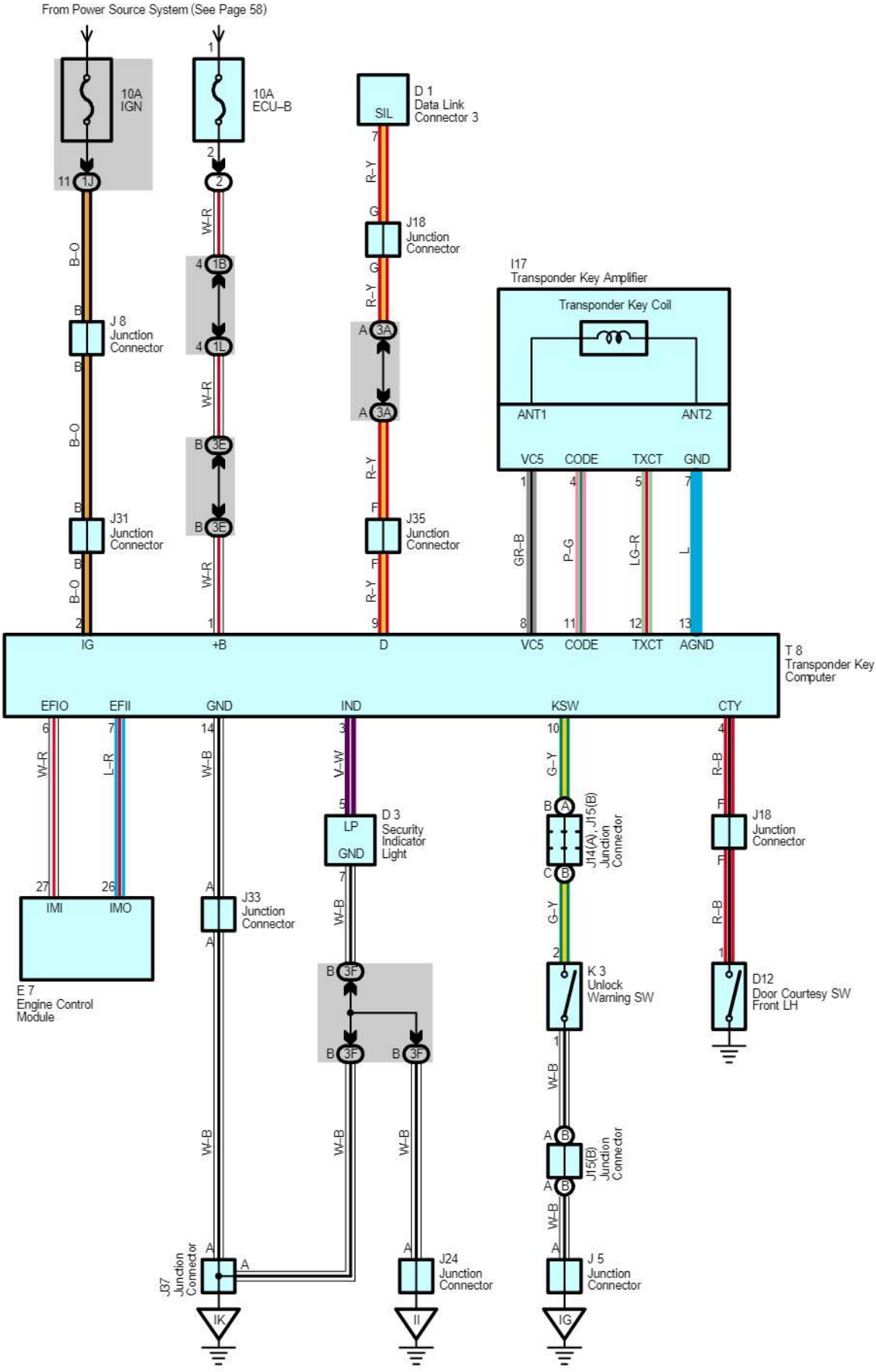
Code	See Page	Ground Points Location
EB	46 (1GR–FE)	Front Left Fender
EE	46 (1GR–FE)	Rear Side of Right Bank Cylinder Block
EF	46 (1GR–FE)	Rear Side of Left Bank Cylinder Block
IG	48	Left Kick Panel
IK	48	Right Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

: **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E6	46 (1GR–FE)	Engine Room Main Wire	E11	46 (1GR–FE)	Sensor Wire
E8	46 (1GR–FE)	Engine Wire	E13	46 (1GR–FE)	Engine Wire
E9			I1	50	Engine Room Main Wire
E10			I9	50	Engine Wire

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Service Hints

T8 Transponder Key Computer

1–Ground : Always approx. 12 volts
14–Ground : Always continuity
2–Ground : Approx. 12 volts with ignition SW at ON position

: Parts Location

Code	See Page	Code	See Page	Code	See Page
D1	37	J8	38	J33	38
D3	37	J14 A	38	J35	38
D12	40	J15 B	38	J37	38
E7	37	J18	38	K3	39
I17	37	J24	38	T8	39
J5	38	J31	38		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

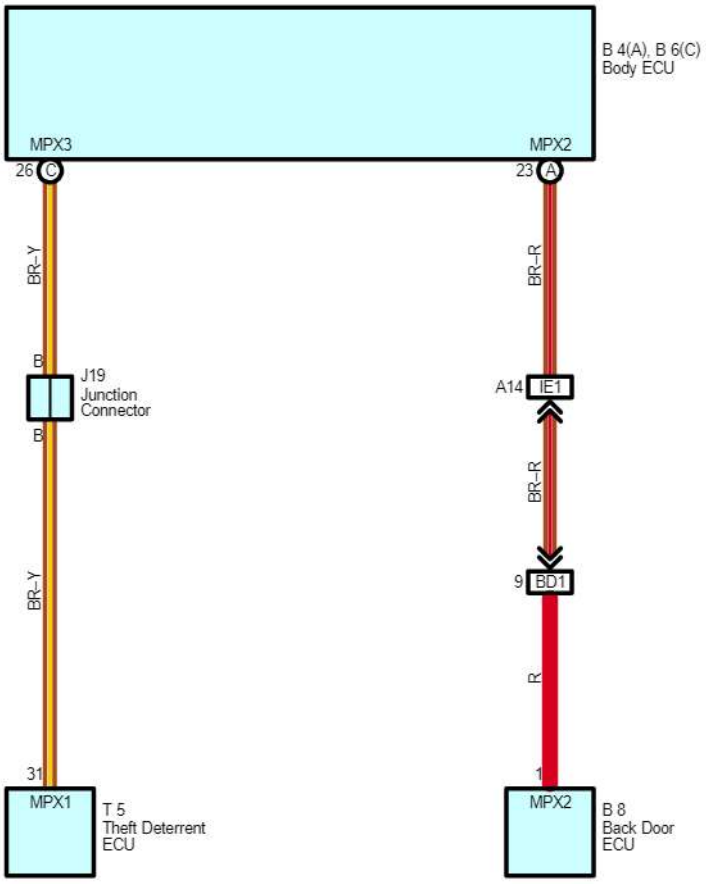
: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1J	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1L		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3E		
3F		

: Ground Points

Code	See Page	Ground Points Location
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel

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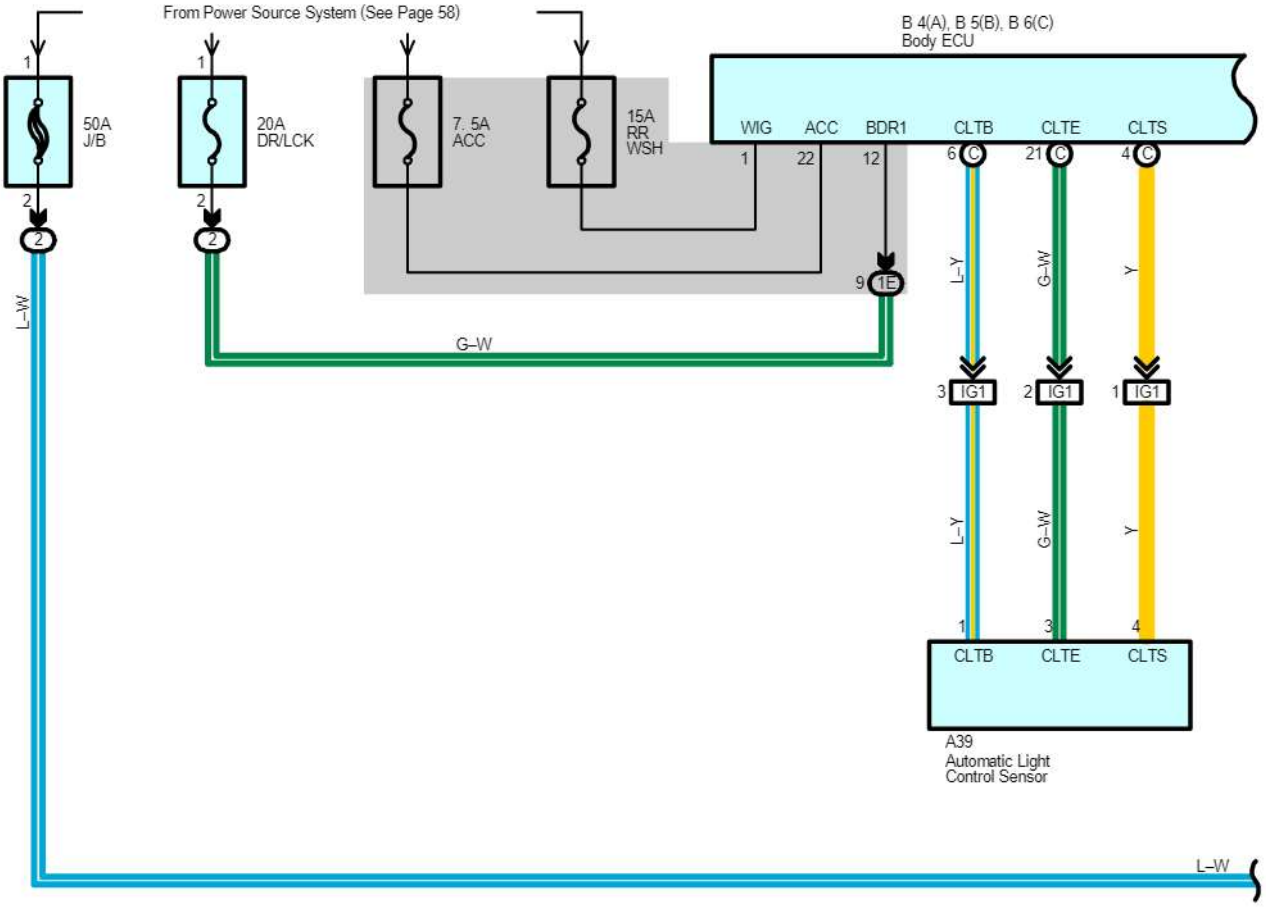


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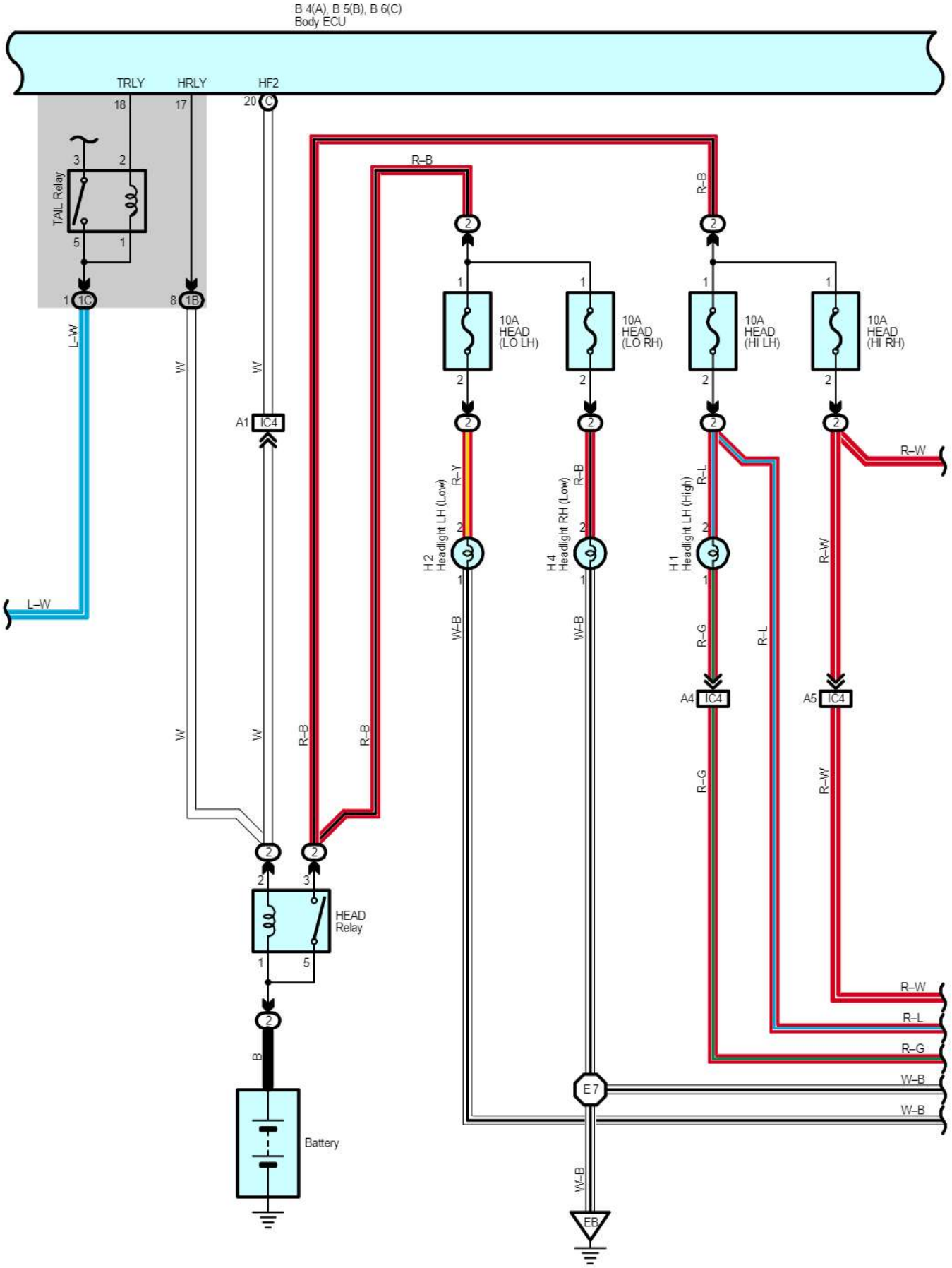
Multiplex Communication System Includes Following Systems

- Automatic Light Control
- Door Lock Control
- Front Fog Light
- Garage Door Opener
- Headlight
- Interior Light
- Key Reminder
- Light Auto Turn Off
- Mirror Heater
- Power Window
- Rear Window Defogger
- Rear Wiper and Washer
- Seat Belt Warning
- Theft Deterrent
- Wireless Door Lock Control

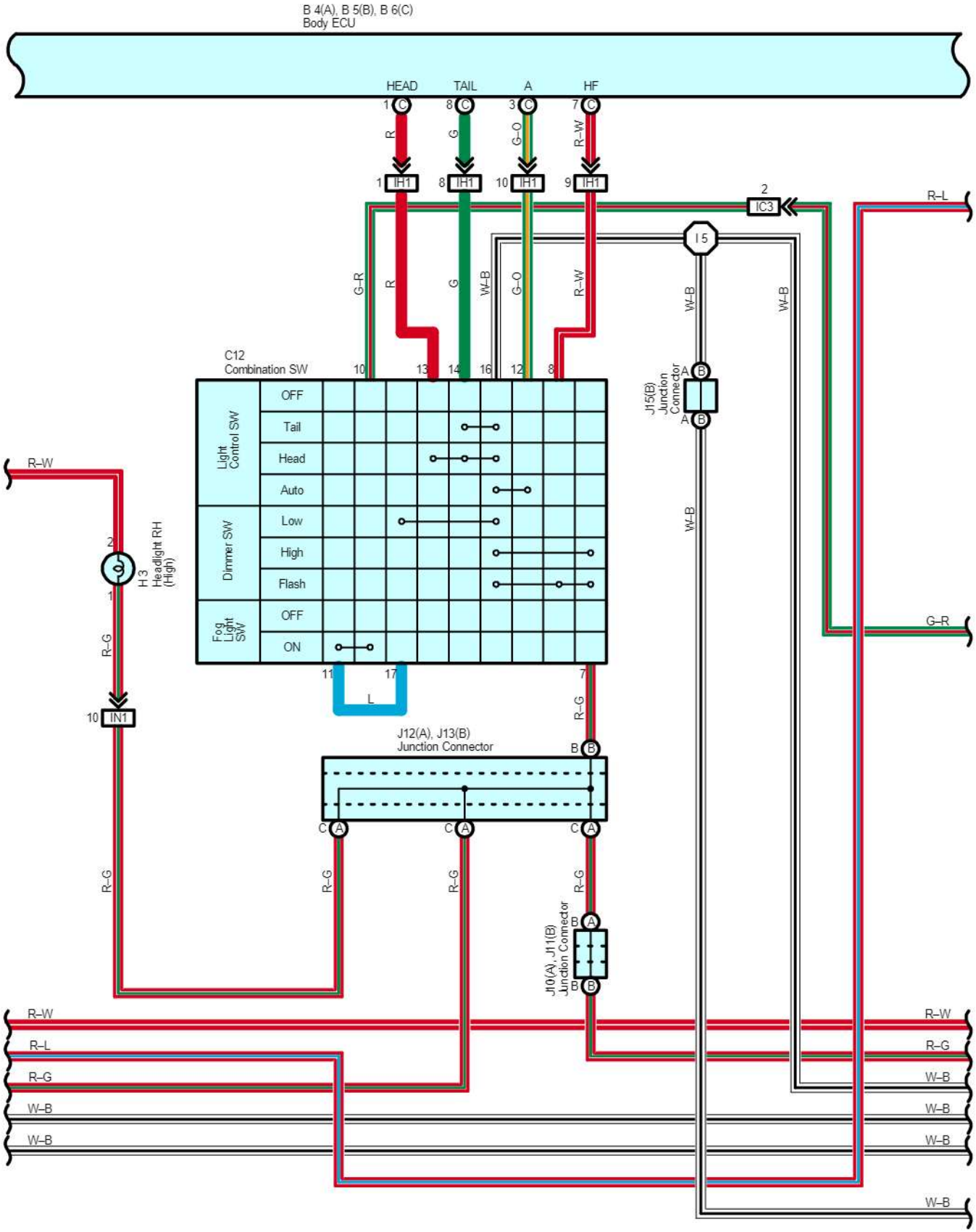
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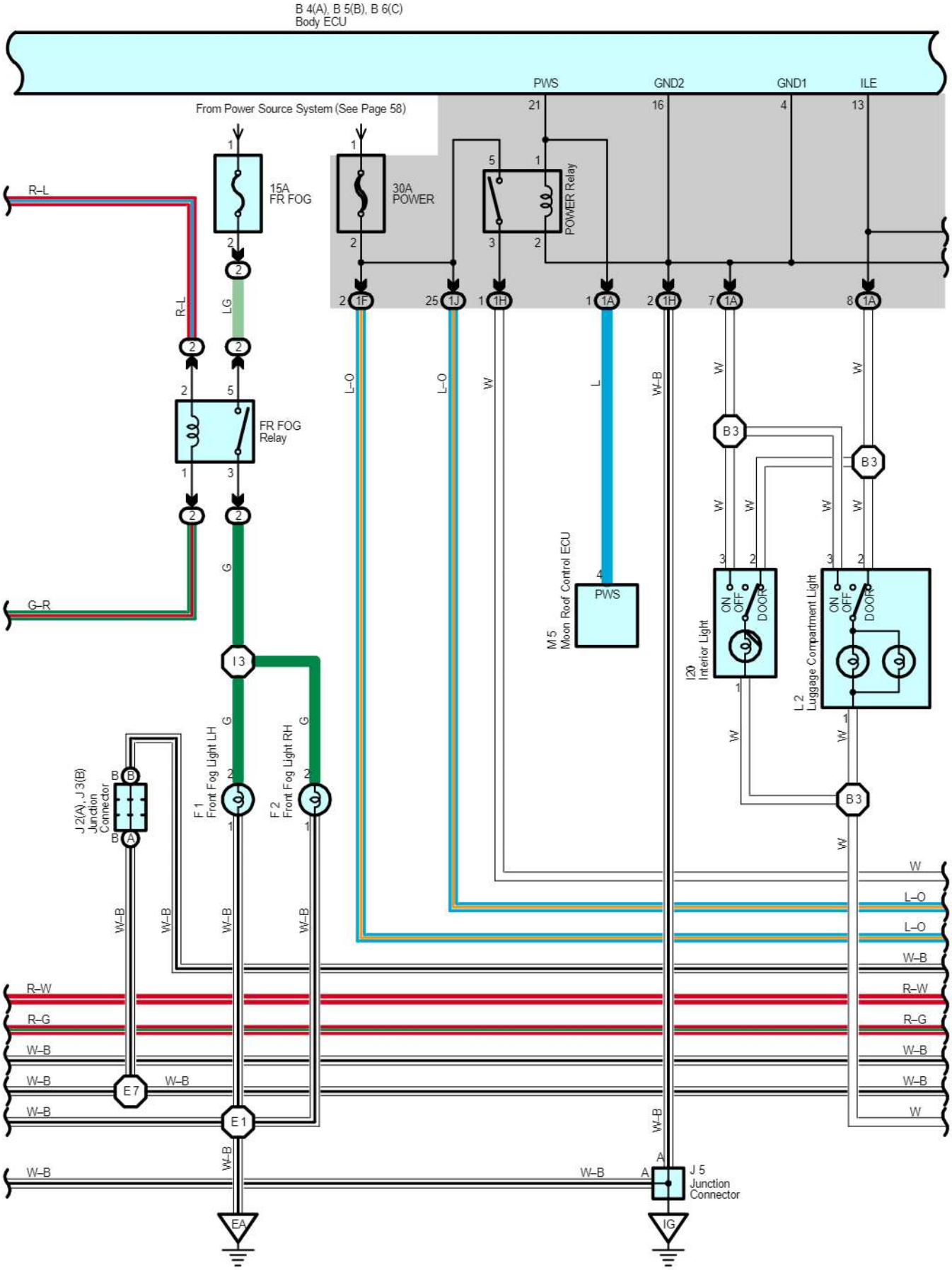
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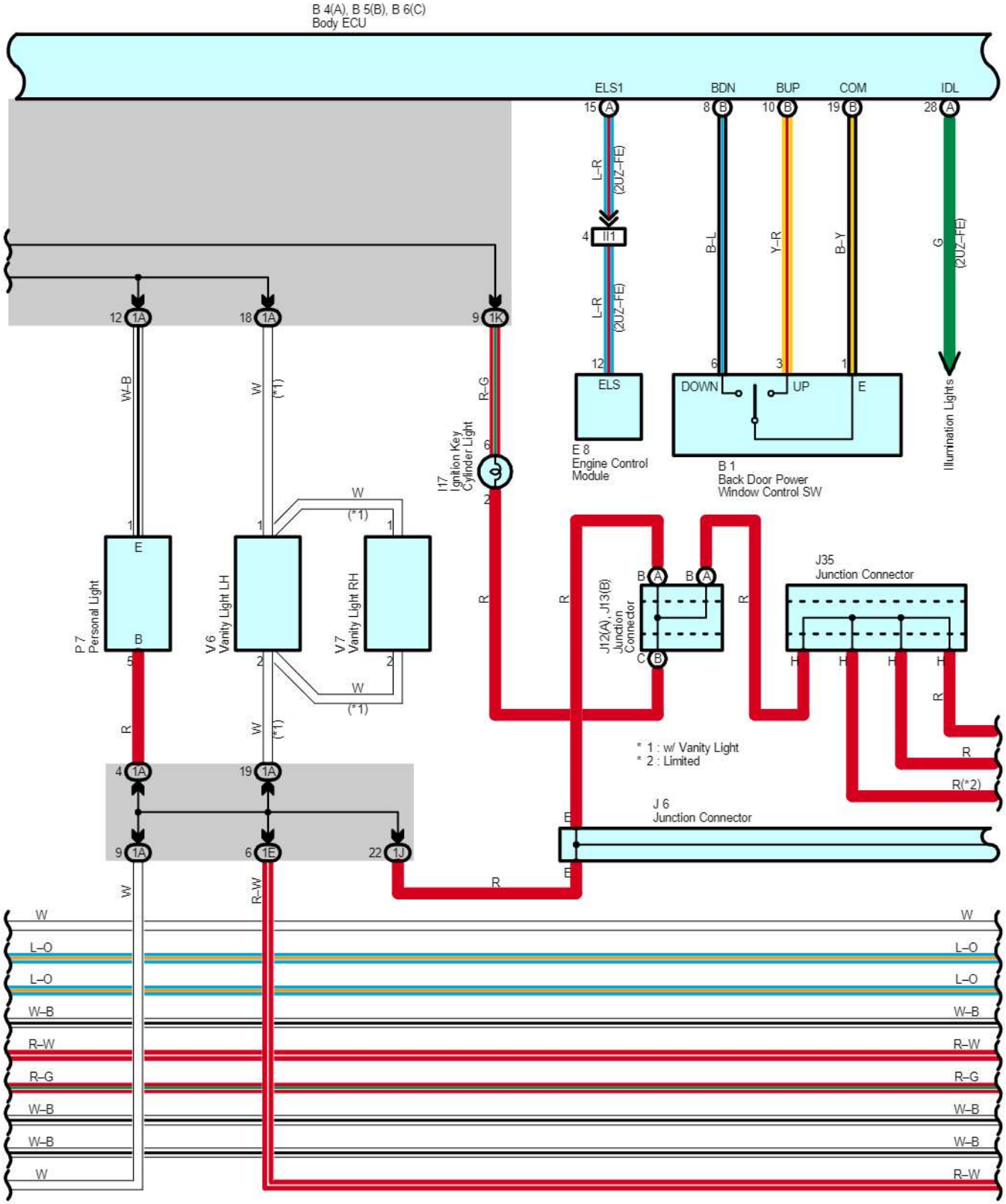
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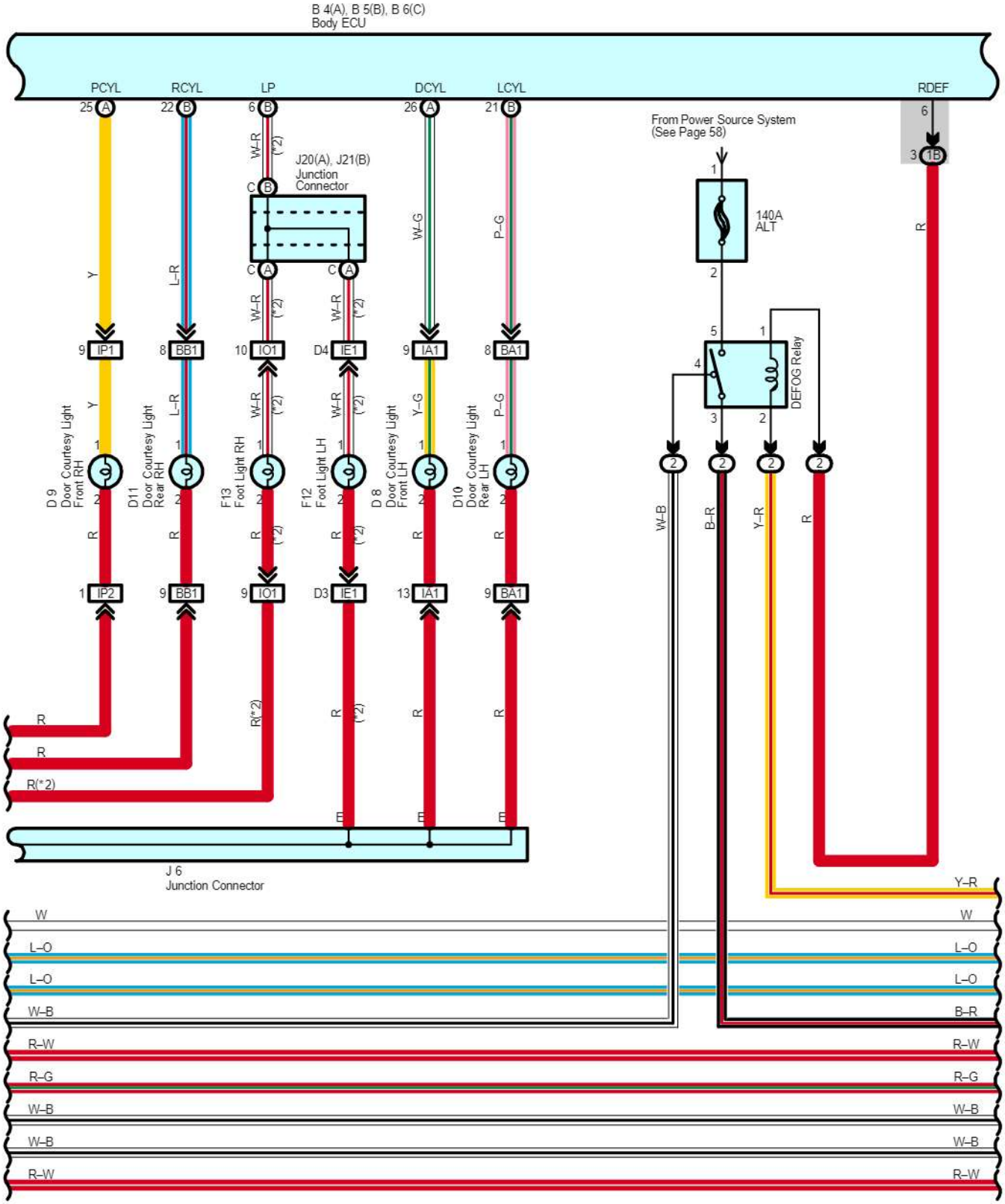
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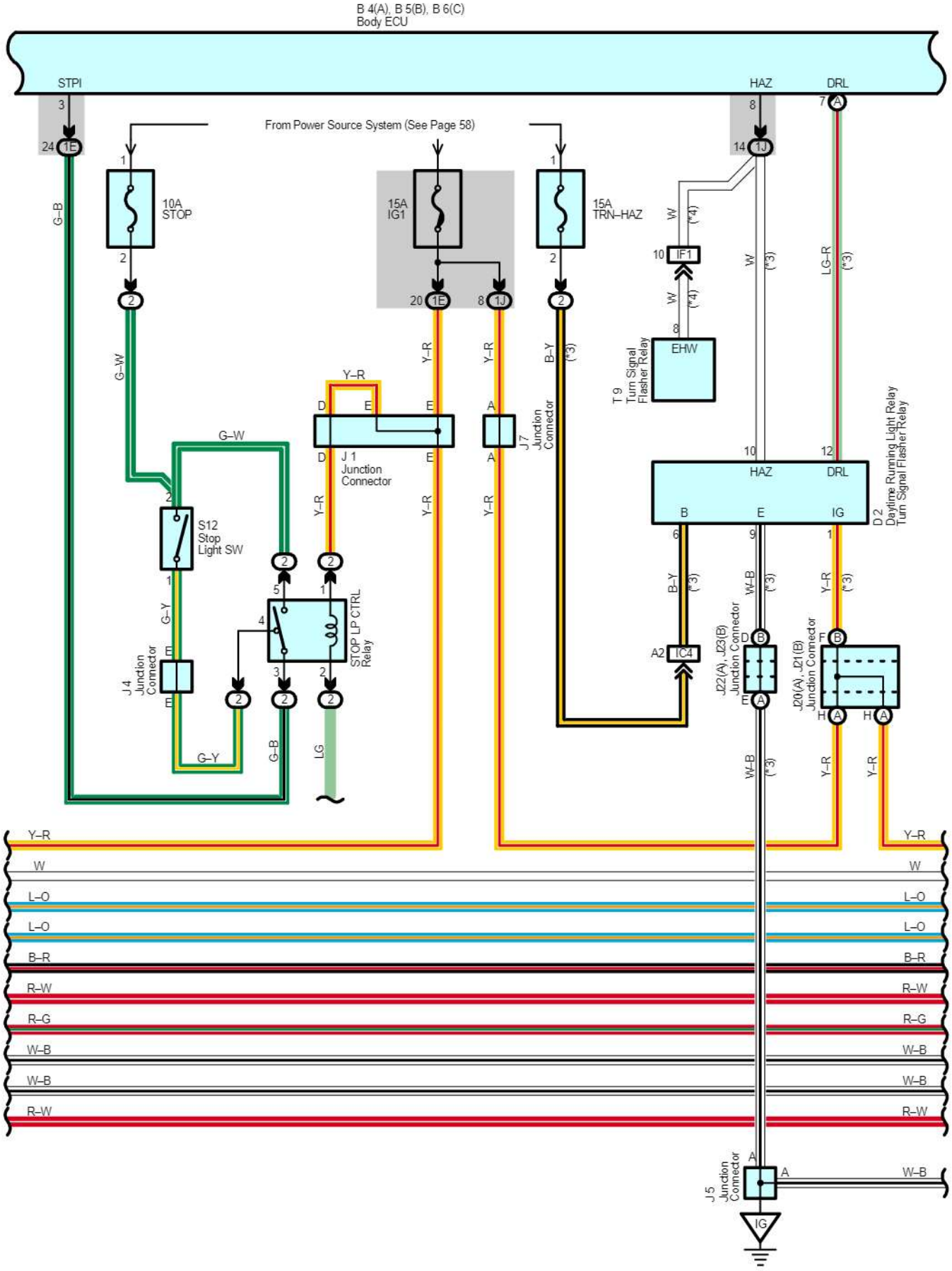
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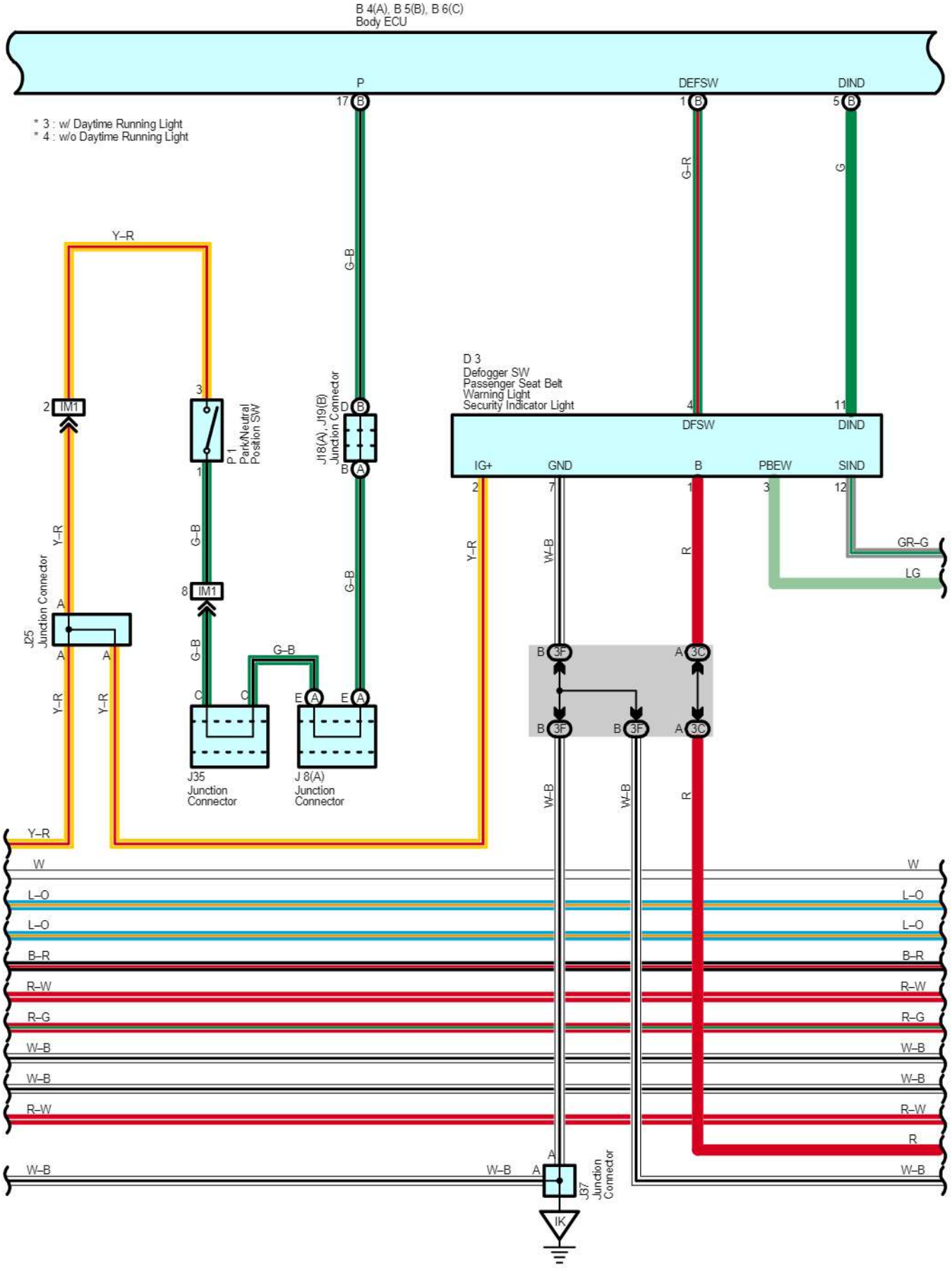
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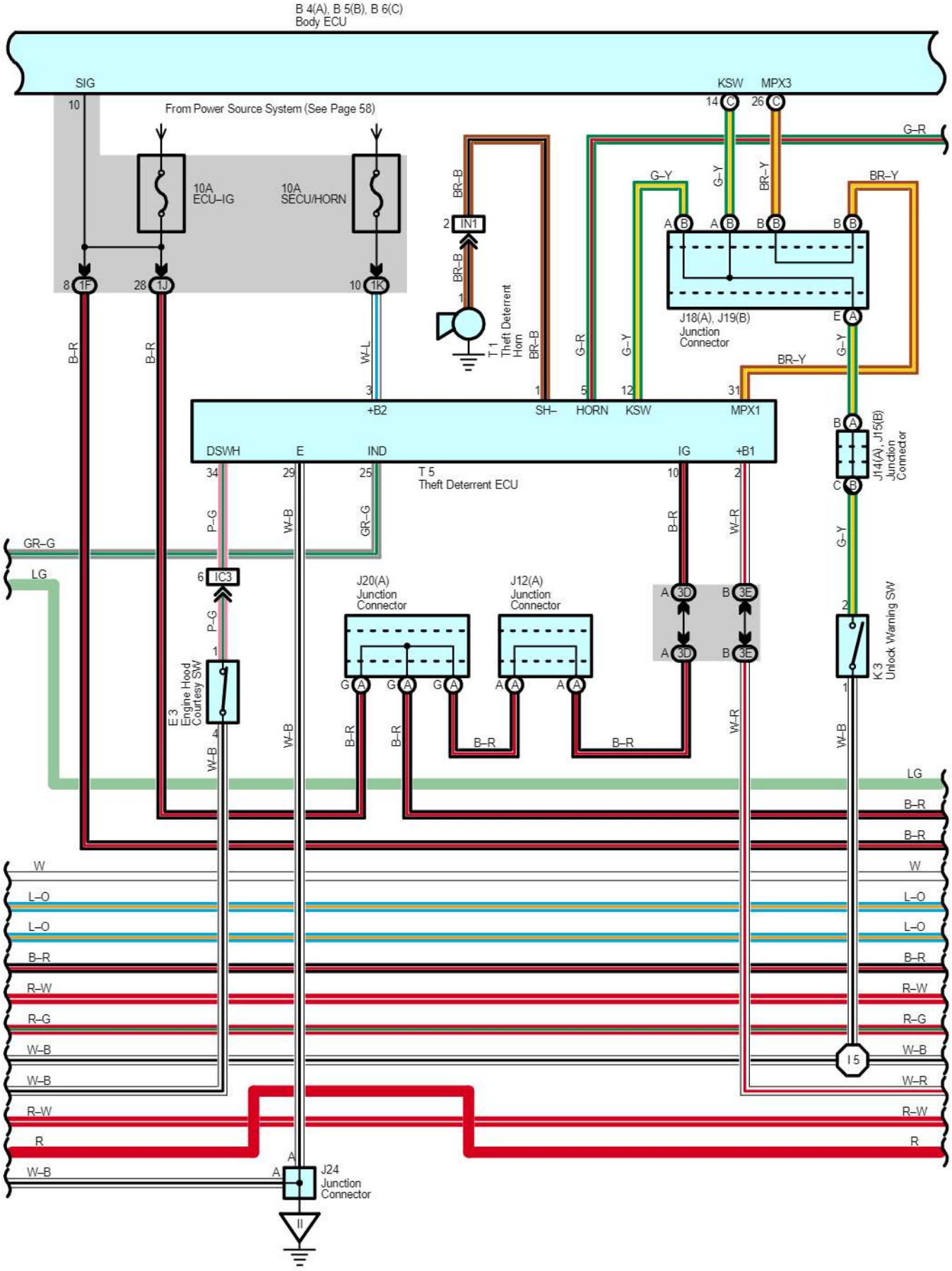
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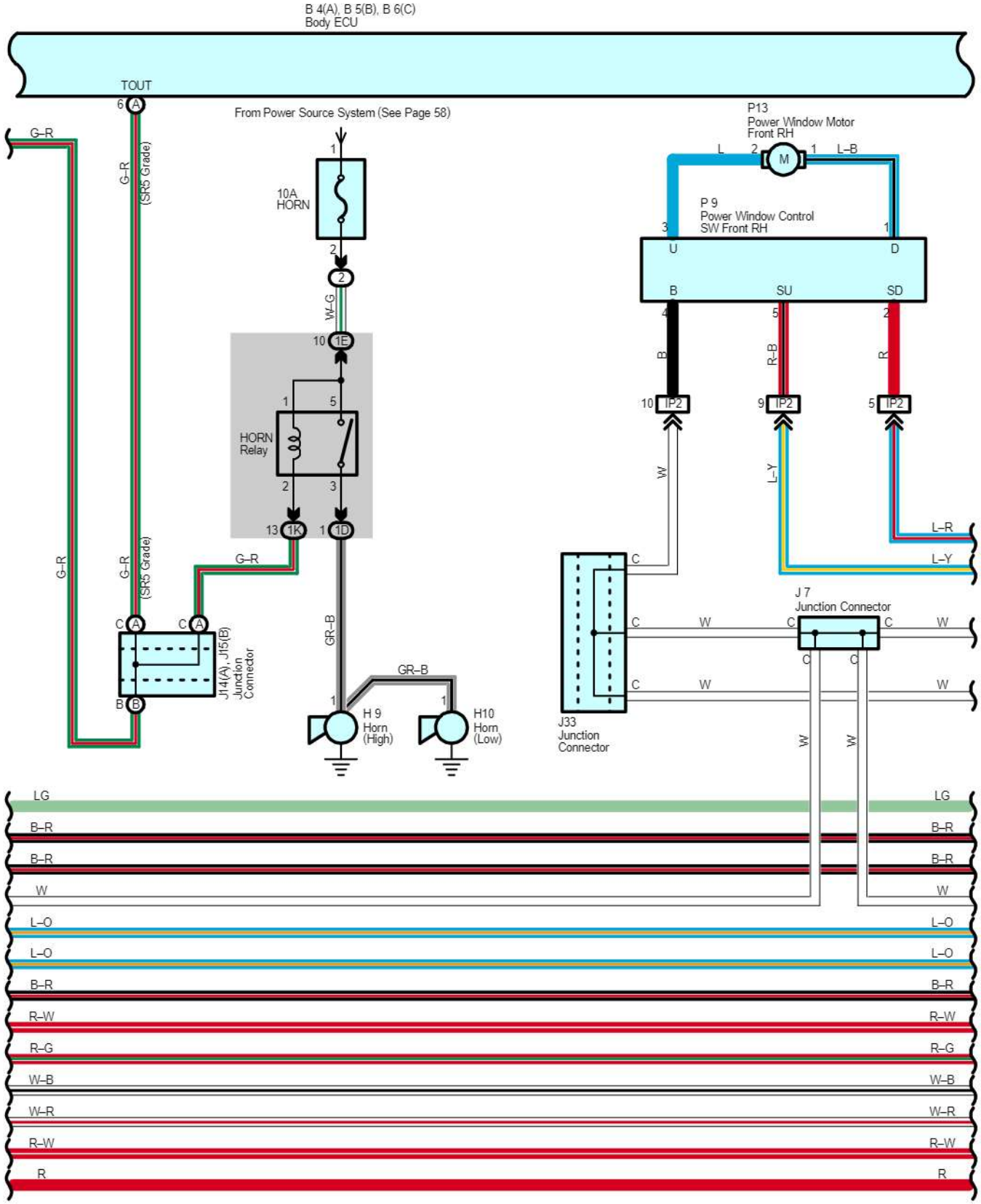
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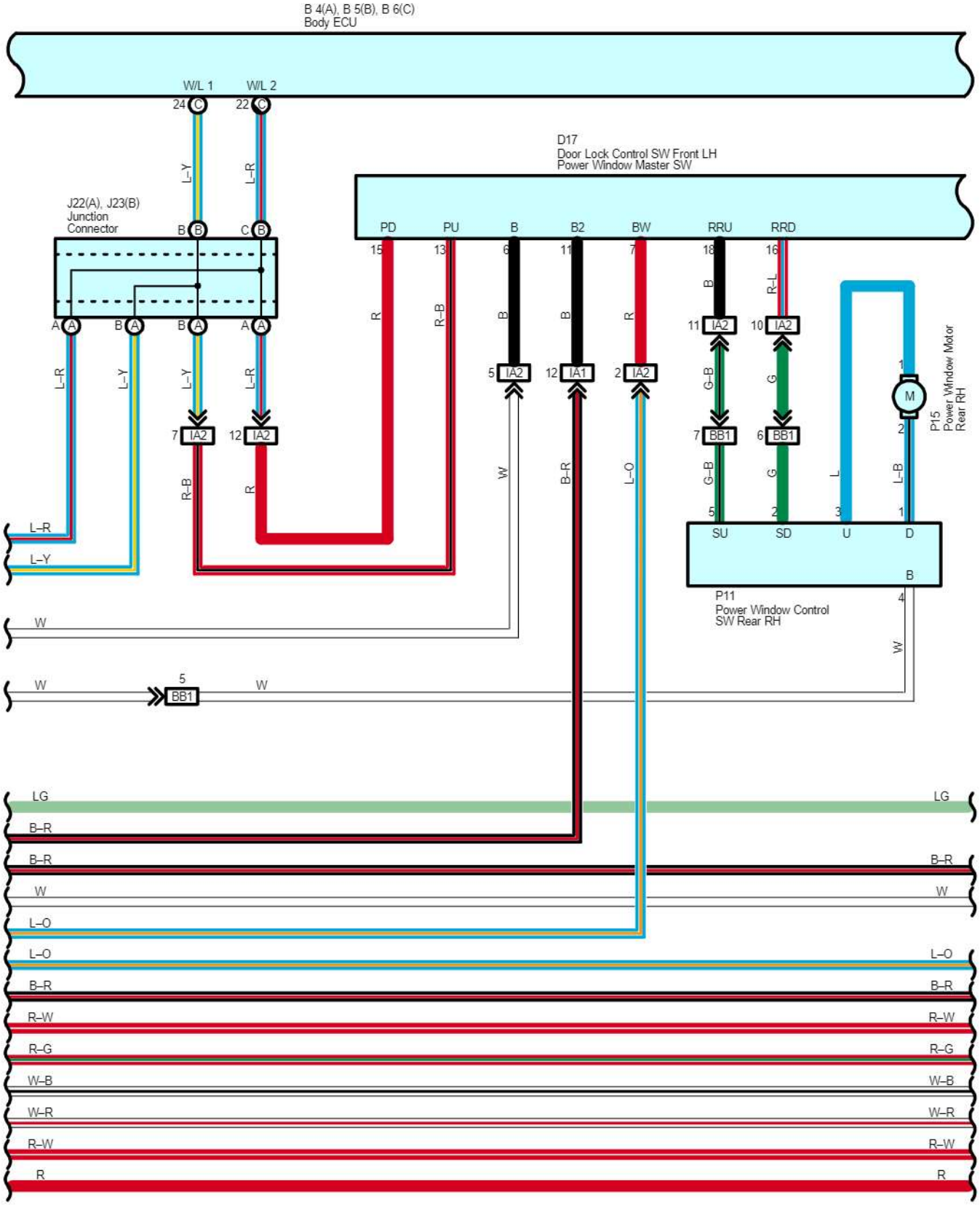
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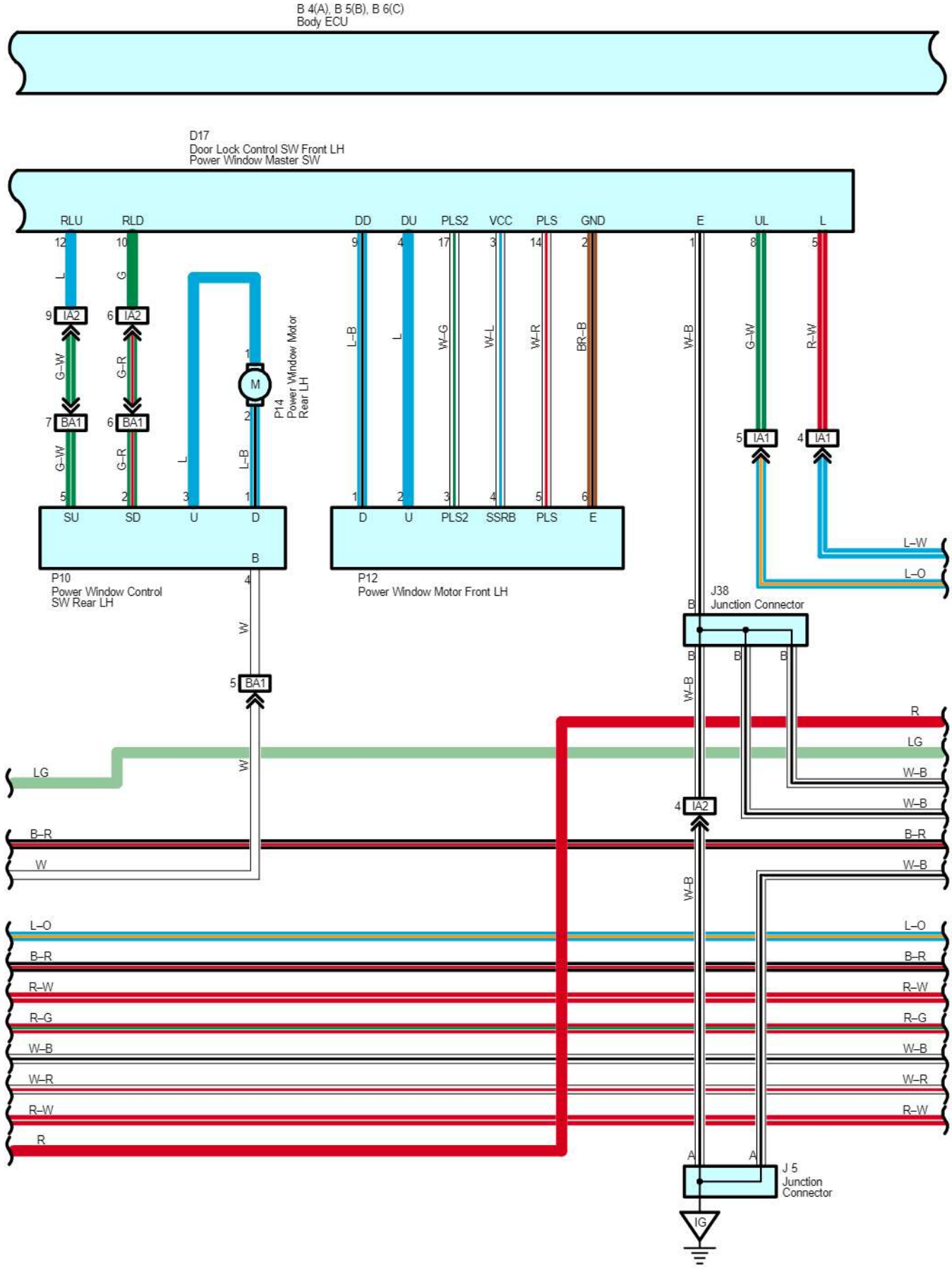
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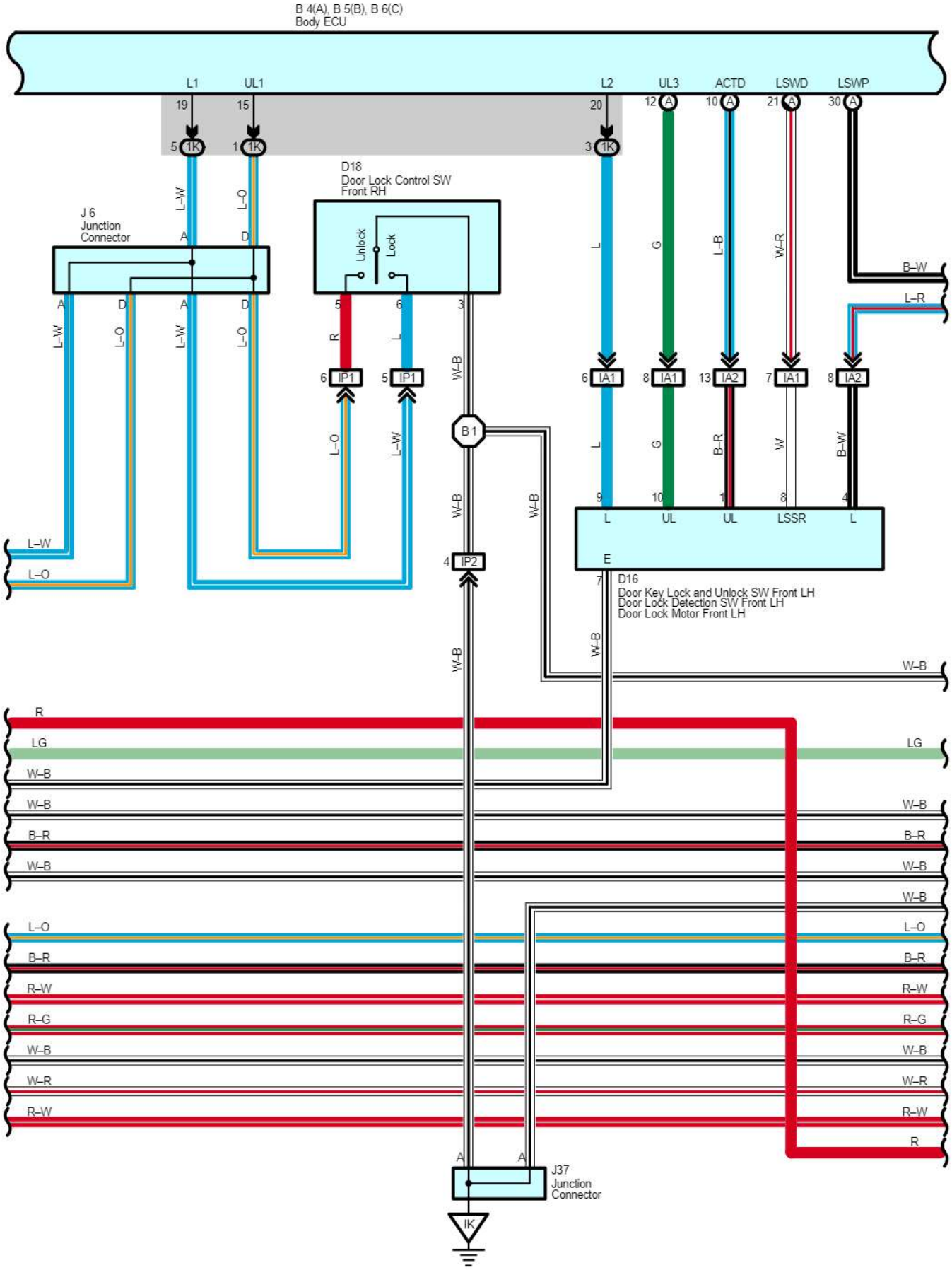
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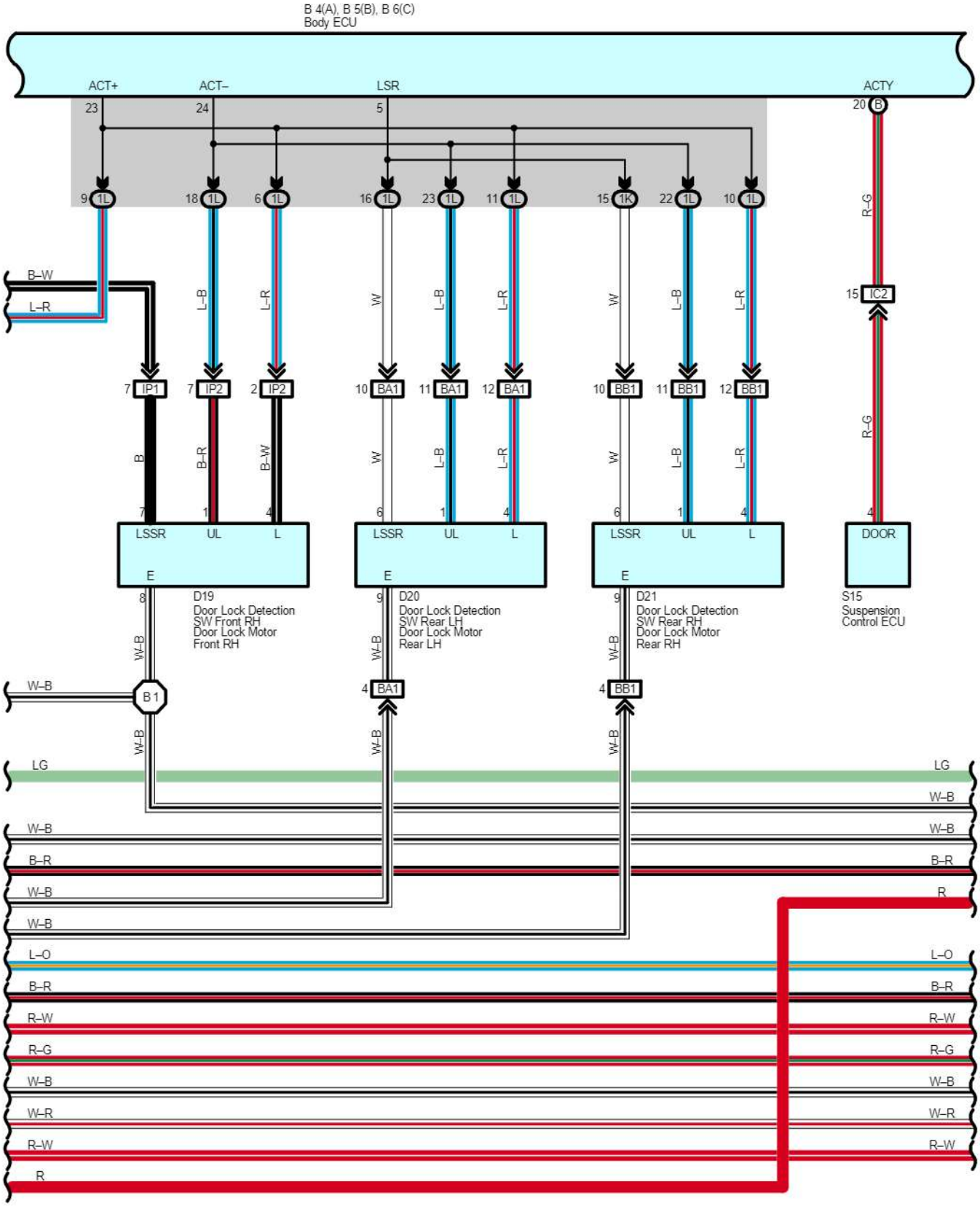
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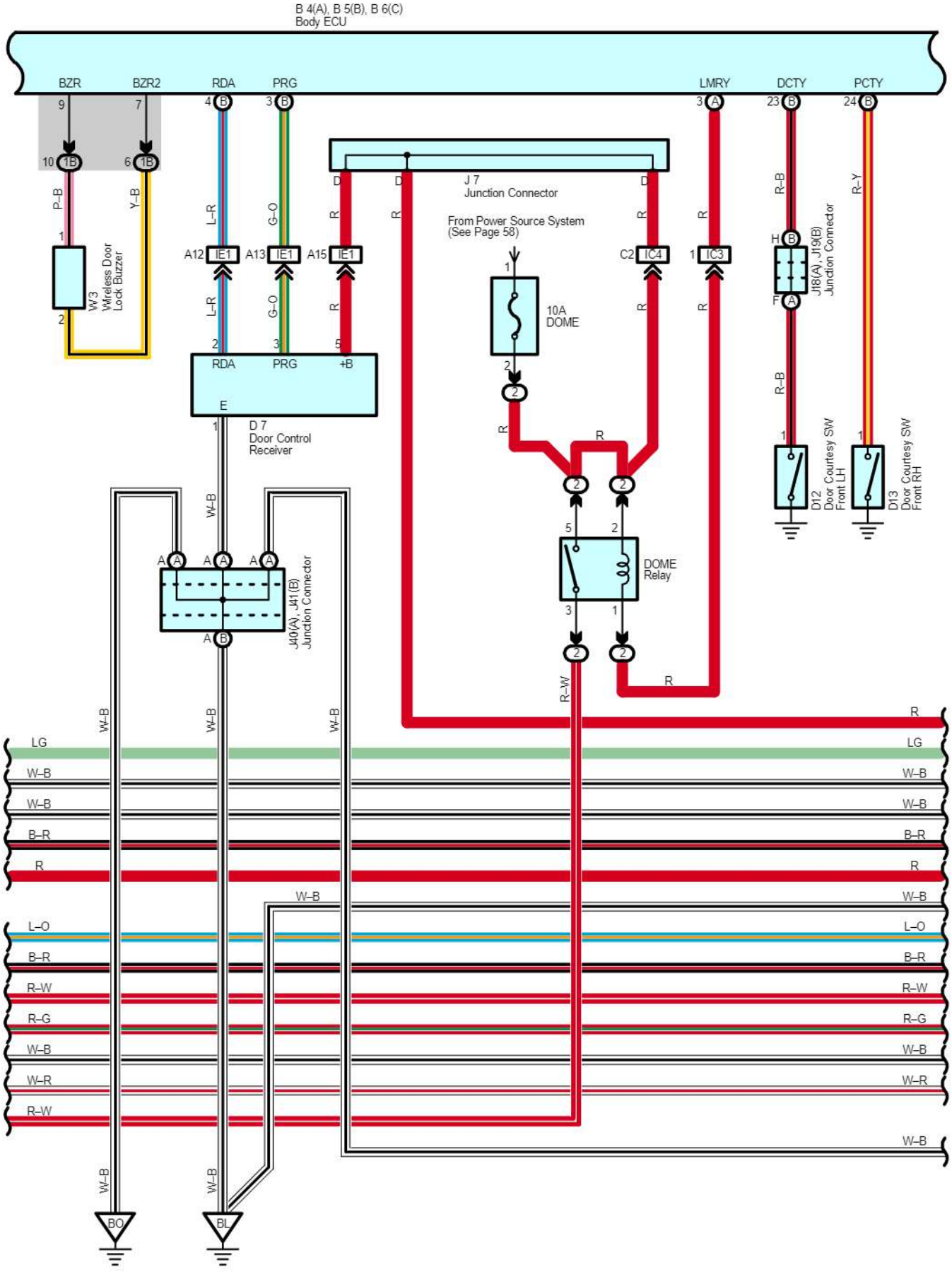
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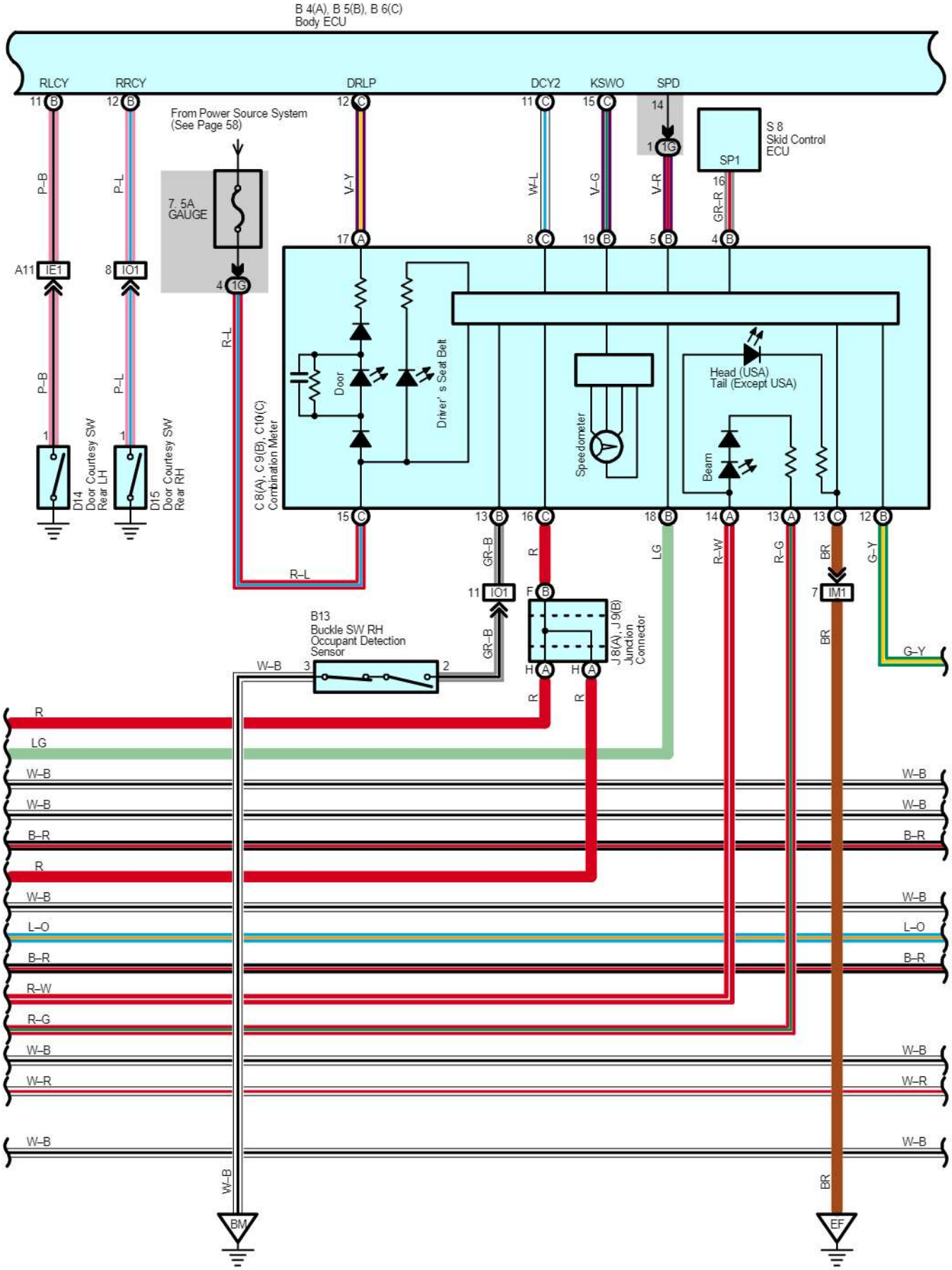
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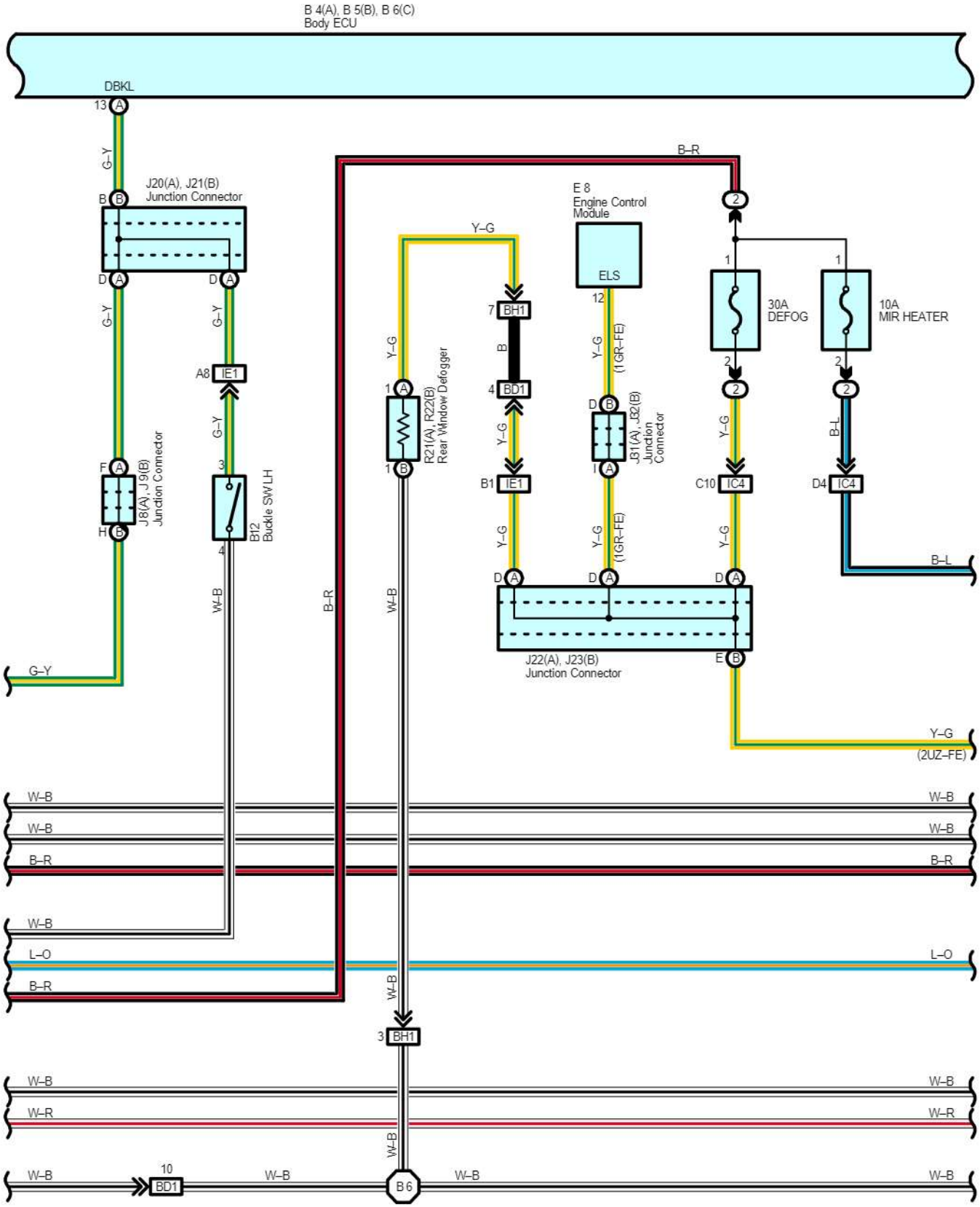
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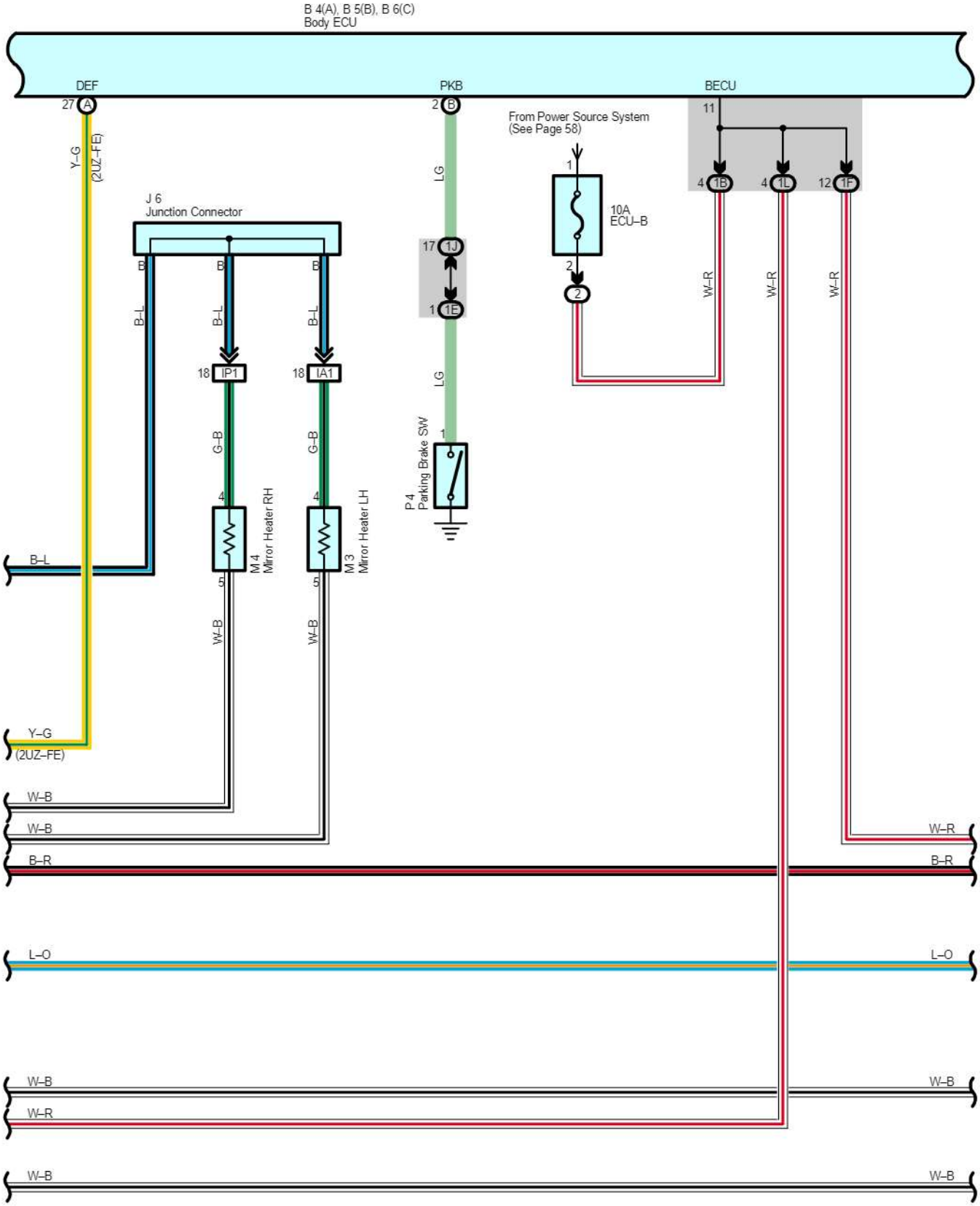
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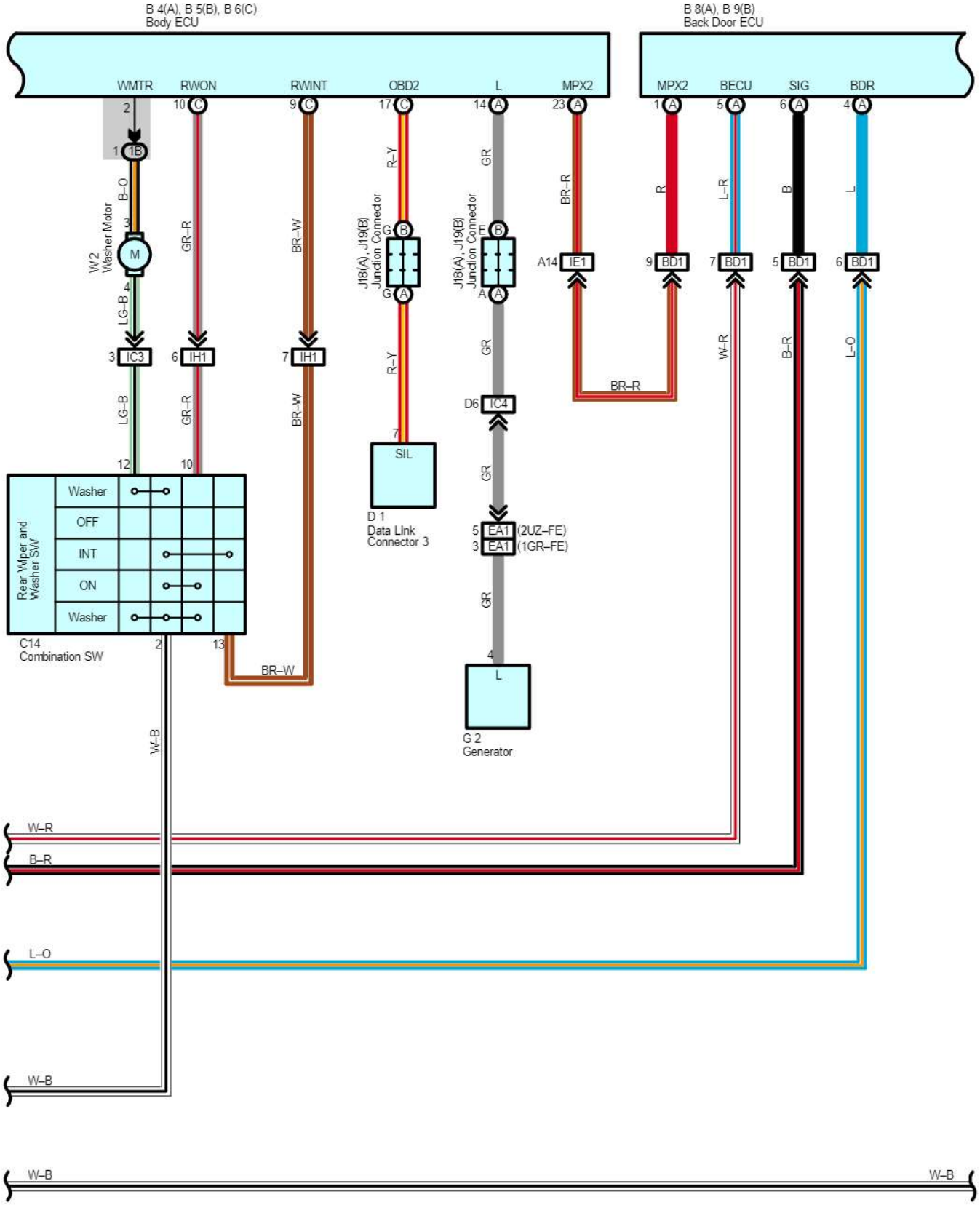
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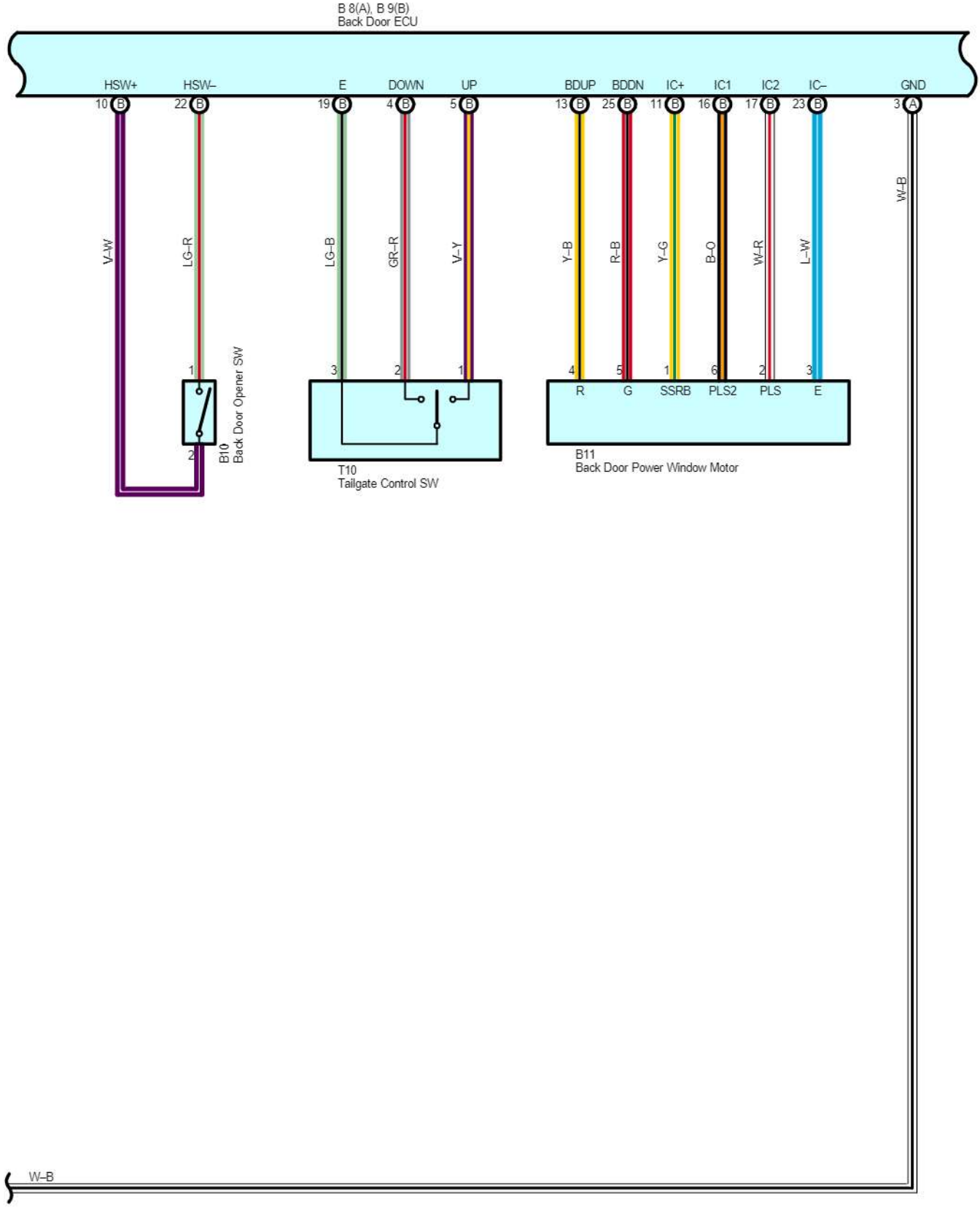
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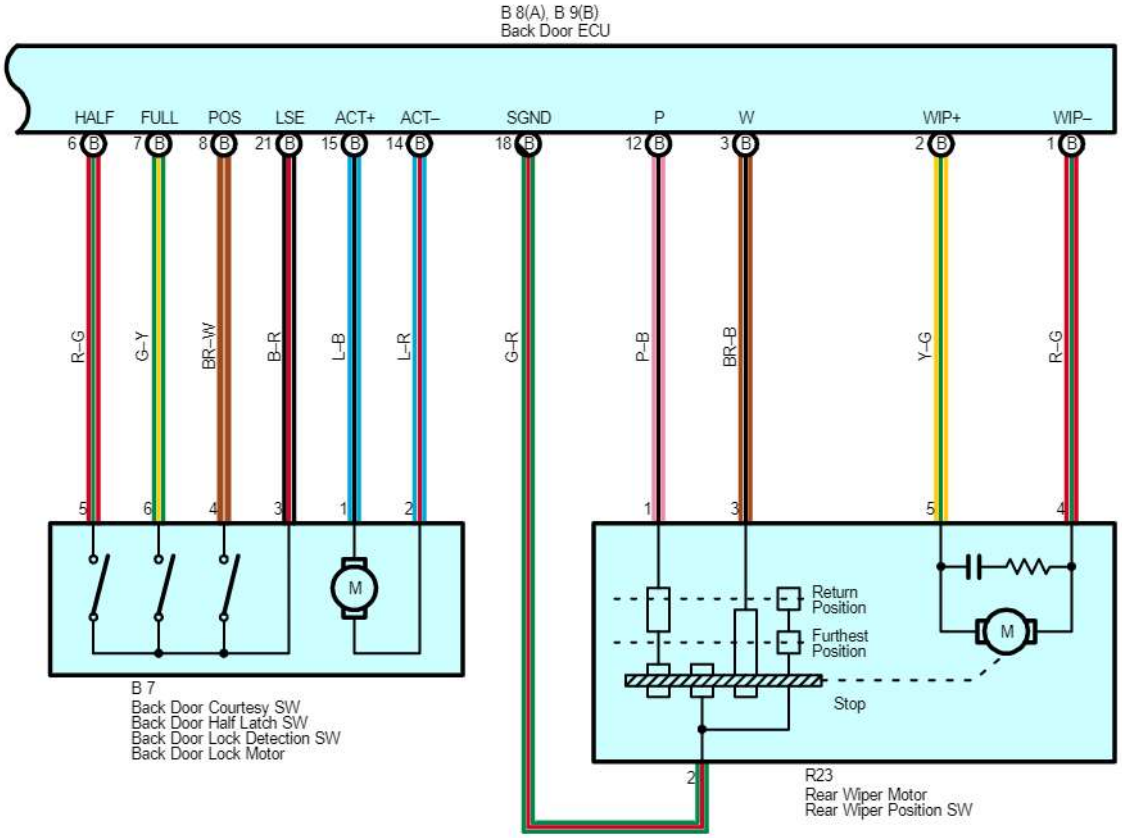
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System Outline

Communication Outline

Communication is made among the body, theft deterrent and back door ECUs.
When the ECU receives a signal from related switches, i.e., the rear wiper SW, the body ECU sends signals to the back door ECU, and moves rear wiper.
For details, please refer to the new car features and/or the repair manual.

