

FOREWORD

This wiring diagram manual has been prepared to provide information on the electrical system of the 2007 RAV4.

Applicable models: GSA33, 38 Series
ACA33, 38 Series

Refer to the following manuals for additional service specifications and repair procedures for these models:

Manual Name	Pub. No.
● 2007 RAV4 Repair Manual	RM03T0U
● 2007 TOYOTA New Car Features	NM04J0U

All information in this manual is based on the latest product information at the time of publication. However, specifications and procedures are subject to change without notice.

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NOTICE

Always follow the directions given in the above repair manuals when handling supplemental restraint system components (such as removal, installation, inspection, etc.) in order to prevent accidents and supplemental restraint system malfunction.

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2007 RAV4 ELECTRICAL WIRING DIAGRAM

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A INTRODUCTION

This manual consists of the following 13 sections:

No.	Section	Description
A	INDEX	Index of the contents of this manual.
	INTRODUCTION	Brief explanation of each section.
B	HOW TO USE THIS MANUAL	Instructions on how to use this manual.
C	TROUBLE-SHOOTING	Describes the basic inspection procedures for electrical circuits.
D	ABBREVIATIONS	Defines the abbreviations used in this manual.
E	GLOSSARY OF TERMS AND SYMBOLS	Defines the symbols and functions of major parts.
F	RELAY LOCATIONS	Shows position of the Electronic Control Unit, Relays, Relay Block, etc. This section is closely related to the system circuit.
G	ELECTRICAL WIRING ROUTING	Describes position of Parts Connectors, Splice points, Ground points, etc. This section is closely related to the system circuit.
H	INDEX	Index of the system circuits.
	SYSTEM CIRCUITS	Electrical circuits of each system are shown from the power supply through ground points. Wiring connections and their positions are shown and classified by code according to the connection method. (Refer to the section, "How to use this manual"). The "System Outline" and "Service Hints" useful for troubleshooting are also contained in this section. (Only wiring information for complete circuits is included.)
I	GROUND POINT	Shows ground positions of all parts described in this manual.
J	POWER SOURCE (Current Flow Chart)	Describes power distribution from the power supply to various electrical loads.
K	CONNECTOR LIST	Describes the form of the connectors for the parts appeared in this book. This section is closely related to the system circuit.
L	PART NUMBER OF CONNECTORS	Indicates the part number of the connectors used in this manual.
M	OVERALL ELECTRICAL WIRING DIAGRAM	Provides circuit diagrams showing the circuit connections. (Only wiring information for complete circuits is included.)

This manual provides information on the electrical circuits installed on vehicles by dividing them into a circuit for each system.

The actual wiring of each system circuit is shown from the point where the power source is received from the battery as far as each ground point. (All circuit diagrams are shown with the switches in the OFF position.)

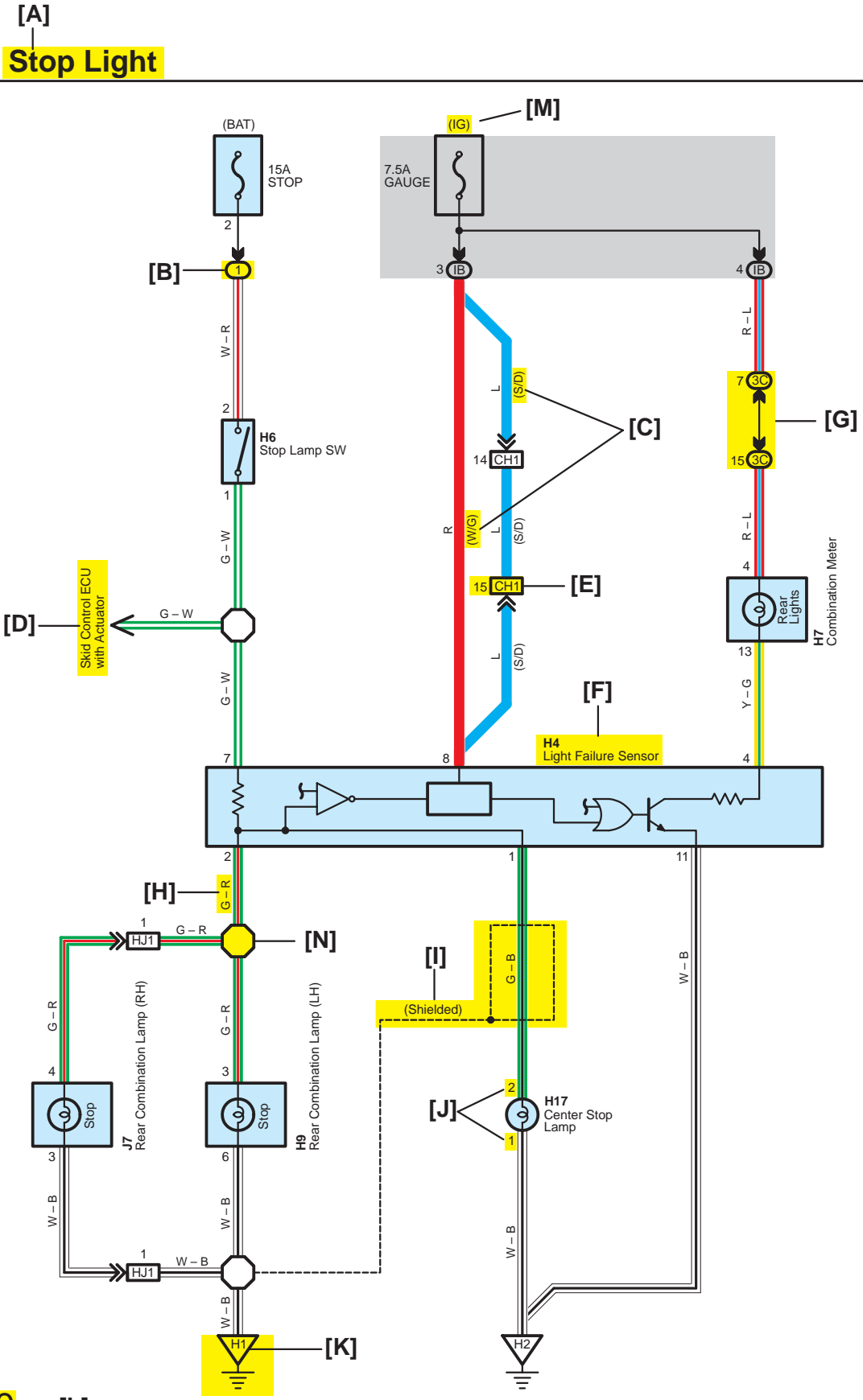
When troubleshooting any problem, first understand the operation of the circuit where the problem was detected (see System Circuit section), the power source supplying power to that circuit (see Power Source section), and the ground points (see Ground Point section). See the System Outline to understand the circuit operation.

When the circuit operation is understood, begin troubleshooting of the problem circuit to isolate the cause. Use Relay Location and Electrical Wiring Routing sections to find each part, junction block and wiring harness connectors, wiring harness and wiring harness connectors and ground points of each system circuit. Internal wiring for each junction block is also provided for better understanding of connection within a junction block.

Wiring related to each system is indicated in each system circuit by arrows (from__, to__). When overall connections are required, see the Overall Electrical Wiring Diagram at the end of this manual.

B HOW TO USE THIS MANUAL

* The system shown here is an EXAMPLE ONLY. It is different to the actual circuit shown in the SYSTEM CIRCUITS SECTION.



[A] : System Title

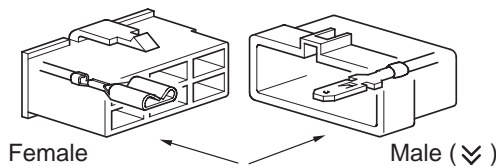
[B] : Indicates a Relay Block. No shading is used and only the Relay Block No. is shown to distinguish it from the J/B

Example: ① Indicates Relay Block No.1

[C] : () is used to indicate different wiring and connector, etc. when the vehicle model, engine type, or specification is different.

[D] : Indicates related system.

[E] : Indicates the code for the (male and female) connectors which are used to join two wire harnesses. The connector code consists of two alphabetical and one numerical characters.



The first character of the connector code indicates the alphabetical code allocated to the wire harness which has the female connector, and the second shows that of the wire harness which has the male connector.

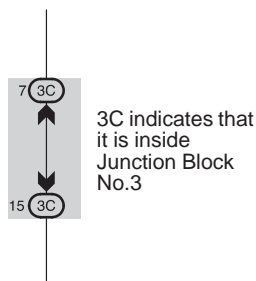
The third character indicates a serial number used to distinguish between the wire harness combinations in cases when more than one of the same combination of wire harnesses exist (e.g. CH1 and CH2).

Symbol (∨) indicates the male terminal connector. Numbers outside connector codes indicate the pin numbers of both male and female connectors.

[F] : Represents a part (all parts are shown in sky blue). The code is the same as the code used in parts position.

[G] : Junction Block (The number in the circle is the J/B No. and the connector code is shown beside it). Junction Blocks are shaded to clearly separate them from other parts.

Example:



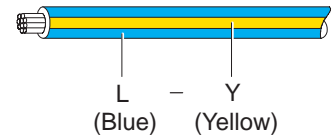
[H] : Indicates the wiring color.

Wire colors are indicated by an alphabetical code.

- | | | |
|------------|------------|------------------|
| B = Black | W = White | BR = Brown |
| L = Blue | V = Violet | SB = Sky Blue |
| R = Red | G = Green | LG = Light Green |
| P = Pink | Y = Yellow | GR = Gray |
| O = Orange | | |

The first letter indicates the basic wire color and the second letter indicates the color of the stripe.

Example: L - Y



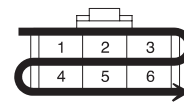
[I] : Indicates a shielded cable.



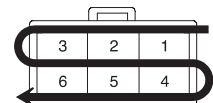
[J] : Indicates the pin number of the connector. The numbering system is different for female and male connectors.

Example: Numbered in other from upper left to lower right

Numbered in other from upper right to lower left



Female



Male

[K] : Indicates the ground point. The code consists of the two characters: A letter and number.

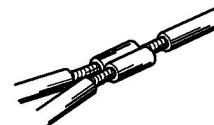
The first character of the code indicates the alphabetical code allocated to the wire harness. The second character indicates a serial number used to distinguish between the ground points in cases when more than one ground point exist on the same wire harness.

[L] : Page No.

[M] : Indicates the ignition key position(s) when the power is supplied to the fuse(s).

[N] : Indicates a wiring Splice Point.

Example:



B HOW TO USE THIS MANUAL

[O] System Outline

Current is applied at all times through the STOP fuse to TERMINAL 2 of the stop lamp SW.
When the ignition SW is turned on, current flows from the GAUGE fuse to TERMINAL 8 of the light failure sensor, and also flows through the rear lights warning light to TERMINAL 4 of the light failure sensor.

Stop Light Disconnection Warning

When the ignition SW is turned on and the brake pedal is pressed (Stop lamp SW on), if the stop light circuit is open, the current flowing from TERMINAL 7 of the light failure sensor to TERMINALS 1, 2 changes, so the light failure sensor detects the disconnection and the warning circuit of the light failure sensor is activated.

As a result, the current flows from TERMINAL 4 of the light failure sensor to TERMINAL 11 to GROUND and turns the rear lights warning light on. By pressing the brake pedal, the current flowing to TERMINAL 8 of the light failure sensor keeps the warning circuit on and holds the warning light on until the ignition SW is turned off.

[P] : Parts Location

Code	See Page	Code	See Page	Code	See Page
H4	36	H7	36	H17	38
H6	36	H9	38	J7	38

[Q] : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	18	R/B No.1 (Instrument Panel Brace LH)

[R] : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3C	22	Instrument Panel Wire and J/B No.3 (Instrument Panel Brace LH)
IB	20	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)

[S] : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
CH1	42	Engine Room Main Wire and Instrument Panel Wire (Left Kick Panel)
HJ1	50	Instrument Panel Wire and Floor Wire (Right Kick Panel)

[T] : Ground Points

Code	See Page	Ground Points Location
H1	50	Under the Left Center Pillar
H2	50	Back Panel Center

[O] : Explains the system outline.

[P] : Indicates reference pages showing the parts locations in the system circuit on the vehicle.

Example : Code "H4" (Light Failure Sensor) is on page 36 of the manual.

* The first character of the code indicates the alphabetical code allocated to the wire harness, and the second character indicates the serial number of the parts connected to the wire harness.

Example : H 4
 └───┬─── Serial number for the connected parts
 └─── Code for the wire harness

[Q] : Indicates the reference page showing the position on the vehicle of Relay Block Connectors in the system circuit.

Example : Connector "1" is described on page 18 of this manual and is installed on the left side of the instrument panel.

[R] : Indicates the reference page showing the position on the vehicle of J/B and Wire Harness in the system circuit.

Example : Connector "3C" connects the Instrument Panel Wire and J/B No.3. It is described on page 22 of this manual, and is installed on the instrument panel left side.

[S] : Indicates the reference page describing the wiring harness and wiring harness connector (the female wiring harness is shown first, followed by the male wiring harness).

Example : Connector "CH1" connects the Engine Room Main Wire (female) and Instrument Panel Wire (male). It is described on page 42 of this manual, and is installed on the left side kick panel.

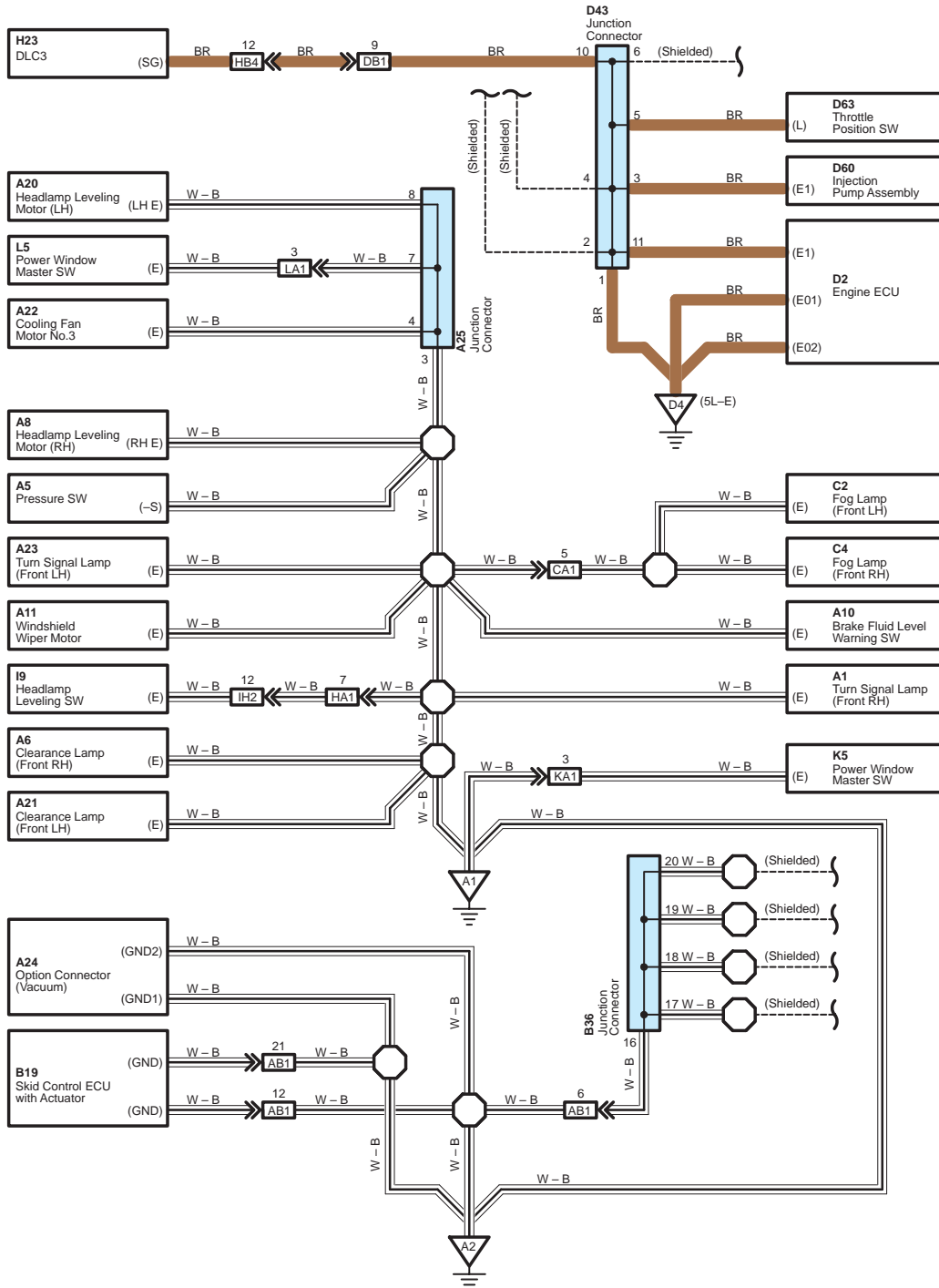
[T] : Indicates the reference page showing the position of the ground points on the vehicle.

Example : Ground point "H2" is described on page 50 of this manual and is installed on the back panel center.

B HOW TO USE THIS MANUAL

The ground points circuit diagram shows the connections from all major parts to the respective ground points. When troubleshooting a faulty ground point, checking the system circuits which use a common ground may help you identify the problem ground quickly. The relationship between ground points ($\nabla A1$, $\nabla A2$ and $\nabla D4$ shown below) can also be checked this way.

I GROUND POINT

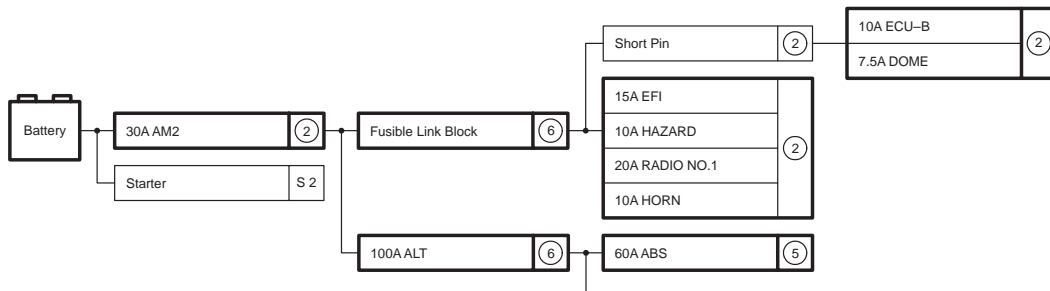


* The system shown here is an EXAMPLE ONLY. It is different to the actual circuit shown in the SYSTEM CIRCUITS SECTION.

The "Current Flow Chart" section, describes which parts each power source (fuses, fusible links, and circuit breakers) transmits current to. In the Power Source circuit diagram, the conditions when battery power is supplied to each system are explained. Since all System Circuit diagrams start from the power source, the power source system must be fully understood.