Service Hints

Body ECU

22–Ground : Approx. 12 volts with ignition SW at ACC or ON position
11, 12–Ground : Always approx. 12 volts
1, 10–Ground : Approx. 12 volts with ignition SW at ON position
4, 16–Ground : Always continuity

B8 (A) Back Door ECU

(A) 4, (A) 5–Ground : Always approx. 12 volts
(A) 6–Ground : Approx. 12 volts with ignition SW at ON position
(A) 3–Ground : Always continuity

T5 Theft Deterrent ECU

2, 3–Ground : Always approx. 12 volts
10–Ground : Approx. 12 volts with ignition SW at ON position
29–Ground : Always continuity

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○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A39	36	F13	40	J31 A	38
B1	36	G2	32 (2UZ–FE)	J32 B	38
B4 A	36		34 (1GR–FE)	J33	38
B5 B	36	H1	32 (2UZ–FE)	J35	38
B6 C	36		34 (1GR–FE)	J37	38
B7	40	H2	32 (2UZ–FE)	J38	40
B8 A	40		34 (1GR–FE)	J40 A	40
B9 B	40	H3	32 (2UZ–FE)	J41 B	40
B10	40		34 (1GR–FE)	K3	39
B11	40	H4	32 (2UZ–FE)	L2	40
B12	42		34 (1GR–FE)	M3	41
B13	42	H9	32 (2UZ–FE)	M4	41
C8 A	37		34 (1GR–FE)	M5	41
C9 B	37	H10	32 (2UZ–FE)	P1	33 (2UZ–FE)
C10 C	37		34 (1GR–FE)		35 (1GR–FE)
C12	37	I17	37	P4	39
C14	37	I20	40	P7	41
D1	37	J1	33 (2UZ–FE)	P9	41
D2	37		35 (1GR–FE)	P10	41
D3	37	J2 A	33 (2UZ–FE)	P11	41
D7	40		35 (1GR–FE)	P12	41
D8	40	J3 B	33 (2UZ–FE)	P13	41
D9	40		35 (1GR–FE)	P14	41
D10	40	J4	38	P15	41
D11	40	J5	38	R21 A	41
D12	40	J6	38	R22 B	41
D13	40	J7	38	R23	41
D14	40	J8 A	38	S8	39
D15	40	J9 B	38	S12	39
D16	40	J10 A	38	S15	39
D17	40	J11 B	38	T1	33 (2UZ–FE)
D18	40	J12 A	38		35 (1GR–FE)
D19	40	J13 B	38	T5	39
D20	40	J14 A	38	T9	39
D21	40	J15 B	38	T10	41
E3	32 (2UZ–FE)	J18 A	38	V6	41
	34 (1GR–FE)	J19 B	38	V7	41
E8	37	J20 A	38	W2	33 (2UZ–FE)
F1	32 (2UZ–FE)	J21 B	38		35 (1GR–FE)
	34 (1GR–FE)	J22 A	38	W3	33 (2UZ–FE)
F2	32 (2UZ–FE)	J23 B	38		35 (1GR–FE)
	34 (1GR–FE)	J24	38		
F12	40	J25	38		

⬭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

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: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Roof Wire and Driver Side J/B (Lower Finish Panel)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1C		
1D		
1E		
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1H		
1J		
1K		
1L		
3C	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3D		
3E		
3F		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	44 (2UZ–FE) 46 (1GR–FE)	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
IA1	48	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IA2		
IC2	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC3		
IC4		
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IF1	50	Instrument Panel Wire and Relay Wire (Behind the Instrument Panel J/B)
IG1	50	Instrument Panel No.2 Wire and Instrument Panel Wire (Behind the Combination Meter)
IH1	50	Instrument Panel Wire and Instrument Panel Wire (Behind the Combination Meter)
II1	50	Instrument Panel Wire and Instrument Panel Wire (Instrument Panel Brace LH)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IN1	52	Instrument Panel Wire and Engine Room Main Wire (Right Kick Panel)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)
IP1	52	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
IP2		
BA1	54	Rear Door No.2 Wire and Instrument Panel Wire (Left Center Pillar)
BB1	54	Rear Door No.1 Wire and Instrument Panel Wire (Right Center Pillar)
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)
BH1	54	Back Door No.1 Wire and Back Door No.2 Wire (Left Side of Back Door)

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▽ : **Ground Points**

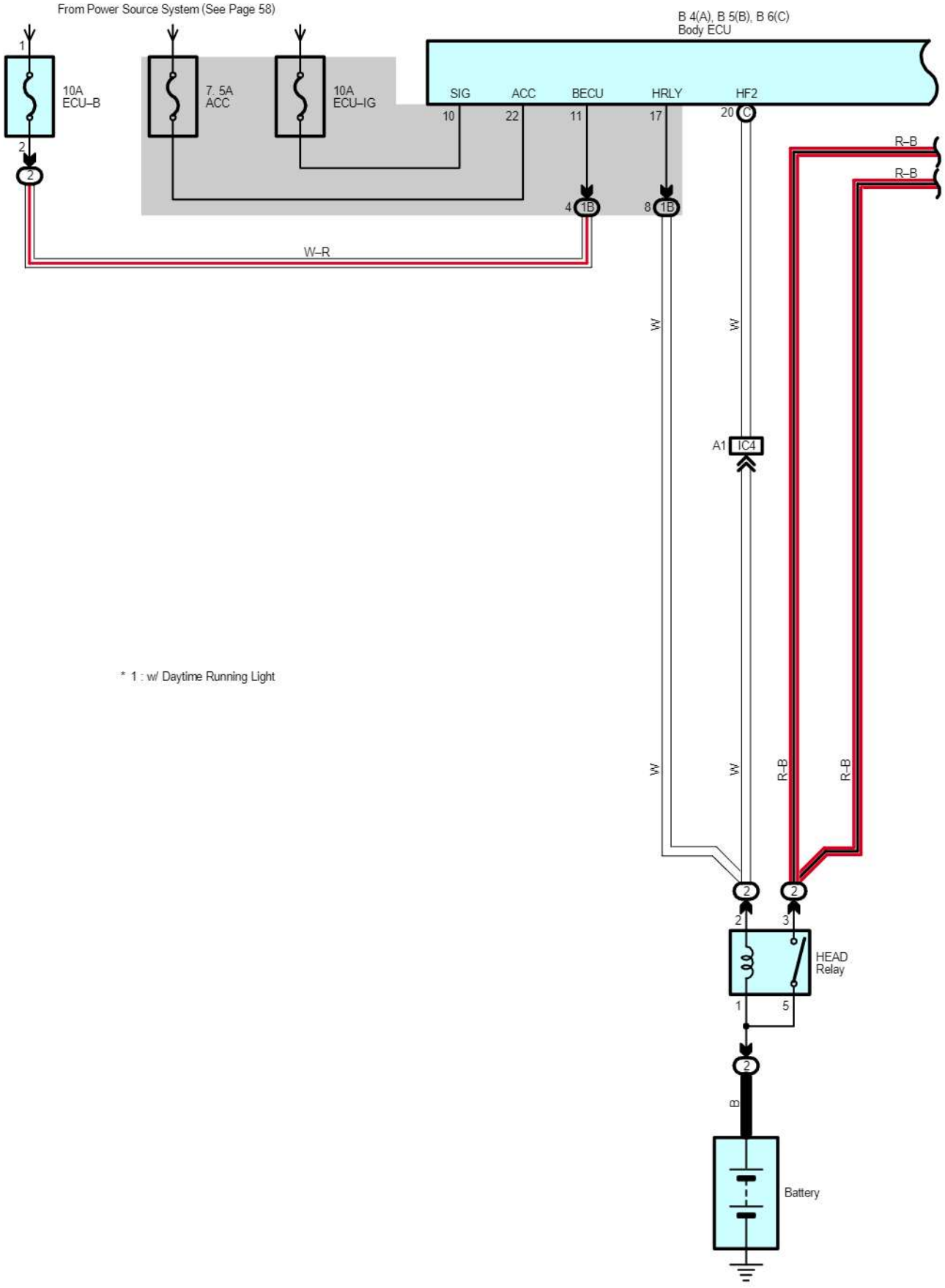
Code	See Page	Ground Points Location
EA	44 (2UZ–FE) 46 (1GR–FE)	Front Right Fender
EB	44 (2UZ–FE) 46 (1GR–FE)	Front Left Fender
EF	44 (2UZ–FE) 46 (1GR–FE)	Rear Side of Left Bank Cylinder Block
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel
BL	54	Floor Seat Crossmember LH
BM	54	Floor Seat Crossmember RH
BO	54	Rear Pillar LH

○ : **Splice Points**

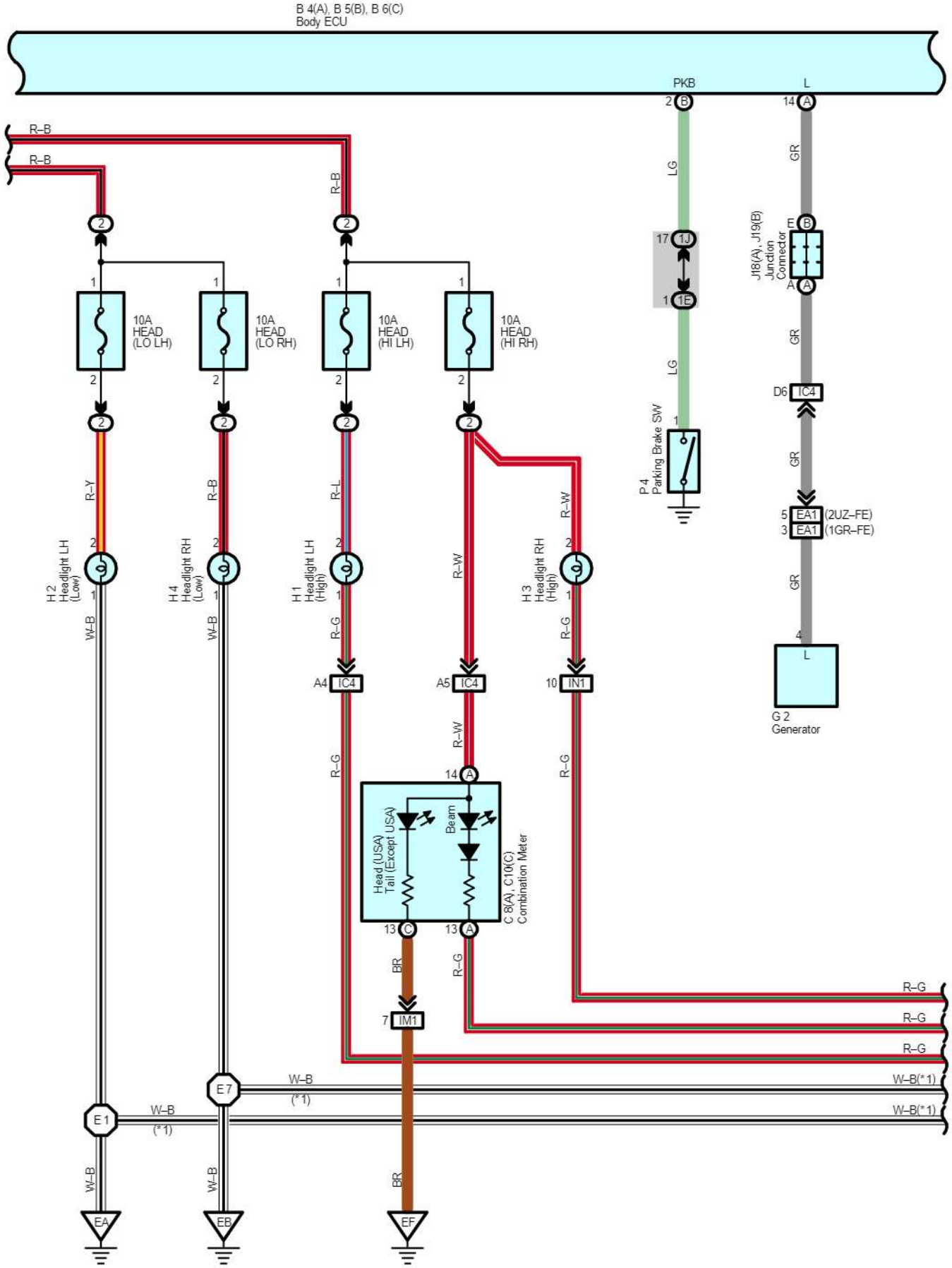
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E1	44 (2UZ–FE) 46 (1GR–FE)	Engine Room Main Wire	I5	50	Instrument Panel Wire
			B1	54	Front Door RH Wire
E7	44 (2UZ–FE) 46 (1GR–FE)		B3	54	Roof Wire
			B6	54	Back Door No.1 Wire
I3	50				

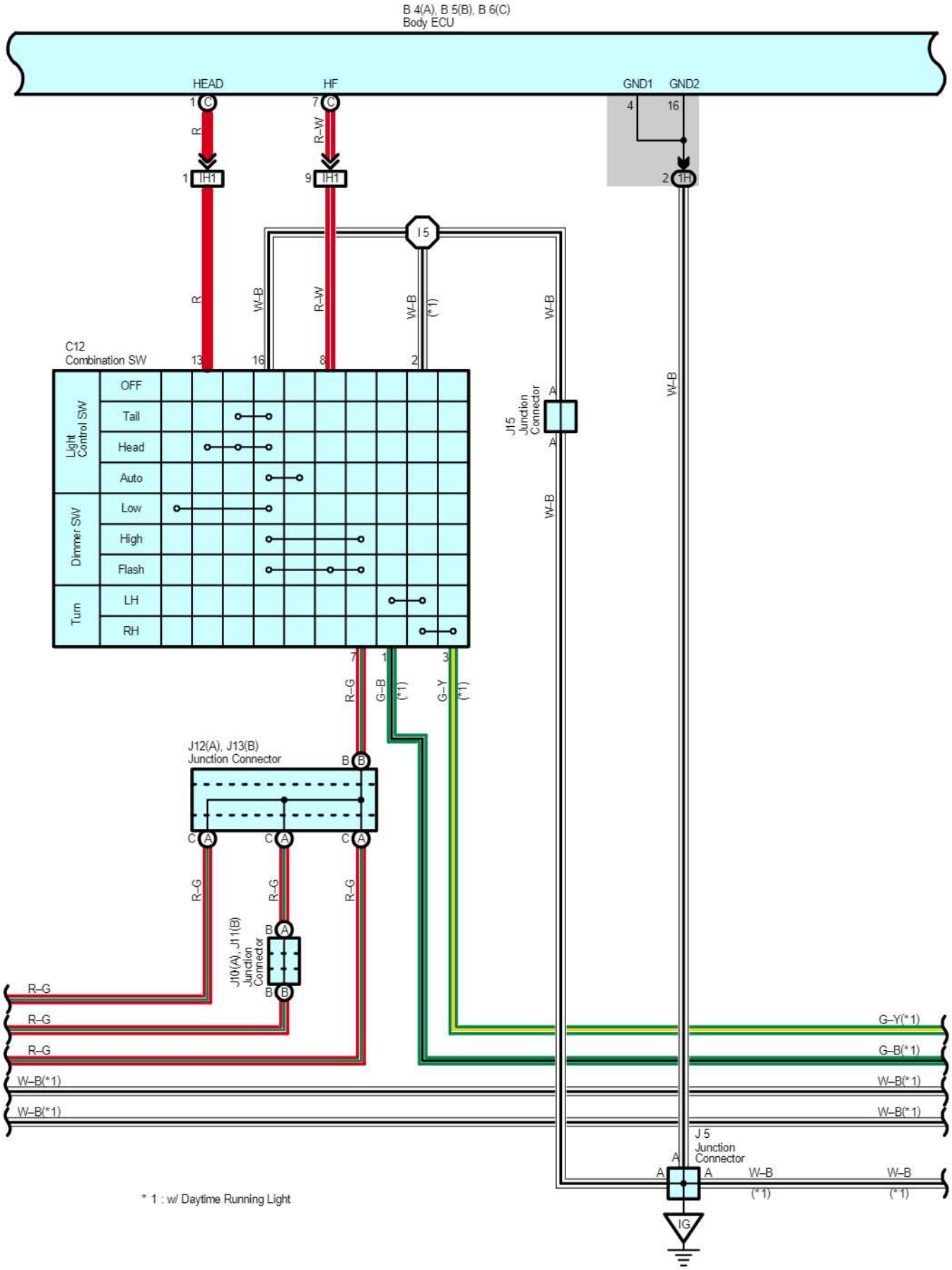
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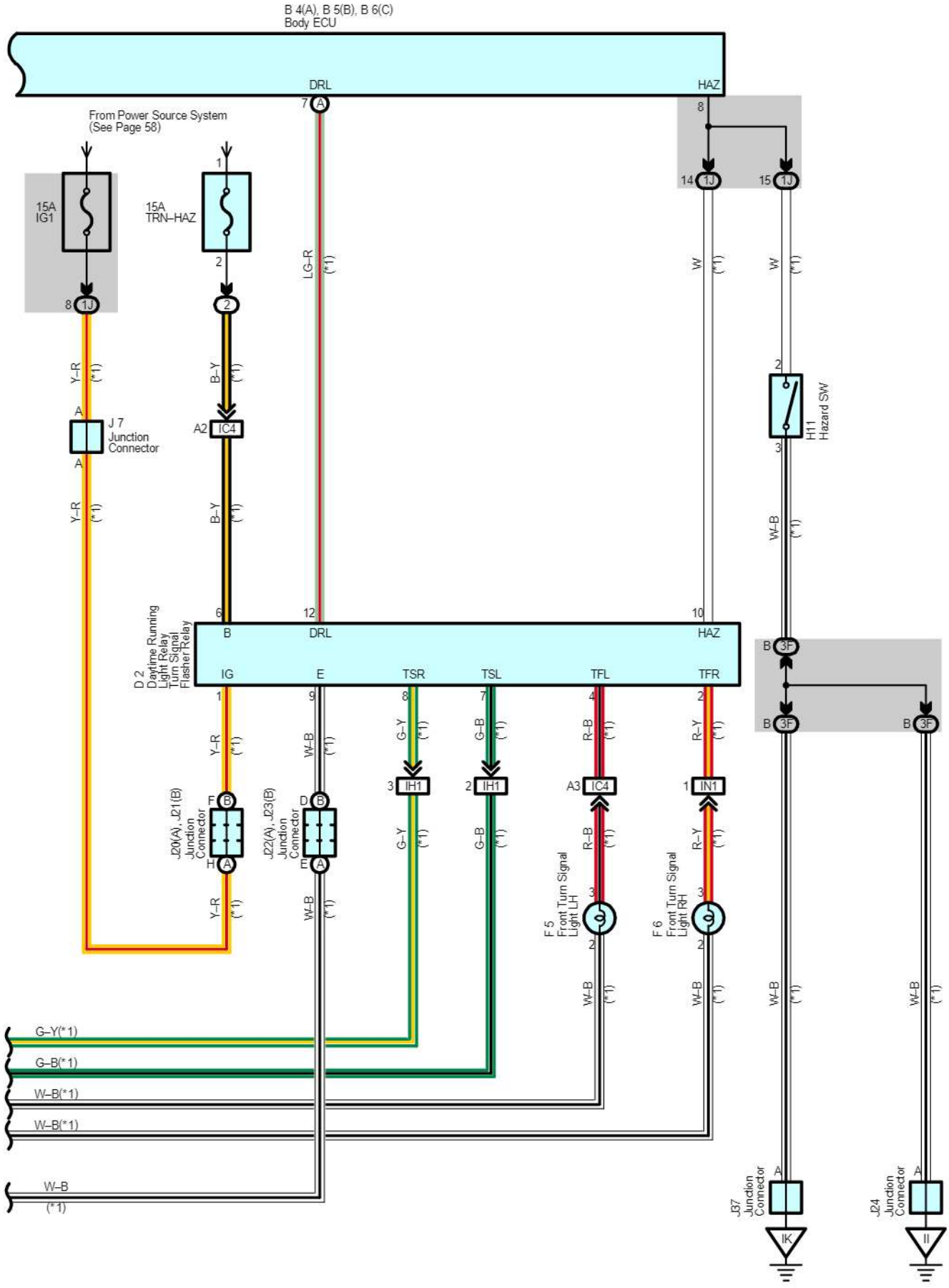
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B 4(A), B 5(B), B 6(C)
Body ECU
PKB
L
R–B
R–B
R–B
10A
HEAD
(LO LH)
10A
HEAD
(LO RH)
10A
HEAD
(HI LH)
10A
HEAD
(HI RH)
LG
LG
GR
GR
GR
GR
J18(A), J19(B)
Junction
Connector
D6 IC4
5 EA1 (2UZ–FE)
3 EA1 (1GR–FE)
P 4
Parking Brake SW
G 2
Generator
H 2
Headlight LH
(Low)
H 4
Headlight RH
(Low)
H 1
Headlight LH
(High)
H 3
Headlight RH
(High)
R–Y
R–B
R–L
R–W
W–B
R–G
A4 IC4
A5 IC4
10 IN1
R–W
R–G
Head (USA)
Tail (Except USA)
Beam
C 8(A), C10(C)
Combination Meter
BR
7 IM1
R–G
R–G
R–G
W–B
W–B(*1)
(*1)
E 7
E 1
EA
EB
EF
BR
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* 1 : w/ Daytime Running Light

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Headlight

System Outline

(w/ daytime running light)

* This system is designed to automatically activate the turn signal lights during the daytime to keep the car highly visible to other vehicles. This system is controlled by the body ECU.
  This system makes use of the turn signal lights as daytime running lights.
  For this reason, when the turn signal lights are operated, the daytime running lights function is interrupted momentarily, which, however, will be brought back into operation as soon as the interposed operation is over.
* This system is enabled when the conditions given below are met.

A) Ignition switch ON condition

B) Turn signal light switch OFF condition

C) Hazard light switch OFF condition

D) Light control switch OFF condition

E) Parking brake switch OFF condition (Parking brake out of operating condition)**

**: This system does not become active when the parking brake switch is ON. However, once the OFF signal of the parking brake switch is input into the body ECU, this system will become active thereafter, regardless of whether the parking brake switch is ON or OFF.

○ : Parts Location

Code		See Page	Code		See Page	Code		See Page
B4	A	36	H1		32 (2UZ–FE)	J12	A	38
B5	B	36			34 (1GR–FE)	J13	B	38
B6	C	36	H2		32 (2UZ–FE)	J15		38
C8	A	37			34 (1GR–FE)	J18	A	38
C10	C	37	H3		32 (2UZ–FE)	J19	B	38
C12		37			34 (1GR–FE)	J20	A	38
D2		37	H4		32 (2UZ–FE)	J21	B	38
F5		32 (2UZ–FE)			34 (1GR–FE)	J22	A	38
		34 (1GR–FE)	H11		37	J23	B	38
F6		32 (2UZ–FE)	J5		38	J24		38
		34 (1GR–FE)	J7		38	J37		38
G2		32 (2UZ–FE)	J10	A	38	P4		39
		34 (1GR–FE)	J11	B	38			

⬭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1E		
1H	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
3F	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)

▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	44 (2UZ–FE)	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
	46 (1GR–FE)	
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IH1	50	Instrument Panel Wire and Instrument Panel Wire (Behind the Combination Meter)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IN1	52	Instrument Panel Wire and Engine Room Main Wire (Right Kick Panel)

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▽ : Ground Points

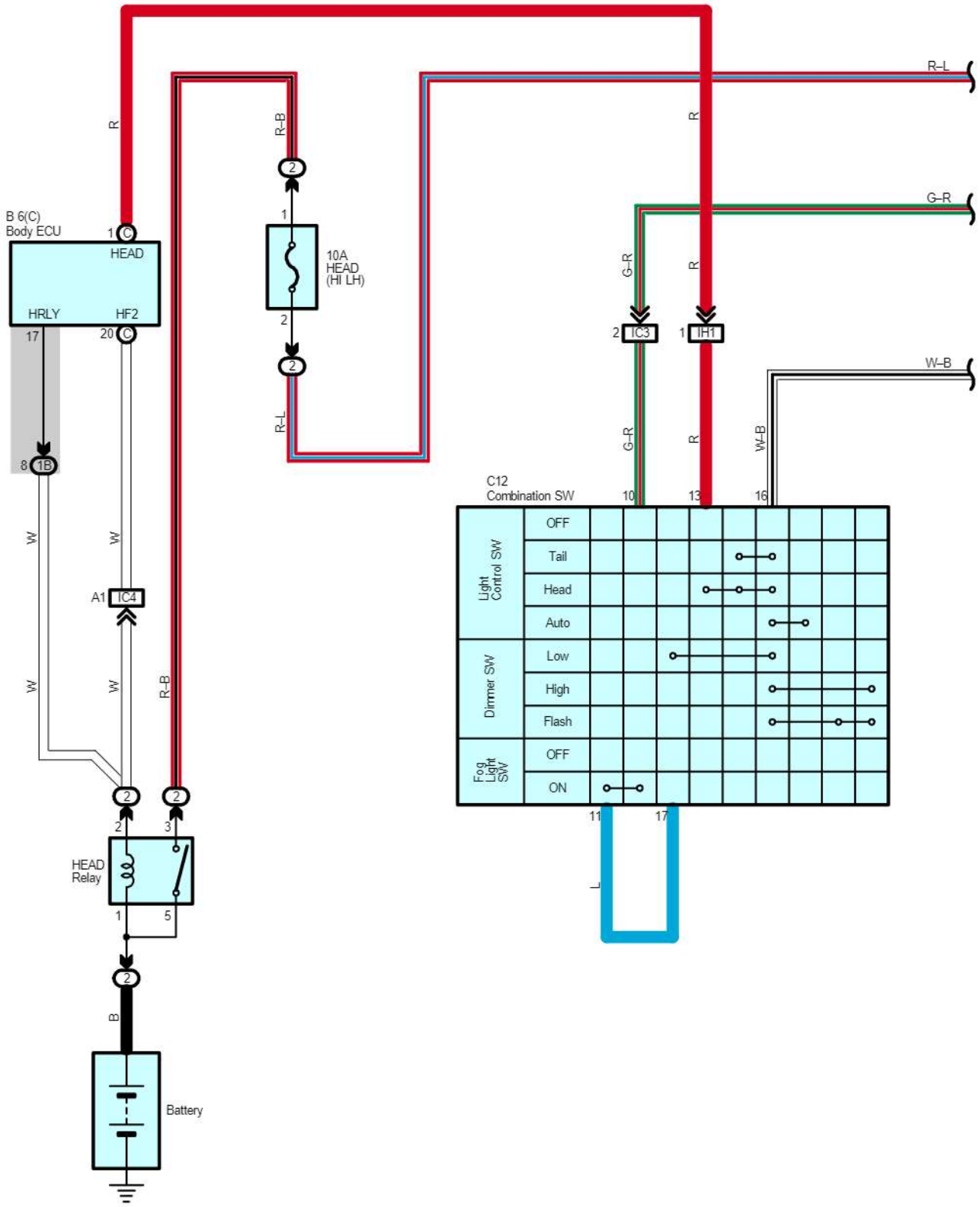
Code	See Page	Ground Points Location
EA	44 (2UZ–FE)	Front Right Fender
	46 (1GR–FE)	
EB	44 (2UZ–FE)	Front Left Fender
	46 (1GR–FE)	
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
	46 (1GR–FE)	
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel

⬡ : Splice Points

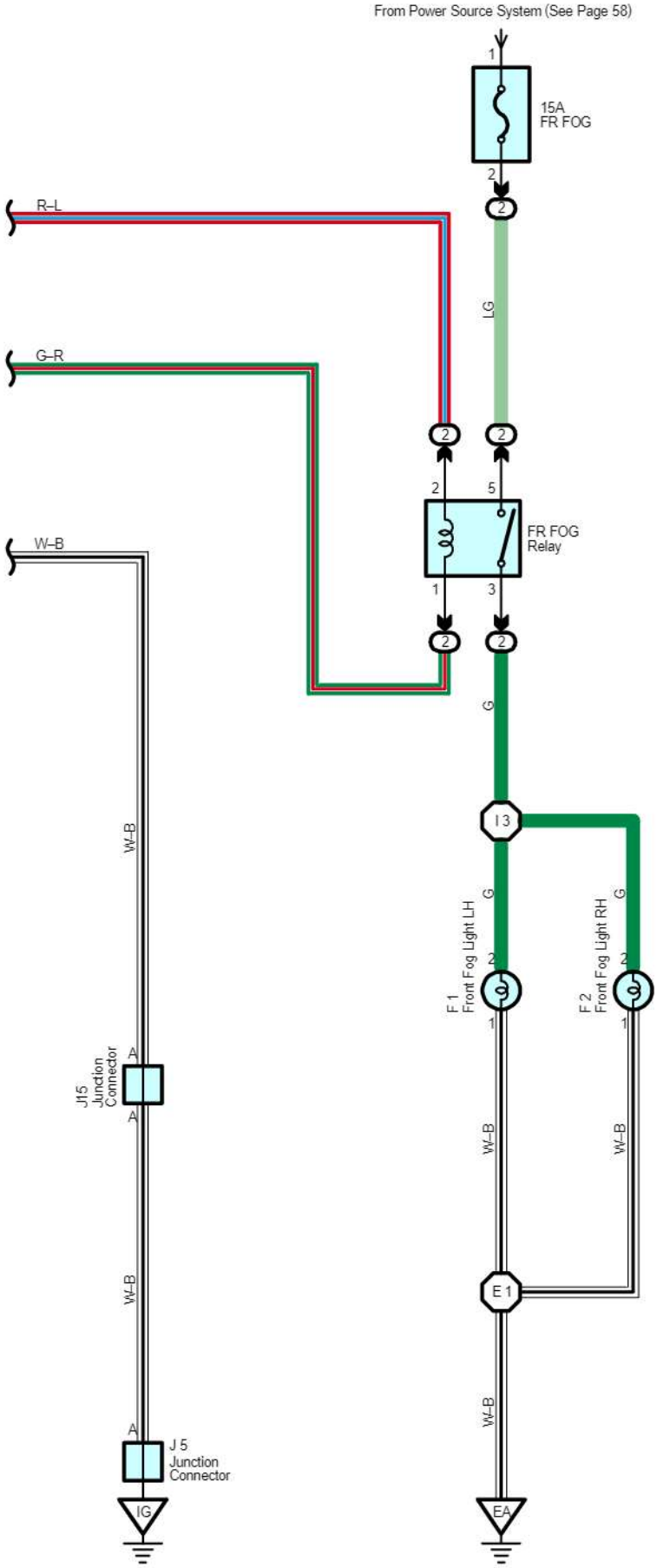
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E1	44 (2UZ–FE)	Engine Room Main Wire	E7	46 (1GR–FE)	Engine Room Main Wire
	46 (1GR–FE)		I5	50	Instrument Panel Wire
E7	44 (2UZ–FE)				

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Front Fog Light



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Front Fog Light

Service Hints

FR FOG Relay

3–5 : Closed with light control SW at HEAD position, dimmer SW at LOW position and fog light SW at ON position

: Parts Location

Code	See Page	Code	See Page	Code	See Page
B6 C	36	F1	34 (1GR–FE)	J5	38
C12	37	F2	32 (2UZ–FE)	J15	38
F1	32 (2UZ–FE)		34 (1GR–FE)		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IH1	50	Instrument Panel Wire and Instrument Panel Wire (Behind the Combination Meter)

: Ground Points

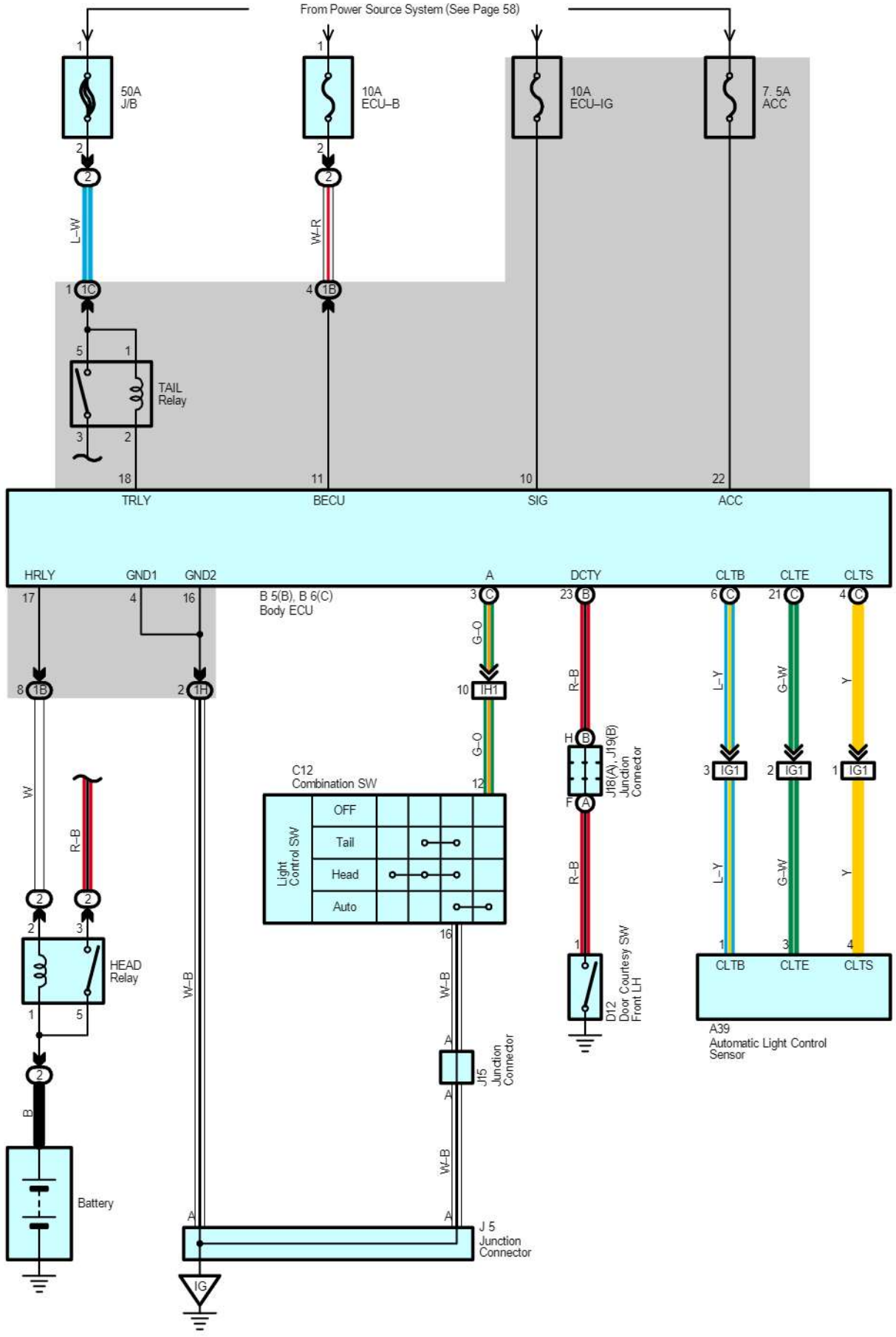
Code	See Page	Ground Points Location
EA	44 (2UZ–FE)	Front Right Fender
	46 (1GR–FE)	
IG	48	Left Kick Panel

: Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E1	44 (2UZ–FE)	Engine Room Main Wire	I3	50	Engine Room Main Wire
	46 (1GR–FE)				

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System Outline

The automatic light control system works when the light control SW is turned to AUTO. The automatic light control sensor detects the brightness around the vehicle. By this function, the system automatically turns the taillight and headlight on if the brightness is below the regular level and turns the taillight and headlight off when the surroundings become brighter than the regular level.

Service Hints

C12 Combination SW

12–16 : Closed with the light control SW at AUTO position

Body ECU

22–Ground : Approx. 12 volts with the ignition SW at ACC or ON position
10–Ground : Approx. 12 volts with the ignition SW at ON position
11–Ground : Always approx. 12 volts
4, 16–Ground : Always continuity

D12 Door Courtesy SW Front LH

1–Ground : Continuity with the driver's door open

○ : Parts Location

Code		See Page	Code	See Page	Code		See Page
A39		36	C12	37	J15		38
B5	B	36	D12	40	J18	A	38
B6	C	36	J5	38	J19	B	38

⬭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1C		
1H	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

▭ : Connector Joining Wire Harness and Wire Harness

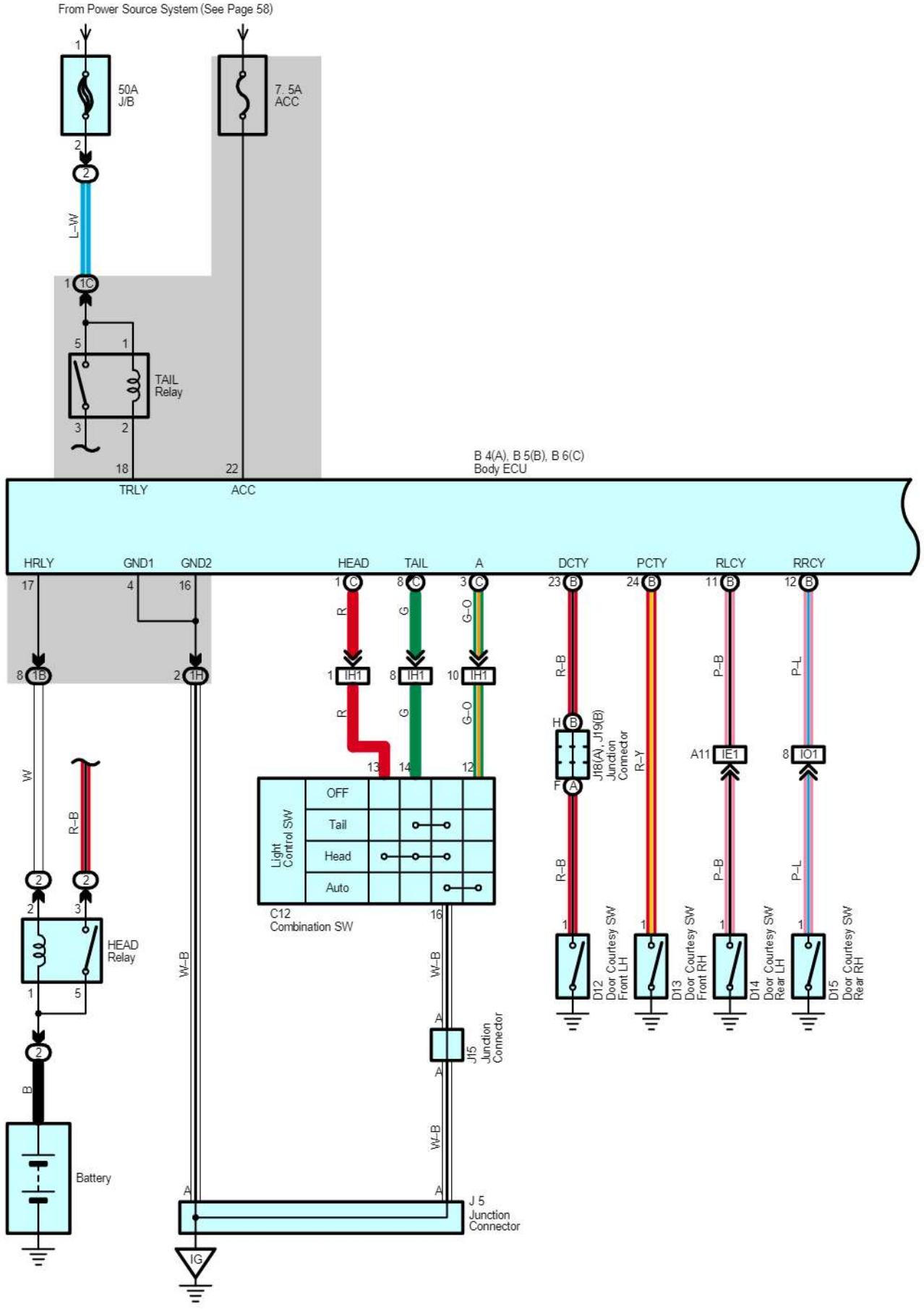
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IG1	50	Instrument Panel No.2 Wire and Instrument Panel Wire (Behind the Combination Meter)
IH1	50	Instrument Panel Wire and Instrument Panel Wire (Behind the Combination Meter)

▽ : Ground Points

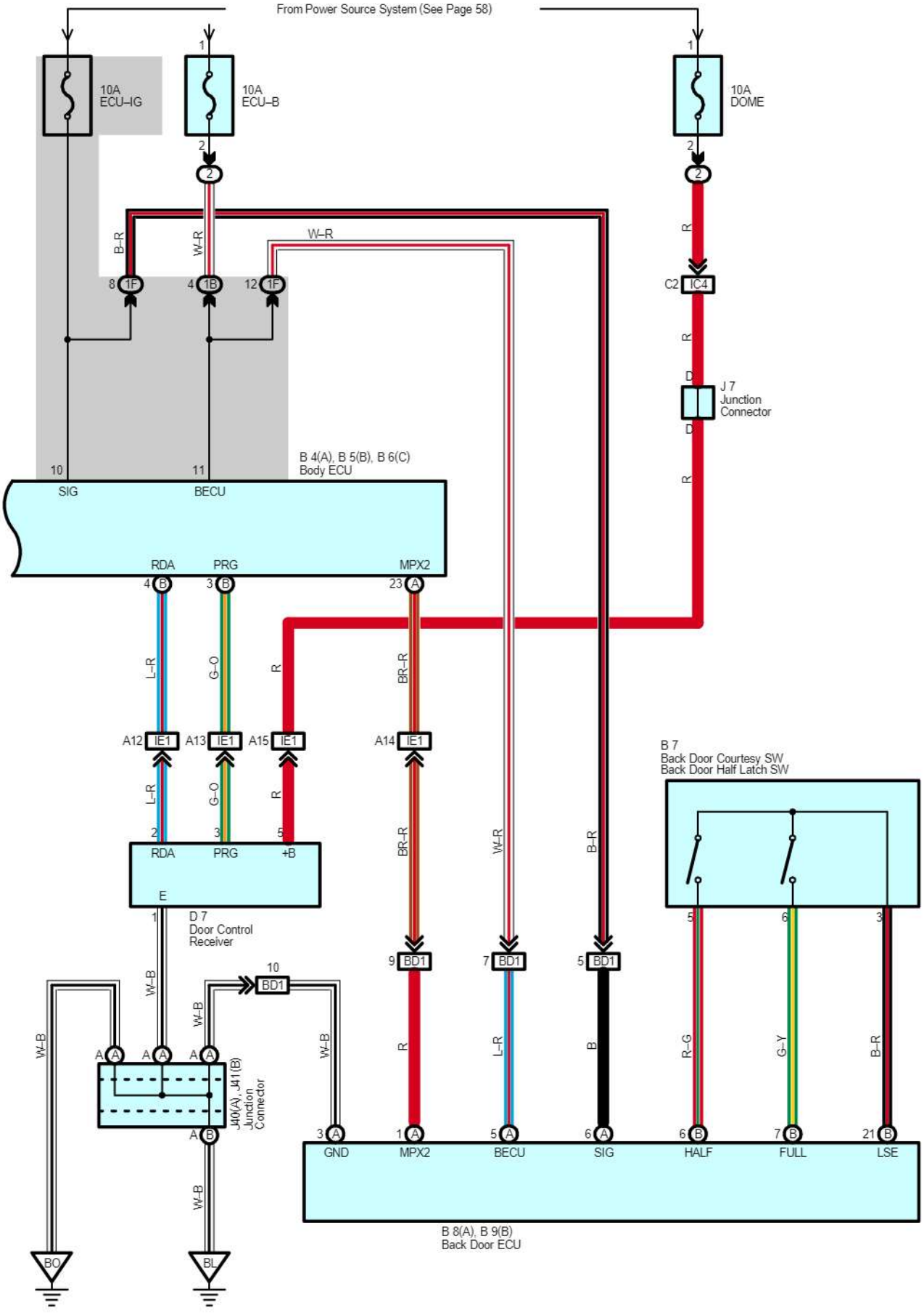
Code	See Page	Ground Points Location
IG	48	Left Kick Panel

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Light Auto Turn Off



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Light Auto Turn Off

System Outline

When all doors are closed after opening some or all of them after the Ignition SW is turned from ON to OFF with the head and tail lamps ON, these lamps will remain ON for 30 seconds after the doors are closed and then go OUT automatically. Pressing the lock SW on a wireless controller twice in succession turns OFF the lamps instantly.

Service Hints

C12 Combination SW

14–16 : Closed with the light control SW at TAIL or HEAD position
13–16 : Closed with the light control SW at HEAD position
12–16 : Closed with the light control SW at AUTO position

Body ECU

22–Ground : Approx. 12 volts with the ignition SW at ACC or ON position
10–Ground : Approx. 12 volts with the ignition SW at ON position
11–Ground : Always approx. 12 volts
4, 16–Ground : Always continuity

D12, D13, D14, D15 Door Courtesy SW Front LH, RH, Rear LH, RH

1–Ground : Continuity with the door open

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B4 A	36	D7	40	J15	38
B5 B	36	D12	40	J18 A	38
B6 C	36	D13	40	J19 B	38
B7	40	D14	40	J40 A	40
B8 A	40	D15	40	J41 B	40
B9 B	40	J5	38		
C12	37	J7	38		

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

▭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1C		
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1H	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IH1	50	Instrument Panel Wire and Instrument Panel Wire (Behind the Combination Meter)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)

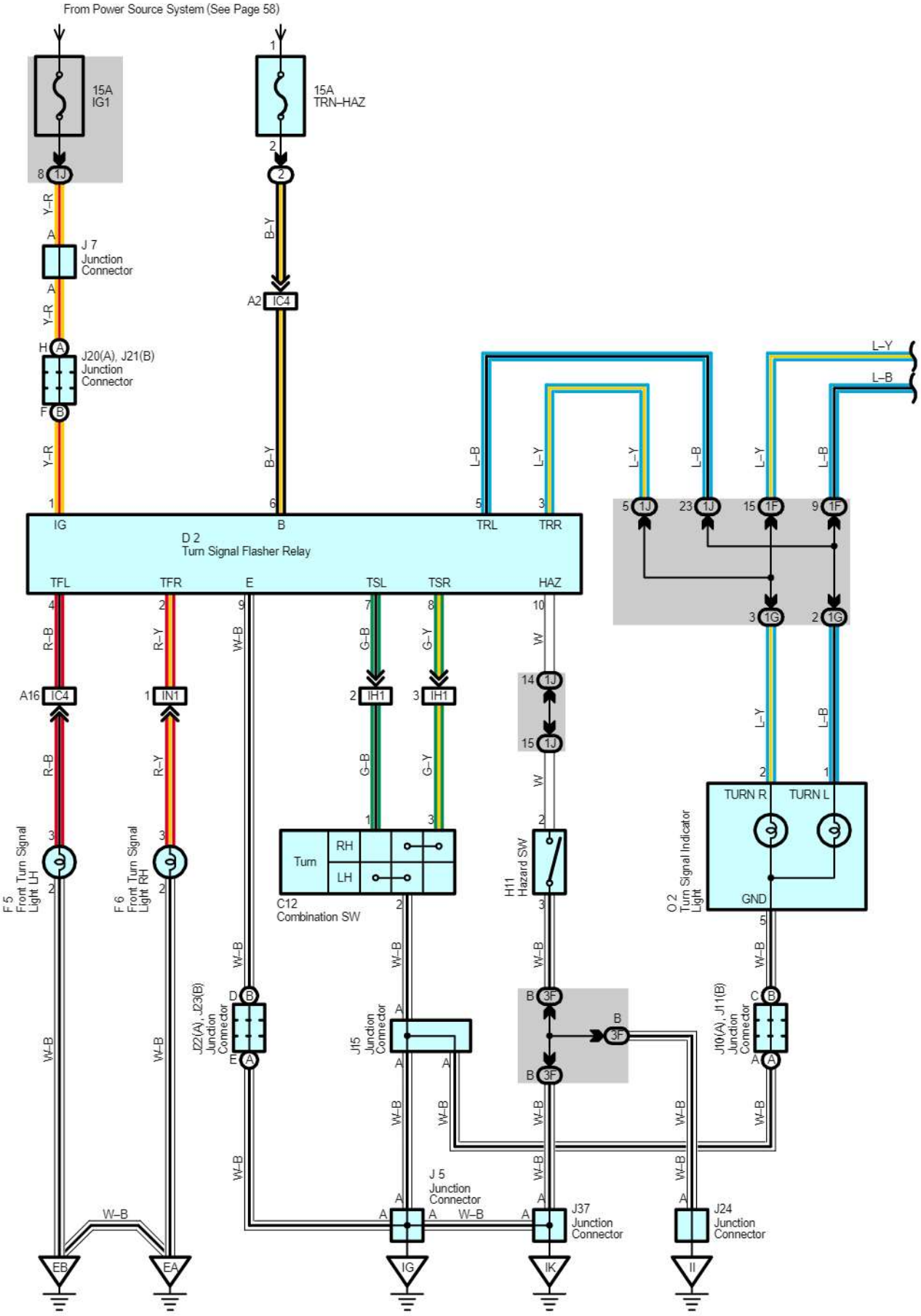
▽ : Ground Points

Code	See Page	Ground Points Location
IG	48	Left Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

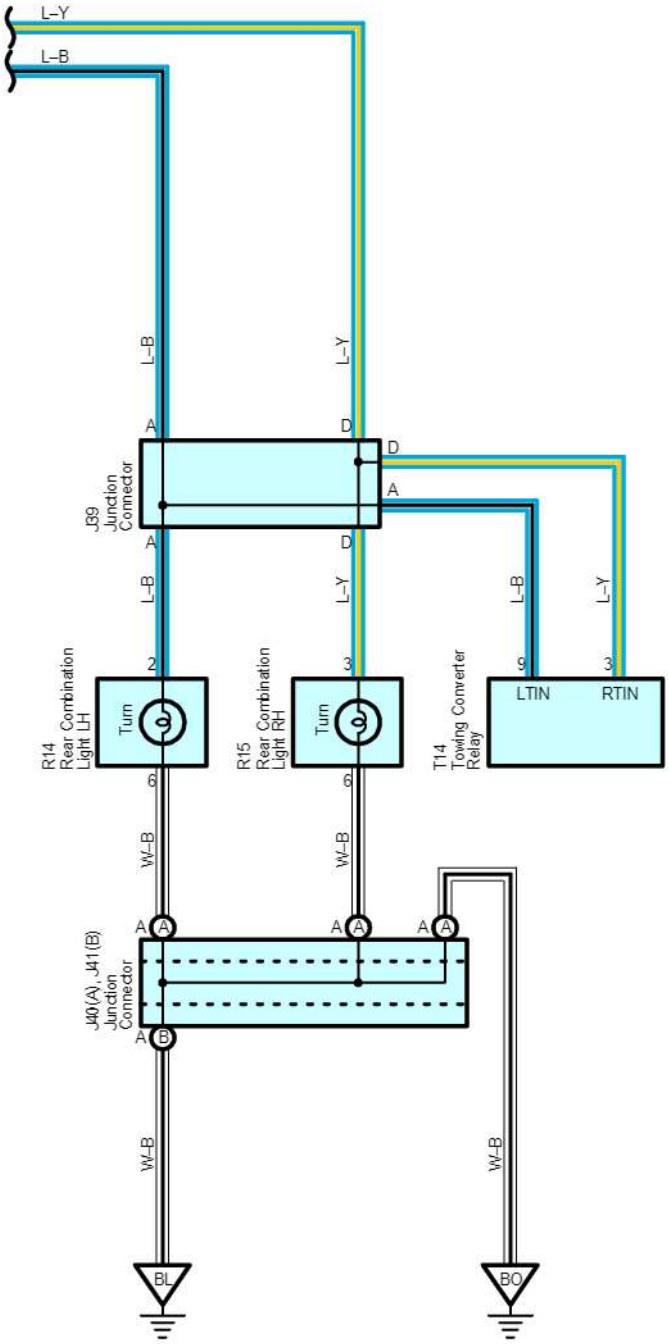
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Turn Signal and Hazard Warning Light (w/ Daytime Running Light)



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Turn Signal and Hazard Warning Light (w/ Daytime Running Light)

Service Hints

D2 Turn Signal Flasher Relay

1–Ground : Approx. 12 volts with the ignition SW at ON position
9–Ground : Always continuity
6–Ground : Always approx. 12 volts

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C12	37	J10 A	38	J39	40
D2	37	J11 B	38	J40 A	40
F5	32 (2UZ–FE)	J15	38	J41 B	40
	34 (1GR–FE)	J20 A	38	O2	39
F6	32 (2UZ–FE)	J21 B	38	R14	41
	34 (1GR–FE)	J22 A	38	R15	41
H11	37	J23 B	38	T14	41
J5	38	J24	38		
J7	38	J37	38		

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

▭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
3F	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)

▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IH1	50	Instrument Panel Wire and Instrument Panel Wire (Behind the Combination Meter)
IN1	52	Instrument Panel Wire and Engine Room Main Wire (Right Kick Panel)

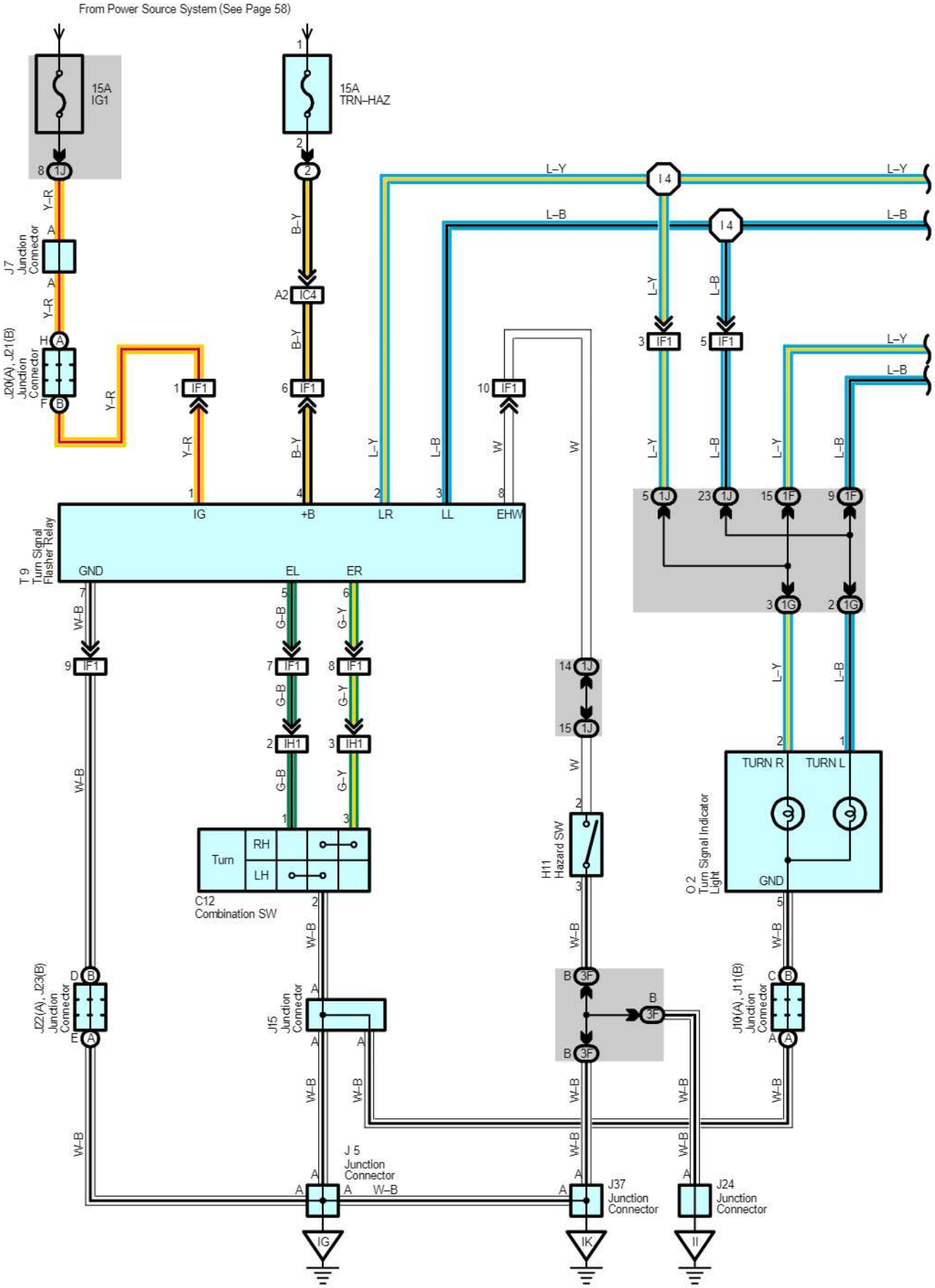
▽ : Ground Points

Code	See Page	Ground Points Location
EA	44 (2UZ–FE)	Front Right Fender
	46 (1GR–FE)	
EB	44 (2UZ–FE)	Front Left Fender
	46 (1GR–FE)	
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

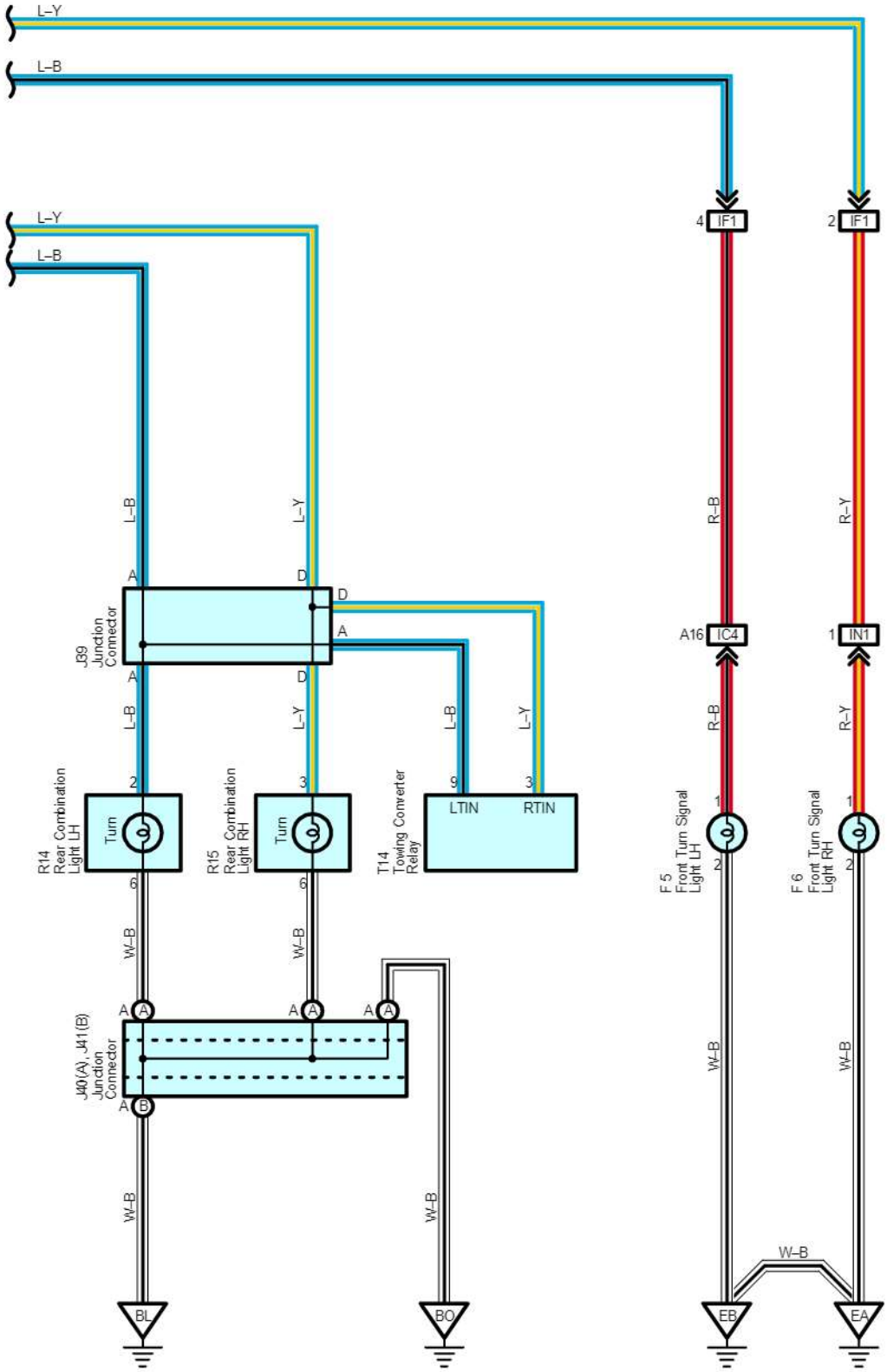
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Turn Signal and Hazard Warning Light (w/o Daytime Running Light)



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Turn Signal and Hazard Warning Light (w/o Daytime Running Light)

Service Hints

T9 Turn Signal Flasher Relay

1–Ground : Approx. 12 volts with the ignition SW at ON position
7–Ground : Always continuity
4–Ground : Always approx. 12 volts

: Parts Location

Code	See Page	Code	See Page	Code	See Page
C12	37	J11 B	38	J40 A	40
F5	32 (2UZ–FE)	J15	38	J41 B	40
	34 (1GR–FE)	J20 A	38	O2	39
F6	32 (2UZ–FE)	J21 B	38	R14	41
	34 (1GR–FE)	J22 A	38	R15	41
H11	37	J23 B	38	T9	39
J5	38	J24	38	T14	41
J7	38	J37	38		
J10 A	38	J39	40		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
3F	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IF1	50	Instrument Panel Wire and Relay Wire (Behind the Instrument Panel J/B)
IH1	50	Instrument Panel Wire and Instrument Panel Wire (Behind the Combination Meter)
IN1	52	Instrument Panel Wire and Engine Room Main Wire (Right Kick Panel)

: Ground Points

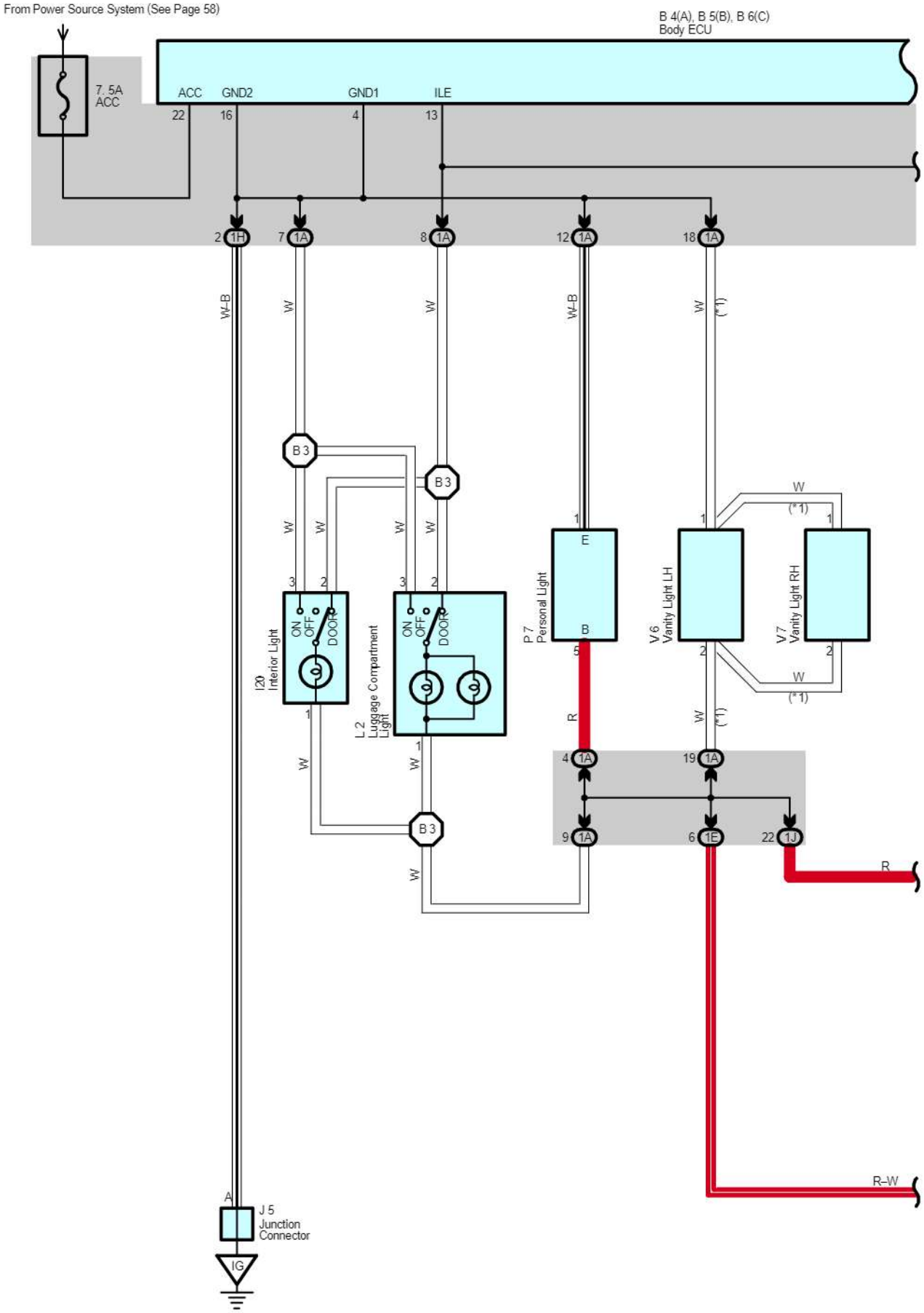
Code	See Page	Ground Points Location
EA	44 (2UZ–FE)	Front Right Fender
	46 (1GR–FE)	
EB	44 (2UZ–FE)	Front Left Fender
	46 (1GR–FE)	
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

: Splice Points

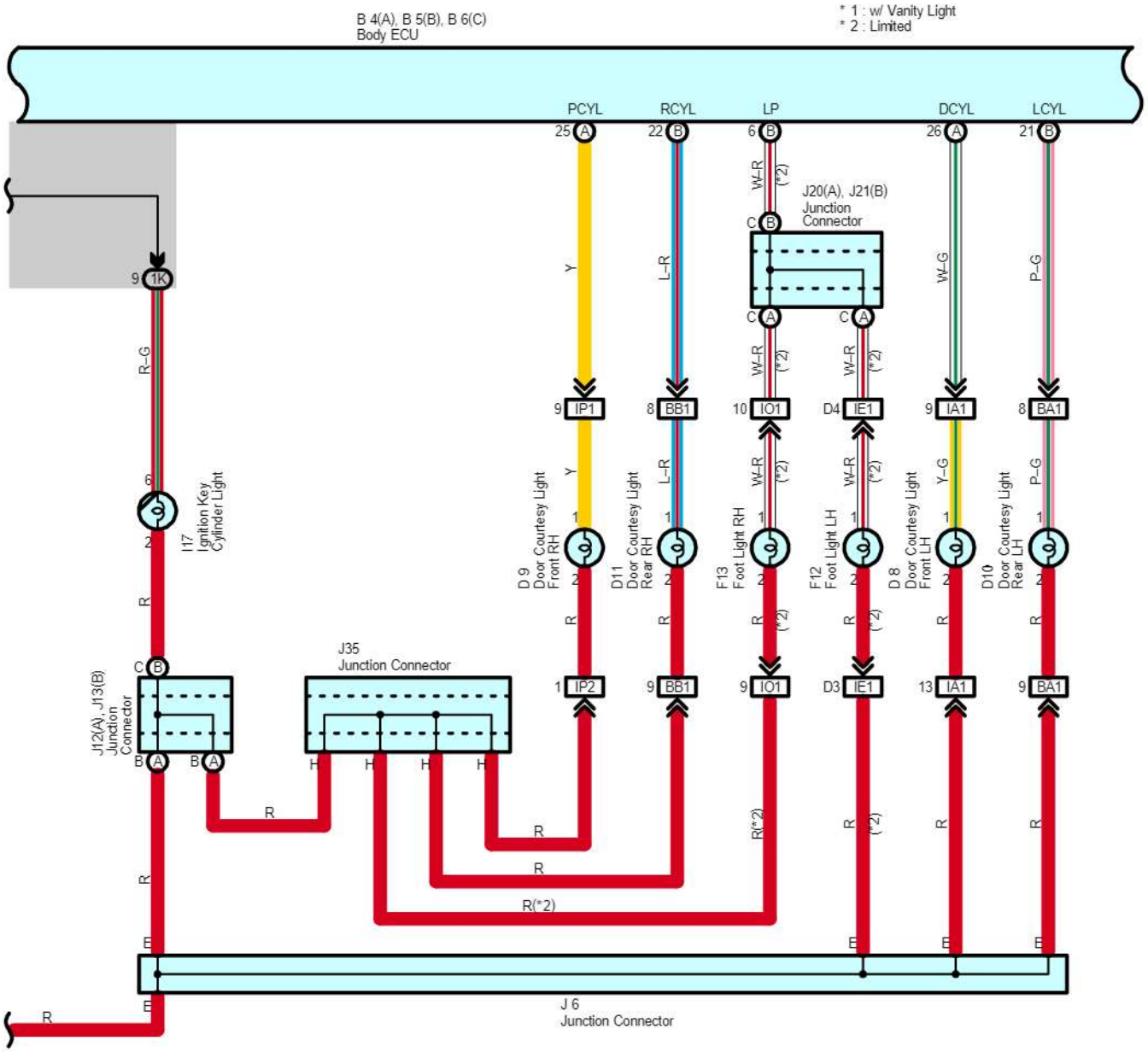
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I4	50	Relay Wire			

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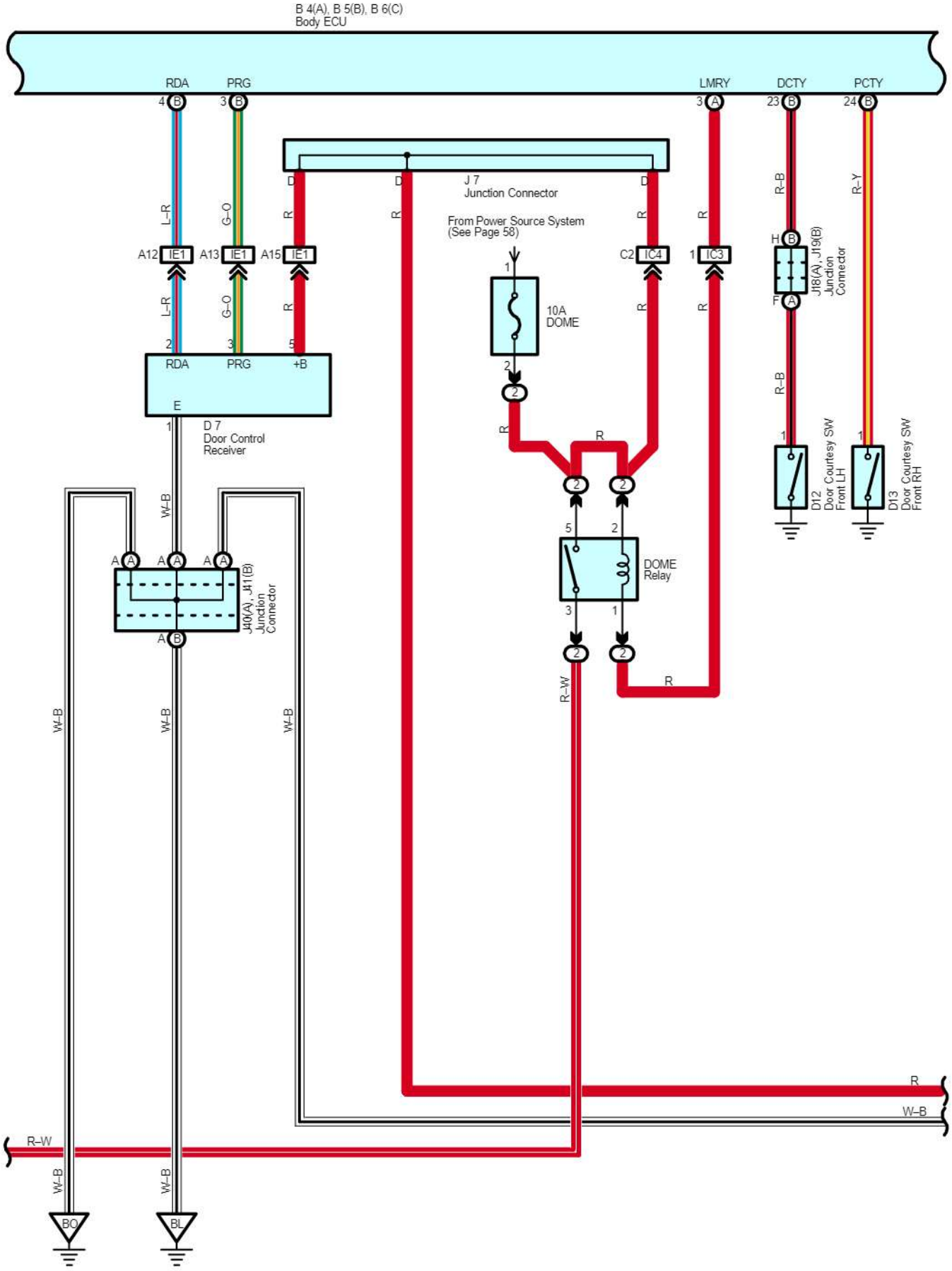
cardiagn.com



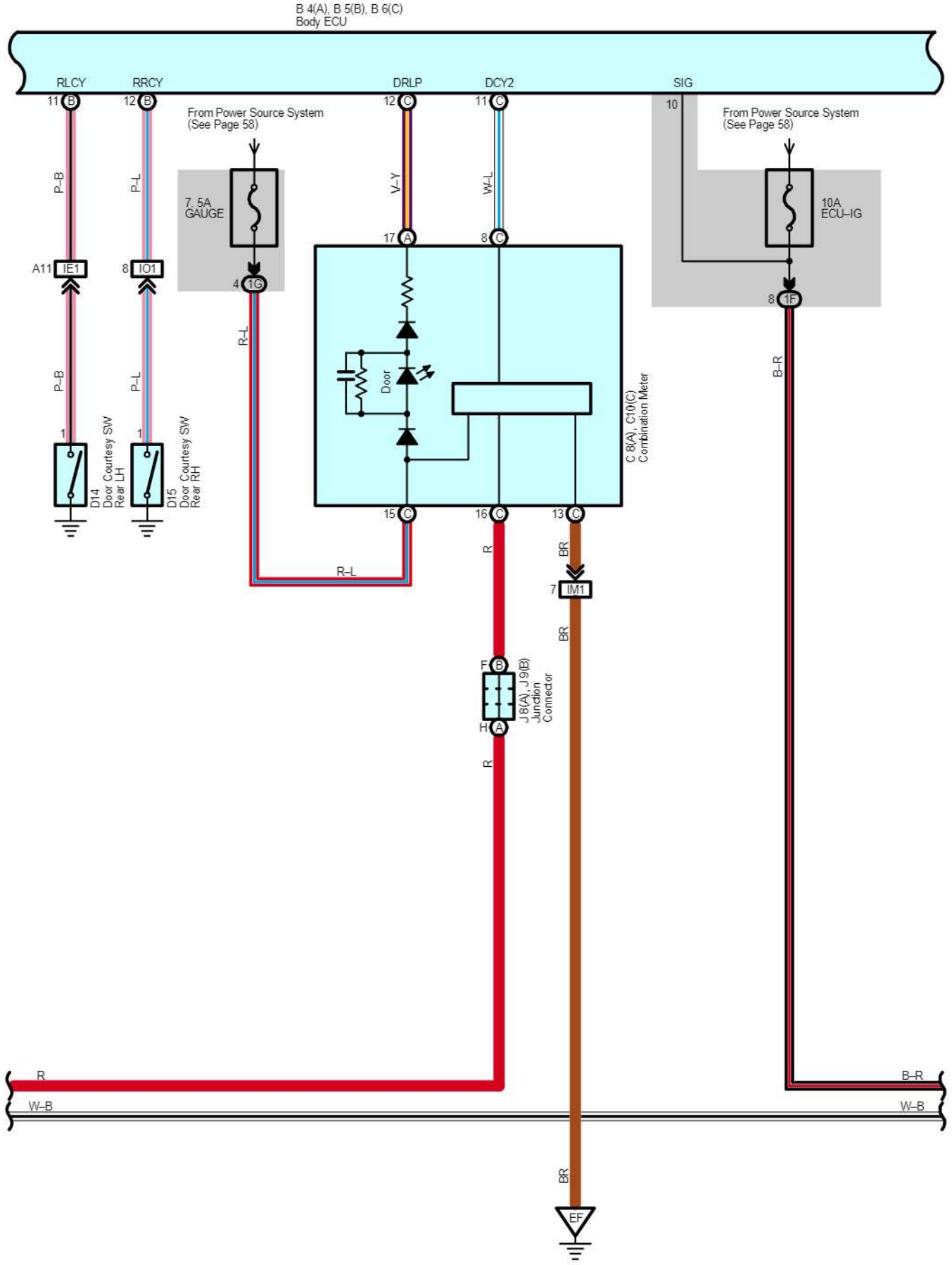
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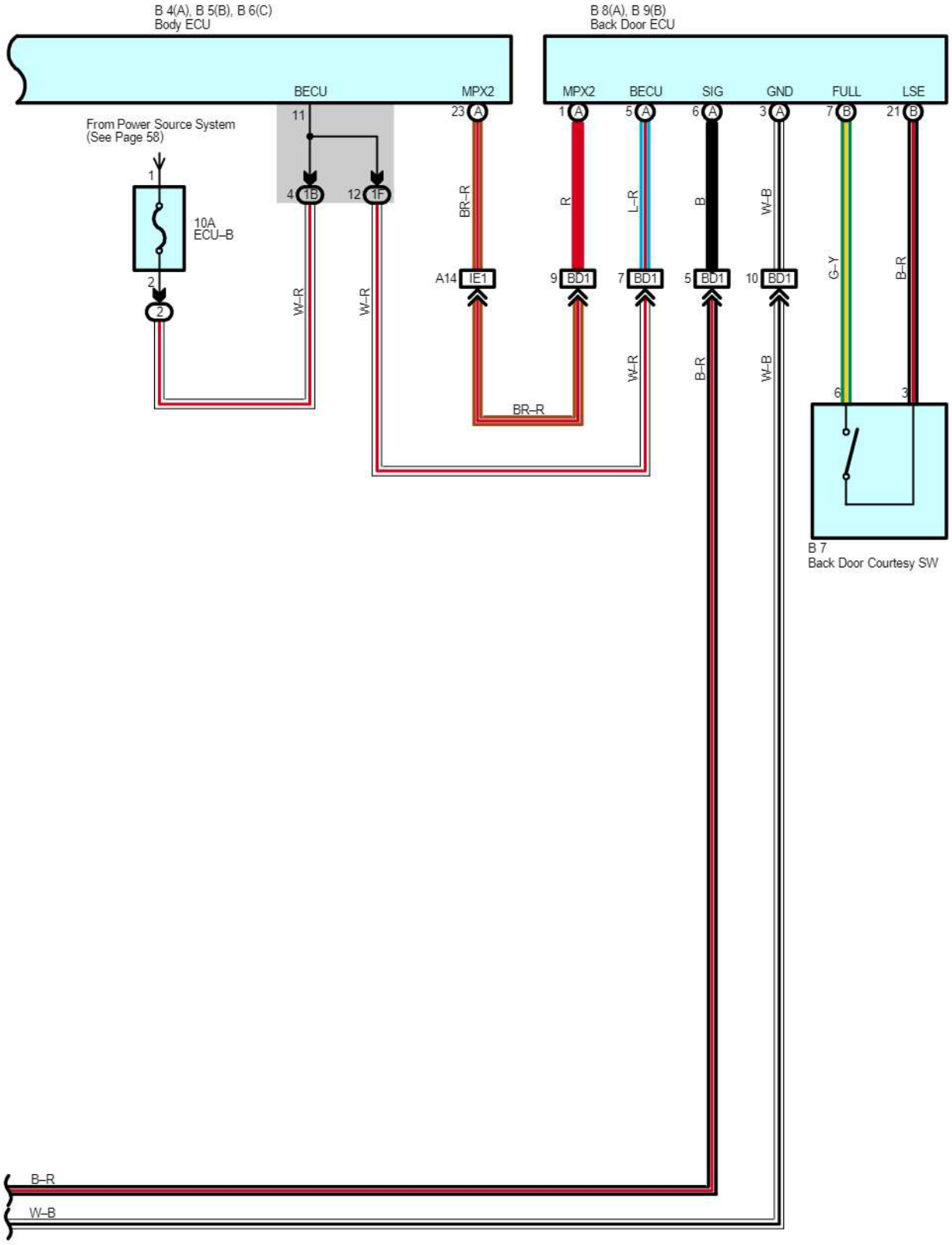
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System Outline

The interior light is controlled by the body ECU. This system has following features.

1. Normal Operation

* When one of the doors opened, the interior light, luggage compartment light and open door warning light is turned on. When the all doors are closed, the interior light, luggage compartment light and open door warning light is turned off.

2. Illuminated Entry System

* When a door is unlocked through a key operation or transmitter operation, or if a door is opened or closed, the illuminated entry system turns ON the interior light and the ignition key illumination.
* If the ignition switch is turned to the ACC or ON position or if all doors are locked during the 15 seconds in which these lights are ON, they will immediately turn OFF.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B4 A	36	D12	40	J12 A	38
B5 B	36	D13	40	J13 B	38
B6 C	36	D14	40	J18 A	38
B7	40	D15	40	J19 B	38
B8 A	40	F12	40	J20 A	38
B9 B	40	F13	40	J21 B	38
C8 A	37	I17	37	J35	38
C10 C	37	I20	40	J40 A	40
D7	40	J5	38	J41 B	40
D8	40	J6	38	L2	40
D9	40	J7	38	P7	41
D10	40	J8 A	38	V6	41
D11	40	J9 B	38	V7	41

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

▭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Roof Wire and Driver Side J/B (Lower Finish Panel)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1H		
1J		
1K		

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: **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	48	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)
IP1	52	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
IP2		
BA1	54	Rear Door No.2 Wire and Instrument Panel Wire (Left Center Pillar)
BB1	54	Rear Door No.1 Wire and Instrument Panel Wire (Right Center Pillar)
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)

: **Ground Points**

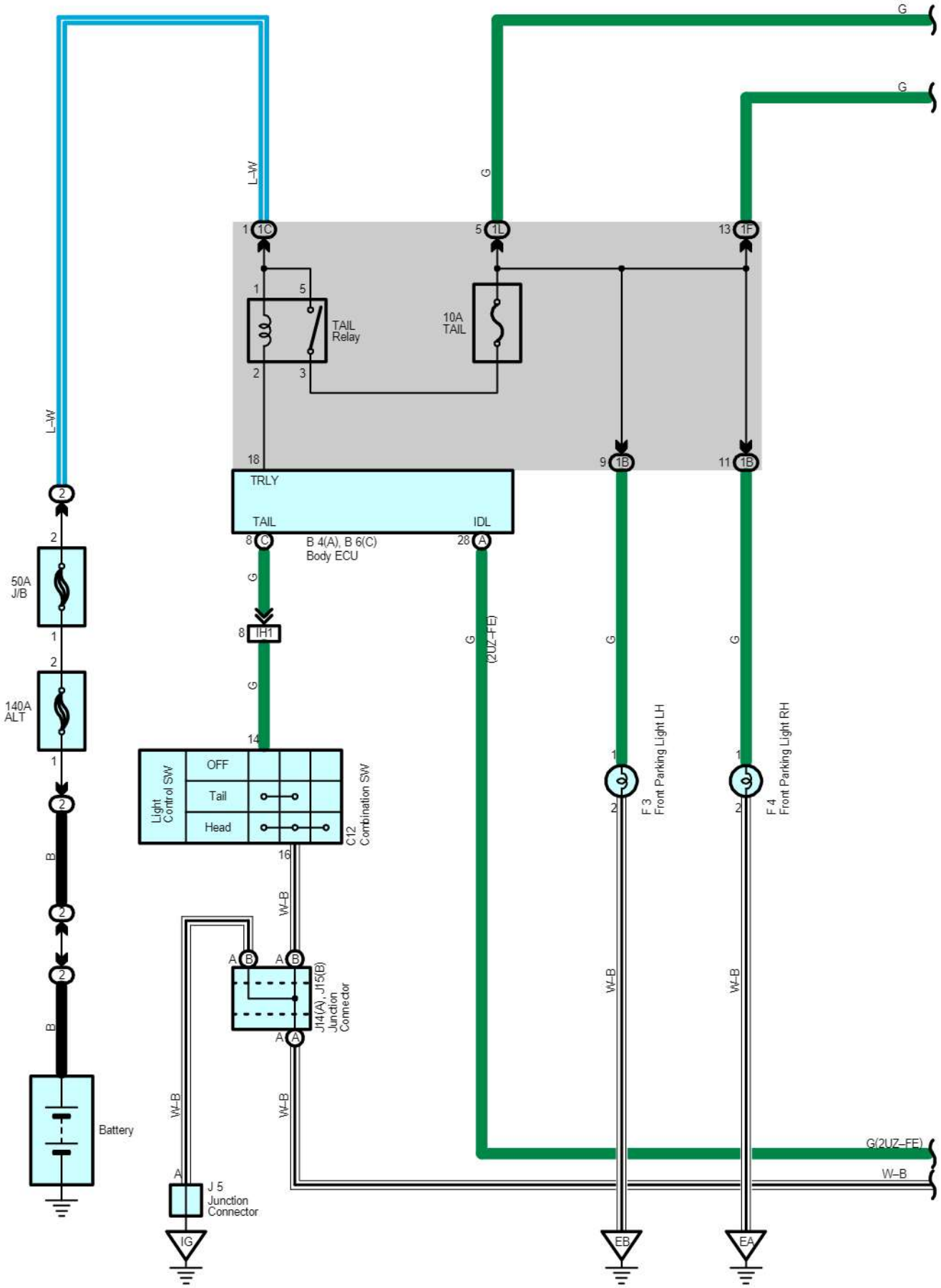
Code	See Page	Ground Points Location
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
	46 (1GR–FE)	
IG	48	Left Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

: **Splice Points**

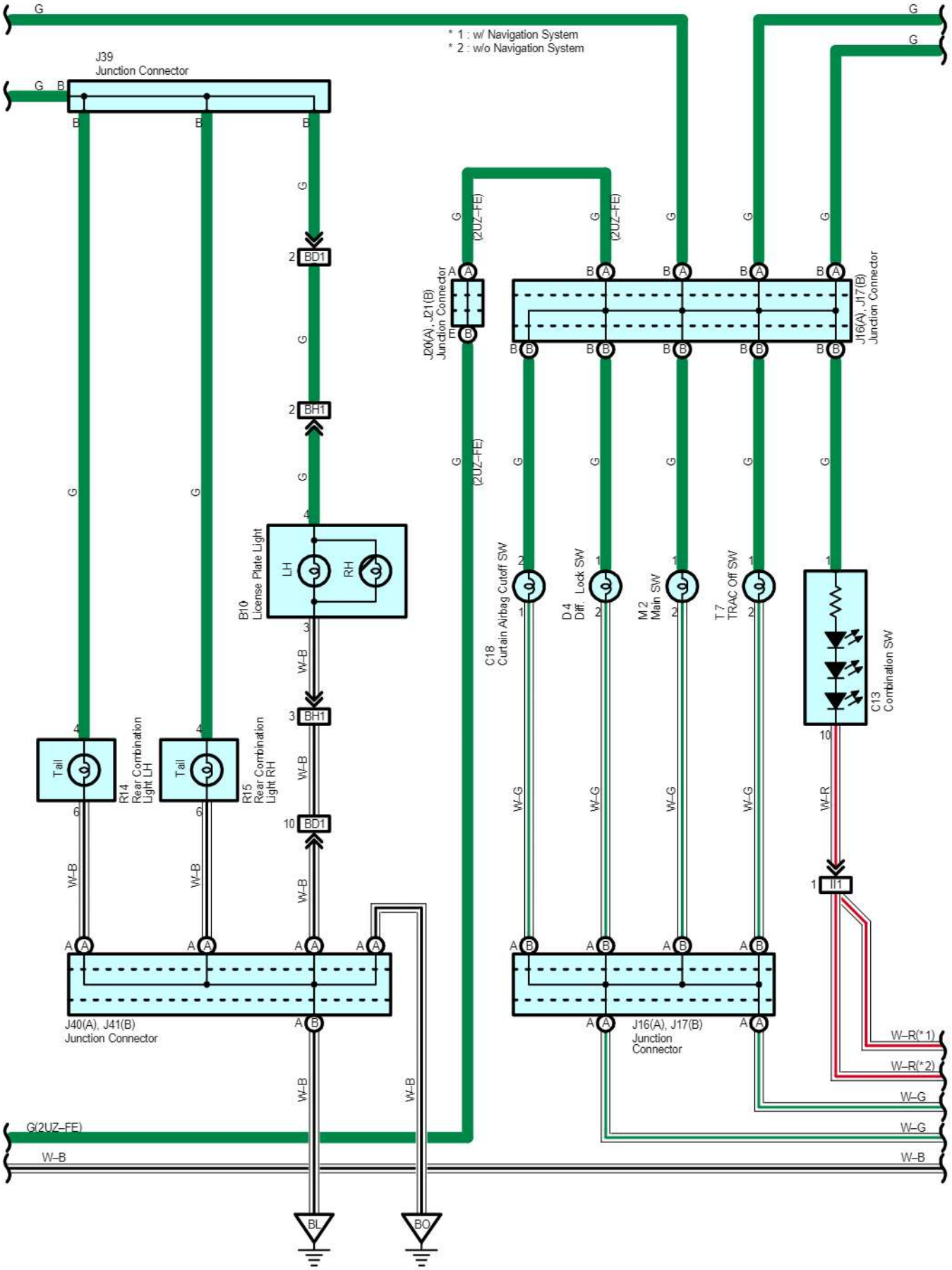
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B3	54	Roof Wire			

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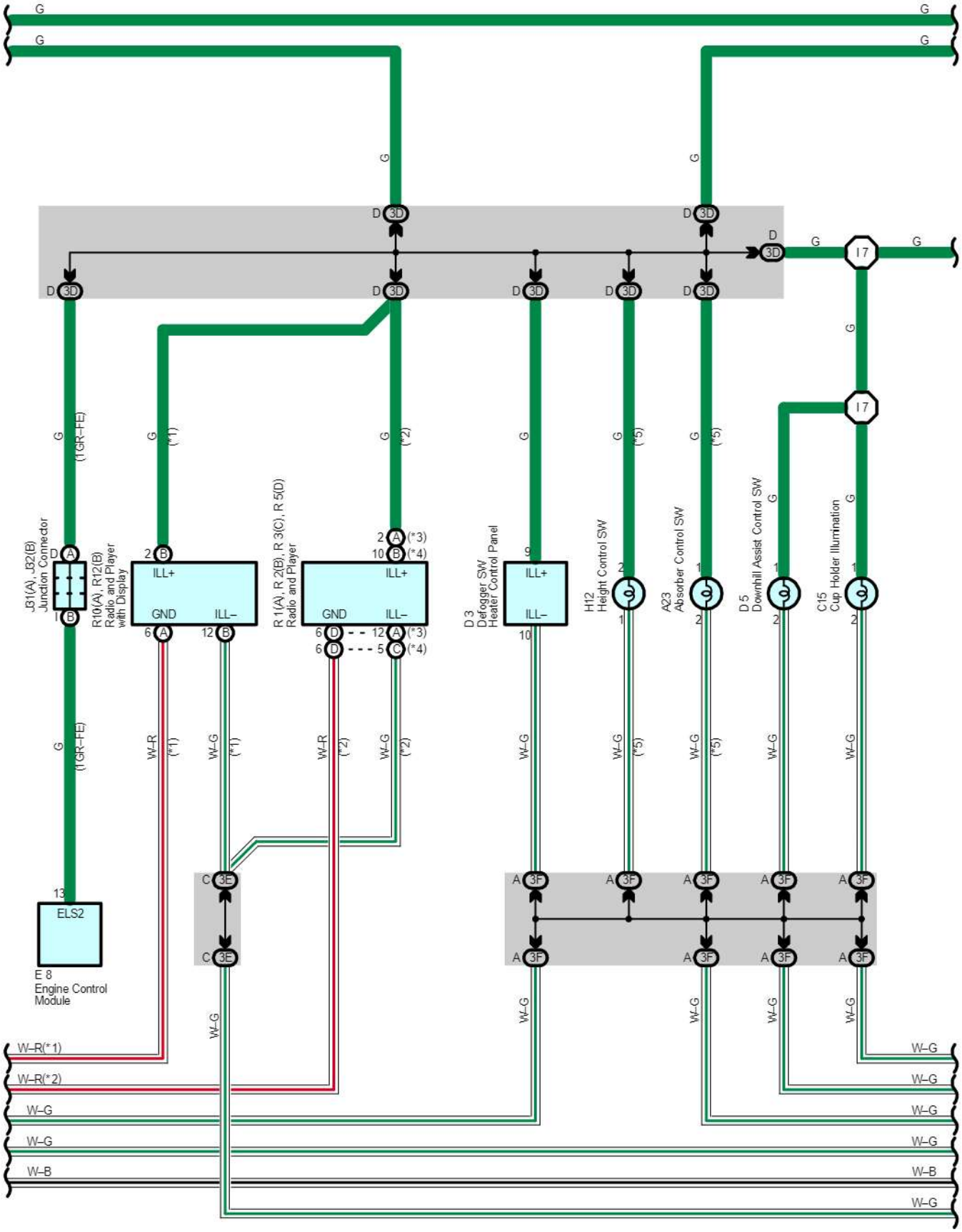
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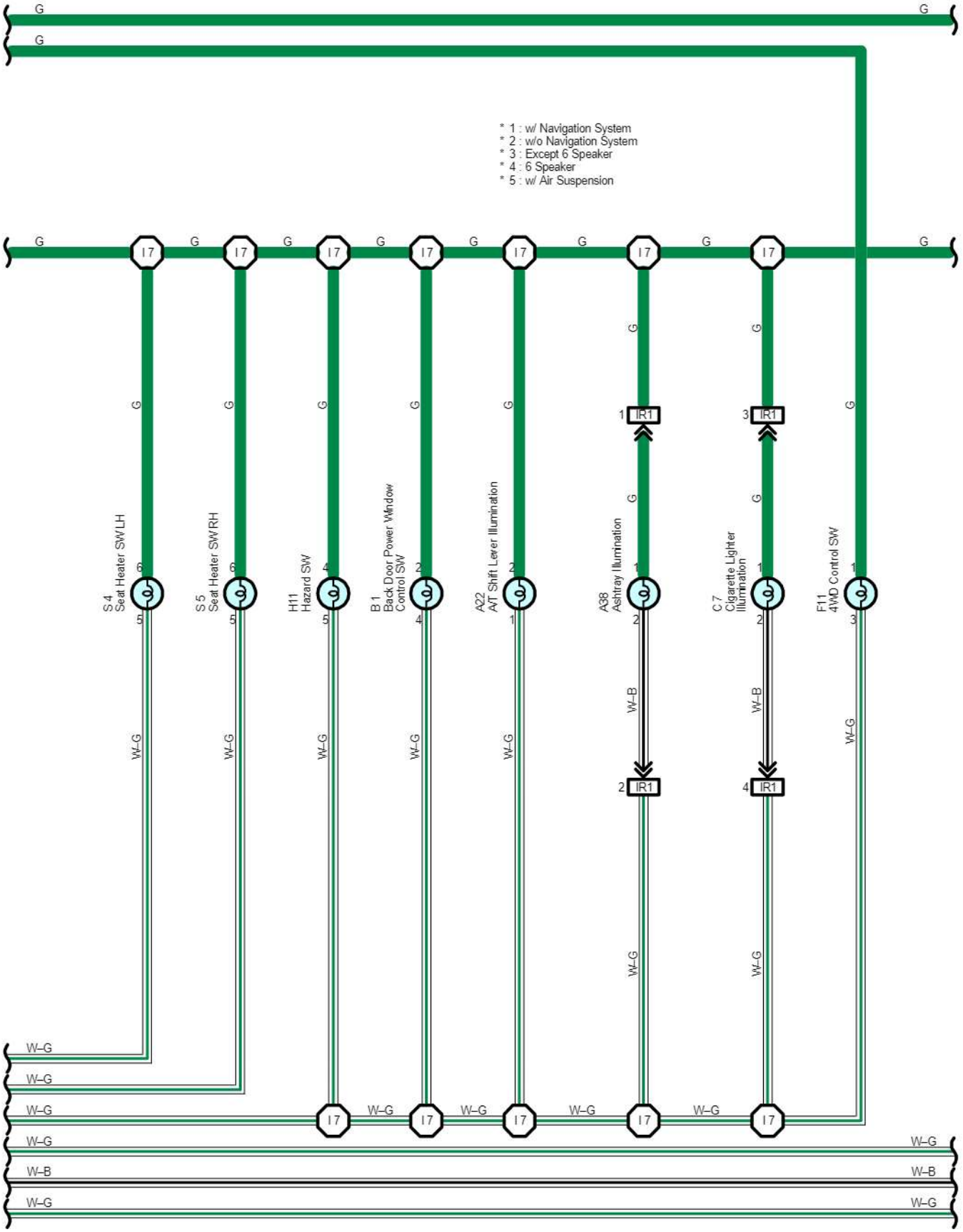
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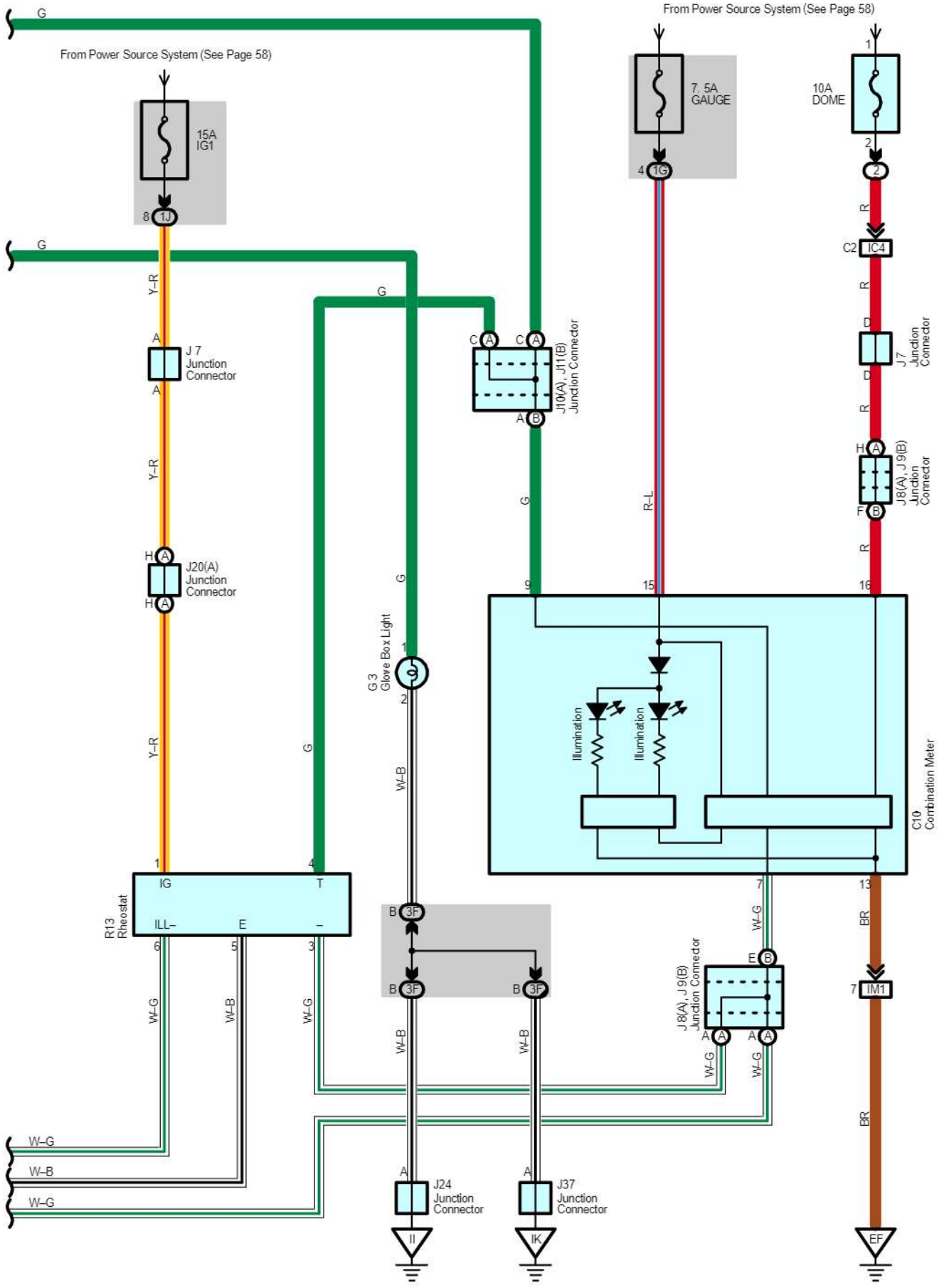
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Service Hints

C12 Combination SW

14–16 : Continuity with the light control SW at TAIL or HEAD position

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A22	36	F4	32 (2UZ–FE)	J31 A	38
A23	36		34 (1GR–FE)	J32 B	38
A38	36	F11	37	J37	38
B1	36	G3	37	J39	40
B4 A	36	H11	37	J40 A	40
B6 C	36	H12	37	J41 B	40
B10	40	J5	38	M2	39
C7	37	J7	38	R1 A	39
C10	37	J8 A	38	R2 B	39
C12	37	J9 B	38	R3 C	39
C13	37	J10 A	38	R5 D	39
C15	37	J11 B	38	R10 A	39
C18	37	J14 A	38	R12 B	39
D3	37	J15 B	38	R13	39
D4	37	J16 A	38	R14	41
D5	37	J17 B	38	R15	41
E8	37	J20 A	38	S4	39
F3	32 (2UZ–FE)	J21 B	38	S5	39
	34 (1GR–FE)	J24	38	T7	39

⬭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1C		
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1L		
3D	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3E		
3F		

▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IH1	50	Instrument Panel Wire and Instrument Panel Wire (Behind the Combination Meter)
II1	50	Instrument Panel Wire and Instrument Panel Wire (Instrument Panel Brace LH)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IR1	52	Instrument Panel Wire and Cigarette Wire (Rear Console)
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)
BH1	54	Back Door No.1 Wire and Back Door No.2 Wire (Left Side of Back Door)

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▽ : **Ground Points**

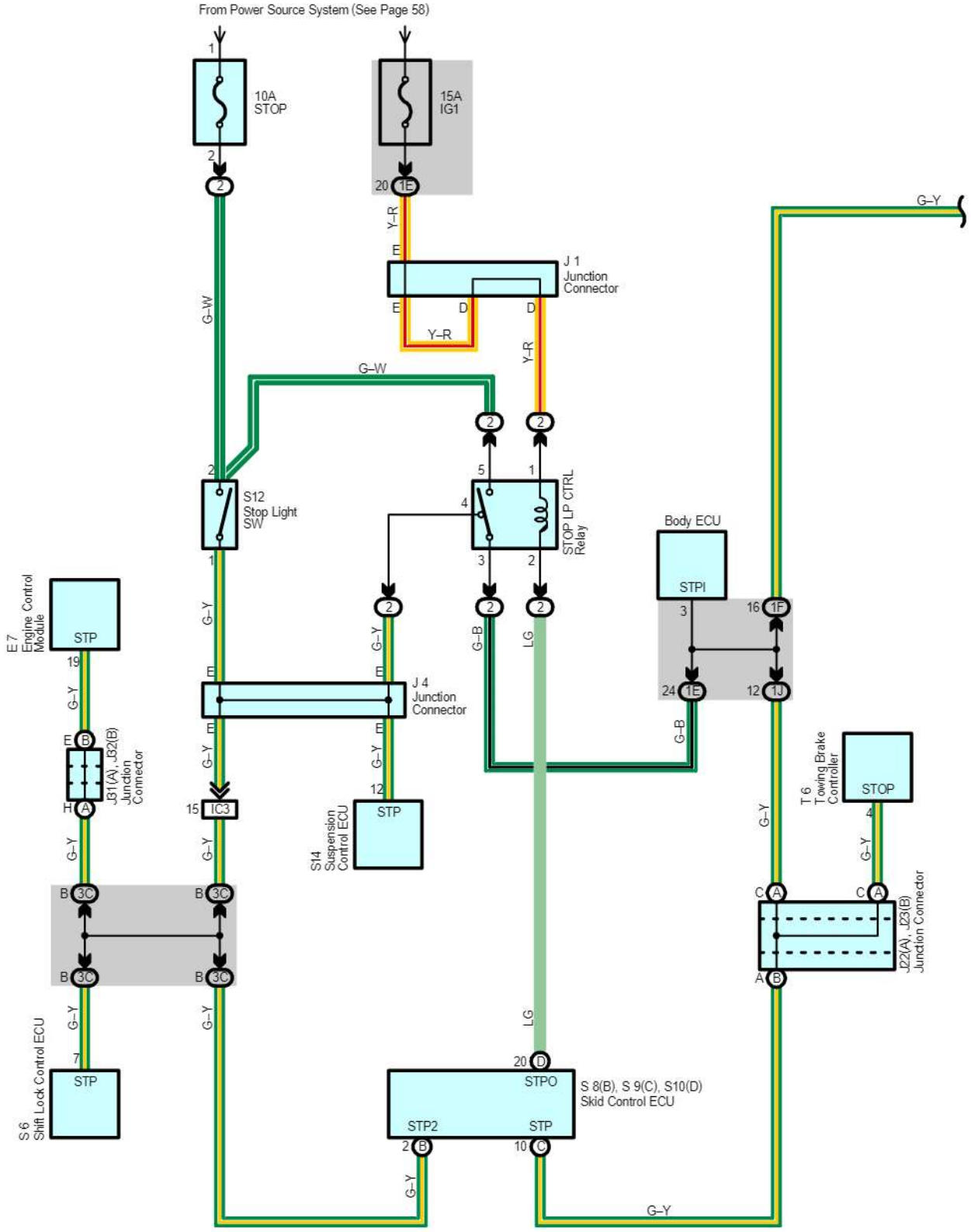
Code	See Page	Ground Points Location
EA	44 (2UZ–FE) 46 (1GR–FE)	Front Right Fender
EB	44 (2UZ–FE) 46 (1GR–FE)	Front Left Fender
EF	44 (2UZ–FE) 46 (1GR–FE)	Rear Side of Left Bank Cylinder Block
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

○ : **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I7	50	Instrument Panel Wire			

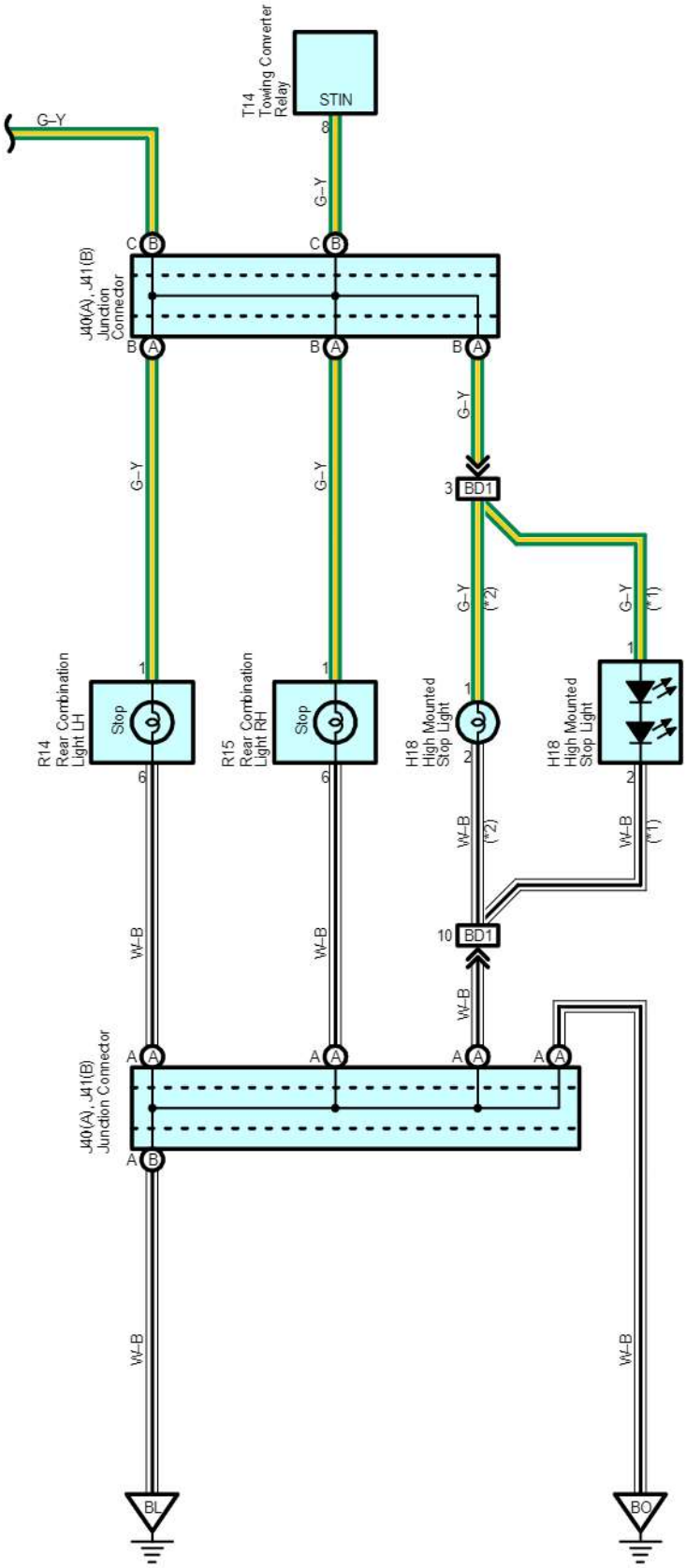
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* 1 : w/ Rear Spoiler
* 2 : w/o Rear Spoiler



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Stop Light

Service Hints

S12 Stop Light SW

2–1 : Closed with the brake pedal depressed

○ : Parts Location

Code		See Page	Code		See Page	Code		See Page
E7		37	J31	A	38	S8	B	39
H18		40	J32	B	38	S9	C	39
J1		33 (2UZ–FE)	J40	A	40	S10	D	39
		35 (1GR–FE)	J41	B	40	S12		39
J4		38	R14		41	S14		39
J22	A	38	R15		41	T6		39
J23	B	38	S6		39	T14		41

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

▭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1J	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
3C	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)

▭ : Connector Joining Wire Harness and Wire Harness

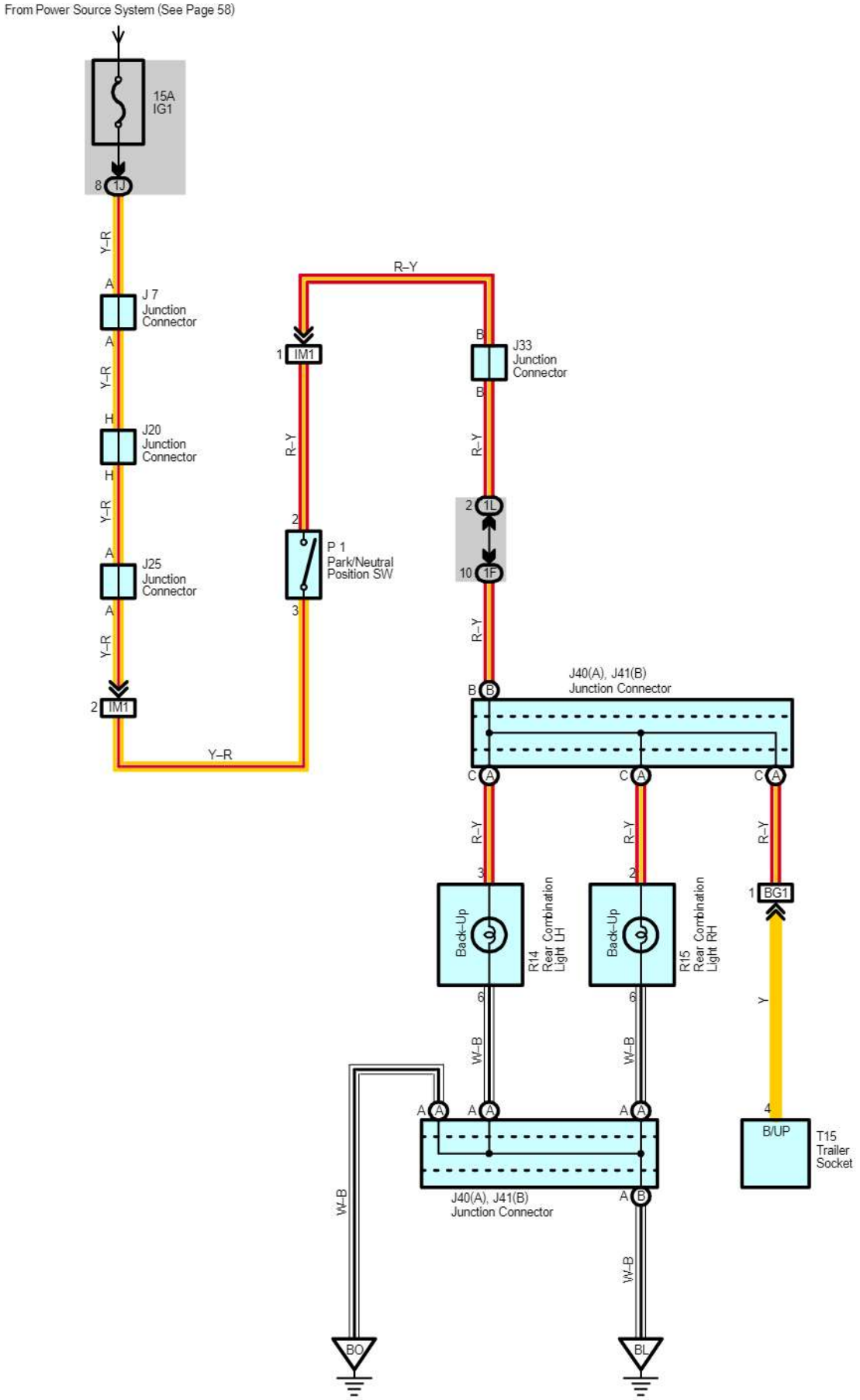
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)

▽ : Ground Points

Code	See Page	Ground Points Location
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

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Service Hints

P1 Park/Neutral Position SW

3–2 : Continuity with the shift lever in R position

○ : Parts Location

Code	See Page	Code		See Page	Code	See Page
J7	38	J40	A	40	R14	41
J20	38	J41	B	40	R15	41
J25	38	P1		33 (2UZ–FE)	T15	41
J33	38			35 (1GR–FE)		

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1J	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1L		

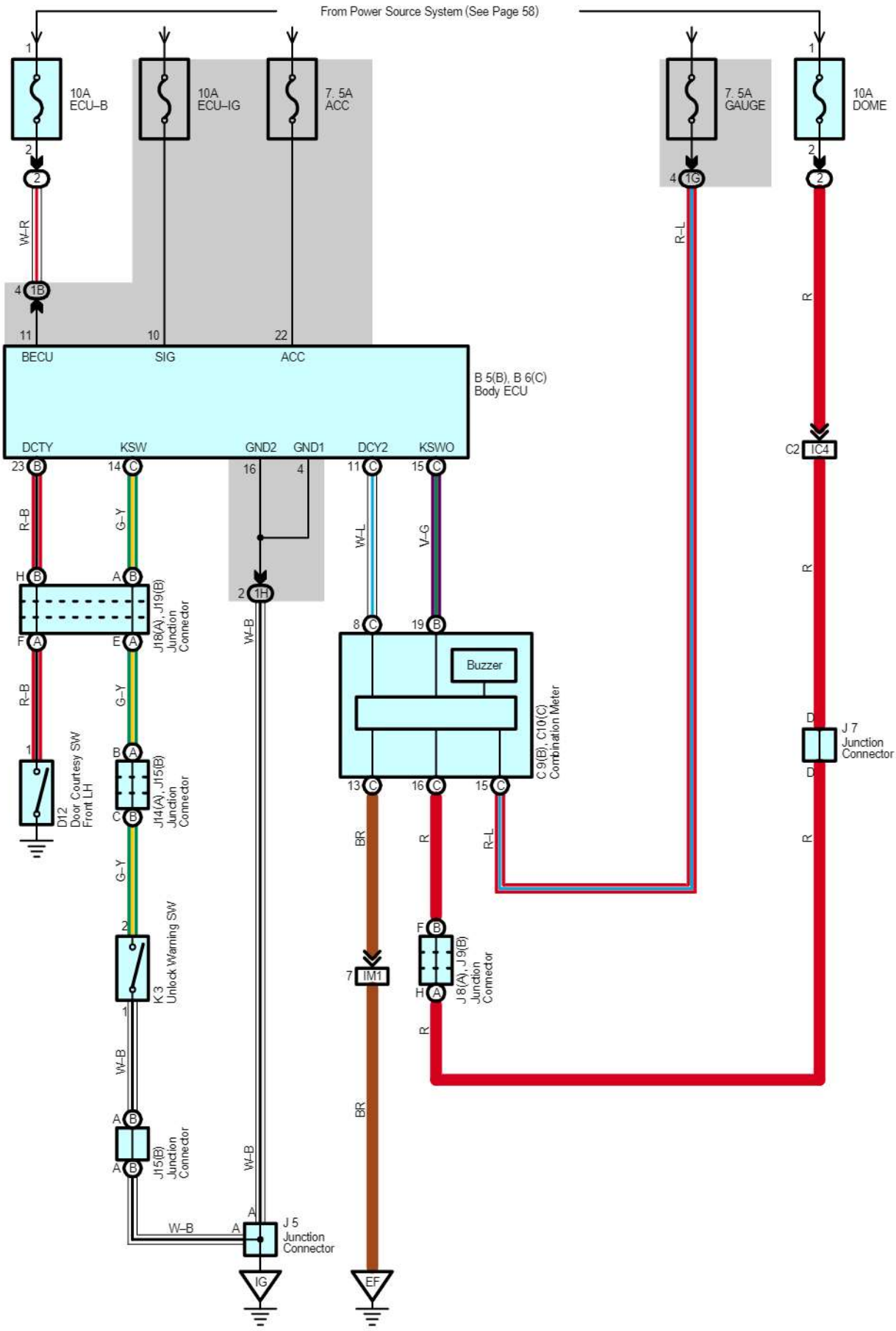
▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
BG1	54	Floor No.2 Wire and Frame No.3 Wire (Rear Side of Side Frame LH)

▽ : Ground Points

Code	See Page	Ground Points Location
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

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System Outline

Key Reminder System

With the ignition key inserted in the key cylinder (Unlock warning SW on), the ignition SW still off and driver's door open (Door courtesy SW on), when a signal is input to TERMINAL (B) 23 of the body ECU, the body ECU operates, current flows from TERMINAL (C) 15 of the ECU to TERMINAL (B) 19 of the combination meter to GROUND and key reminder buzzer sounds.

Service Hints

Body ECU

22–Ground : Approx. 12 volts with ignition SW at ACC or ON position
10–Ground : Approx. 12 volts with ignition SW at ON position
4, 16–Ground : Always continuity
11–Ground : Always approx. 12 volts

D12 Door Courtesy SW Front LH

1–Ground : Continuity with the driver door open

K3 Unlock Warning SW

1–2 : Continuity with the ignition key in cylinder

○ : Parts Location

Code		See Page	Code		See Page	Code		See Page
B5	B	36	J5		38	J15	B	38
B6	C	36	J7		38	J18	A	38
C9	B	37	J8	A	38	J19	B	38
C10	C	37	J9	B	38	K3		39
D12		40	J14	A	38			

⬭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1H		

▭ : Connector Joining Wire Harness and Wire Harness

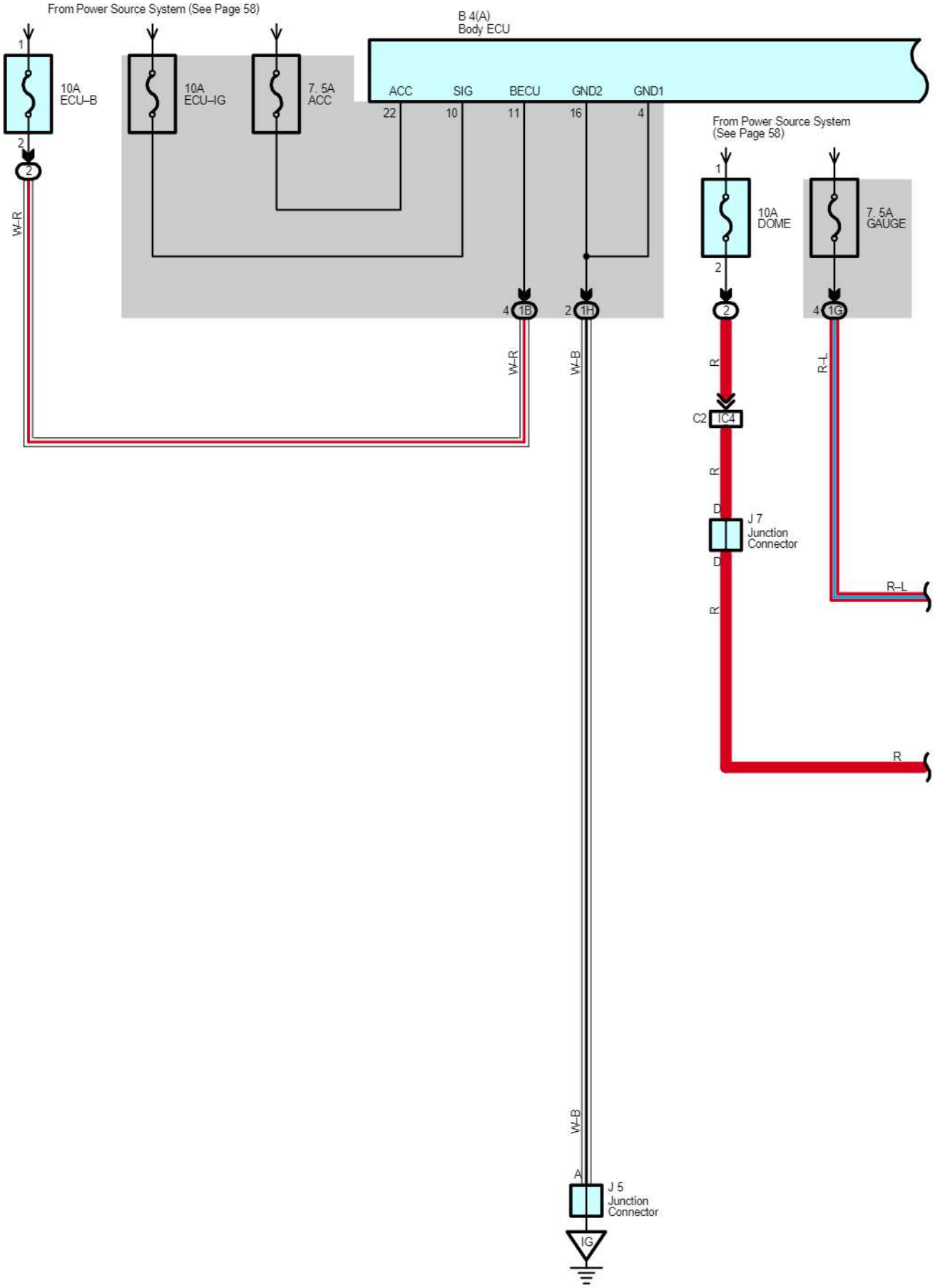
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)

▽ : Ground Points

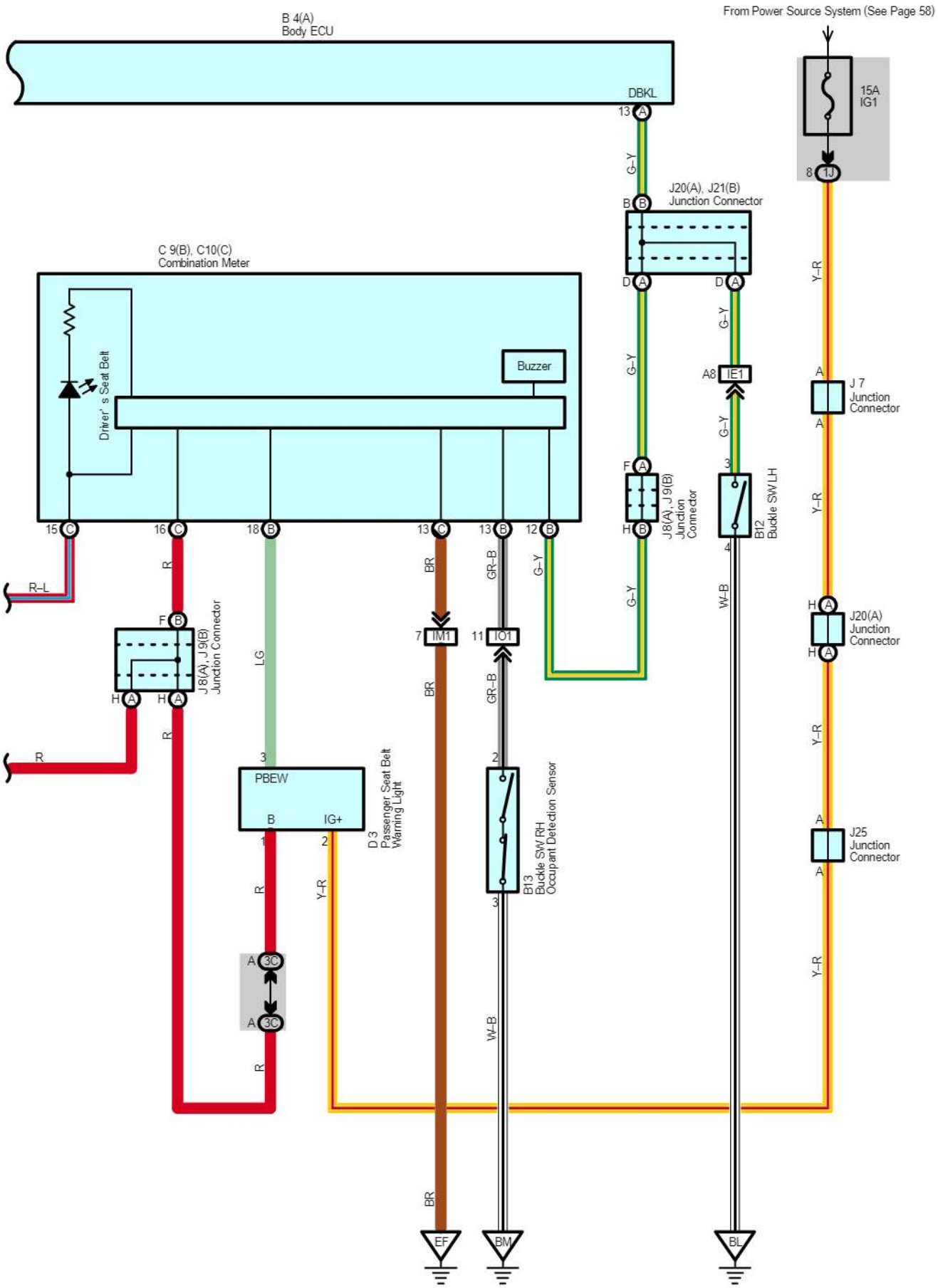
Code	See Page	Ground Points Location
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
	46 (1GR–FE)	
IG	48	Left Kick Panel

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Seat Belt Warning



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Seat Belt Warning

System Outline

When the driver has not fastened the seat belt while the ignition SW is ON, the driver seat belt warning light blinks, and a warning buzzer comes on.
Also, in the front passenger seat, a sensor recognizes passenger, and when the passenger has not fastened the seat belt, the front passenger seat belt warning light blinks.

Service Hints

B12 Buckle SW LH

3–4 : Continuity with driver's seat belt in use

B13 Buckle SW RH
Occupant Detection Sensor

2–3 : Continuity with front passenger sit on front passenger seat and front passenger's seat belt not use

○ : Parts Location

Code		See Page	Code		See Page	Code		See Page
B4	A	36	D3		37	J20	A	38
B12		42	J5		38	J21	B	38
B13		42	J7		38	J25		38
C9	B	37	J8	A	38			
C10	C	37	J9	B	38			

⬭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1H		
1J		
3C	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)

▭ : Connector Joining Wire Harness and Wire Harness

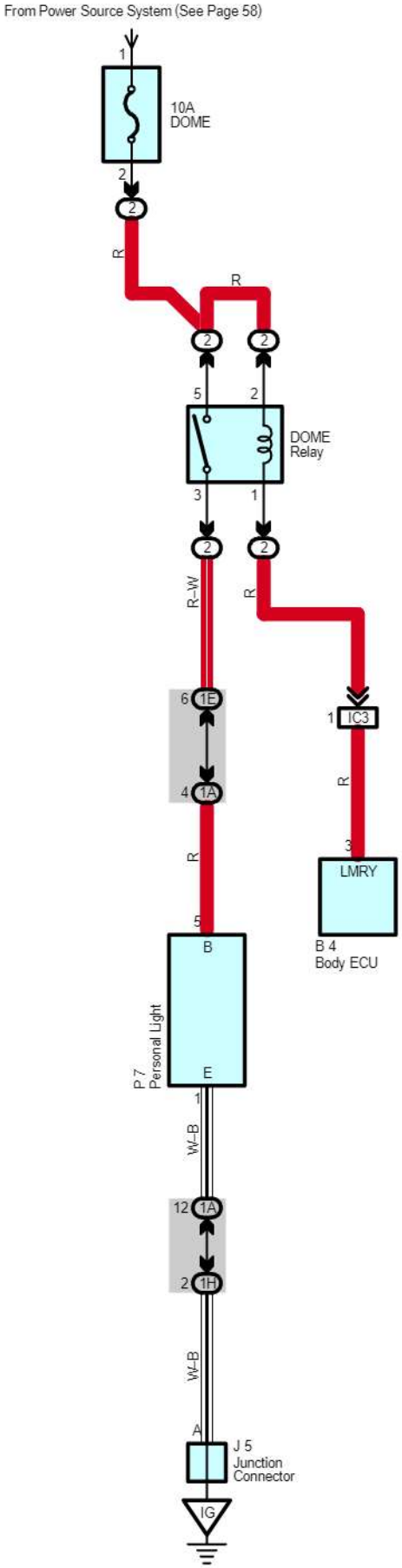
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)

▽ : Ground Points

Code	See Page	Ground Points Location
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
	46 (1GR–FE)	
IG	48	Left Kick Panel
BL	54	Floor Seat Crossmember LH
BM	54	Floor Seat Crossmember RH

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Service Hints

P7 Personal Light

1–Ground : Always continuity

: Parts Location

Code	See Page	Code	See Page	Code	See Page
B4	36	J5	38	P7	41

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Roof Wire and Driver Side J/B (Lower Finish Panel)
1E	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1H	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

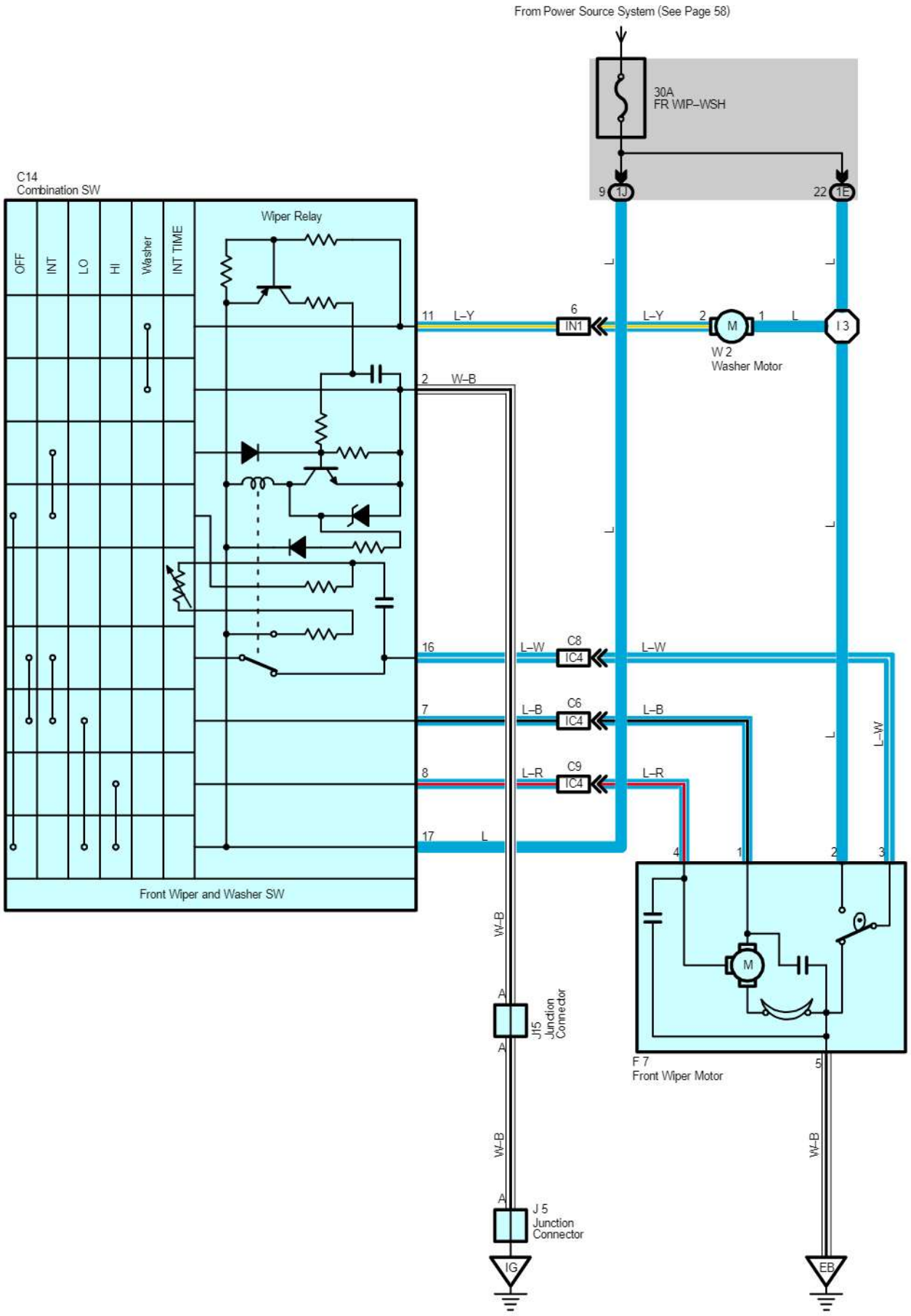
: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)

: Ground Points

Code	See Page	Ground Points Location
IG	48	Left Kick Panel

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System Outline

With the ignition SW turned on, the current flows to TERMINAL 17 of the wiper and washer SW, TERMINAL 1 of the washer motor and TERMINAL 2 of the front wiper motor through the FR WIP–WSH fuse.

1. Low Speed Position

With the wiper and washer SW turned to LO position, the current flows from TERMINAL 17 of the wiper and washer SW to TERMINAL 7 to TERMINAL 1 of the front wiper motor to TERMINAL 5 to GROUND and causes the front wiper motor to run at low speed.

2. High Speed Position

With the wiper and washer SW turned to HI position, the current flows from TERMINAL 17 of the wiper and washer SW to TERMINAL 8 to TERMINAL 4 of the front wiper motor to TERMINAL 5 to GROUND and causes the front wiper motor to run at high speed.

3. INT Position

With the wiper and washer SW turned to INT position, the wiper relay operates and current flows from TERMINAL 17 of the wiper and washer SW to TERMINAL 2 to GROUND. This activates the intermittent circuit and the current flows from TERMINAL 17 of the wiper and washer SW to TERMINAL 7 to TERMINAL 1 of the front wiper motor to TERMINAL 5 to GROUND and the wiper operates. Intermittent operation is controlled by a condenser charge and discharge function in the relay.

4. Washer Interlocking Operation

With the wiper and washer SW pulled to washer position (Washer SW ON position), the current flows from the FR WIP–WSH fuse to TERMINAL 1 of the washer motor to TERMINAL 2 to TERMINAL 11 of the wiper and washer SW to TERMINAL 2 to GROUND and causes the washer motor to run and the window washer to spray. Simultaneously, current flows from the FR WIP–WSH fuse to TERMINAL 17 of the wiper and washer SW to TERMINAL 7 to TERMINAL 1 of the front wiper motor to TERMINAL 5 to GROUND, causing the wiper to function.

Service Hints

C14 Combination SW

2–Ground : Always continuity
17–Ground : Approx. 12 volts with the ignition SW at ON position
7–Ground : Approx. 12 volts with the ignition SW on and the wiper and washer SW at LO position
Approx. 12 volts every approx. 1 to 10 seconds intermittently with the ignition SW on and the wiper and washer SW at INT position
16–Ground : Approx. 12 volts with the ignition SW on and unless the front wiper motor at STOP position
8–Ground : Approx. 12 volts with the ignition SW on and the wiper and washer SW at HI position

F7 Front Wiper Motor

2–3 : Closed unless the front wiper motor at STOP position

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C14	37	J5	38	W2	35 (1GR–FE)
F7	32 (2UZ–FE)	J15	38		
	34 (1GR–FE)	W2	33 (2UZ–FE)		

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1J	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IN1	52	Instrument Panel Wire and Engine Room Main Wire (Right Kick Panel)

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: **Ground Points**

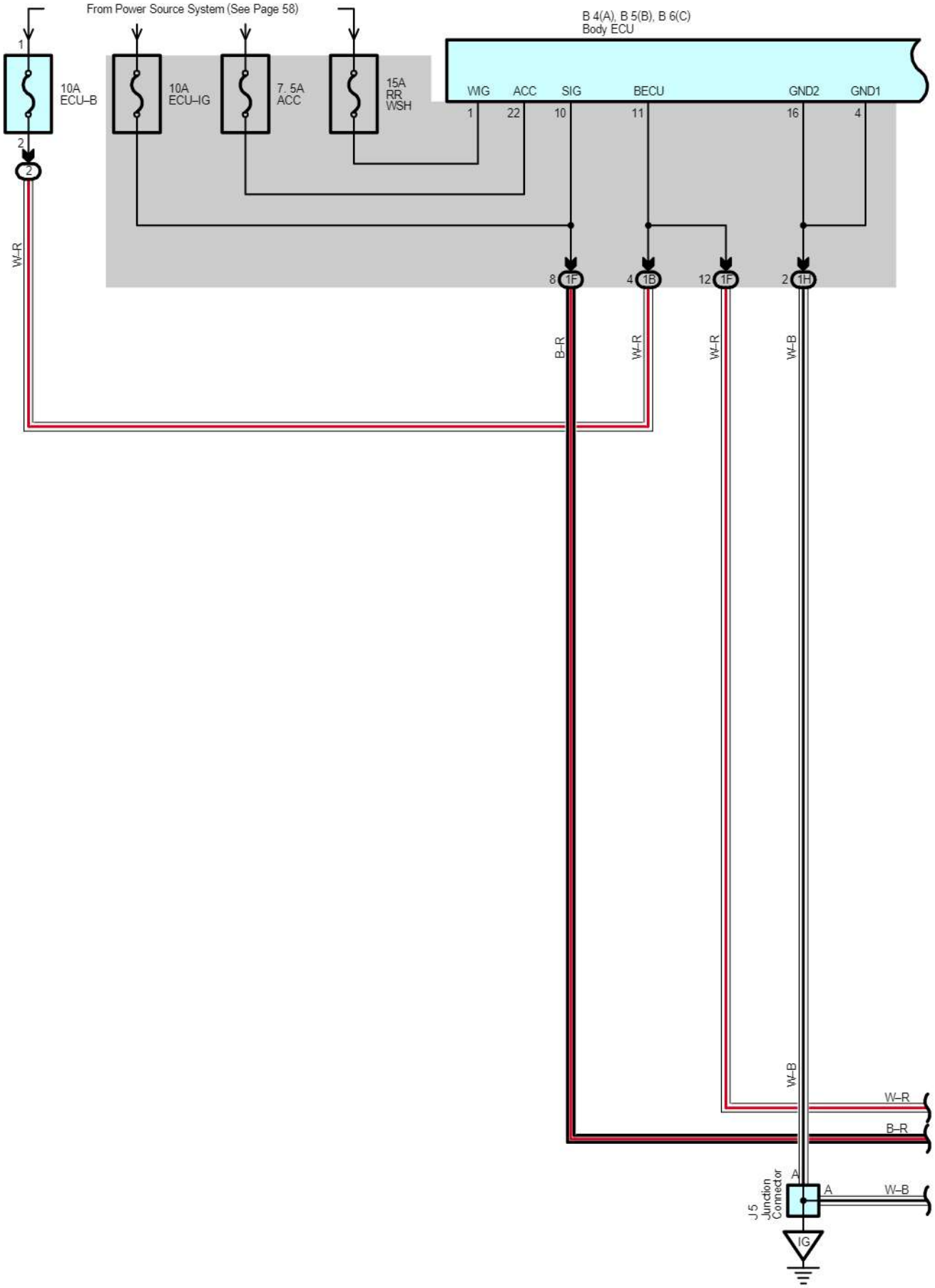
Code	See Page	Ground Points Location
EB	44 (2UZ–FE) 46 (1GR–FE)	Front Left Fender
IG	48	Left Kick Panel

: **Splice Points**

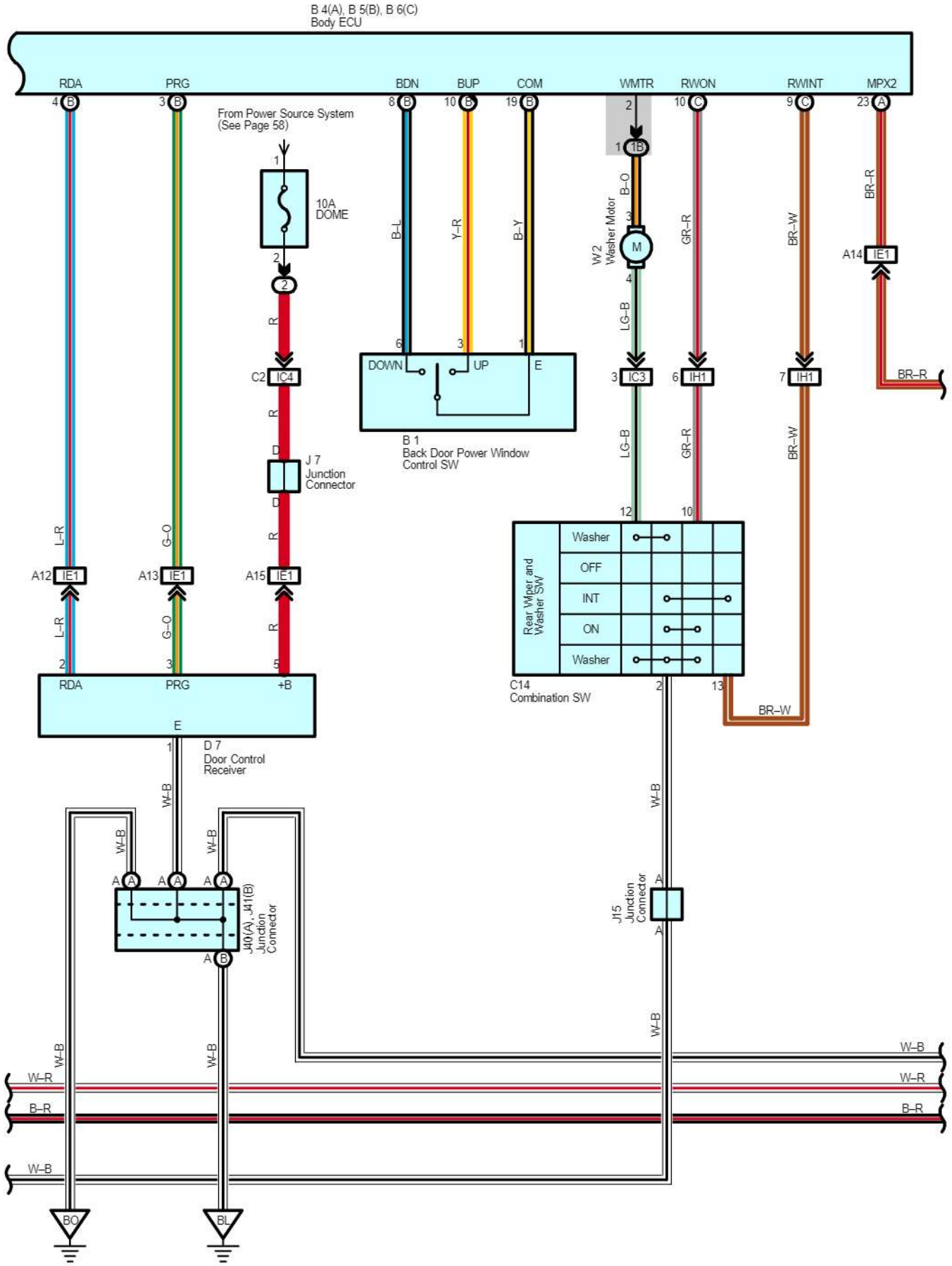
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I3	50	Engine Room Main Wire			

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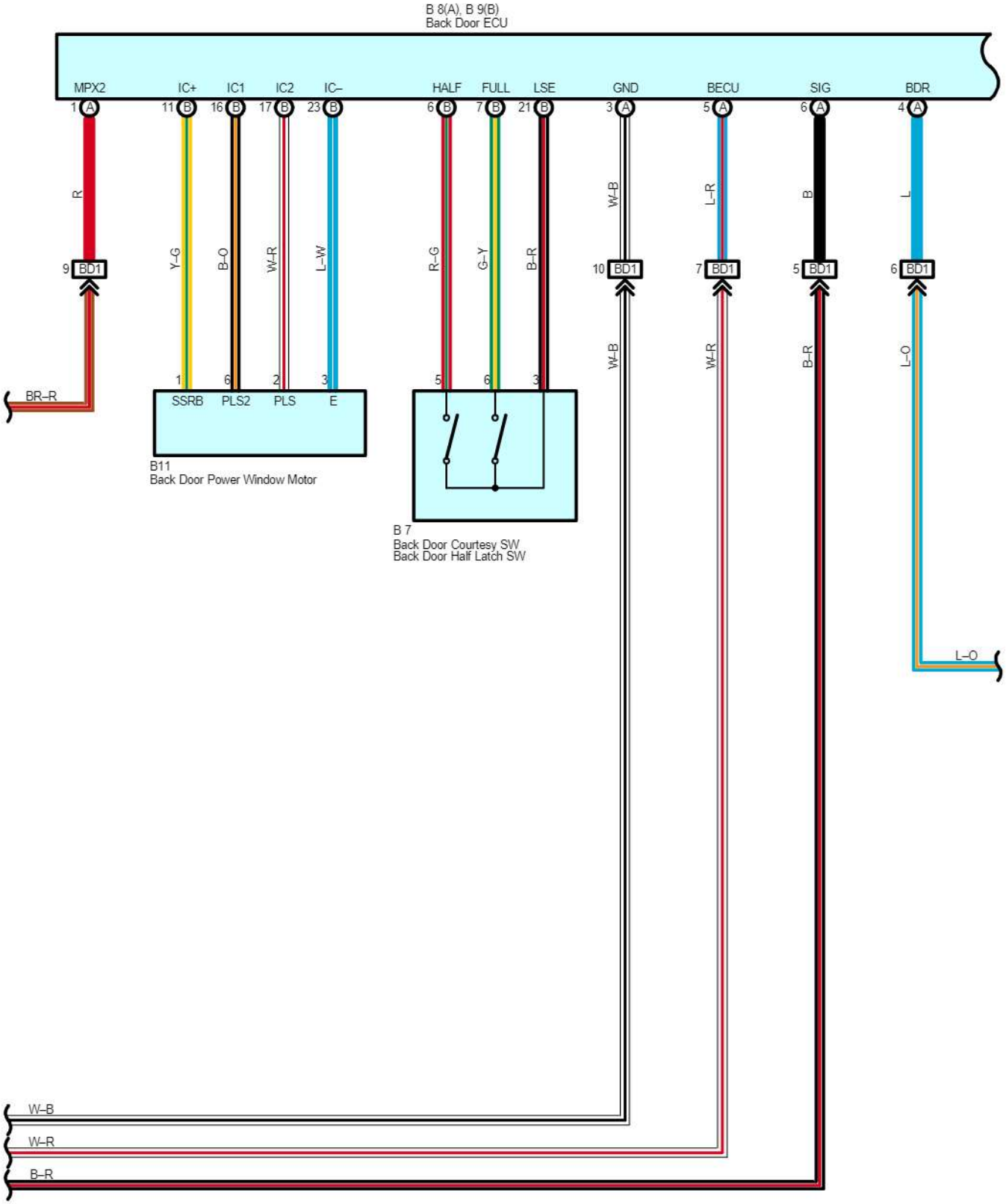
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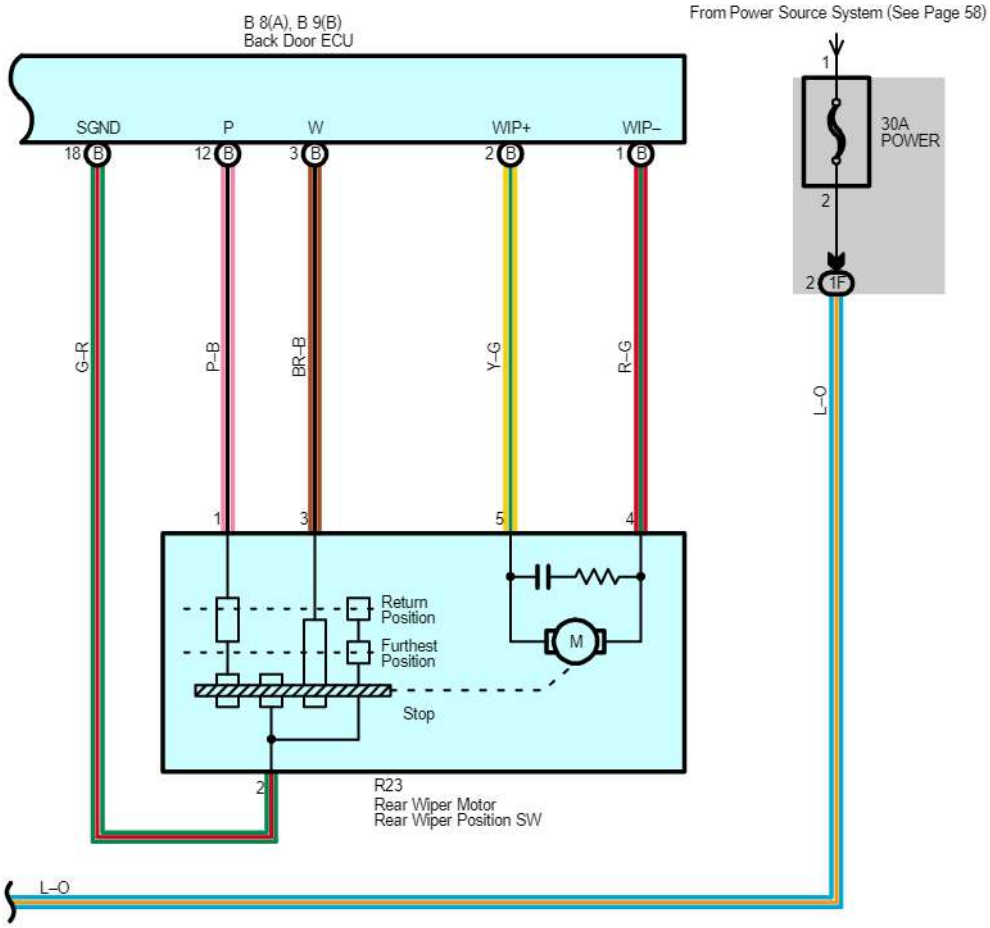
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Rear Wiper and Washer

System Outline

* Rear wiper operation
  The back door ECU initiates rear wiper intermittent or continuous operation according to rear wiper SW command from the body ECU. At this point, the position of the back door window is confirmed and, if it is not fully closed, the command will be neglected preventing the rear wiper from starting.
  If the ignition SW is turned OFF while the rear wiper is operating, it comes to a stop but only after the wiper arm has returned to its initial position.
* Rear washer operation
  Turning the rear washer SW ON, with the ignition SW ON and the back door window fully closed, initiates rear washer operation.

Service Hints

C14 Combination SW

10–Ground : Continuity with the rear wiper SW at ON position
13–Ground : Continuity with the rear wiper SW at INT position
2–Ground : Always continuity

Body ECU

22–Ground : Approx. 12 volts with ignition SW at ACC or ON position
1, 10–Ground : Approx. 12 volts with ignition SW at ON position
11–Ground : Always approx. 12 volts
4, 16–Ground : Always continuity

B8 (A) Back Door ECU

(A) 6–Ground : Approx. 12 volts with ignition SW at ON position
(A) 4, (A) 5–Ground : Always approx. 12 volts
(A) 3–Ground : Always continuity

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B1	36	B9 B	40	J15	38
B4 A	36	B11	40	J40 A	40
B5 B	36	C14	37	J41 B	40
B6 C	36	D7	40	R23	41
B7	40	J5	38	W2	33 (2UZ–FE)
B8 A	40	J7	38		35 (1GR–FE)

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

▭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1H	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

▭ : Connector Joining Wire Harness and Wire Harness

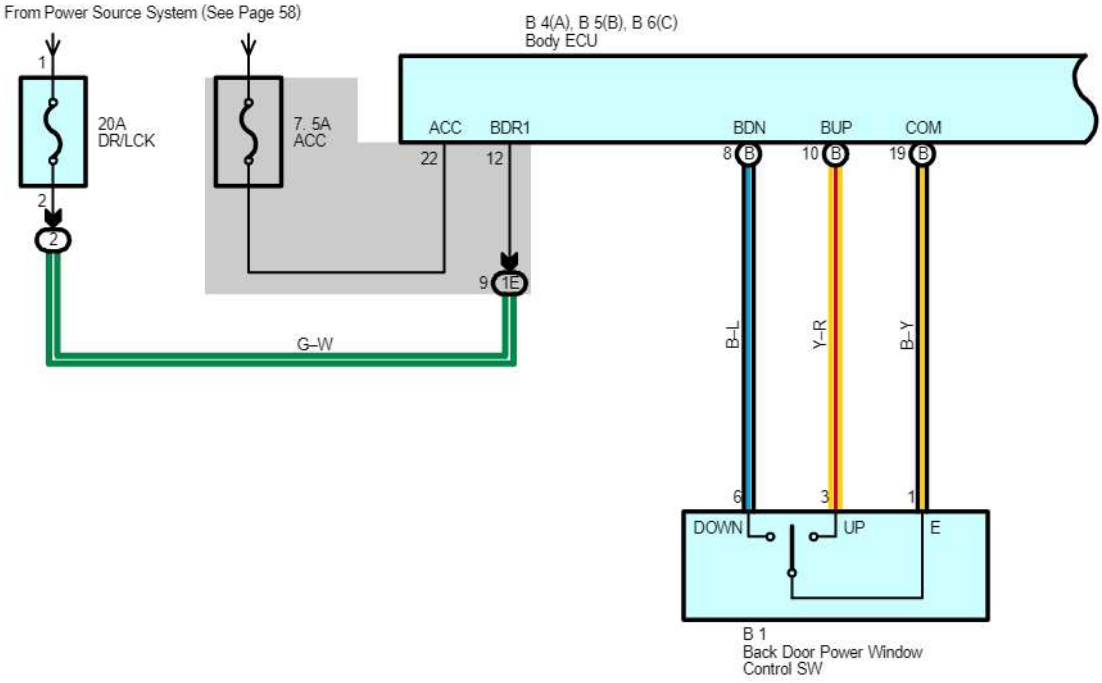
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IH1	50	Instrument Panel Wire and Instrument Panel Wire (Behind the Combination Meter)
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)

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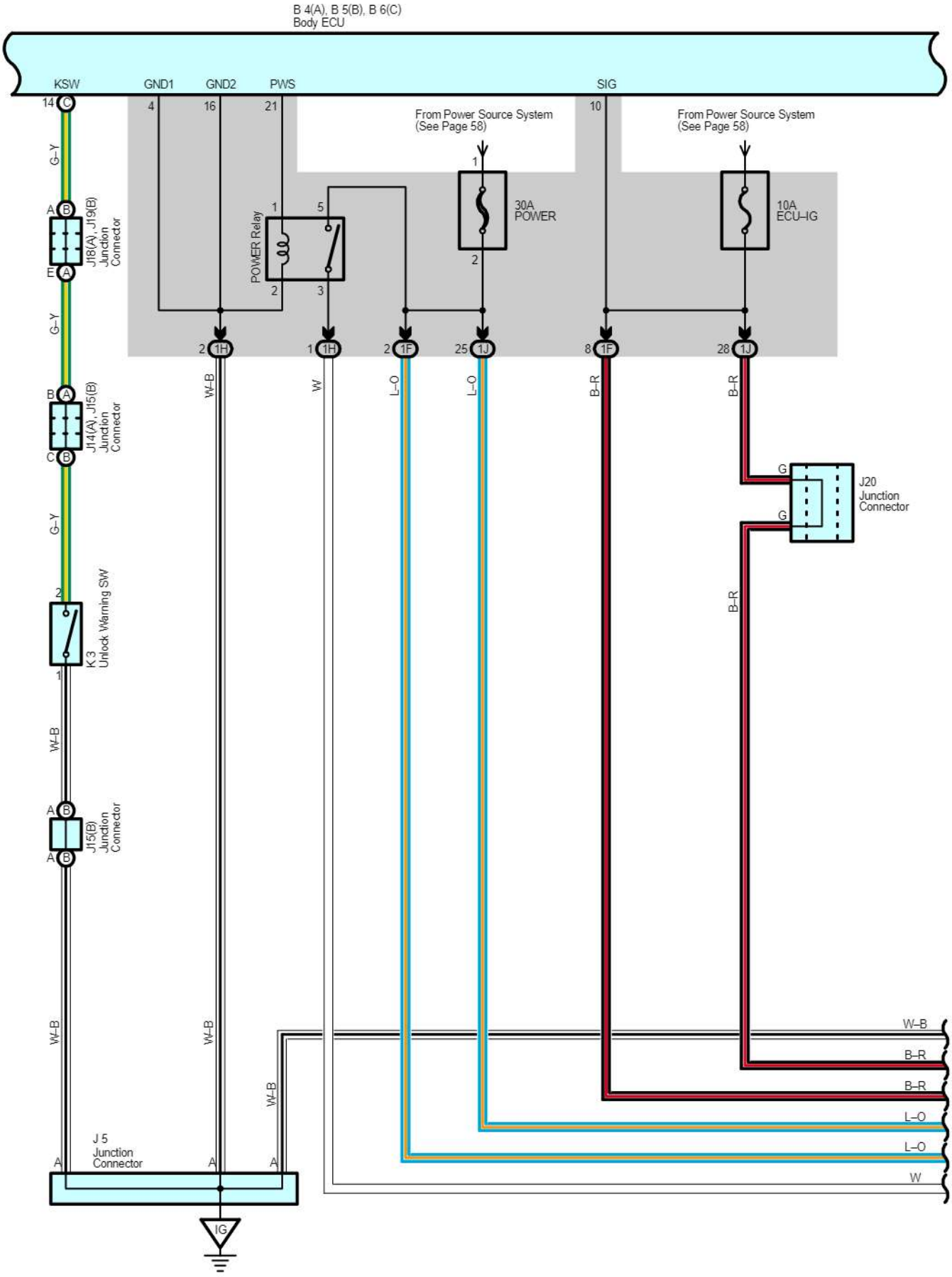
▽ : **Ground Points**

Code	See Page	Ground Points Location
IG	48	Left Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

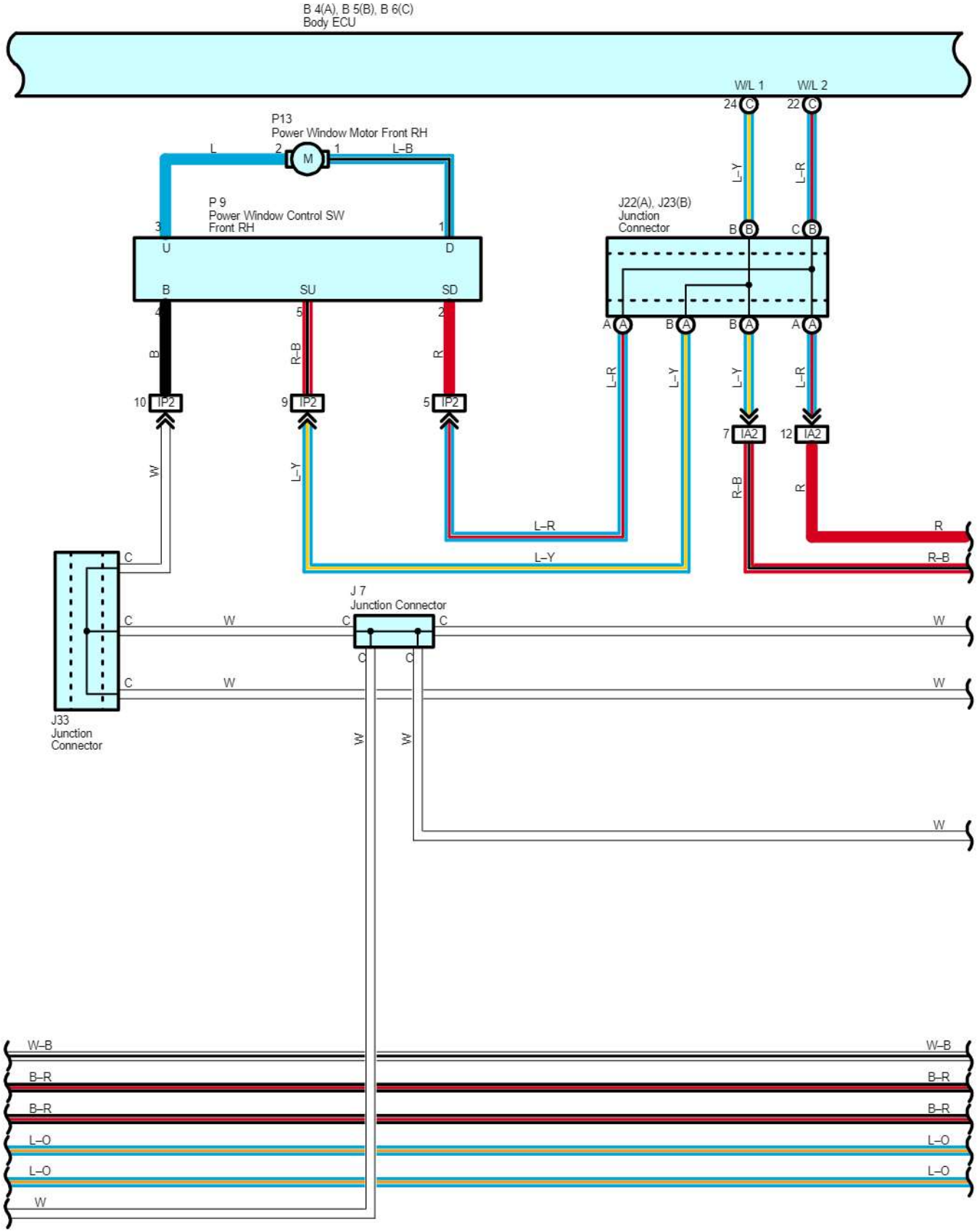
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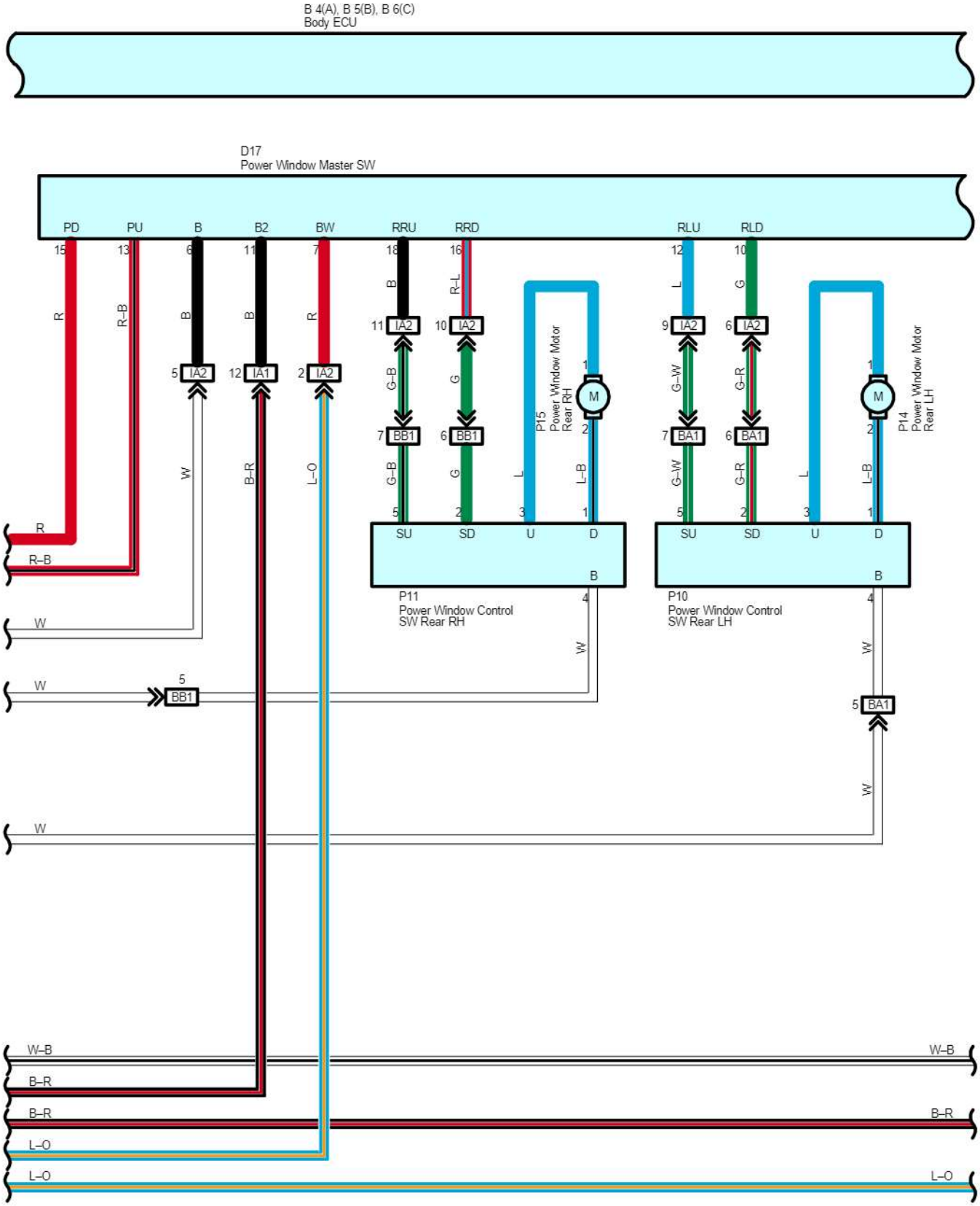
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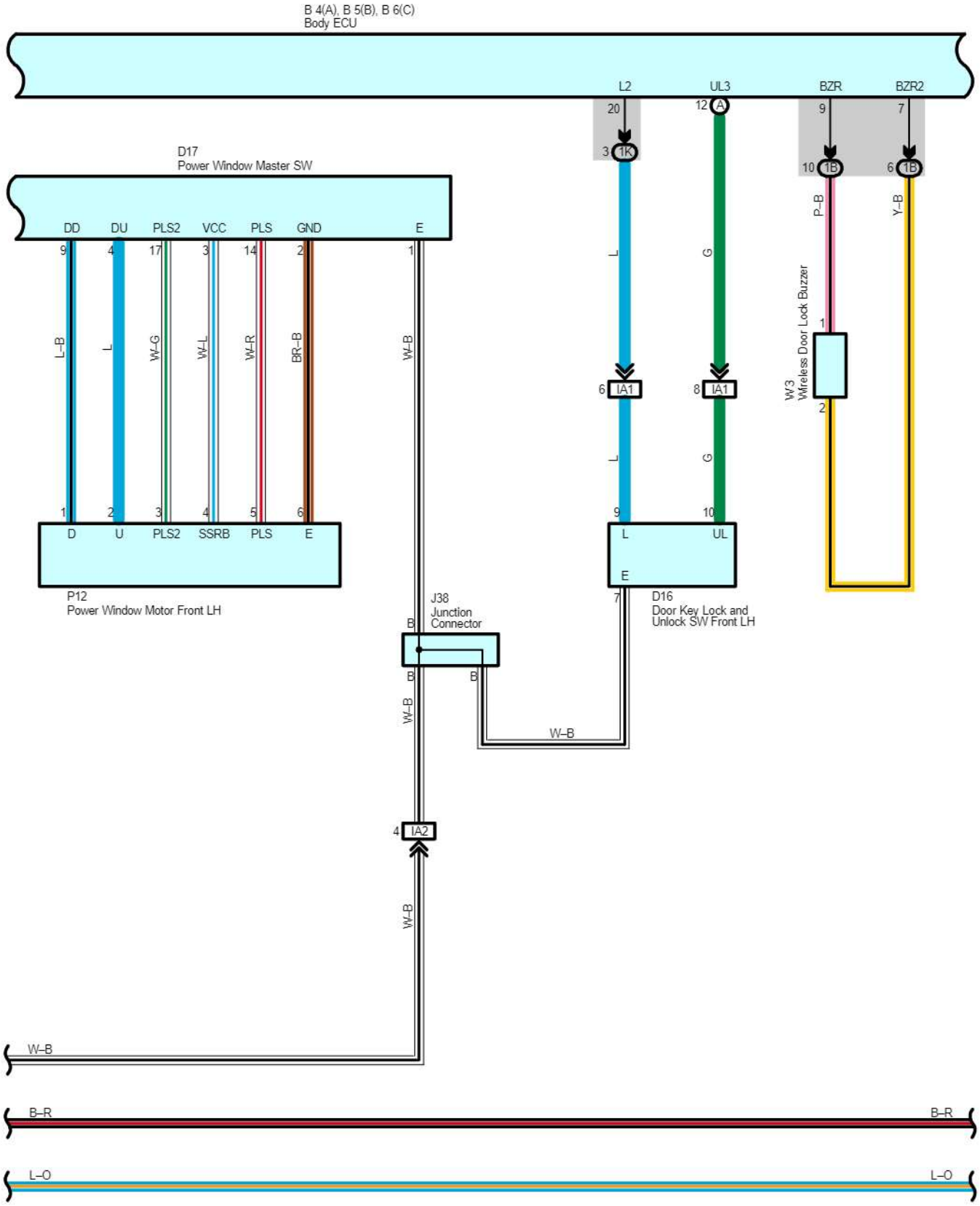
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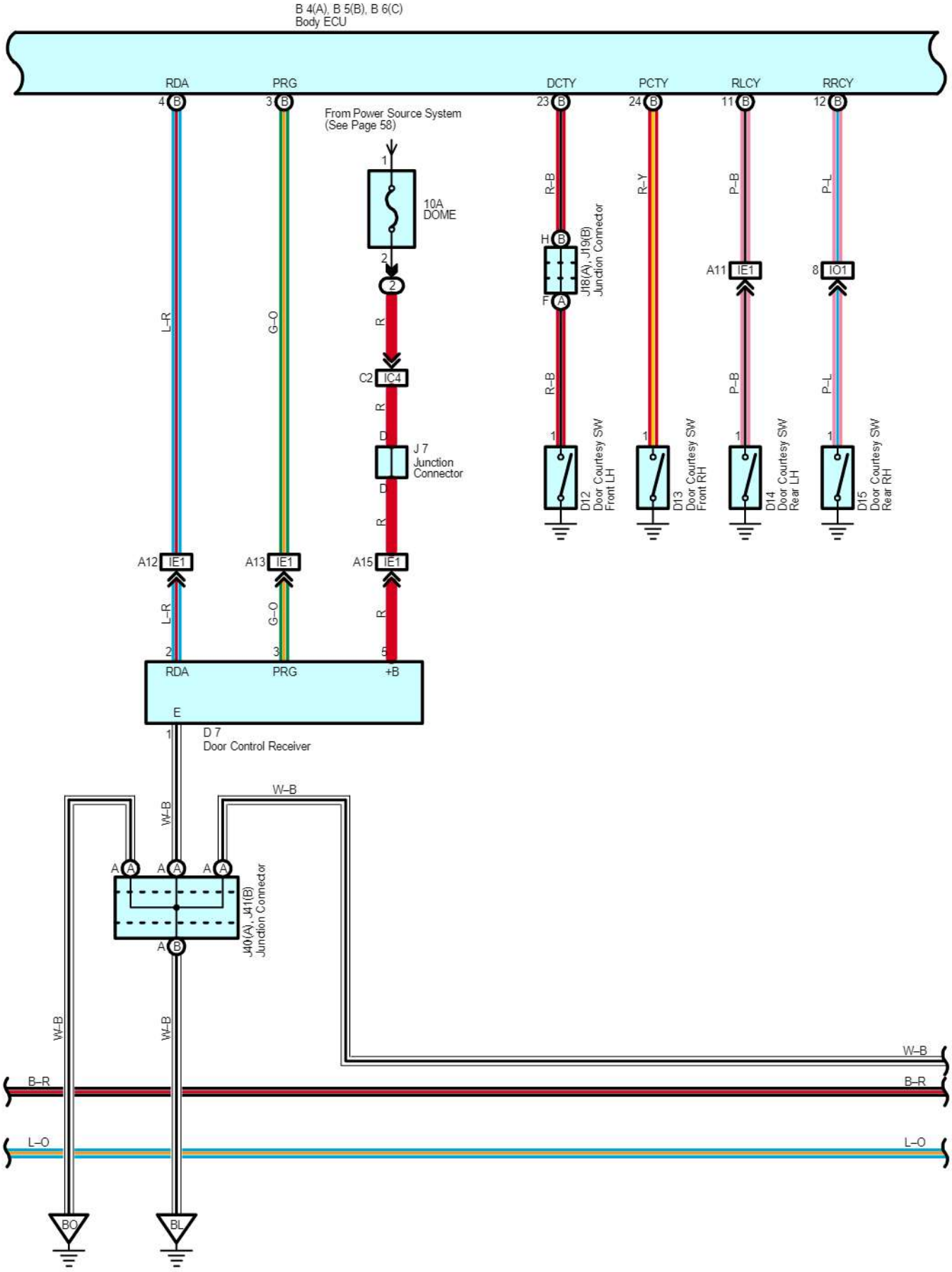
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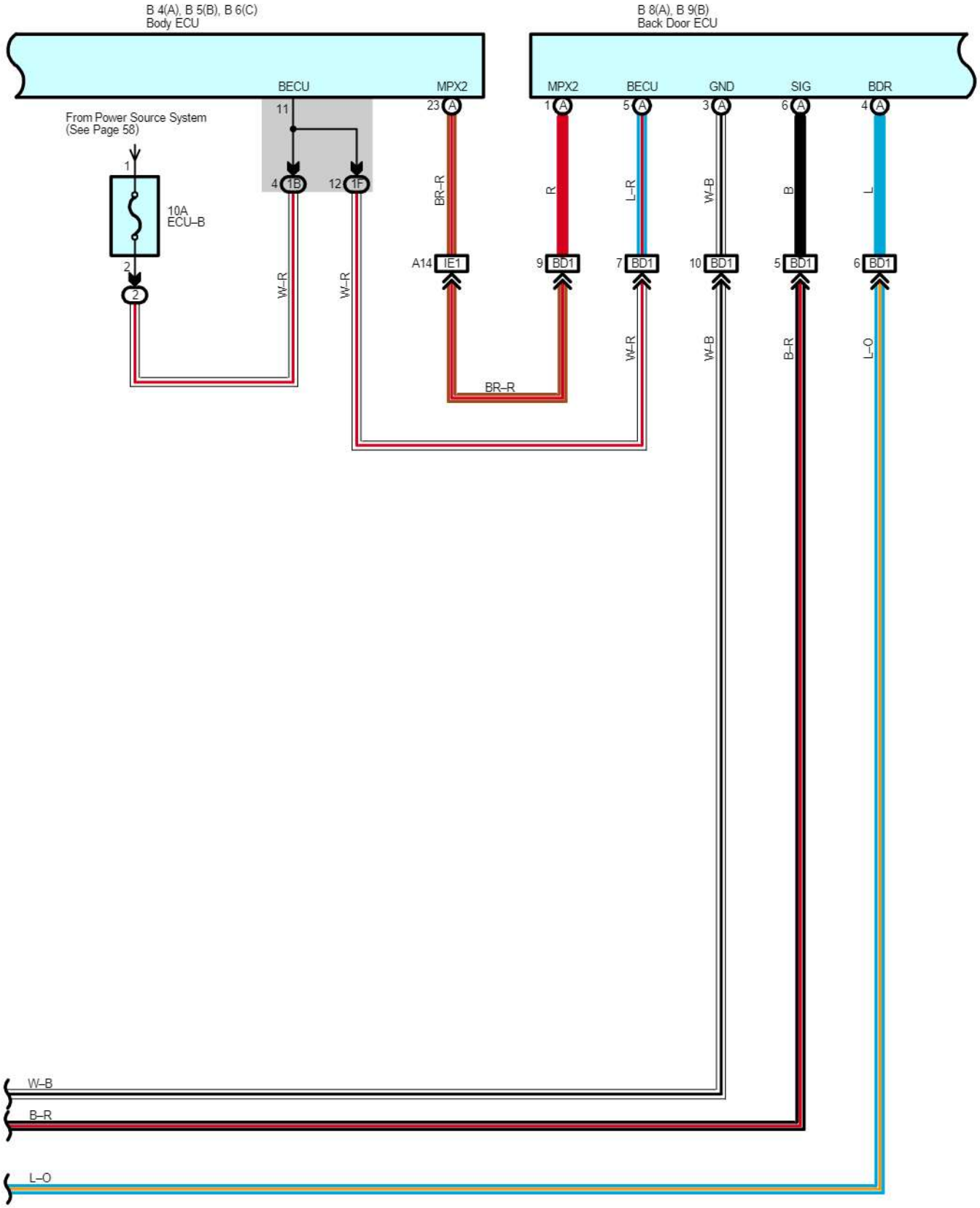
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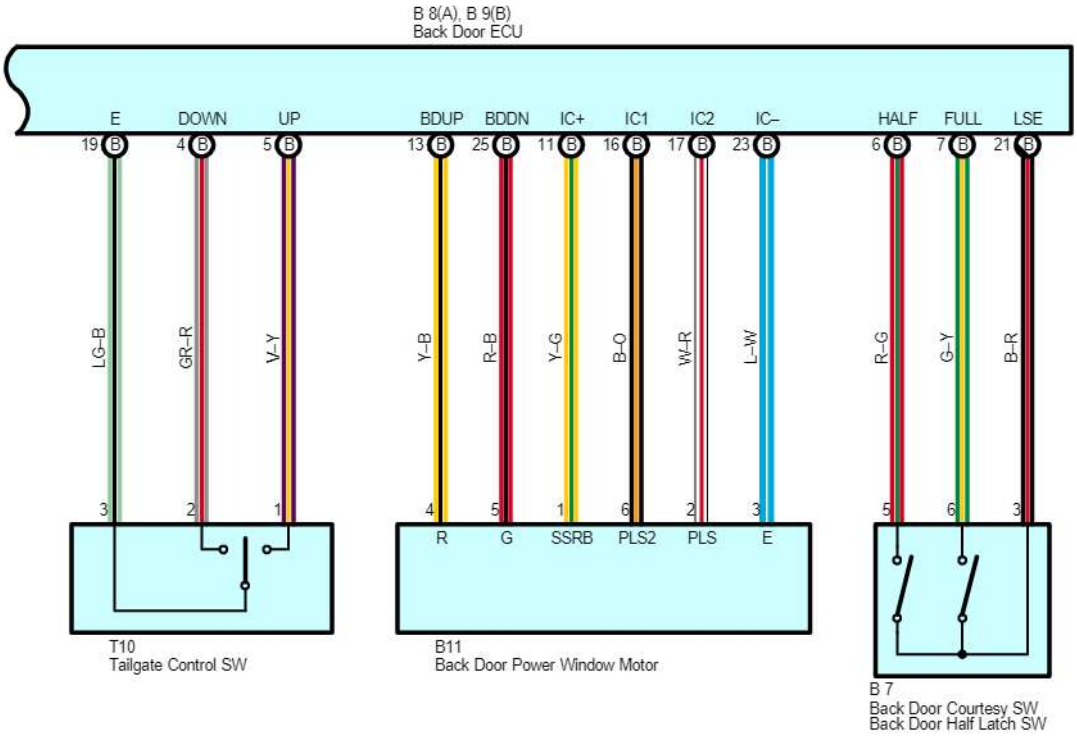
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Power Window

System Outline

* The power window system is controlled by the body ECU. This system has following features.

1. Manual Up and Down Function

This function causes the window to open or close while the power window switch is being pulled halfway up or pushed halfway down. The window stops as soon as the switch is released.