J POWER SOURCE (Current Flow Chart)

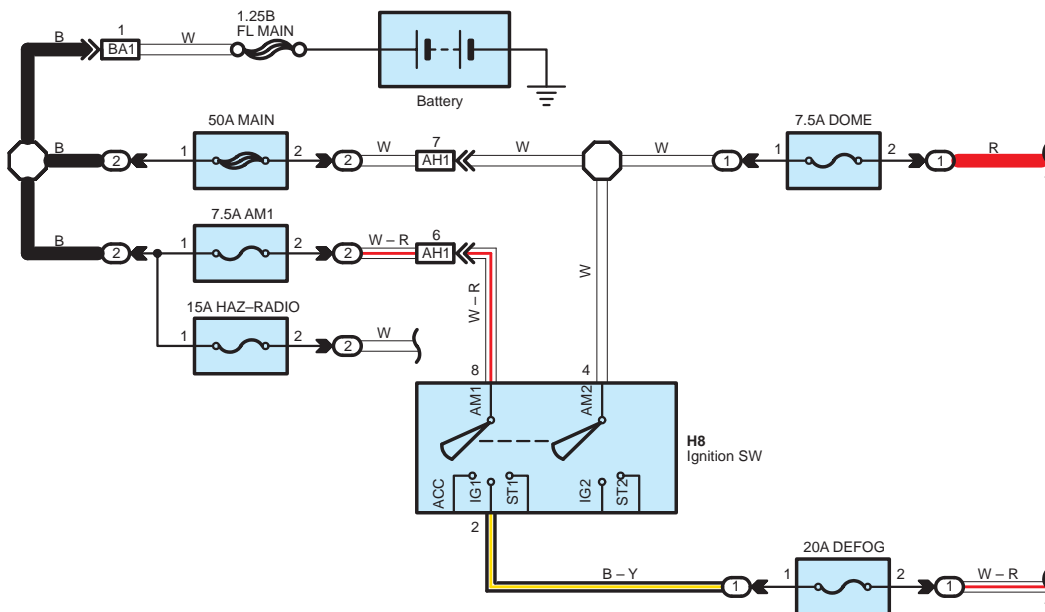
The chart below shows the route by which current flows from the battery to each electrical source (Fusible Link, Circuit Breaker, Fuses, etc.) and other parts



Engine Room R/B (See Page 20)

Fuse	System	Page
20A STOP	ABS	194
	ABS and Traction Control	187
	Cruise Control	180
	Electronically Controlled Transmission	166
	Multiplex Communication System	210
10A DOME	Cigarette Lighter	214
	Combination Meter	230
	Headlight	112
	Interior Light	122
	Key Reminder and Seat Belt Warning	
	Light Auto Turn Off System	

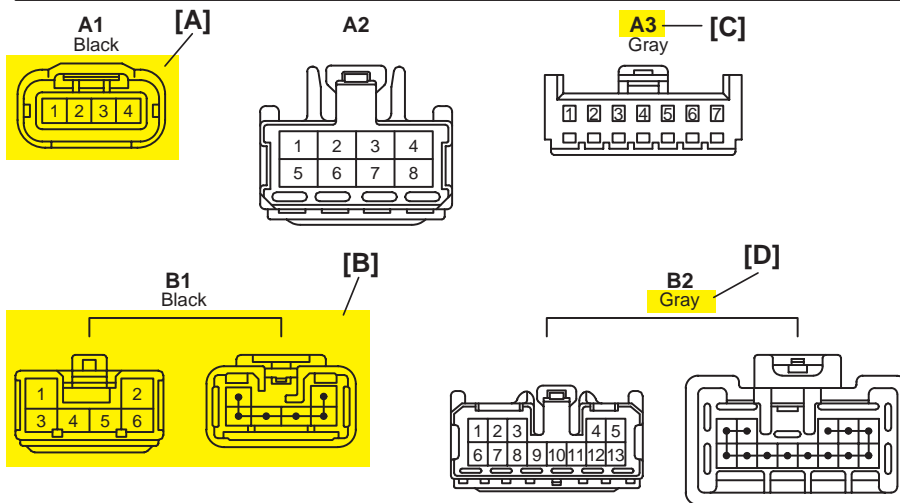
Power Source



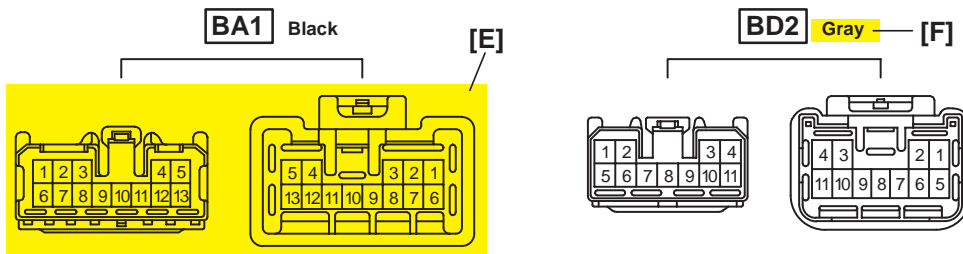
* The system shown here is an EXAMPLE ONLY. It is different to the actual circuit shown in the SYSTEM CIRCUITS SECTION.

B HOW TO USE THIS MANUAL

K CONNECTOR LIST

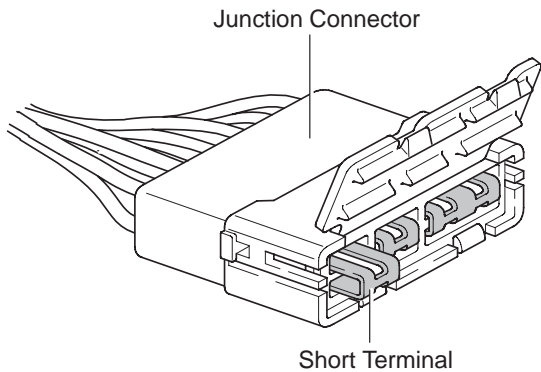


K CONNECTOR LIST



[A] : Indicates connector to be connected to a part. (The numeral indicates the pin No.)

[B] : Junction Connector
Indicates a connector which is connected to a short terminal.



Junction connector in this manual include a short terminal which is connected to a number of wire harnesses. Always perform inspection with the short terminal installed.

[C] : Parts Code
The first letter of the code is taken from the first letter of part, and the numbers indicates its order in parts which start with the same letter.

[D] : Connector Color
Connectors not indicated are milky white in color.

[E] : Indicates the connector shapes which are used to join wire harnesses.
On Left : Female connector shapes
On Right : Male connector shapes
Numbers indicate pin numbers.

[F] : Indicates connector colors. (Connectors with not indicated colors are white)

L PART NUMBER OF CONNECTORS

Code	Part Name	Part Number	Code	Part Name	Part Number
A1	Turn Signal Lamp (Front RH)	90980-11019	B22	Door Courtesy SW (Front LH)	90980-12470
A2	Inlet Air Temp. Sensor	90980-11163	B23	Front Seat Outer Belt (LH)	90980-12253
A3	Air Flow Meter	90980-12292	B24	Blower SW (Rear Heater)	90980-10463
A4	A/C Pressure Sensor	90980-10845	B25	Front Seat Outer Belt (RH)	90980-12253
A5	Pressure SW	90980-10943	B26	Door Courtesy SW (Front RH)	90980-12470
A6	Clearance Lamp (Front RH)	90980-11156	B27	Cooling Fan ECU No.1	90980-10841
[A]	Headla [B] :H)	909 [C] 314	B28	Cooling Fan ECU No.2	
A8	Headlamp Leveling Motor (RH)	90980-11016	B29	Water Temp. Sensor (Radiator)	90980-10735
A9	Brake Vacuum Warning SW	90980-11252	B30	Fuel Filter Warning SW	90980-11003
A10	Brake Fluid Level Warning SW	90980-11207	B32	Door Control Relay (LH)	90980-10789
A11	Windshield Washer Motor	90980-11599	B33	Step Lamp (LH)	90980-10121
A12	Airbag Sensor (Front RH)	90980-11856	B34	Junction Connector	
A13	Airbag Sensor (Front LH)	90980-12490	B35	Junction Connector	90980-11398

[A] : Part Code

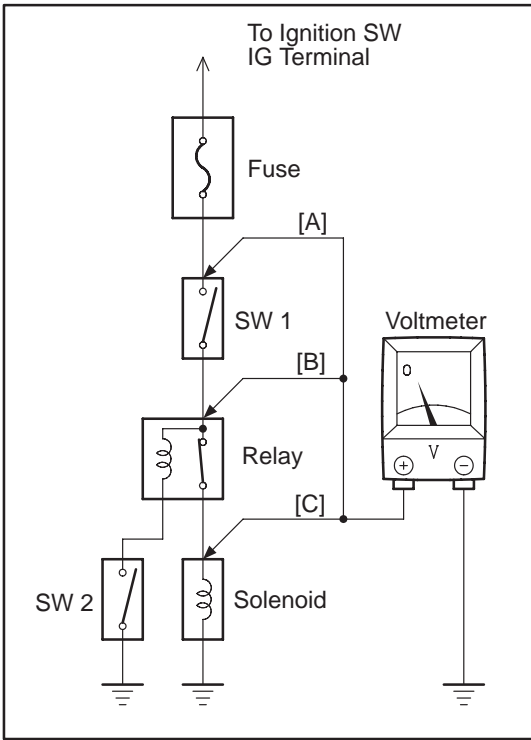
[B] : Part Name

[C] : Part Number

Toyota Part Number are indicated.

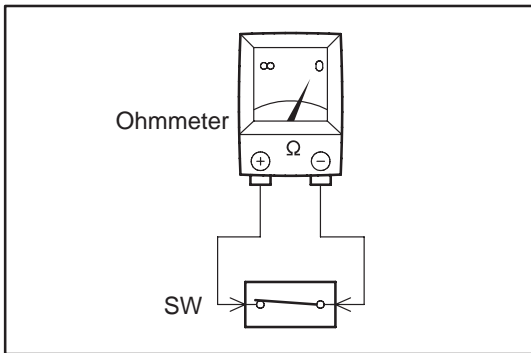
Not all of the above part numbers of the connector are established for the supply.

C TROUBLESHOOTING



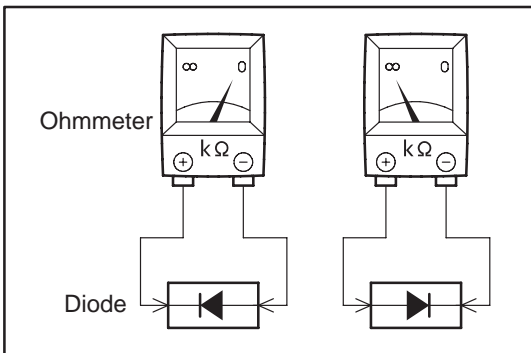
VOLTAGE CHECK

- Establish conditions in which voltage is present at the check point.
Example:
[A] – Ignition SW on
[B] – Ignition SW and SW 1 on
[C] – Ignition SW, SW 1 and Relay on (SW 2 off)
- Using a voltmeter, connect the negative lead to a good ground point or negative battery terminal, and the positive lead to the connector or component terminal.
This check can be done with a test light instead of a voltmeter.

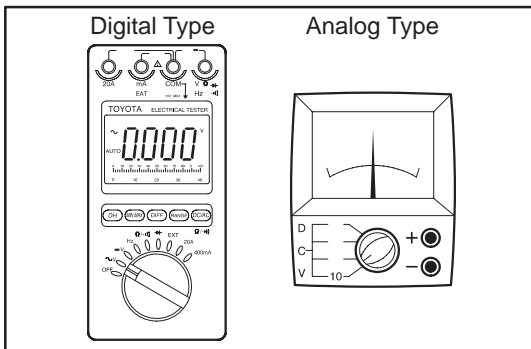


CONTINUITY AND RESISTANCE CHECK

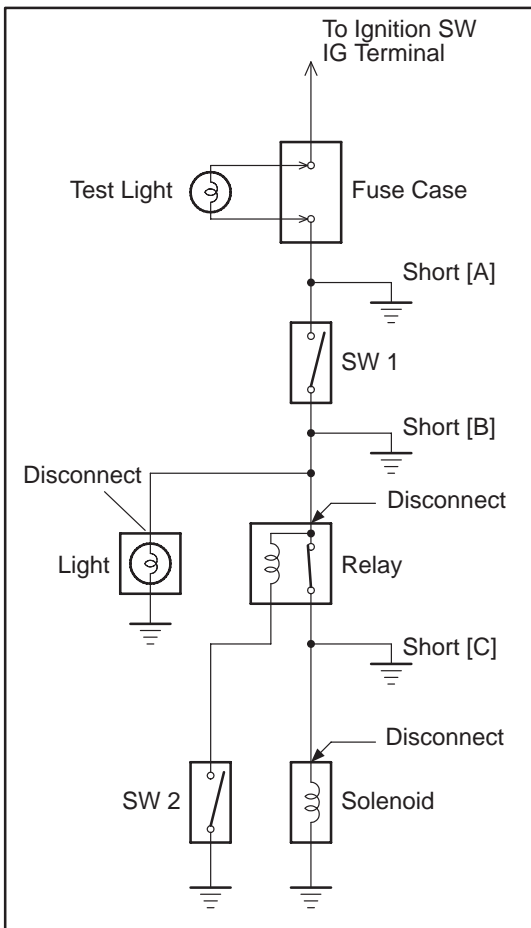
- Disconnect the battery terminal or wire so there is no voltage between the check points.
- Contact the two leads of an ohmmeter to each of the check points.



If the circuit has diodes, reverse the two leads and check again.
When contacting the negative lead to the diode positive side and the positive lead to the negative side, there should be continuity.
When contacting the two leads in reverse, there should be no continuity.



- Use a volt/ohmmeter with high impedance (10 kΩ/V minimum) for troubleshooting of the electrical circuit.



FINDING A SHORT CIRCUIT

- Remove the blown fuse and disconnect all loads of the fuse.
- Connect a test light in place of the fuse.
- Establish conditions in which the test light comes on.

Example:

- [A] – Ignition SW on
- [B] – Ignition SW and SW 1 on
- [C] – Ignition SW, SW 1 and Relay on (Connect the Relay) and SW 2 off (or Disconnect SW 2)

- Disconnect and reconnect the connectors while watching the test light. The short lies between the connector where the test light stays lit and the connector where the light goes out.
- Find the exact location of the short by lightly shaking the problem wire along the body.

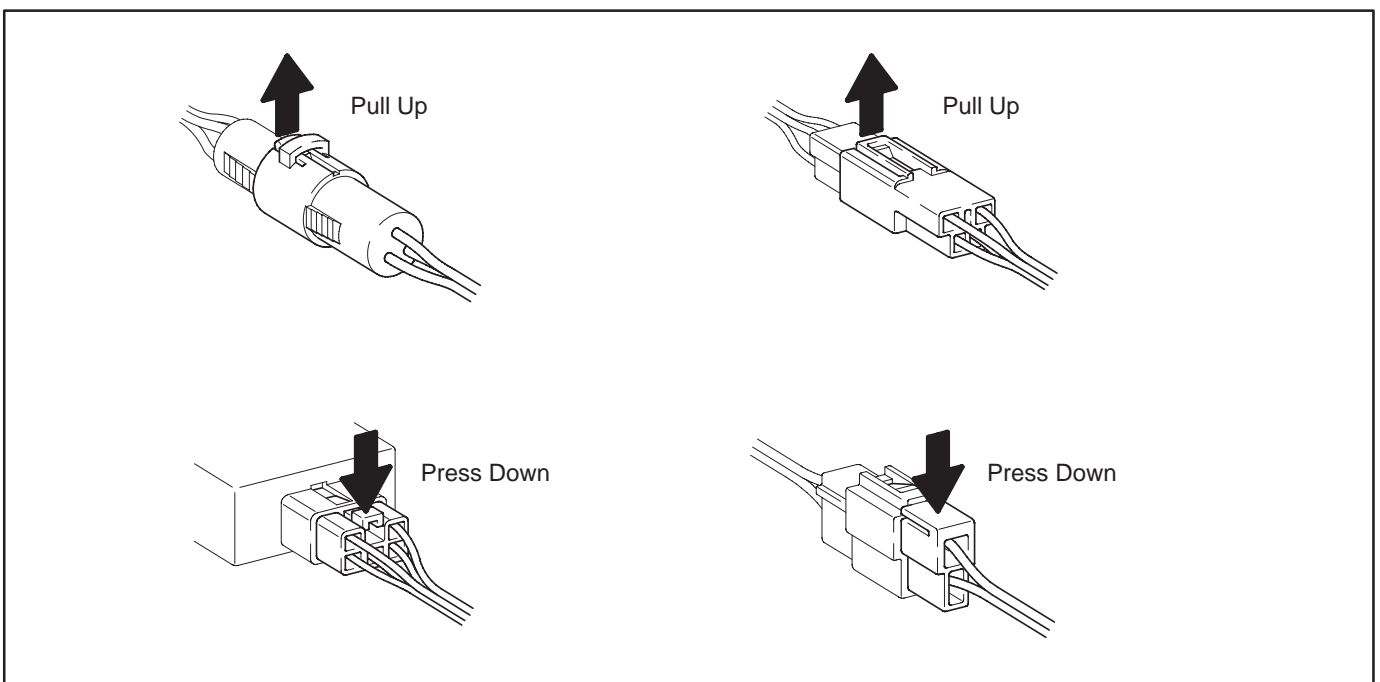
CAUTION:

- Do not open the cover or the case of the ECU unless absolutely necessary. (If the IC terminals are touched, the IC may be destroyed by static electricity.)
- When replacing the internal mechanism (ECU part) of the digital meter, be careful that no part of your body or clothing comes in contact with the terminals of leads from the IC, etc. of the replacement part (spare part).

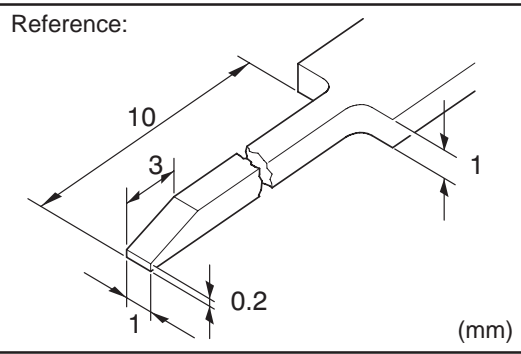
DISCONNECTION OF MALE AND FEMALE CONNECTORS

To pull apart the connectors, pull on the connector itself, not the wire harness.

HINT: Check to see what kind of connector you are disconnecting before pulling apart.



C TROUBLESHOOTING



HOW TO REPLACE TERMINAL (with terminal retainer or secondary locking device)

1. PREPARE THE SPECIAL TOOL

HINT : To remove the terminal from the connector, please construct and use the special tool or like object shown on the left.

2. DISCONNECT CONNECTOR

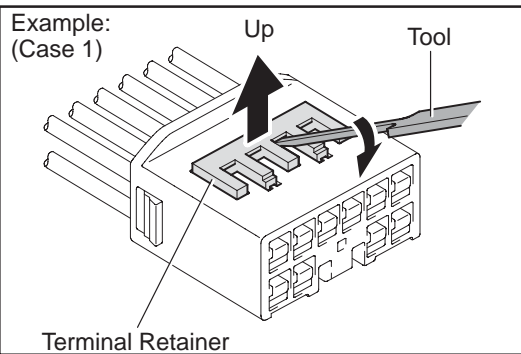
3. DISENGAGE THE SECONDARY LOCKING DEVICE OR TERMINAL RETAINER.

(a) Locking device must be disengaged before the terminal locking clip can be released and the terminal removed from the connector.

(b) Use a special tool or the terminal pick to unlock the secondary locking device or terminal retainer.

NOTICE:

Do not remove the terminal retainer from connector body.

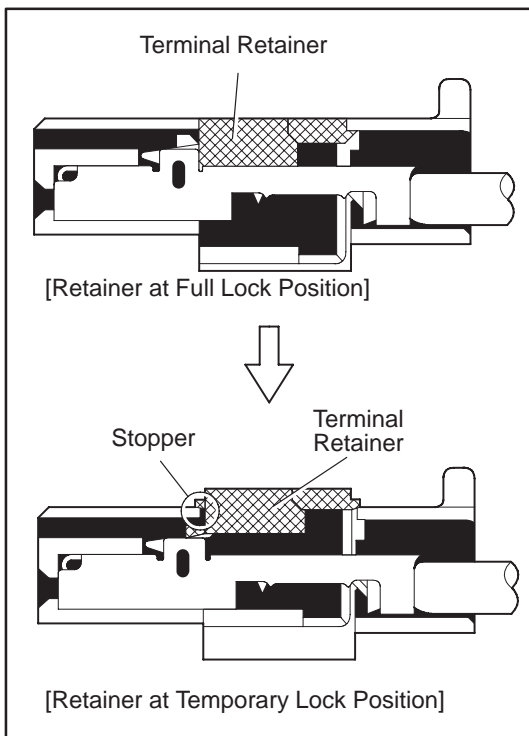


[A] For Non-Waterproof Type Connector

HINT : The needle insertion position varies according to the connector's shape (number of terminals etc.), so check the position before inserting it.