2. Front Doors One–Touch Auto Up and Down Function

The front doors one–touch auto up and down function enables the window of front doors to be fully opened or closed at a touch of the power window switch.

3. Jam Protection Function

A jam protection function automatically stops the power window and moves it downward if a foreign object gets jammed in the window during one–touch auto–up operation.

4. Remote Control Function

The up and down operations of the front passenger door window and the rear door windows can be controlled by operating the power window master switch.

5. Ker–Off Operation Function

Within about 45 seconds when turn OFF the ignition SW or open and shut the driver's seat door, this function enables the door window operation with the power window master switch and/or the manual operation at each passenger's seat door. (The driver's seat door includes the one–touch auto up and down operation as well)

6. Key–Linked Up and Down Function

A key–linked up and down function, which is linked to the driver door key cylinder operation, open or close the window of the all doors.

* When the battery terminal or fuse is disconnected, the glass position of all doors have to be reset to the initial positions, door by door, by the power window control switch in accordance with the following procedure:

A) Reconnect the battery terminal or fuse.

B) Turn ON the ignition switch.

C) Lower the window of each door by the power window switch to open it halfway or more.

D) Then move the window up by the power window switch to close it fully.
Do not release the switch for at least one second after the window is fully closed.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B1	36	D16	40	J40 A	40
B4 A	36	D17	40	J41 B	40
B5 B	36	J5	38	K3	39
B6 C	36	J7	38	P9	41
B7	40	J14 A	38	P10	41
B8 A	40	J15 B	38	P11	41
B9 B	40	J18 A	38	P12	41
B11	40	J19 B	38	P13	41
D7	40	J20	38	P14	41
D12	40	J22 A	38	P15	41
D13	40	J23 B	38	T10	41
D14	40	J33	38	W3	33 (2UZ–FE)
D15	40	J38	40		35 (1GR–FE)

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

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: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1H	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		

: Connector Joining Wire Harness and Wire Harness

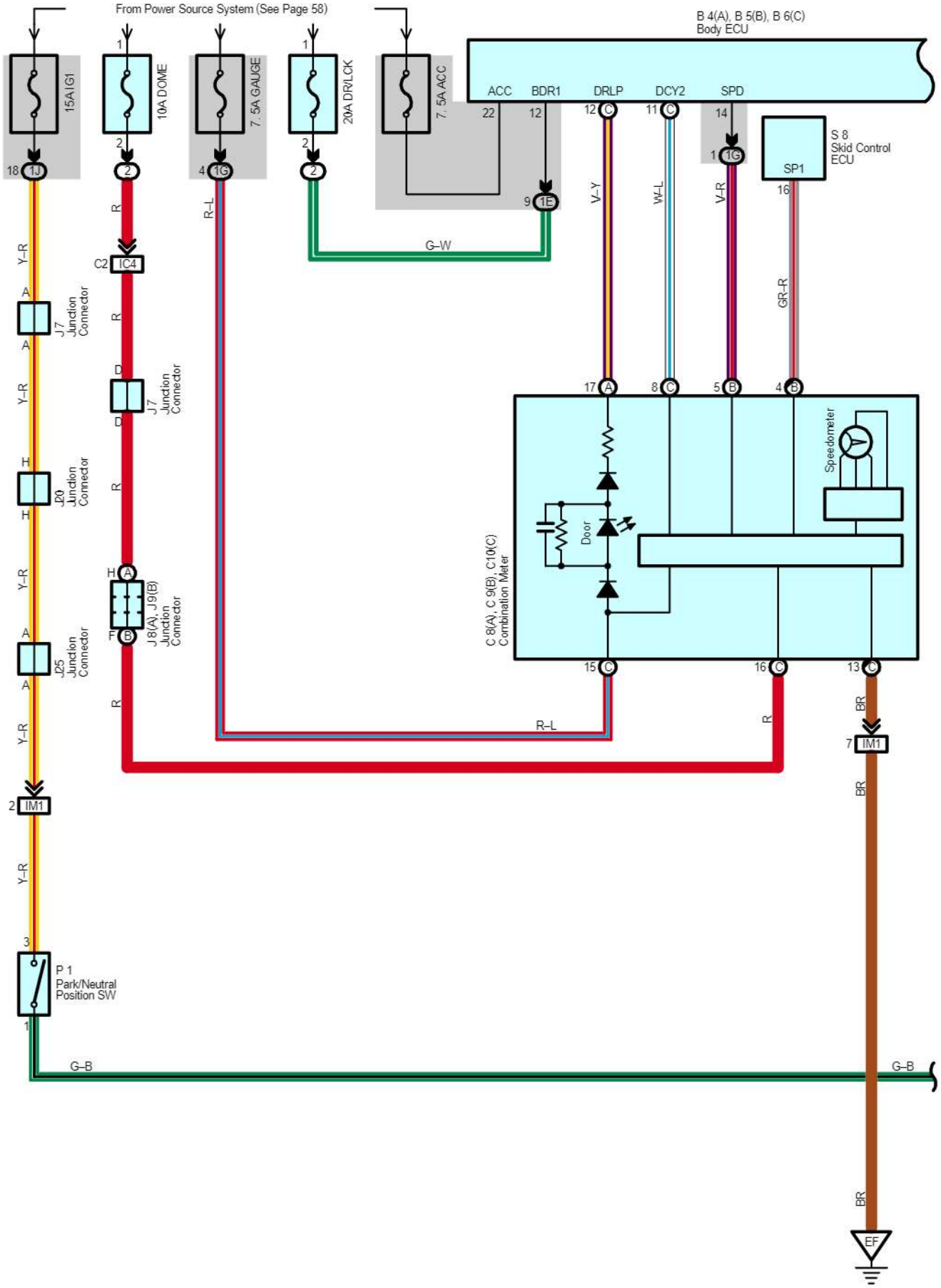
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	48	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IA2		
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)
IP2	52	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
BA1	54	Rear Door No.2 Wire and Instrument Panel Wire (Left Center Pillar)
BB1	54	Rear Door No.1 Wire and Instrument Panel Wire (Right Center Pillar)
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)

: Ground Points

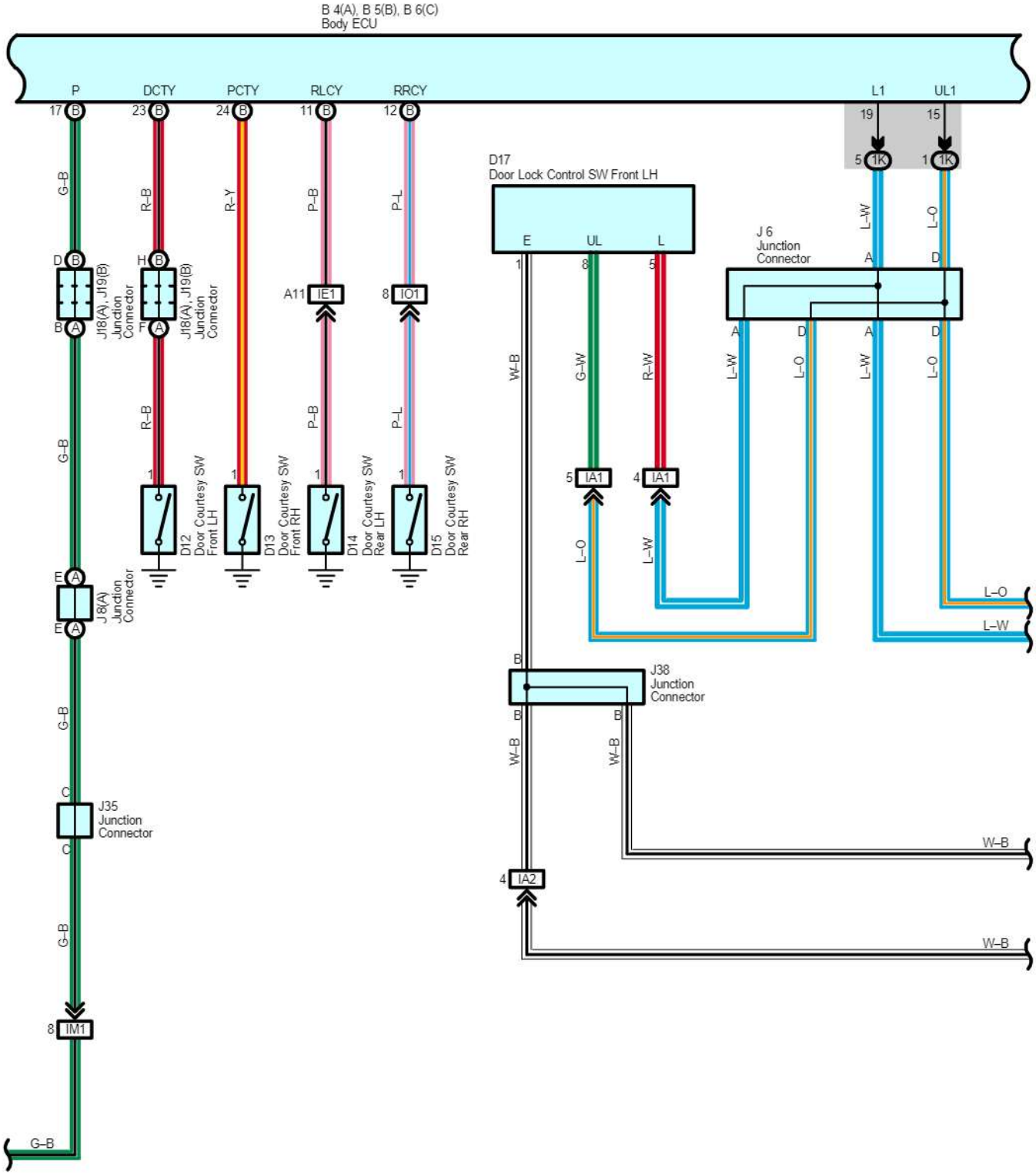
Code	See Page	Ground Points Location
IG	48	Left Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

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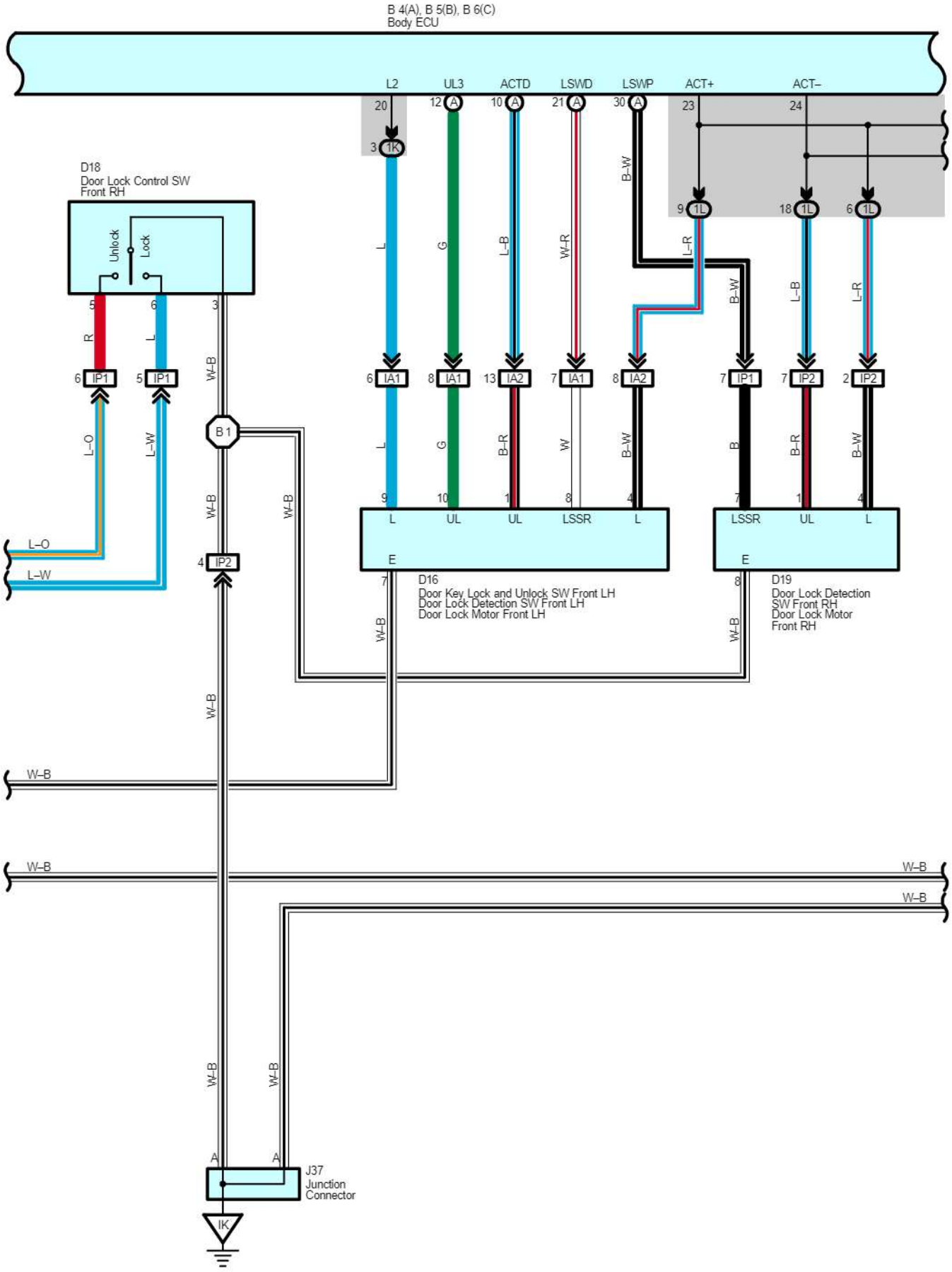
Door Lock Control



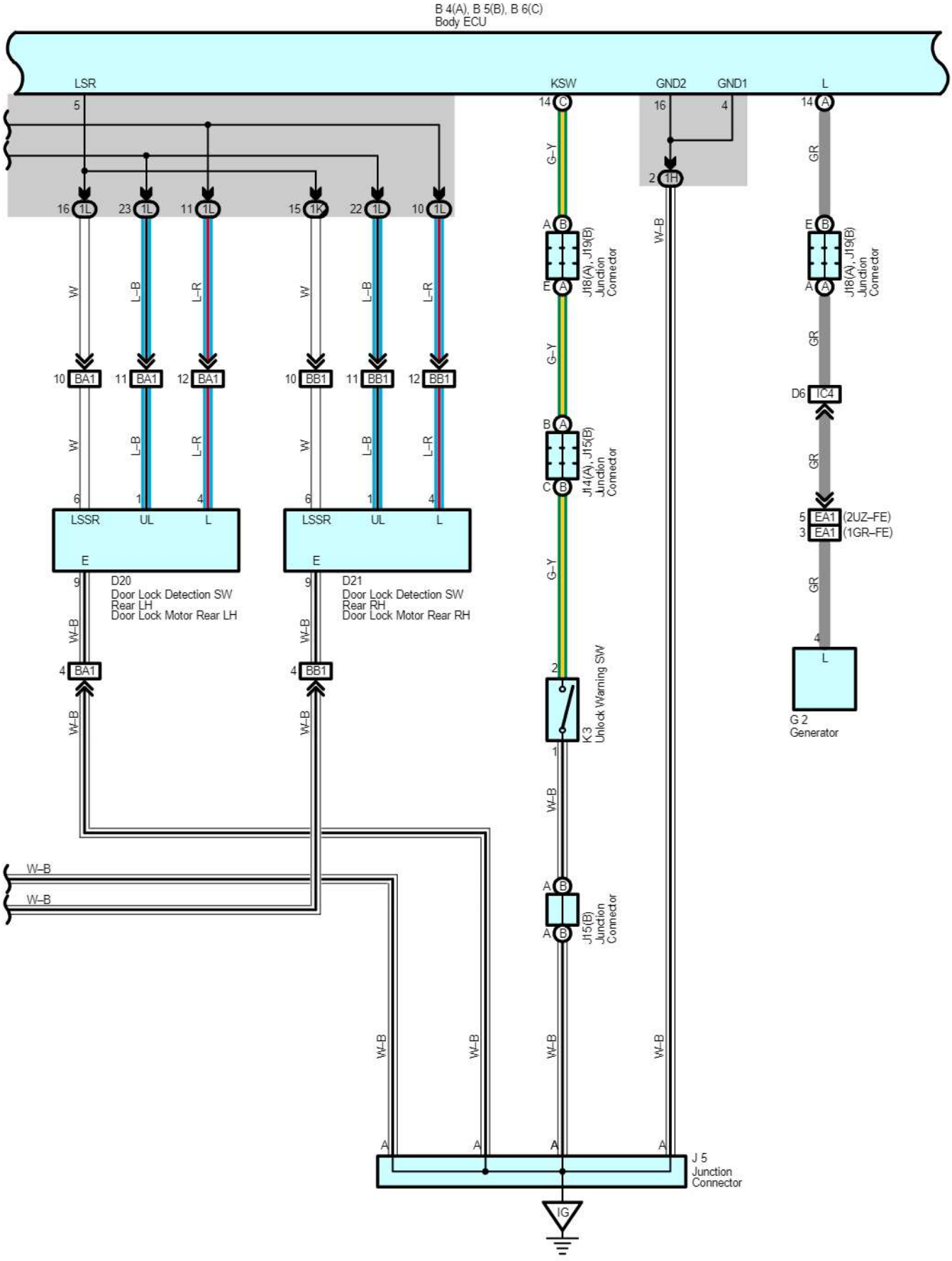
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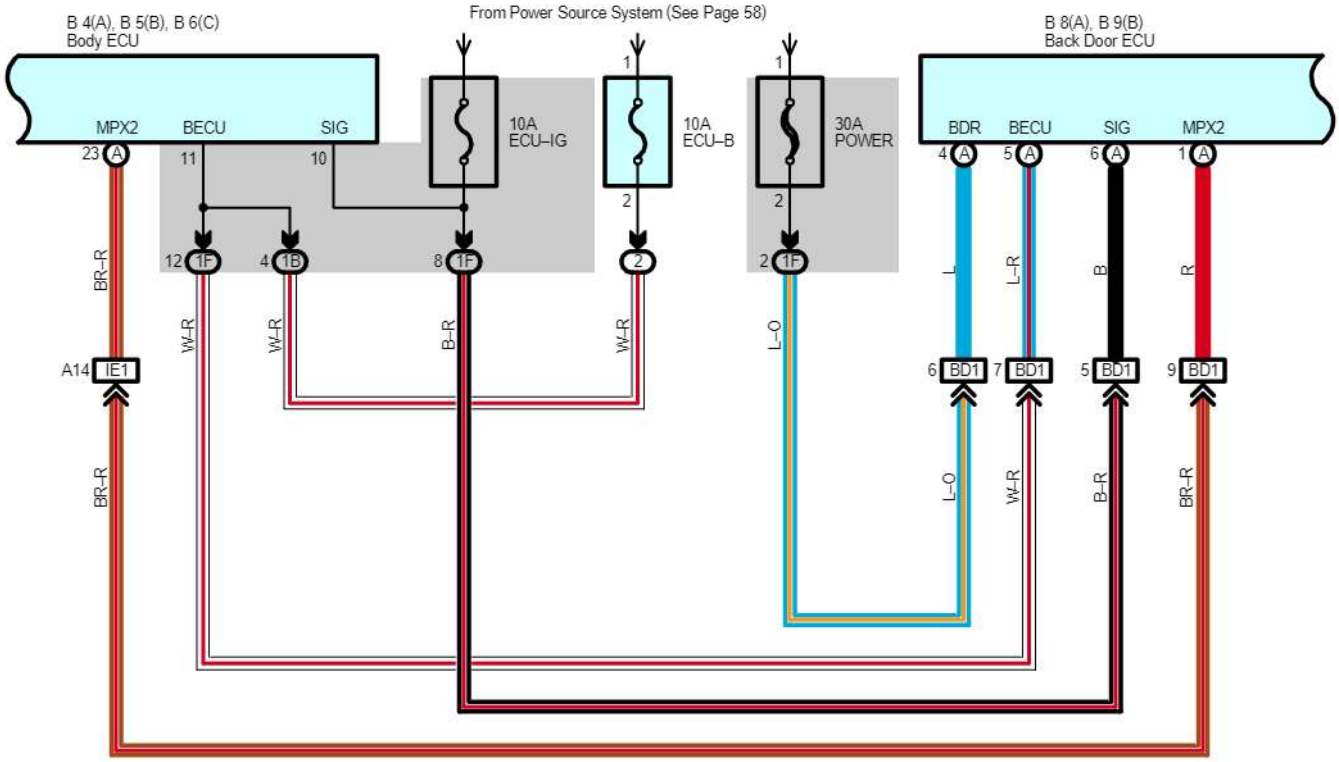
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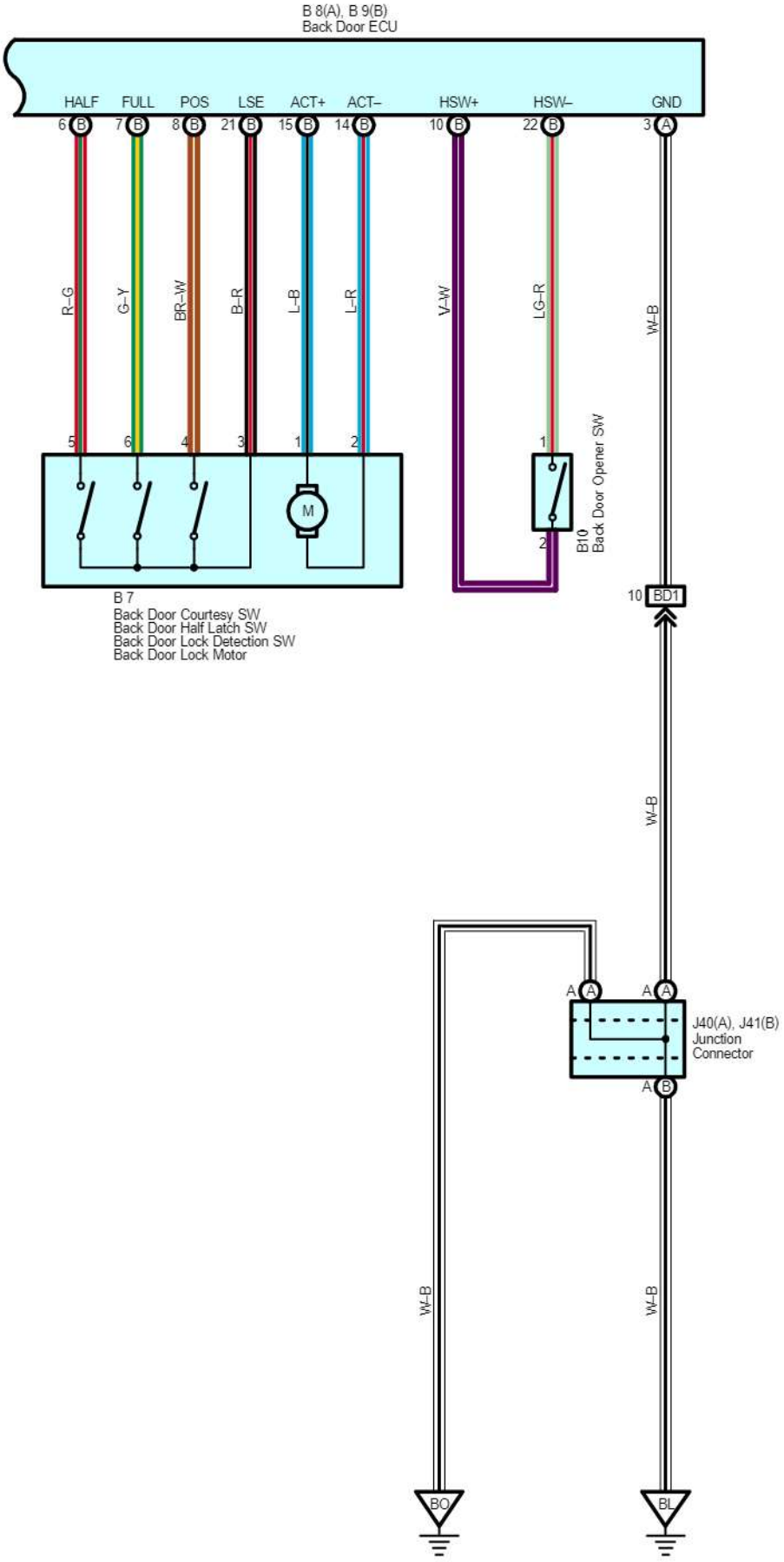
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Door Lock Control

System Outline

The door lock control is controlled through the various signals input into the body ECU through communication control of the body ECU etc.

1. Manual Unlock Operation

When the door lock control SW of the driver's or passenger's side door is pushed to UNLOCK, the door lock will unlock.

2. Manual Lock Operation

When the door lock control SW of the driver's or passenger's side door is pushed to LOCK, the door lock will lock.

3. Door Key Unlock Operation

* Unlock operation from driver's side door
  When the driver's side door is unlocked once using the ignition key, only the driver's side door is unlocked. If this operation is repeated within 3 seconds, all the other doors are unlocked.

4. Ignition Key Reminder Operation

When the door lock operation is made using the door knob with the ignition key remained inserted in the key cylinder and the door open, unlock operation is automatically made. Additionally, if lock operation is made with the door lock control SW or door key lock and unlock SW, unlock operation is automatically made after the lock operation has been completed.

5. Shift–Lever–Interlocked Auto Lock Control

* Auto lock operation
  The auto lock control automatically locks all doors when the shift lever is thrown into another position from parking — with all doors closed, the ignition switch ON, and the engine running.
* Auto unlocking operation
  The auto lock control automatically unlocks all doors when the shift lever is thrown into parking from another position — with the ignition switch ON, traveling at a speed not exceeding 16 km/h.

6. Vehicle–Speed–Interlocked Auto Lock Control

* Auto lock operation control
  If any of the doors are not locked with the ignition switch ON and the engine running, the auto lock control automatically locks all doors when the vehicle has gathered speed reaching or exceeding 20 km/h.
* Unlocking prevention feature
  When the vehicle is traveling at a speed reaching or exceeding 20 km/h, the unlocking function that prevents driver from locking himself out is disabled.
* Auto lock repeat prevention feature
  Once auto lock is activated, auto lock operation cannot not be repeated — until a door is opened or the ignition switch is turned OFF with the vehicle traveling at a speed not exceeding 16 km/h.

7. Door–Open/Close–Interlocked Auto Unlocking

When the driver's seat door is opened within 10 seconds after the ignition switch is turned OFF with the door closed, all doors are unlocked automatically.

* When the battery terminal or fuse is disconnected for some reason, resetting to the initial status is necessary using the door lock control SW front LH (Driver's seat master SW) in accordance with the following procedure:

(1) Reconnect the battery terminal or fuse.

(2) With the back door closed, operate the door lock control SW front LH (Driver's seat master SW) for locking and unlocking.

Service Hints

Body ECU

11, 12–Ground : Always approx. 12 volts
10–Ground : Approx. 12 volts with ignition SW at ON position
22–Ground : Approx. 12 volts with ignition SW at ACC or ON position
4, 16–Ground : Always continuity

B8 (A) Back Door ECU

(A) 4, (A) 5–Ground : Always approx. 12 volts
(A) 6–Ground : Approx. 12 volts with ignition SW at ON position
(A) 3–Ground : Always continuity

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: Parts Location

Code	See Page	Code	See Page	Code	See Page
B4 A	36	D16	40	J15 B	38
B5 B	36	D17	40	J18 A	38
B6 C	36	D18	40	J19 B	38
B7	40	D19	40	J20	38
B8 A	40	D20	40	J25	38
B9 B	40	D21	40	J35	38
B10	40	G2	32 (2UZ–FE)	J37	38
C8 A	37		34 (1GR–FE)	J38	40
C9 B	37	J5	38	J40 A	40
C10 C	37	J6	38	J41 B	40
D12	40	J7	38	K3	39
D13	40	J8 A	38	P1	33 (2UZ–FE)
D14	40	J9 B	38		35 (1GR–FE)
D15	40	J14 A	38	S8	39

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1H		
1J		
1K		
1L		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	44 (2UZ–FE) 46 (1GR–FE)	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
IA1	48	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IA2		
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)
IP1	52	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
IP2		
BA1	54	Rear Door No.2 Wire and Instrument Panel Wire (Left Center Pillar)
BB1	54	Rear Door No.1 Wire and Instrument Panel Wire (Right Center Pillar)
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)

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Door Lock Control

: **Ground Points**

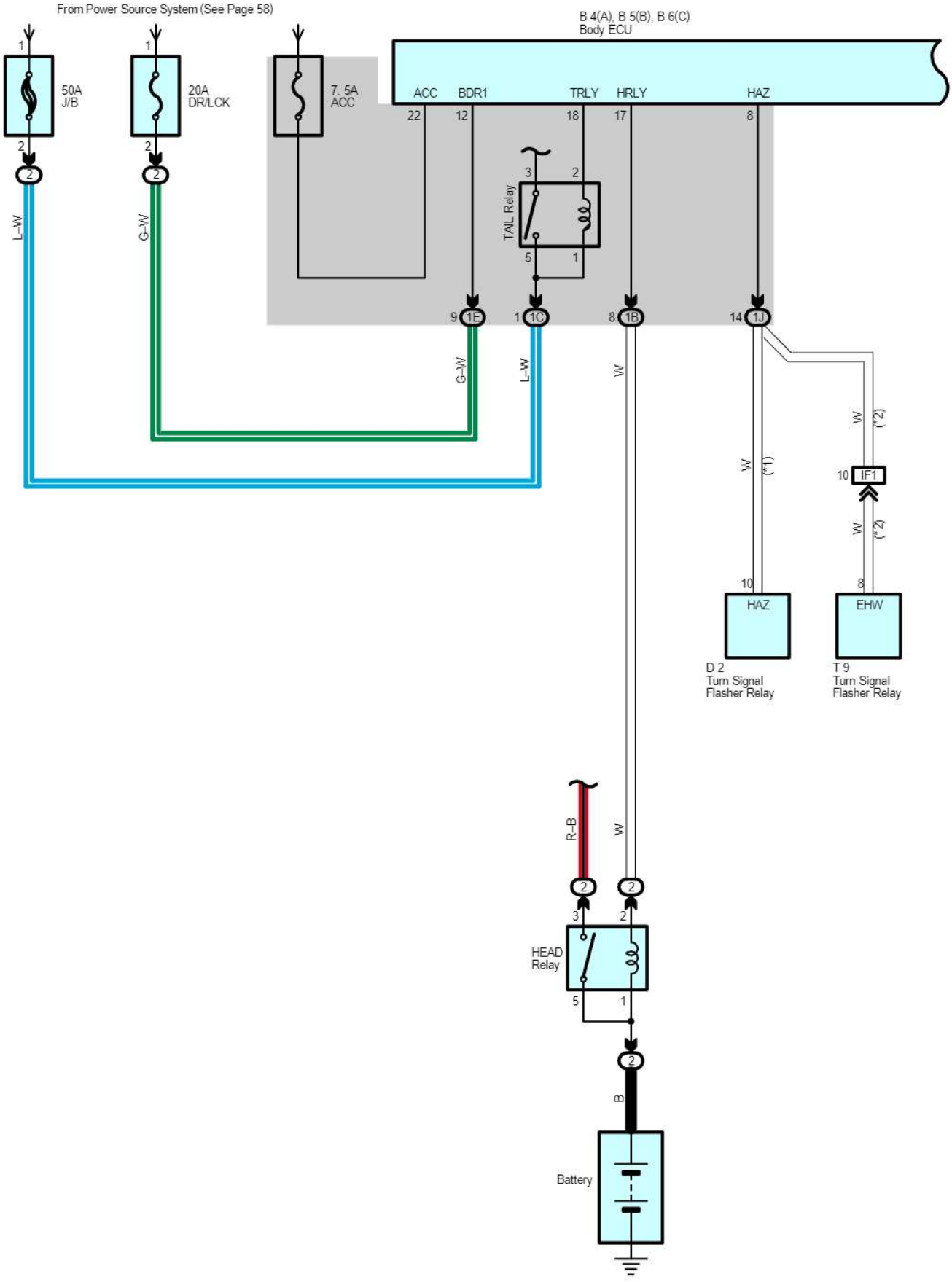
Code	See Page	Ground Points Location
EF	44 (2UZ–FE) 46 (1GR–FE)	Rear Side of Left Bank Cylinder Block
IG	48	Left Kick Panel
IK	48	Right Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

: **Splice Points**

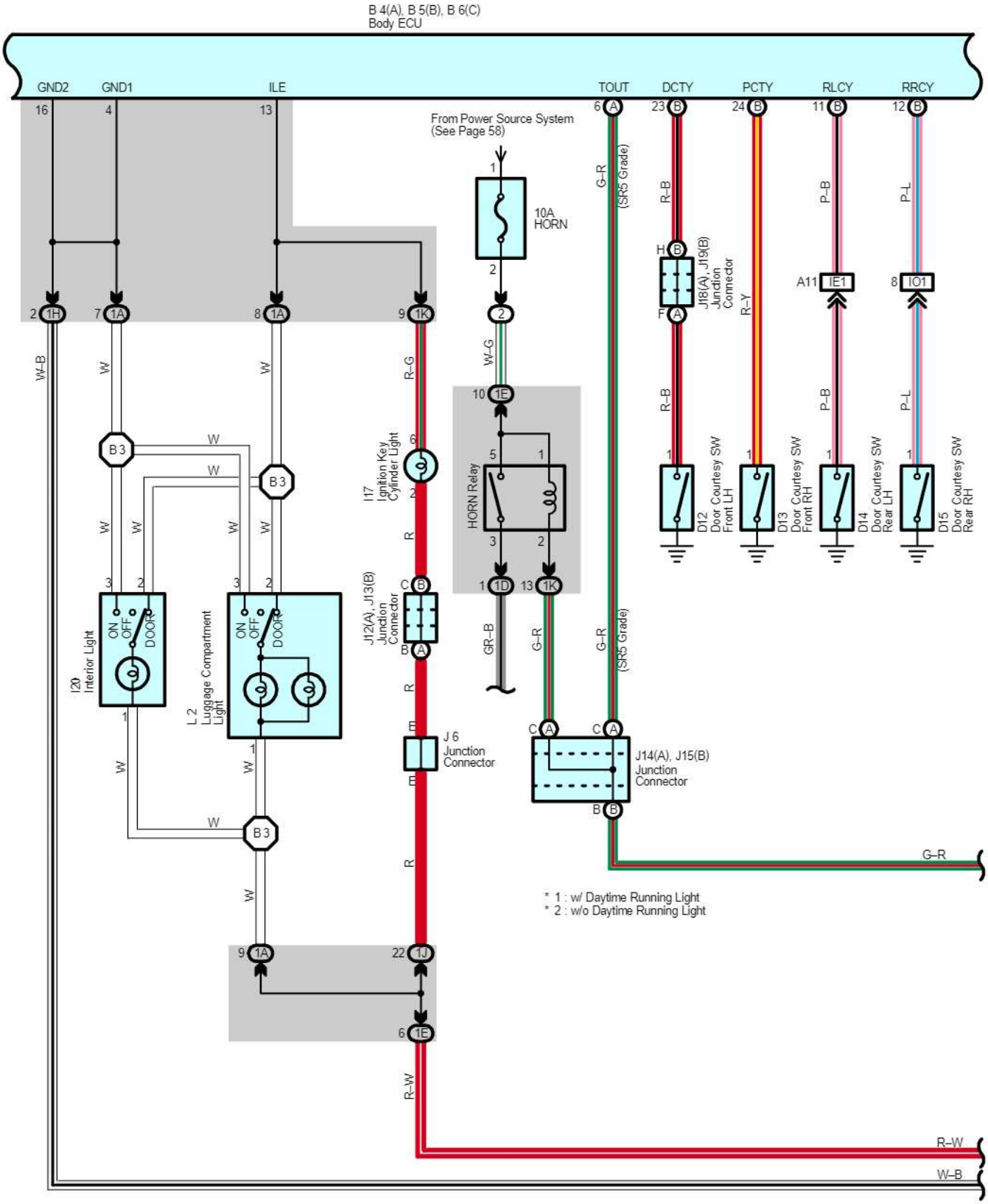
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B1	54	Front Door RH Wire			

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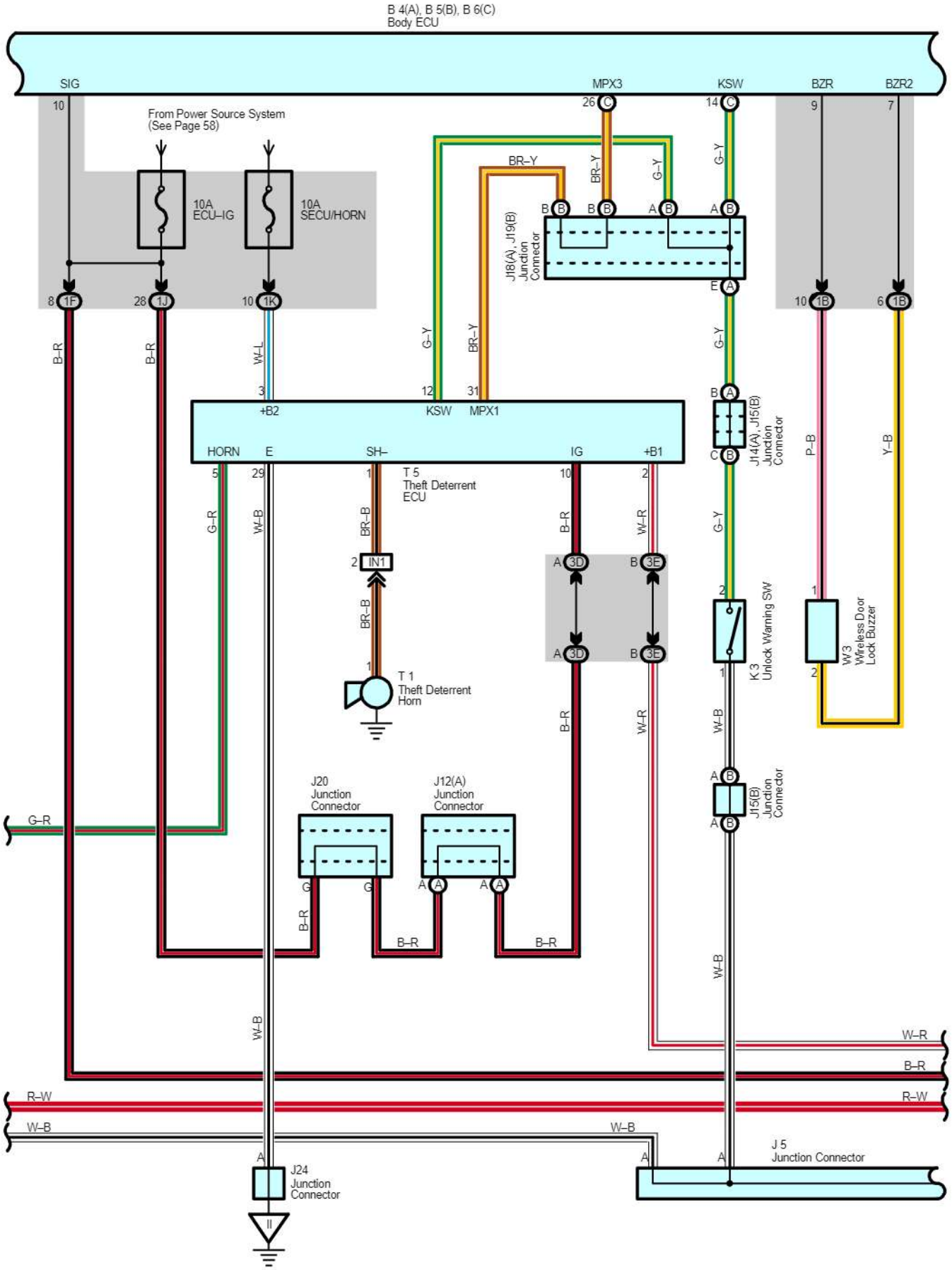
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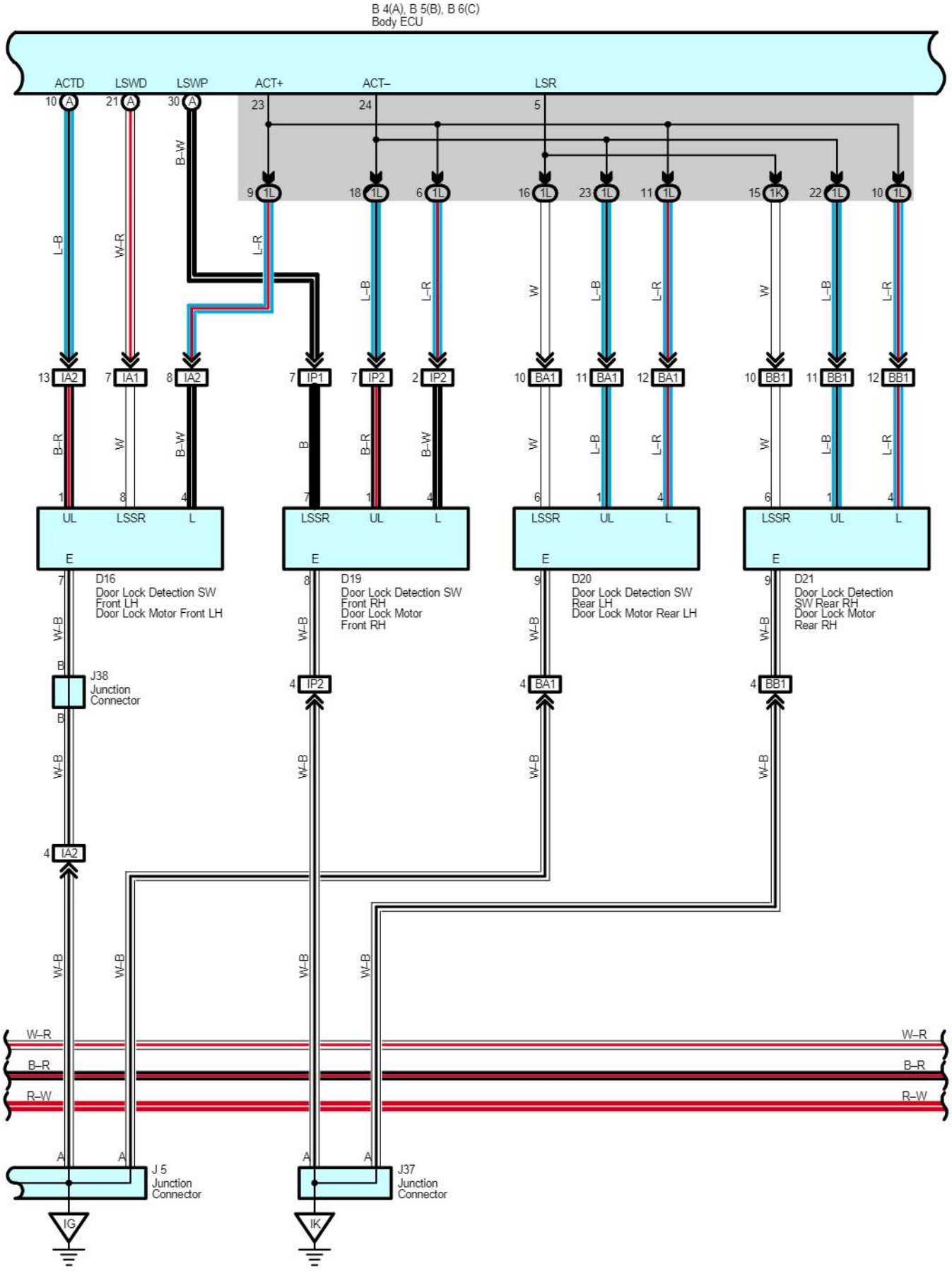
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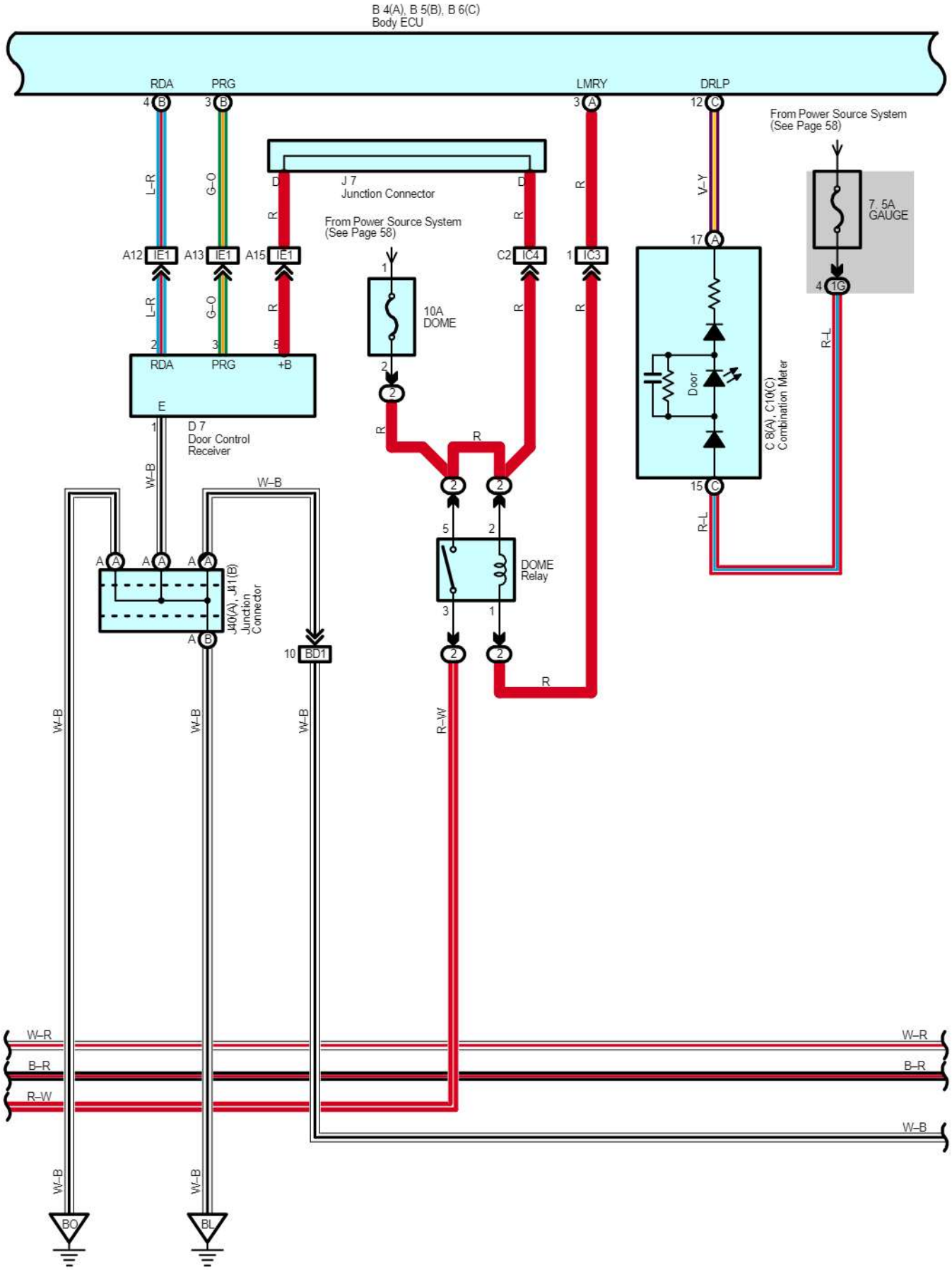


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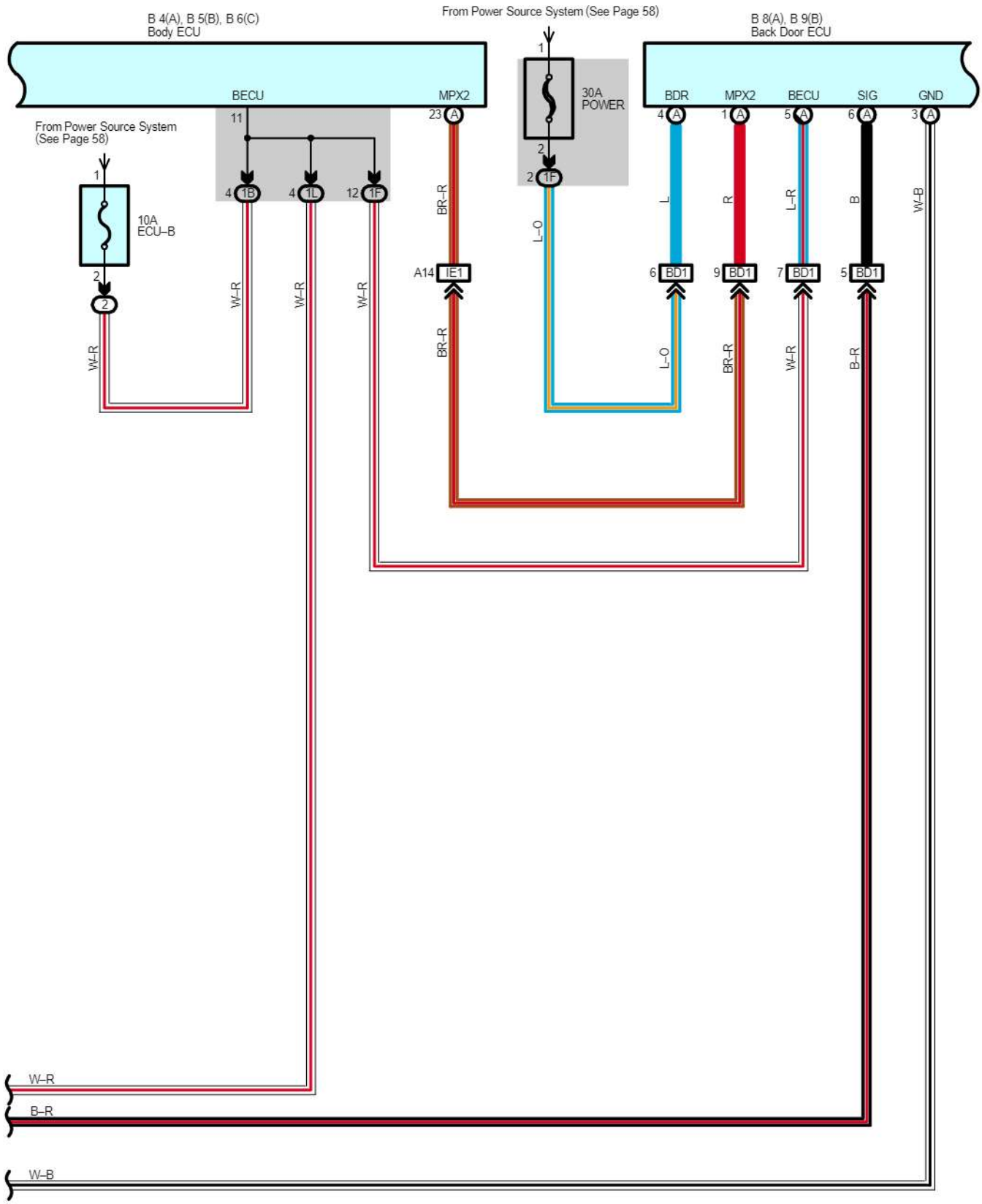


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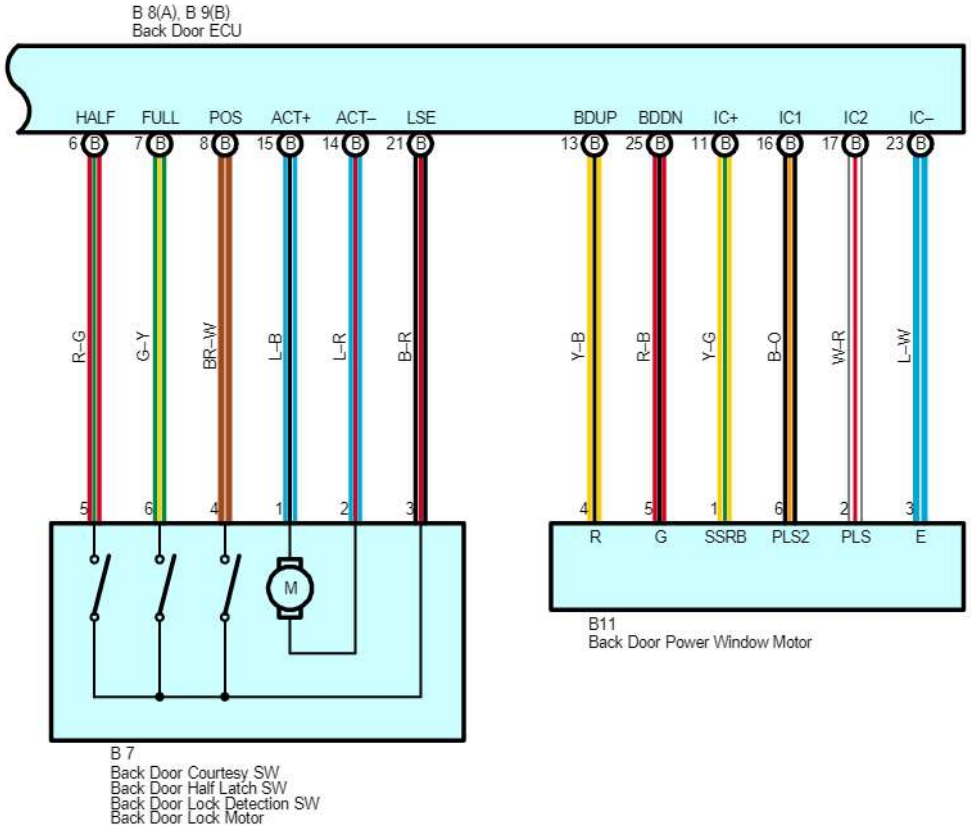
Wireless Door Lock Control



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System Outline

Door lock control (Lock and unlock), back window control (Back window open) and panic control (Theft alarm and flash) is performed by remote control, without the ignition key inserted in the door key cylinder, using low–power electrical waves emitted by a transmitter.

1. Normal Operation

* Lock operation
  When the lock SW on the transmitter is pressed, all the doors are locked.
* Unlock operation
  When the unlock SW on the transmitter is pressed once, only the driver door is unlocked. When the unlock SW is pressed again within 3 seconds, all the doors are unlocked.

2. Auto Lock Function

When the door is not actually opened within 30 seconds after the door has been unlocked by the unlock SW on the transmitter, all the doors are automatically locked. If any of the following conditions are detected, the wireless door lock does not function.

* Any door is opened.
* The ignition key is inserted into the ignition SW.
* When the lock detection SW of all the doors are locked.

3. Wireless Door Lock Stop Function

If any of the following conditions are detected, the wireless door lock does not function.
Lock operation

* When any door is open (Door courtesy SW on)
* The ignition key is inserted into the ignition SW (Unlock warning SW on)
* Ignition SW is on

Unlock operation

* Ignition SW is on

4. Buzzer Sound Function

During lock operation, when the body ECU receives a lock signal from the door lock detection SW, the wireless door lock buzzer goes on once. During unlock operation, when the body ECU receives an unlock signal from the door lock detection SW, the wireless door lock buzzer goes on twice.
With any door open, when the body ECU receives a lock signal from the transmitter, the wireless door lock buzzer goes on for approx. 10 seconds. If the door is closed, or ignition SW is on, or if the unlock signal is received from the transmitter while the buzzer is on, the buzzer stops.

5. Visual Confirmation of Lock or Unlock

During lock operation, when the body ECU receives a lock signal from the door lock detection SW, the turn signal light is flashed once. During unlock operation, when the body ECU receives an unlock signal from the door lock detection SW, the turn signal light is flashed twice.

6. Remote Panic Operation

Panic will function when doors are locked or unlocked, open or closed. When the panic button (Transmitter) is pushed once, interior lights light up, and theft alarm and horn sounds and turn signal light, headlights and taillight flash. Then, the panic or the unlock button (Transmitter) is pushed once more, interior lights are turned off, sounding and flashing will stop. Panic will not function when ignition key is in ignition key cylinder.

7. Repeat Function

If the lock detection signal in response to the output signal is not received after the body ECU has output the lock signal, the lock signal is output again.

8. Buzzer Volume Control

The volume of the wireless door lock buzzer can be set among 5 steps by operating the transmitter, when the ignition SW is off, any door open, and the ignition key is not in the ignition key cylinder.

9. Back Window Control

When the ignition SW is off, the ignition key is not inserted into the ignition key cylinder, the back window can be opened by pressing the back window open SW of the transmitter for approximately 0.8 seconds. At that time, the wireless door lock buzzer beeps once.

10. Illuminated Entry Function

When the body ECU detects the unlock state after the unlock operation has been made, it turns on the lights, such as the ignition key cylinder light and interior light for approx. 15 sec. If all the doors are locked during this operation, lighting is cancelled and the lights immediately fade out.

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Wireless Door Lock Control

Service Hints

Body ECU

11, 12–Ground : Always approx. 12 volts
10–Ground : Approx. 12 volts with ignition SW at ON position
22–Ground : Approx. 12 volts with ignition SW at ACC or ON position
4, 16–Ground : Always continuity

B8 (A) Back Door ECU

(A) 4, (A) 5–Ground : Always approx. 12 volts
(A) 6–Ground : Approx. 12 volts with ignition SW at ON position
(A) 3–Ground : Always continuity

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B4 A	36	D16	40	J20	38
B5 B	36	D19	40	J24	38
B6 C	36	D20	40	J37	38
B7	40	D21	40	J38	40
B8 A	40	I17	37	J40 A	40
B9 B	40	I20	40	J41 B	40
B11	40	J5	38	K3	39
C8 A	37	J6	38	L2	40
C10 C	37	J7	38	T1	33 (2UZ–FE)
D2	37	J12 A	38		35 (1GR–FE)
D7	40	J13 B	38	T5	39
D12	40	J14 A	38	T9	39
D13	40	J15 B	38	W3	33 (2UZ–FE)
D14	40	J18 A	38		35 (1GR–FE)
D15	40	J19 B	38		

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

▭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Roof Wire and Driver Side J/B (Lower Finish Panel)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1C		
1D		
1E		
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1H		
1J		
1K		
1L		
3D	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3E		

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: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	48	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IA2		
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IF1	50	Instrument Panel Wire and Relay Wire (Behind the Instrument Panel J/B)
IN1	52	Instrument Panel Wire and Engine Room Main Wire (Right Kick Panel)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)
IP1	52	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
IP2		
BA1	54	Rear Door No.2 Wire and Instrument Panel Wire (Left Center Pillar)
BB1	54	Rear Door No.1 Wire and Instrument Panel Wire (Right Center Pillar)
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)

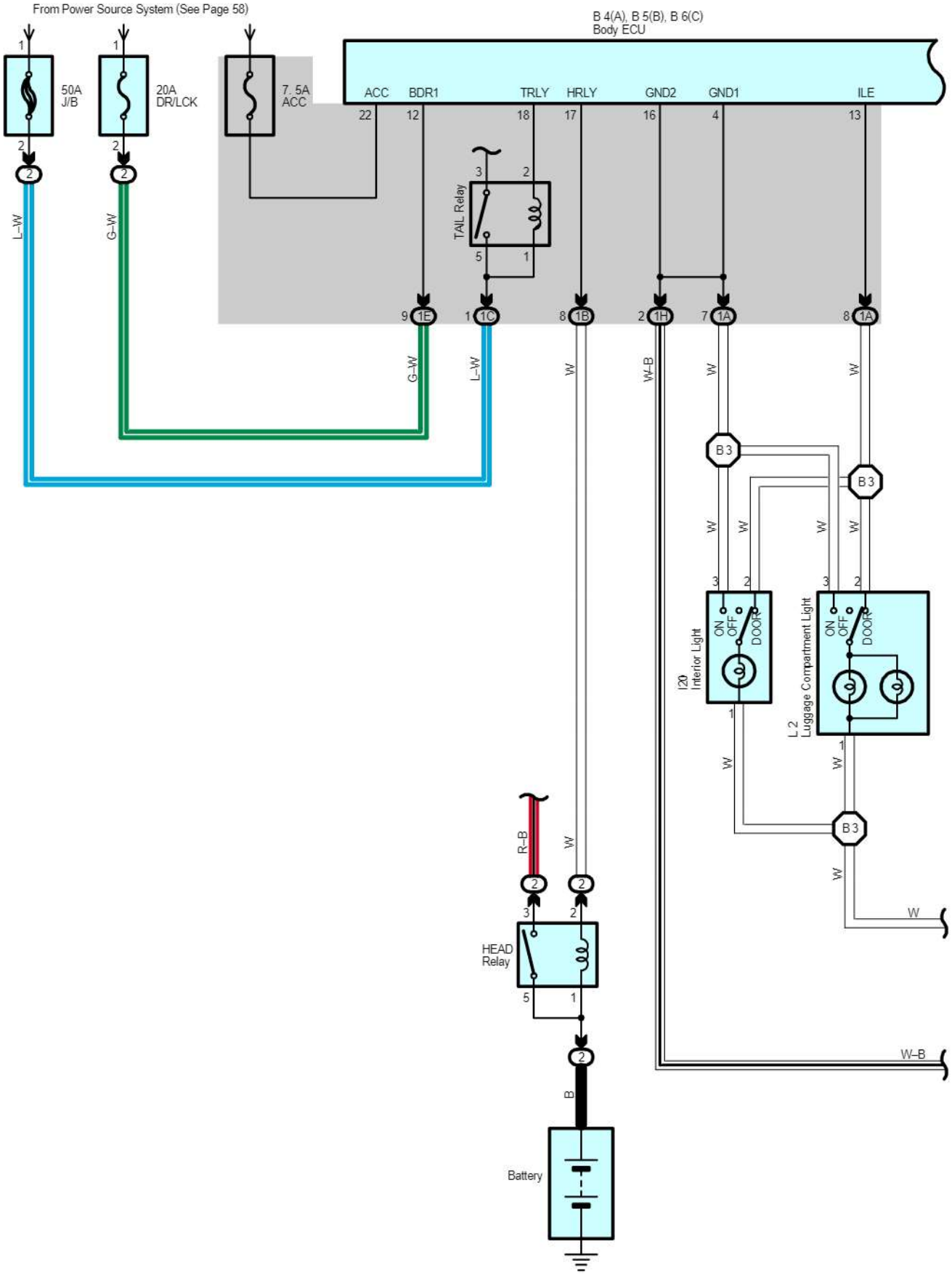
: Ground Points

Code	See Page	Ground Points Location
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

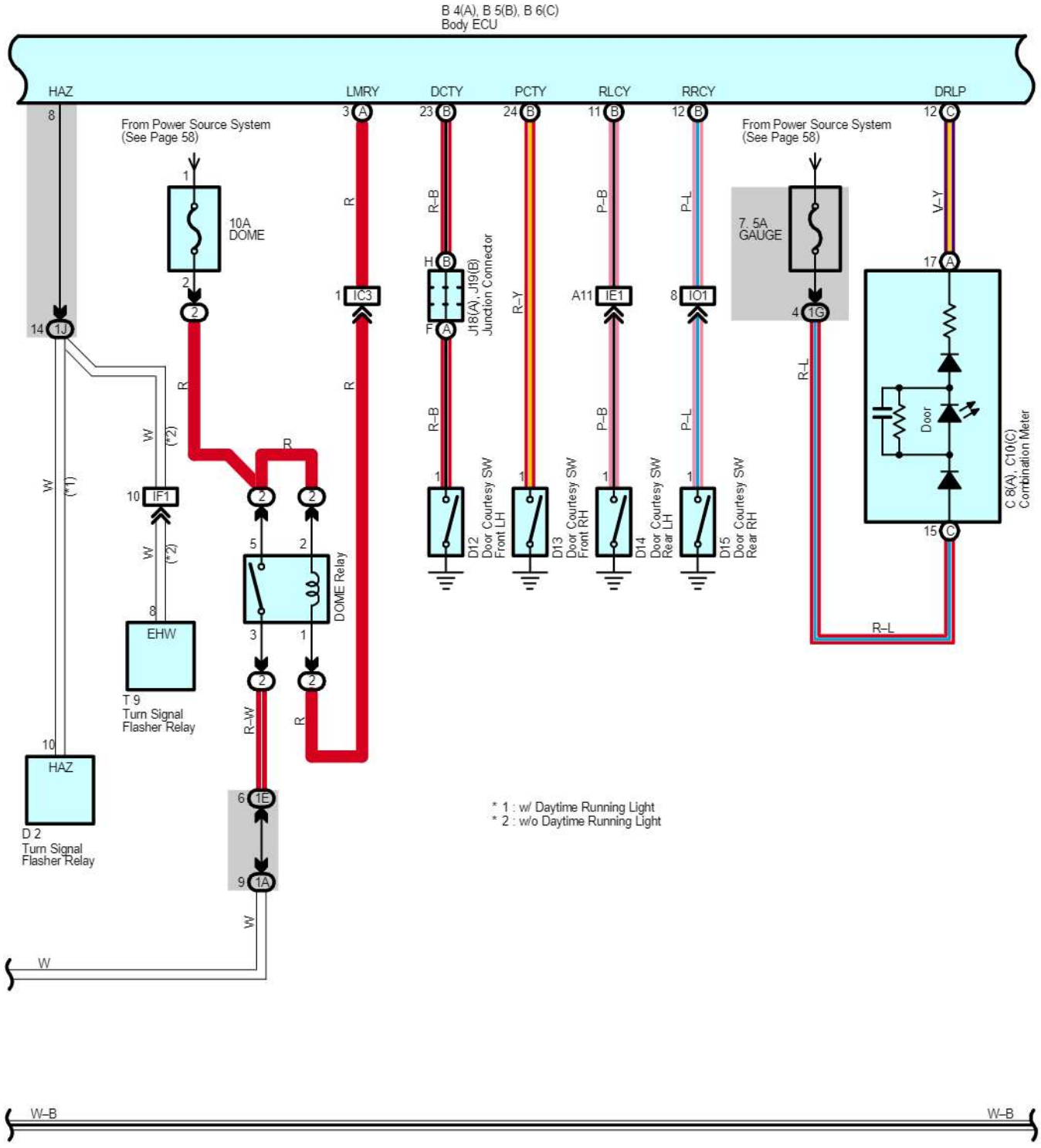
: Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B3	54	Roof Wire			

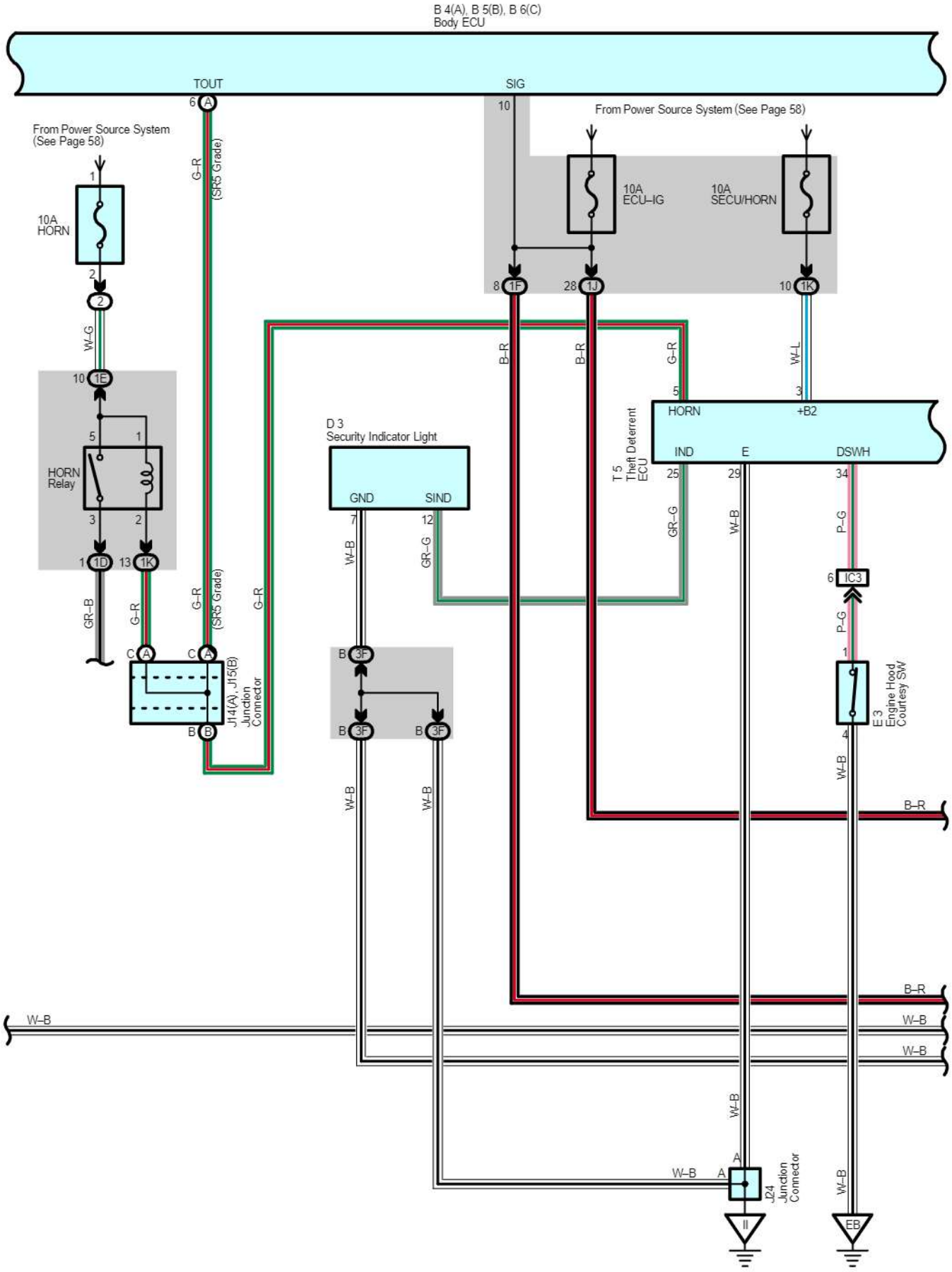
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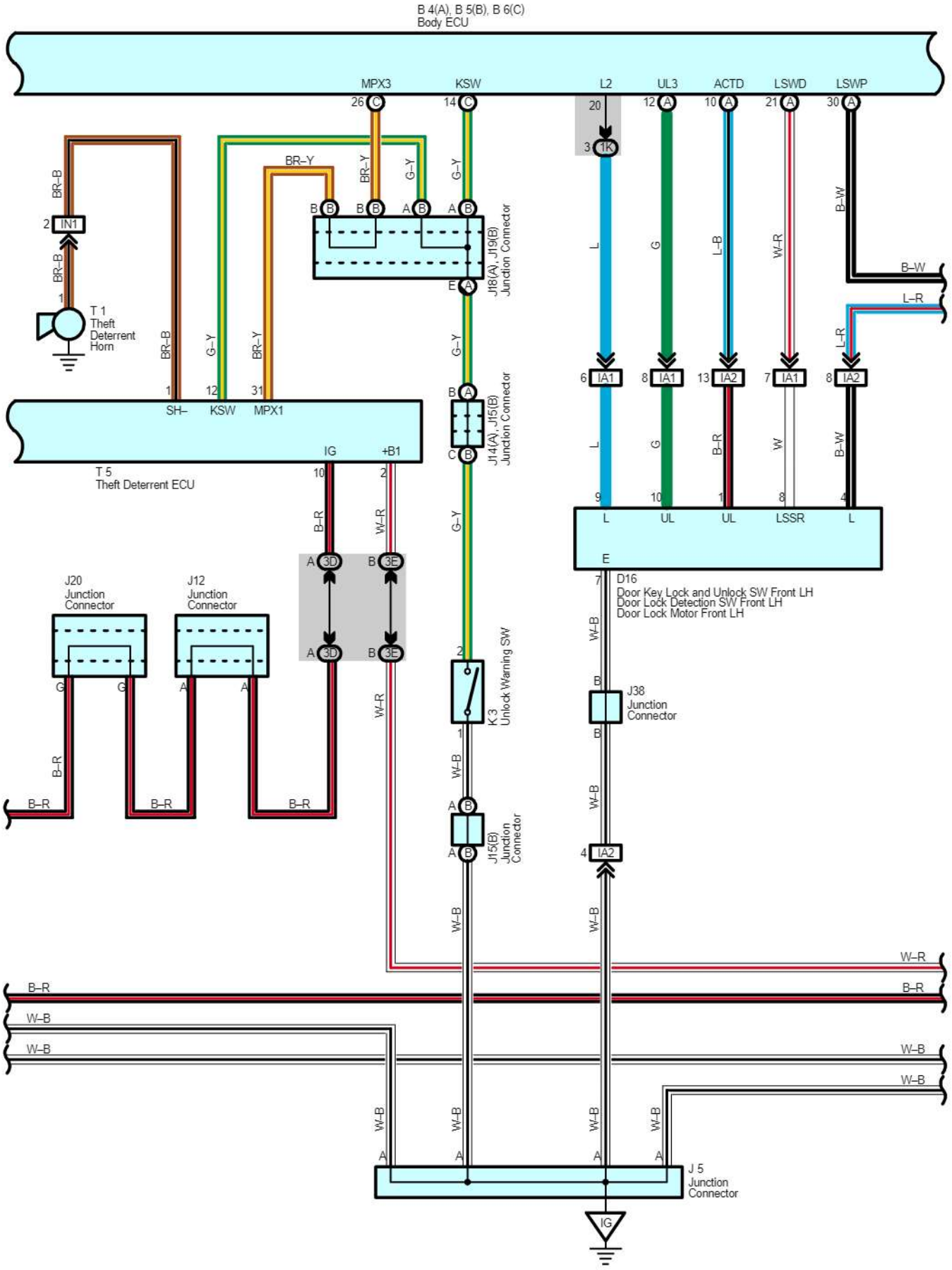
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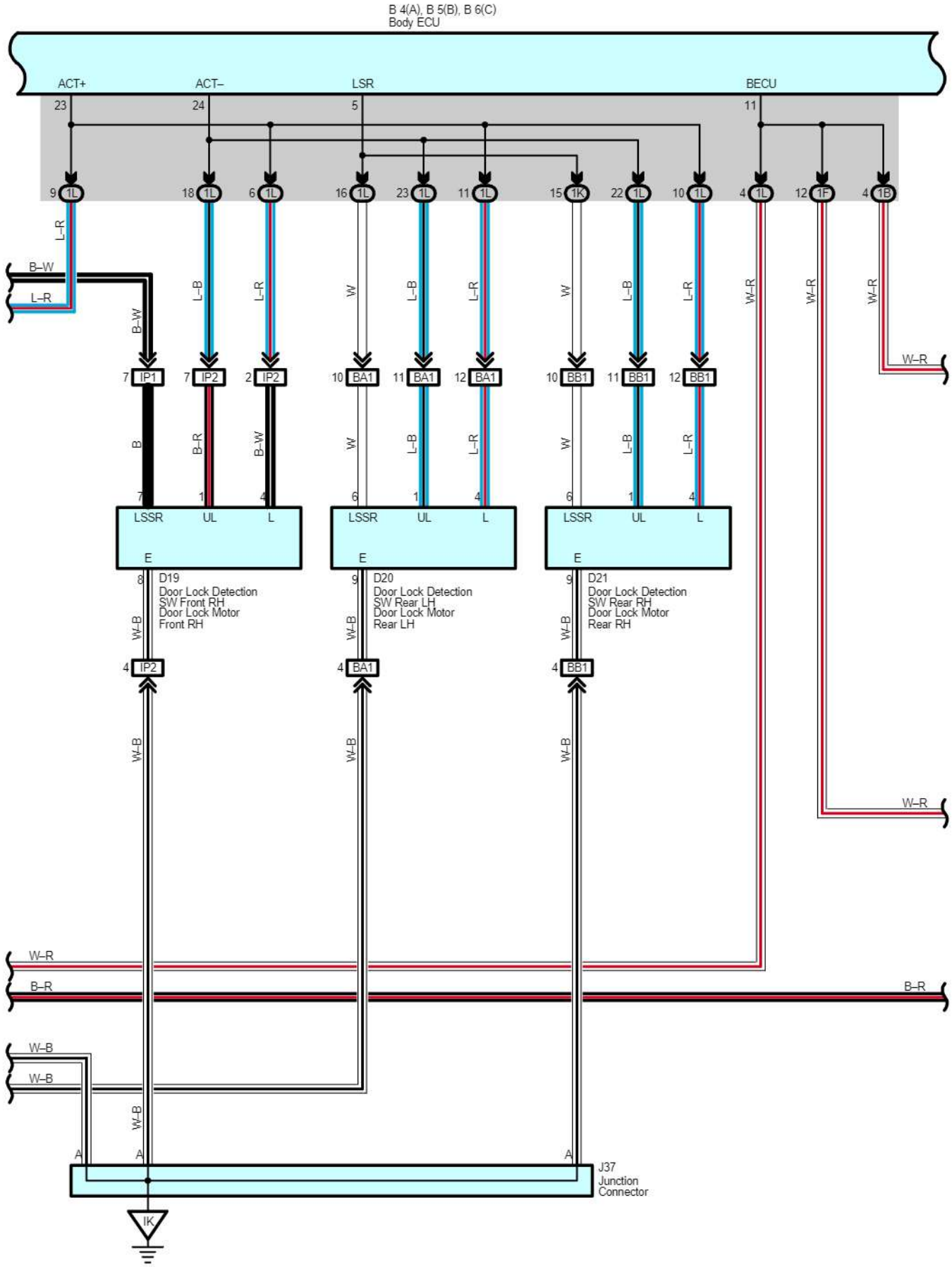
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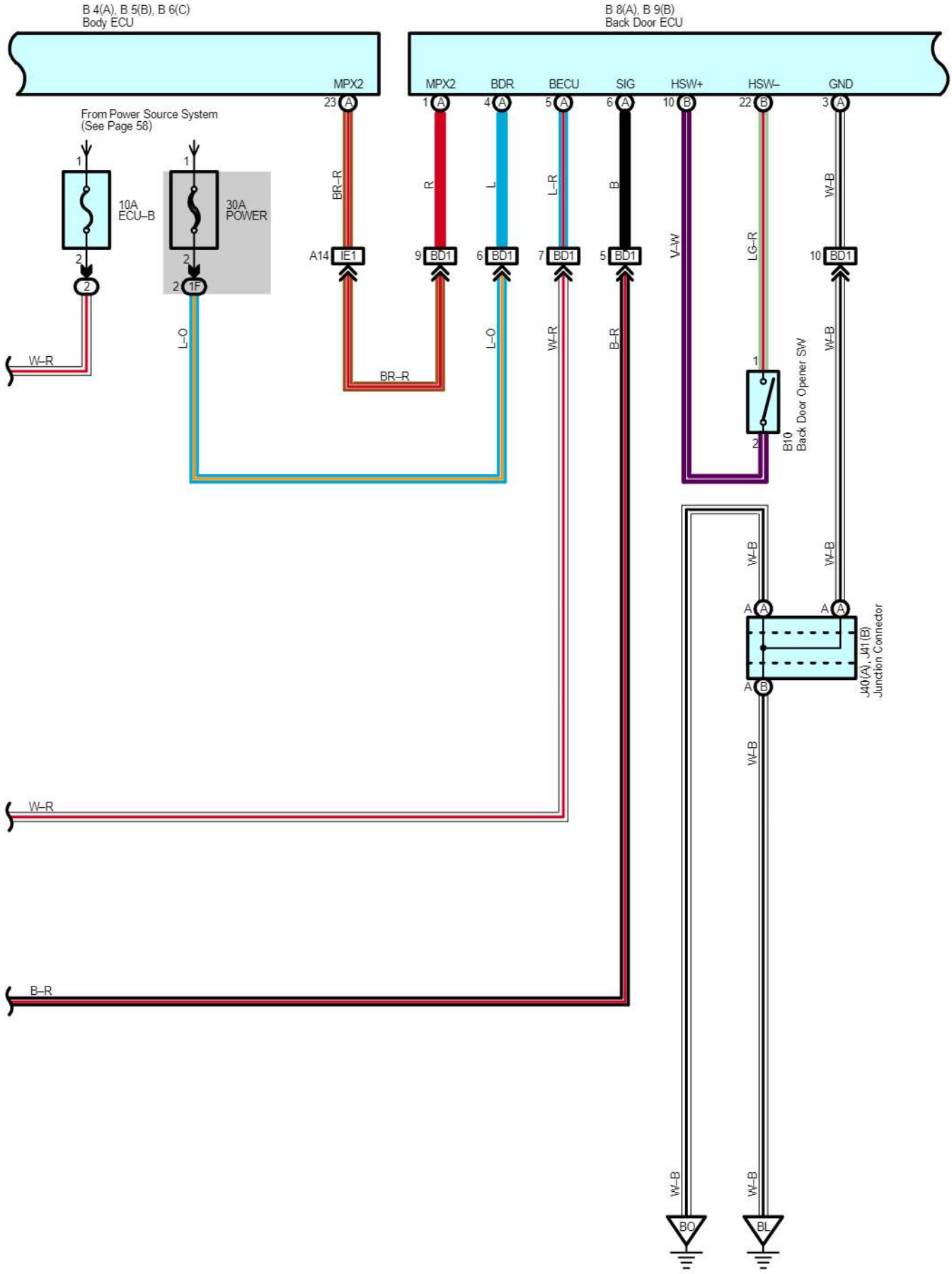
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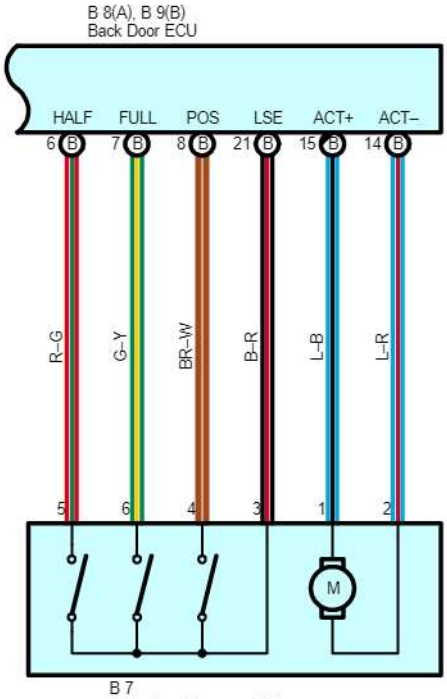
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Service Hints

Body ECU

11, 12–Ground : Always approx. 12 volts
10–Ground : Approx. 12 volts with ignition SW at ON position
22–Ground : Approx. 12 volts with ignition SW at ACC or ON position
4, 16–Ground : Always continuity

B8 (A) Back Door ECU

(A) 4, (A) 5–Ground : Always approx. 12 volts
(A) 6–Ground : Approx. 12 volts with ignition SW at ON position
(A) 3–Ground : Always continuity

T5 Theft Deterrent ECU

2, 3–Ground : Always approx. 12 volts
10–Ground : Approx. 12 volts with ignition SW at ON position
29–Ground : Always continuity

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B4 A	36	D15	40	J20	38
B5 B	36	D16	40	J24	38
B6 C	36	D19	40	J37	38
B7	40	D20	40	J38	40
B8 A	40	D21	40	J40 A	40
B9 B	40	E3	32 (2UZ–FE)	J41 B	40
B10	40		34 (1GR–FE)	K3	39
C8 A	37	I20	40	L2	40
C10 C	37	J5	38	T1	33 (2UZ–FE)
D2	37	J12	38		35 (1GR–FE)
D3	37	J14 A	38	T5	39
D12	40	J15 B	38	T9	39
D13	40	J18 A	38		
D14	40	J19 B	38		

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

▭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Roof Wire and Driver Side J/B (Lower Finish Panel)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1C		
1D		
1E		
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1H		
1J		
1K		
1L		
3D	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3E		
3F		

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: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	48	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IA2		
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IF1	50	Instrument Panel Wire and Relay Wire (Behind the Instrument Panel J/B)
IN1	52	Instrument Panel Wire and Engine Room Main Wire (Right Kick Panel)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)
IP1	52	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
IP2		
BA1	54	Rear Door No.2 Wire and Instrument Panel Wire (Left Center Pillar)
BB1	54	Rear Door No.1 Wire and Instrument Panel Wire (Right Center Pillar)
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)

: Ground Points

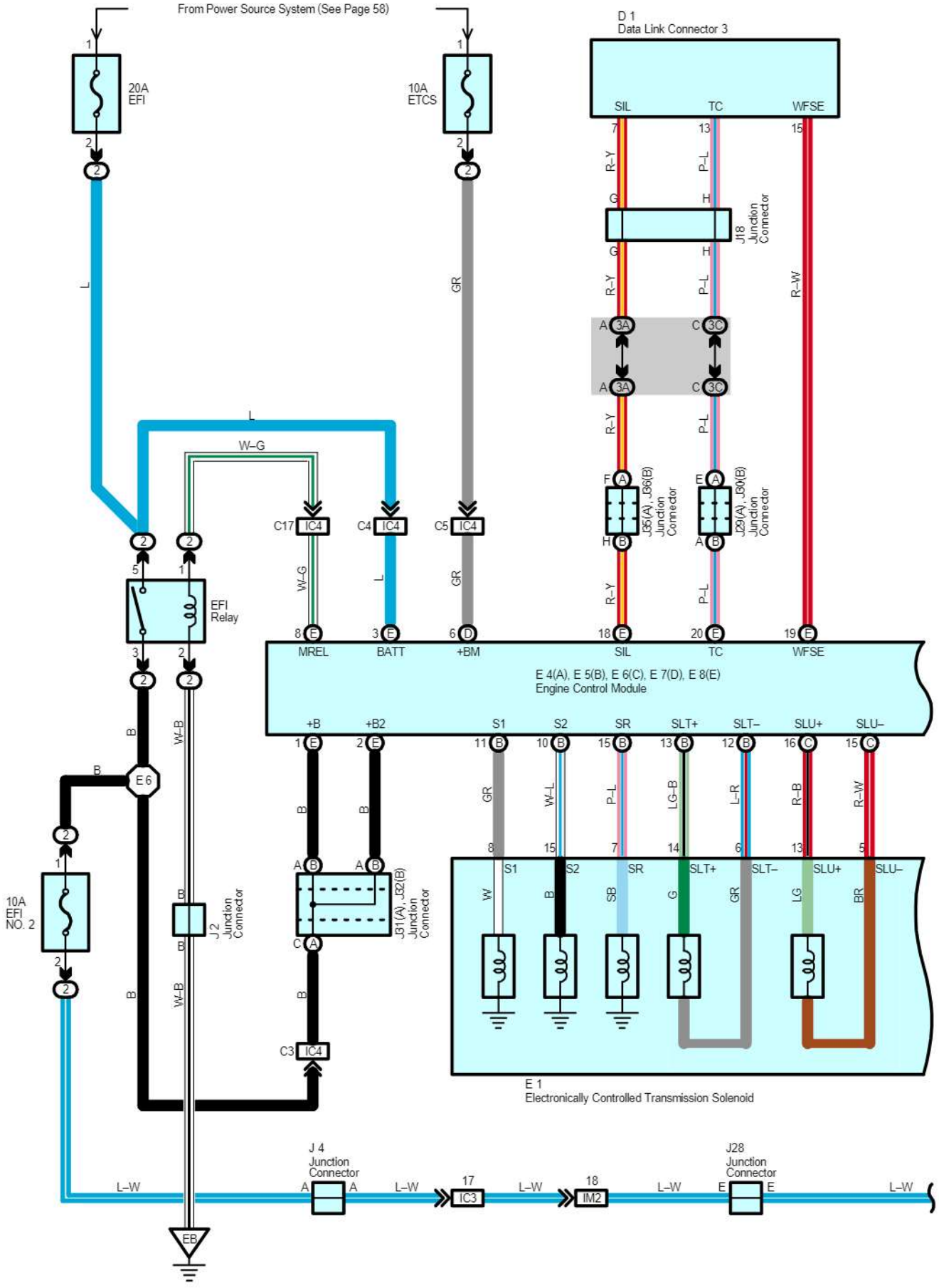
Code	See Page	Ground Points Location
EB	44 (2UZ–FE)	Front Left Fender
	46 (1GR–FE)	
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

: Splice Points

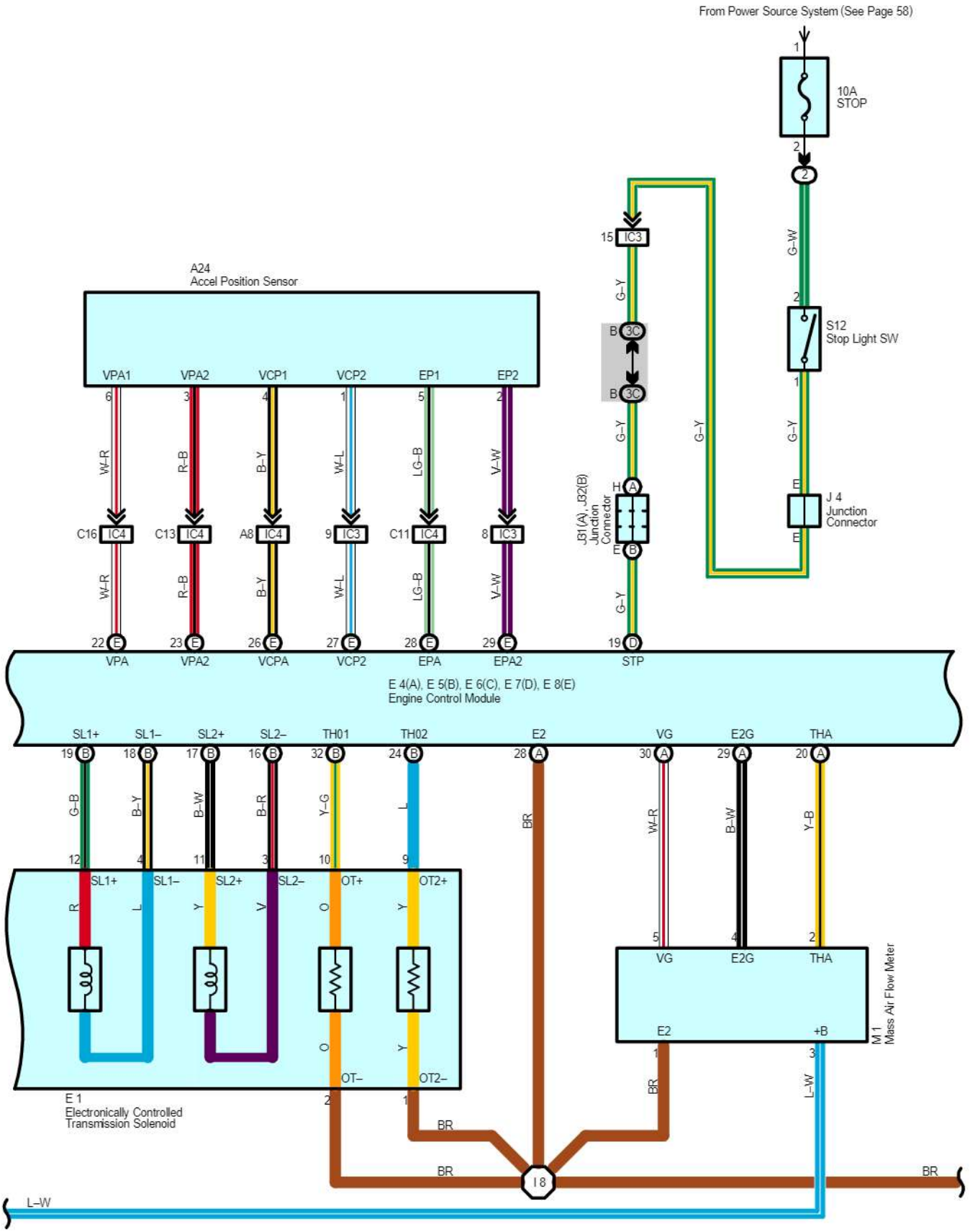
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B3	54	Roof Wire			

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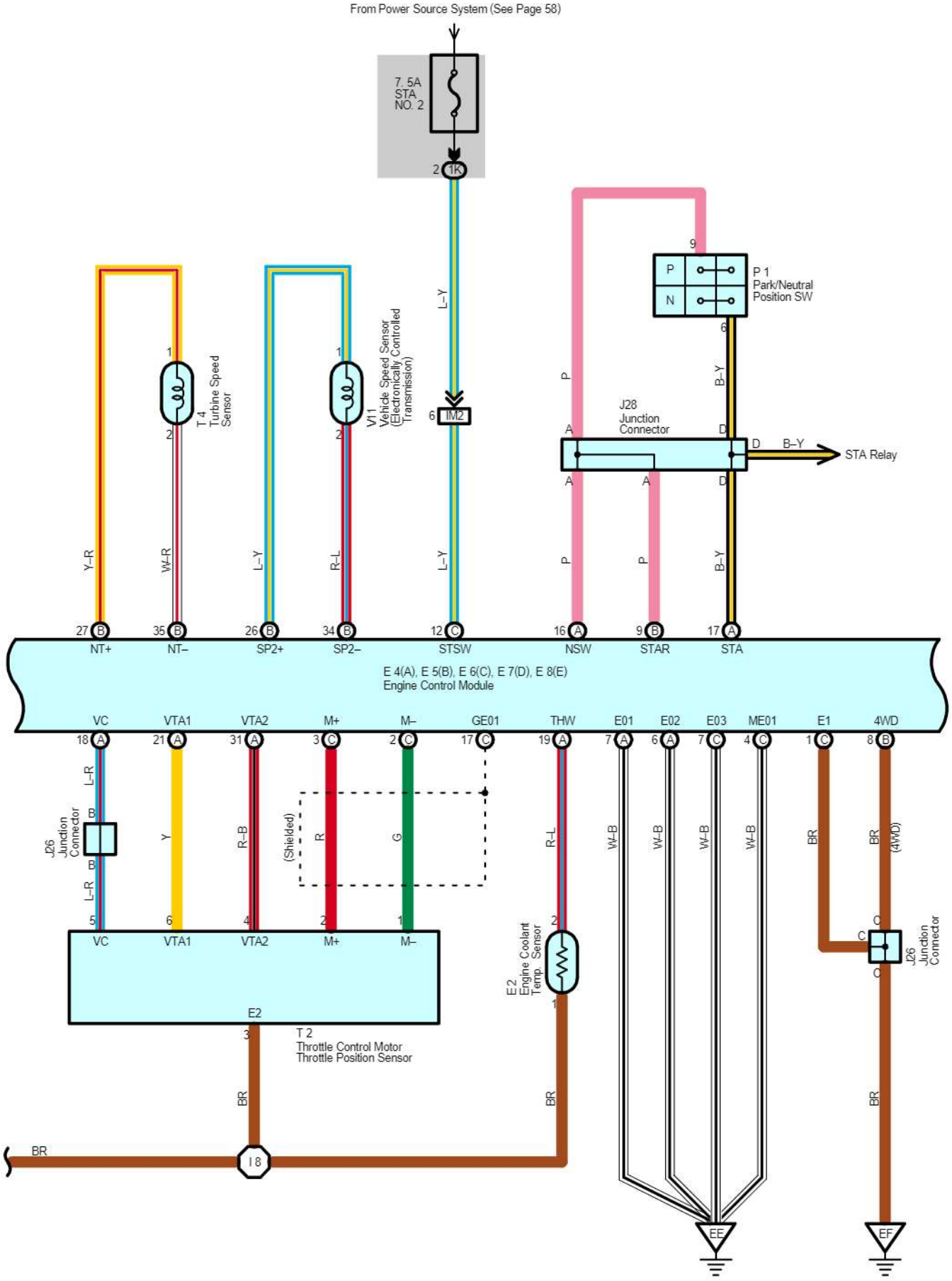
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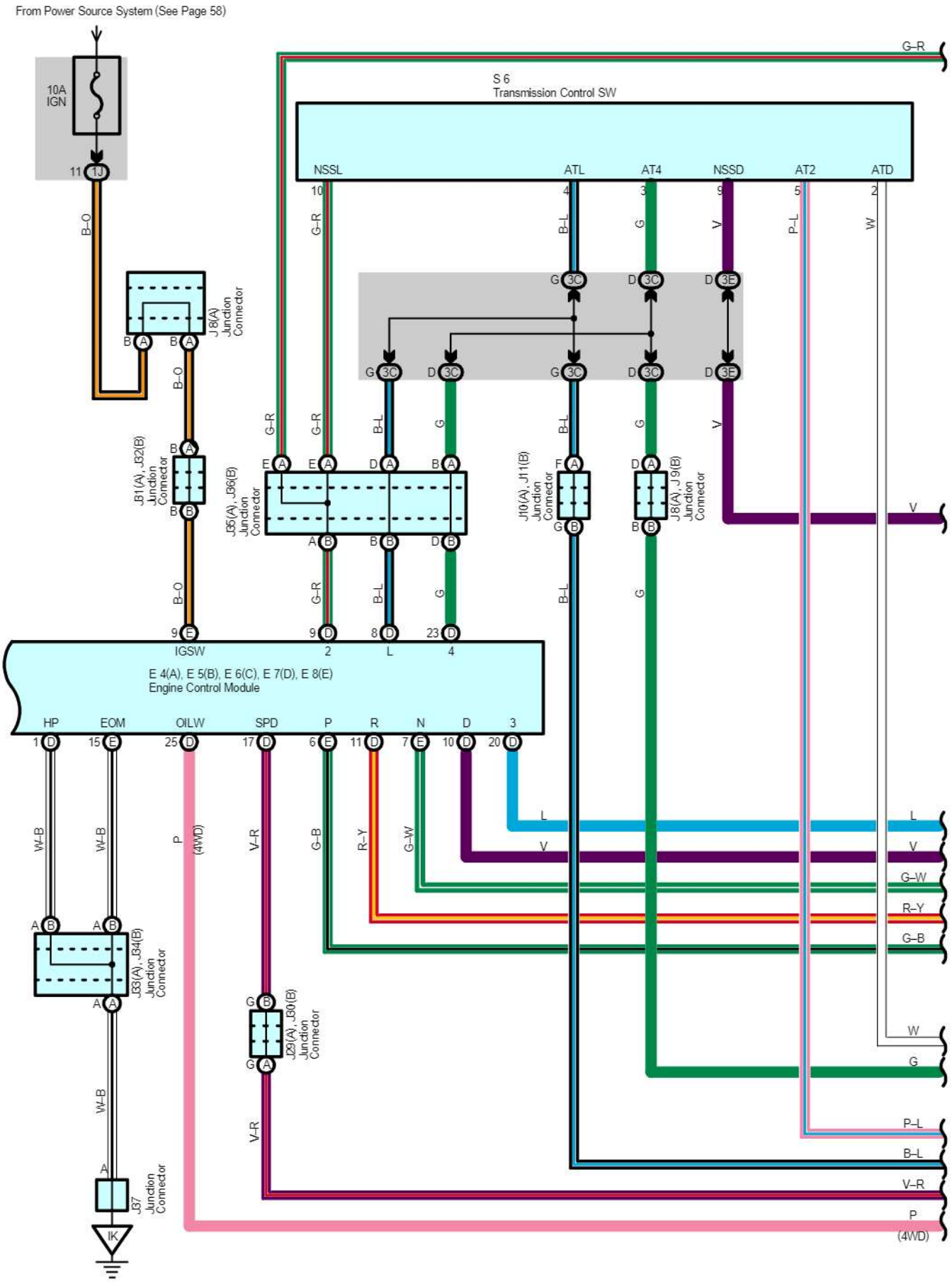
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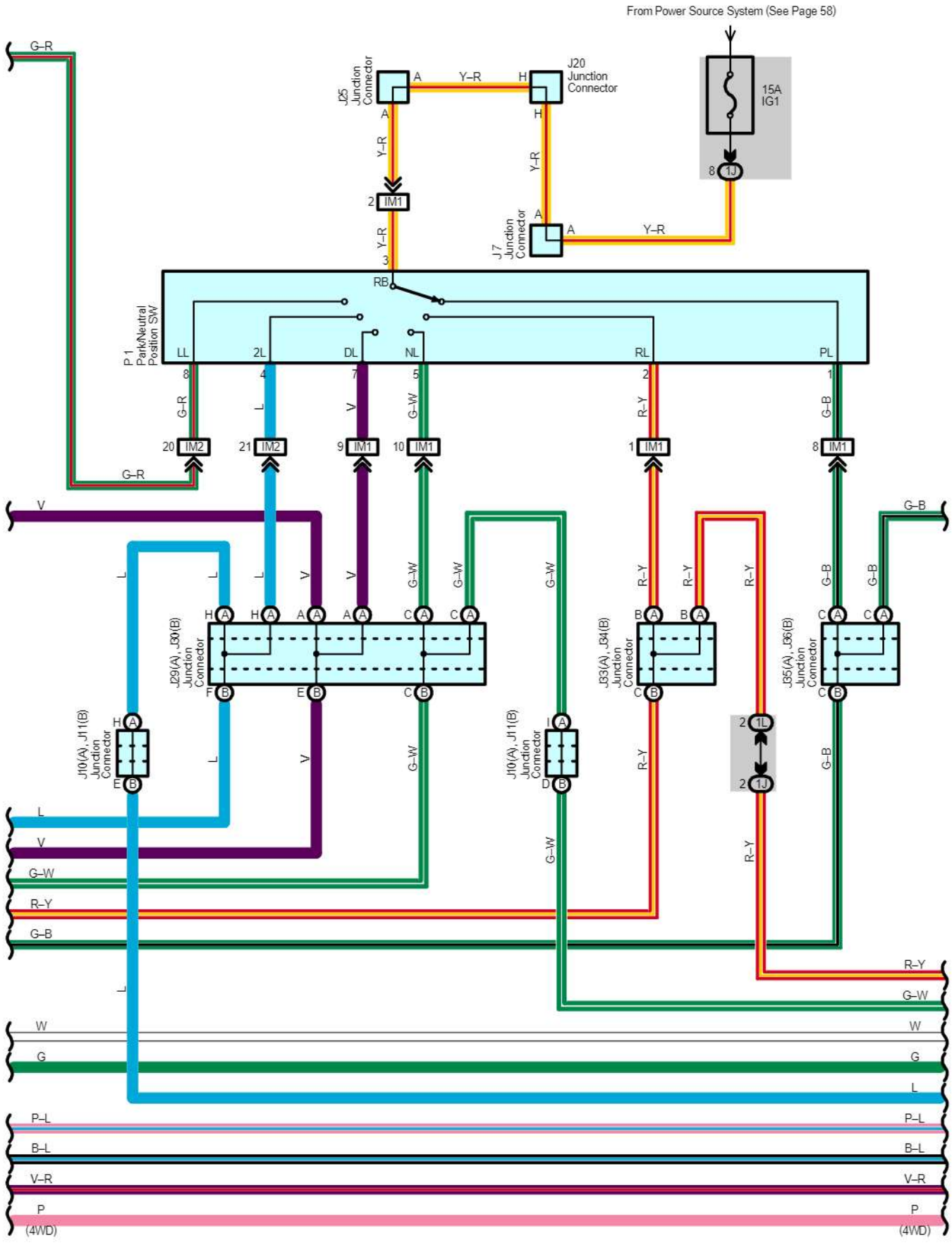
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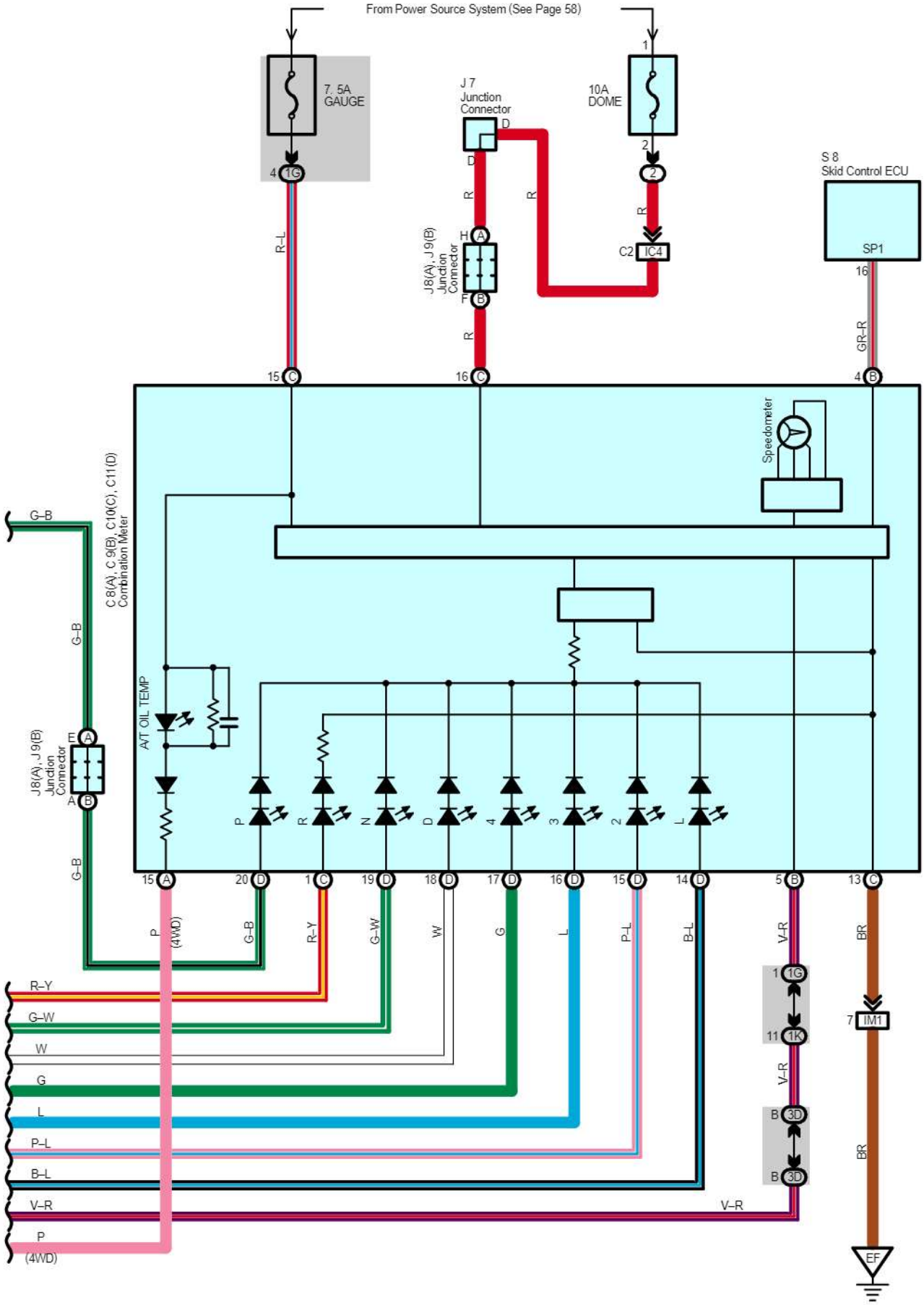
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Electronically Controlled Transmission and A/T Indicator (2UZ–FE)

System Outline

Previous automatic transmissions have selected each gear shift using mechanically controlled throttle hydraulic pressure, governor hydraulic pressure and lock–up hydraulic pressure. The electronically controlled transmission, however, electrically controls the line pressure, throttle pressure, lock–up pressure and accumulator pressure etc. through the solenoid valve. The electronically controlled transmission is a system which precisely controls gear shift timing and lock–up timing in response to the vehicle's driving conditions and the engine condition detected by various sensors. It makes smooth driving possible by shift selection for each gear which is the most appropriate to the driving conditions at that time, and by preventing downing, squat and gear shift shock when starting off.

1. Gear Shift Operation

When driving, the engine warm up condition is input as a signal to TERMINAL THW of the engine control module from the engine coolant temp. sensor and the vehicle speed signal from vehicle speed sensor is input to TERMINAL SP2+ of the engine control module. At the same time, the throttle valve opening signal from the throttle position sensor is input to TERMINALS VTA1 and VTA2 of the engine control module as throttle angle signal.
Based on these signals, the engine control module selects the best shift position for the driving conditions and sends current to the electronically controlled transmission solenoid.

2. Line Hydraulic Pressure Control

The engine control module adjusts the line hydraulic pressure to the optimal level by controlling TERMINAL SLT+ of the module according to the engine torque data. This realizes the smooth gear shifting.

3. High Response Gear Shifting Control

The engine control module performs the high response engine torque up control to control the ignition–timing lag as well as opening the electronic throttle when shifting down. By doing this, the gear shifting is performed in a short period of time. Moreover, the engine control module uses the orifice switching control, which optimizes the speed of applying and reducing the hydraulic pressure. And it realizes the fine shifting condition by applying and reducing hydraulic pressure slowly when the gear shifting shock is important and quickly when the high response is required.

4. Clutch Hydraulic Pressure Control

The engine control module controls the clutch operation in the optimal timing and with the best hydraulic pressure according to the engine torque data and the number of the clutch revolution

5. Lock–Up and Flexible Lock–Up Control

The engine control module carries out the lock–up control by controlling the TERMINAL SLU+ of the module according to the shift position, vehicle speed, throttle opening degree and running conditions. The engine control module also steadily keeps applying the lock–up clutch a delicate slippage to improve the transmission efficiency (Fuel efficiency) of the torque converter.

6. Stop Light SW Circuit

If the brake pedal is depressed (Stop light SW on) when driving in lock–up condition, a signal is input to TERMINAL STP of the engine control module. The engine control module operates and cuts the current to the solenoid to release lock–up.

7. AI–Shift Control

The engine control module judges whether the road is downslope or upslope by detecting the throttle opening degree or the vehicle's speed. Moreover it can expect the winding roads by detecting the turning condition of the vehicle. The engine control module keeps unnecessary shifting up from the fourth gear from operating and carries out the automatic shifting down to the third gear in order to control the vehicle running according to the road conditions. The engine control module also reads the driver's intention during driving from his (her) accelerating operation and the running conditions of the vehicle. As a result of that, ideal shifting patters for each driver are automatically selected without any switching operations.

Service Hints

E4 (A), E5 (B), E6 (C), E7 (D), E8 (E) Engine Control Module

(E) 9–Ground : Approx. 12 volts with the ignition SW at ON position
(D) 6, (E) 3–Ground : Always approx. 12 volts
(C)12–Ground : Approx. 12 volts with the ignition SW at ST position
(D)19–Ground : Approx. 12 volts with the brake pedal depressed
(A) 6, (A) 7, (B) 8, (C) 1, (C) 4, (C) 7, (D) 1, (E) 15–Ground : Always continuity

P1 Park/Neutral Position SW

3–1 : Closed with the shift lever in P position
3–2 : Closed with the shift lever in R position
3–5 : Closed with the shift lever in N position
3–7 : Closed with the shift lever in D position or 4 position
3–4 : Closed with the shift lever in 3 position
3–8 : Closed with the shift lever in 2 position or L position

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: Parts Location

Code	See Page	Code	See Page	Code	See Page
A24	36	J4	38	J32 B	38
C8 A	37	J7	38	J33 A	38
C9 B	37	J8 A	38	J34 B	38
C10 C	37	J9 B	38	J35 A	38
C11 D	37	J10 A	38	J36 B	38
D1	37	J11 B	38	J37	38
E1	32 (2UZ–FE)	J18	38	M1	33 (2UZ–FE)
E2	32 (2UZ–FE)	J20	38	P1	33 (2UZ–FE)
E4 A	37	J25	38	S6	39
E5 B	37	J26	38	S8	39
E6 C	37	J28	38	S12	39
E7 D	37	J29 A	38	T2	33 (2UZ–FE)
E8 E	37	J30 B	38	T4	33 (2UZ–FE)
J2	33 (2UZ–FE)	J31 A	38	V11	33 (2UZ–FE)

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		
1L		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3C		
3D		
3E		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IM2		

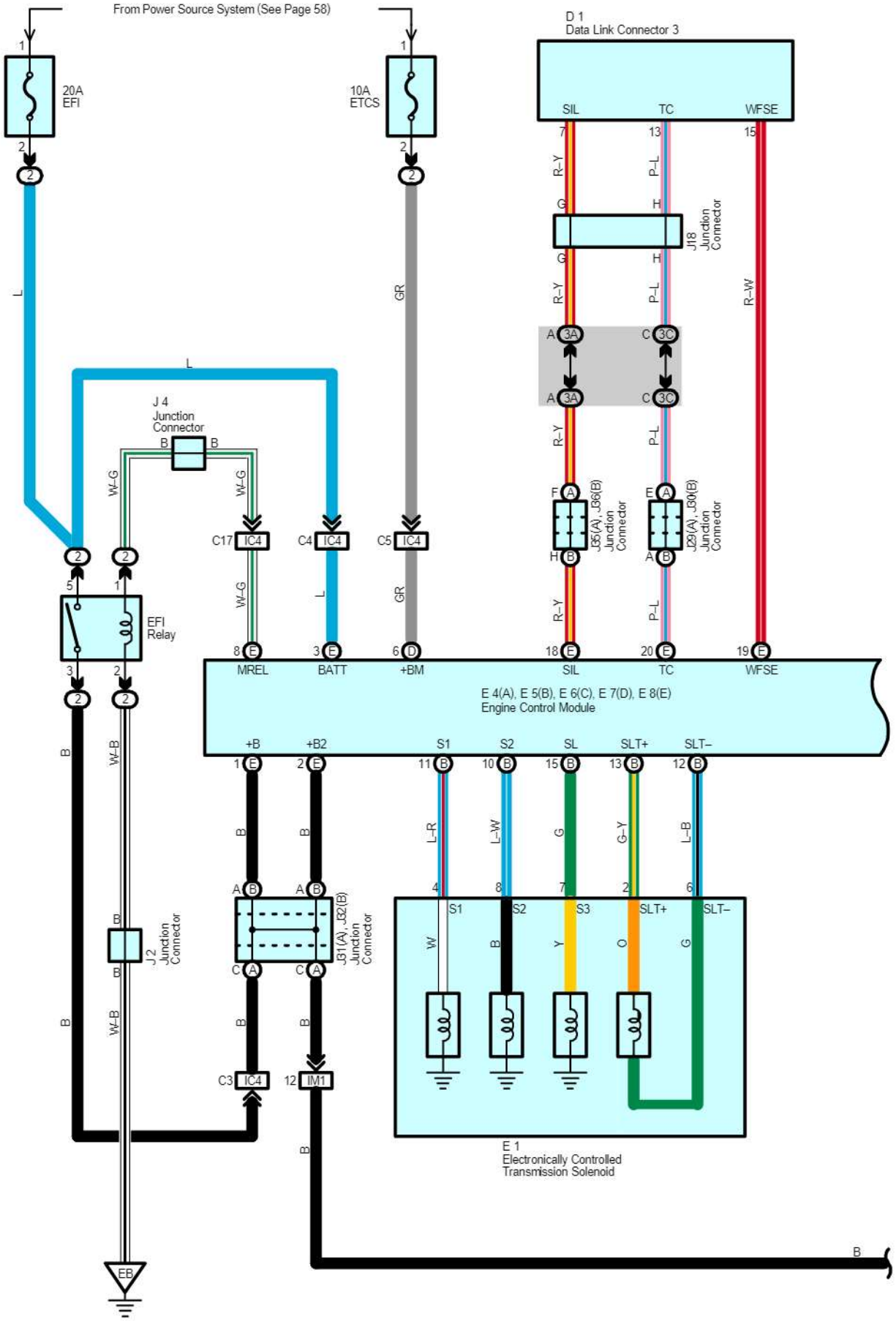
: Ground Points

Code	See Page	Ground Points Location
EB	44 (2UZ–FE)	Front Left Fender
EE	44 (2UZ–FE)	Rear Side of Right Bank Cylinder Block
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
IK	48	Right Kick Panel

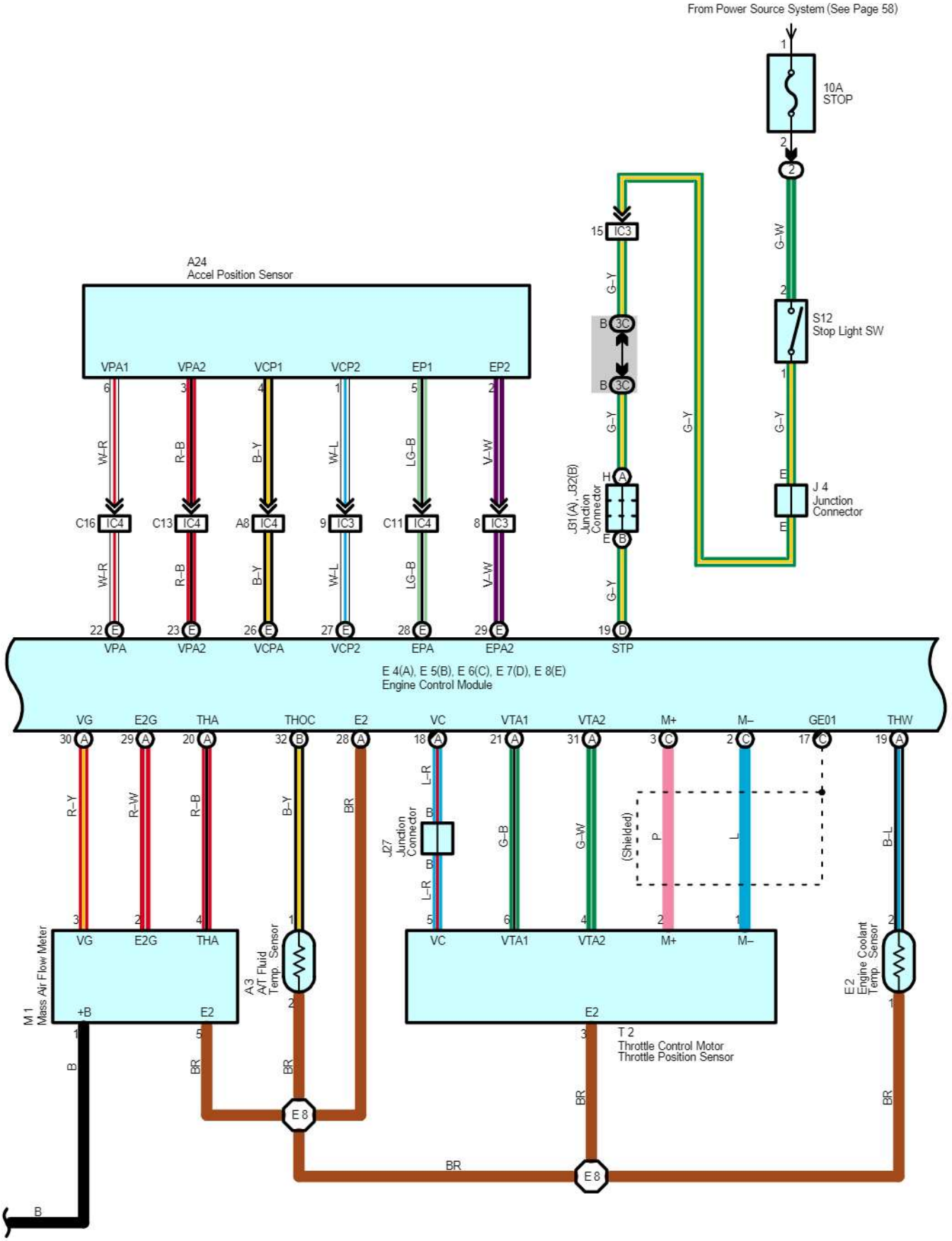
: Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E6	44 (2UZ–FE)	Engine Room Main Wire	I8	50	Engine Wire

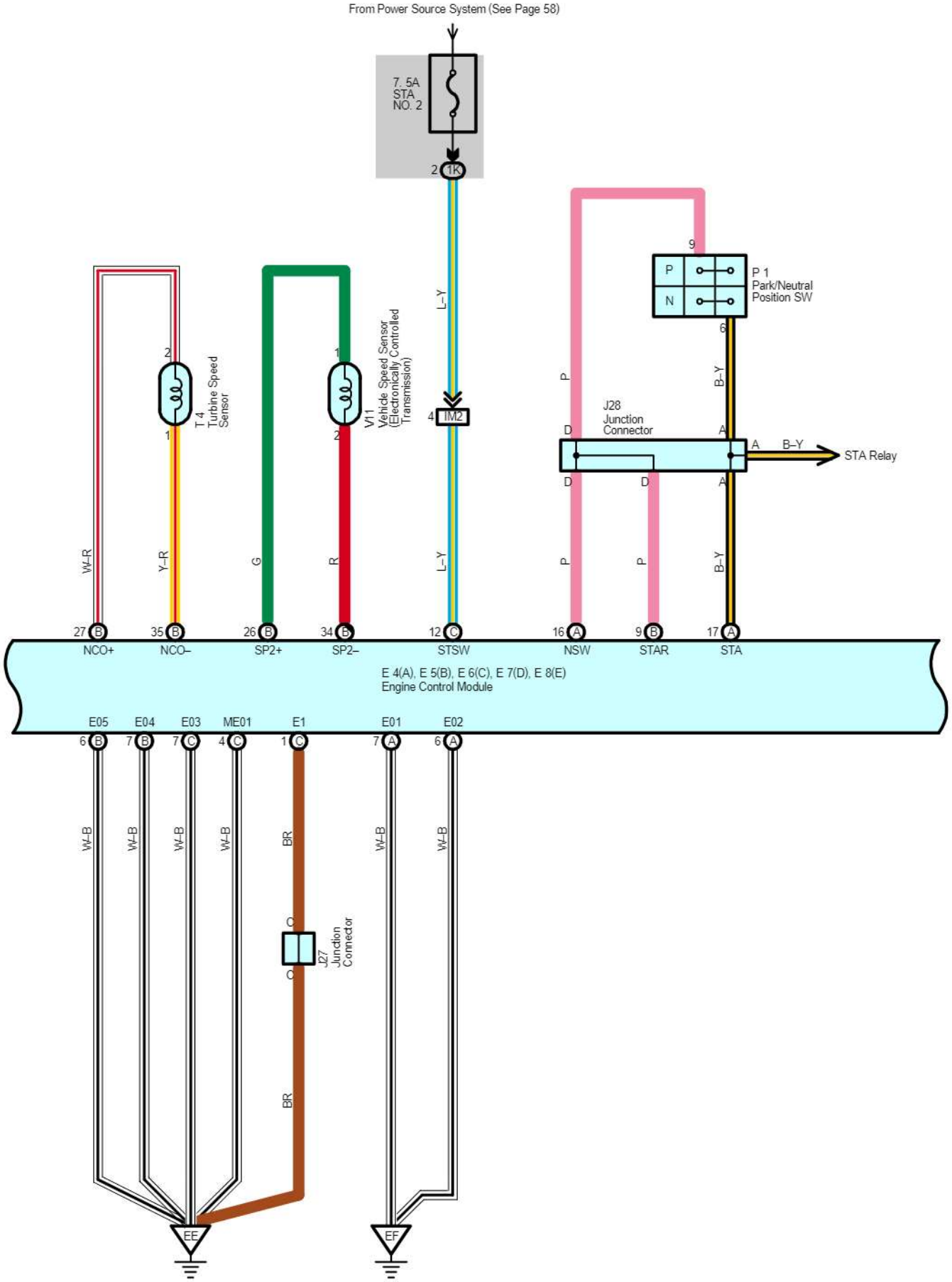
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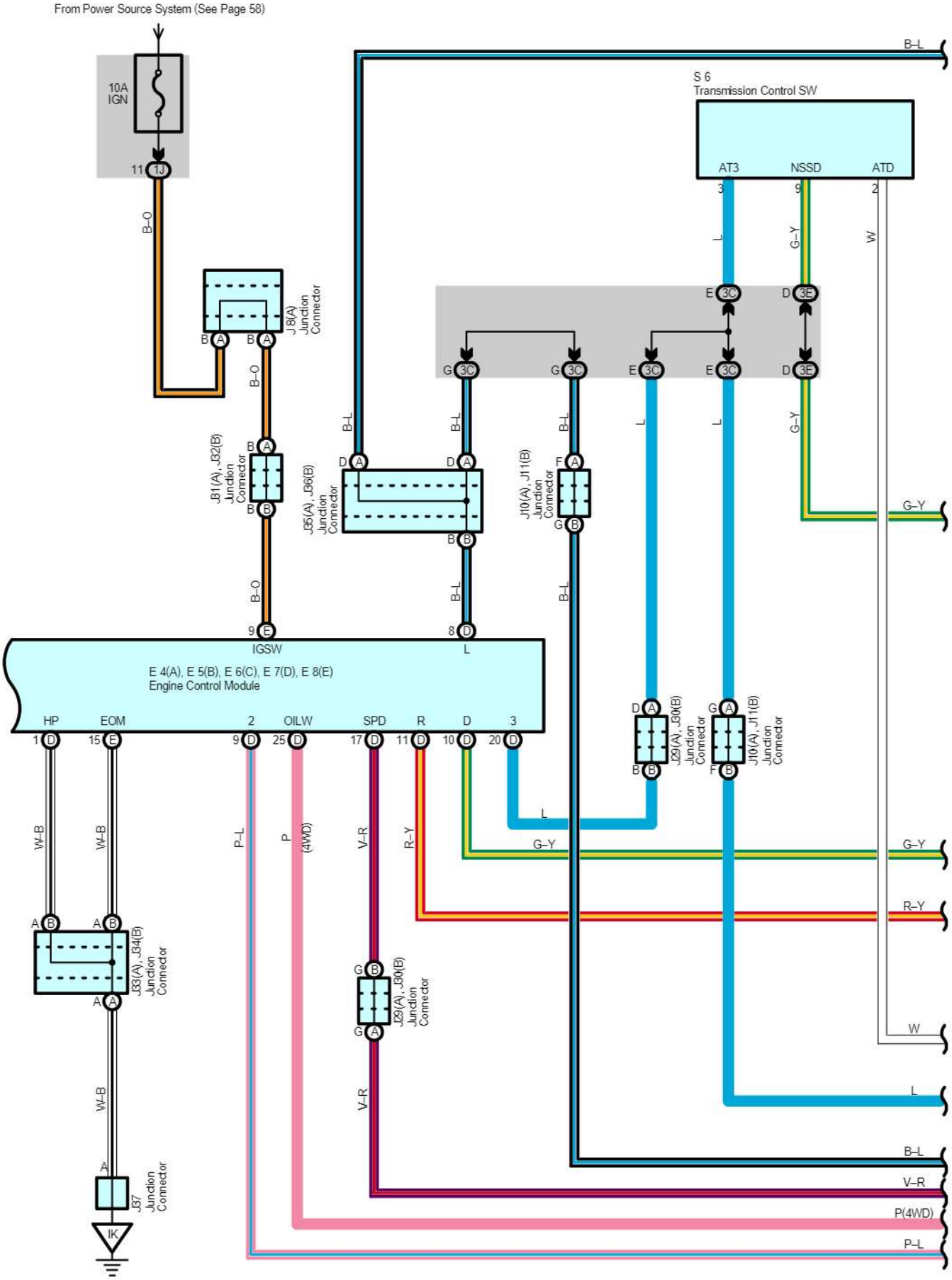
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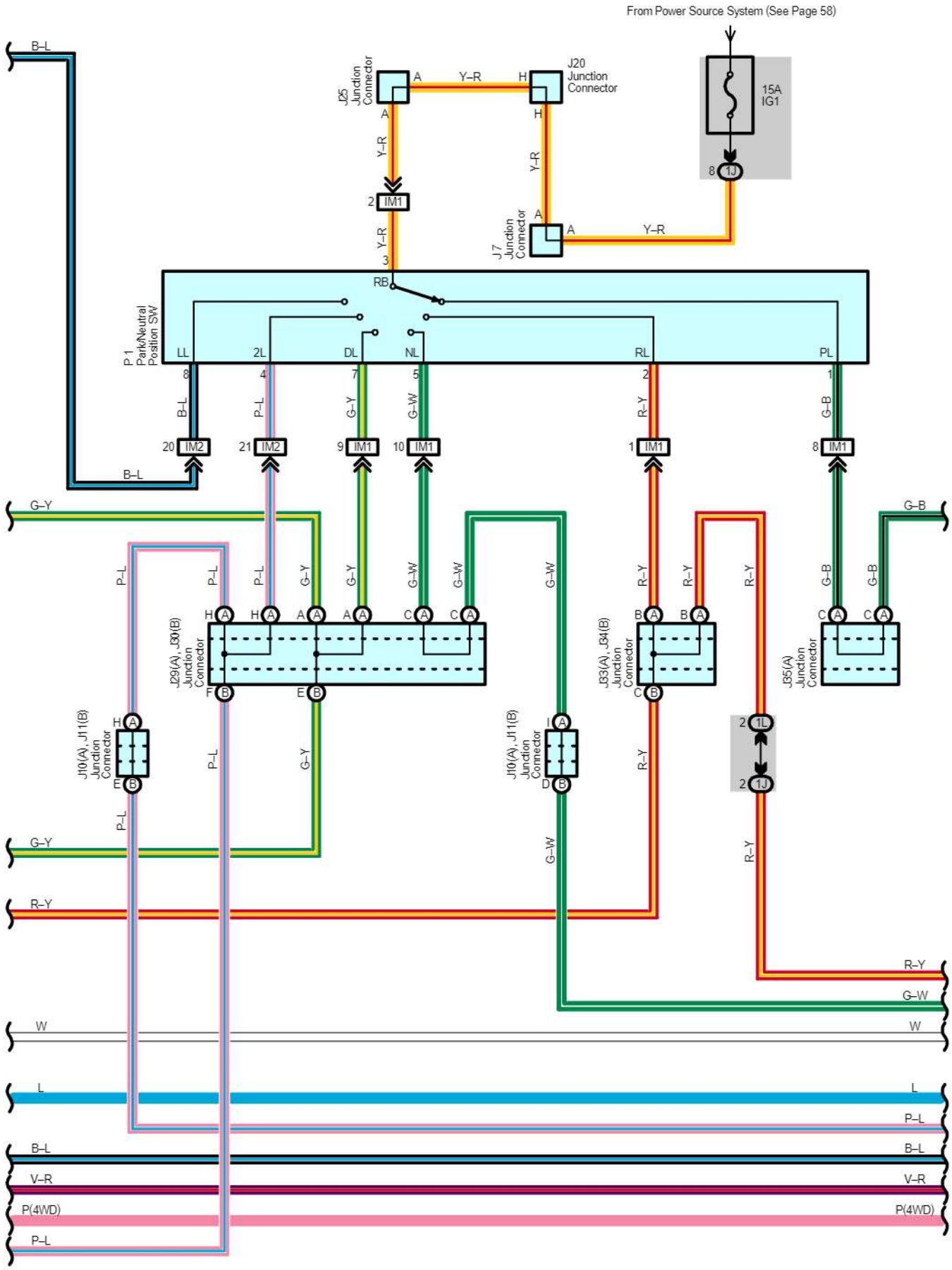
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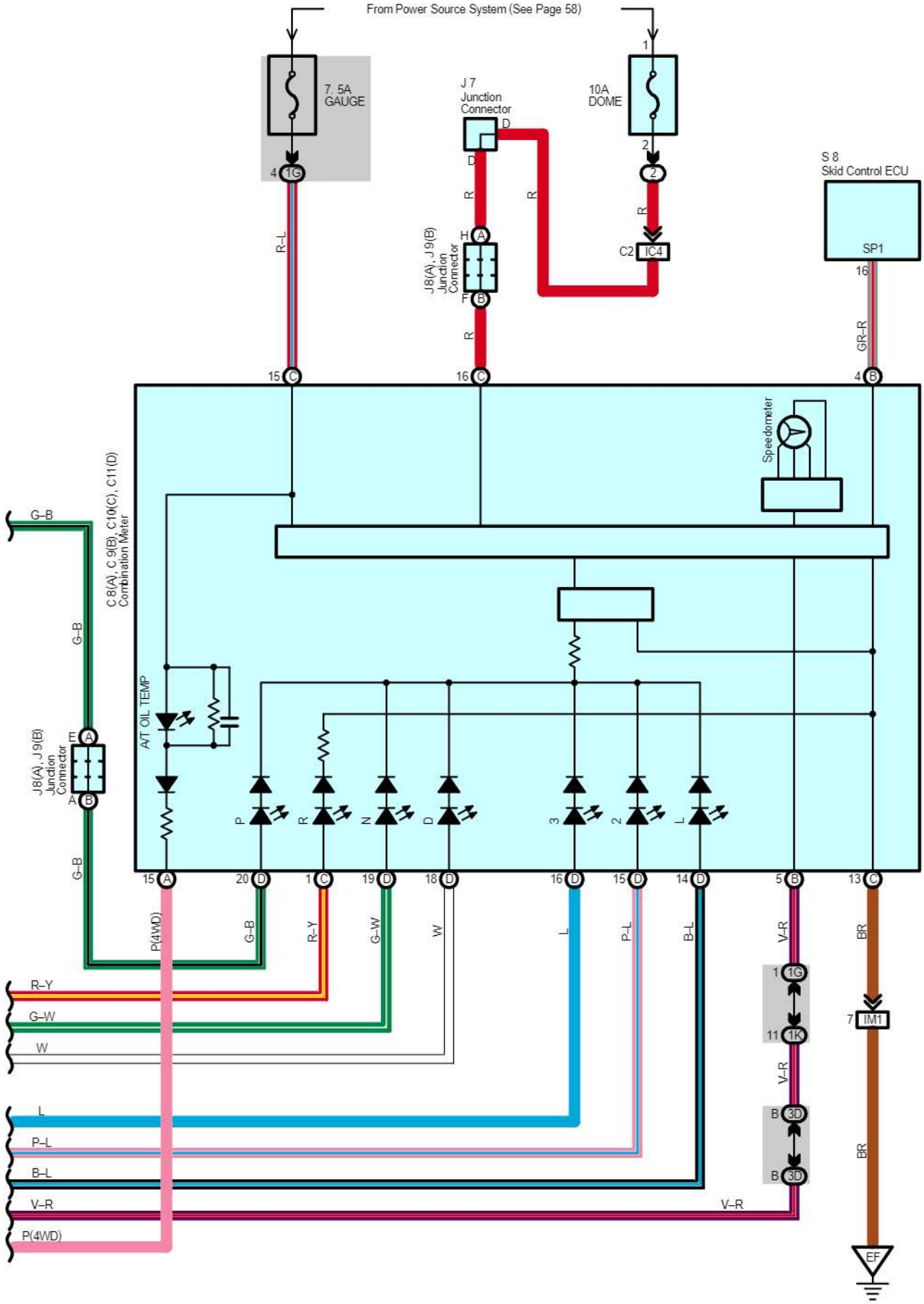
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Electronically Controlled Transmission and A/T Indicator (1GR–FE)

System Outline

Previous automatic transmissions have selected each gear shift using mechanically controlled throttle hydraulic pressure, governor hydraulic pressure and lock–up hydraulic pressure. The electronically controlled transmission, however, electrically controls the line pressure, throttle pressure, lock–up pressure and accumulator pressure etc. through the solenoid valve. The electronically controlled transmission is a system which precisely controls gear shift timing and lock–up timing in response to the vehicle's driving conditions and the engine condition detected by various sensors. It makes smooth driving possible by shift selection for each gear which is the most appropriate to the driving conditions at that time, and by preventing downing, squat and gear shift shock when starting off.

1. Gear Shift Operation

When driving, the engine warm up condition is input as a signal to TERMINAL THW of the engine control module from the engine coolant temp. sensor and the vehicle speed signal from vehicle speed sensor is input to TERMINAL SP2+ of the engine control module. At the same time, the throttle valve opening signal from the throttle control motor and sensor is input to TERMINALS VTA1 and VTA2 of the engine control module as throttle angle signal.
Based on these signals, the engine control module selects the best shift position for the driving conditions and sends current to the electronically controlled transmission solenoid.

2. Lock–Up Operation

When the engine control module decides based on each signal that the lock–up condition has been met, the current flows through TERMINAL SL of the engine control module to TERMINAL 7 of the electronically controlled transmission solenoid to GROUND, causing lock–up operation.

3. Stop Light SW Circuit

If the brake pedal is depressed (Stop light SW on) when driving in lock–up condition, a signal is input to TERMINAL STP of the engine control module. The engine control module operates and cuts the current to the solenoid to release lock–up.

Service Hints

E4 (A), E5 (B), E6 (C), E7 (D), E8 (E) Engine Control Module

(E) 9–Ground : Approx. 12 volts with the ignition SW at ON position
(D) 6, (E) 3–Ground : Always approx. 12 volts
(A)16–Ground : Approx. 12 volts with the ignition SW at ST position
(D)19–Ground : Approx. 12 volts with the brake pedal depressed
(A)6, (A) 7, (B) 6, (B) 7, (C) 1, (C) 4, (C) 7, (D) 1, (E) 15–Ground : Always continuity

P1 Park/Neutral Position SW

3–1 : Closed with the shift lever in P position
3–2 : Closed with the shift lever in R position
3–5 : Closed with the shift lever in N position
3–7 : Closed with the shift lever in D position or 3 position
3–4 : Closed with the shift lever in 2 position
3–8 : Closed with the shift lever in L position

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A3	34 (1GR–FE)	J4	38	J33 A	38
A24	36	J7	38	J34 B	38
C8 A	37	J8 A	38	J35 A	38
C9 B	37	J9 B	38	J36 B	38
C10 C	37	J10 A	38	J37	38
C11 D	37	J11 B	38	M1	35 (1GR–FE)
D1	37	J18	38	P1	35 (1GR–FE)
E1	34 (1GR–FE)	J20	38	S6	39
E2	34 (1GR–FE)	J25	38	S8	39
E4 A	37	J27	38	S12	39
E5 B	37	J28	38	T2	35 (1GR–FE)
E6 C	37	J29 A	38	T4	35 (1GR–FE)
E7 D	37	J30 B	38	V11	35 (1GR–FE)
E8 E	37	J31 A	38		
J2	35 (1GR–FE)	J32 B	38		

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: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		
1L		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3C		
3D		
3E		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IM2		

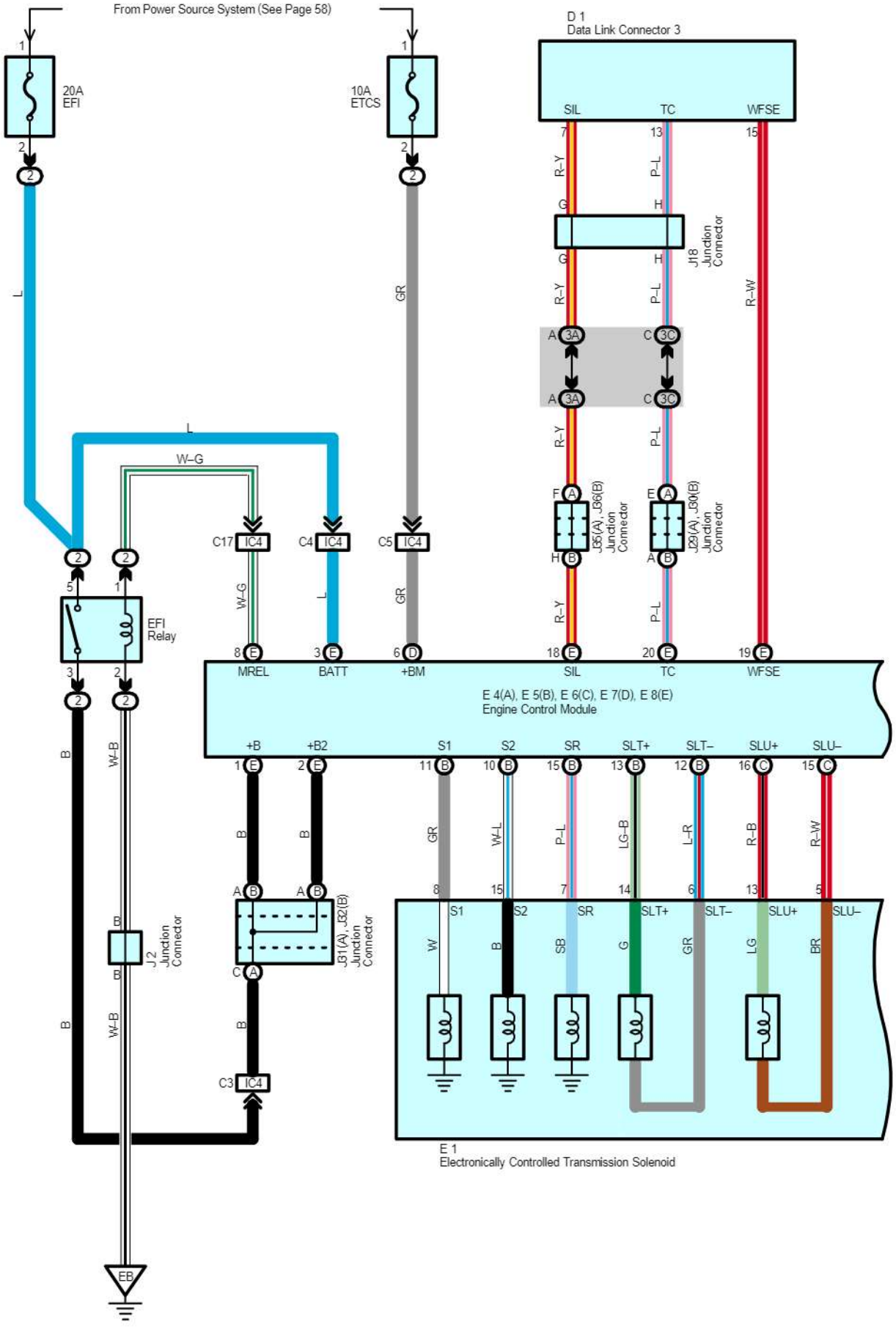
: Ground Points

Code	See Page	Ground Points Location
EB	46 (1GR–FE)	Front Left Fender
EE	46 (1GR–FE)	Rear Side of Right Bank Cylinder Block
EF	46 (1GR–FE)	Rear Side of Left Bank Cylinder Block
IK	48	Right Kick Panel

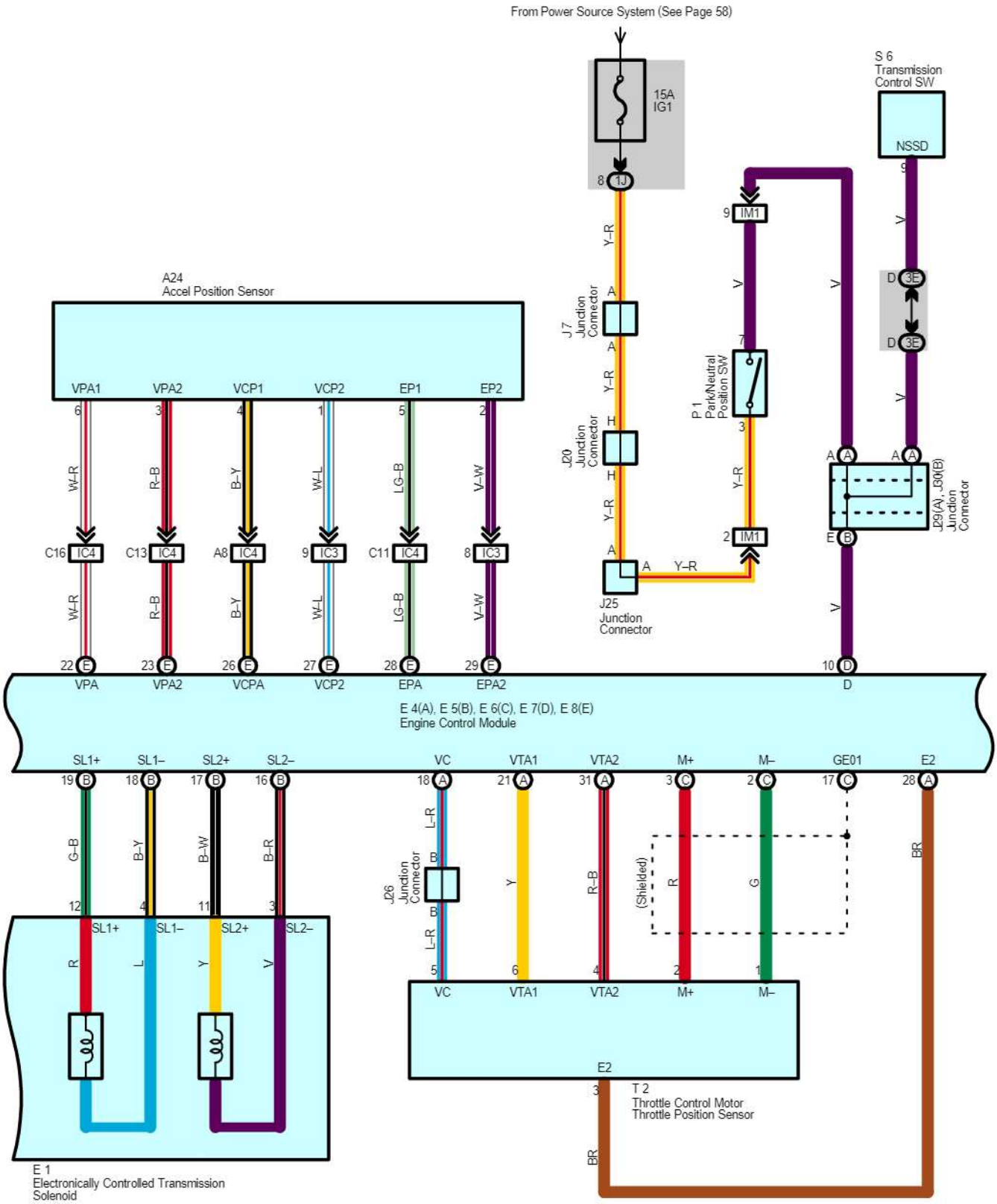
: Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E8	46 (1GR–FE)	Engine Wire			

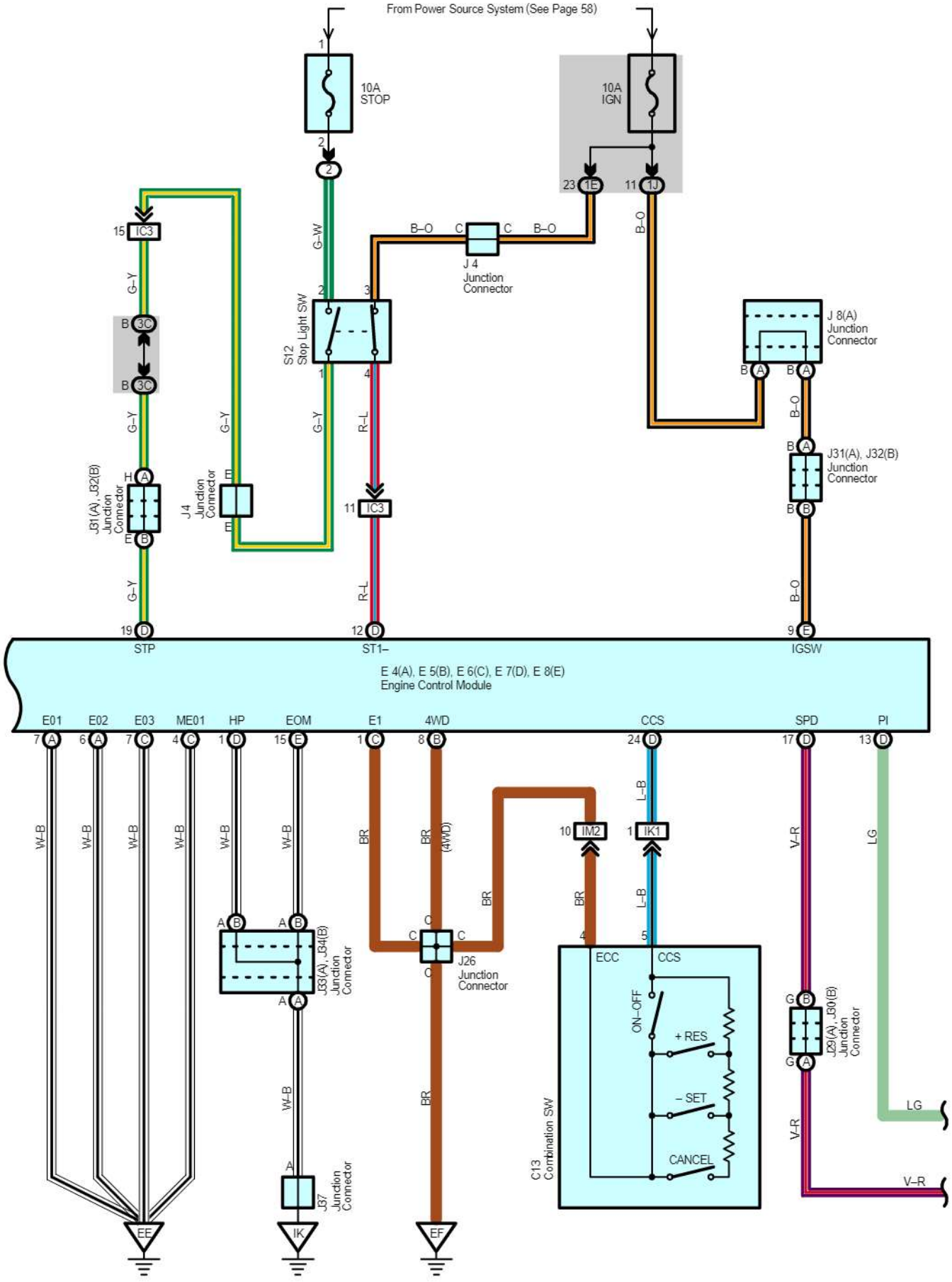
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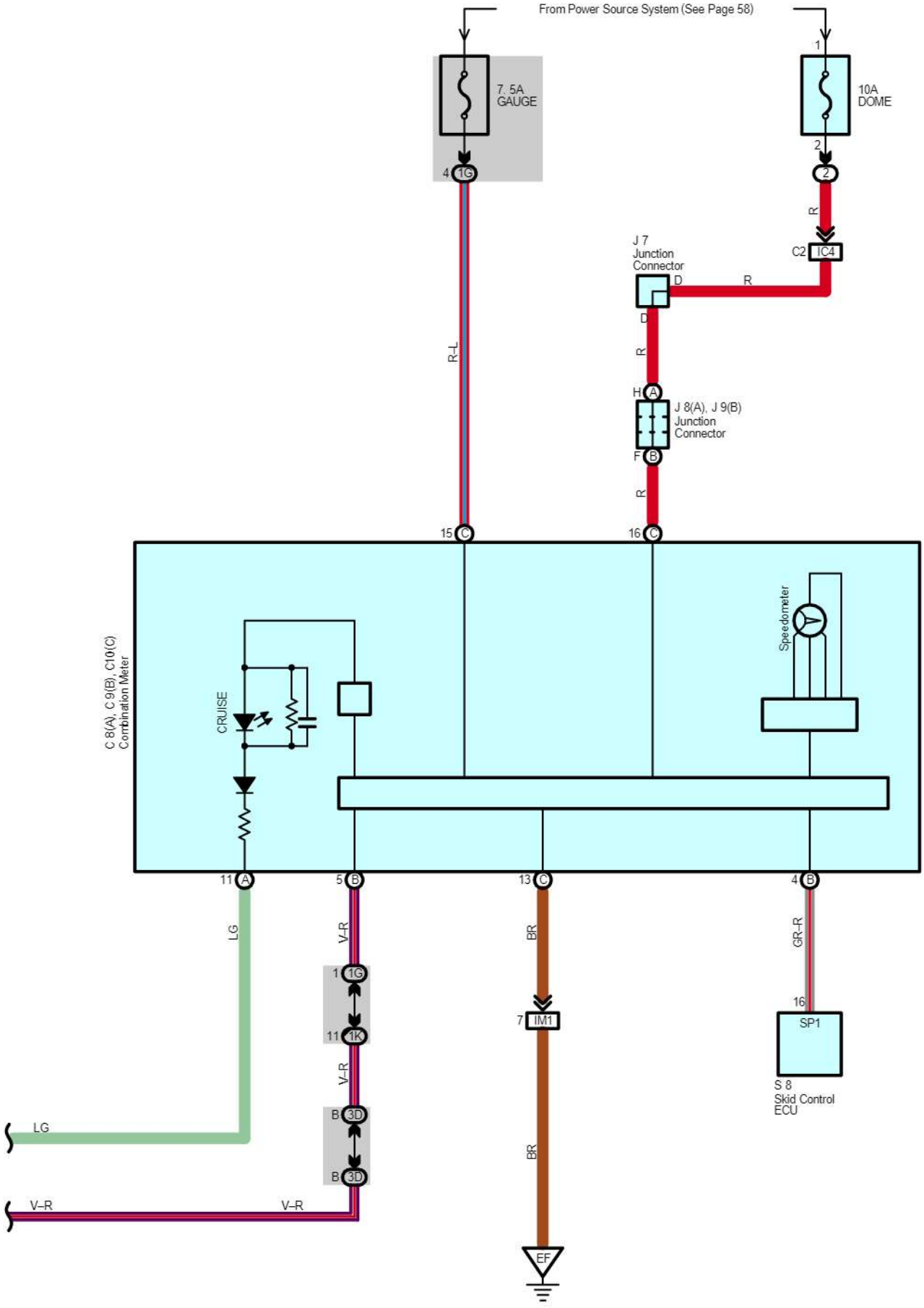
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System Outline

The cruise control system is a constant vehicle speed controller in which control of the switch on the instrument panel makes it possible to automatically adjust the opening of the engine throttle valve without depressing of the accel pedal.

1. Set Operation

When the ON–OFF SW is turned on, the system starts preparations necessary for the cruise control and turns on the indicator light in the combination meter.

2. Set Speed Control

When the – SET SW is operated with the cruise control main SW turned on during travelling, the constant vehicle speed is controlled.

3. Coast Control

When the – SET SW is kept turned on during cruise control travelling, the engine control module controls the throttle valve to decelerate the vehicle. Every time the – SET SW is turned on instantaneously, the vehicle speed is decelerated approximately 1.5 km/h.

4. Accel Control

When the + RES SW is kept turned on during cruise control travelling, the engine control module controls the throttle valve to accelerate the vehicle. Every time the + RES SW is turned on instantaneously, the vehicle speed is accelerated approximately 1.5 km/h.

5. Resume Control

When the vehicle speed is within the low speed limit (Approximately 40 km/h, 25 mph) if the cruise control is cancelled, use of the + RES SW accelerates the vehicle to the speed level used before canceling the cruise control.

6. Manual Cancel Mechanism

If any of the following signals is input during cruise control travelling, the cruise control is cancelled.

* The stop light SW is turned on.
* The CANCEL SW is turned on.
* The ON–OFF SW is turned off.

7. Auto Cancel Function

If any of the following conditions is encountered, the cruise control is automatically cancelled.

* The stop light SW wiring is faulty or short–circuited.
* The vehicle speed signal is faulty.
* The electronically controlled throttle malfunctions.

8. Overdrive Control Function

Overdrive is sometimes cut off on gradients during cruise control driving. When end of climbing gradient is determined by throttle opening degree information after overdrive is canceled, control is reset to overdrive condition after overdrive resetting timer operation. Also, when overdrive is cut off during accelerator resuming control, control is reset to overdrive condition when accelerator resuming control is finished.

Service Hints

E4 (A), E5 (B), E6 (C), E7 (D), E8 (E) Engine Control Module

(E) 9–Ground : Approx. 12 volts with ignition SW at ON position
(D) 6, (E) 3–Ground : Always approx. 12 volts
(A) 6, (A) 7, (B) 8, (C) 1, (C) 4, (C) 7, (D) 1, (E) 15–Ground : Always continuity
(D)19–Ground : Approx. 12 volts with brake pedal depressed
(D)24–Ground : Continuity with cruise control ON–OFF SW at on
Approx. 1540 Ω with CANCEL SW on in cruise control SW
Approx. 240 Ω with + RES SW on in cruise control SW
Approx. 630 Ω with – SET SW on in cruise control SW

C13 Combination SW

5–4 : Approx. 1540 Ω with CANCEL SW on
Approx. 240 Ω with + RES SW on
Approx. 630 Ω with – SET SW on

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: Parts Location

Code	See Page	Code	See Page	Code	See Page
A24	36	J2	33 (2UZ–FE)	J32 B	38
C8 A	37	J4	38	J33 A	38
C9 B	37	J7	38	J34 B	38
C10 C	37	J8 A	38	J35 A	38
C13	37	J9 B	38	J36 B	38
D1	37	J18	38	J37	38
E1	32 (2UZ–FE)	J20	38	P1	33 (2UZ–FE)
E4 A	37	J25	38	S6	39
E5 B	37	J26	38	S8	39
E6 C	37	J29 A	38	S12	39
E7 D	37	J30 B	38	T2	33 (2UZ–FE)
E8 E	37	J31 A	38		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3C		
3D		
3E		

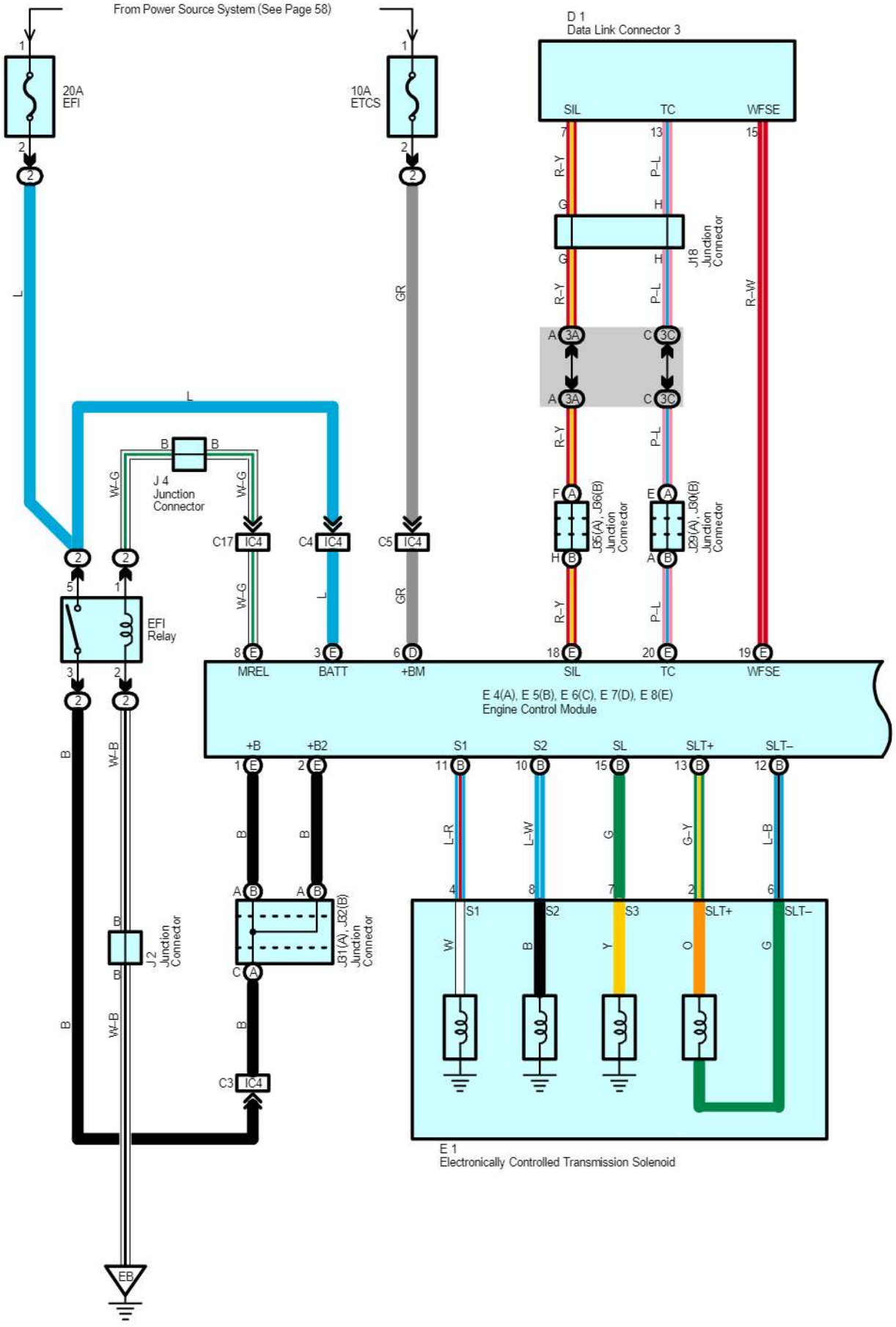
: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IK1	50	Instrument Panel Wire and Instrument Panel Wire (Left Upper Side of the Glove Box)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IM2		

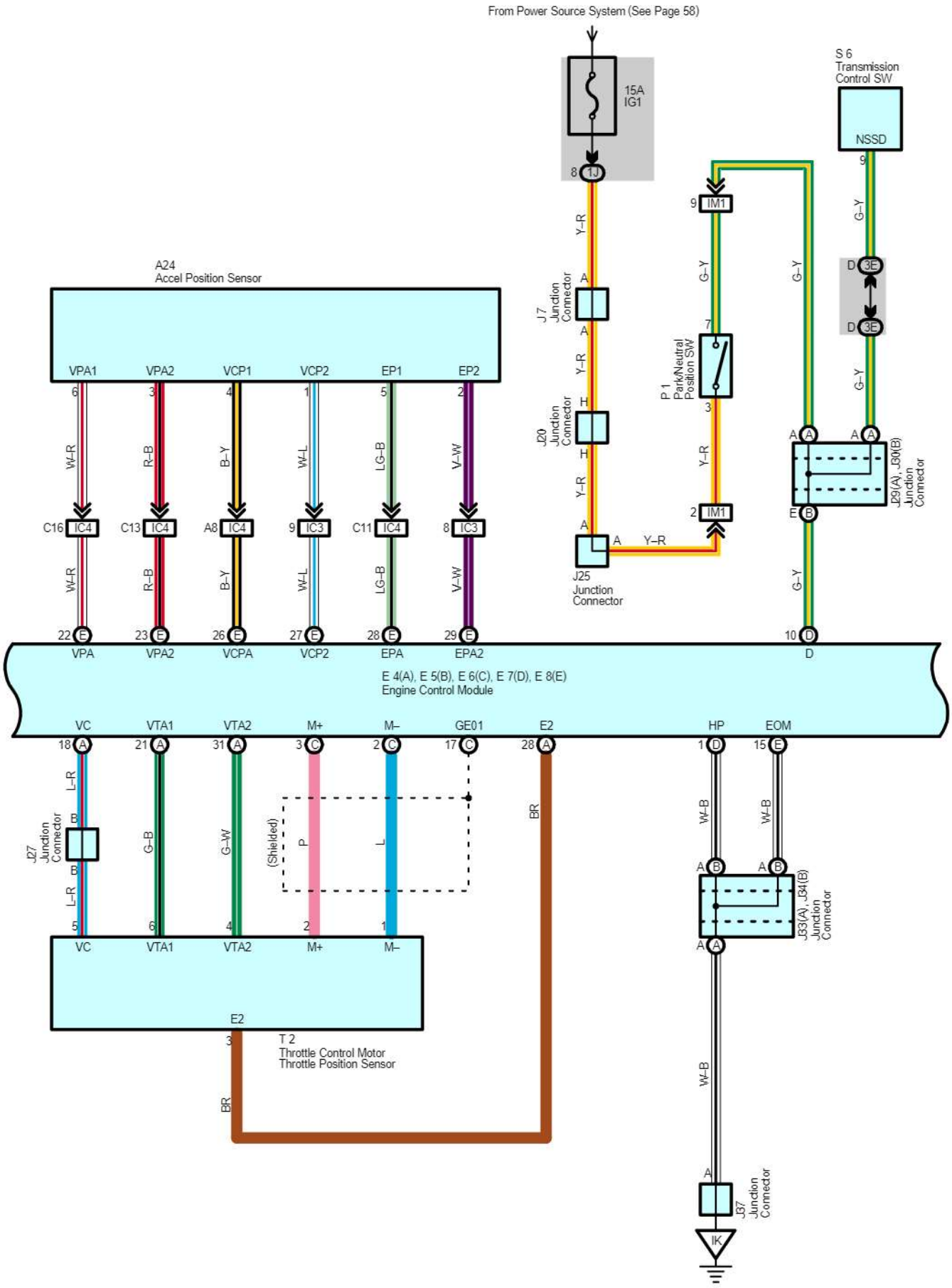
: Ground Points

Code	See Page	Ground Points Location
EB	44 (2UZ–FE)	Front Left Fender
EE	44 (2UZ–FE)	Rear Side of Right Bank Cylinder Block
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
IK	48	Right Kick Panel

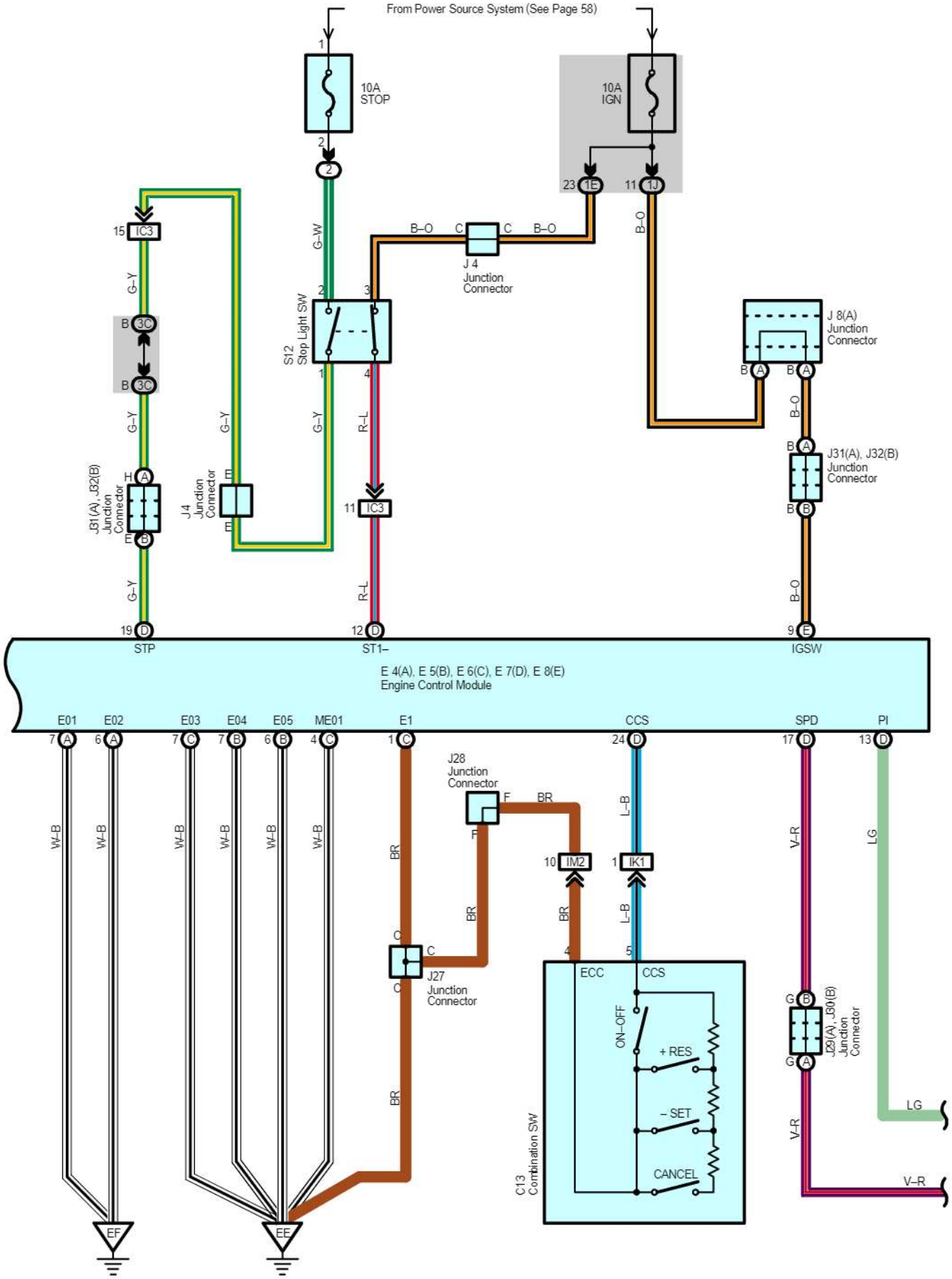
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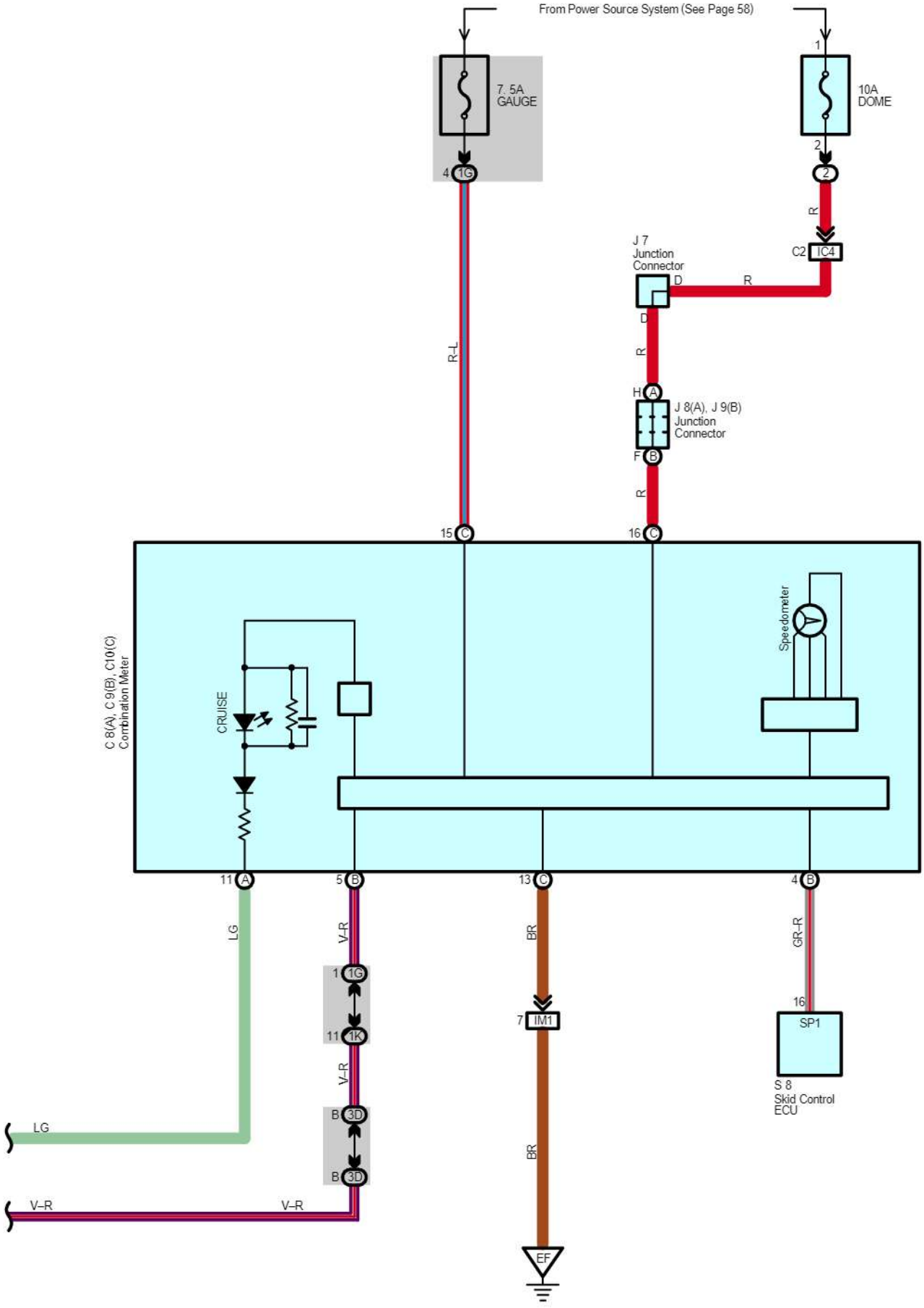
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System Outline

The cruise control system is a constant vehicle speed controller in which control of the switch on the instrument panel makes it possible to automatically adjust the opening of the engine throttle valve without depressing of the accel pedal.

1. Set Operation

When the ON–OFF SW is turned on, the system starts preparations necessary for the cruise control and turns on the indicator light in the combination meter.

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3. Coast Control

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4. Accel Control

When the + RES SW is kept turned on during cruise control travelling, the engine control module controls the throttle valve to accelerate the vehicle. Every time the + RES SW is turned on instantaneously, the vehicle speed is accelerated approximately 1.5 km/h.