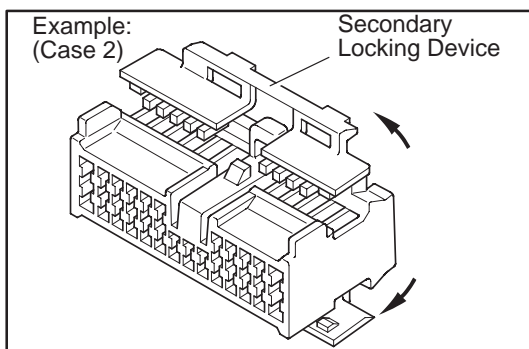
"Case 1"

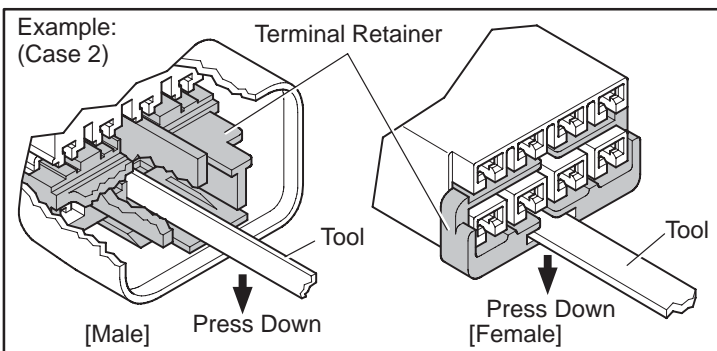
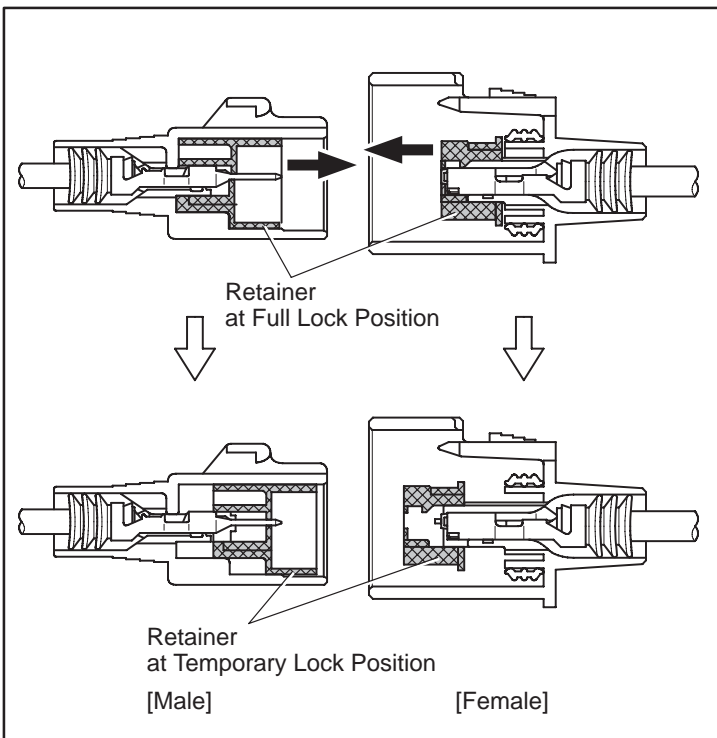
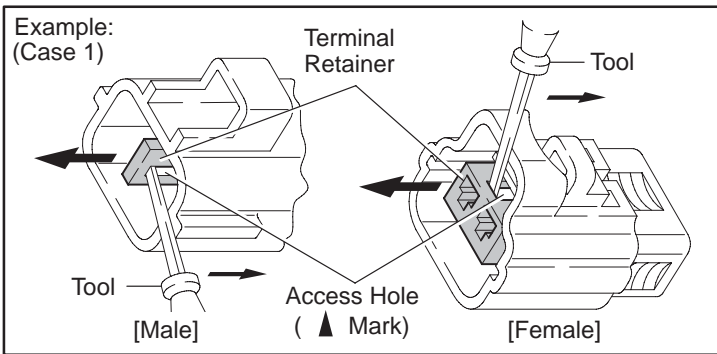
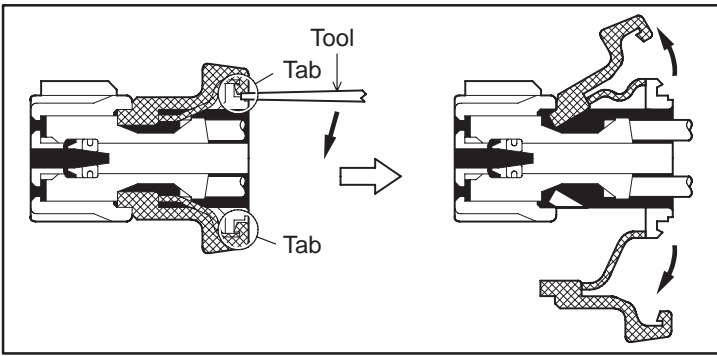
Raise the terminal retainer up to the temporary lock position.



"Case 2"

Open the secondary locking device.





[B] For Waterproof Type Connector

HINT : Terminal retainer color is different according to connector body.

Example:

Terminal Retainer : Connector Body

Black or White : Gray

Black or White : Dark Gray

Gray or White : Black

"Case 1"

Type where terminal retainer is pulled up to the temporary lock position (Pull Type).

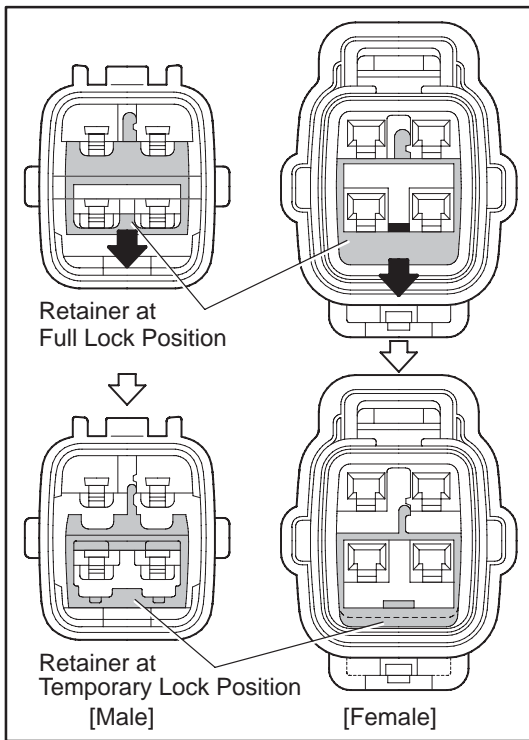
Insert the special tool into the terminal retainer access hole (▲Mark) and pull the terminal retainer up to the temporary lock position.

HINT : The needle insertion position varies according to the connector's shape (Number of terminals etc.), so check the position before inserting it.

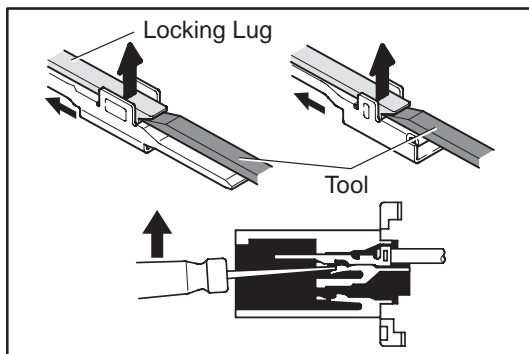
"Case 2"

Type which cannot be pulled as far as Power Lock insert the tool straight into the access hole of terminal retainer as shown.

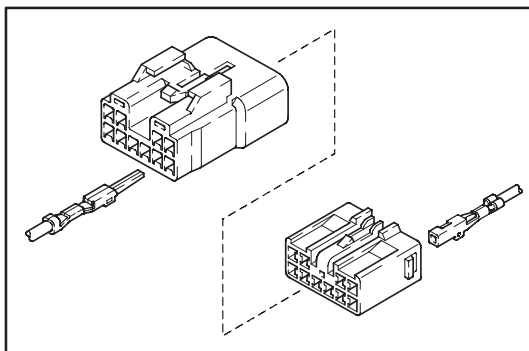
C TROUBLESHOOTING



Push the terminal retainer down to the temporary lock position.



(c) Release the locking lug from terminal and pull the terminal out from rear.

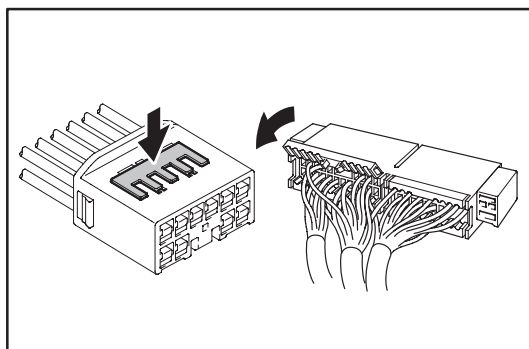


4. INSTALL TERMINAL TO CONNECTOR

(a) Insert the terminal.

HINT:

1. Make sure the terminal is positioned correctly.
2. Insert the terminal until the locking lug locks firmly.
3. Insert the terminal with terminal retainer in the temporary lock position.



(b) Push the secondary locking device or terminal retainer in to the full lock position.

5. CONNECT CONNECTOR

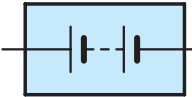

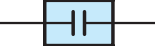



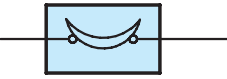


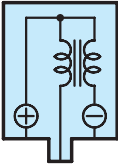




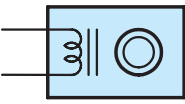

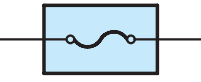


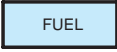

ABBREVIATIONS

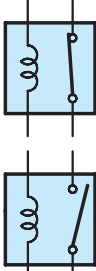

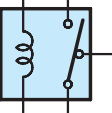
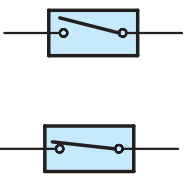
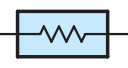
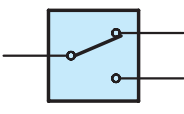
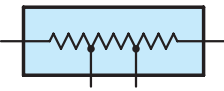
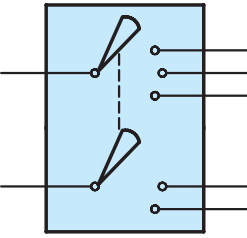
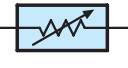
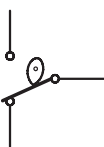

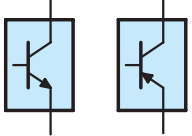

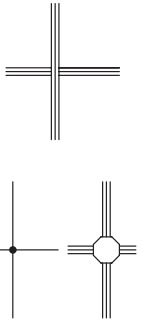
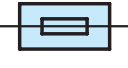
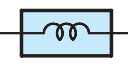
The following abbreviations are used in this manual.

2WD	=	Two Wheel Drive Vehicles
4WD	=	Four Wheel Drive Vehicles
A/C	=	Air Conditioning
A/T	=	Automatic Transaxle
ABS	=	Anti-Lock Brake System
ACIS	=	Acoustic Control Induction System
CAN	=	Controller Area Network
CPU	=	Central Processing Unit
ECU	=	Electronic Control Unit
EPS	=	Electric Motor Power Steering
ESA	=	Electronic Spark Advance
ETCS-i	=	Electronic Throttle Control System-intelligent
FL	=	Fusible Link
IC	=	Integrated Circuit
J/B	=	Junction Block
LED	=	Light Emitting Diode
LH	=	Left-Hand
LSD	=	Limited Slip Differential
R/B	=	Relay Block
RH	=	Right-Hand
SFI	=	Sequential Multiport Fuel Injection
SRS	=	Supplemental Restraint System
SW	=	Switch
TEMP.	=	Temperature
TRAC	=	Traction Control
TVIP	=	TOYOTA Vehicle Intrusion Protection
VSC	=	Vehicle Stability Control
VSV	=	Vacuum Switching Valve
VVT	=	Variable Valve Timing
VVT-i	=	Variable Valve Timing-intelligent
w/	=	With
w/o	=	Without

* The titles given inside the components are the names of the terminals (terminal codes) and are not treated as being abbreviations.

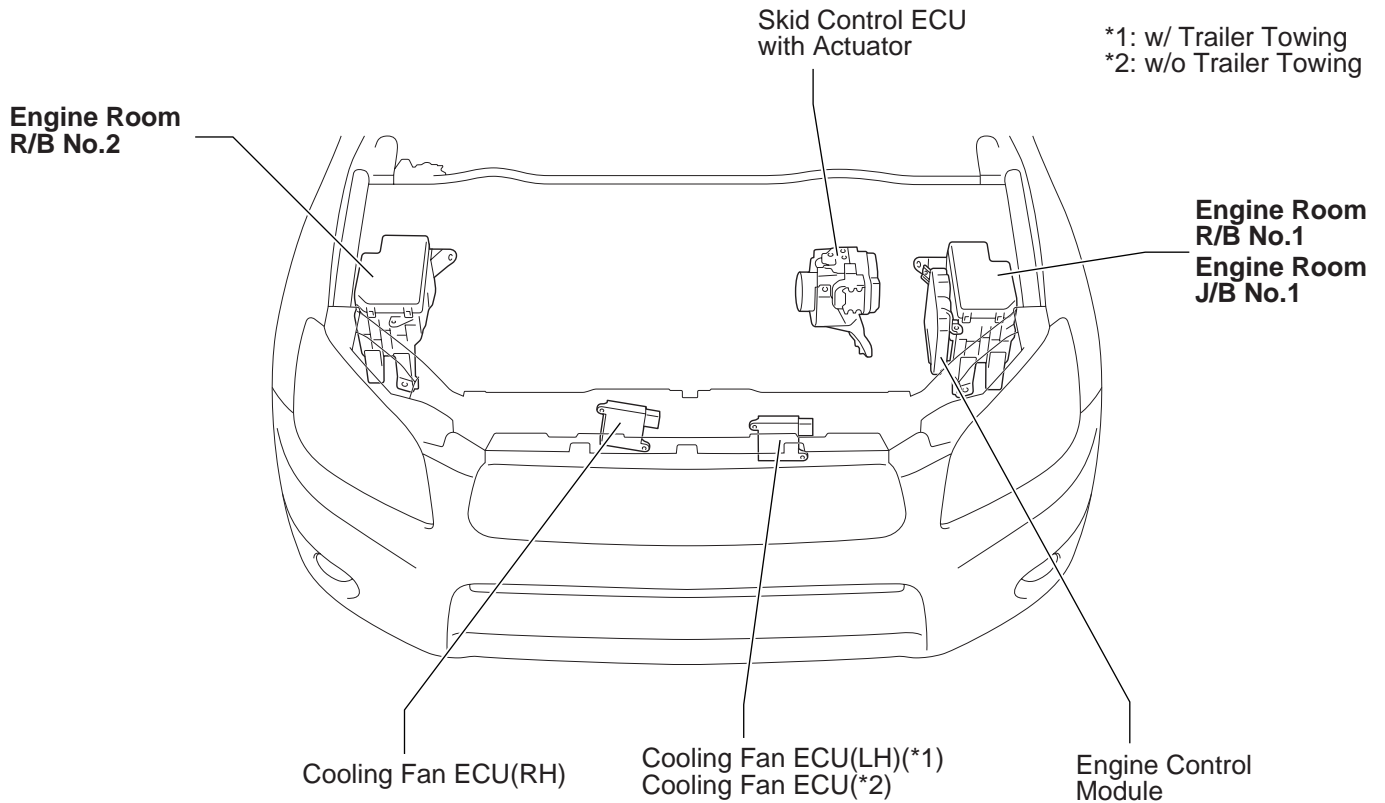
E GLOSSARY OF TERMS AND SYMBOLS

 <p>BATTERY Stores chemical energy and converts it into electrical energy. Provides DC current for the auto's various electrical circuits.</p>	 <p>GROUND The point at which wiring attaches to the Body, thereby providing a return path for an electrical circuit; without a ground, current cannot flow.</p>
 <p>CAPACITOR (Condenser) A small holding unit for temporary storage of electrical voltage.</p>	<p>HEADLIGHTS Current flow causes a headlight filament to heat up and emit light. A headlight may have either a single (1) filament or a double (2) filament</p> <p>1. SINGLE FILAMENT </p> <p>2. DOUBLE FILAMENT </p>
 <p>CIGARETTE LIGHTER An electric resistance heating element.</p>	
 <p>CIRCUIT BREAKER Basically a reusable fuse, a circuit breaker will heat and open if too much current flows through it. Some units automatically reset when cool, others must be manually reset.</p>	 <p>HORN An electric device which sounds a loud audible signal.</p>
 <p>DIODE A semiconductor which allows current flow in only one direction.</p>	 <p>IGNITION COIL Converts low-voltage DC current into high-voltage ignition current for firing the spark plugs.</p>
 <p>DIODE, ZENER A diode which allows current flow in one direction but blocks reverse flow only up to a specific voltage. Above that potential, it passes the excess voltage. This acts as a simple voltage regulator.</p>	 <p>LIGHT Current flow through a filament causes the filament to heat up and emit light.</p>
 <p>PHOTODIODE The photodiode is a semiconductor which controls the current flow according to the amount of light.</p>	 <p>LED (LIGHT EMITTING DIODE) Upon current flow, these diodes emit light without producing the heat of a comparable light.</p>
 <p>DISTRIBUTOR, IIA Channels high-voltage current from the ignition coil to the individual spark plugs.</p>	 <p>METER, ANALOG Current flow activates a magnetic coil which causes a needle to move, thereby providing a relative display against a background calibration.</p>
 <p>FUSE A thin metal strip which burns through when too much current flows through it, thereby stopping current flow and protecting a circuit from damage.</p>  <p>FUSIBLE LINK (for Medium Current Fuse) A heavy-gauge wire placed in high amperage circuits which burns through on overloads, thereby protecting the circuit. The numbers indicate the cross-section surface area of the wires.</p>  <p>(for High Current Fuse or Fusible Link)</p>	 <p>METER, DIGITAL Current flow activates one or many LED's, LCD's, or fluorescent displays, which provide a relative or digital display.</p>
	 <p>MOTOR A power unit which converts electrical energy into mechanical energy, especially rotary motion.</p>