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Service Hints

E4 (A), E5 (B), E6 (C), E7 (D), E8 (E) Engine Control Module

(E) 9–Ground : Approx. 12 volts with ignition SW at ON position
(D) 6, (E) 3–Ground : Always approx. 12 volts
(A)6, (A) 7, (B) 6, (B) 7, (C) 1, (C) 4, (C) 7, (D) 1, (E) 15–Ground : Always continuity
(D)19–Ground : Approx. 12 volts with brake pedal depressed
(D)24–Ground : Continuity with cruise control ON–OFF SW at on
Approx. 1540 Ω with CANCEL SW on in cruise control SW
Approx. 240 Ω with + RES SW on in cruise control SW
Approx. 630 Ω with – SET SW on in cruise control SW

C13 Combination SW

5–4 : Approx. 1540 Ω with CANCEL SW on
Approx. 240 Ω with + RES SW on
Approx. 630 Ω with – SET SW on

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: Parts Location

Code	See Page	Code	See Page	Code	See Page
A24	36	J2	35 (1GR–FE)	J31 A	38
C8 A	37	J4	38	J32 B	38
C9 B	37	J7	38	J33 A	38
C10 C	37	J8 A	38	J34 B	38
C13	37	J9 B	38	J35 A	38
D1	37	J18	38	J36 B	38
E1	34 (1GR–FE)	J20	38	J37	38
E4 A	37	J25	38	P1	35 (1GR–FE)
E5 B	37	J27	38	S6	39
E6 C	37	J28	38	S8	39
E7 D	37	J29 A	38	S12	39
E8 E	37	J30 B	38	T2	35 (1GR–FE)

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3C		
3D		
3E		

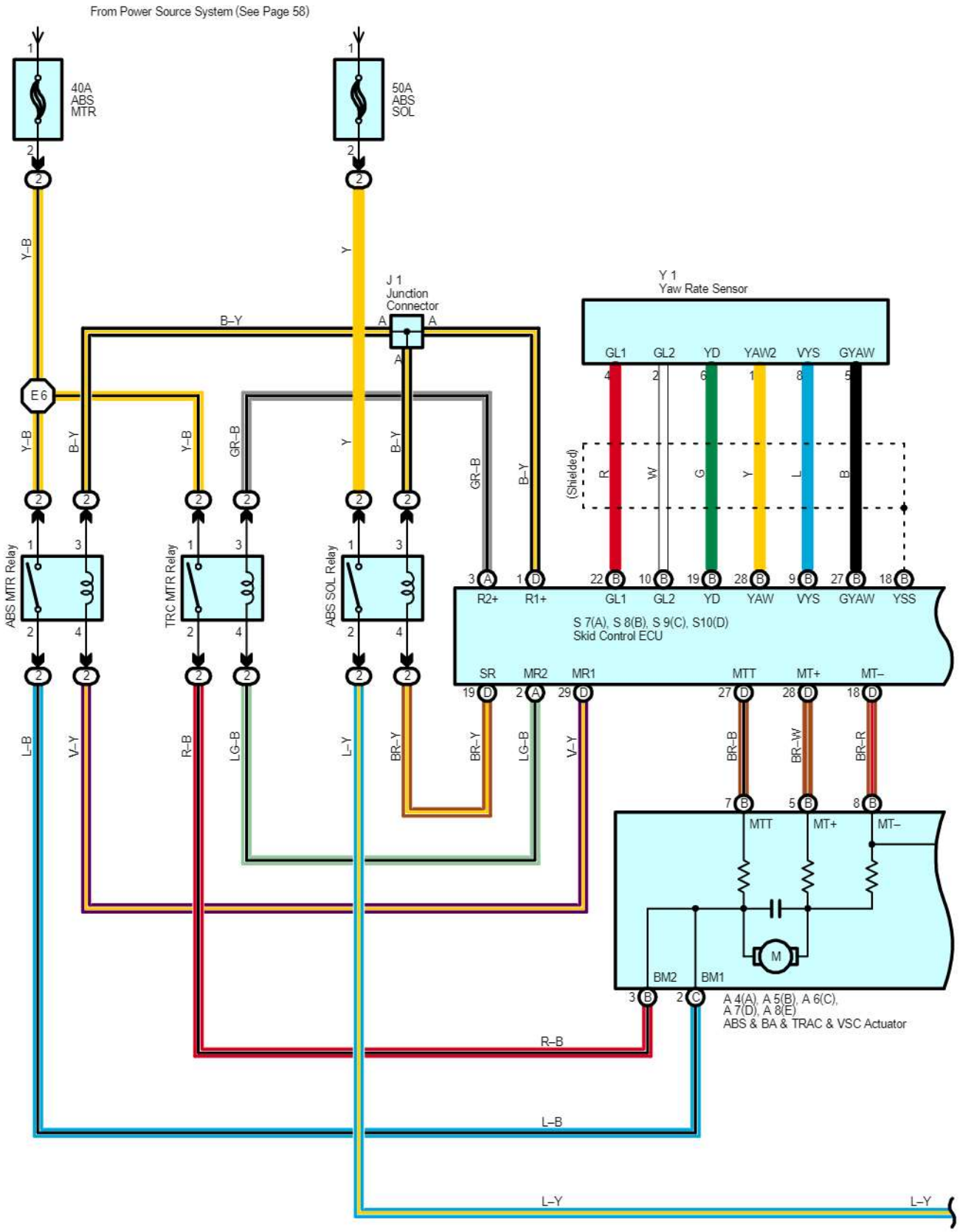
: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IK1	50	Instrument Panel Wire and Instrument Panel Wire (Left Upper Side of the Glove Box)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IM2		

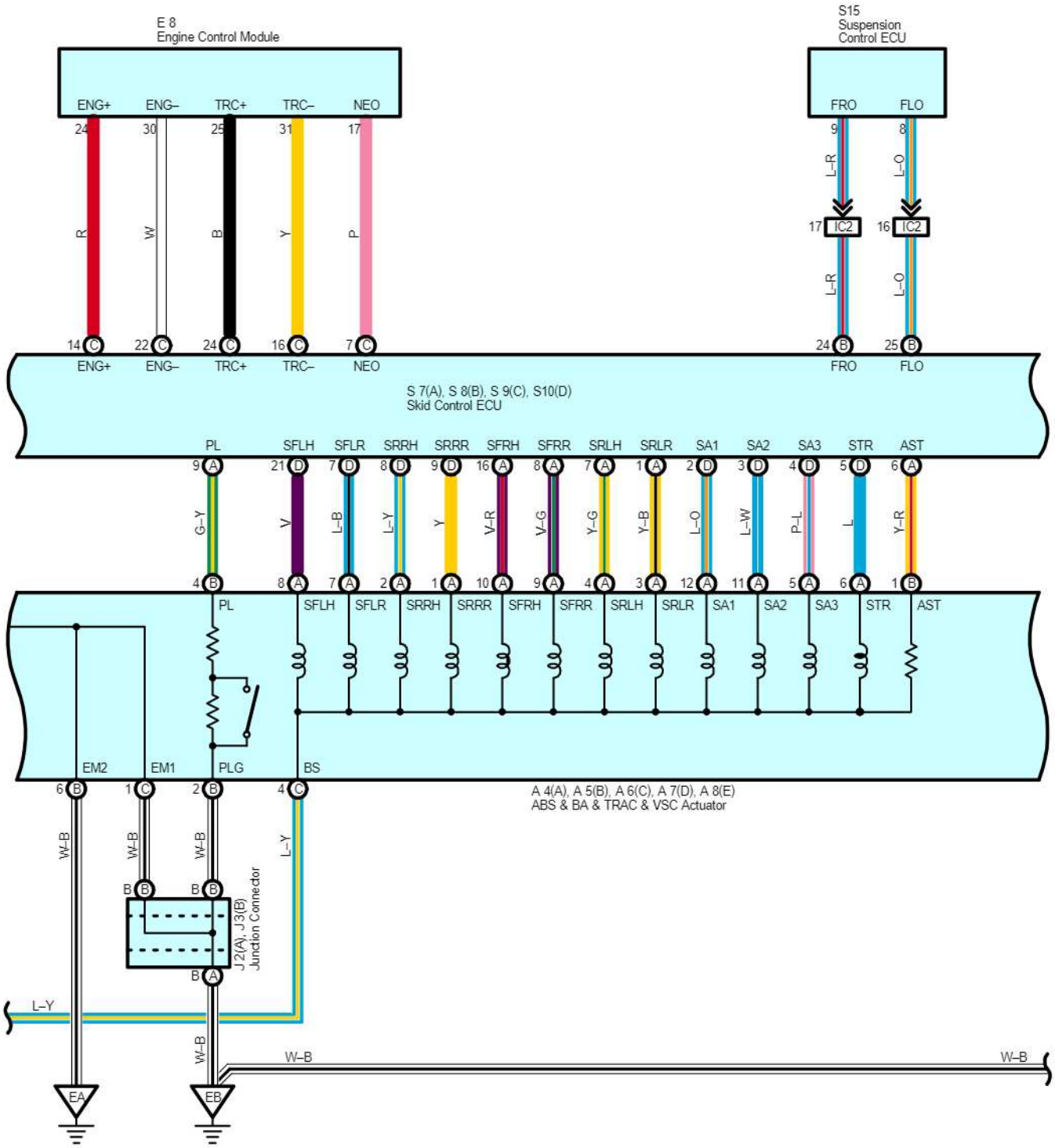
: Ground Points

Code	See Page	Ground Points Location
EB	46 (1GR–FE)	Front Left Fender
EE	46 (1GR–FE)	Rear Side of Right Bank Cylinder Block
EF	46 (1GR–FE)	Rear Side of Left Bank Cylinder Block
IK	48	Right Kick Panel

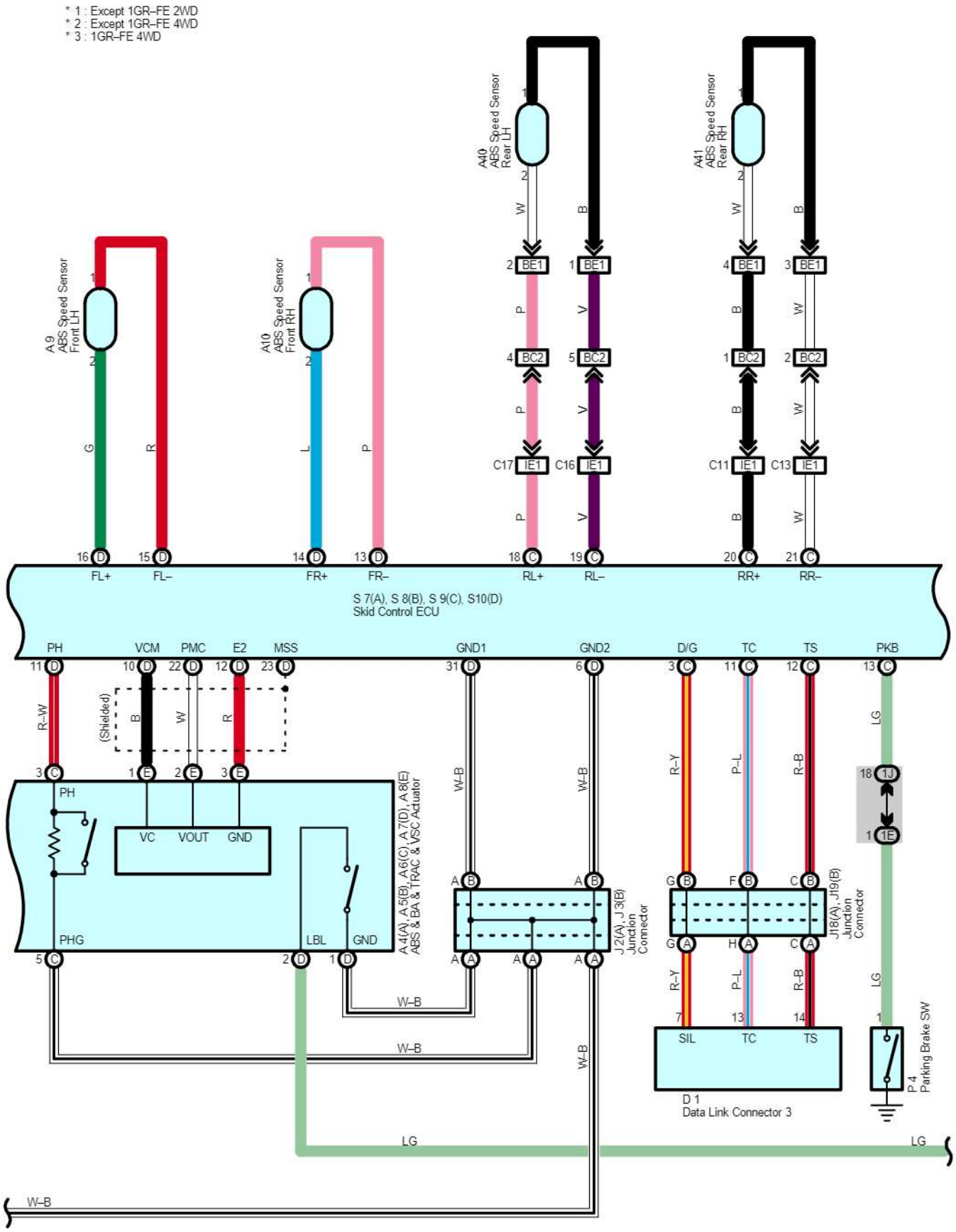
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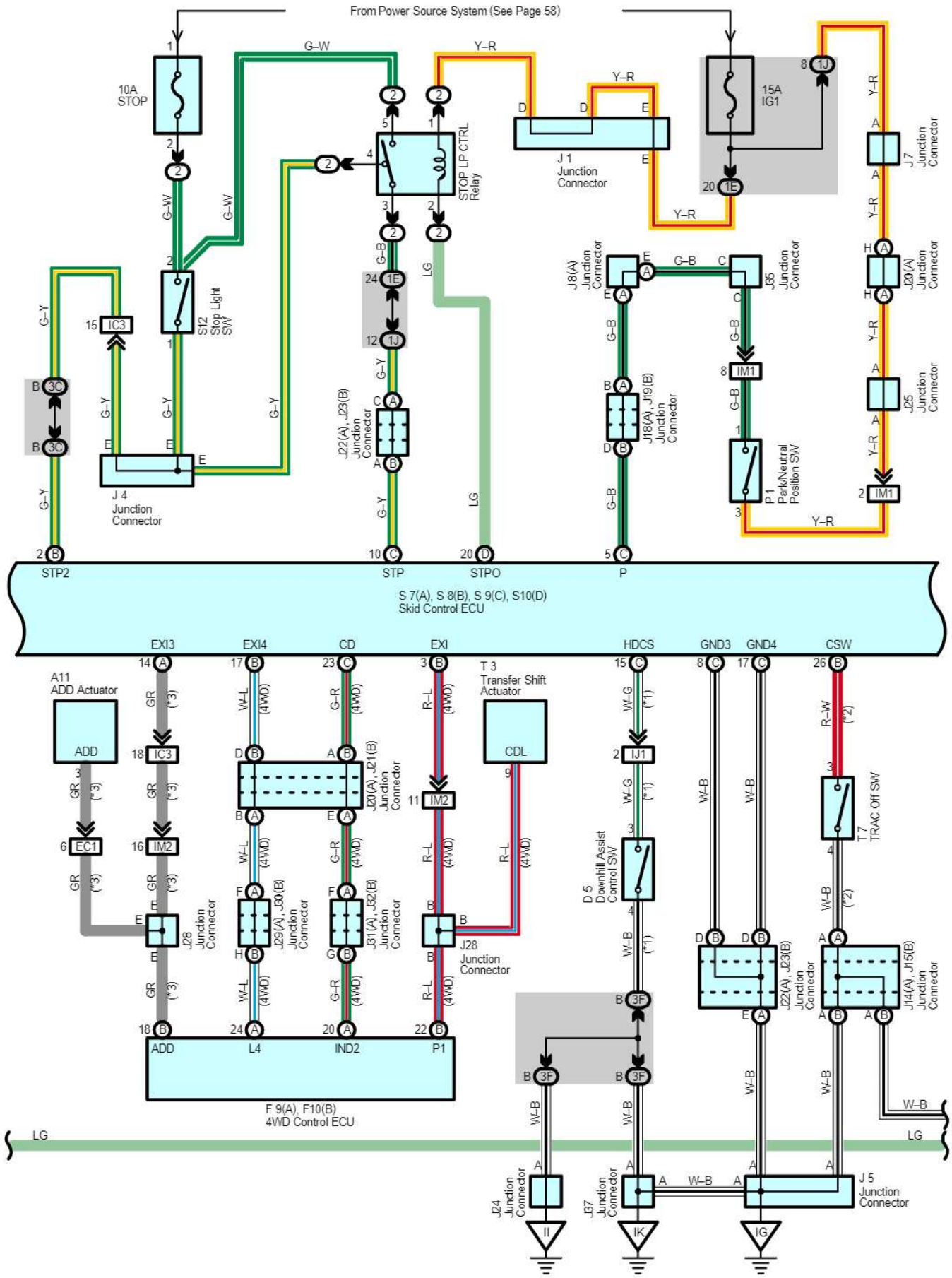
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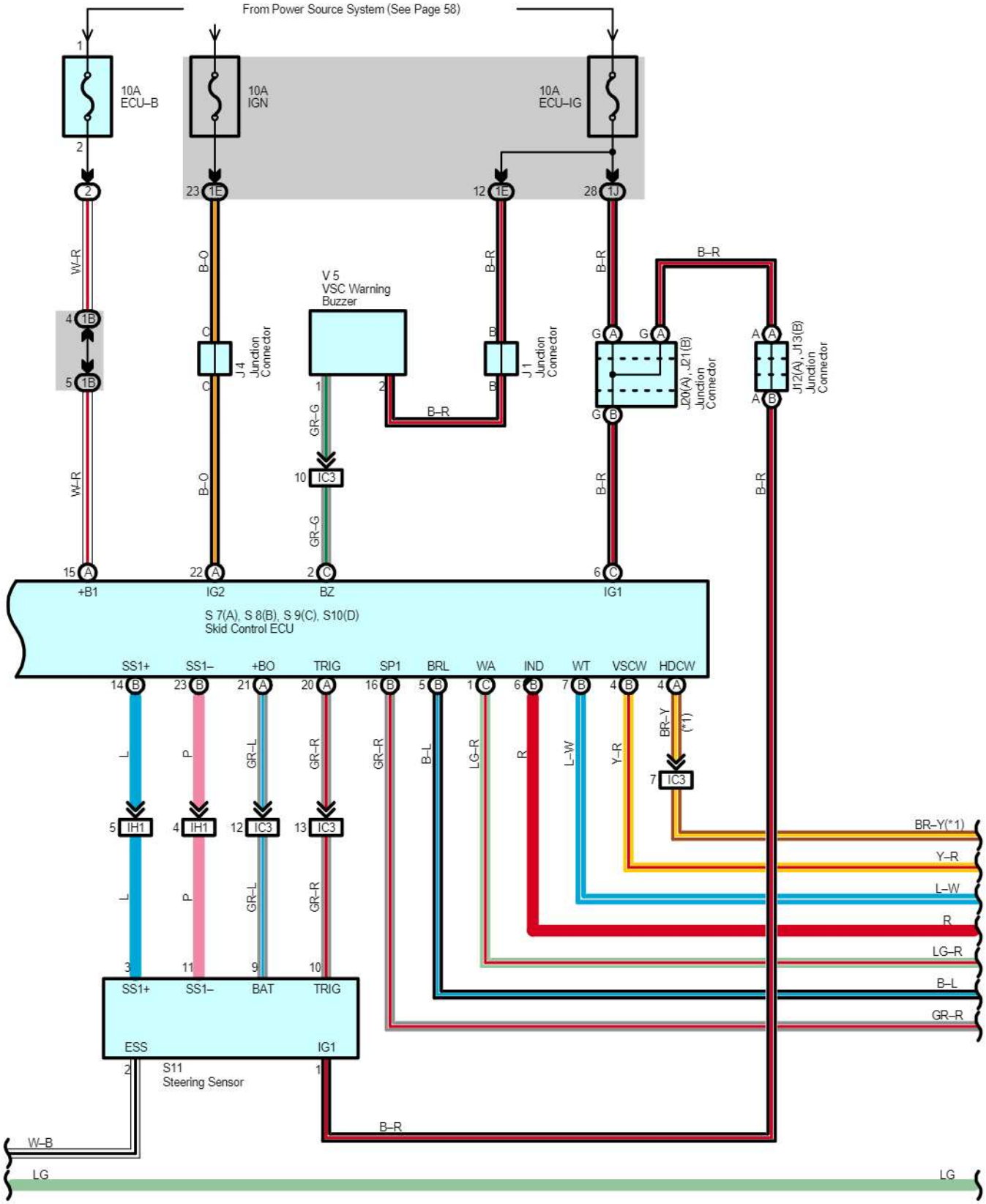
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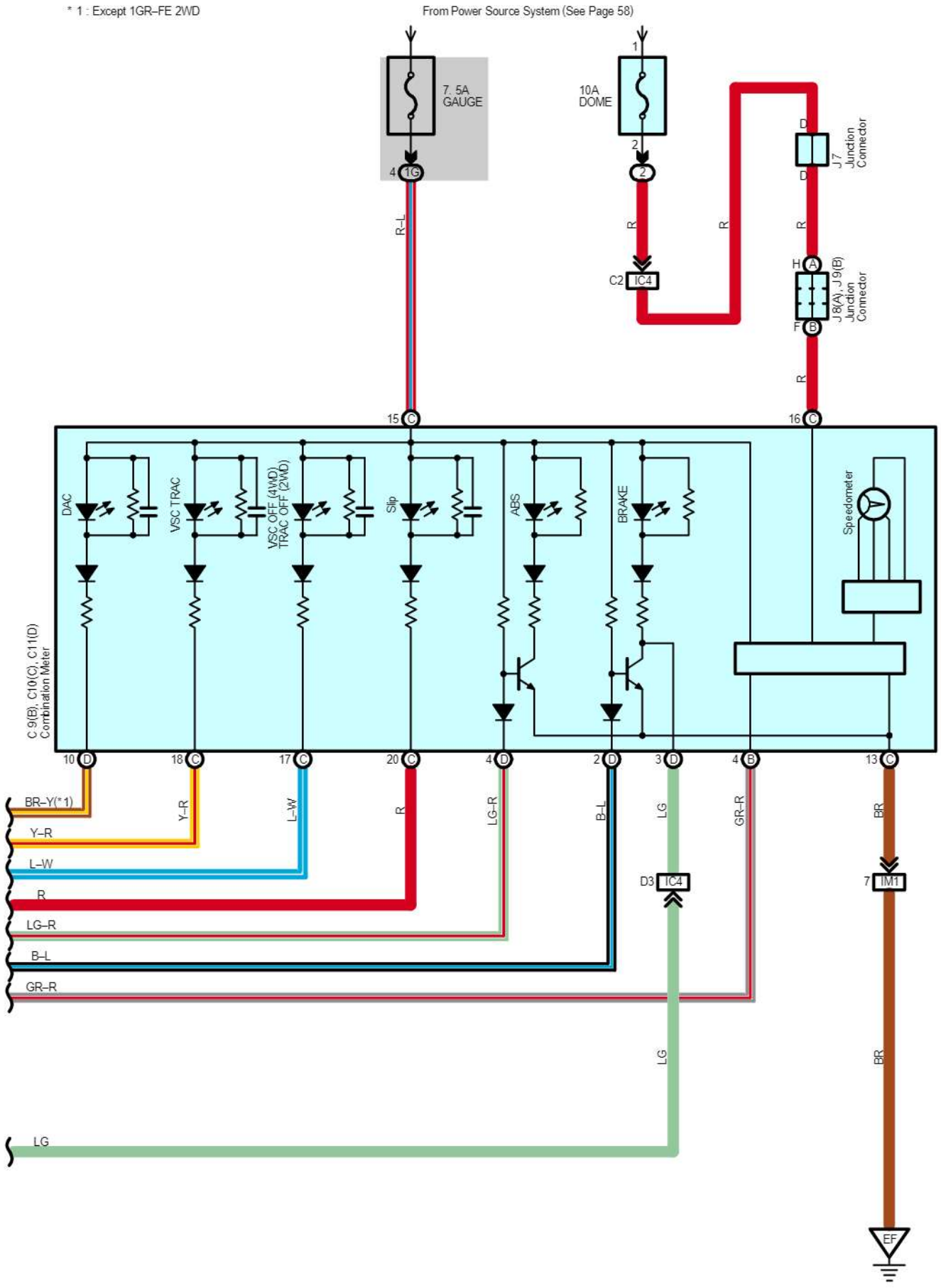
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System Outline

1. Normal Operation

The VSC system helps prevent the vehicle from slipping sideways as a result of strong front wheel skid or strong rear wheel skid during cornering.
The followings are two examples that can be considered as circumstances in which the tires exceed their lateral grip limit. The VSC system is designed to help control the vehicle behavior by controlling the engine's output and the brakes at each wheel when the vehicle is under one of the conditions indicated below.

* When the front wheels lose grip in relation to the rear wheels (Strong front wheel skid tendency).
* When the rear wheels lose grip in relation to the front wheels (Strong rear wheel skid tendency).

2. Downhill Assist Control Operation

The downhill assist control operation controls braking action of each wheel to help prevent out–of–balance vehicle posture when descending a steep hill or traveling at a speed exceeding the threshold of wheel gripping capability. When the downhill assist control is in operation, the brake system controls vehicle speed within the range of 5 to 7 km/h.
For the downhill assist control to be operative all of the following conditions have to be met:

* Downhill assist control switch = ON
* Transfer L4 selected
* Vehicle speed is 5 km/h or more, but less than 25 km/h.
* Accelerator pedal OFF
* Brake pedal OFF

3. Hill–Start Support Control Operation

When starting on a steep hill for ascending, the hill–start support control automatically puts the brake on momentarily – from the moment when the driver releases his foot from the brake pedal until he steps on the accelerator pedal – to help the driver start the vehicle safely and smoothly.
Please bear in mind, however, that it activates the brake system for only 3 seconds.
For the hill–start support control to be operative all of the following conditions have to be met:

* Shift position = D, 2, or L
* Vehicle not moving forward with some wheel(s) slipping
* Vehicle speed > 0 km/h

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A4 A	32 (2UZ–FE)	F10 B	37	J28	38
	34 (1GR–FE)	J1	33 (2UZ–FE)	J29 A	38
A5 B	32 (2UZ–FE)		35 (1GR–FE)	J30 B	38
	34 (1GR–FE)	J2 A	33 (2UZ–FE)	J31 A	38
A6 C	32 (2UZ–FE)		35 (1GR–FE)	J32 B	38
	34 (1GR–FE)	J3 B	33 (2UZ–FE)	J35	38
A7 D	32 (2UZ–FE)		35 (1GR–FE)	J37	38
	34 (1GR–FE)	J4	38	P1	33 (2UZ–FE)
A8 E	32 (2UZ–FE)	J5	38		35 (1GR–FE)
	34 (1GR–FE)	J7	38	P4	39
A9	32 (2UZ–FE)	J8 A	38	S7 A	39
	34 (1GR–FE)	J9 B	38	S8 B	39
A10	32 (2UZ–FE)	J12 A	38	S9 C	39
	34 (1GR–FE)	J13 B	38	S10 D	39
A11	34 (1GR–FE)	J14 A	38	S11	39
A40	40	J15 B	38	S12	39
A41	40	J18 A	38	S15	39
C9 B	37	J19 B	38	T3	33 (2UZ–FE)
C10 C	37	J20 A	38		35 (1GR–FE)
C11 D	37	J21 B	38	T7	39
D1	37	J22 A	38	V5	39
D5	37	J23 B	38	Y1	39
E8	37	J24	38		
F9 A	37	J25	38		

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: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1E		
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
3C	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3F		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EC1	46 (1GR–FE)	Engine Wire and Differential Wire (Near the Front Differential)
IC2	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC3		
IC4		
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IH1	50	Instrument Panel Wire and Instrument Panel Wire (Behind the Combination Meter)
IJ1	50	Instrument Panel Wire and Instrument Panel Wire (Instrument Panel Brace RH)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IM2		
BC2	54	Frame Wire and Floor No.2 Wire (Under the Rear LH Seat)
BE1	54	Frame Wire and Skid Control Sensor Wire (Right Side of No.5 Crossmember)

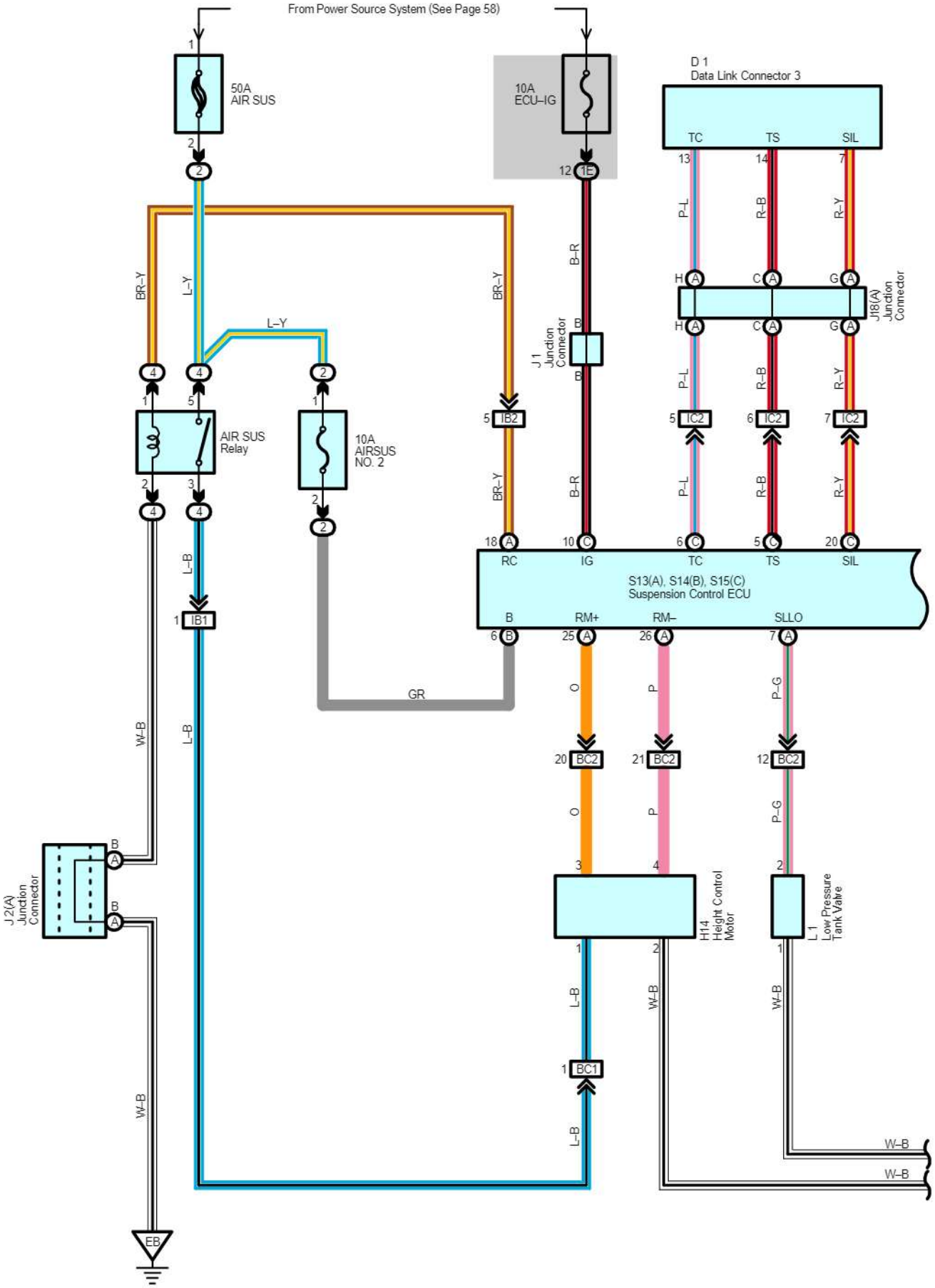
: Ground Points

Code	See Page	Ground Points Location
EA	44 (2UZ–FE)	Front Right Fender
	46 (1GR–FE)	
EB	44 (2UZ–FE)	Front Left Fender
	46 (1GR–FE)	
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
	46 (1GR–FE)	
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel

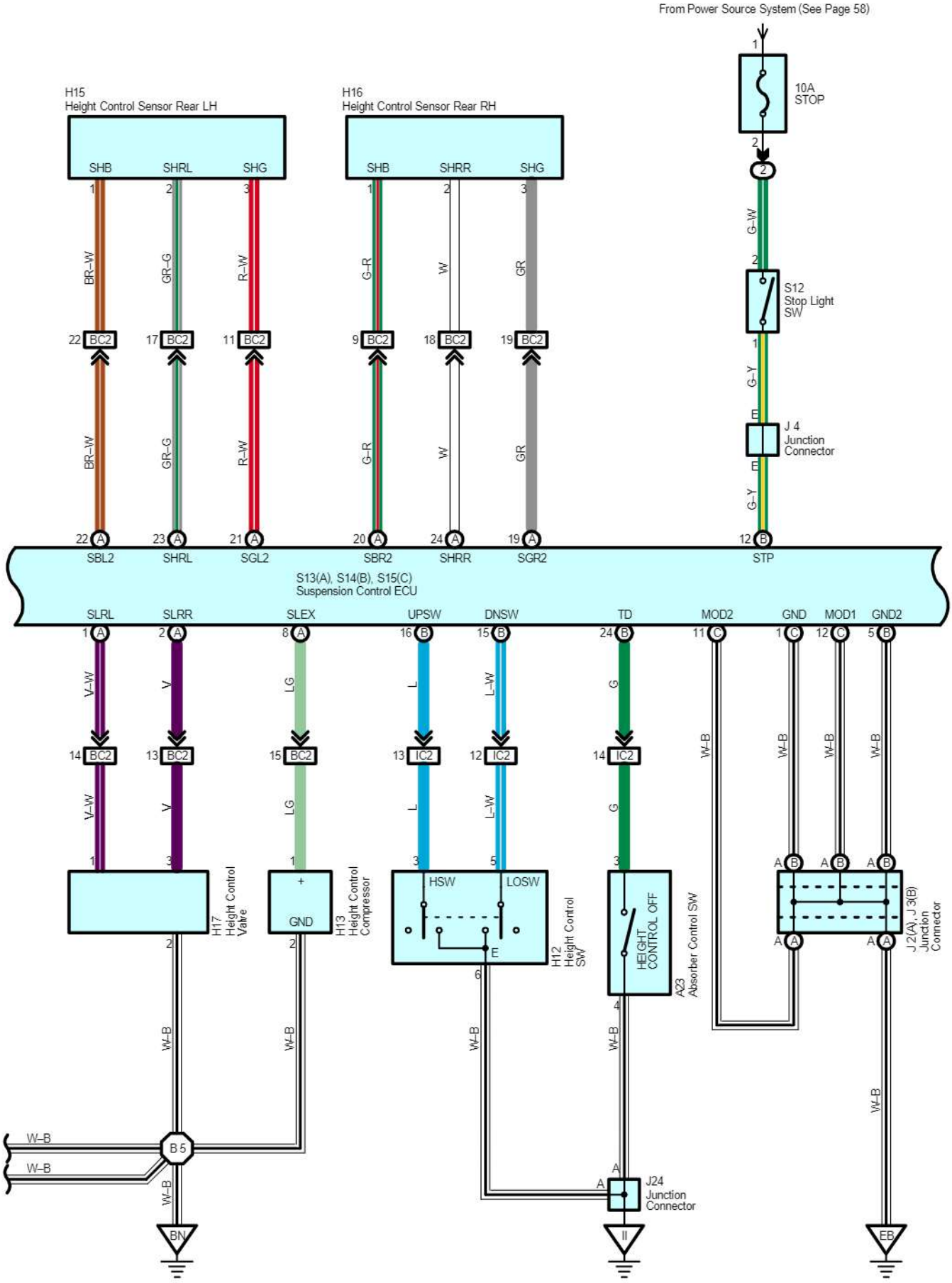
: Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E6	44 (2UZ–FE)	Engine Room Main Wire	E6	46 (1GR–FE)	Engine Room Main Wire

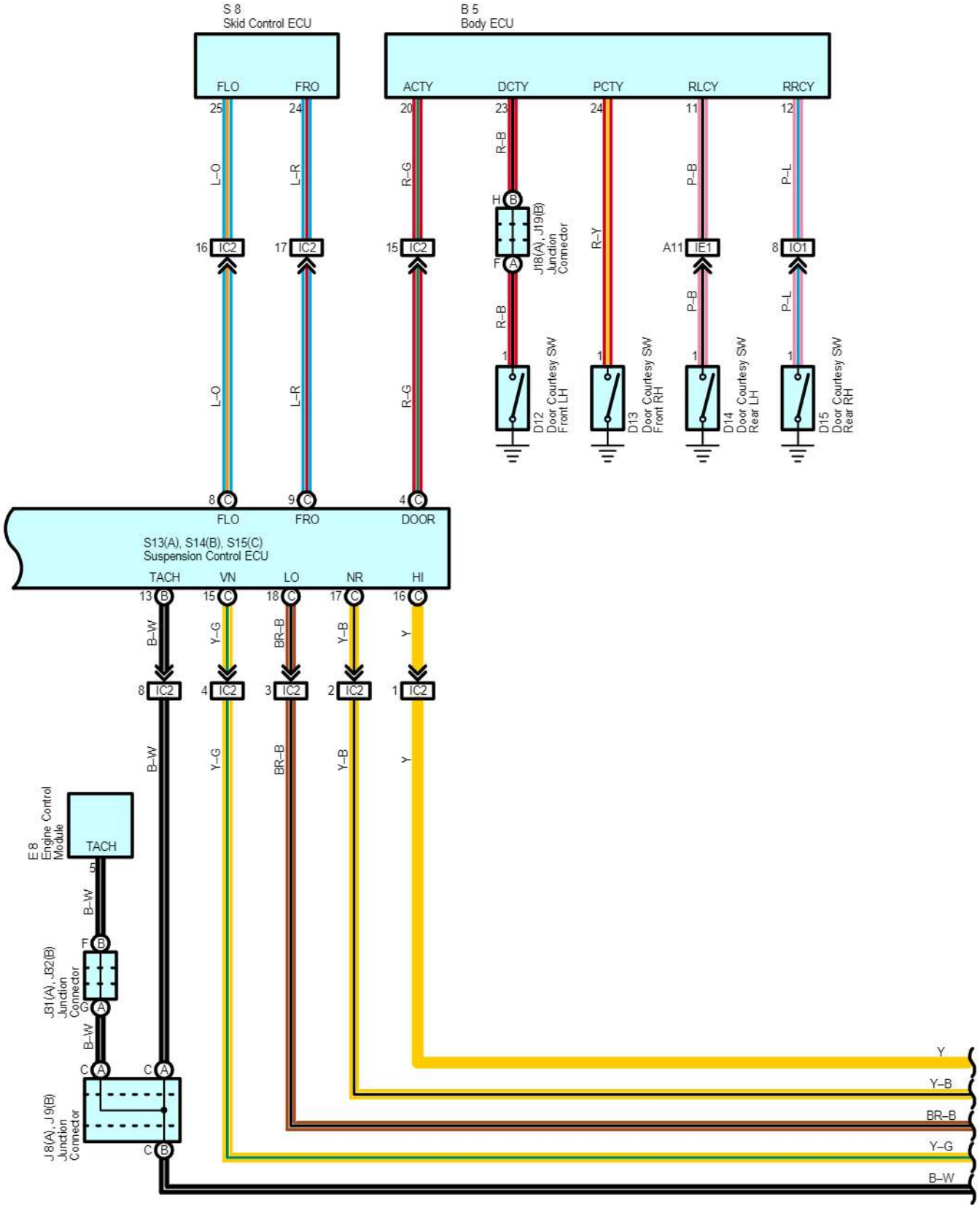
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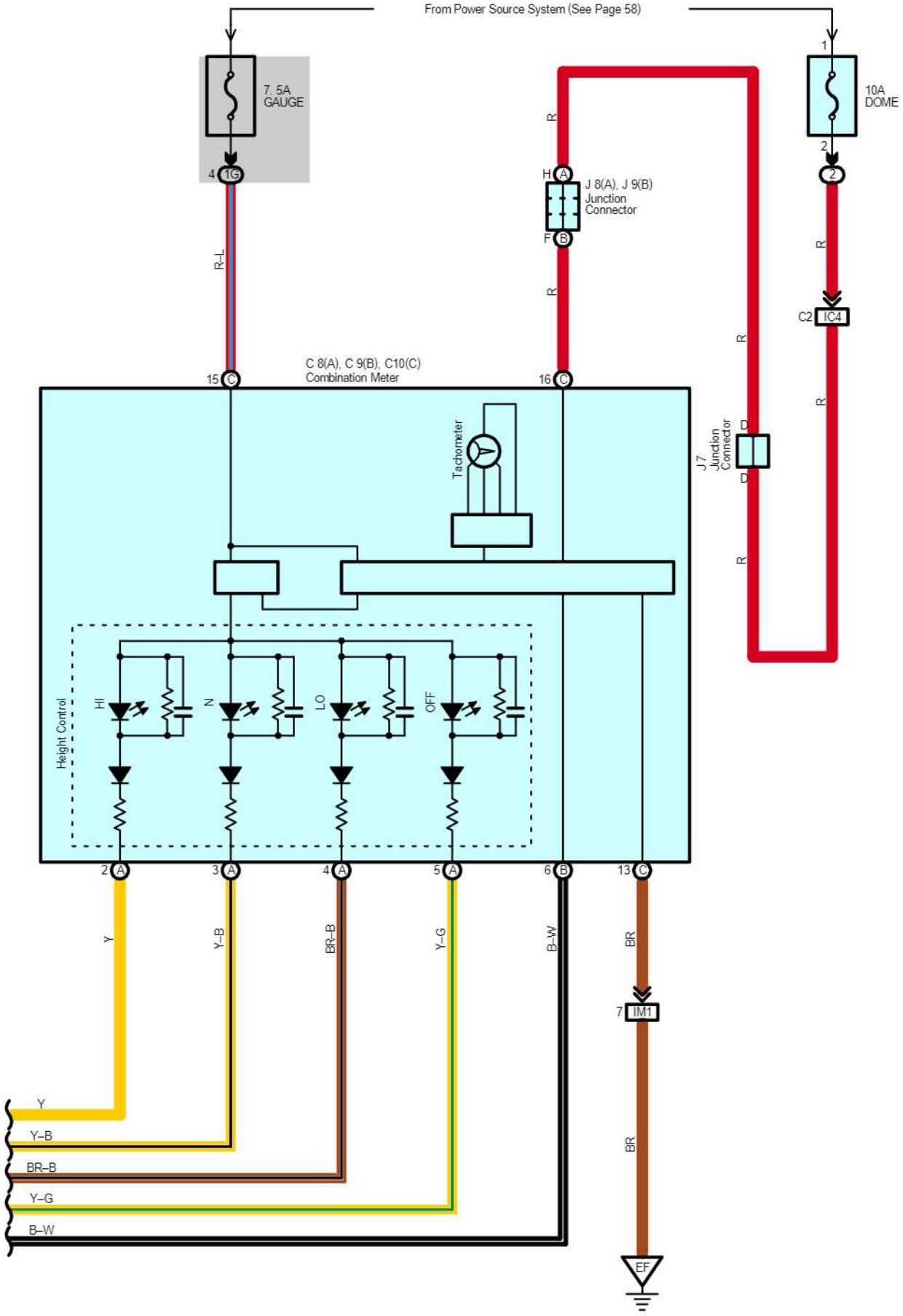
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Active Height Control Suspension and

System Outline

* The electric modulated suspension with height control, is a system designed to maintain a constant ride height by means of an electro–pneumatic system in the rear suspension – to cope with change in load due to possible change in the number of people and/or the weight of cargo the vehicle has to carry. With three driver's–choice height–control switches on the console, the driver can set ride height to any one of the three different ride height modes (High, normal and low): "High mode" for rough terrain and "Low mode" for passenger to get on or get off, and for cargo to be loaded or unloaded.
* This system has five basic controls as shown below:
* Auto leveling control
  This control maintains a constant rear vehicle ride height regardless of change in load due to possible change in the number of passengers and/or the weight of cargo the vehicle has to carry.
* Ride height switchover control
  This control switches over height mode to the mode selected by the height control switch.
  * High mode (+ 40 mm / 1.6 in.)
  * Low mode (– 20 mm / 0.8 in.)
* Speed sensing control
  Regardless of the initial height mode setting, "High mode" or "Low mode," this control automatically switches over vehicle height mode to the optimum "Normal mode":
  * When the vehicle speed reaches or exceeds 30 km/h with height mode set to "High mode," or;
  * When the vehicle speed reaches or exceeds 5 km/h with height mode set to "Low mode."
* Subsequent control after ignition switch off
  After the ignition switch is turned OFF, this control lowers the rear vehicle ride height to offset rear vehicle ride height elevation due to passengers getting off, etc.
* Height control OFF control
  Pressing the absorber control switch turns the system OFF, making it possible for the vehicle to be jacked up or towed.

: Parts Location

Code	See Page	Code	See Page	Code	See Page
A23	36	H13	40	J18 A	38
B5	36	H14	40	J19 B	38
C8 A	37	H15	40	J24	38
C9 B	37	H16	40	J31 A	38
C10 C	37	H17	40	J32 B	38
D1	37	J1	33 (2UZ–FE)	L1	40
D12	40	J2 A	33 (2UZ–FE)	S8	39
D13	40	J3 B	33 (2UZ–FE)	S12	39
D14	40	J4	38	S13 A	39
D15	40	J7	38	S14 B	39
E8	37	J8 A	38	S15 C	39
H12	37	J9 B	38		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)
4	23	Engine Room R/B No.4 (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

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: **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB1	48	Floor No.2 Wire and Engine Room Main Wire (Left Kick Panel)
IB2		
IC2	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)
BC1	54	Frame Wire and Floor No.2 Wire (Under the Rear LH Seat)
BC2		

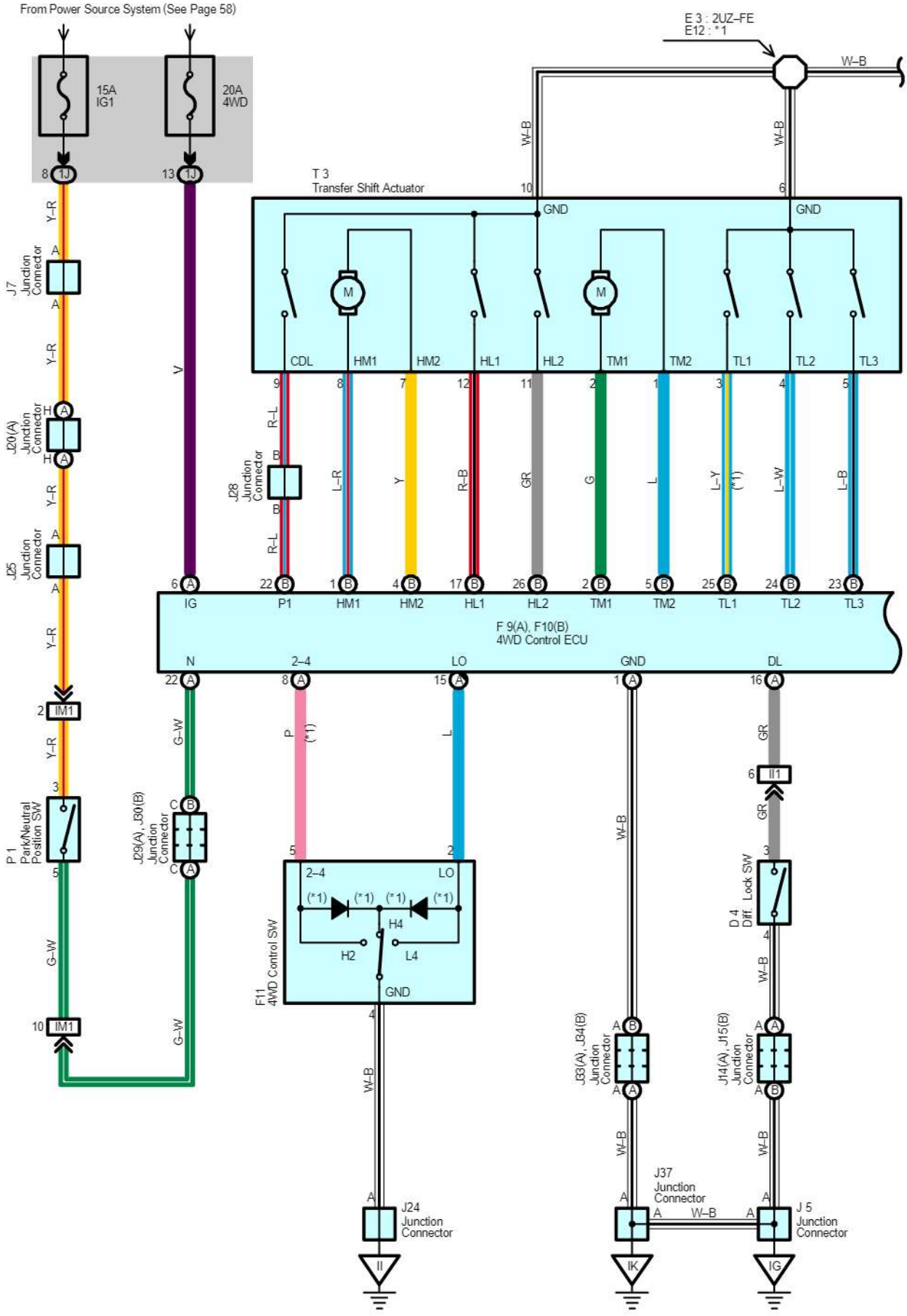
: **Ground Points**

Code	See Page	Ground Points Location
EB	44 (2UZ–FE)	Front Left Fender
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
II	48	Instrument Panel Brace RH
BN	54	Near the No.5 Crossmember of Side Frame LH

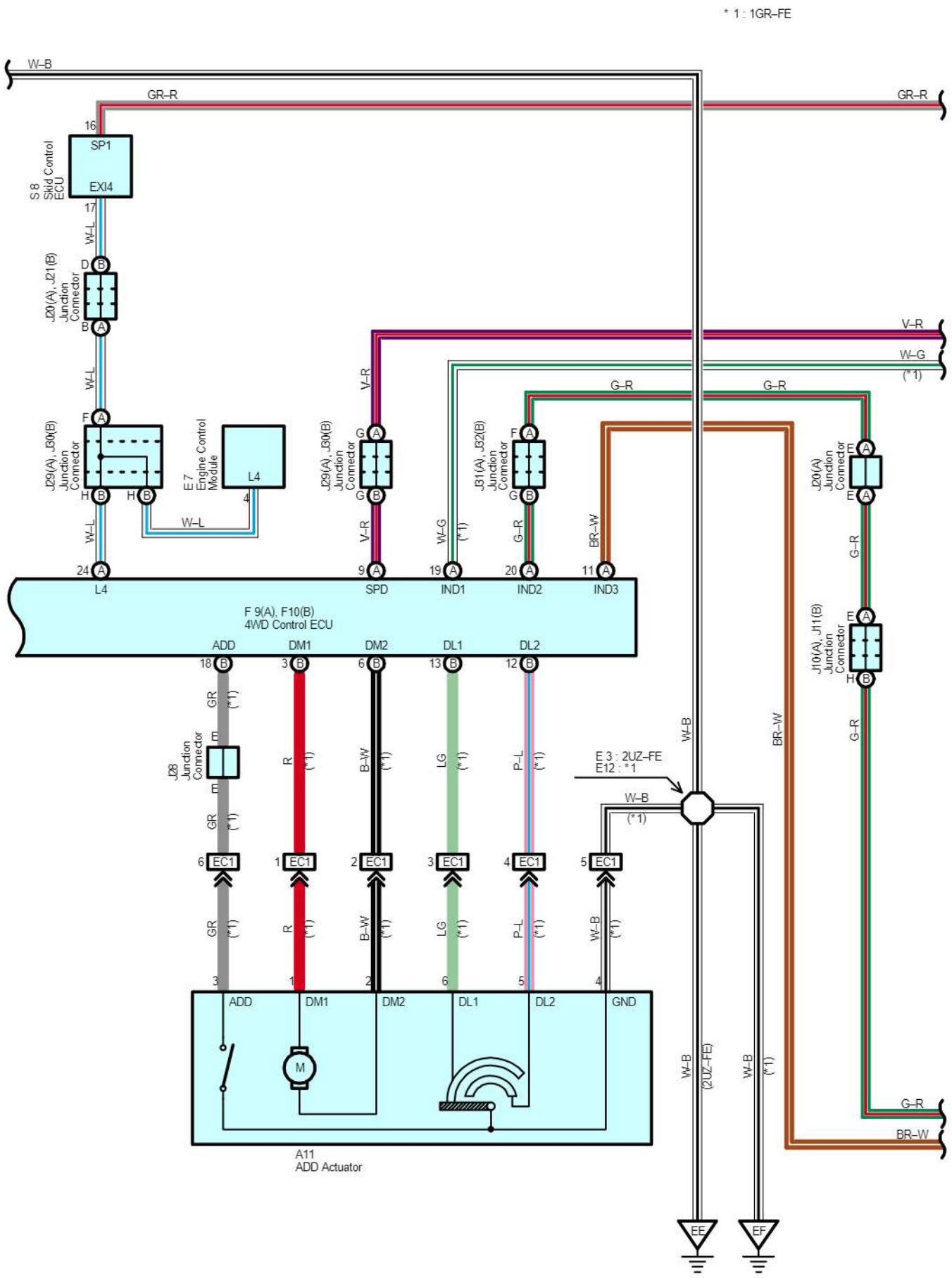
: **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B5	54	Frame Wire			

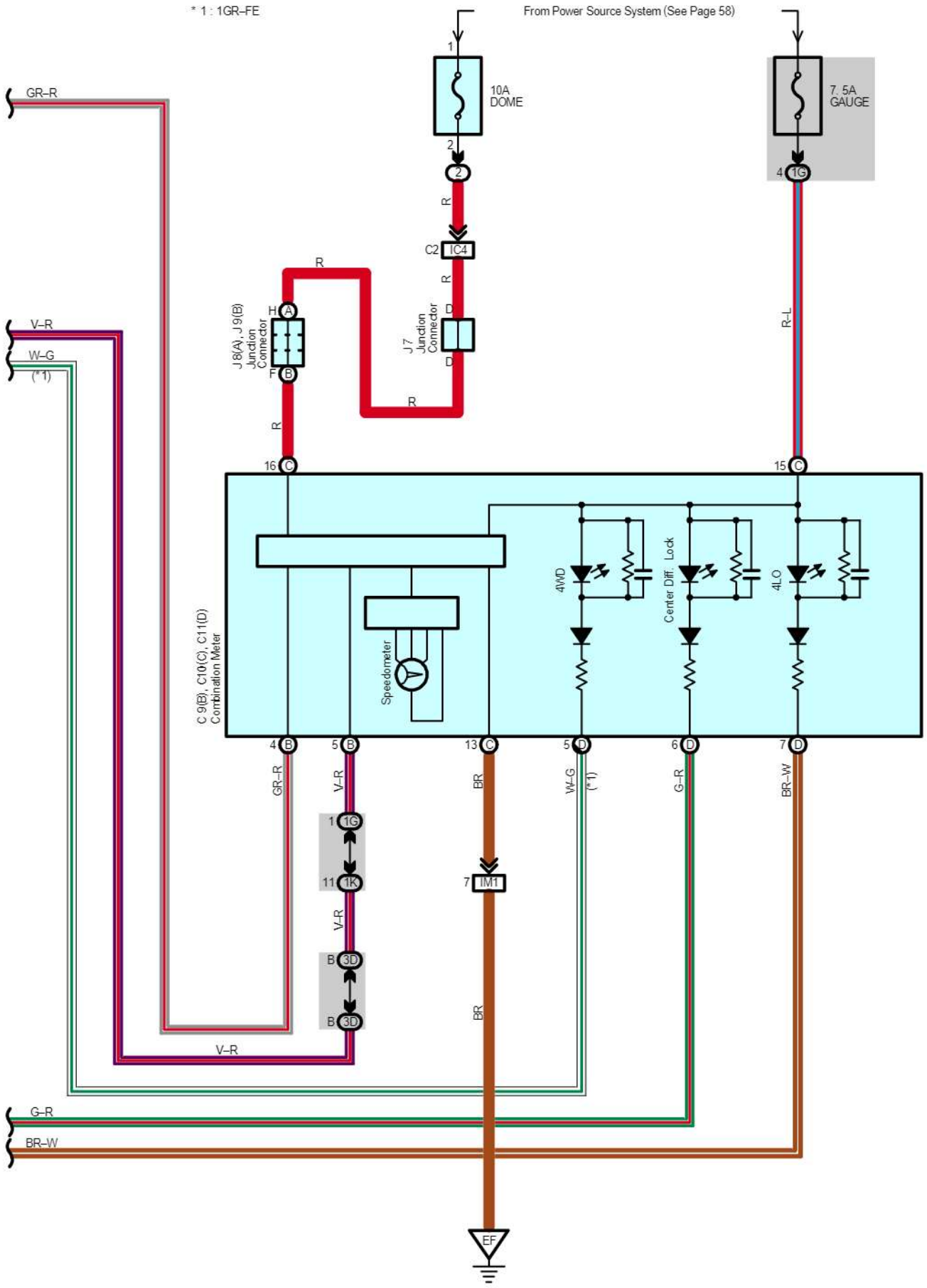
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System Outline

Depending on the transfer shift actuator status and ADD actuator (1GR–FE) status, the 4WD control ECU drives the transfer shift actuator and ADD actuator (1GR–FE) to electrically change the gear position selected by the driver according to vehicle speed signal and neutral start switch signal.

1. Shift Select Control

Shifting from H2 into H4 position (1GR–FE)
When the 4WD control switch is turned from H2 into H4, this signal is input into 4WD control ECU (TERMINAL 2–4). Then, the 4WD control ECU moves the 2–4 select motor (TERMINAL 2, TERMINAL 1) in the transfer shift actuator until the shift fork shaft shifts to the diff. free position, performing a shift into H4 position

Switching diff. lock ON when in H4 position.
When the diff. lock switch is turned ON with the 4WD control switch in H4 position, this signal is input into the 4WD control ECU (TERMINAL DL). Then, the 4WD control ECU drives the 2–4 select motor (TERMINAL 2, TERMINAL 1) in the transfer shift actuator until the shift fork shaft shifts to the diff. lock position, locking it in H4 position with the diff. lock.

Shifting from H4 into L4 position
When the 4WD control switch is turned from H4 into L4, this signal is input into 4WD control ECU (TERMINAL LO). Then, the 4WD control ECU drives the H–L select motor (TERMINAL 8, TERMINAL 7) in the transfer shift actuator, shifting the shift fork shaft, performing a shift into L4 position.

Switching diff. lock ON when in L4 position.
When the diff. lock switch is turned ON with the 4WD control switch in L4 position, this signal is input into the 4WD control ECU (TERMINAL DL). Then, the 4WD control ECU drives the 2–4 select motor (TERMINAL 2, TERMINAL 1) in the transfer shift actuator until the shift fork shaft shifts to the diff. lock position, locking it in L4 position with the diff. lock.

2. Function of Limit Switch

H4L limit switch (TERMINAL 12 and TERMINAL 11 of transfer shift actuator)
The H4L limit switch in the transfer shift actuator feeds back the current shift position status (H4 or L4) information, which is based on the ON/OFF combination of the two switches, to the 4WD control ECU.

4WD limit switch (TERMINAL 3 (1GR–FE), TERMINAL 4 and TERMINAL 5 of transfer shift actuator)
The 4WD limit switch in the transfer shift actuator feeds back the current shift position status (H2 or H4) (1GR–FE) and diff. lock or diff. free status information, which is based on the ON/OFF combination of the two (2UZ–FE) or three (1GR–FE) switches, to the 4WD control ECU.

ADD limit switch (TERMINAL 6 and TERMINAL 5 of ADD actuator) (1GR–FE)
The ADD limit switch in the ADD actuator feeds back the current front diff. lock or free status information, which is based on the ON/OFF combination of the two switches, to the 4WD control ECU.

3. Shift Limit Control

The 4WD control ECU interrupts the shift select control and give the driver a warning by means of buzzer (Integrated into the ECU) sound and blinking indicator light on the combination meter when the following shift change conditions exist.
The warning, however, can be canceled — when the 4WD control switch is canceled and the switch position is returned to where it was before the warning occurred.

- Shift change (1GR–FE) from H2 into H4 with vehicle traveling at a speed reaching or exceeding 100 km/h (Buzzer sound and blinking 4WD and center diff. lock indicator lights)
- Shift change from H4 into L4 with vehicle traveling at a speed reaching or exceeding 5 km/h but within the A/T shift position N range (Buzzer sound and blinking L4 indicator light)

4. ADD Actuator Control (1GR–FE)

When switching between H2 (2WD) and H4 (4WD), the 4WD control ECU controls the way power is supplied to the ADD motor in the ADD actuator, as shown below, to run the ADD motor in normal or reverse direction, thereby changing the status of the front diff. from free to lock, or vice versa.

For locking front diff.	TERMINAL DM1	+B
	TERMINAL DM2	GROUND
For unlocking front diff.	TERMINAL DM1	GROUND
	TERMINAL DM2	+B

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: Parts Location

Code	See Page	Code	See Page	Code	See Page
A11	34 (1GR–FE)	J9 B	38	J31 A	38
C9 B	37	J10 A	38	J32 B	38
C10 C	37	J11 B	38	J33 A	38
C11 D	37	J14 A	38	J34 B	38
D4	37	J15 B	38	J37	38
E7	37	J20 A	38	P1	33 (2UZ–FE)
F9 A	37	J21 B	38		35 (1GR–FE)
F10 B	37	J24	38	S8	39
F11	37	J25	38	T3	33 (2UZ–FE)
J5	38	J28	38		35 (1GR–FE)
J7	38	J29 A	38		
J8 A	38	J30 B	38		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		
3D	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EC1	46 (1GR–FE)	Engine Wire and Differential Wire (Near the Front Differential)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
II1	50	Instrument Panel Wire and Instrument Panel Wire (Instrument Panel Brace LH)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)

: Ground Points

Code	See Page	Ground Points Location
EE	44 (2UZ–FE)	Rear Side of Right Bank Cylinder Block
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
	46 (1GR–FE)	
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel

: Splice Points

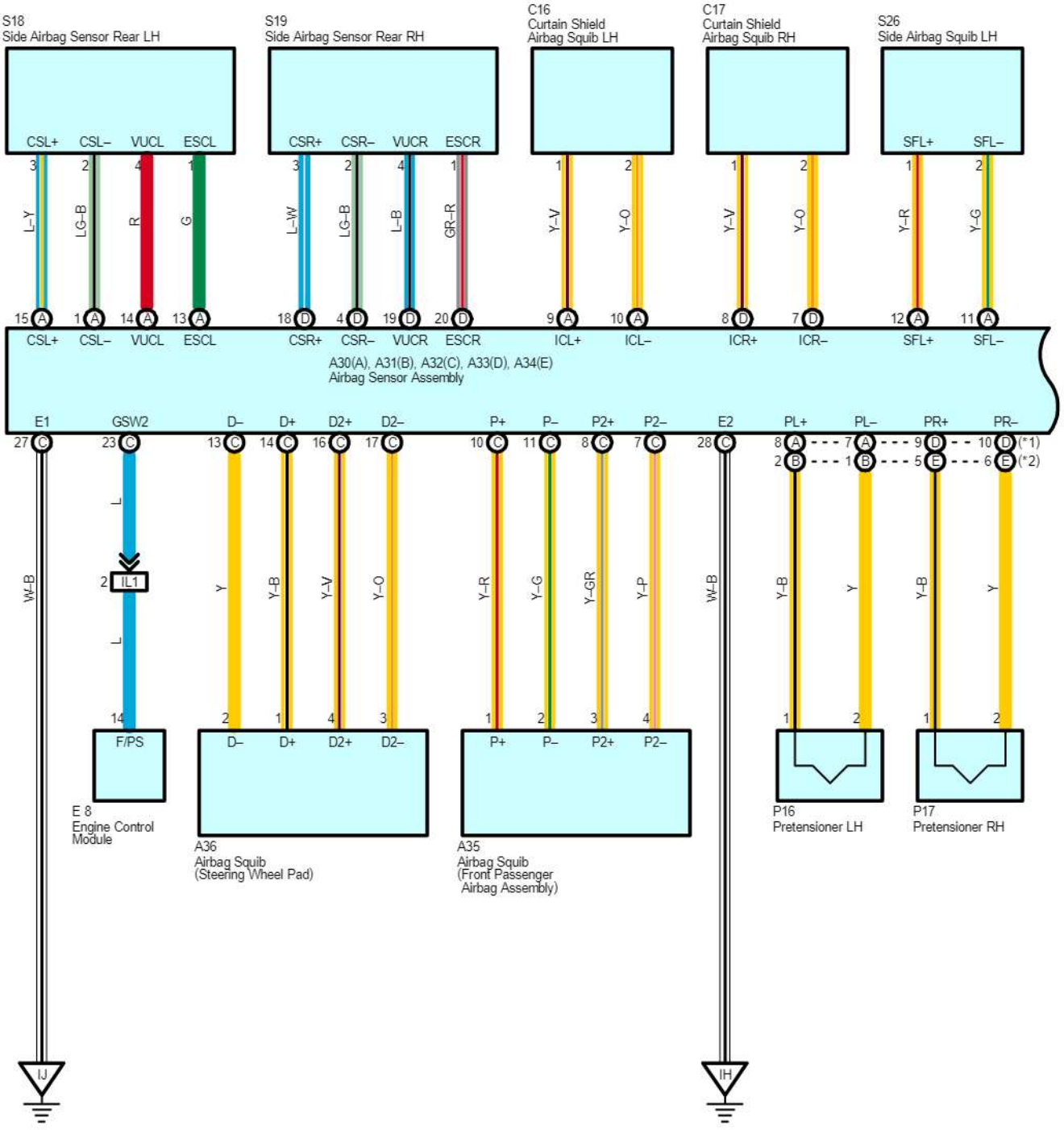
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E3	44 (2UZ–FE)	Engine Wire	E12	46 (1GR–FE)	Engine Wire

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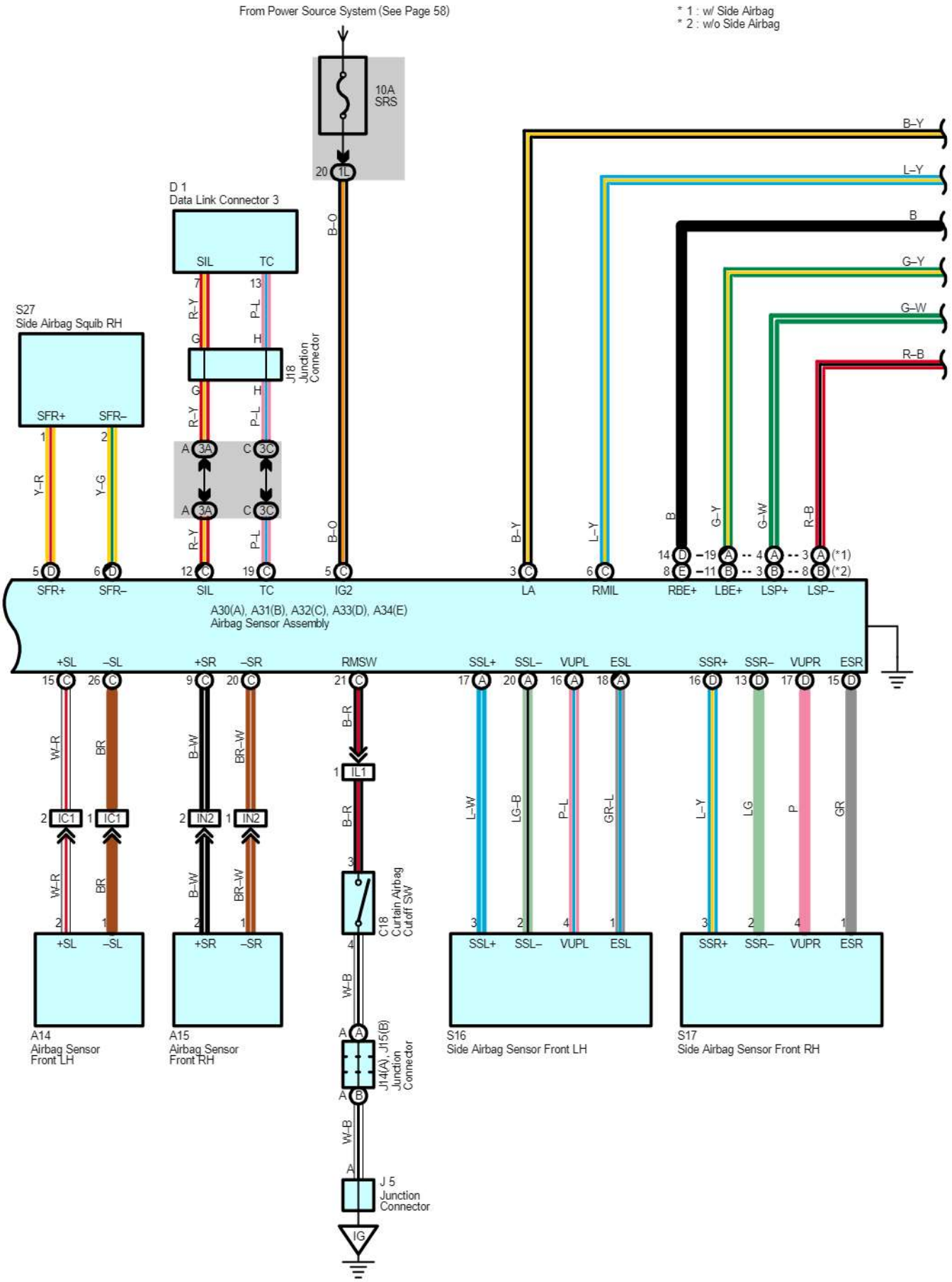
NOTICE: When inspecting or repairing the SRS, perform the operation in accordance with the following precautionary instructions and the procedure and precautions in the Repair Manual for the applicable model year.

- Malfunction symptoms of the SRS are difficult to confirm, so the DTCs become the most important source of information when troubleshooting. When troubleshooting the SRS, always inspect the DTCs before disconnecting the battery.
- **Work must be started after 90 seconds from when the ignition switch is turned to the "LOCK" position and the negative (–) terminal cable is disconnected from the battery.**
  (The SRS is equipped with a back–up power source so that if work is started within 90 seconds from disconnecting the negative (–) terminal cable of the battery, the SRS may be deployed.)
- When the negative (–) terminal cable is disconnected from the battery, the memory of the clock and audio system will be canceled. So before starting work, make a record of the contents memorized in the audio memory system. When work is finished, reset the audio systems as they were before and adjust the clock. This vehicle has power tilt and power telescopic steering, power seat and power outside rear view mirror which are all equipped with memory function. However, it is not possible to make a record of the memory contents. So when the work is finished, it will be necessary to explain this fact tot the customer, and ask the customer to adjust the features and reset the memory. To avoid erasing the memory in each memory system, never use a back–up power supply from outside the vehicle.
- Before repairs, remove the airbag sensor if shocks are likely to be applied to the sensor during repairs.
- Do not expose the steering wheel pad, front passenger airbag assembly, side airbag assembly, curtain shield airbag assembly, seat belt pretensioner, front airbag sensor assembly, airbag sensor assembly or side airbag sensor assembly directly to hot air or flames.
- Even in cases of a minor collision where the SRS does not deploy, the steering wheel pad, front passenger airbag assembly, side airbag assembly, curtain shield airbag assembly, seat belt pretensioner, front airbag sensor assembly, airbag sensor assembly and side airbag sensor assembly should be inspected.
- Never use SRS parts from another vehicle. When replacing parts, replace them with new parts.
- Never disassemble and repair the steering wheel pad, front passenger airbag assembly, side airbag assembly, curtain shield airbag assembly, seat belt pretensioner, front airbag sensor assembly, airbag sensor assembly or side airbag sensor assembly in order to reuse it.
- If the steering wheel pad, front passenger airbag assembly, side airbag assembly, curtain shield airbag assembly, seat belt pretensioner, front airbag sensor assembly, airbag sensor assembly or side airbag sensor assembly has been dropped, or if there are cracks, dents or other defects in the case, bracket or connector, replace them with new ones.
- Use a volt/ohmmeter with high impedance (10 kΩ/V minimum) for troubleshooting the system's electrical circuits.
- Information labels are attached to the periphery of the SRS components. Follow the instructions on the notices.
- After work on the SRS is completed, perform the SRS warning light check.
- If the vehicle is equipped with a mobile communication system, refer to the precaution in the IN section of the Repair Manual.

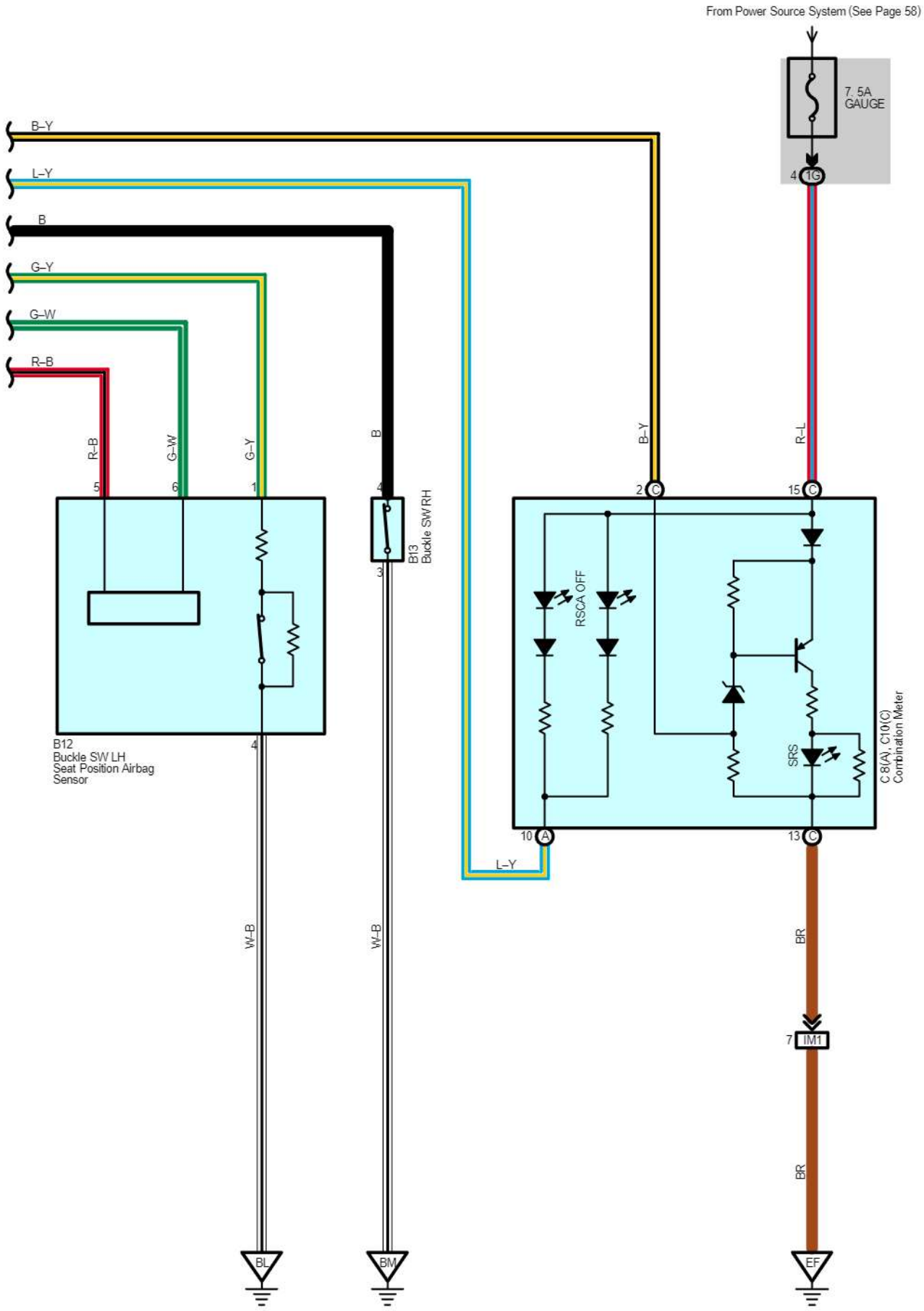
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System Outline

- The SRS airbag are provided for the driver and front passenger. The SRS airbags have been designed to help reducing the shocks to the heads and chests of the driver and front passenger in the event of a severe frontal impact collision as supplements to the seat belts.
  This system is a 3–sensor type airbag system to detect the impact during a front collision using the center airbag sensor assembly and airbag sensor front LH, RH, and to make the airbag system and pretensioner operate as well.
- In this system, a front side collision is detected by the side airbag sensor front LH, RH in order to simultaneously deploy the side and curtain shield airbags. A rear side collision is detected by the side airbag sensor rear LH, RH in order to deploy only the curtain shield airbag.
- Roll sensing of curtain shield airbags control has been adopted in order to deploy the curtain shield airbags and the pretensioners for the driver and front passenger, in the event that the vehicle rolls over.
  A roll sensing of curtain shield airbags cutoff SW is provided on the driver side of the instrument panel to enable the driver to disable this system.
- Dual–stage SRS airbags system, that controls the airbag inflating output optimum by judging the extent of impact and seat position (Driver seat), has been used for the driver and front passenger airbags.
- In accordance with the adoption of the dual–stage SRS airbag system, a seat position sensor has been established for the driver seat.
- This system has adopted a fuel cut control that stops the fuel pump when the airbag is deployed.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A14	32 (2UZ–FE)	B12	42	J15 B	38
	34 (1GR–FE)	B13	42	J18	38
A15	32 (2UZ–FE)	C8 A	37	P16	41
	34 (1GR–FE)	C10 C	37	P17	41
A30 A	36	C16	40	S16	41
A31 B	36	C17	40	S17	41
A32 C	36	C18	37	S18	41
A33 D	36	D1	37	S19	41
A34 E	36	E8	37	S26	42
A35	36	J5	38	S27	42
A36	36	J14 A	38		

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1L		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3C		

▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC1	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IL1	50	Instrument Panel Wire and Instrument Panel Wire (Right Upper Side of the Glove Box)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IN2	52	Instrument Panel Wire and Engine Room Main Wire (Right Kick Panel)

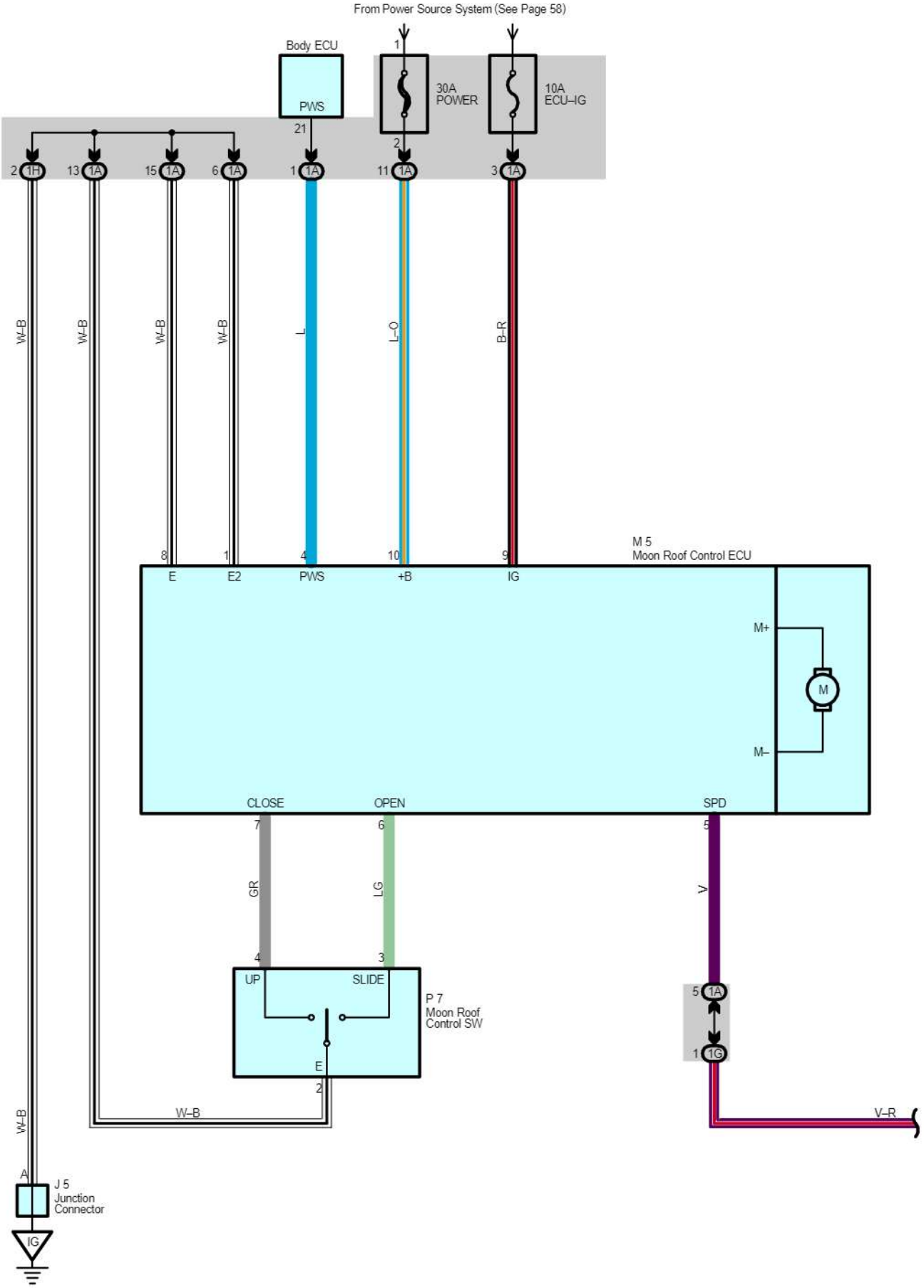
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▽ : **Ground Points**

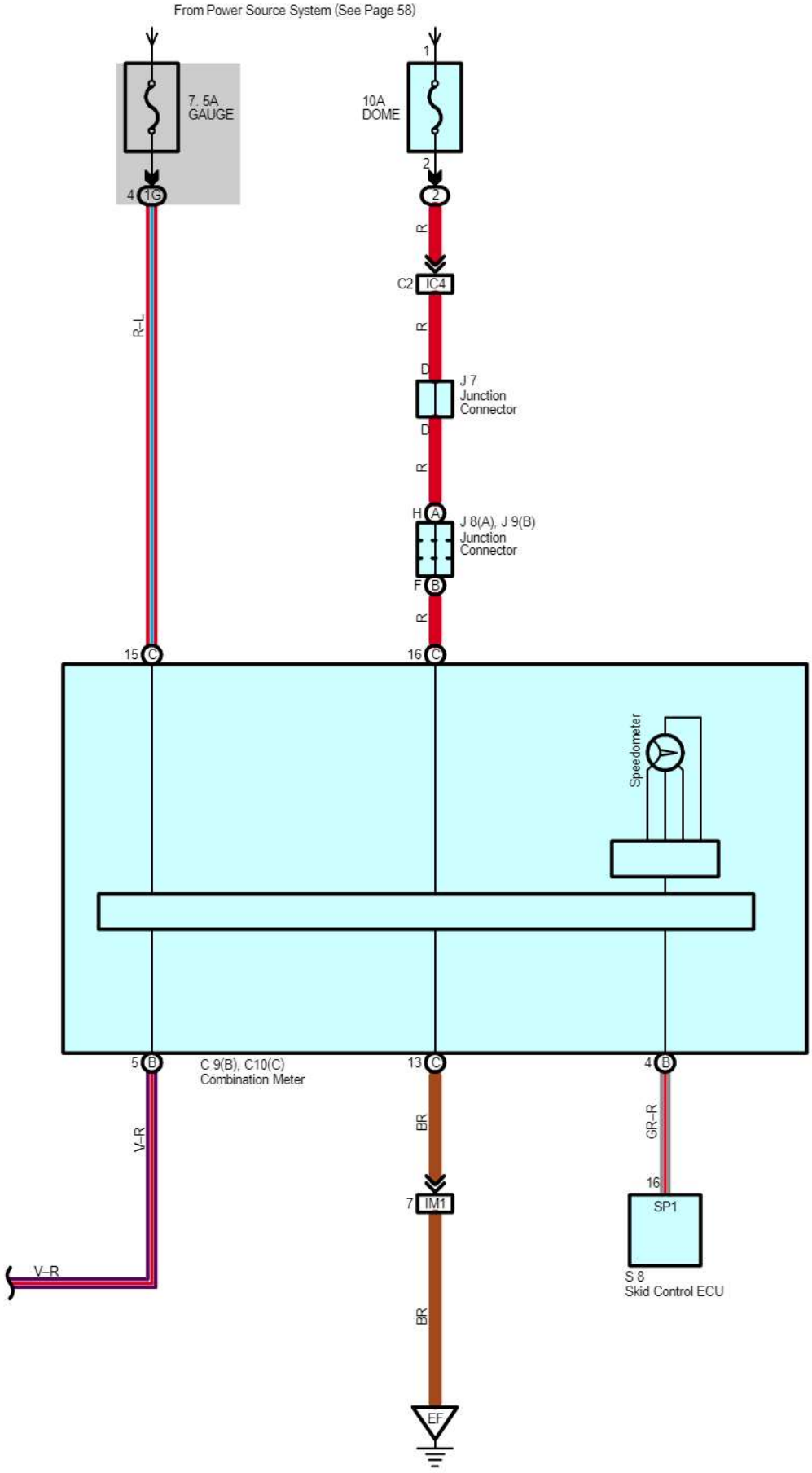
Code	See Page	Ground Points Location
EF	44 (2UZ–FE) 46 (1GR–FE)	Rear Side of Left Bank Cylinder Block
IG	48	Left Kick Panel
IH	48	Instrument Panel Brace LH
IJ	48	Instrument Panel Brace RH
BL	54	Floor Seat Crossmember LH
BM	54	Floor Seat Crossmember RH

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Moon Roof

System Outline

Current is always applied from the POWER fuse to TERMINAL 10 of the moon roof control ECU. With the ignition SW turned on, the current flows to TERMINAL 9 of the moon roof control ECU.

1. Moon Roof Open/Close Operation

For moon roof operation, there are moon roof control switches: "Slide open/tilt down"; and "Slide close/tilt up." When a switch is pressed and held down for a certain period of time, one touch automatic operation takes place in accordance with the function of the switch.

2. Key–Off Operation

Roof remains operable – until about 45 seconds elapse after the ignition SW is turned from ON to OFF or until the driver's seat door is opened and closed, whichever first occurs.
However, if an overload reverse operation was going on at that time, the key–off operation continues until it comes to an end.

3. Overload Reverse Operation

The moon roof control ECU detects jamming of the moon roof by foreign material, if occurred, from abnormal motor speed signal and reverses the moon roof operation.

4. Deflector Control Function

When the roof is slid fully open, the moon roof control ECU automatically adjusts the height of deflector in accordance with the vehicle cruising speed.

* When the battery terminal or fuse is disconnected, the roof position has to be reset to its initial position by the moon roof control SW in accordance with the following procedure:

(1) Reconnect the battery terminal or fuse.

(2) Turn ON the ignition switch.

(3) Operate the moon roof control SW to open the roof halfway or more.

(4) Then operate the moon roof control SW to fully close the roof.
Do not release the switch for at least one second after the roof is fully closed.

Service Hints

M5 Moon Roof Control ECU

9–Ground : Approx. 12 volts with the ignition SW at ON position
10–Ground : Always approx. 12 volts
1, 8–Ground : Always continuity

: Parts Location

Code		See Page	Code		See Page	Code	See Page
C9	B	37	J7		38	M5	41
C10	C	37	J8	A	38	P7	41
J5		38	J9	B	38	S8	39

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Roof Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1H		

: Connector Joining Wire Harness and Wire Harness

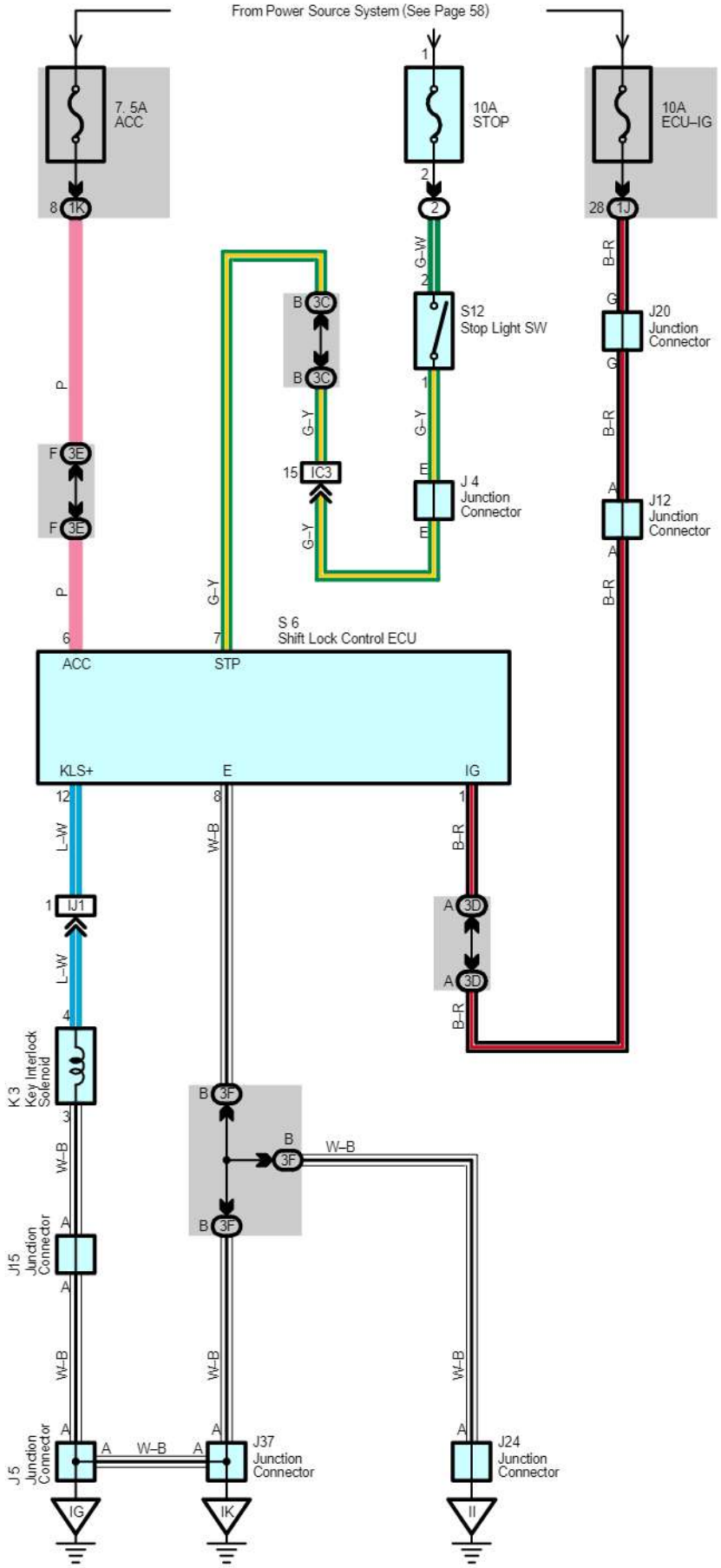
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)

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▽ : **Ground Points**

Code	See Page	Ground Points Location
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
	46 (1GR–FE)	
IG	48	Left Kick Panel

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System Outline

When the ignition SW is turned to ACC position the current from the ACC fuse flows to TERMINAL 6 of the shift lock control ECU. When the ignition SW is turned to ON position, the current from the ECU–IG fuse flows to TERMINAL 1 of the shift lock control ECU.

1. Shift Lock Mechanism

If the brake pedal is depressed with the ignition SW set at ON (The stop light SW is on), the shift lock control ECU is activated, allowing the driver to change the shift lever to a position other than the P position.

2. Key Interlock Mechanism

With the ignition SW at ON or ACC position, when the shift lever is put in P position, the current flowing from TERMINAL 12 of the shift lock control ECU to key interlock solenoid is cut off. This causes the key interlock solenoid to turn off (Lock lever disengages from LOCK position) and the ignition key can be turned from ACC to LOCK position.