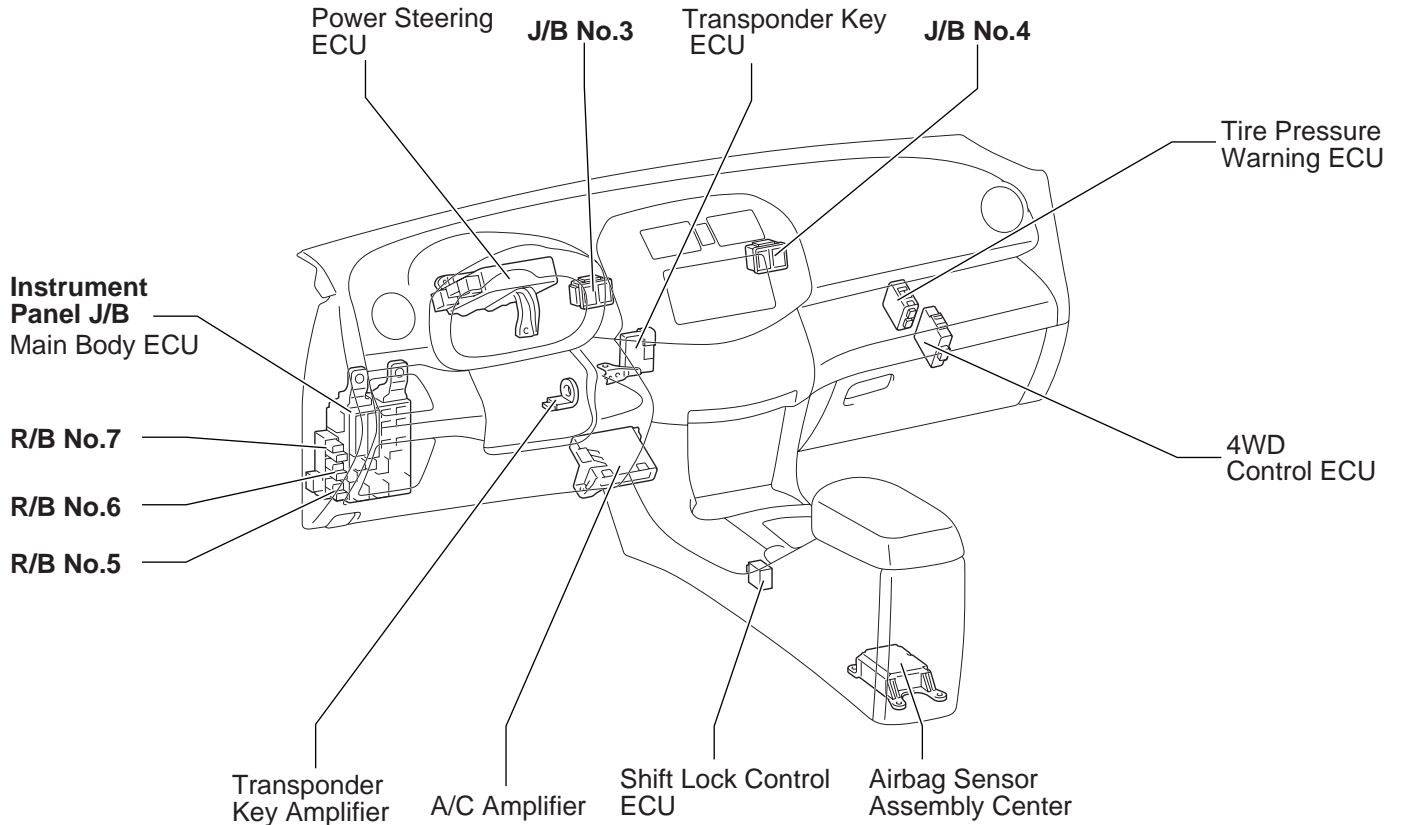
 <p>RELAY Basically, an electrically operated switch which may be normally closed (1) or open (2). Current flow through a small coil creates a magnetic field which either opens or closes an attached switch.</p> <p>1. NORMALLY CLOSED</p> <p>2. NORMALLY OPEN</p>	 <p>SPEAKER An electromechanical device which creates sound waves from current flow.</p>
 <p>RELAY, DOUBLE THROW A relay which passes current through one set of contacts or the other.</p>	<p>SWITCH, MANUAL Opens and closes circuits, thereby stopping (1) or allowing (2) current flow.</p>  <p>1. NORMALLY OPEN</p> <p>2. NORMALLY CLOSED</p>
 <p>RESISTOR An electrical component with a fixed resistance, placed in a circuit to reduce voltage to a specific value.</p>	<p>SWITCH, DOUBLE THROW A switch which continuously passes current through one set of contacts or the other.</p> 
 <p>RESISTOR, TAPPED A resistor which supplies two or more different non adjustable resistance values.</p>	<p>SWITCH, IGNITION A key operated switch with several positions which allows various circuits, particularly the primary ignition circuit, to become operational.</p> 
 <p>RESISTOR, VARIABLE or RHEOSTAT A controllable resistor with a variable rate of resistance. Also called a potentiometer or rheostat.</p>	<p>SWITCH, WIPER PARK Automatically returns wipers to the stop position when the wiper switch is turned off.</p> 
 <p>SENSOR (Thermistor) A resistor which varies its resistance with temperature.</p>	<p>TRANSISTOR A solidstate device typically used as an electronic relay; stops or passes current depending on the voltage applied at "base".</p> 
 <p>SENSOR, SPEED Uses magnetic impulses to open and close a switch to create a signal for activation of other components. (Reed Switch Type)</p>	<p>WIRES Wires are always drawn as straight lines on wiring diagrams. Crossed wires (1) without a black dot at the junction are not joined; crossed wires (2) with a black dot or octagonal (○) mark at the junction are spliced (joined) connections.</p>  <p>(1) NOT CONNECTED</p> <p>(2) SPLICED</p>
 <p>SHORT PIN Used to provide an unbroken connection within a junction block.</p>	
 <p>SOLENOID An electromagnetic coil which forms a magnetic field when current flows, to move a plunger, etc.</p>	

F RELAY LOCATIONS

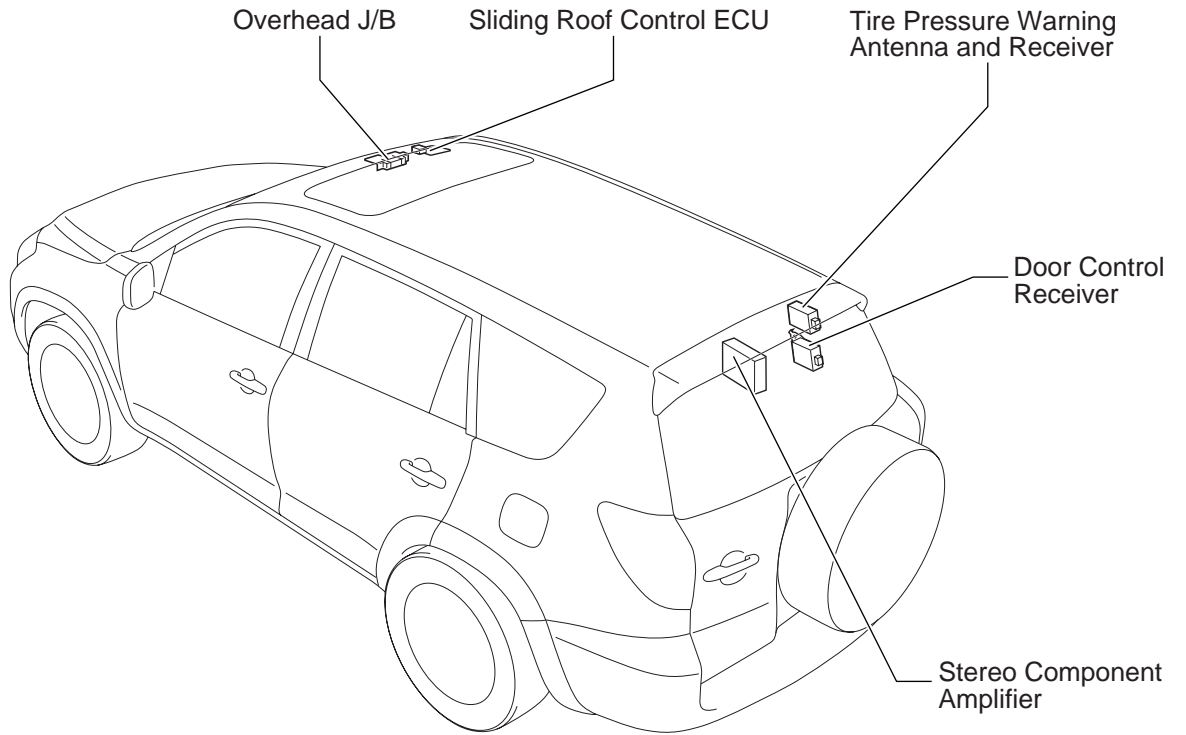
[Engine Compartment]



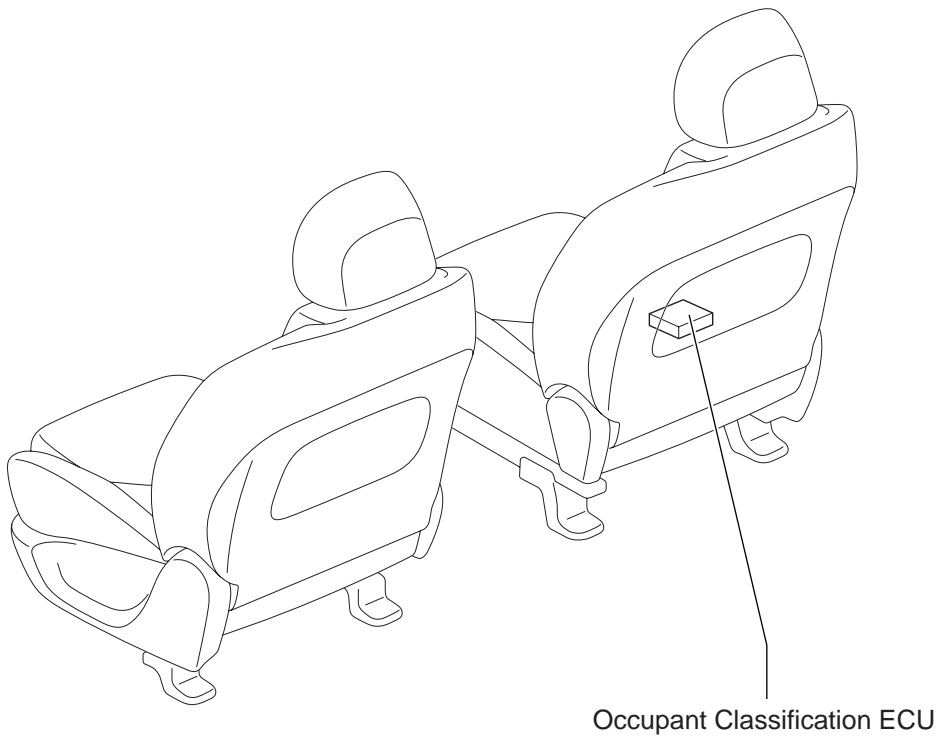
[Instrument Panel]



[Body]



[Seat]

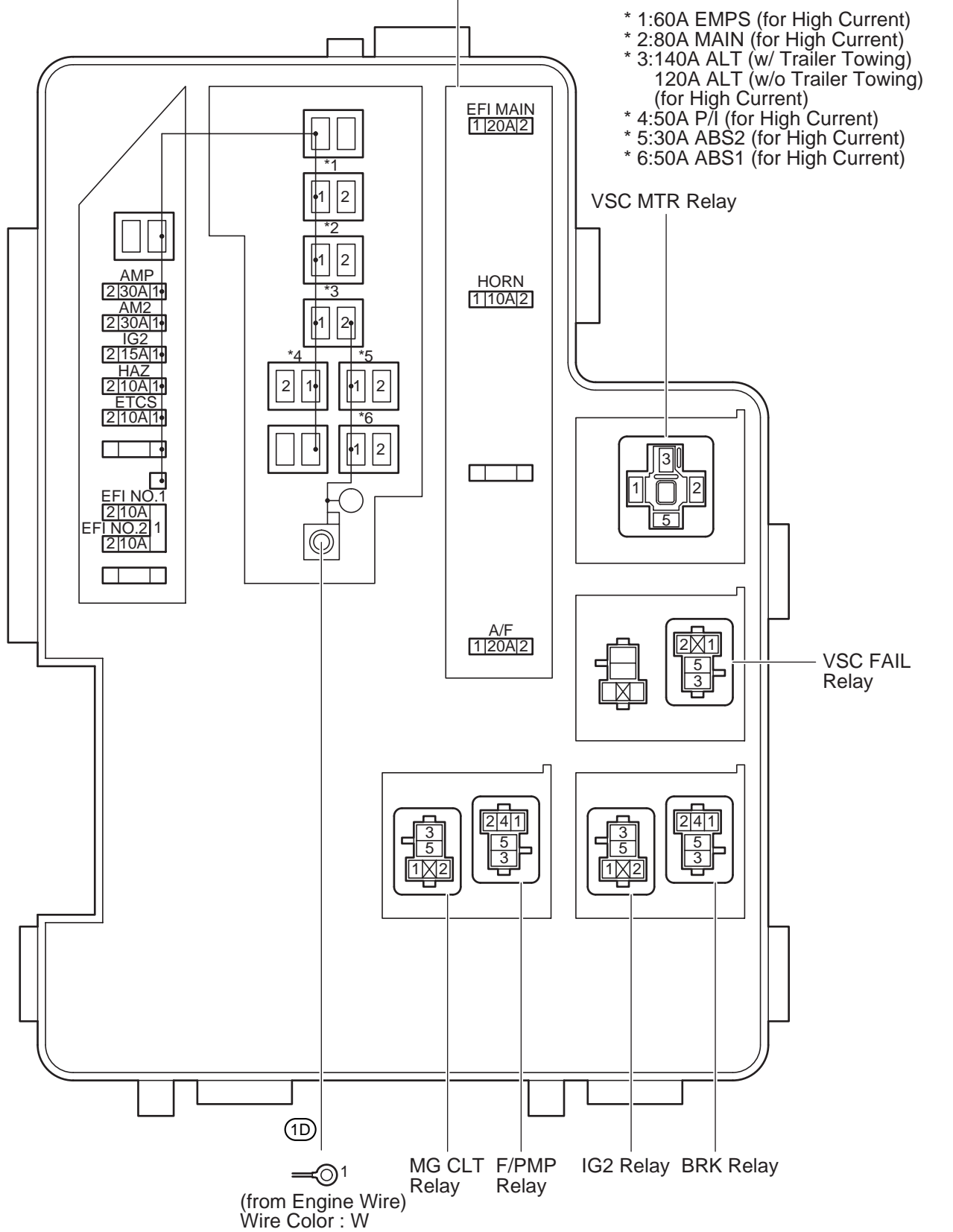


F RELAY LOCATIONS

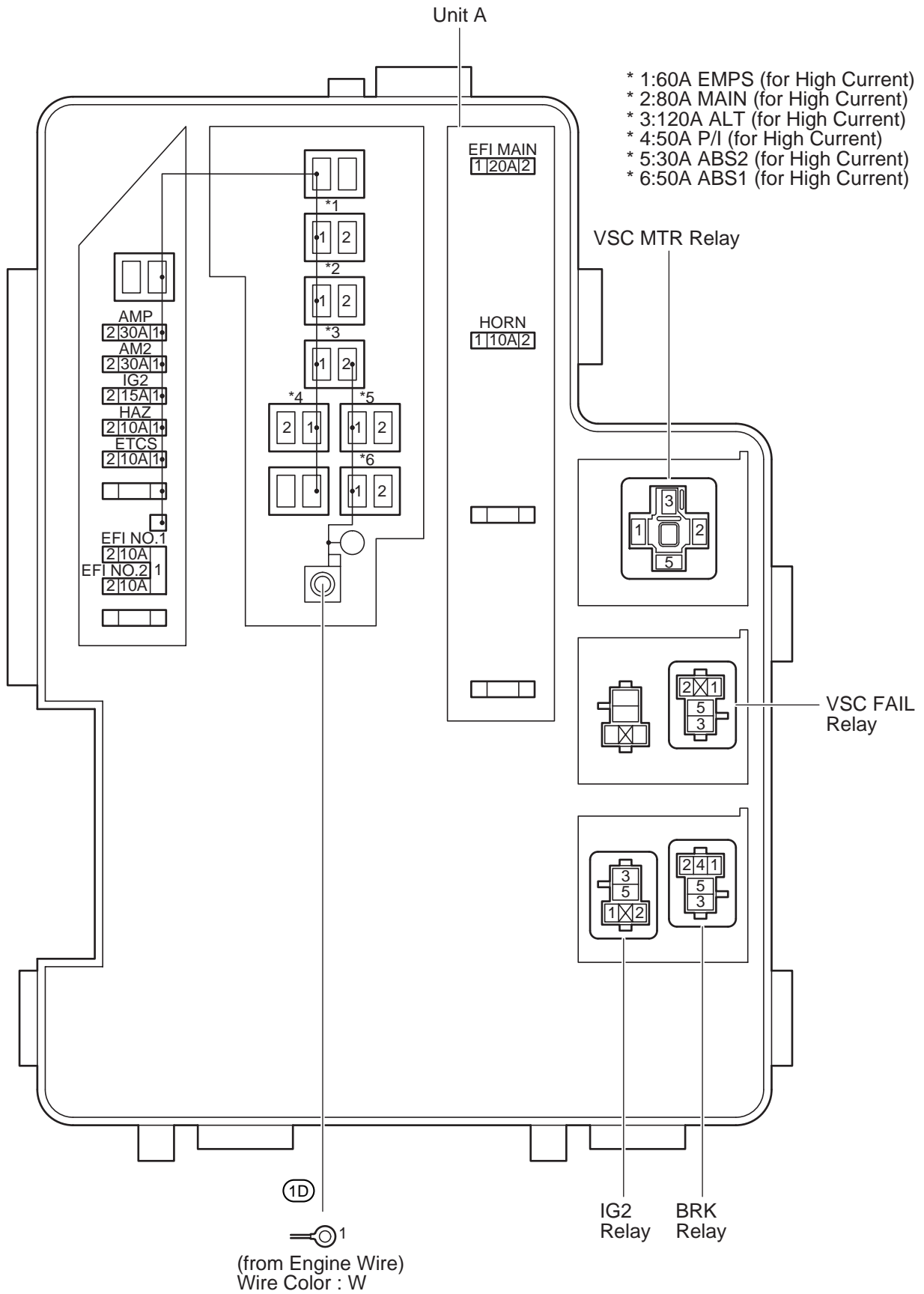
① : Engine Room R/B No.1	Engine Compartment Left (See Page 20)
○ : Engine Room J/B No.1	

[2GR-FE]

Unit A (Inner Circuit : See Page 25)



[2AZ-FE]

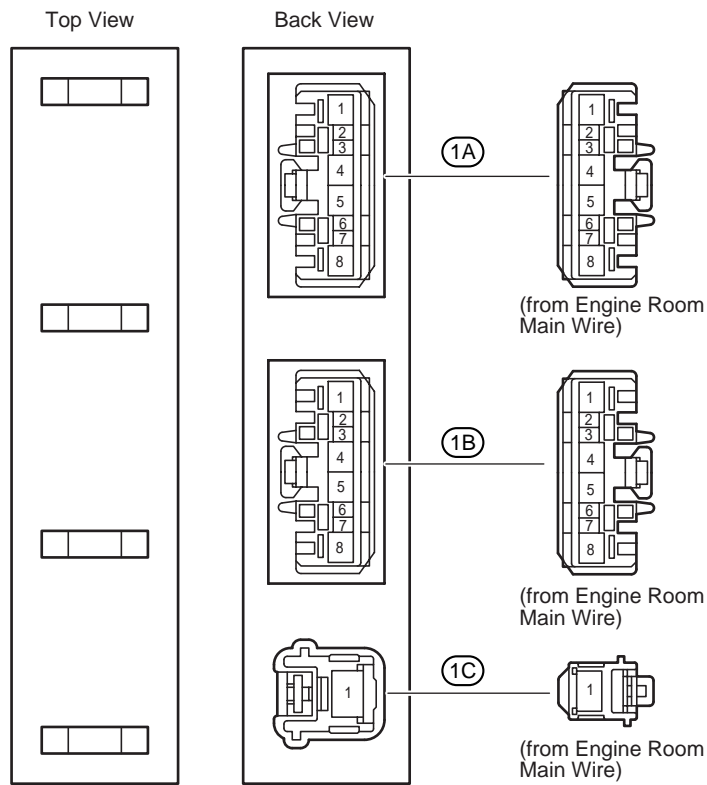


F RELAY LOCATIONS

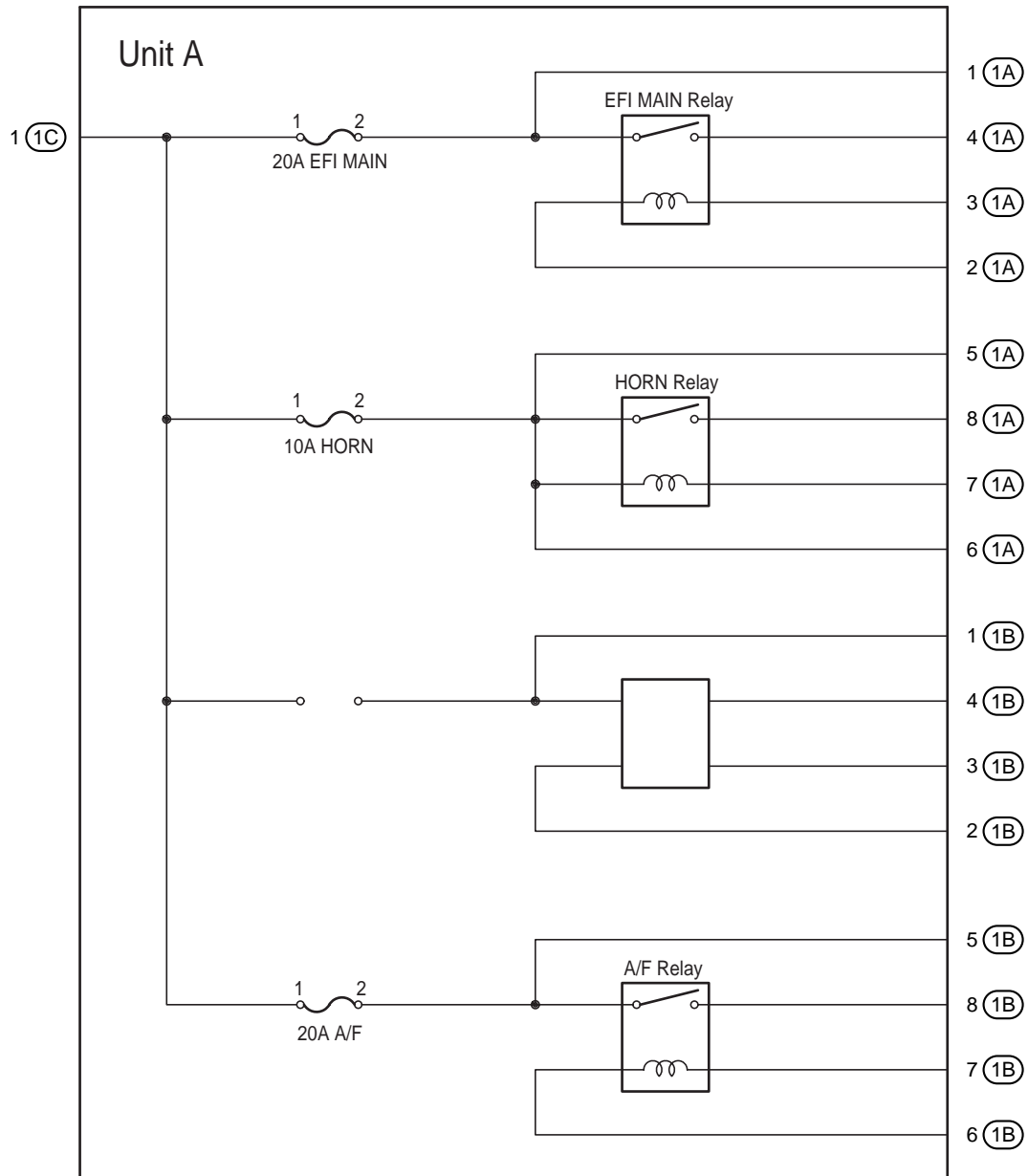
① : Engine Room R/B No.1	Engine Compartment Left (See Page 20)
○ : Engine Room J/B No.1	