Service Hints

S6 Shift Lock Control ECU

6–Ground : Approx. 12 volts with the ignition SW at ACC or ON position
1–Ground : Approx. 12 volts with the ignition SW at ON position
8–Ground : Always continuity
7–Ground : Approx. 12 volts with the brake pedal depressed

: Parts Location

Code	See Page	Code	See Page	Code	See Page
J4	38	J20	38	S6	39
J5	38	J24	38	S12	39
J12	38	J37	38		
J15	38	K3	39		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1J	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1K		
3C	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3D		
3E		
3F		

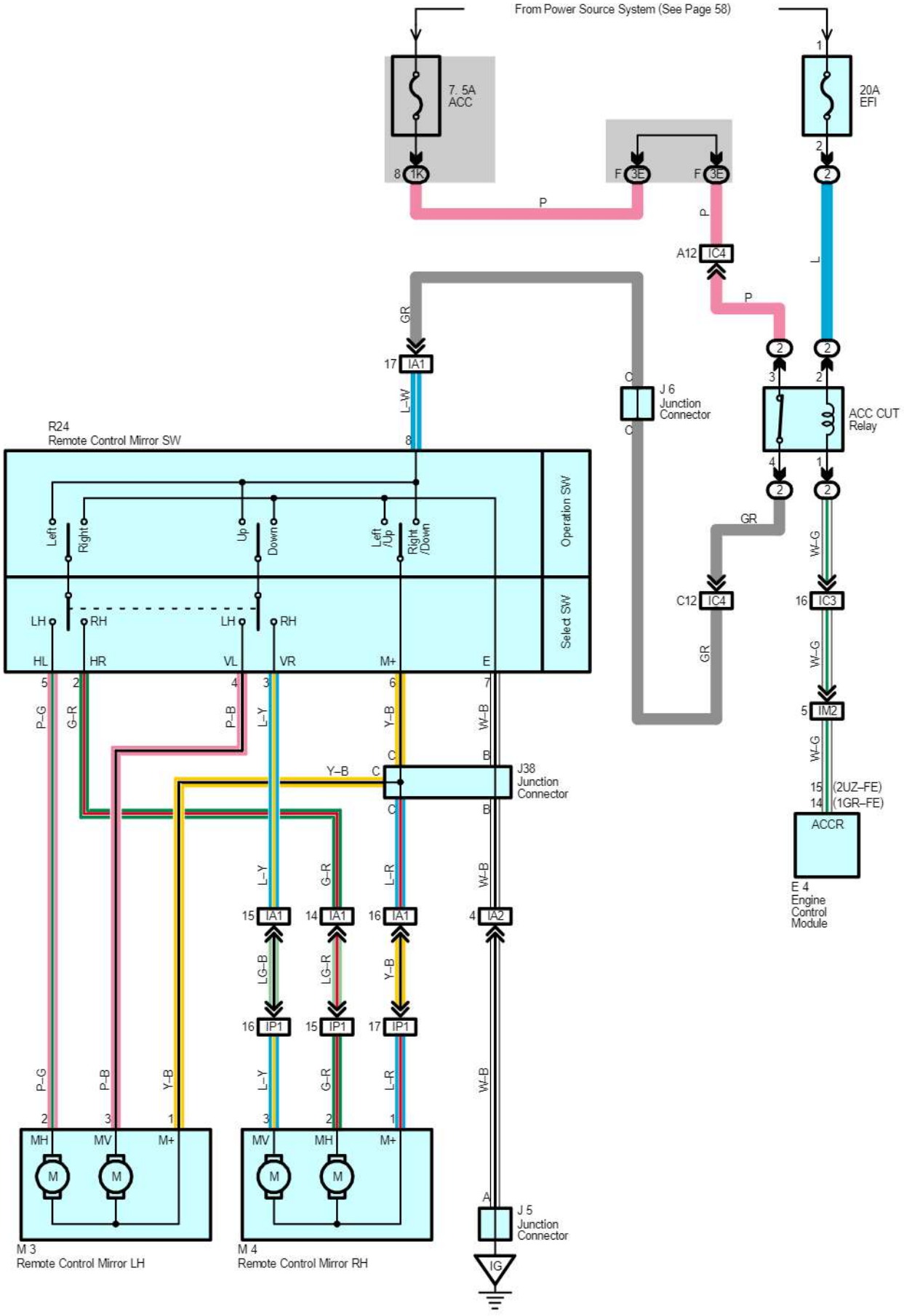
: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IJ1	50	Instrument Panel Wire and Instrument Panel Wire (Instrument Panel Brace RH)

: Ground Points

Code	See Page	Ground Points Location
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel

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Service Hints

R24 Remote Control Mirror SW

8–6 : Continuity with the operation SW at DOWN or RIGHT position
6–7 : Continuity with the operation SW at UP or LEFT position
8–Ground : Approx. 12 volts with the the ignition SW at ACC or ON position
7–Ground : Always continuity

: Parts Location

Code	See Page	Code	See Page	Code	See Page
E4	37	J38	40	R24	41
J5	38	M3	41		
J6	38	M4	41		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1K	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
3E	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)

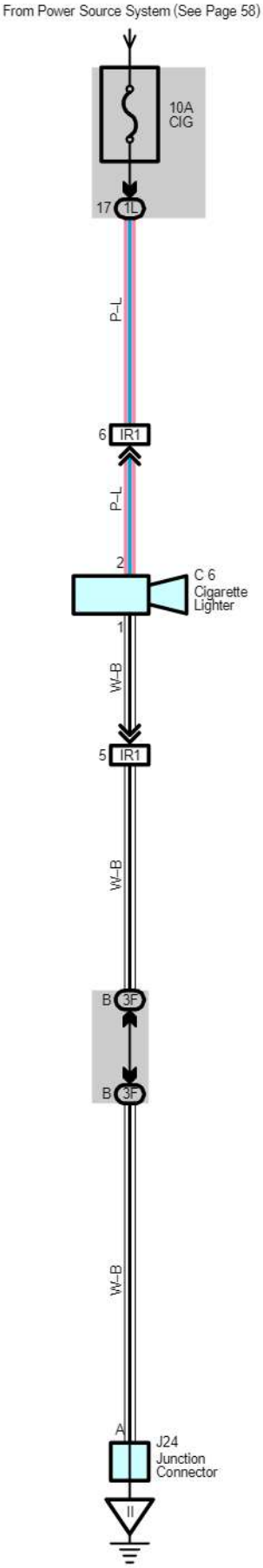
: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	48	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IA2		
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IM2	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IP1	52	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)

: Ground Points

Code	See Page	Ground Points Location
IG	48	Left Kick Panel

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Service Hints

C6 Cigarette Lighter

2–Ground : Approx. 12 volts with the ignition SW at ACC or ON position
1–Ground : Always continuity

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C6	37	J24	38		

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1L	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
3F	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)

▭ : Connector Joining Wire Harness and Wire Harness

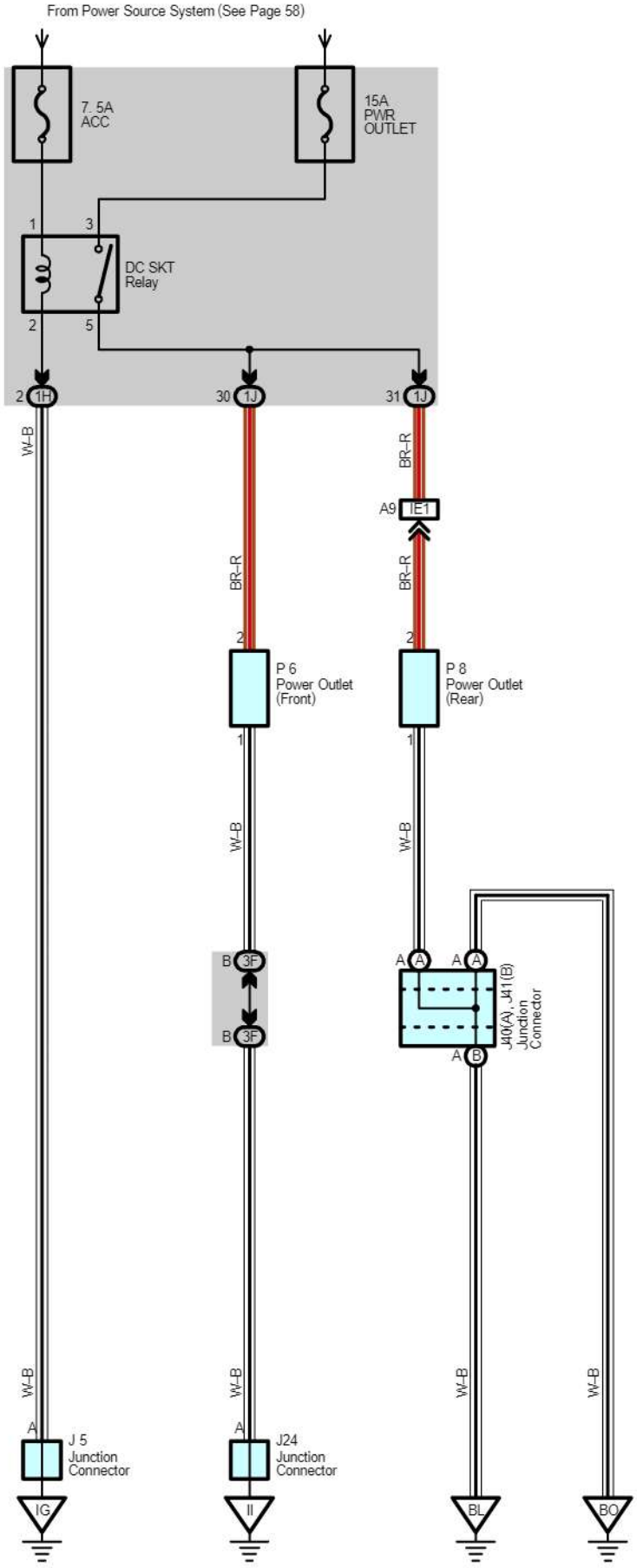
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IR1	52	Instrument Panel Wire and Cigarette Wire (Rear Console)

▽ : Ground Points

Code	See Page	Ground Points Location
II	48	Instrument Panel Brace RH

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Power Outlet (12V)



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Service Hints

DC SKT Relay

3–5 : Closed with ignition SW at ACC or ON position

: Parts Location

Code	See Page	Code		See Page	Code	See Page
J5	38	J40	A	40	P6	39
J24	38	J41	B	40	P8	41

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1H	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
3F	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)

: Connector Joining Wire Harness and Wire Harness

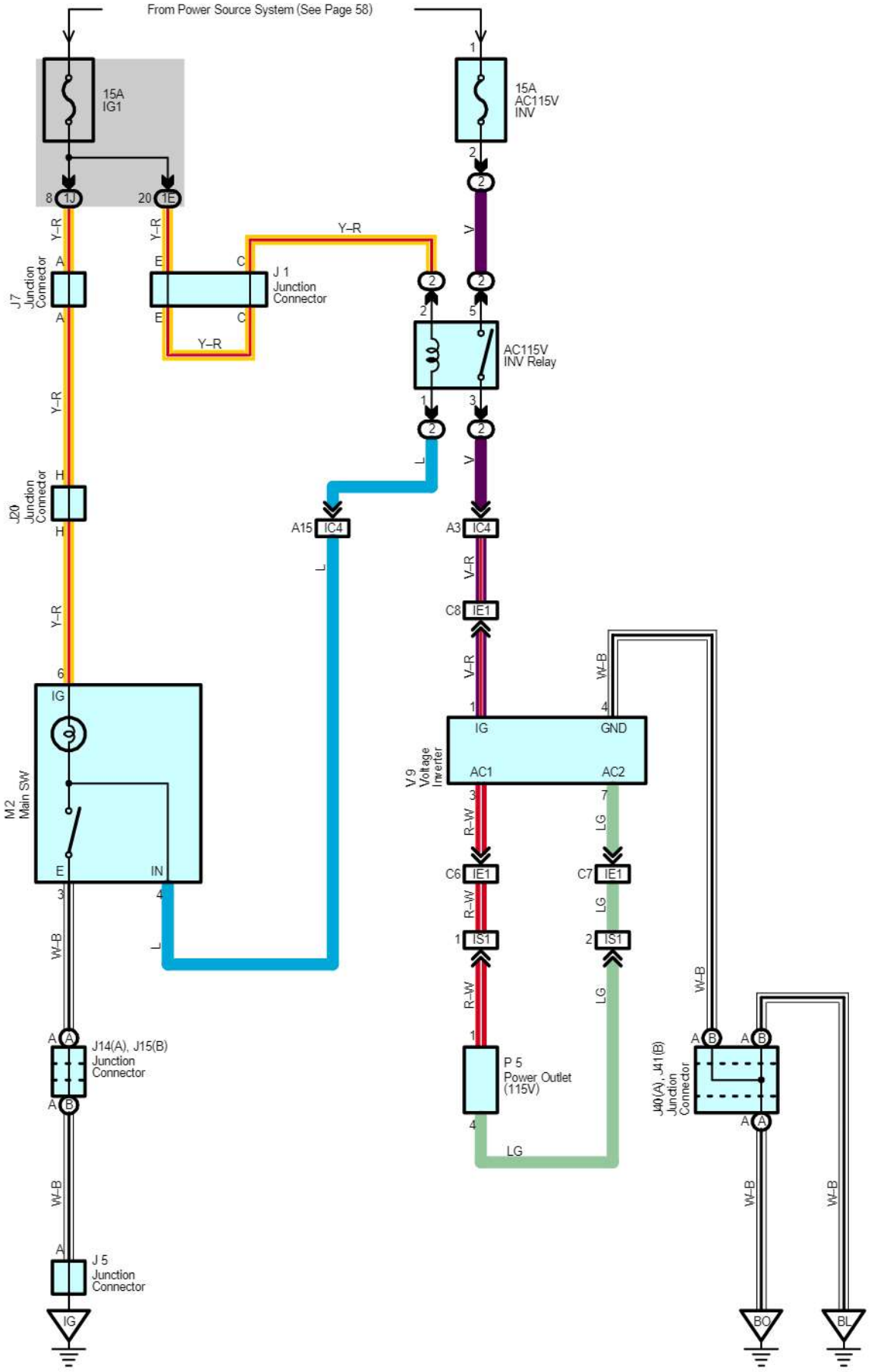
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)

: Ground Points

Code	See Page	Ground Points Location
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

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Power Outlet (115V)



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Service Hints

AC115V INV Relay

3–5 : Closed with ignition SW at ON position and main SW at on

: Parts Location

Code	See Page	Code		See Page	Code		See Page
J1	33 (2UZ–FE)	J14	A	38	J41	B	40
	35 (1GR–FE)	J15	B	38	M2		39
J5	38	J20		38	P5		39
J7	38	J40	A	40	V9		41

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1J	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

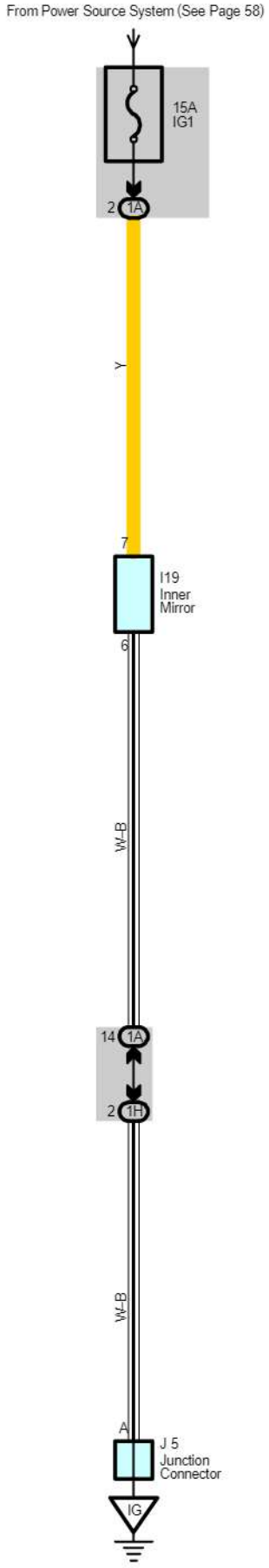
: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IS1	52	Instrument Panel Wire and Console Box Wire (Rear Console)

: Ground Points

Code	See Page	Ground Points Location
IG	48	Left Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

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Service Hints

I19 Inner Mirror

7–Ground : Approx. 12 volts with the ignition SW at ON position
6–Ground : Always continuity

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
I19	40	J5	38		

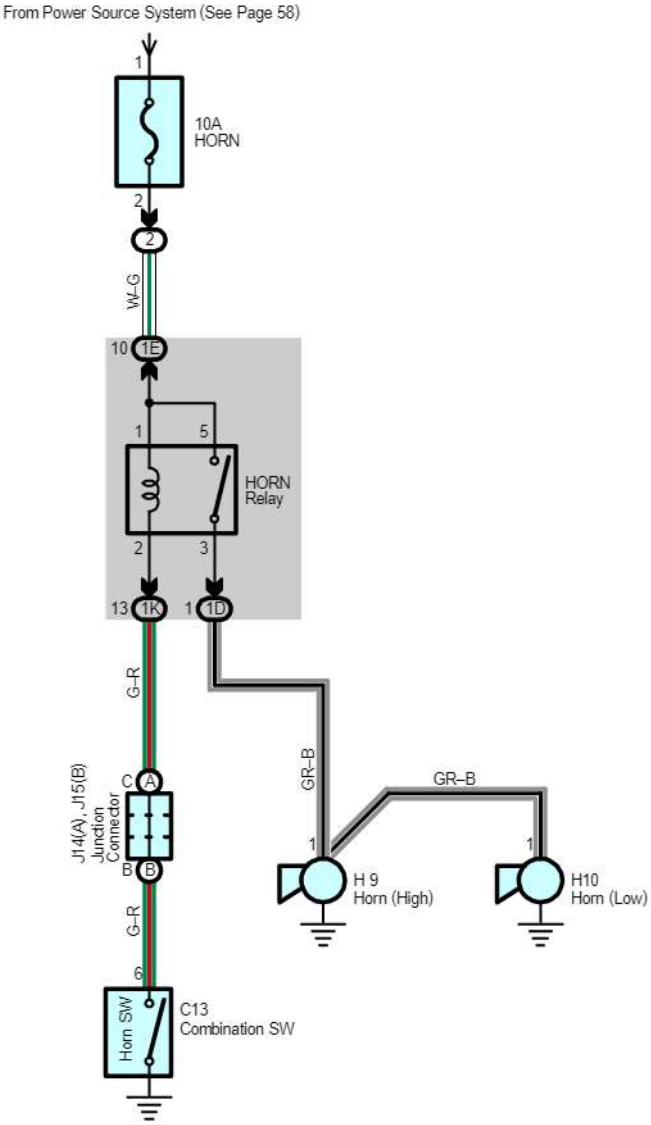
⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Roof Wire and Driver Side J/B (Lower Finish Panel)
1H	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

▽ : Ground Points

Code	See Page	Ground Points Location
IG	48	Left Kick Panel

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Service Hints

HORN Relay

5–3 : Closed with the horn SW on

: Parts Location

Code	See Page	Code	See Page	Code	See Page
C13	37	H10	32 (2UZ–FE)	J15 B	38
H9	32 (2UZ–FE)		34 (1GR–FE)		
	34 (1GR–FE)	J14 A	38		

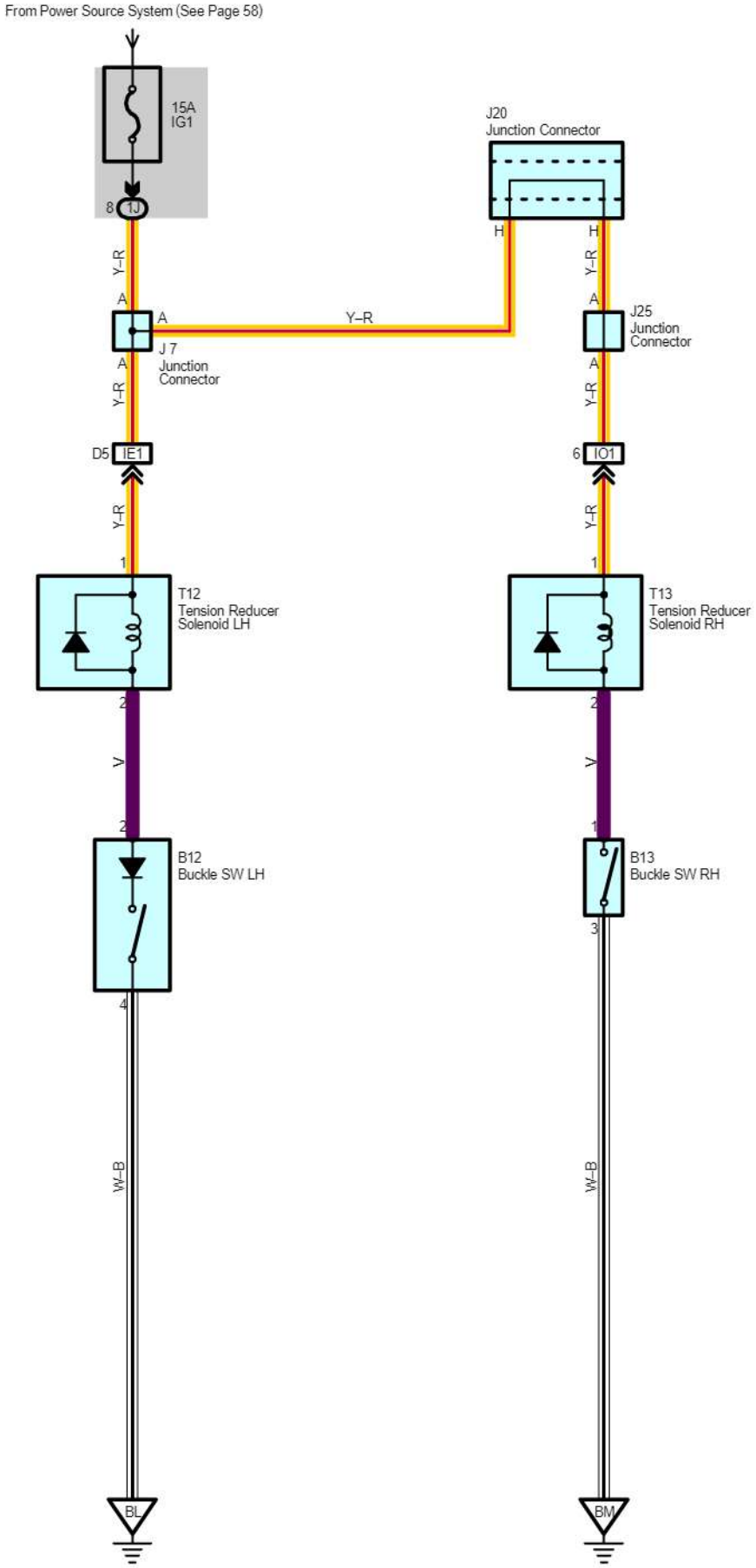
: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1E		
1K	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

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Service Hints

B12 Buckle SW LH

2–4 : Closed with the driver seat belt in use

B13 Buckle SW RH

1–3 : Closed with the front passenger seat Belt in use

T12, T13 Tension Reducer Solenoid LH, RH

1–Ground : Approx. 12 volts with the ignition SW at ON position

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B12	42	J20	38	T13	41
B13	42	J25	38		
J7	38	T12	41		

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1J	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

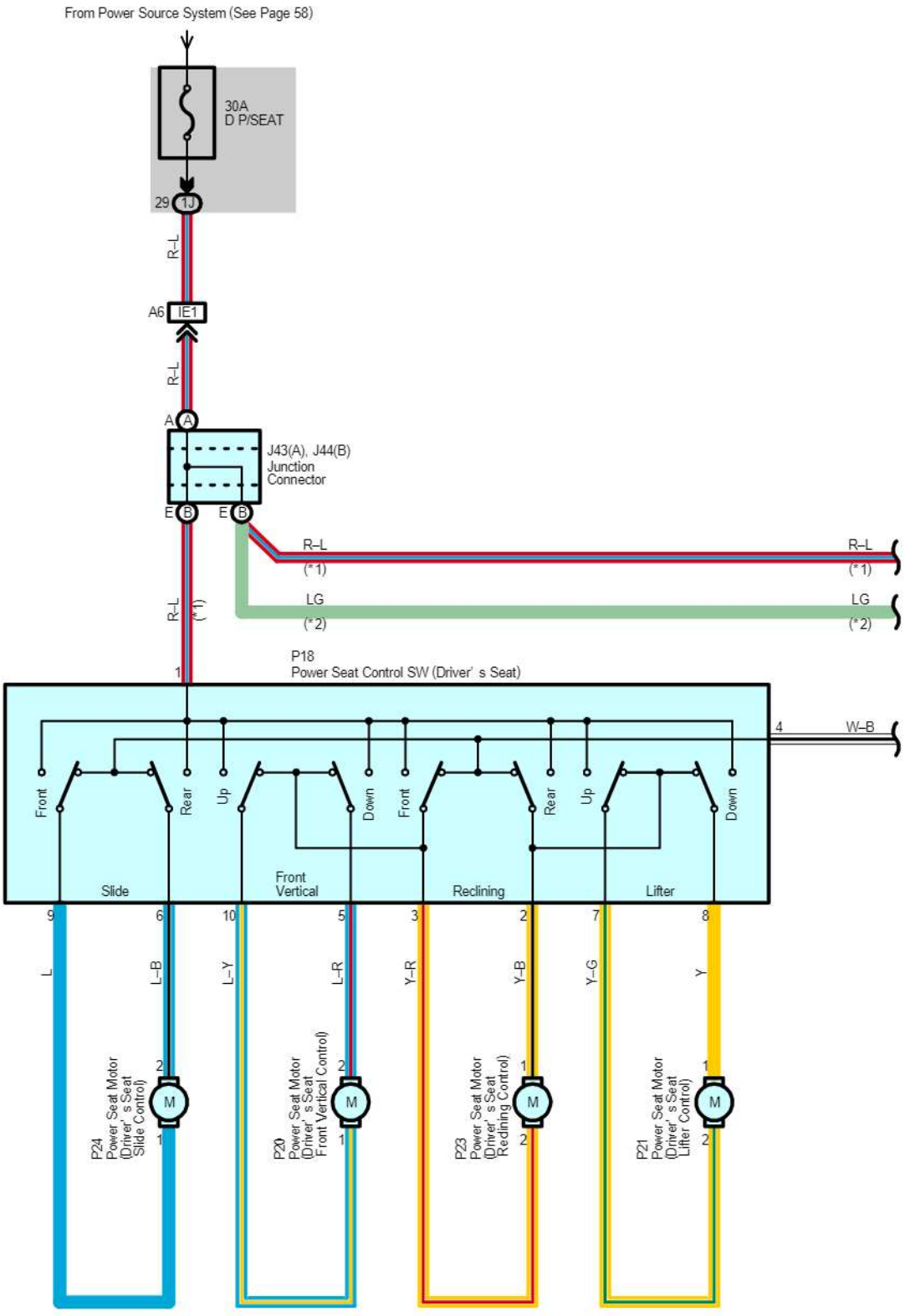
▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)

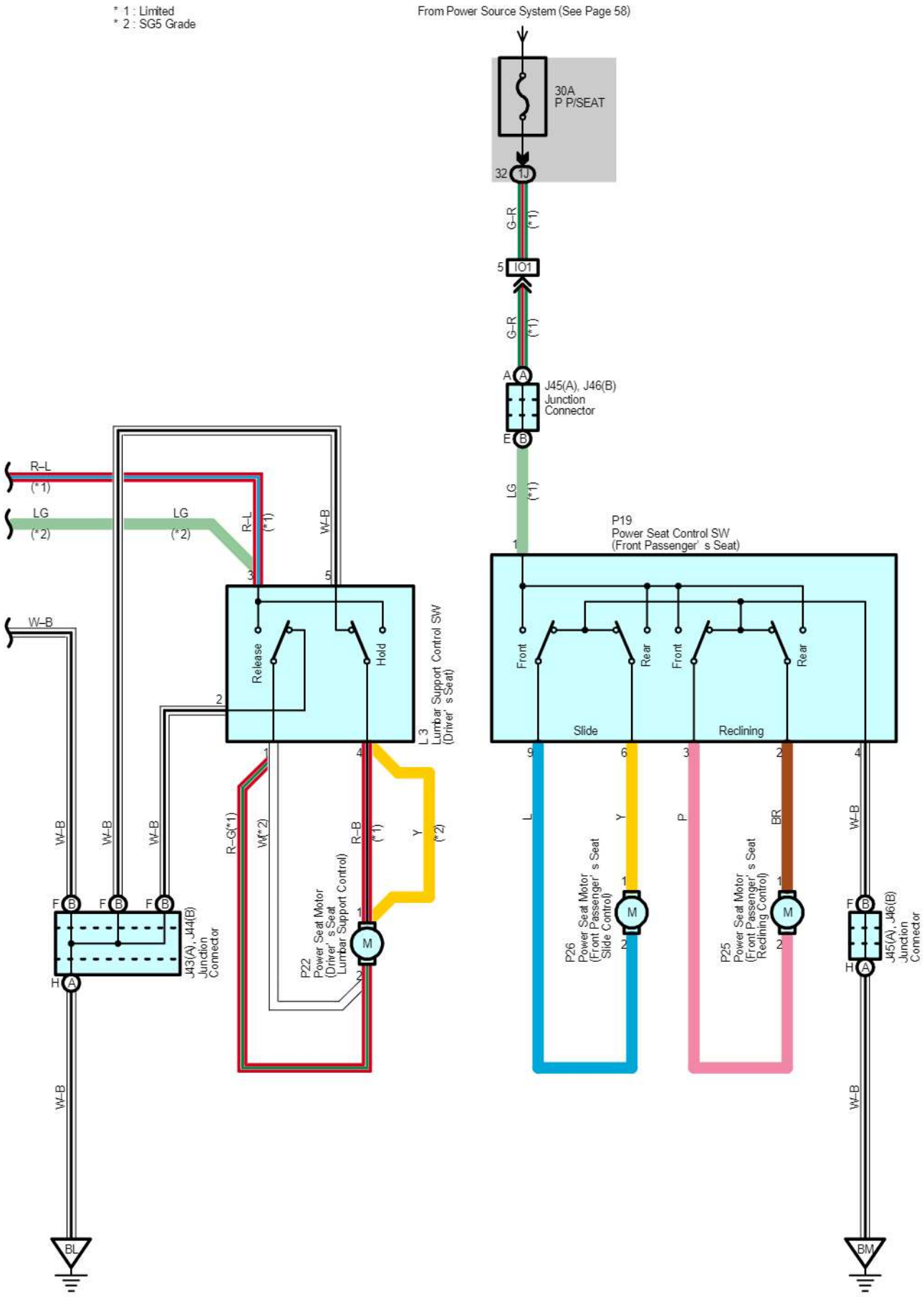
▽ : Ground Points

Code	See Page	Ground Points Location
BL	54	Floor Seat Crossmember LH
BM	54	Floor Seat Crossmember RH

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Power Seat

Service Hints

L3 Lumbar Support Control SW (Driver's Seat)

3–1 : Closed with the driver's seat at lumbar support release operation
3–4 : Closed with the driver's seat at lumbar support hold operation
2, 5–Ground : Always continuity

P18 Power Seat Control SW (Driver's Seat)

1–9 : Closed with the driver's seat at front slide operation
1–6 : Closed with the driver's seat at rear slide operation
1–3 : Closed with the driver's seat at front reclining operation
1–2 : Closed with the driver's seat at rear reclining operation
1–10 : Closed with the driver's seat at front vertical up operation
1–5 : Closed with the driver's seat at front vertical down operation
1–7 : Closed with the driver's seat at lifter up operation
1–8 : Closed with the driver's seat at lifter down operation
4–Ground : Always continuity

P19 Power Seat Control SW (Front Passenger's Seat)

1–9 : Closed with the front passenger's seat at front slide operation
1–6 : Closed with the front passenger's seat at rear slide operation
1–3 : Closed with the front passenger's seat at front reclining operation
1–2 : Closed with the front passenger's seat at rear reclining operation
4–Ground : Always continuity

○ : Parts Location

Code		See Page	Code	See Page	Code	See Page
J43	A	42	P18	42	P23	42
J44	B	42	P19	42	P24	42
J45	A	42	P20	42	P25	42
J46	B	42	P21	42	P26	42
L3		42	P22	42		

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1J	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)

▭ : Connector Joining Wire Harness and Wire Harness

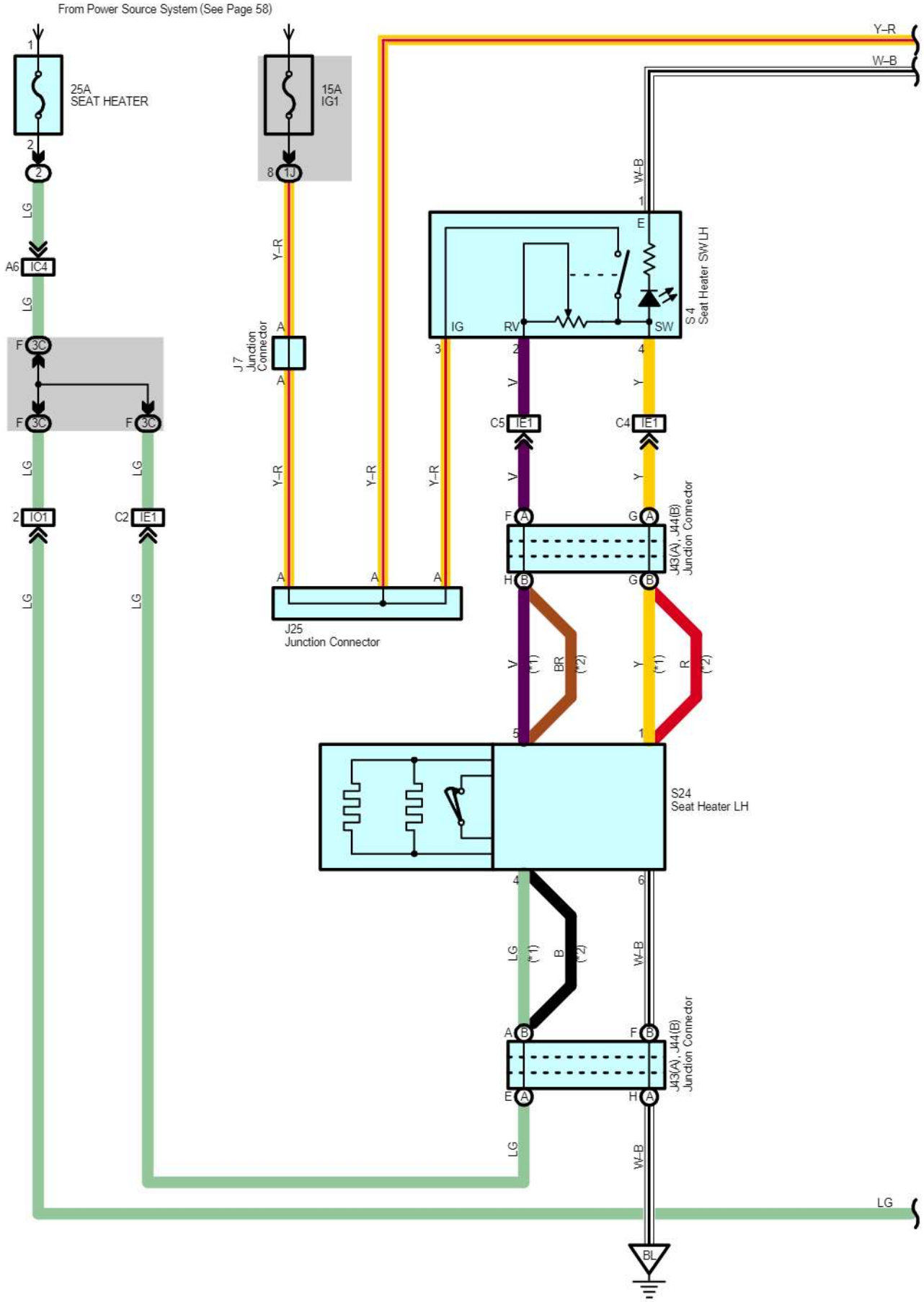
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)

▽ : Ground Points

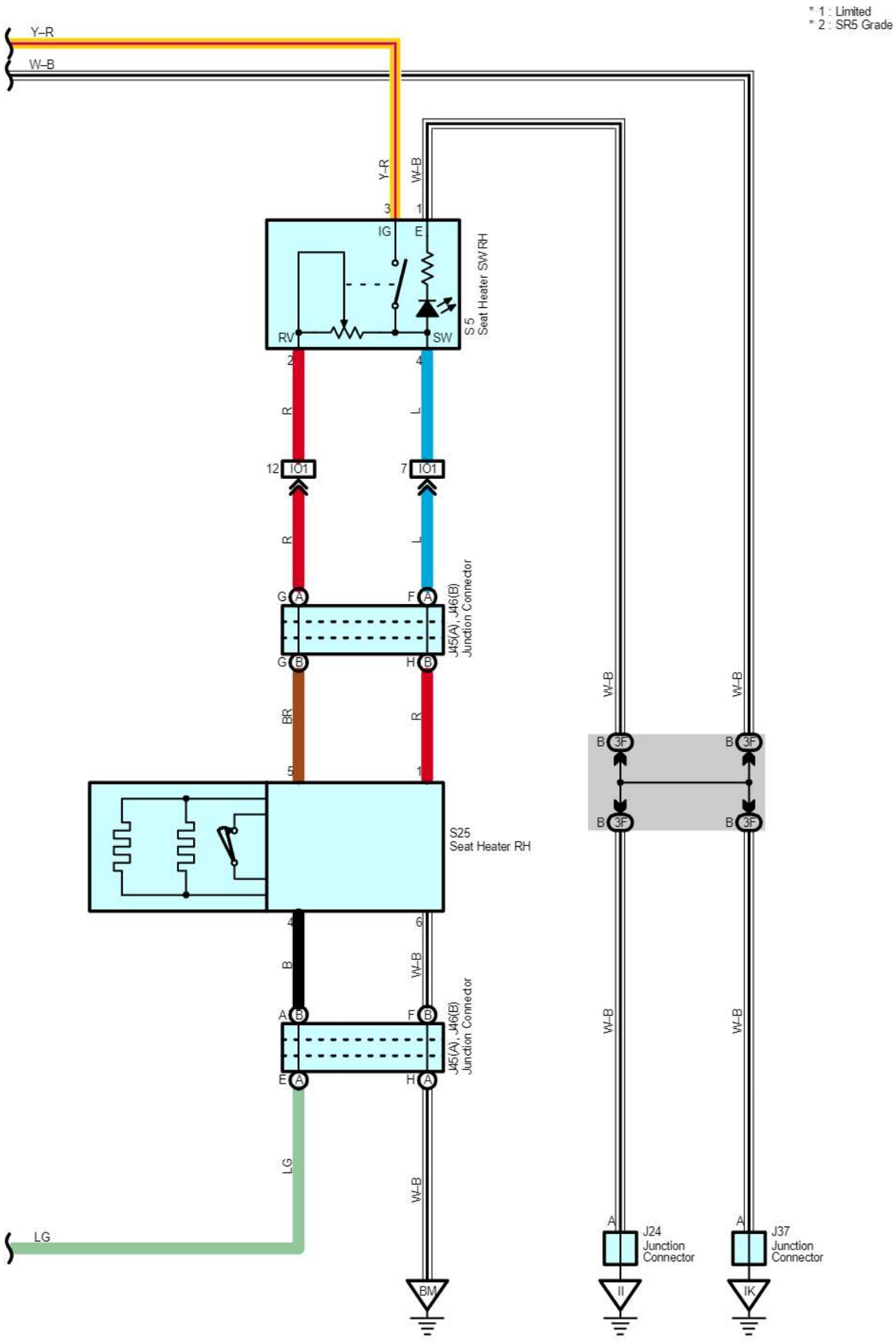
Code	See Page	Ground Points Location
BL	54	Floor Seat Crossmember LH
BM	54	Floor Seat Crossmember RH

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Seat Heater

Service Hints

S4, S5 Seat Heater SW LH, RH

3–Ground : Approx. 12 volts with the ignition SW at ON position
1–Ground : Always continuity

: Parts Location

Code	See Page	Code		See Page	Code	See Page
J7	38	J43	A	42	S4	39
J24	38	J44	B	42	S5	39
J25	38	J45	A	42	S24	42
J37	38	J46	B	42	S25	42

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1J	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
3C	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3F		

: Connector Joining Wire Harness and Wire Harness

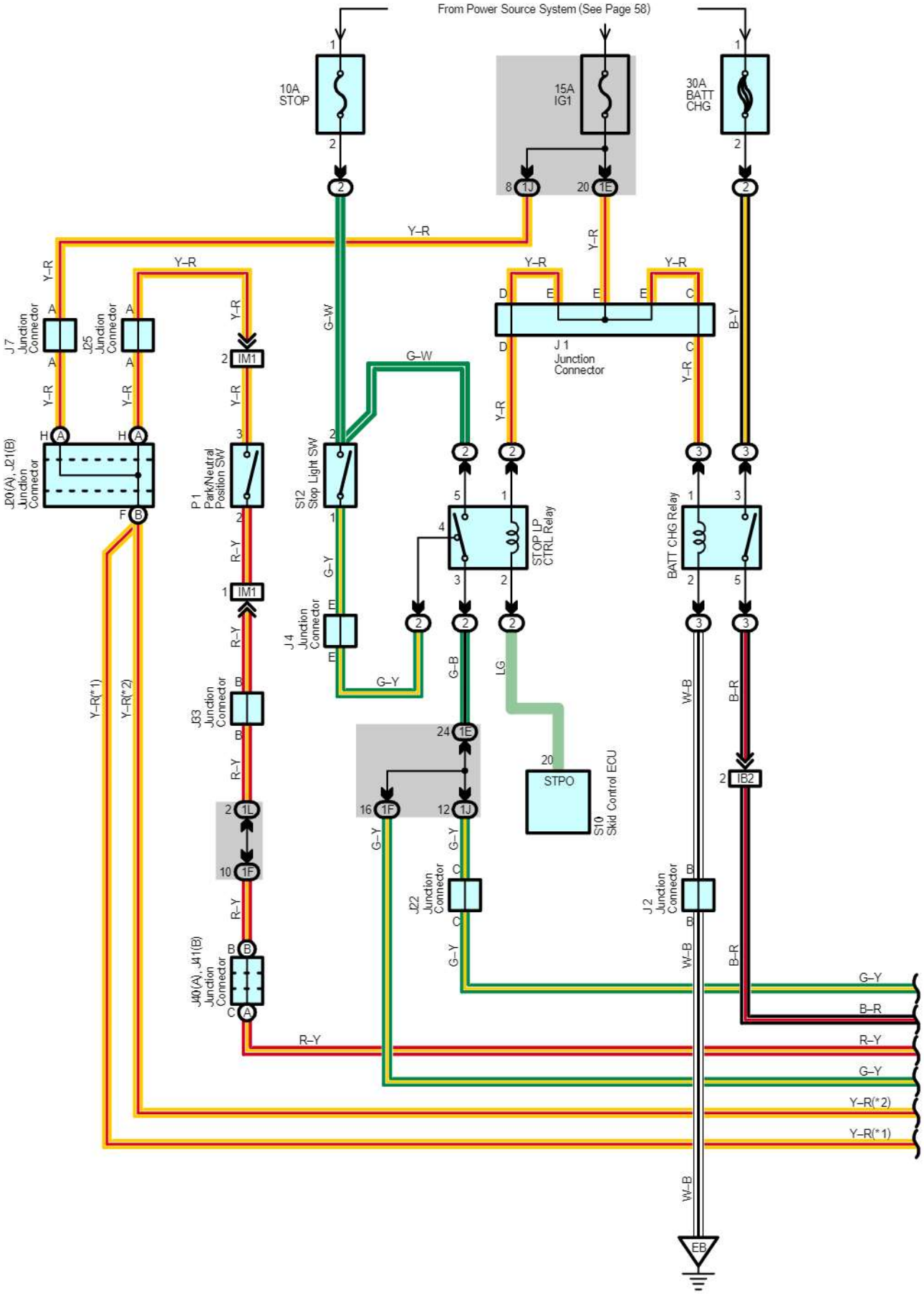
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)

: Ground Points

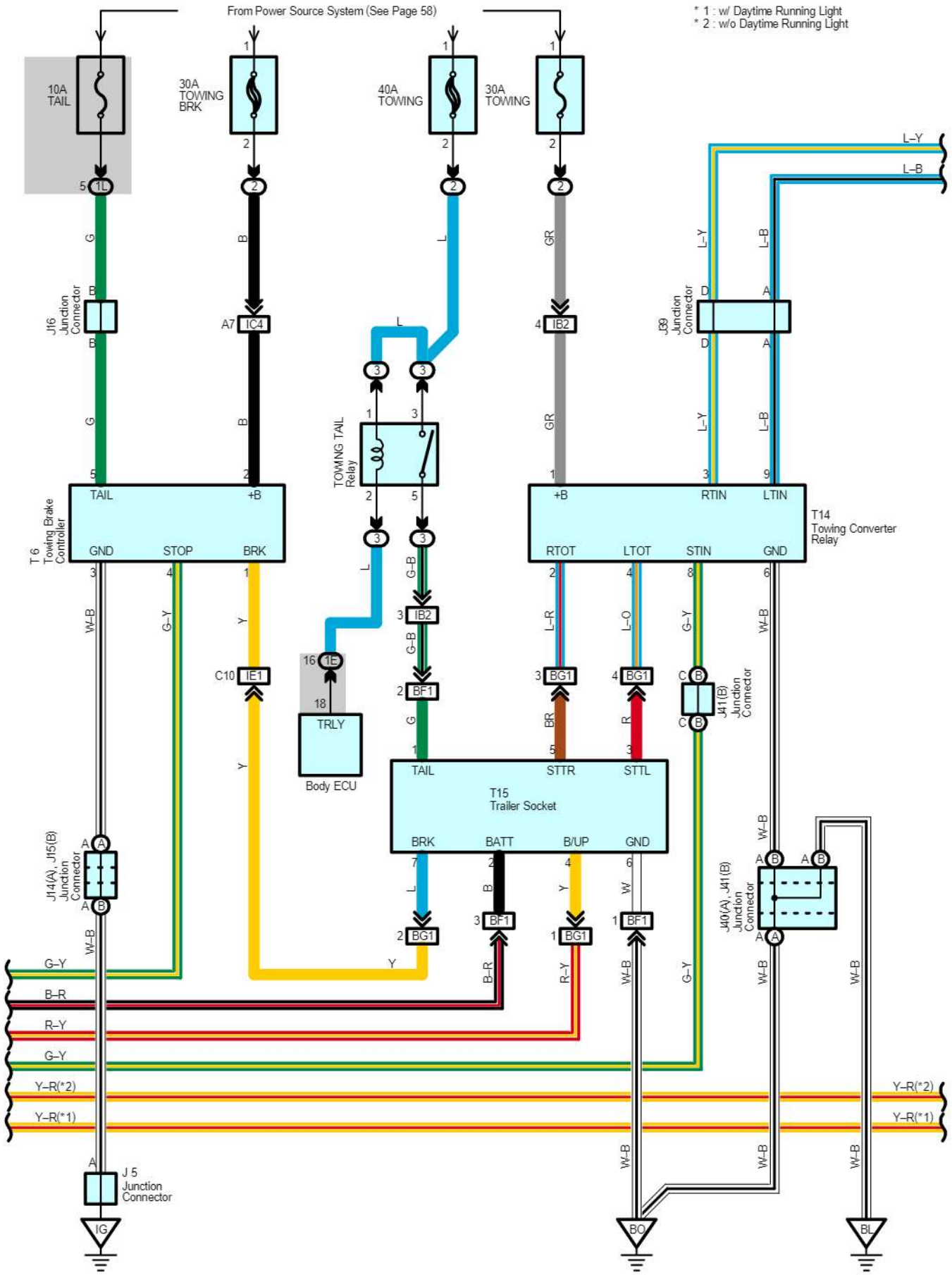
Code	See Page	Ground Points Location
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel
BL	54	Floor Seat Crossmember LH
BM	54	Floor Seat Crossmember RH

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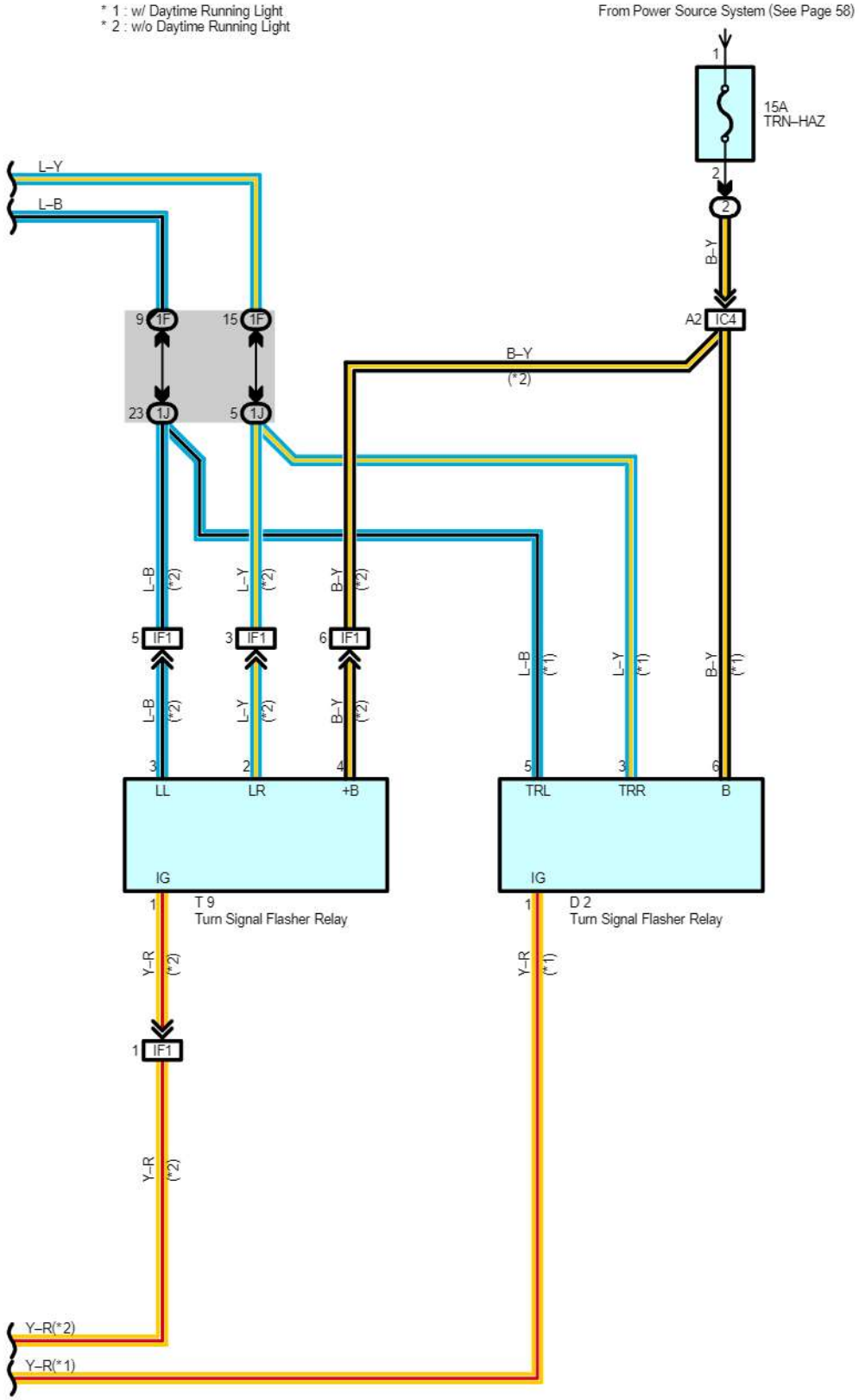
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Service Hints

T14 Towing Converter Relay

1–Ground : Always approx. 12 volts
6–Ground : Always continuity

T15 Trailer Socket

1–Ground : Approx. 12 volts with light control SW at TAIL or HEAD position
2–Ground : Approx. 12 volts with ignition SW at ON position
4–Ground : Approx. 12 volts with ignition SW at ON position and shift lever in R position
6–Ground : Always continuity

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
D2	37	J15 B	38	J41 B	40
J1	33 (2UZ–FE)	J16	38	P1	33 (2UZ–FE)
	35 (1GR–FE)	J20 A	38		35 (1GR–FE)
J2	33 (2UZ–FE)	J21 B	38	S10	39
	35 (1GR–FE)	J22	38	S12	39
J4	38	J25	38	T6	39
J5	38	J33	38	T9	39
J7	38	J39	40	T14	41
J14 A	38	J40 A	40	T15	41

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)
3	23	Engine Room R/B No.3 (Engine Compartment Left)

▭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1J	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1L		

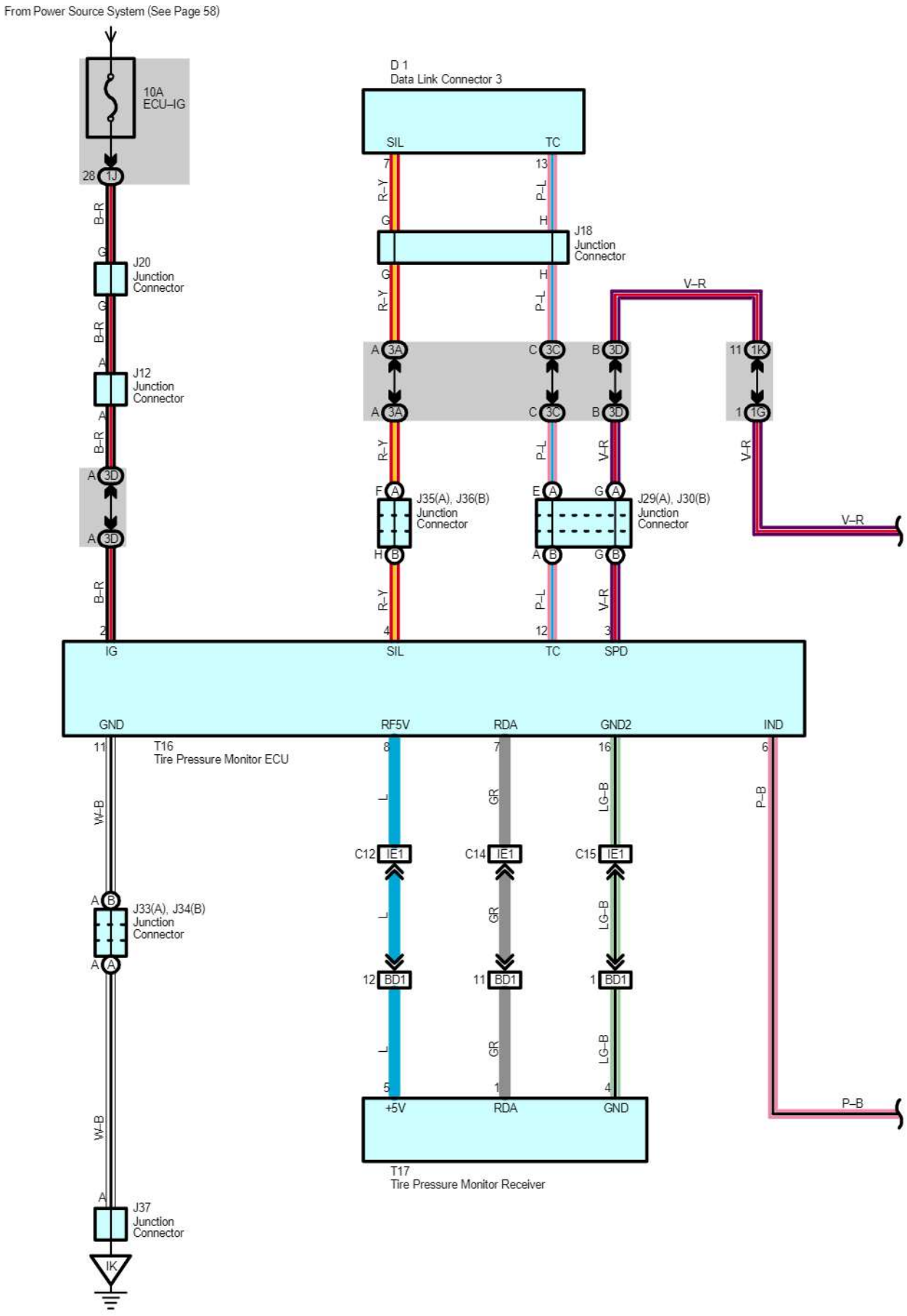
▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB2	48	Floor No.2 Wire and Engine Room Main Wire (Left Kick Panel)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IF1	50	Instrument Panel Wire and Relay Wire (Behind the Instrument Panel J/B)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
BF1	54	Frame No.3 Wire and Floor No.2 Wire (Rear Side of Side Frame LH)
BG1	54	Floor No.2 Wire and Frame No.3 Wire (Rear Side of Side Frame LH)

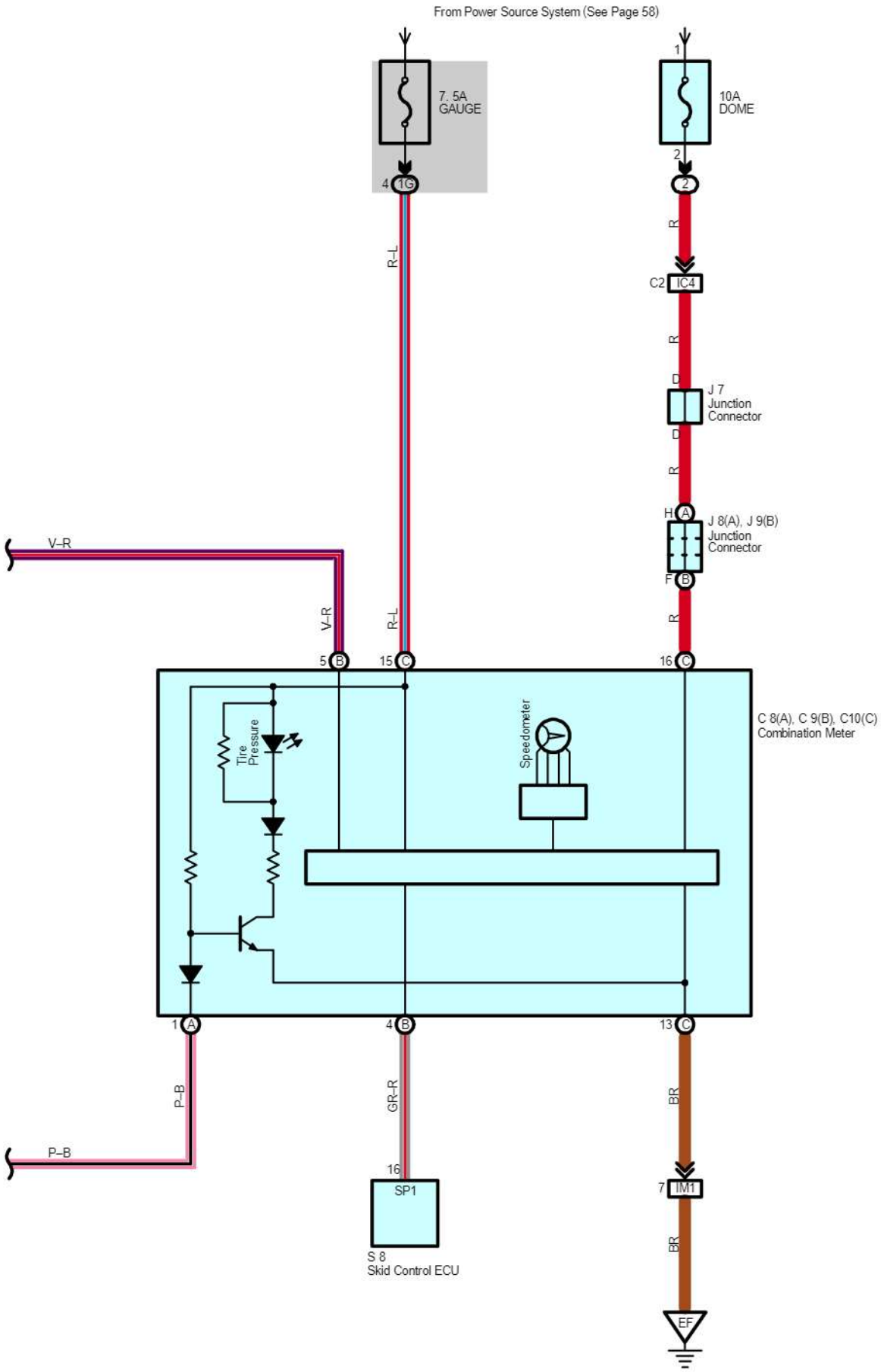
▽ : Ground Points

Code	See Page	Ground Points Location
EB	44 (2UZ–FE)	Front Left Fender
	46 (1GR–FE)	
IG	48	Left Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

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Tire Pressure Warning System

System Outline

The air pressure sensor installed in the tire wheel detects the tire air pressure and transmits signals to the vehicle side receiver. When the detected tire air pressure is below a specified level, the warning light in the combination meter comes on to inform the driver.

Warnings when the tire pressure is low
* When the tire air pressure is below a specified level, the warning light in the combination meter comes on.

Service Hints

T16 Tire Pressure Monitor ECU

2–Ground : Approx. 12 volts with ignition SW at ON position
11–Ground : Always continuity

: Parts Location

Code		See Page	Code		See Page	Code		See Page
C8	A	37	J12		38	J35	A	38
C9	B	37	J18		38	J36	B	38
C10	C	37	J20		38	J37		38
D1		37	J29	A	38	S8		39
J7		38	J30	B	38	T16		39
J8	A	38	J33	A	38	T17		41
J9	B	38	J34	B	38			

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3C		
3D		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)

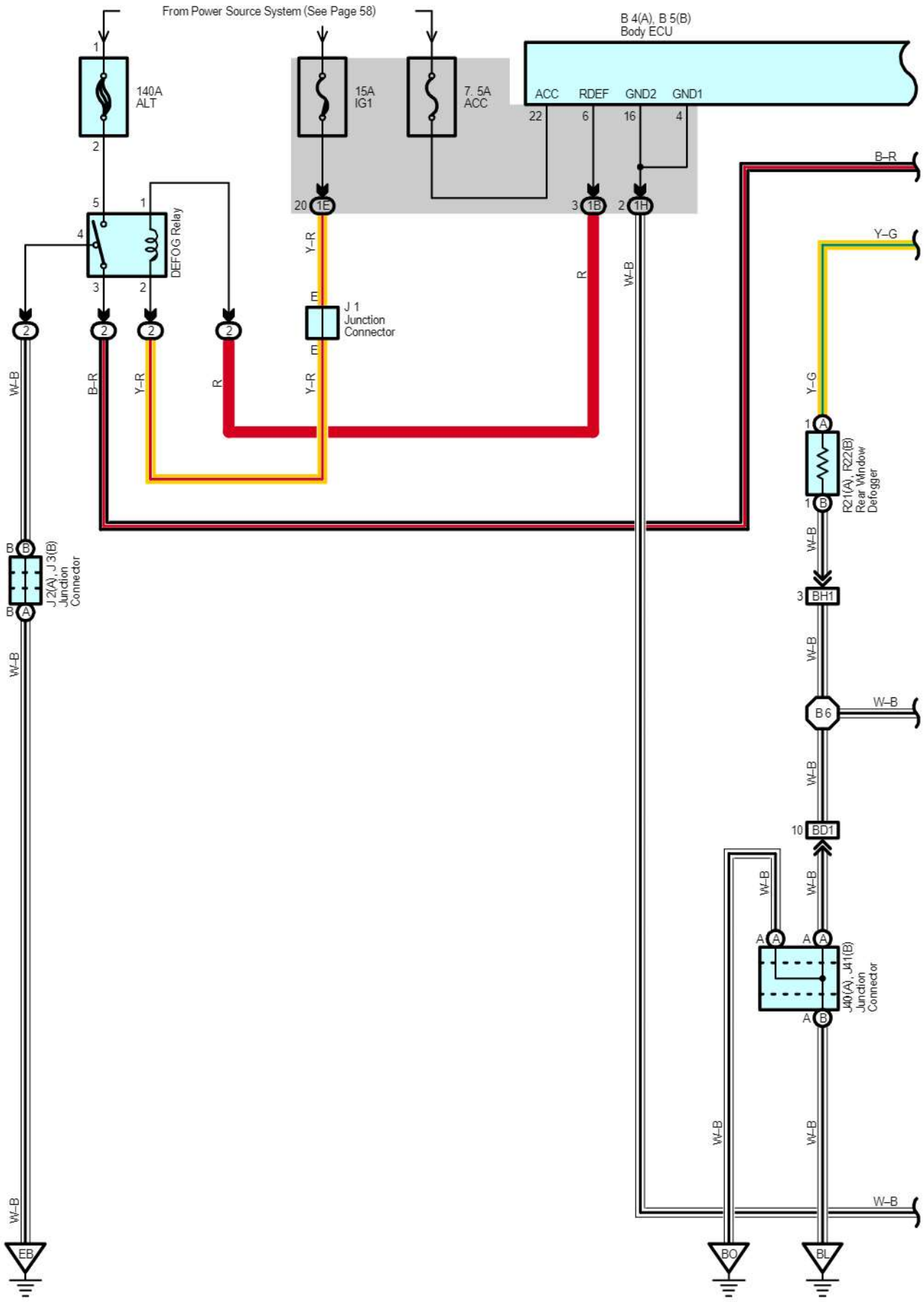
: Ground Points

Code	See Page	Ground Points Location
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
	46 (1GR–FE)	
IK	48	Right Kick Panel

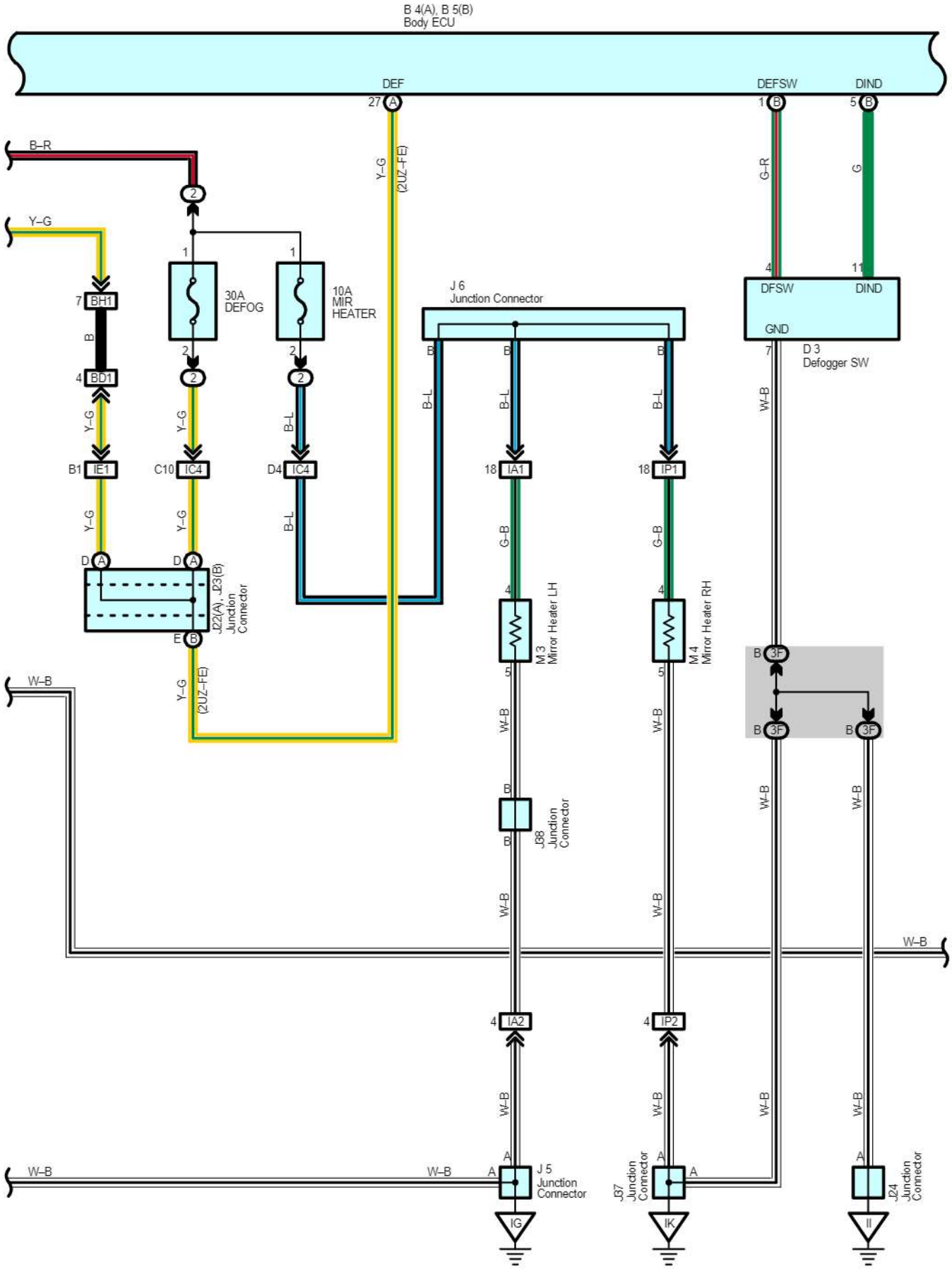
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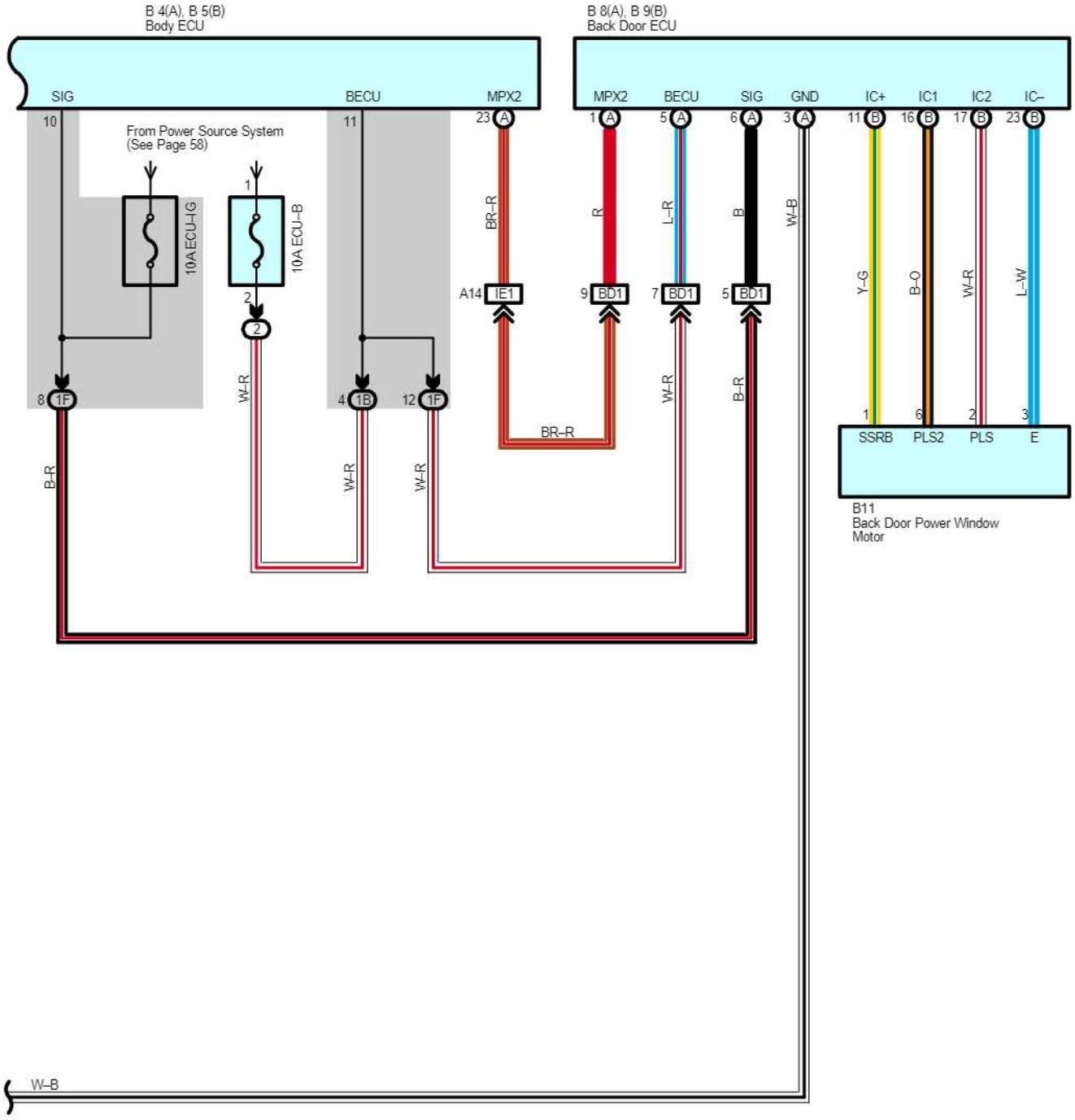
Rear Window Defogger and Mirror Heater



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System Outline

* Start control
  Turning the rear window defogger SW ON, with the ignition SW ON and the back door window fully closed, initiates operation of the rear window defogger and illuminates the indicator lamp for 15 minutes.
* Stop control
  When any one of the following conditions exists, rear window defogger operation comes to a stop and the indicator lamp goes out.
  * The ignition SW is turned from the ON position to either the ACC or OFF position.
  * The rear window defogger SW is pressed ON again when rear window defogger operation is already under way.
  * The back door window is open.

Service Hints

DEFOG Relay

5–3 : Closed with the ignition SW at ON position and rear window defogger SW on

D3 Defogger SW

4–7 : Continuity with the ignition SW at ON position and rear window defogger SW on

: Parts Location

Code		See Page	Code		See Page	Code		See Page
B4	A	36	J2	A	35 (1GR–FE)	J38		40
B5	B	36	J3	B	33 (2UZ–FE)	J40	A	40
B8	A	40			35 (1GR–FE)	J41	B	40
B9	B	40	J5		38	M3		41
B11		40	J6		38	M4		41
D3		37	J22	A	38	R21	A	41
J1		33 (2UZ–FE)	J23	B	38	R22	B	41
		35 (1GR–FE)	J24		38			
J2	A	33 (2UZ–FE)	J37		38			

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F	24	Floor No.2 Wire and Driver Side J/B (Lower Finish Panel)
1H	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
3F	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	48	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IA2		
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IP1	52	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
IP2		
BD1	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)
BH1	54	Back Door No.1 Wire and Back Door No.2 Wire (Left Side of Back Door)

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▽ : **Ground Points**

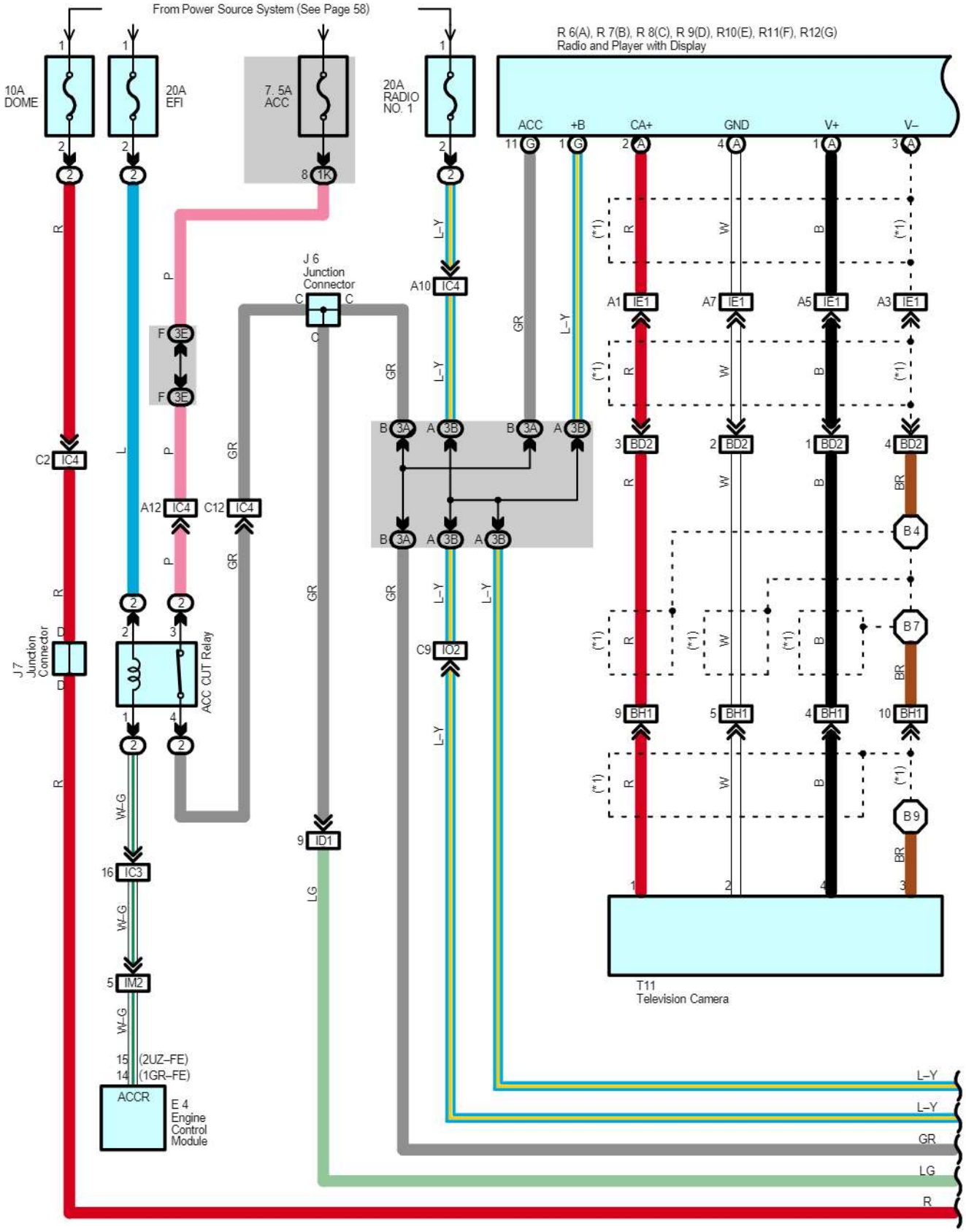
Code	See Page	Ground Points Location
EB	44 (2UZ–FE) 46 (1GR–FE)	Front Left Fender
IG	48	Left Kick Panel
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel
BL	54	Floor Seat Crossmember LH
BO	54	Rear Pillar LH

○ : **Splice Points**

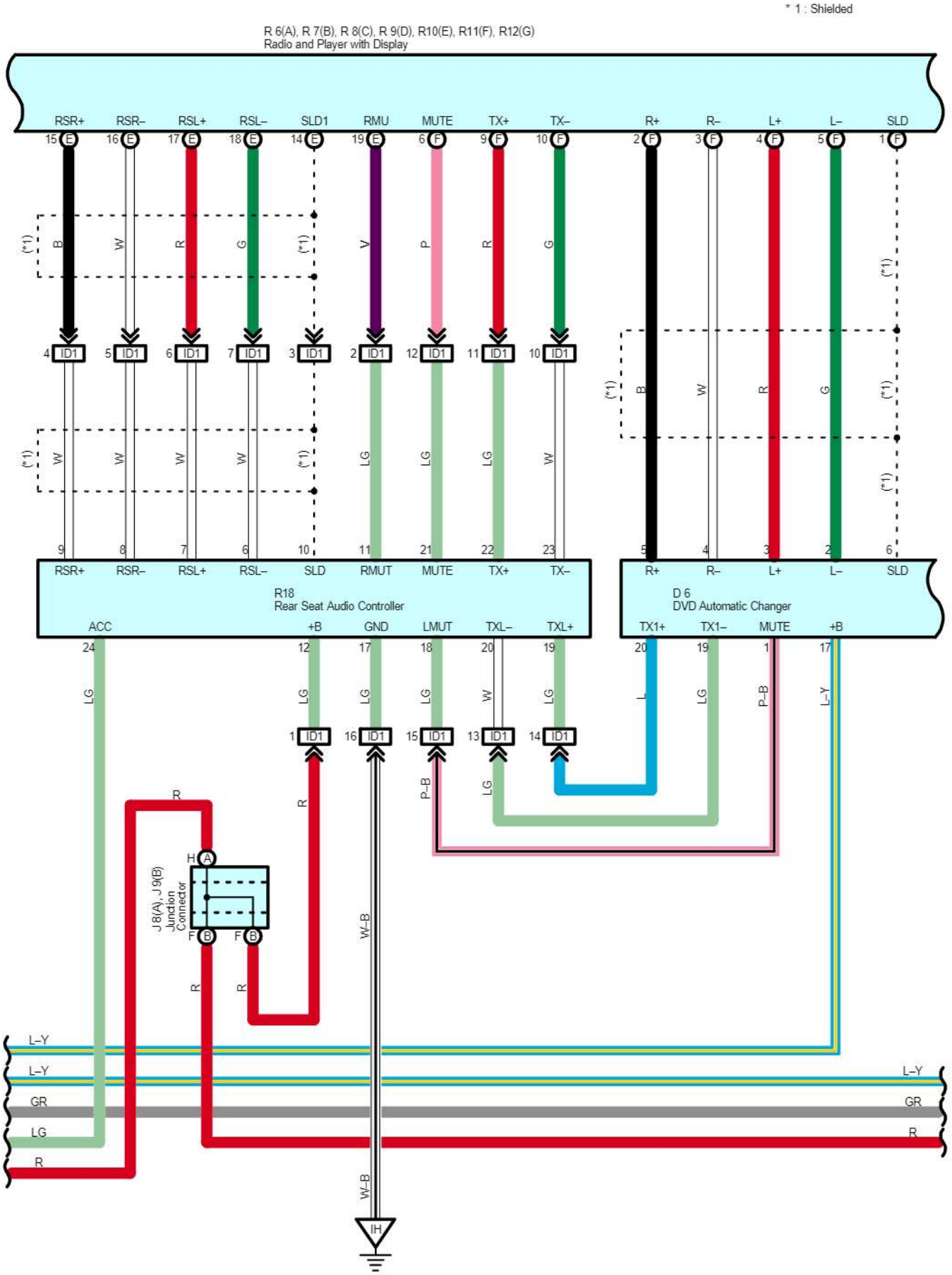
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B6	54	Back Door No.1 Wire			

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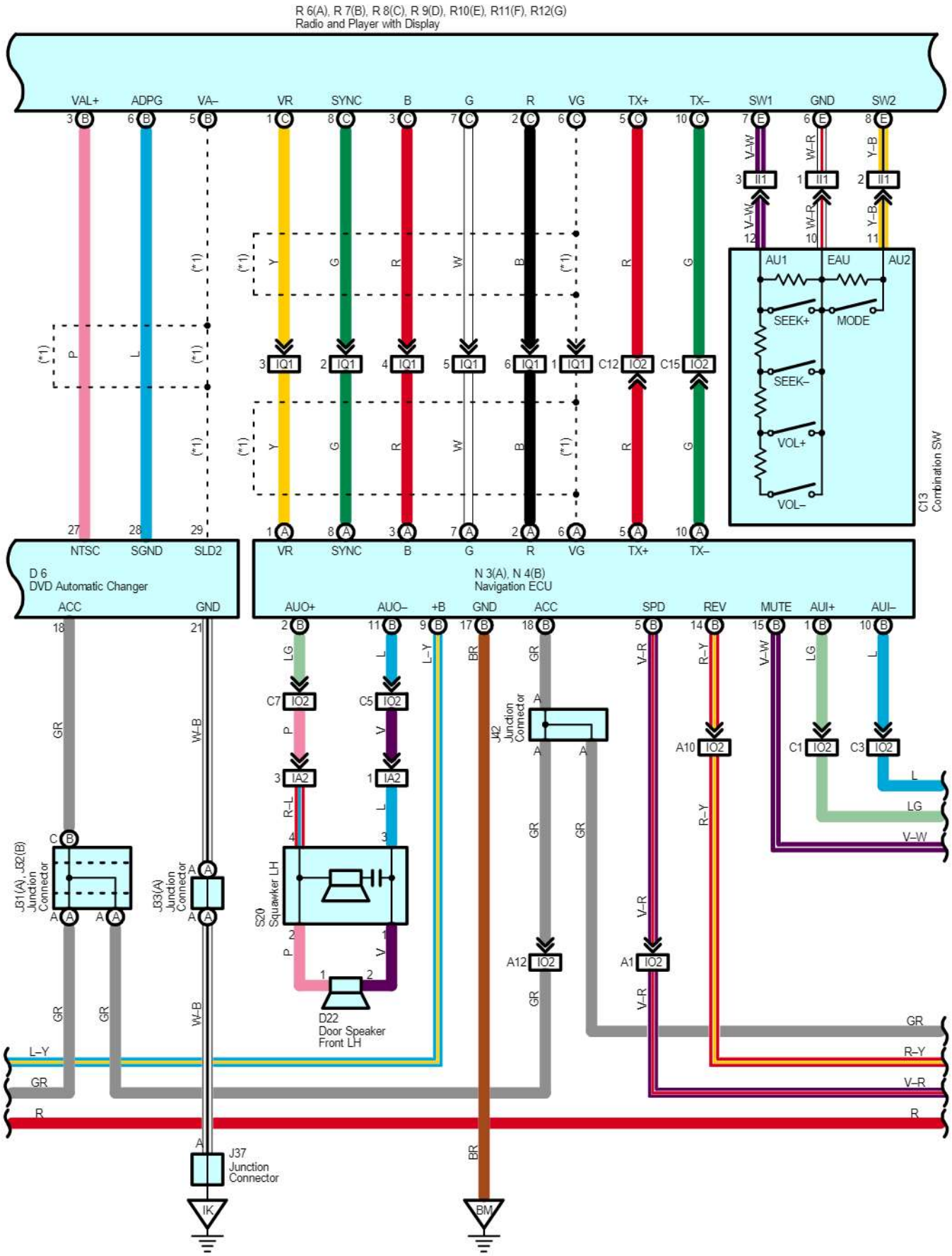
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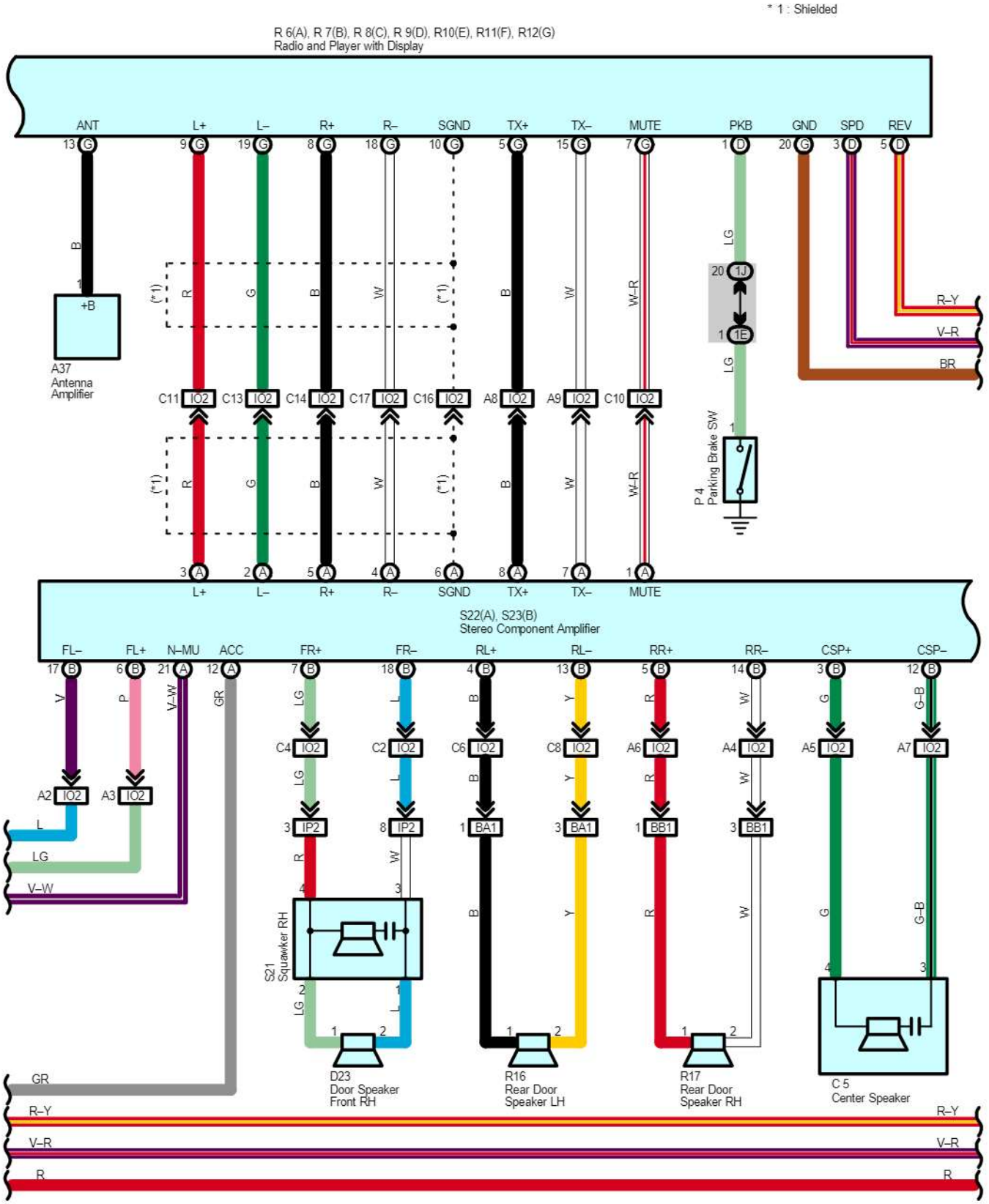