(Inner Circuit : See Page 25)

Unit A



[Engine Room J/B No.1 Inner Circuit]

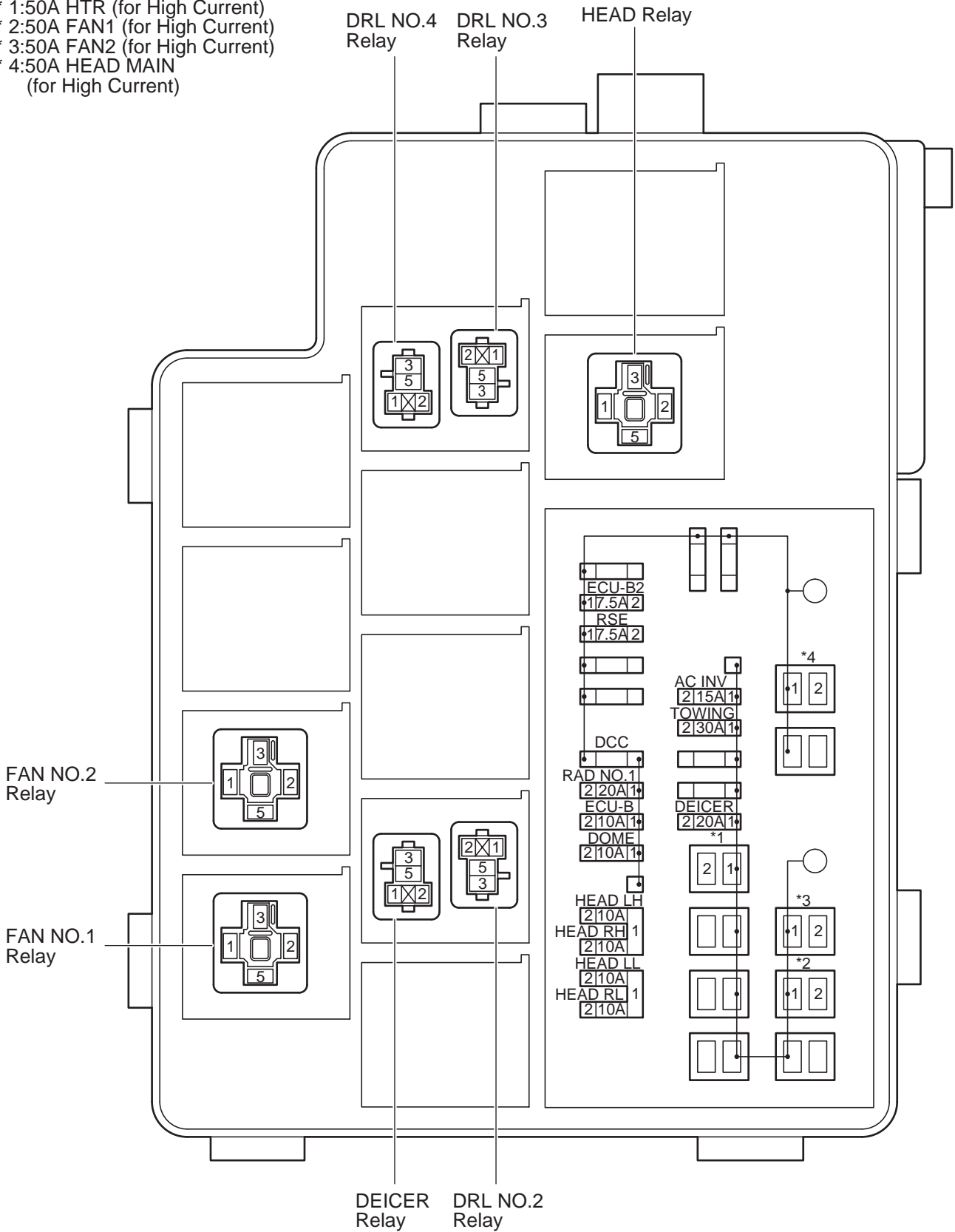


F RELAY LOCATIONS

② : Engine Room R/B No.2 | Engine Compartment Right (See Page 20)

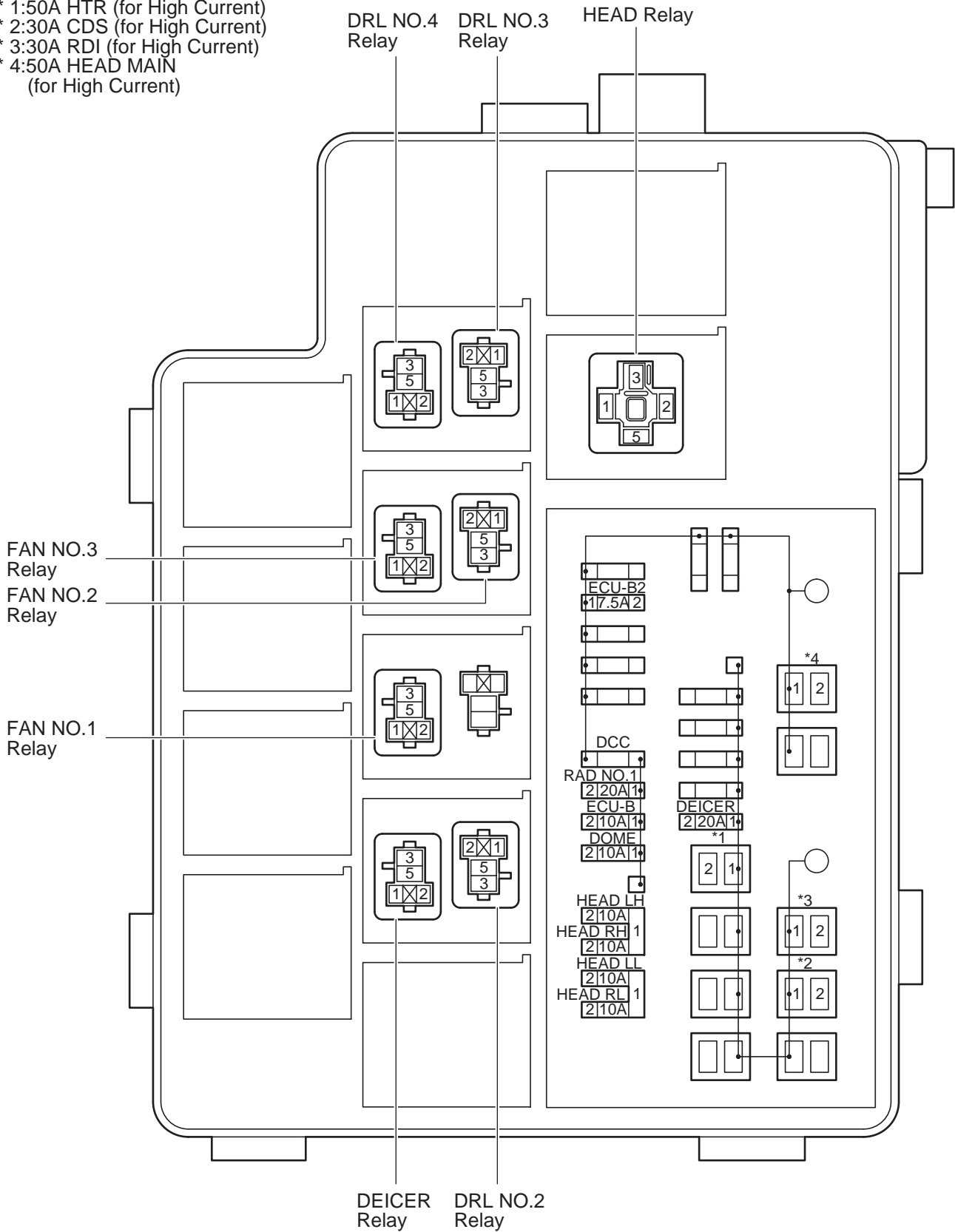
[2GR-FE]

- * 1:50A HTR (for High Current)
- * 2:50A FAN1 (for High Current)
- * 3:50A FAN2 (for High Current)
- * 4:50A HEAD MAIN (for High Current)



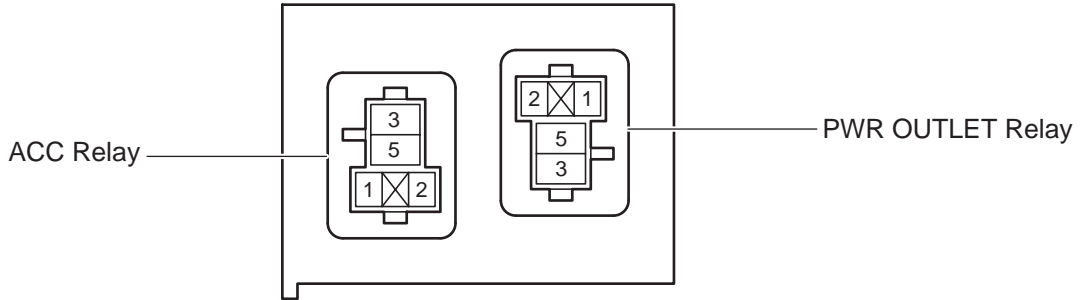
[2AZ-FE]

- * 1:50A HTR (for High Current)
- * 2:30A CDS (for High Current)
- * 3:30A RDI (for High Current)
- * 4:50A HEAD MAIN (for High Current)

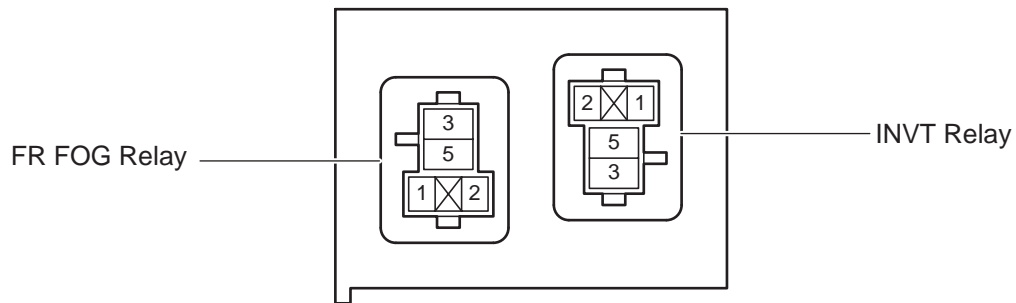


F RELAY LOCATIONS

⑤ : R/B No.5 | Cowl Side Left (See Page 20)

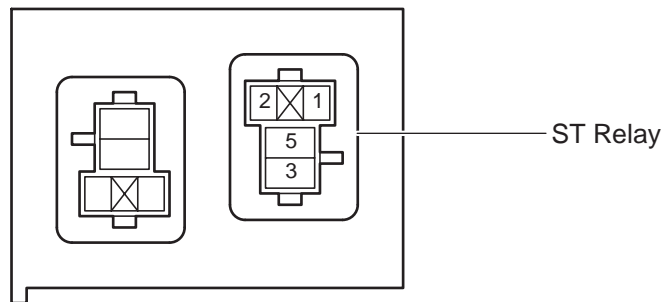


⑥ : R/B No.6 | Cowl Side Left (See Page 20)



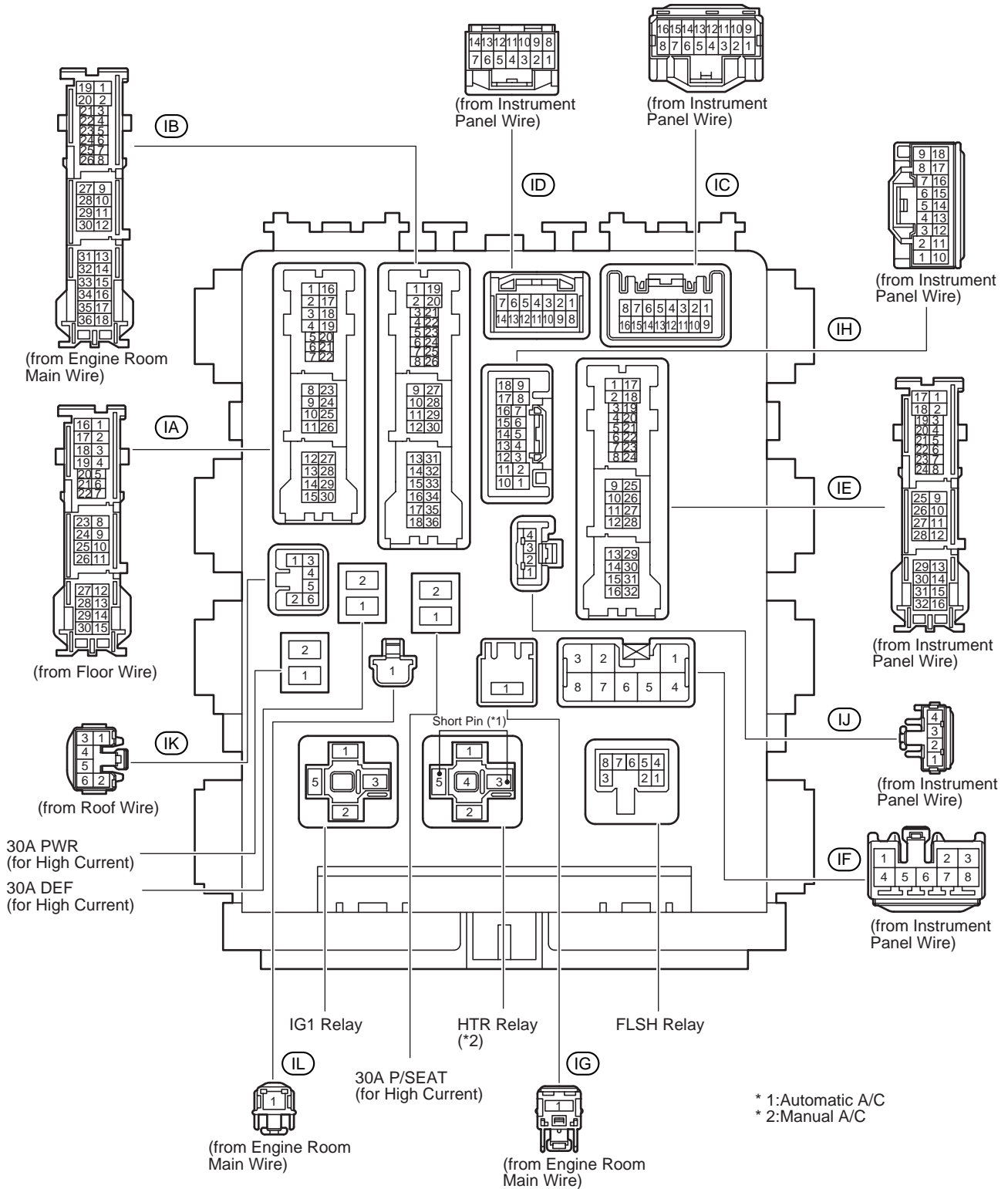
⑦ : R/B No.7

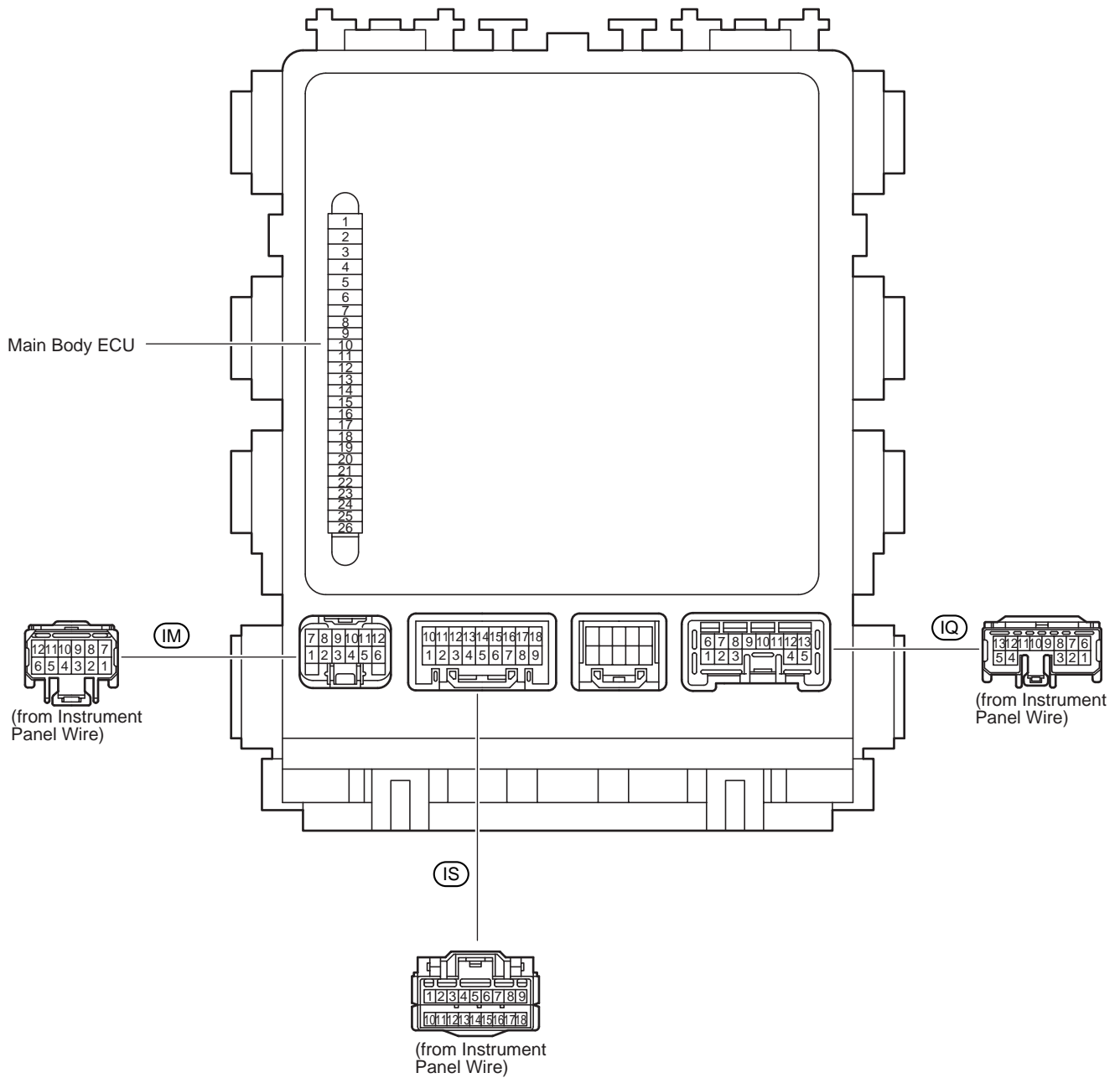
Cowl Side Left (See Page 20)



F RELAY LOCATIONS

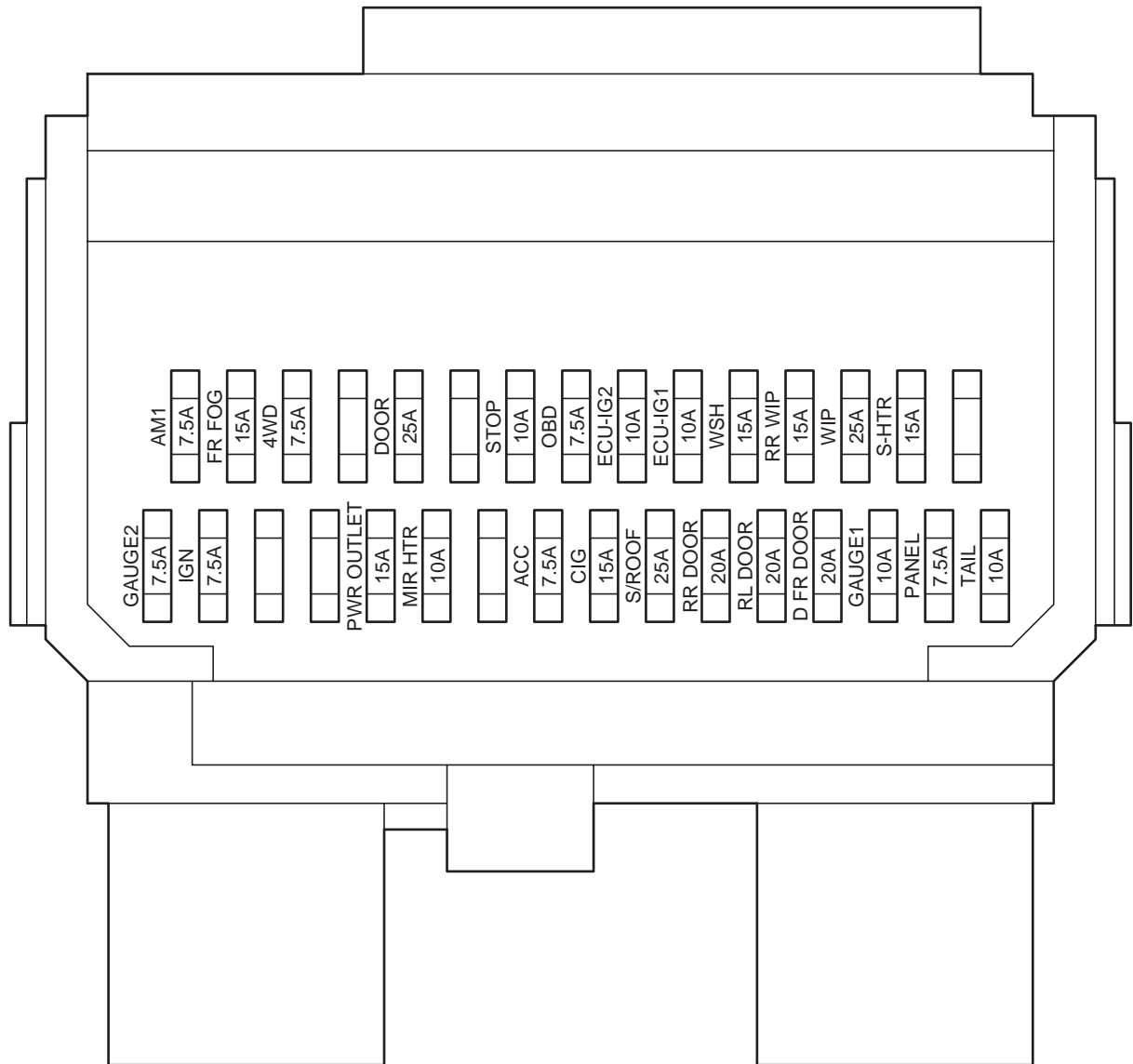
○ : Instrument Panel J/B Cowl Side Left (See Page 20)





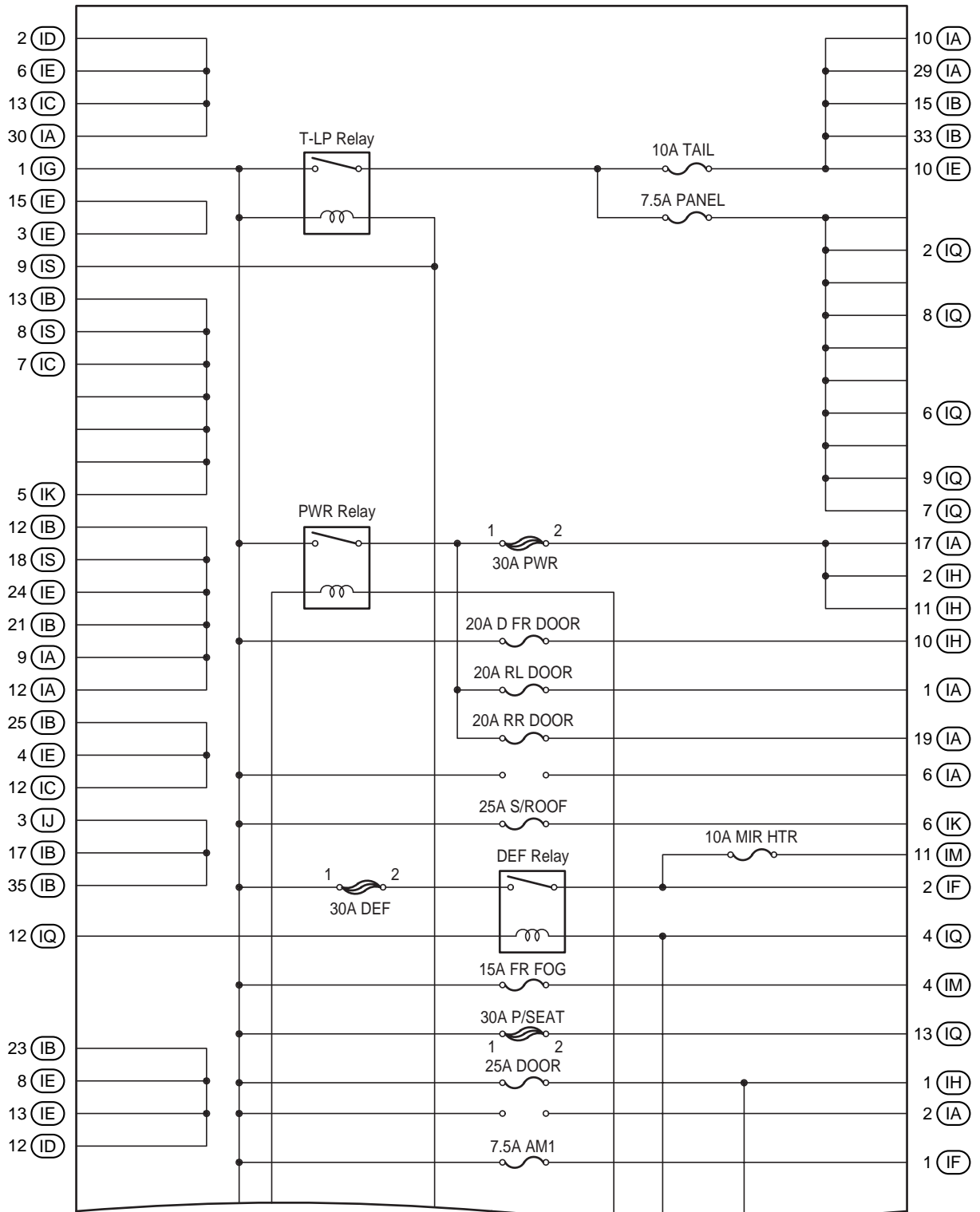
F RELAY LOCATIONS

○ : Instrument Panel J/B Cowl Side Left (See Page 20)



F RELAY LOCATIONS

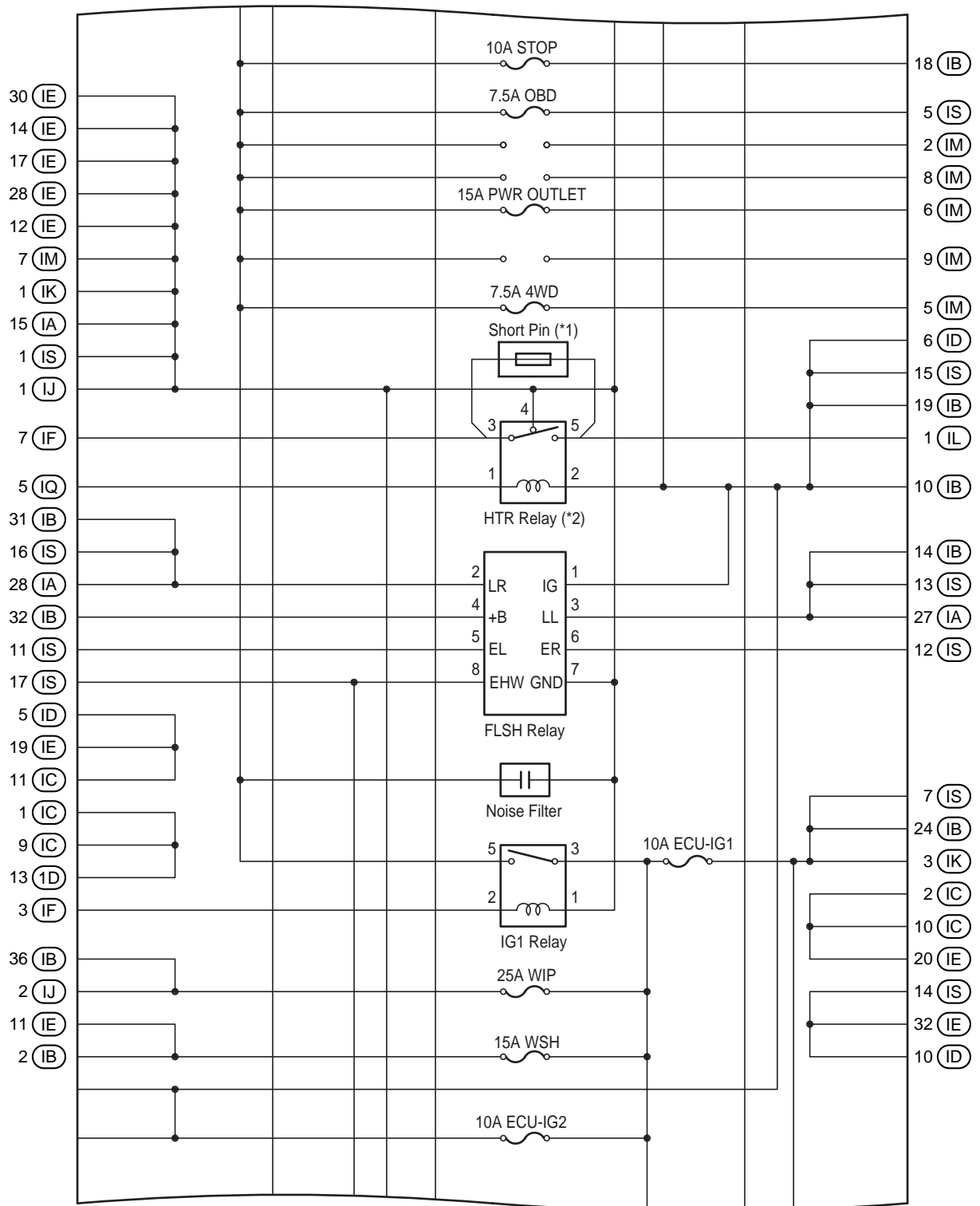
[Instrument Panel J/B Inner Circuit]



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* 1:Automatic A/C
 * 2:Manual A/C

(Cont'd)

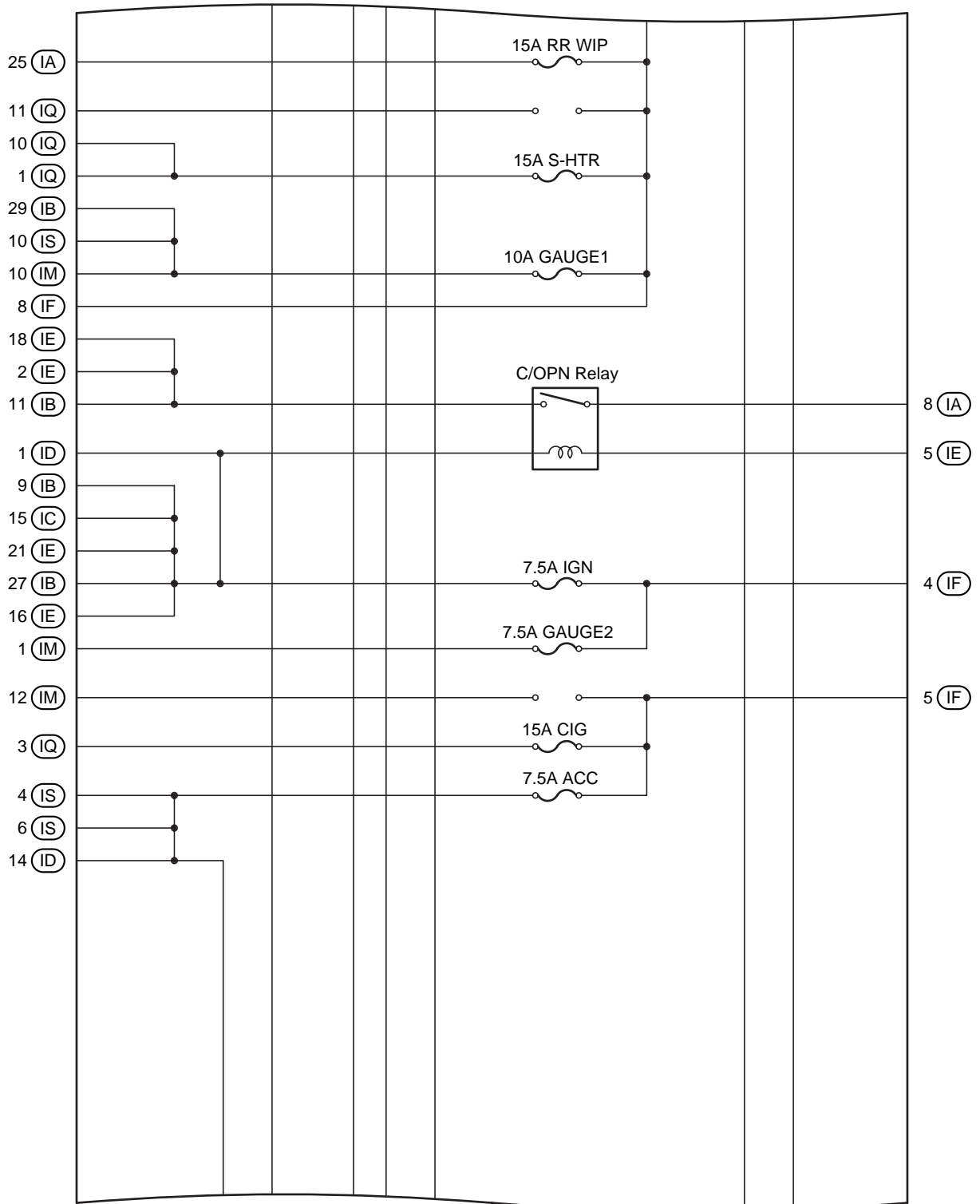


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F RELAY LOCATIONS

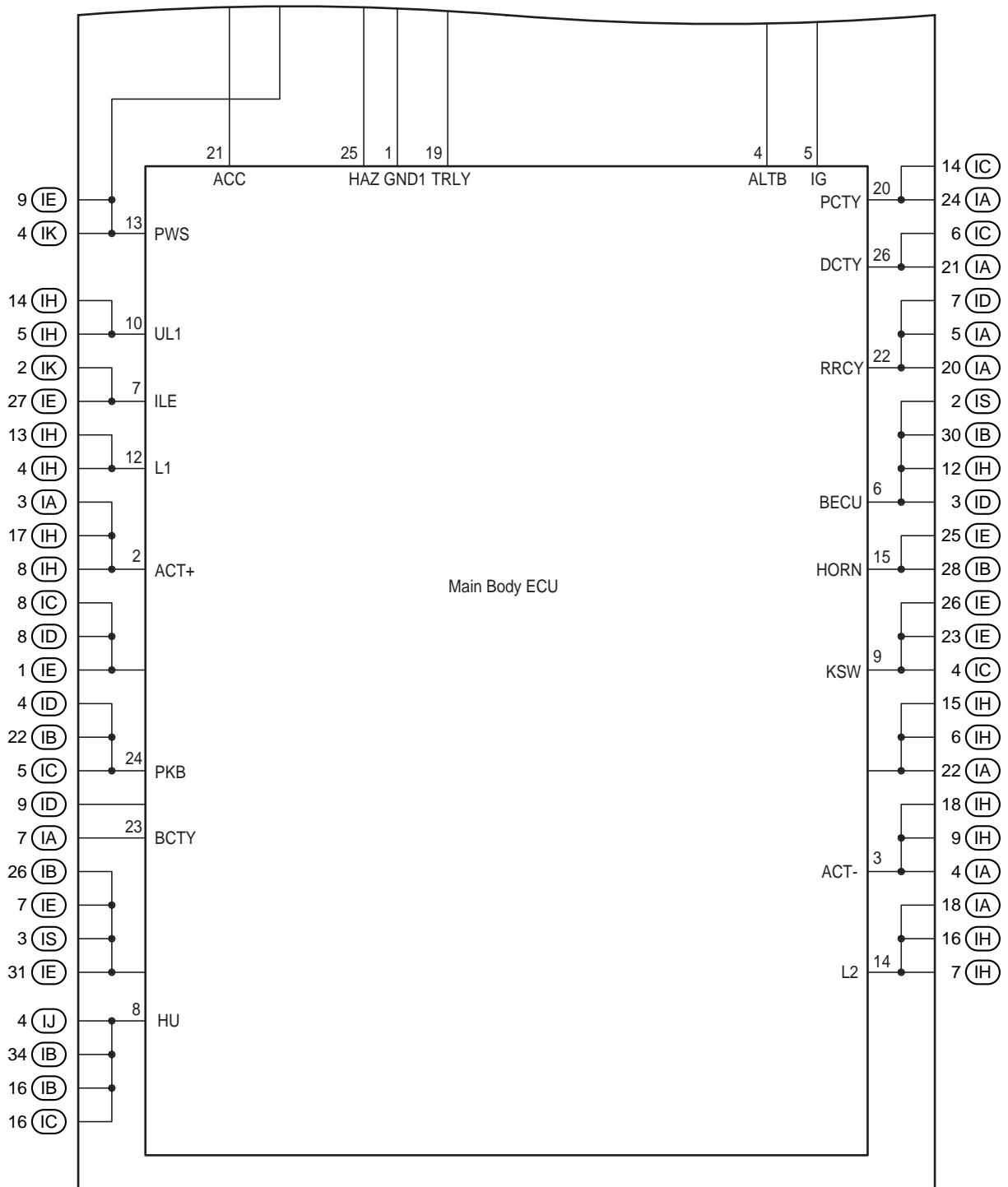
[Instrument Panel J/B Inner Circuit]