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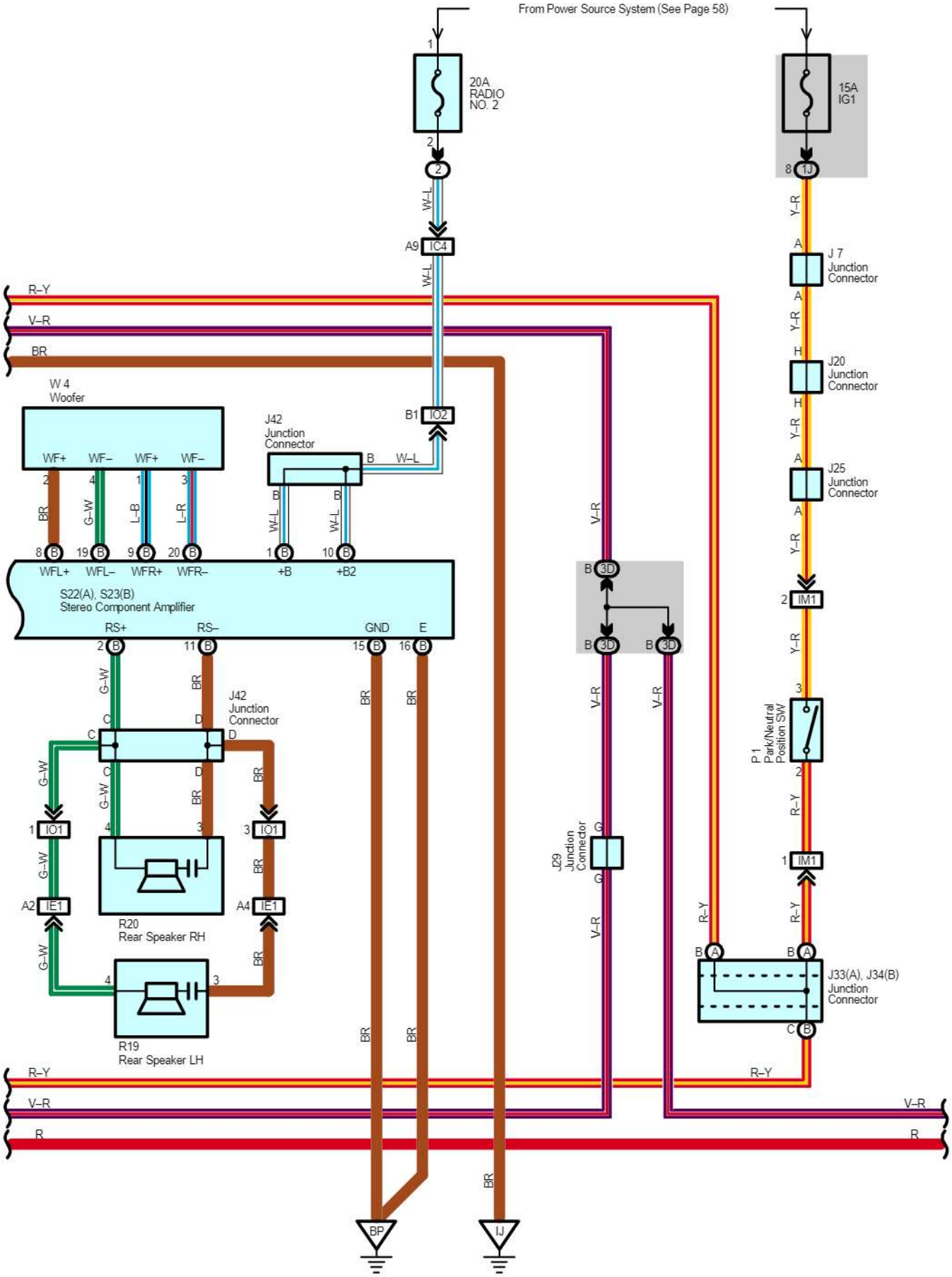


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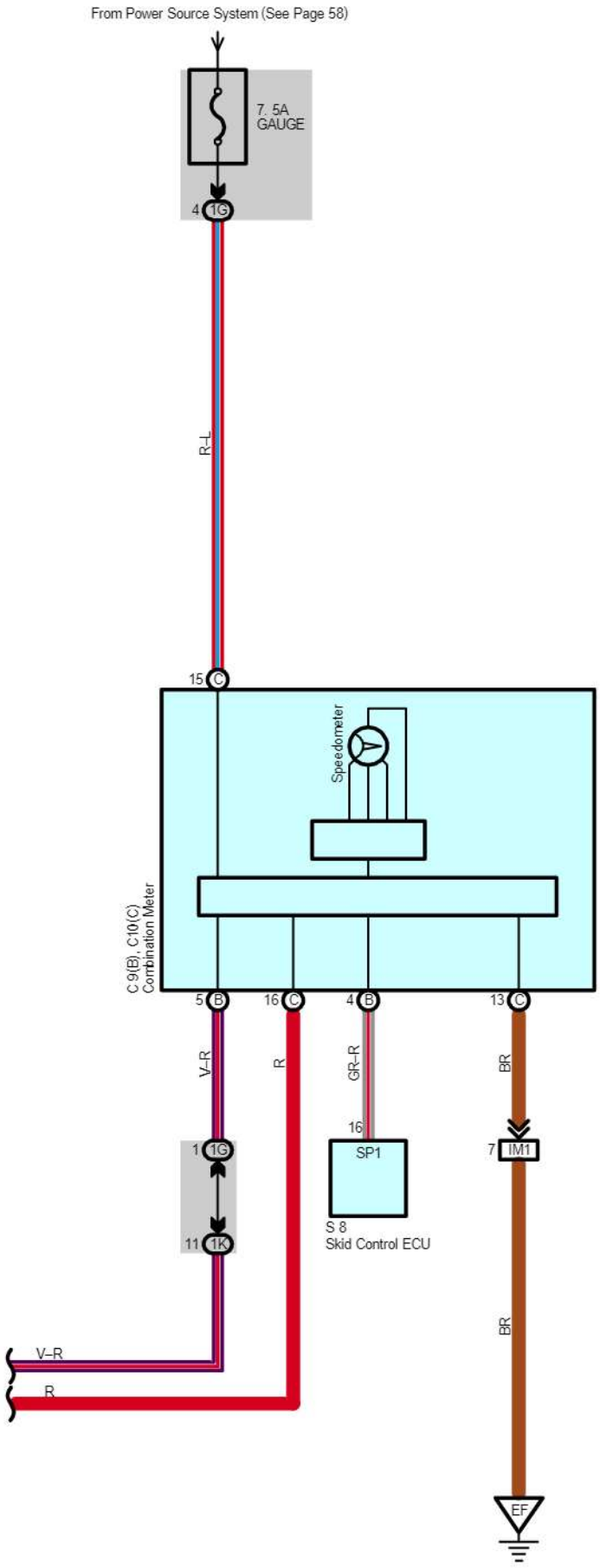

R 6(A), R 7(B), R 8(C), R 9(D), R10(E), R11(F), R12(G)
Radio and Player with Display
VAL+
ADPG
VA–
VR
SYNC
B
G
R
VG
TX+
TX–
SW1
GND
SW2
AU1
EAU
AU2
SEEK+
MODE
SEEK–
VOL+
VOL–
C13
Combination SW
NTSC
SGND
SLD2
D 6
DVD Automatic Changer
ACC
GND
N 3(A), N 4(B)
Navigation ECU
AUO+
AUO–
+B
SPD
REV
MUTE
AUI+
AUI–
J31(A), J32(B)
Junction
Connector
J33(A)
Junction
Connector
S20
Squawker LH
D22
Door Speaker
Front LH
J42
Junction
Connector
J37
Junction
Connector
IK
BM
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Navigation System, Radio and Player (w/ Navigation System),

Service Hints

R12 (G) Radio and Player with Display

(G)11–Ground : Approx. 12 volts with ignition SW at ACC or ON position
(G) 1–Ground : Always approx. 12 volts
(G)20–Ground : Always continuity

S22 (A), S23 (B) Stereo Component Amplifier

(A)12–Ground : Approx. 12 volts with ignition SW at ACC or ON position
(B) 1, (B) 10–Ground : Always approx. 12 volts
(B)15, (B) 16–Ground: Always continuity

N4 (B) Navigation ECU

(B)18–Ground : Approx. 12 volts with ignition SW at ACC or ON position
(B) 9–Ground : Always approx. 12 volts
(B)17–Ground : Always continuity

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A37	36	J31 A	38	R11 F	39
C5	37	J32 B	38	R12 G	39
C9 B	37	J33 A	38	R16	41
C10 C	37	J34 B	38	R17	41
C13	37	J37	38	R18	41
D6	37	J42	40	R19	41
D22	40	N3 A	41	R20	41
D23	40	N4 B	41	S8	39
E4	37	P1	33 (2UZ–FE)	S20	41
J6	38		35 (1GR–FE)	S21	41
J7	38	P4	39	S22 A	41
J8 A	38	R6 A	39	S23 B	41
J9 B	38	R7 B	39	T11	41
J20	38	R8 C	39	W4	41
J25	38	R9 D	39		
J29	38	R10 E	39		

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

▭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3B		
3D		
3E		

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: **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA2	48	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
ID1	48	Radio Installation Sub Assy Wire and Instrument Panel Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
II1	50	Instrument Panel Wire and Instrument Panel Wire (Instrument Panel Brace LH)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IM2		
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)
IO2		
IP2	52	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
IQ1	52	Floor Wire and Instrument Panel Wire (Instrument Panel Brace RH)
BA1	54	Rear Door No.2 Wire and Instrument Panel Wire (Left Center Pillar)
BB1	54	Rear Door No.1 Wire and Instrument Panel Wire (Right Center Pillar)
BD2	54	Back Door No.1 Wire and Floor No.2 Wire (Left Rear Side of Roof)
BH1	54	Back Door No.1 Wire and Back Door No.2 Wire (Left Side of Back Door)

: **Ground Points**

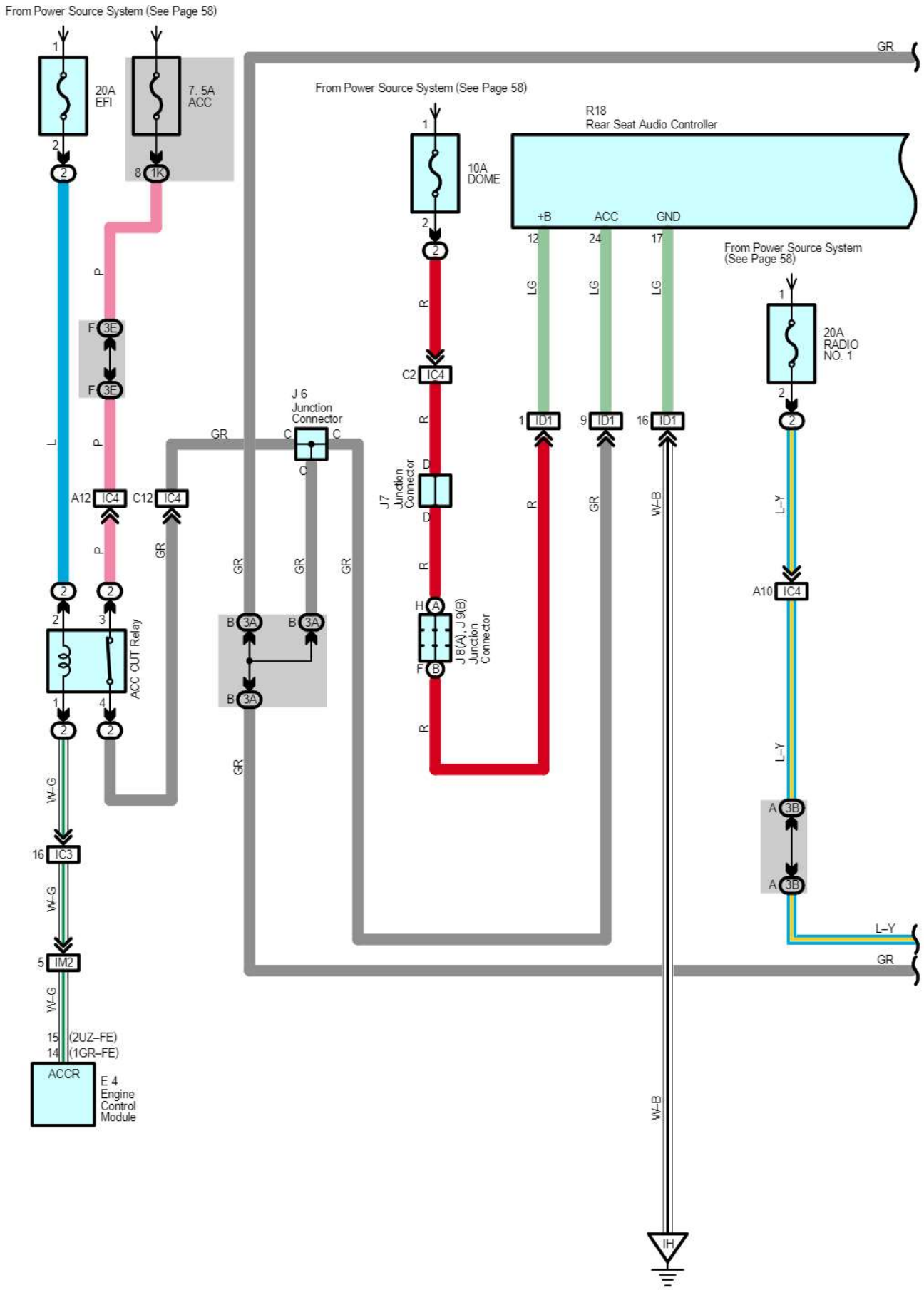
Code	See Page	Ground Points Location
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
	46 (1GR–FE)	
IH	48	Instrument Panel Brace LH
IJ	48	Instrument Panel Brace RH
IK	48	Right Kick Panel
BM	54	Floor Seat Crossmember RH
BP	54	Rear Pillar RH

: **Splice Points**

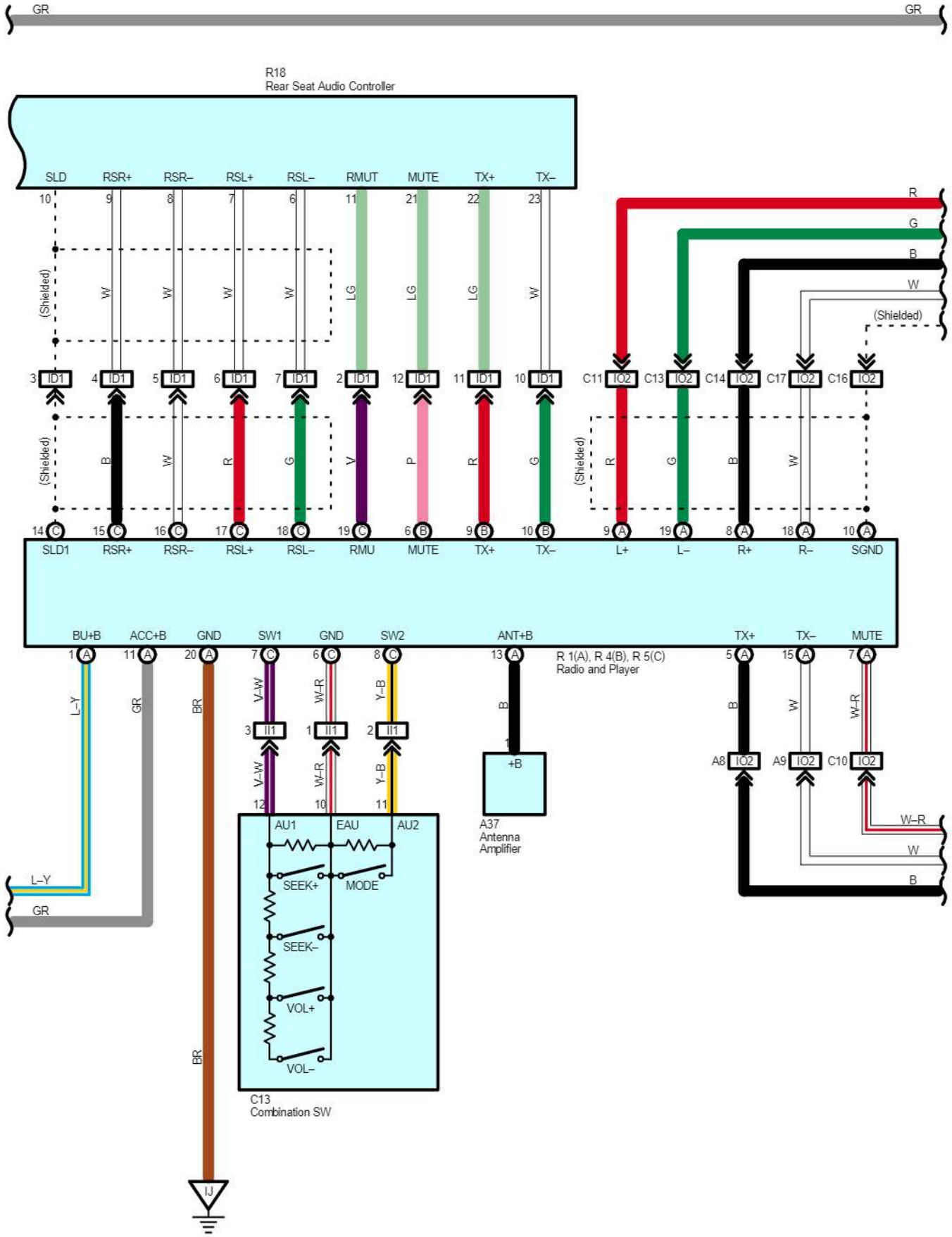
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B4	54	Back Door No.1 Wire	B9	54	Back Door No.2 Wire
B7					

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Radio and Player (w/o Navigation System Except 6 Speaker)

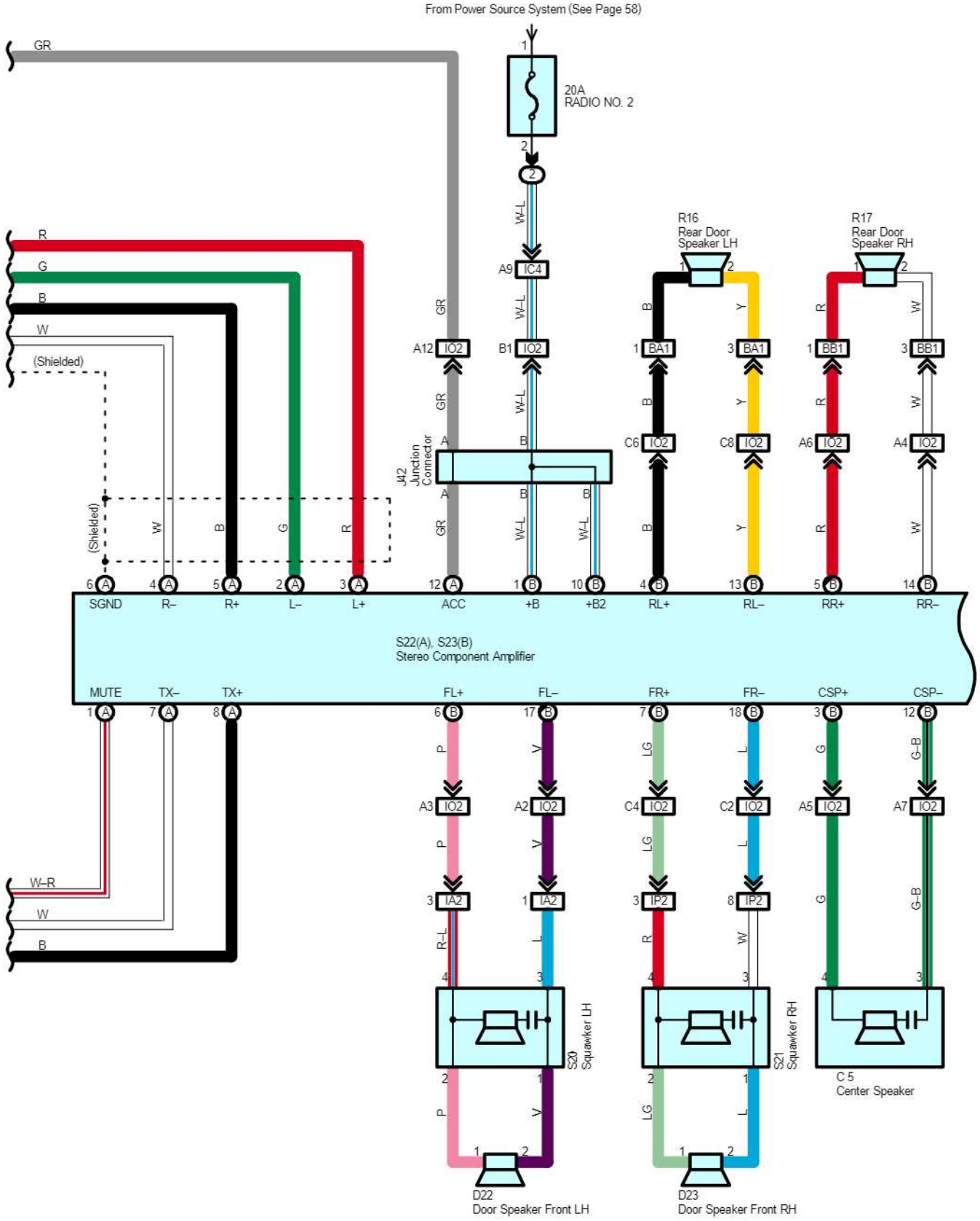


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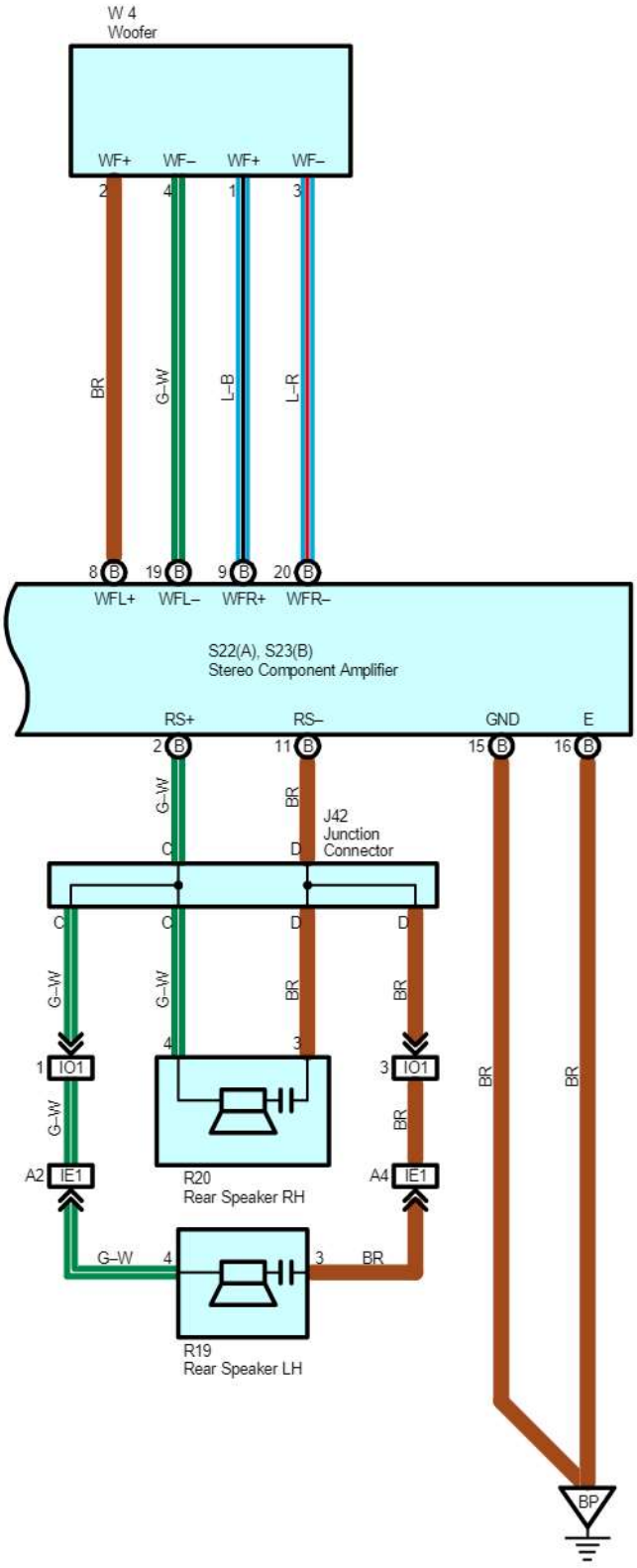


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Radio and Player (w/o Navigation System Except 6 Speaker)



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Radio and Player (w/o Navigation System Except 6 Speaker)

Service Hints

R1 (A) Radio and Player

(A)11–Ground : Approx. 12 volts with ignition SW at ACC or ON position
(A) 1–Ground : Always approx. 12 volts
(A)20–Ground : Always continuity

S22 (A), S23 (B) Stereo Component Amplifier

(A)12–Ground : Approx. 12 volts with ignition SW at ACC or ON position
(B) 1, (B) 10–Ground : Always approx. 12 volts
(B)15, (B) 16–Ground: Always continuity

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A37	36	J8 A	38	R18	41
C5	37	J9 B	38	R19	41
C13	37	J42	40	R20	41
D22	40	R1 A	39	S20	41
D23	40	R4 B	39	S21	41
E4	37	R5 C	39	S22 A	41
J6	38	R16	41	S23 B	41
J7	38	R17	41	W4	41

▭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1K	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3B		
3E		

▭ : Connector Joining Wire Harness and Wire Harness

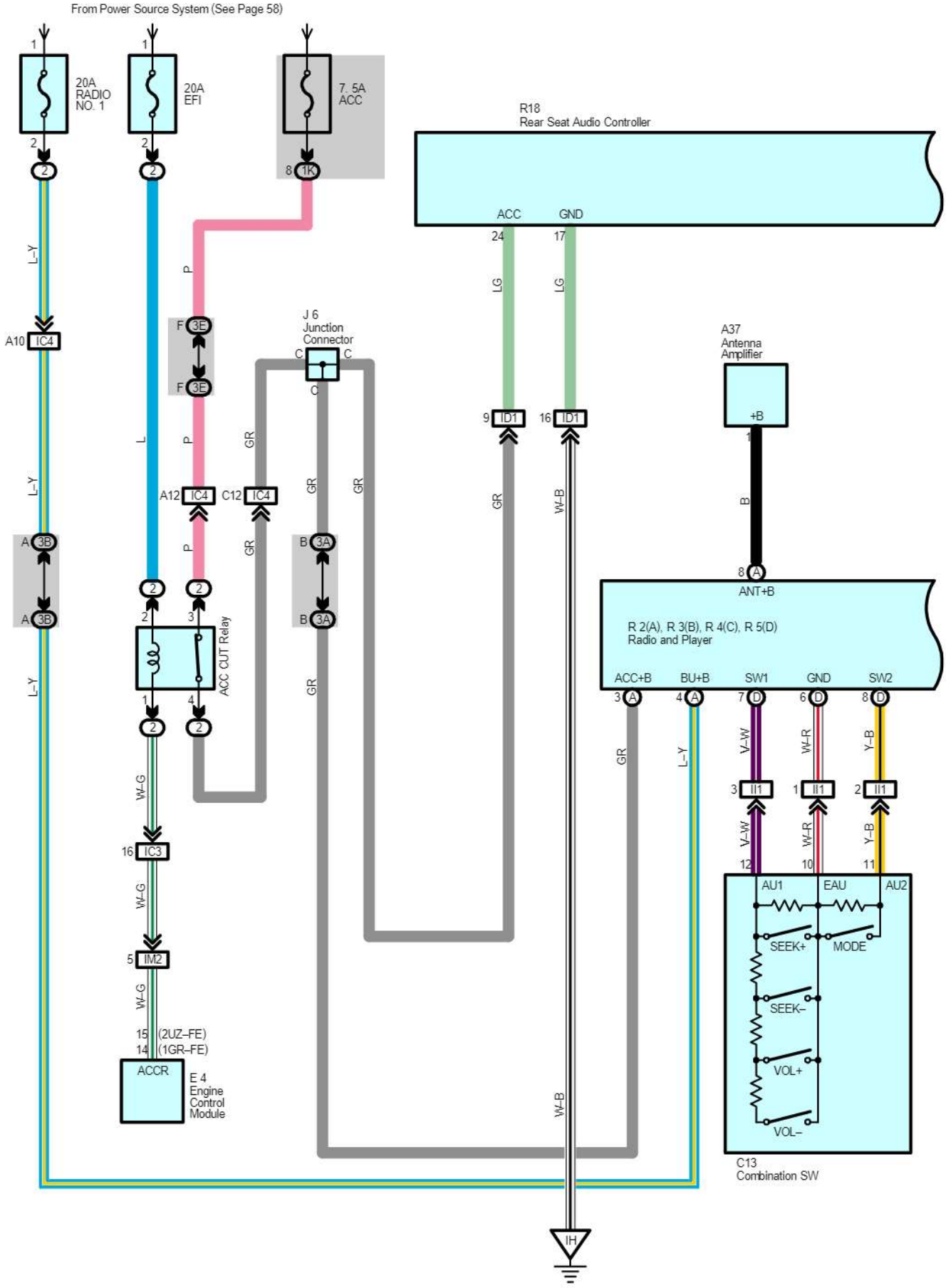
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA2	48	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
ID1	48	Radio Installation Sub Assy Wire and Instrument Panel Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
II1	50	Instrument Panel Wire and Instrument Panel Wire (Instrument Panel Brace LH)
IM2	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IO1	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)
IO2		
IP2	52	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
BA1	54	Rear Door No.2 Wire and Instrument Panel Wire (Left Center Pillar)
BB1	54	Rear Door No.1 Wire and Instrument Panel Wire (Right Center Pillar)

▽ : Ground Points

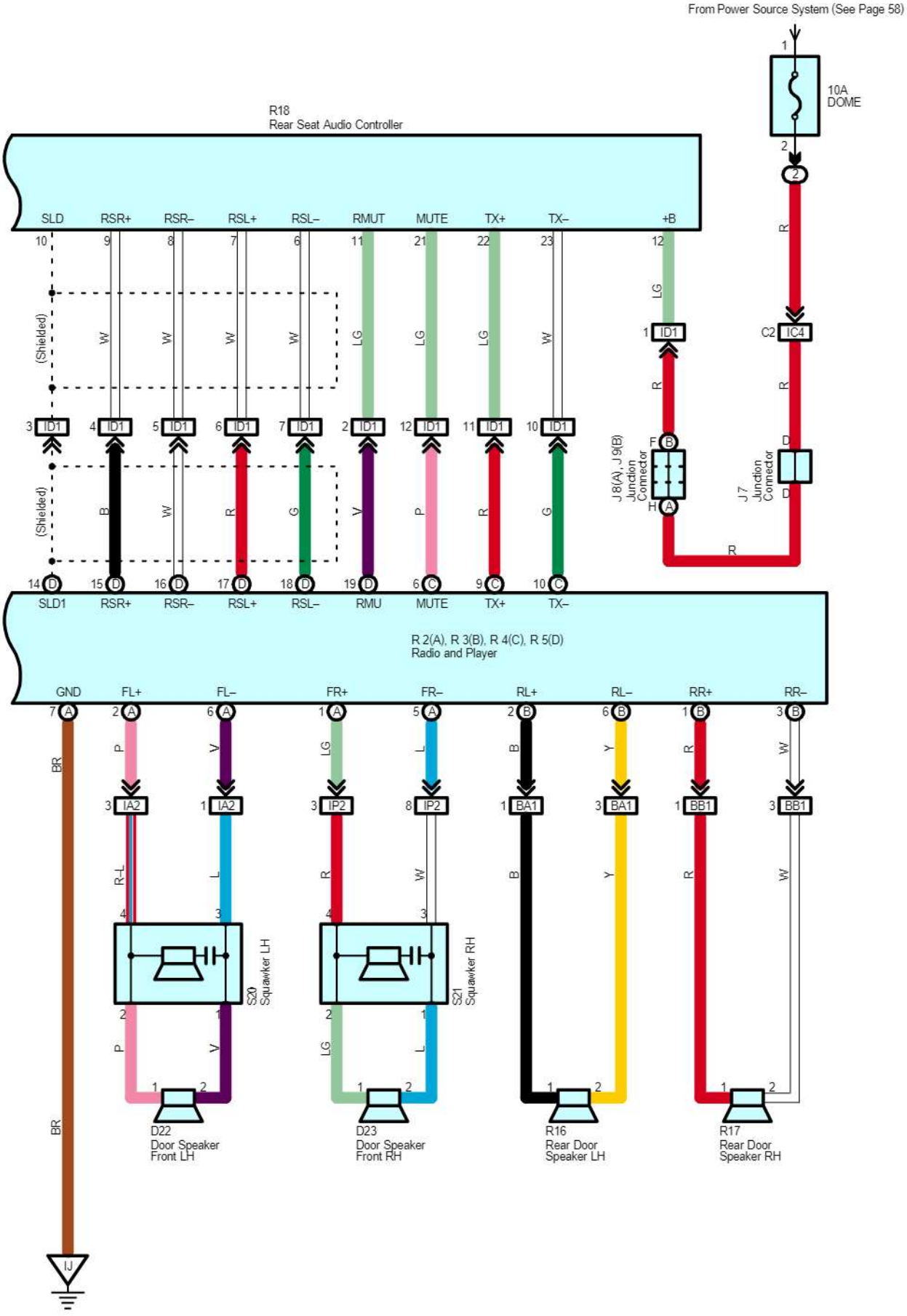
Code	See Page	Ground Points Location
IH	48	Instrument Panel Brace LH
IJ	48	Instrument Panel Brace RH
BP	54	Rear Pillar RH

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Radio and Player (6 Speaker)

Service Hints

R2 (A) Radio and Player

(A) 3–Ground : Approx. 12 volts with ignition SW at ACC or ON position
(A) 4–Ground : Always approx. 12 volts
(A) 7–Ground : Always continuity

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A37	36	J7	38	R5 D	39
C13	37	J8 A	38	R16	41
D22	40	J9 B	38	R17	41
D23	40	R2 A	39	R18	41
E4	37	R3 B	39	S20	41
J6	38	R4 C	39	S21	41

⬭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1K	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3B		
3E		

▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA2	48	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
ID1	48	Radio Installation Sub Assy Wire and Instrument Panel Wire (Left Kick Panel)
II1	50	Instrument Panel Wire and Instrument Panel Wire (Instrument Panel Brace LH)
IM2	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IP2	52	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
BA1	54	Rear Door No.2 Wire and Instrument Panel Wire (Left Center Pillar)
BB1	54	Rear Door No.1 Wire and Instrument Panel Wire (Right Center Pillar)

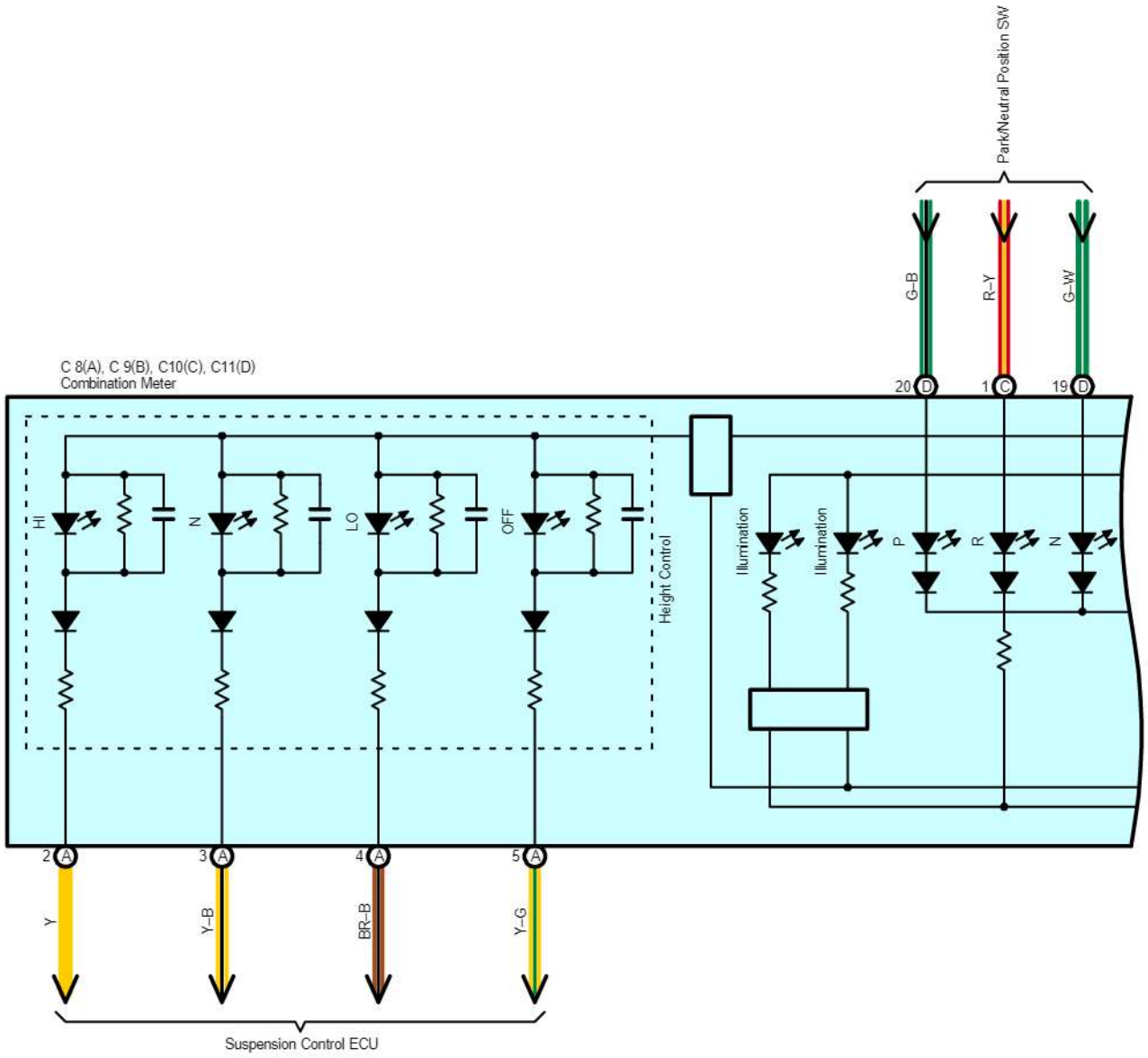
▽ : Ground Points

Code	See Page	Ground Points Location
IH	48	Instrument Panel Brace LH
IJ	48	Instrument Panel Brace RH

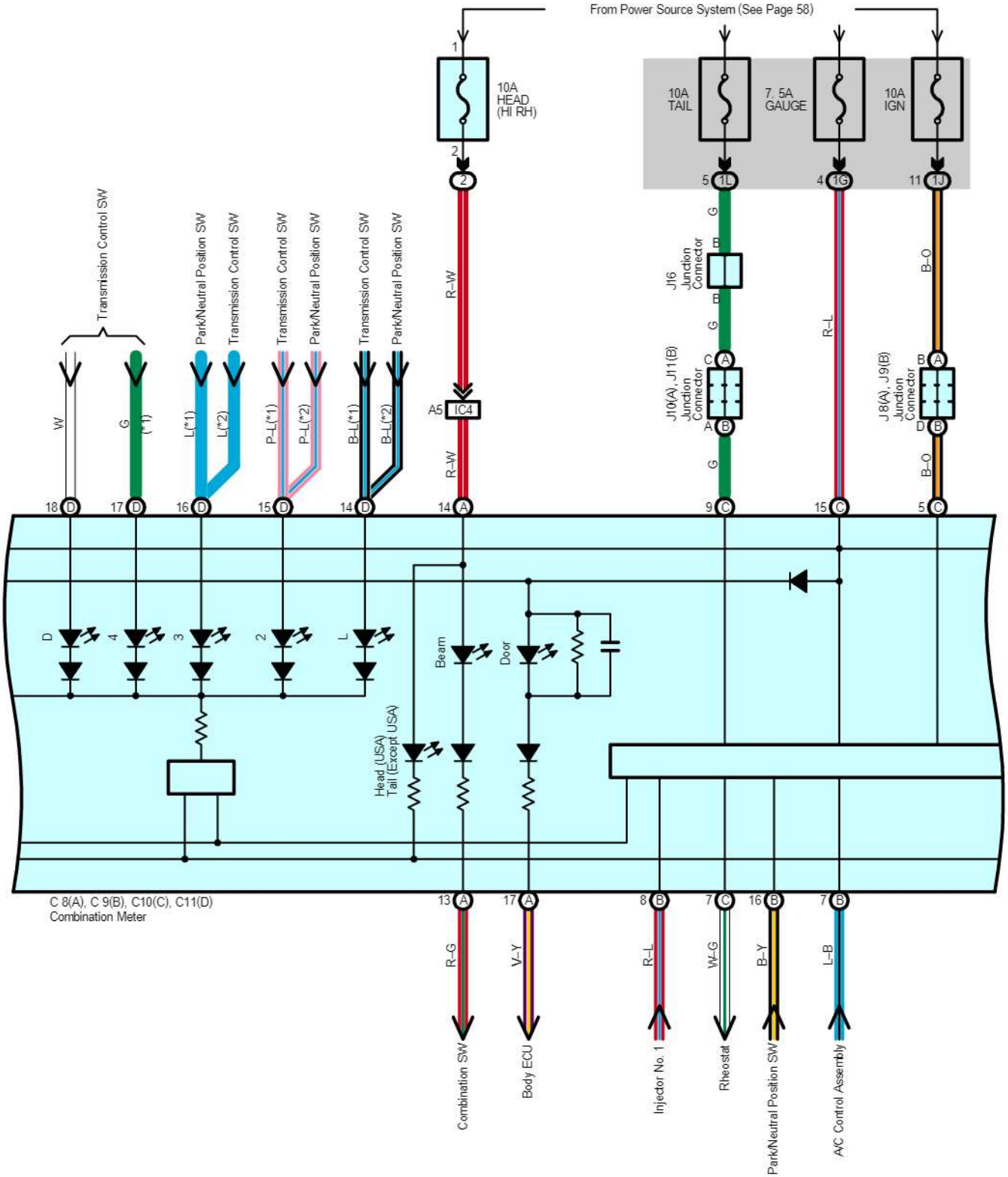
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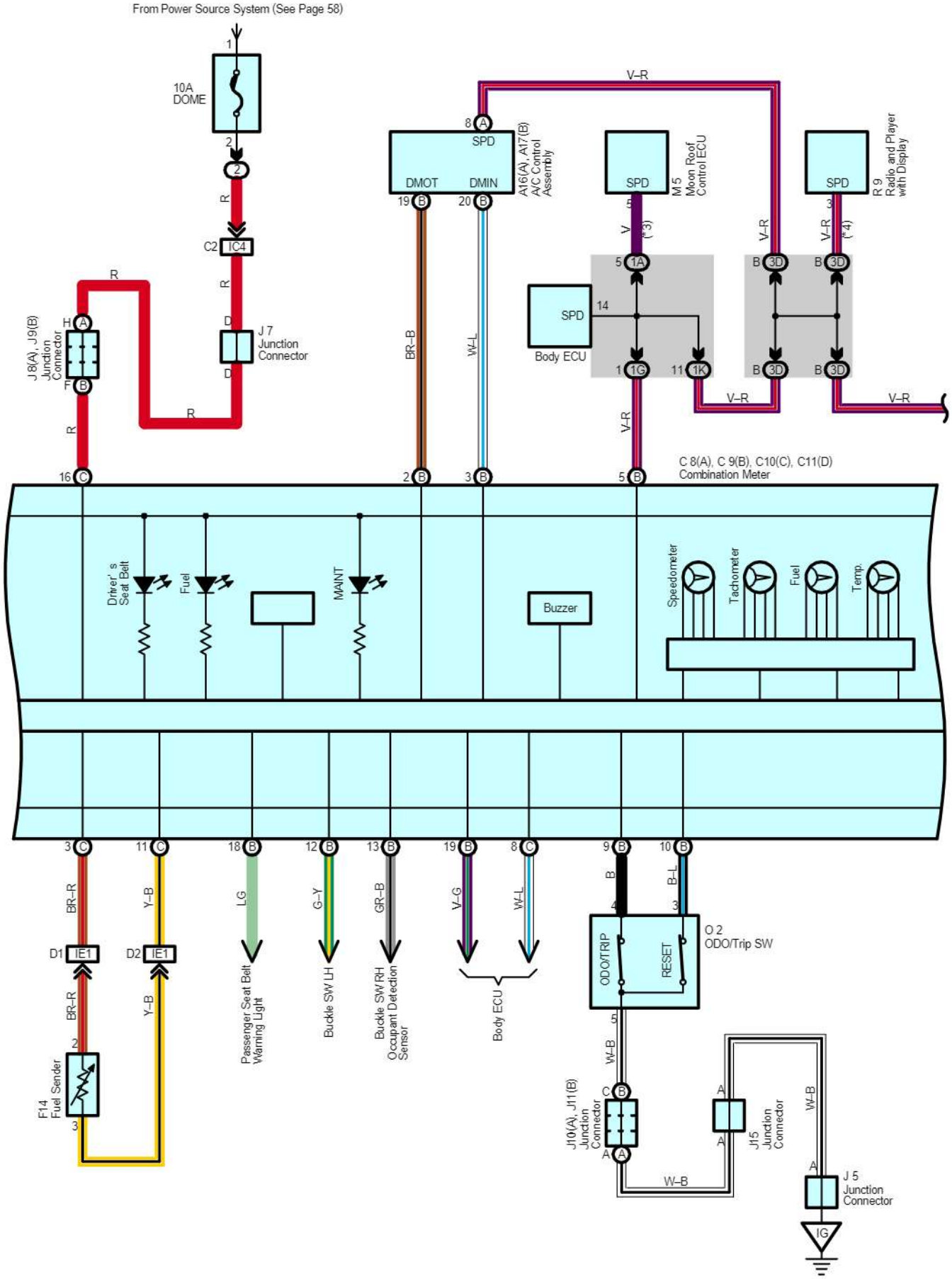
* 1 : 2UZ–FE
* 2 : 1GR–FE



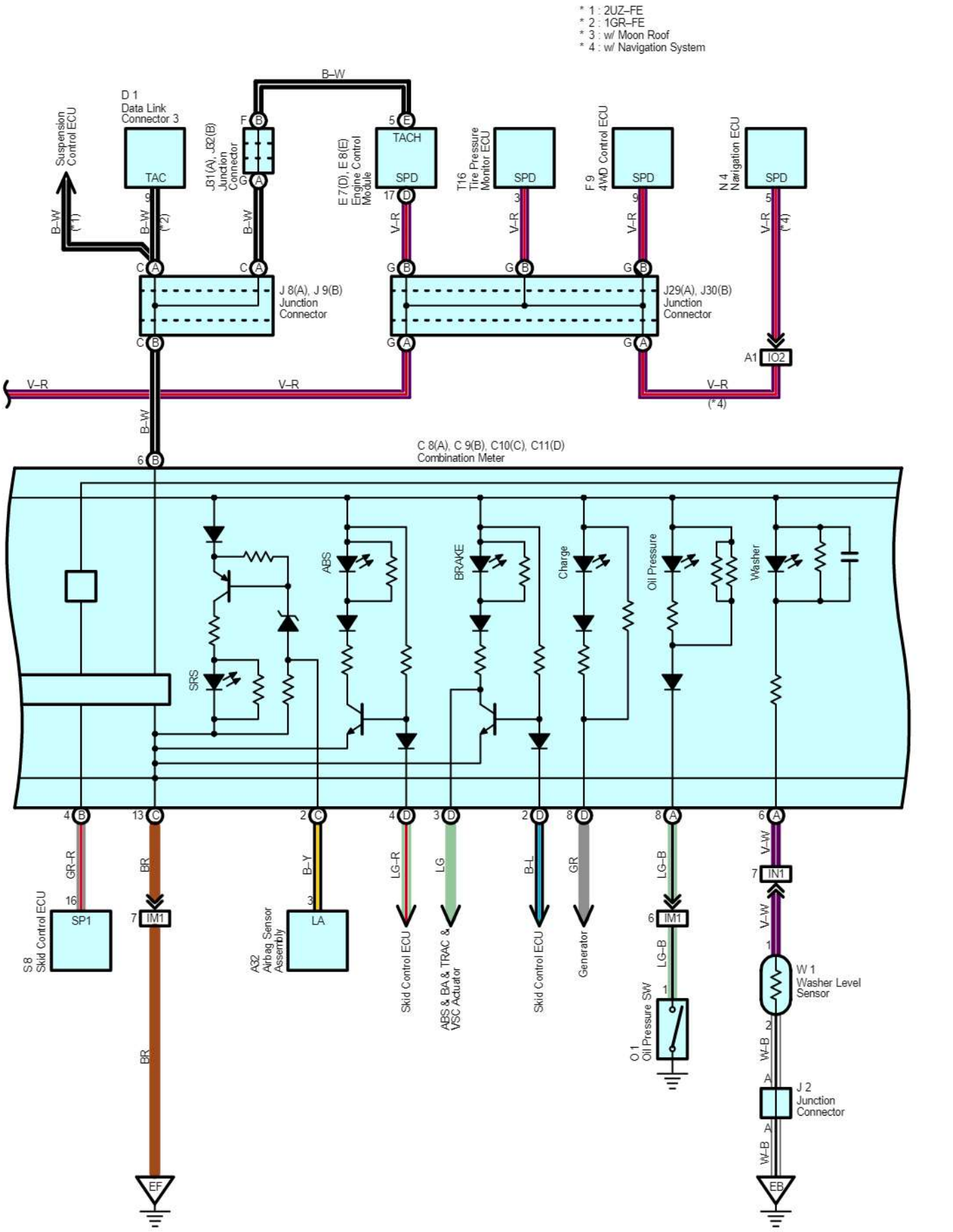
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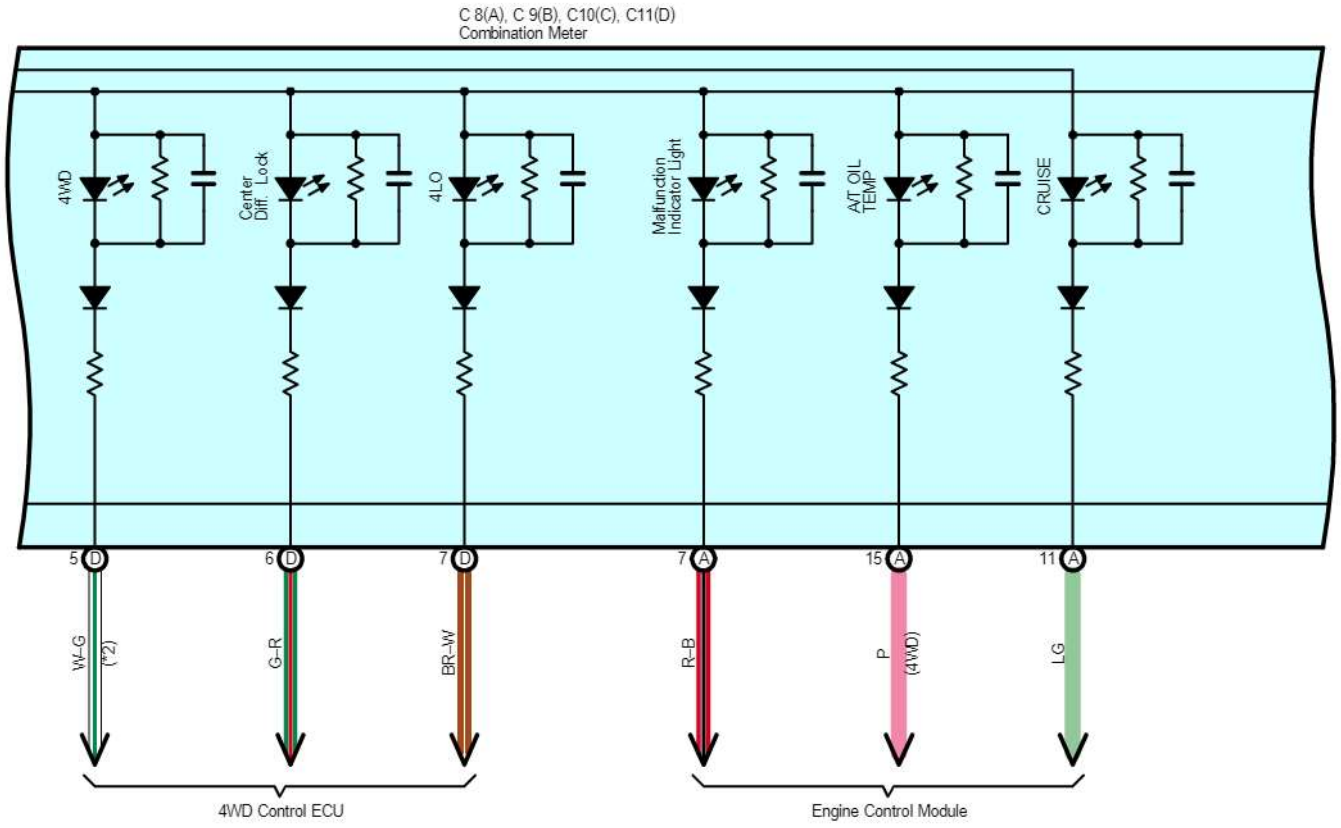
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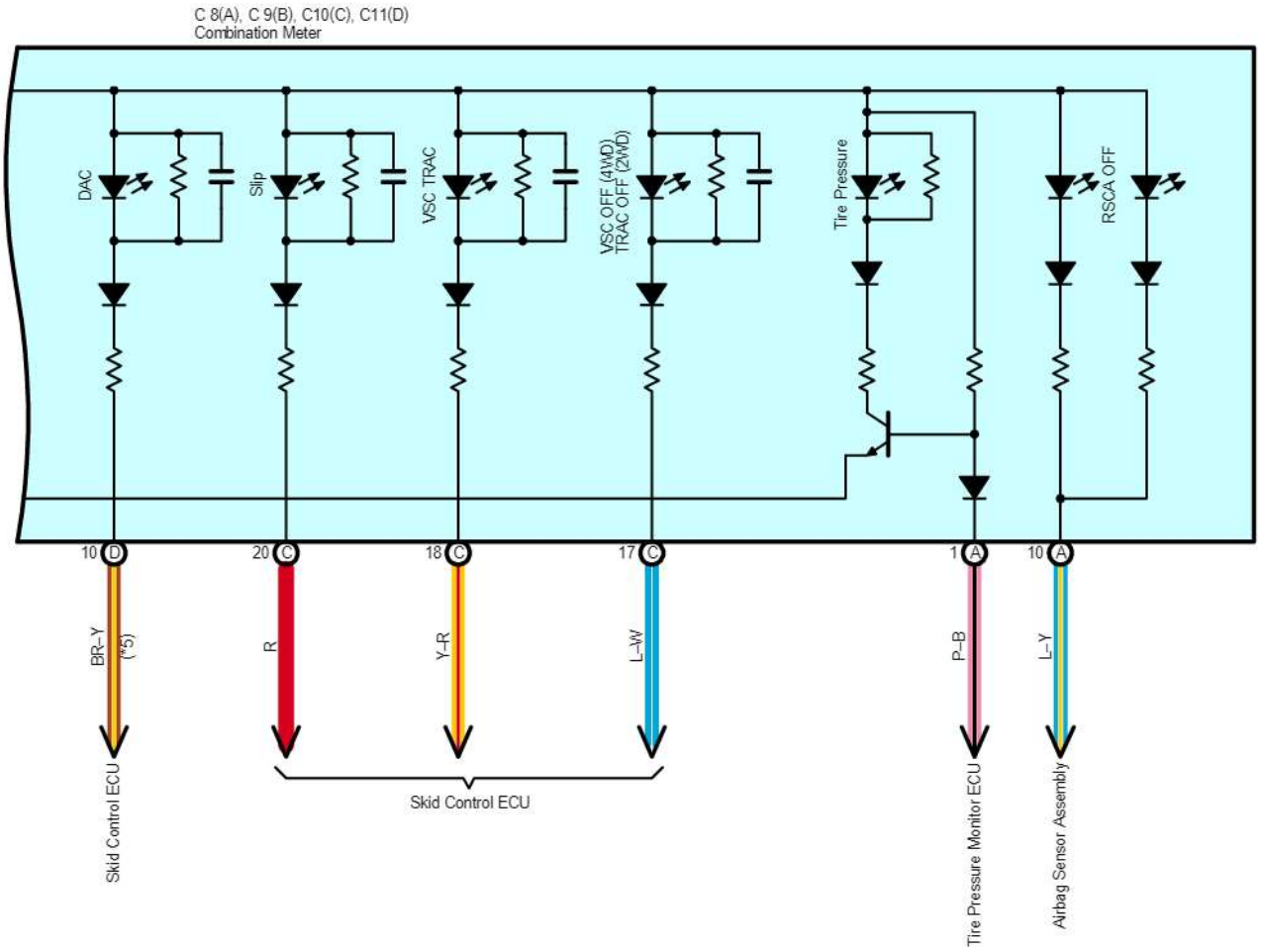


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* 2 : 1GR–FE
* 5 : Except 1GR–FE 2WD



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Combination Meter

Service Hints

C10 (C) Combination Meter

(C)5, (C) 15–Ground: Approx. 12 volts with the ignition SW at ON position
(C)13–Ground : Always continuity
(C)16–Ground : Always approx. 12 volts

: Parts Location

Code		See Page	Code		See Page	Code		See Page
A16	A	36	J2		33 (2UZ–FE)	J31	A	38
A17	B	36			35 (1GR–FE)	J32	B	38
A32		36	J5		38	M5		41
C8	A	37	J7		38	N4		41
C9	B	37	J8	A	38	O1		33 (2UZ–FE)
C10	C	37	J9	B	38			35 (1GR–FE)
C11	D	37	J10	A	38	O2		39
D1		37	J11	B	38	R9		39
E7	D	37	J15		38	S8		39
E8	E	37	J16		38	T16		39
F9		37	J29	A	38	W1		33 (2UZ–FE)
F14		40	J30	B	38			35 (1GR–FE)

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Roof Wire and Driver Side J/B (Lower Finish Panel)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		
1L		
3D	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)

: Connector Joining Wire Harness and Wire Harness

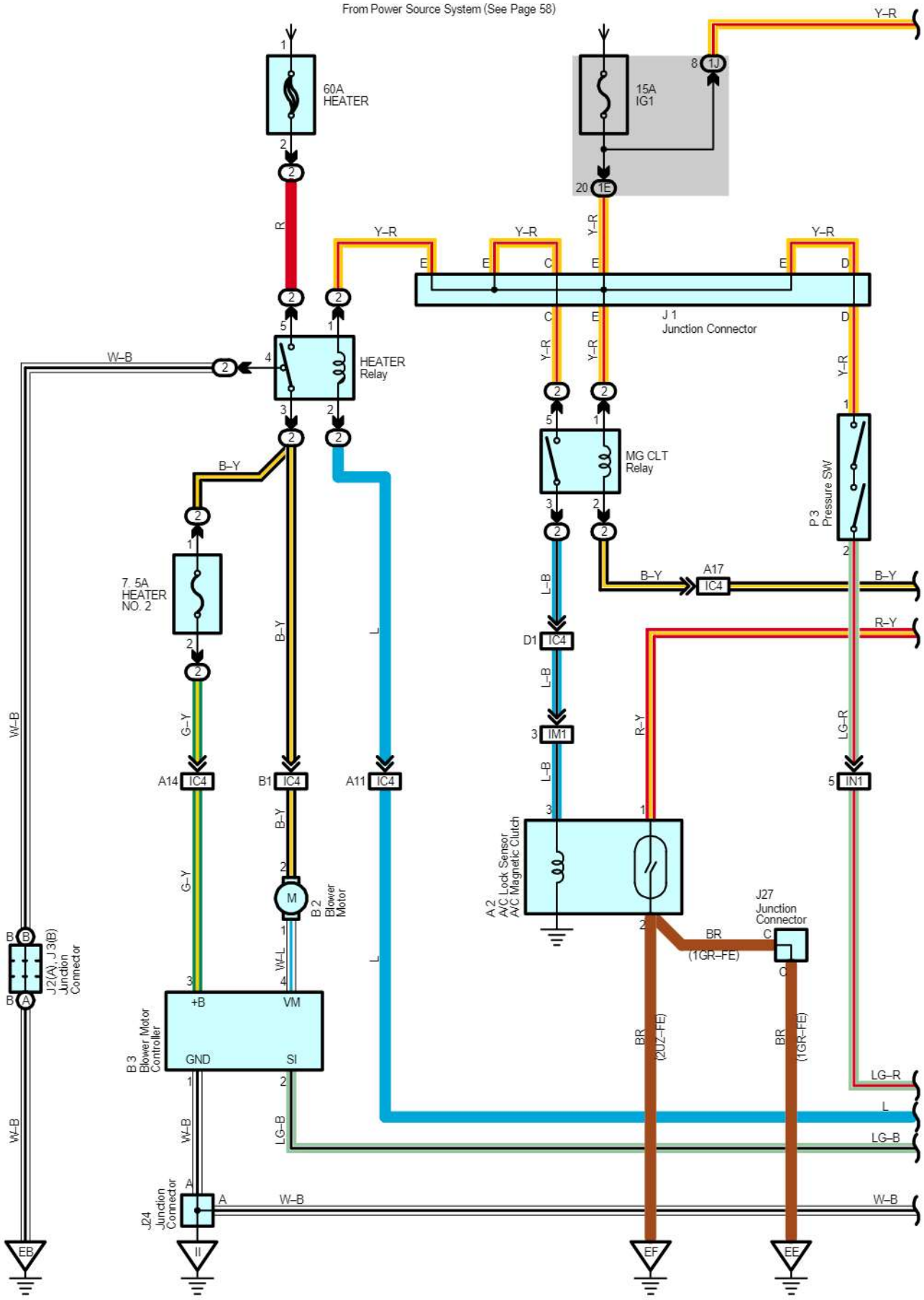
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC4	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IE1	50	Instrument Panel Wire and Floor No.2 Wire (Left Kick Panel)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IN1	52	Instrument Panel Wire and Engine Room Main Wire (Right Kick Panel)
IO2	52	Instrument Panel Wire and Floor Wire (Right Kick Panel)

: Ground Points

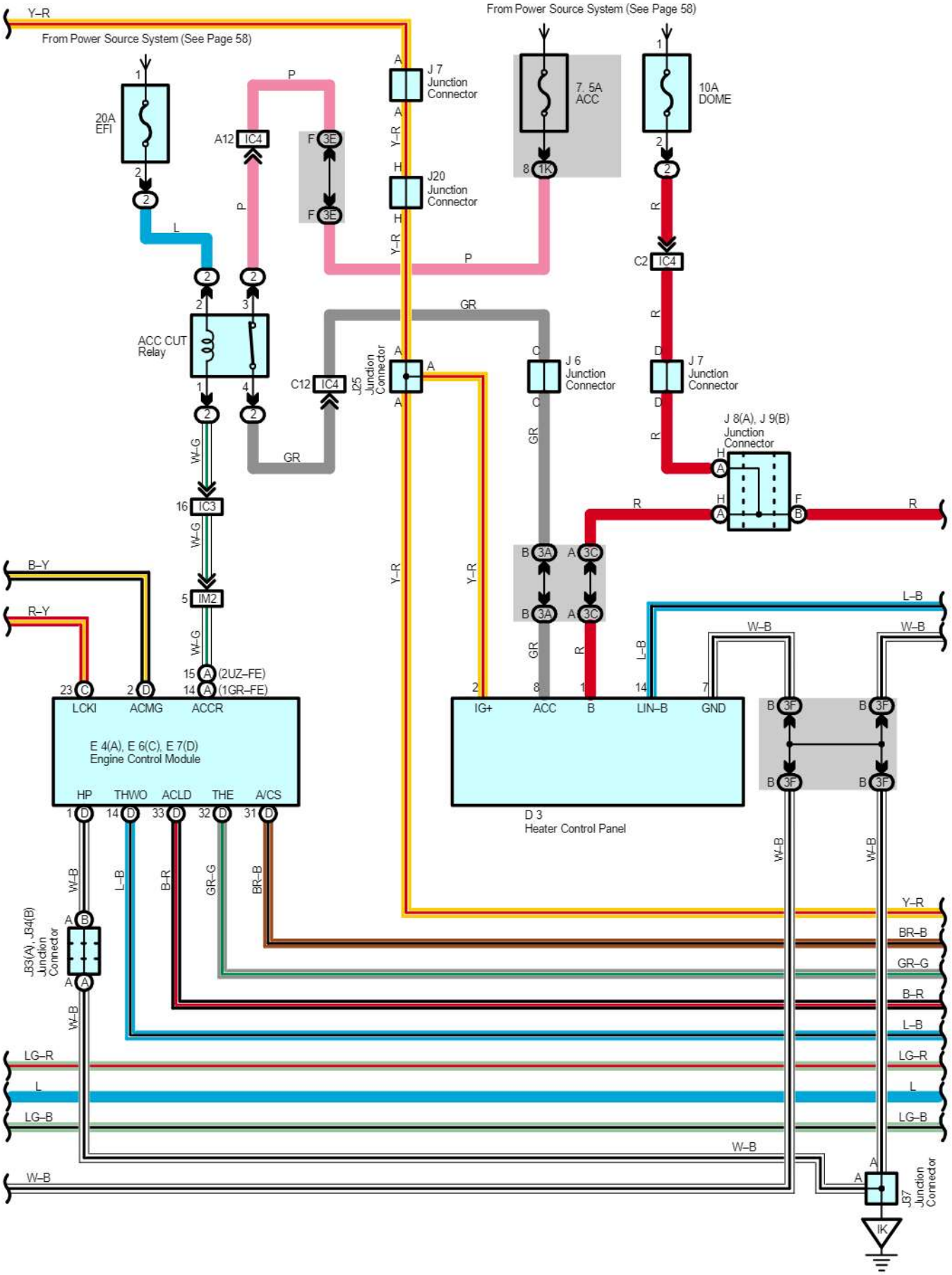
Code	See Page	Ground Points Location
EB	44 (2UZ–FE)	Front Left Fender
	46 (1GR–FE)	
EF	44 (2UZ–FE)	Rear Side of Left Bank Cylinder Block
	46 (1GR–FE)	
IG	48	Left Kick Panel

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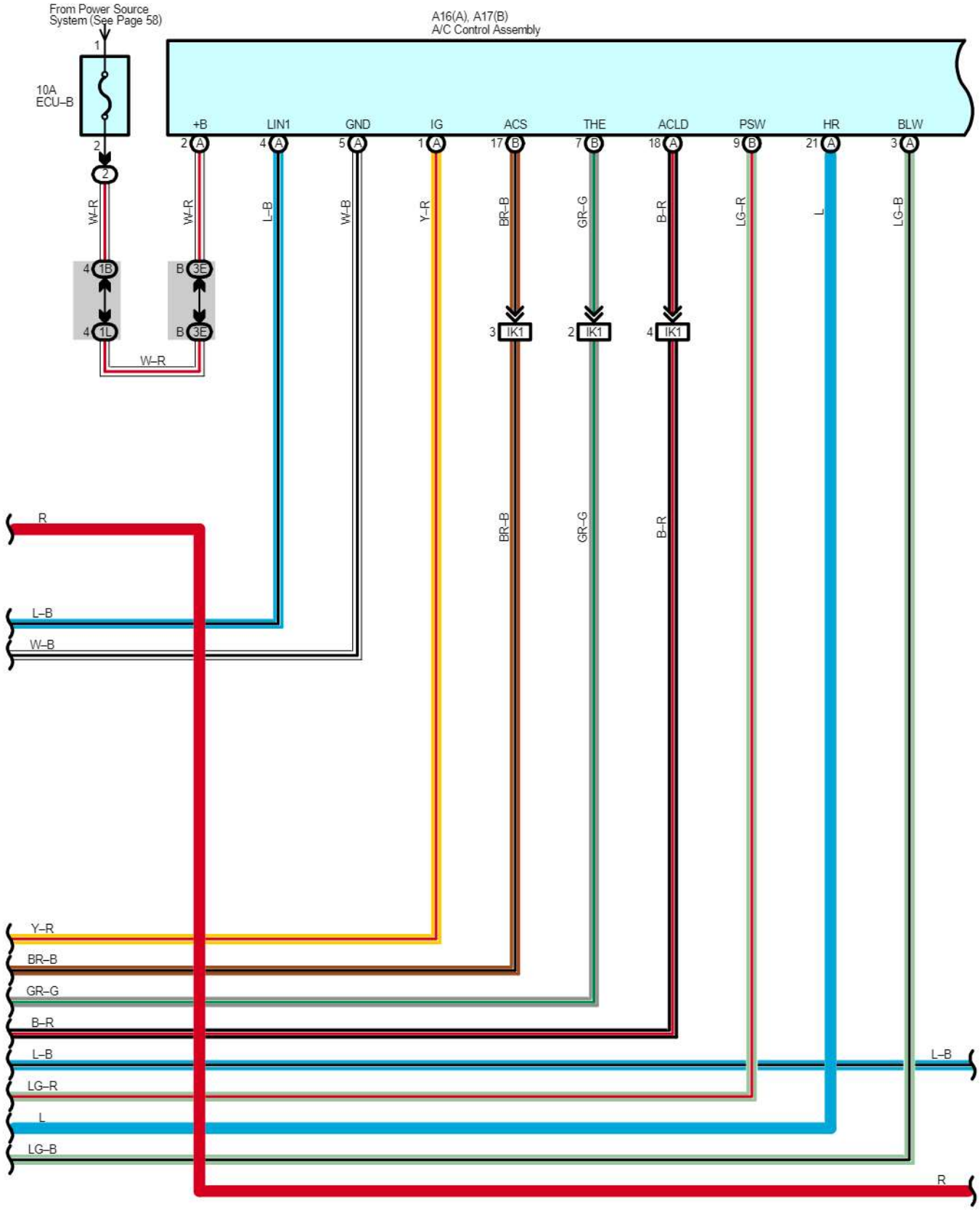
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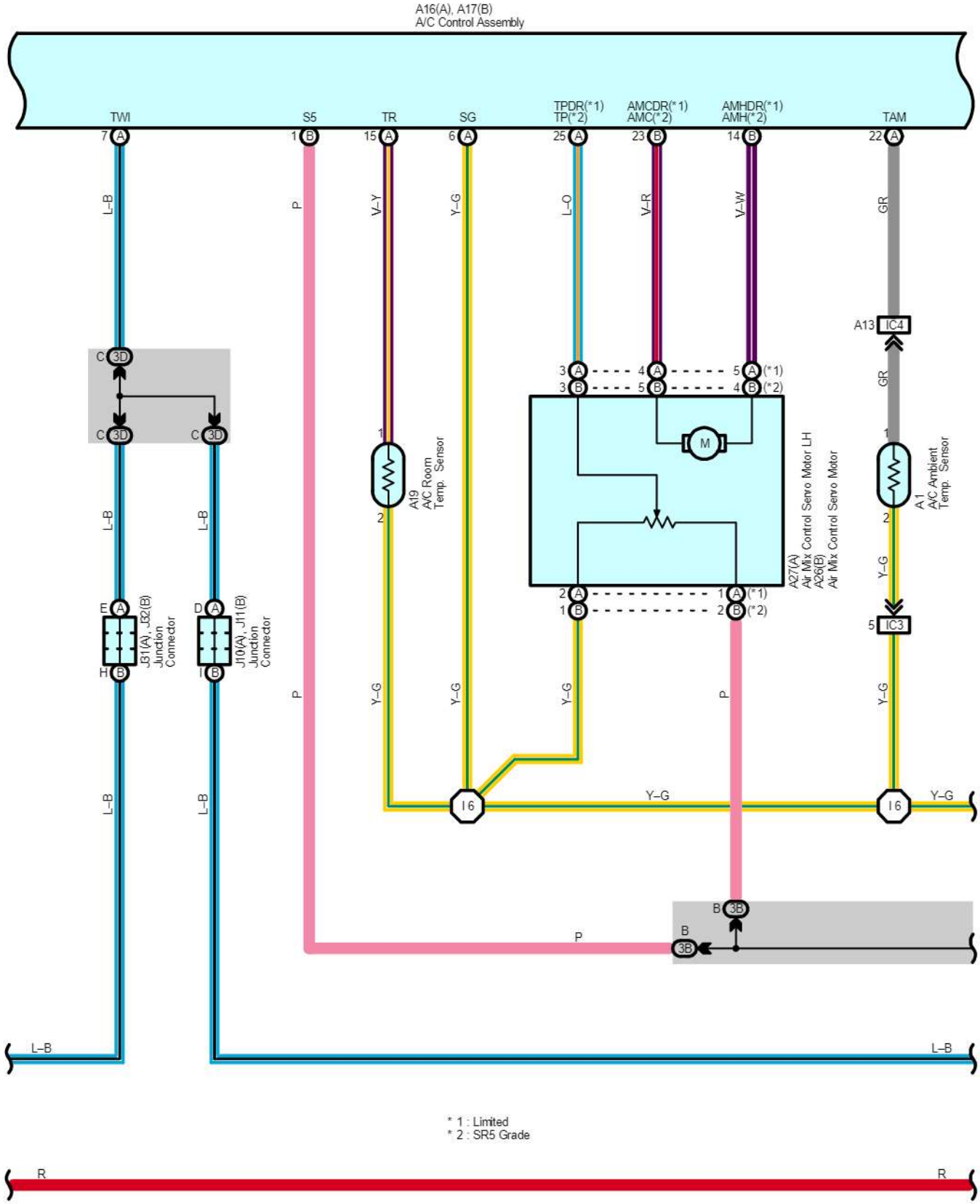
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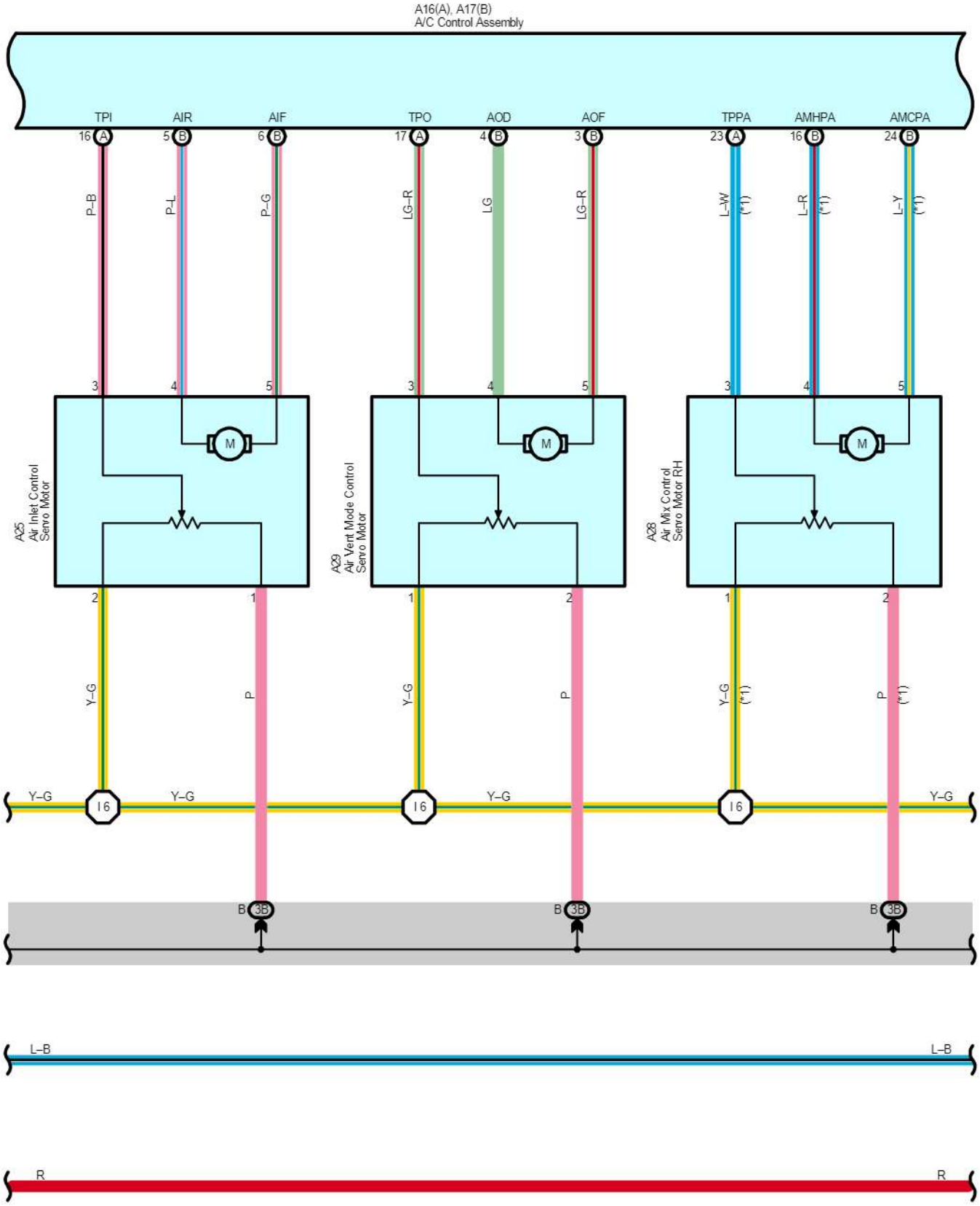
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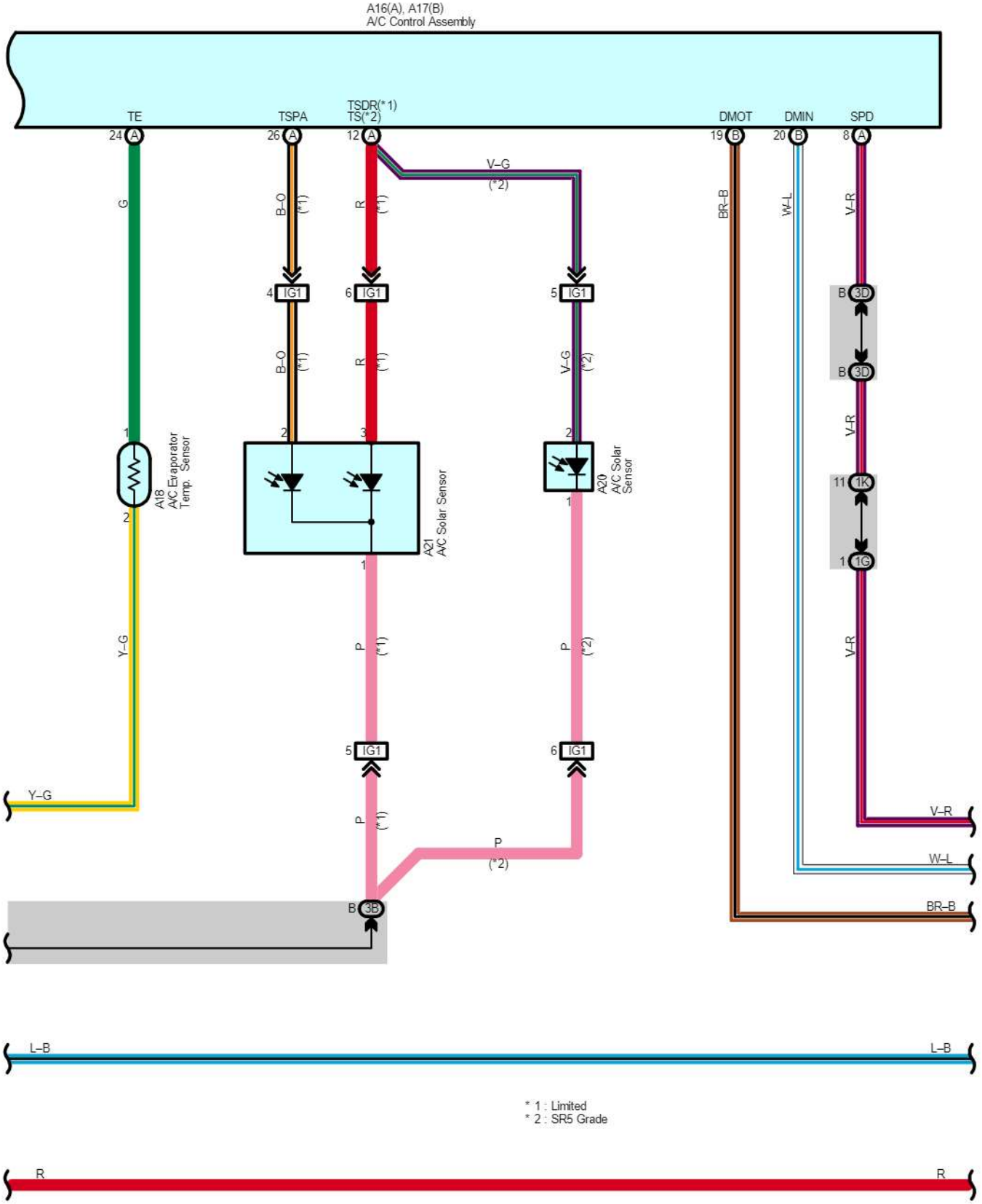
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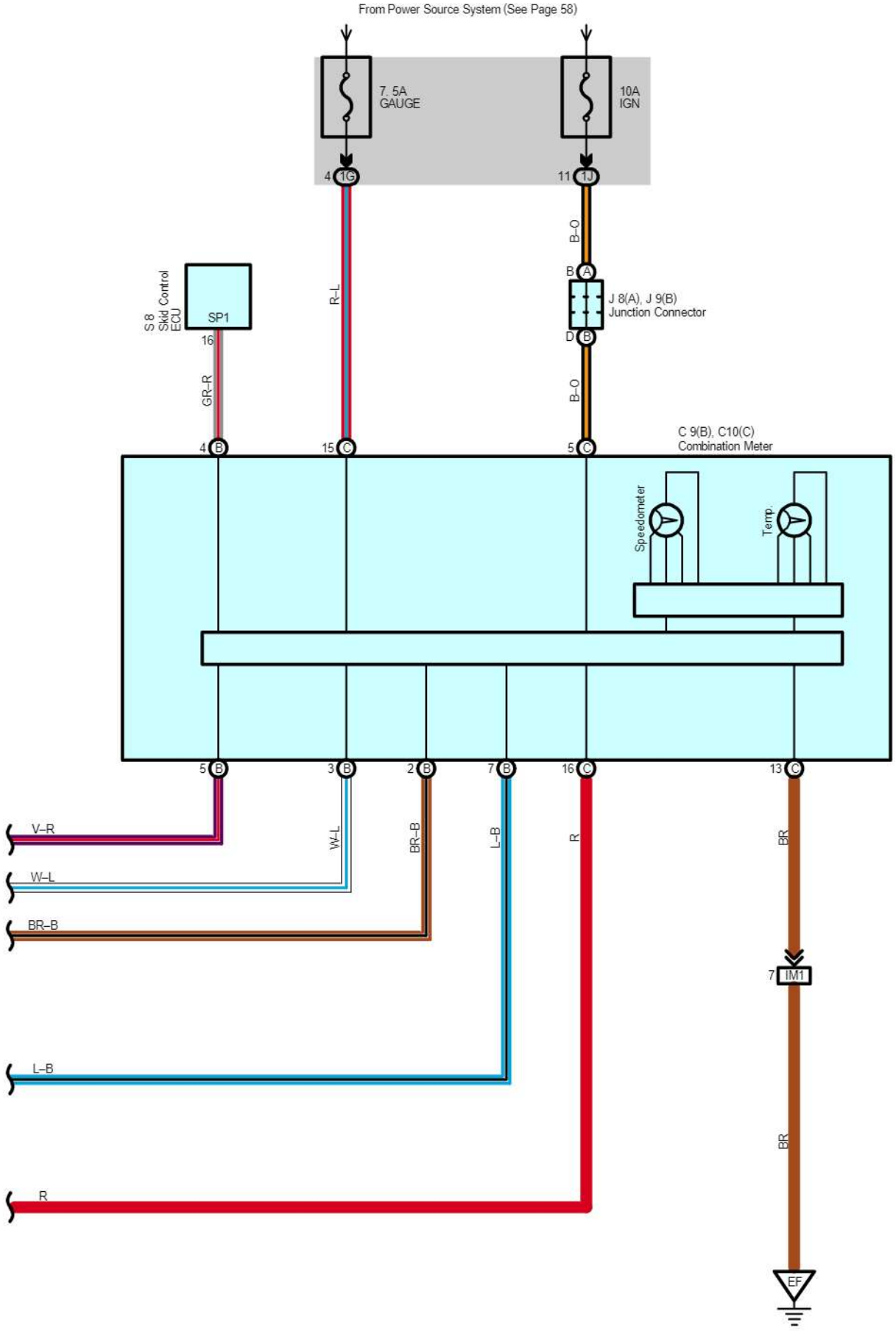
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System Outline

1. Heater Blower Operation

Manual operation

When the blower speed is set to a certain level using the blower control SW, the A/C control assembly sends the signals to the blower control to control the blower motor speed.

Auto operation

When the auto SW is pushed, the A/C control assembly sends the signals from various sensors and temperature SW to the blower control to automatically control the blower motor speed.

2. Air Inlet Control Servo Motor Control

When the FRESH/RECIRC select SW is set to RECIRC, the motor in the air inlet control servo motor starts rotating to move the damper toward the RECIRC side. Since the damper position is detected by the TERMINAL TPI of the A/C control assembly, the motor is continuously rotated until the damper reaches its stop position. When the FRESH/RECIRC select SW is set to FRESH, the motor in the air inlet control servo motor starts rotating to move the damper toward the FRESH side. Since the damper position is detected by the TERMINAL TPI of the A/C control assembly, the motor is continuously rotated until the damper reaches its stop position.

3. Air Vent Mode Control Servo Motor Control

When the mode select SW is pushed, the ECU in the A/C control assembly activates the air vent mode control servo motor. This causes the servo motor to rotate to the position (FACE, BI–LEVEL, FOOT, FOOT/DEF, DEF) selected using the mode select SW, and moves the damper.

4. Air Mix Control Servo Motor Control (Limited)

When the temperature control SW on the driver's side is pressed, the ECU in the A/C control assembly sends a signal to the air mix control servo motor on the driver's side. This signal drives the motor to reach the temperature set by the temperature control SW on the driver's side, and moves the damper. Passenger's side is operated as same as the driver's side.

5. Air Mix Control Servo Motor Control (SR5 Grade)

When the temperature control SW is pressed, the ECU in the A/C control assembly sends a signal to the air mix control servo motor. This signal drives the motor to reach the temperature set by the temperature control SW, and moves the film damper.

6. Air Conditioning Operation

The A/C control assembly receives various signals, I.E., the engine RPM from the engine control module, out side air temperature signal from the A/C ambient temp. sensor and coolant temperature from the engine control module, etc.

When the engine is started and the A/C SW (A/C control assembly) is on, a signal is input to the A/C control assembly.

As a result, the ground circuit in A/C control assembly is closed and current flows from IG1 fuse to TERMINAL 1 of the MG CLT relay to TERMINAL 2 to TERMINAL ACMG of the engine control module to TERMINAL HP to GROUND, turning the MG CLT relay on, so that the magnetic clutch is on and the A/C compressor operates.

If the A/C control assembly detects the following conditions, it stops the air conditioning:

- Evaporator outlet air is too low.
- There is a marked difference between the compressor speed and the engine speed.
- The refrigerant pressure is abnormally high or abnormally low.
- The engine speed is too low.
- Rapid acceleration occurs.

Service Hints

P3 Pressure SW

1–2 : Open with the refrigerant pressure at less than approx. 196.1 kpa (2.0 kgf/cm^2, 28.4 psi) or more than approx. 3138 kpa (32 kgf/cm^2, 455 psi)

A16 (A) A/C Control Assembly

(A) 2–Ground : Always approx. 12 volts

(A) 1–Ground : Approx. 12 volts with ignition SW at ON or ST position

(A) 5–Ground : Always continuity

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○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A1	32 (2UZ–FE)	B3	36	J9 B	38
	34 (1GR–FE)	C9 B	37	J10 A	38
A2	32 (2UZ–FE)	C10 C	37	J11 B	38
	34 (1GR–FE)	D3	37	J20	38
A16 A	36	E4 A	37	J24	38
A17 B	36	E6 C	37	J25	38
A18	36	E7 D	37	J27	38
A19	36	J1	33 (2UZ–FE)	J31 A	38
A20	36		35 (1GR–FE)	J32 B	38
A21	36	J2 A	33 (2UZ–FE)	J33 A	38
A25	36		35 (1GR–FE)	J34 B	38
A26 B	36	J3 B	33 (2UZ–FE)	J37	38
A27 A	36		35 (1GR–FE)	P3	33 (2UZ–FE)
A28	36	J6	38		35 (1GR–FE)
A29	36	J7	38	S8	39
B2	36	J8 A	38		

⬭ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	22	Engine Room R/B (Engine Compartment Left)

⬭ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1E		
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		
1L		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3B		
3C		
3D		
3E		
3F		

▭ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IG1	50	Instrument Panel No.2 Wire and Instrument Panel Wire (Behind the Combination Meter)
IK1	50	Instrument Panel Wire and Instrument Panel Wire (Left Upper Side of the Glove Box)
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IM2		
IN1	52	Instrument Panel Wire and Engine Room Main Wire (Right Kick Panel)

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▽ : Ground Points

Code	See Page	Ground Points Location
EB	44 (2UZ–FE) 46 (1GR–FE)	Front Left Fender
EE	46 (1GR–FE)	Rear Side of Right Bank Cylinder Block
EF	44 (2UZ–FE) 46 (1GR–FE)	Rear Side of Left Bank Cylinder Block
II	48	Instrument Panel Brace RH
IK	48	Right Kick Panel

○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I6	50	Instrument Panel Wire			

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