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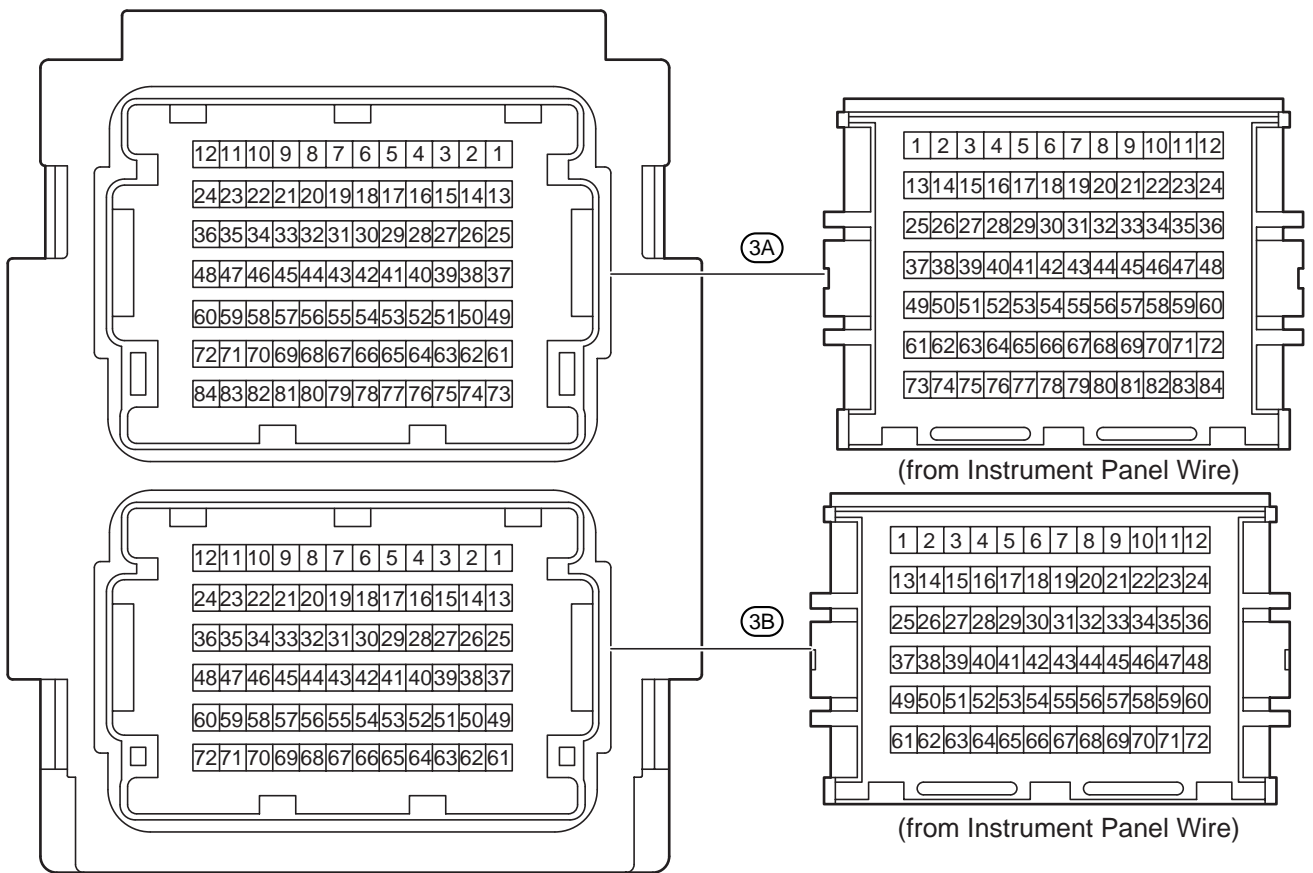
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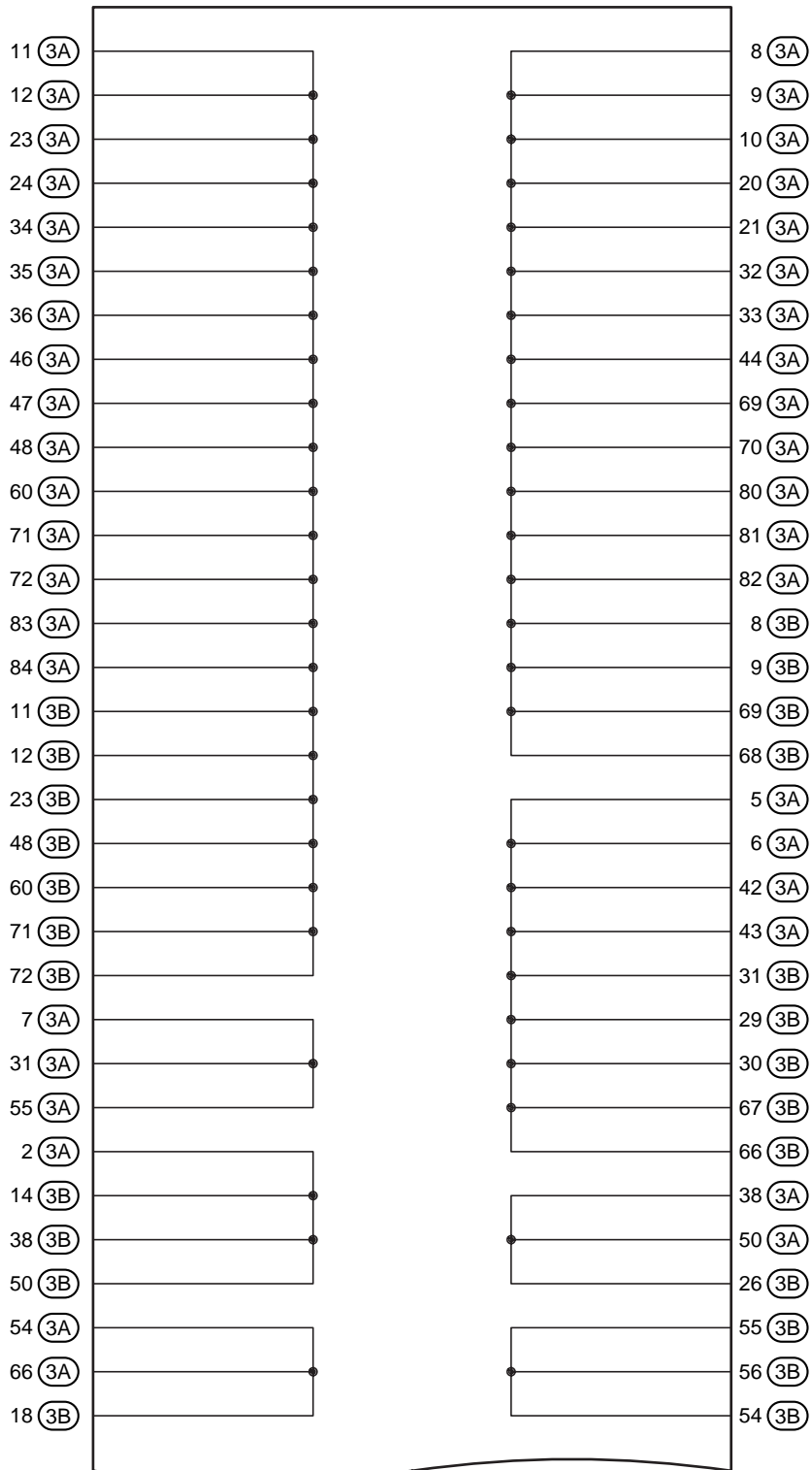
F RELAY LOCATIONS

○ : J/B No.3 Instrument Panel Center (See Page 20)



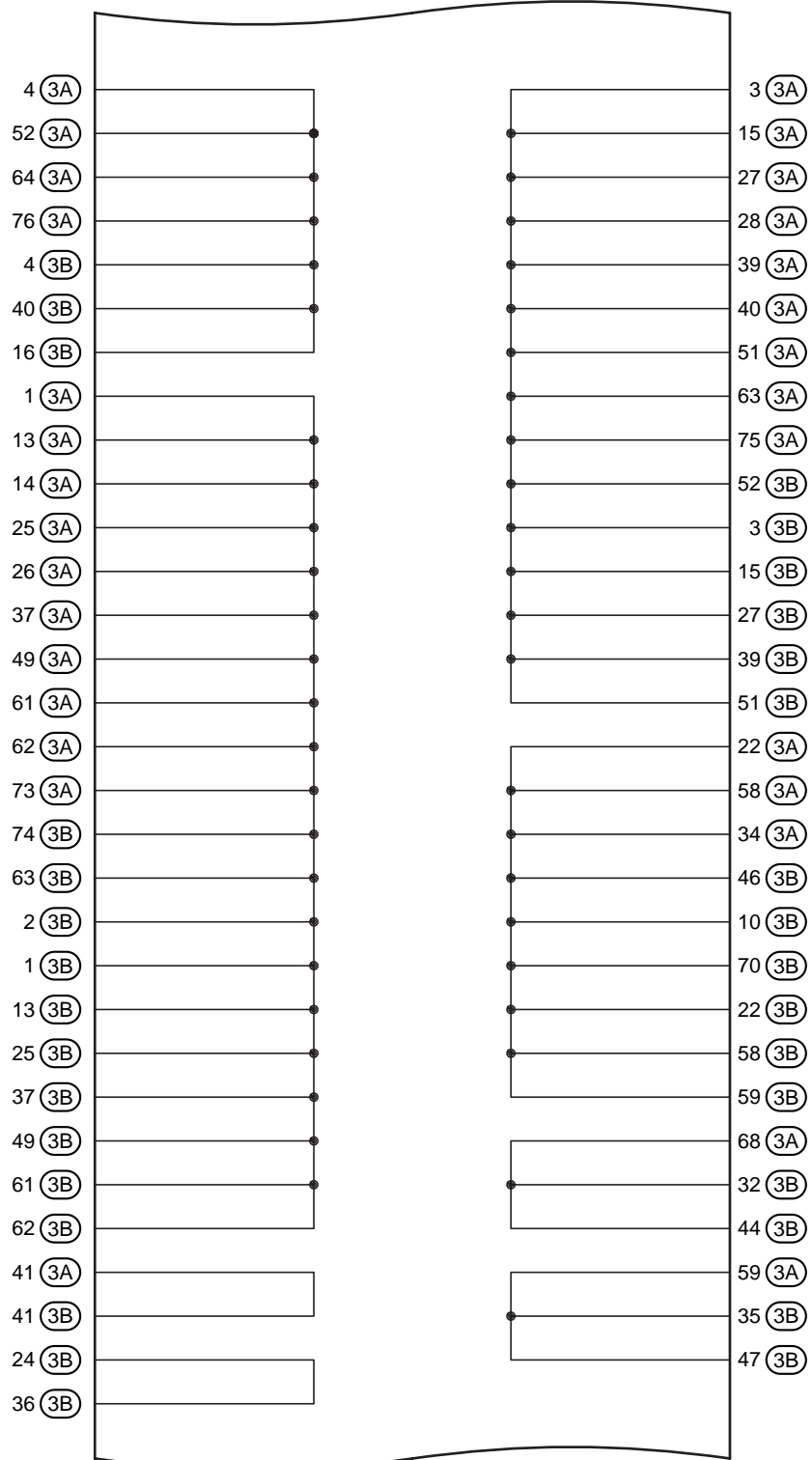
F RELAY LOCATIONS

[J/B No.3 Inner Circuit]



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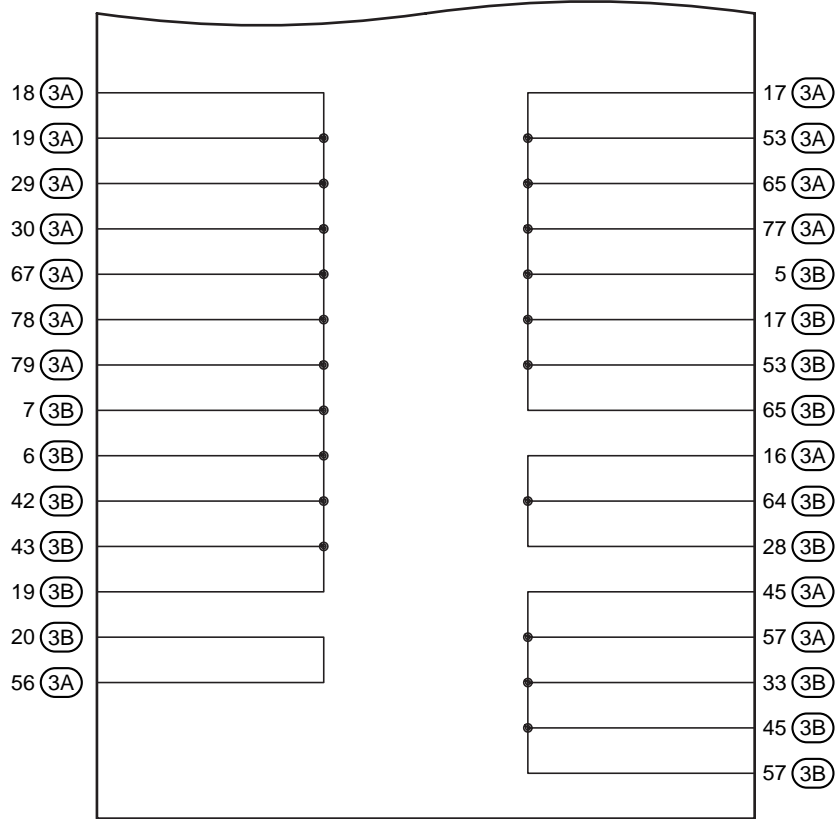


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F RELAY LOCATIONS

[J/B No.3 Inner Circuit]

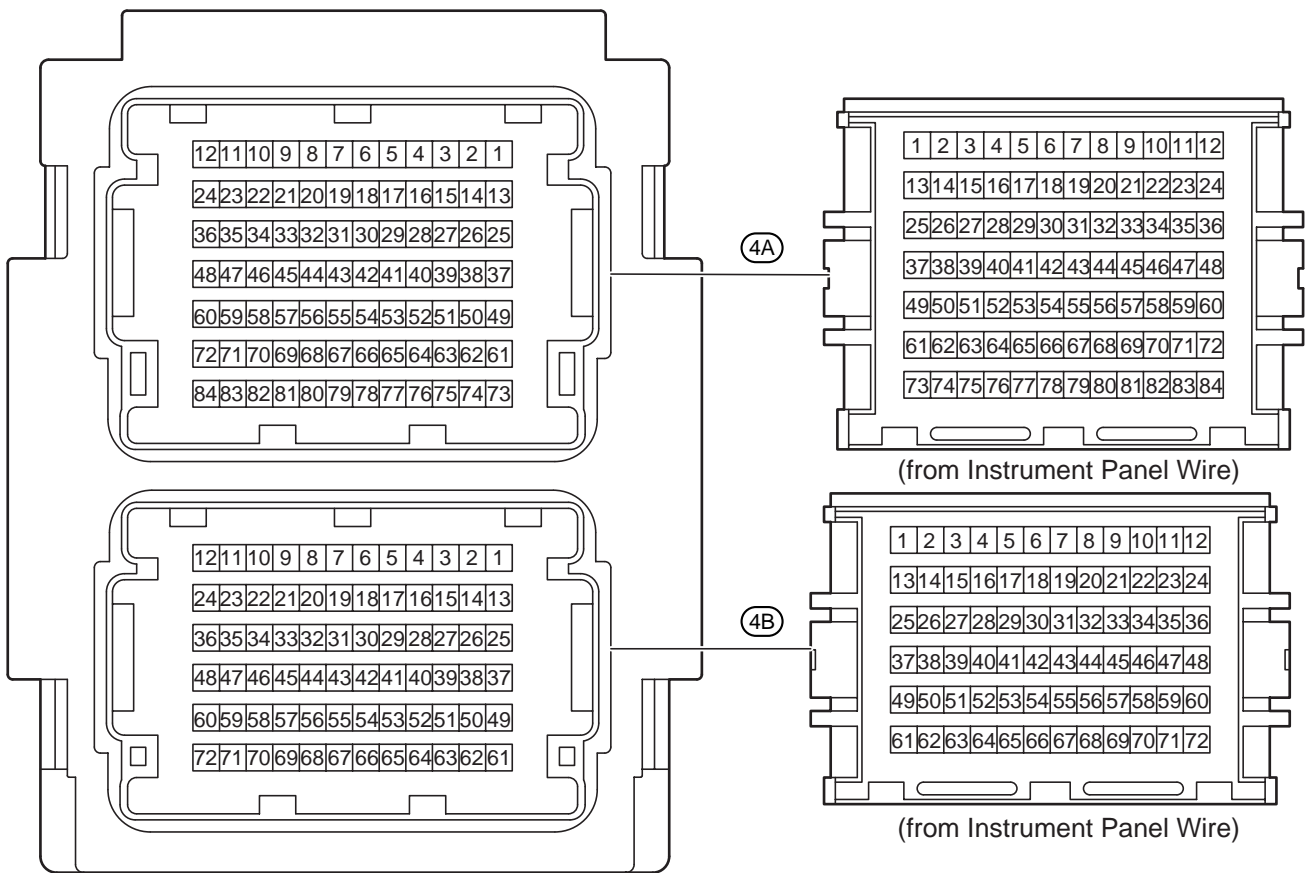
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F RELAY LOCATIONS

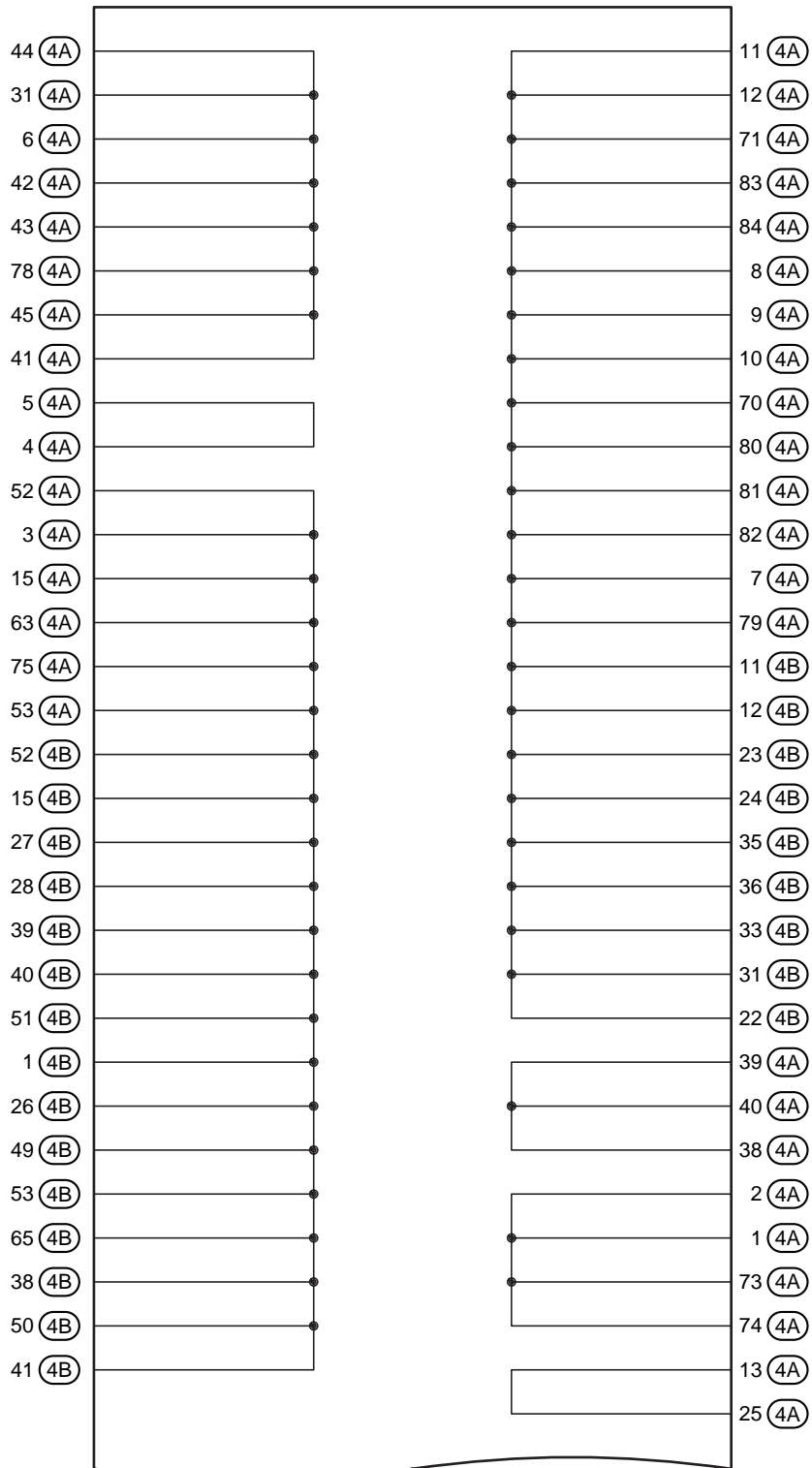
○ : J/B No.4

Instrument Panel Center (See Page 20)



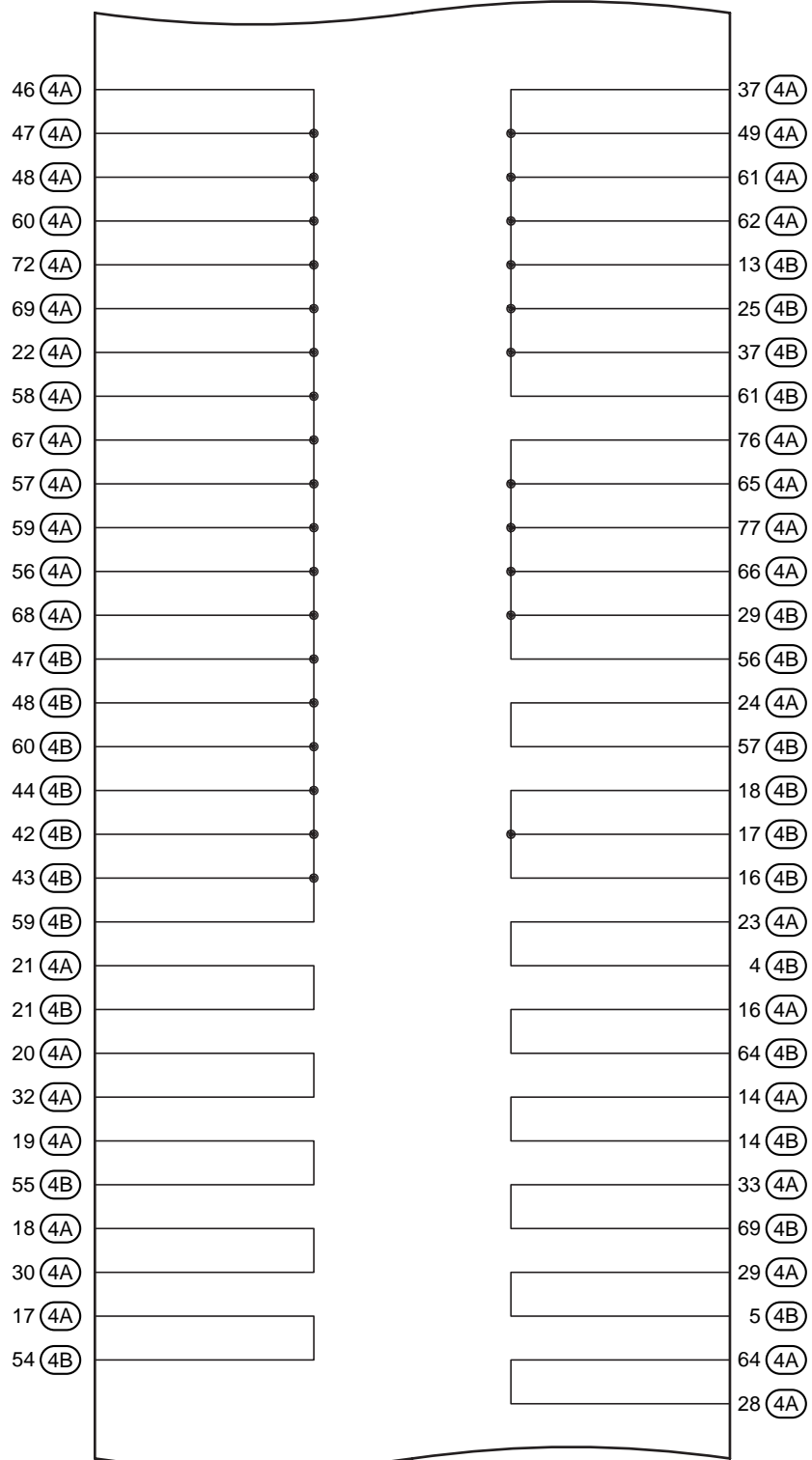
F RELAY LOCATIONS

[J/B No.4 Inner Circuit]



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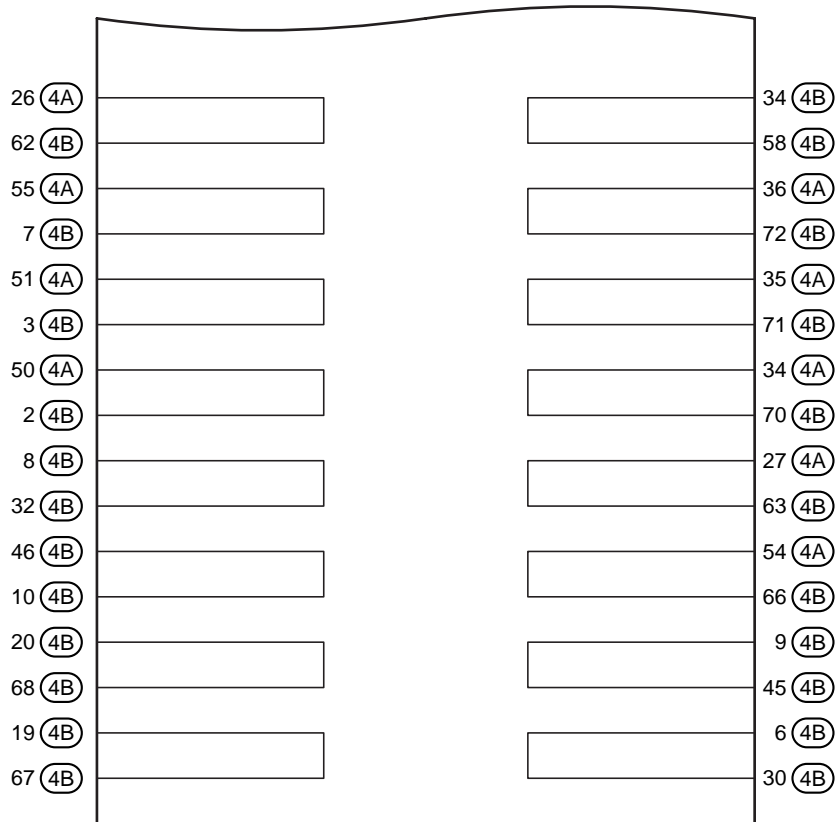


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F RELAY LOCATIONS

[J/B No.4 Inner Circuit]

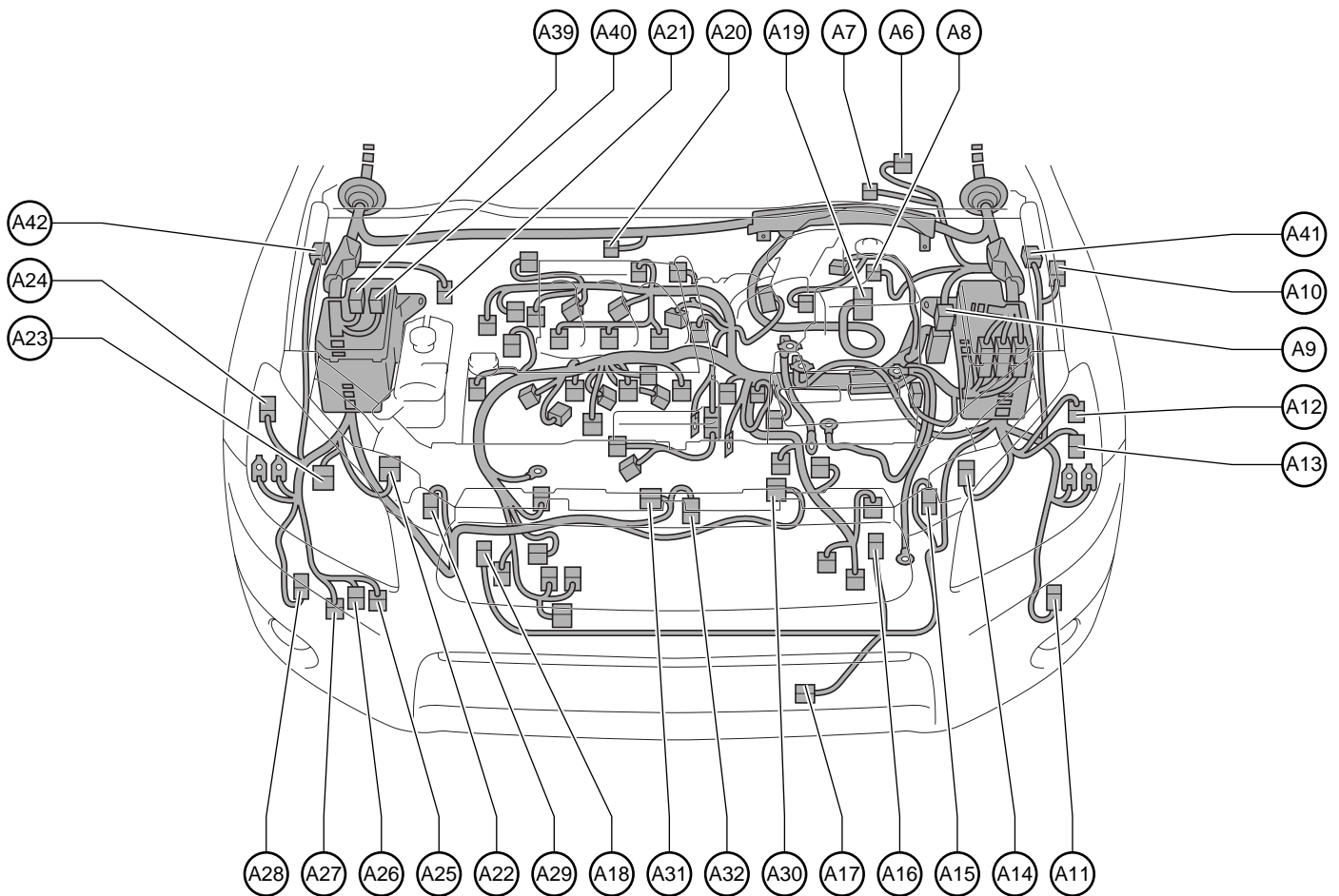
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G ELECTRICAL WIRING ROUTING

Position of Parts in Engine Compartment

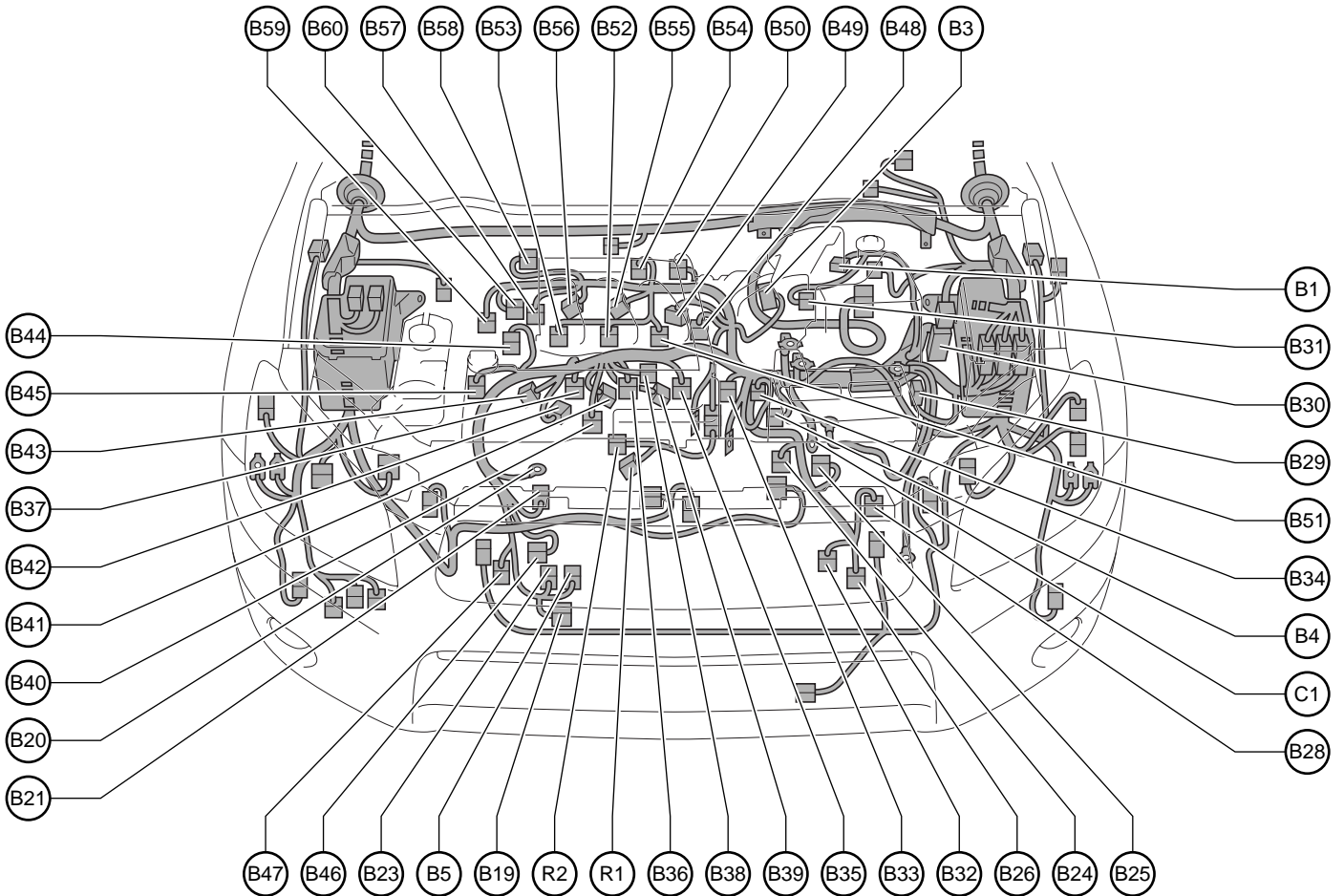
[2GR-FE]



- | | |
|--|--|
| A 6 Windshield Wiper Motor | A22 Headlamp (RH High) |
| A 7 Front Wiper Deicer | A23 Headlamp (RH Low) |
| A 8 Brake Fluid Level Warning SW | A24 Side Marker Lamp (Front RH)
Turn Signal Lamp (Front RH) |
| A 9 Engine Control Module | A25 Rear Washer Motor |
| A10 Wireless Door Lock Buzzer | A26 Washer Level Warning SW |
| A11 Fog Light (Front LH) | A27 Front Washer Motor |
| A12 Side Marker Lamp (Front LH)
Turn Signal Lamp (Front LH) | A28 Fog Light (Front RH) |
| A13 Headlamp (LH Low) | A29 Airbag Sensor (Front RH) |
| A14 Headlamp (LH High) | A30 Cooling Fan ECU |
| A15 Airbag Sensor (Front LH) | A31 Cooling Fan ECU (RH) |
| A16 Horn (Low) | A32 Cooling Fan ECU (LH) |
| A17 Ambient Temp. Sensor | A39 Junction Connector |
| A18 Horn (High) | A40 Junction Connector |
| A19 Skid Control ECU with Actuator | A41 Speed Sensor (Front LH) |
| A20 Fuel Pump Resistor | A42 Speed Sensor (Front RH) |
| A21 A/C Pressure Sensor | |

Position of Parts in Engine Compartment

[2GR-FE]

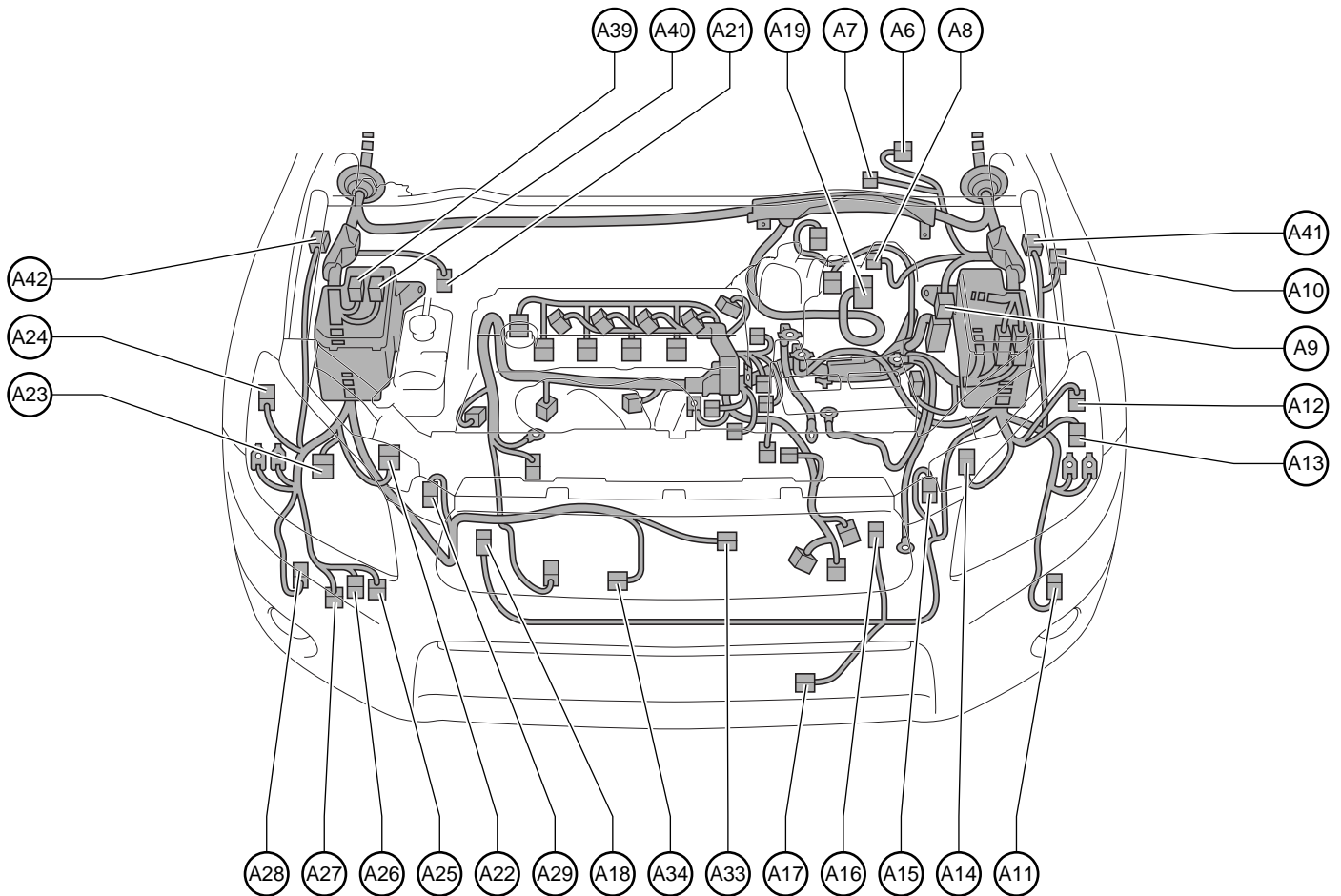


- | | |
|---|---|
| B 1 Mass Air Flow Meter | B42 Ignition Coil (No.2) |
| B 3 Throttle Body Assembly | B43 Camshaft Timing Oil Control Valve (LH Exhaust Side) |
| B 4 Engine Coolant Temp. Sensor | B44 Camshaft Timing Oil Control Valve (LH Intake Side) |
| B 5 Engine Oil Pressure SW | B45 VVT Sensor (Bank 2 Intake Side) |
| B19 Heated Oxygen Sensor (Bank 2 Sensor 2) | B46 Crankshaft Position Sensor |
| B20 Generator | B47 A/C Compressor |
| B21 Generator | B48 Air Fuel Ratio Sensor (Bank 1 Sensor 1) |
| B23 A/C Compressor | B49 Ignition Coil (No.5) |
| B24 Transmission Revolution Sensor (Counter Gear) | B50 Noise Filter (Ignition RH) |
| B25 Starter | B51 Fuel Injector (No.5) |
| B26 Park/Neutral Position SW | B52 Fuel Injector (No.3) |
| B28 Transmission Revolution Sensor (Turbine) | B53 Fuel Injector (No.1) |
| B29 Battery Current Sensor | B54 VVT Sensor (Bank 1 Exhaust Side) |
| B30 Engine Control Module | B55 Ignition Coil (No.3) |
| B31 VSV (Air Intake Control) | B56 Ignition Coil (No.1) |
| B32 Electronically Controlled Transmission Solenoid | B57 Camshaft Timing Oil Control Valve (RH Exhaust Side) |
| B33 Air Fuel Ratio Sensor (Bank 2 Sensor 1) | B58 VSV (ACIS) |
| B34 VSV (Purge) | B59 VVT Sensor (Bank 1 Intake Side) |
| B35 Fuel Injector (No.6) | B60 Camshaft Timing Oil Control Valve (RH Intake Side) |
| B36 Fuel Injector (No.4) | |
| B37 Fuel Injector (No.2) | C 1 Starter |
| B38 Noise Filter (Ignition LH) | |
| B39 Ignition Coil (No.6) | R 1 Knock Control Sensor (Bank 2) |
| B40 VVT Sensor (Bank 2 Exhaust Side) | R 2 Knock Control Sensor (Bank 1) |
| B41 Ignition Coil (No.4) | |

G ELECTRICAL WIRING ROUTING

Position of Parts in Engine Compartment

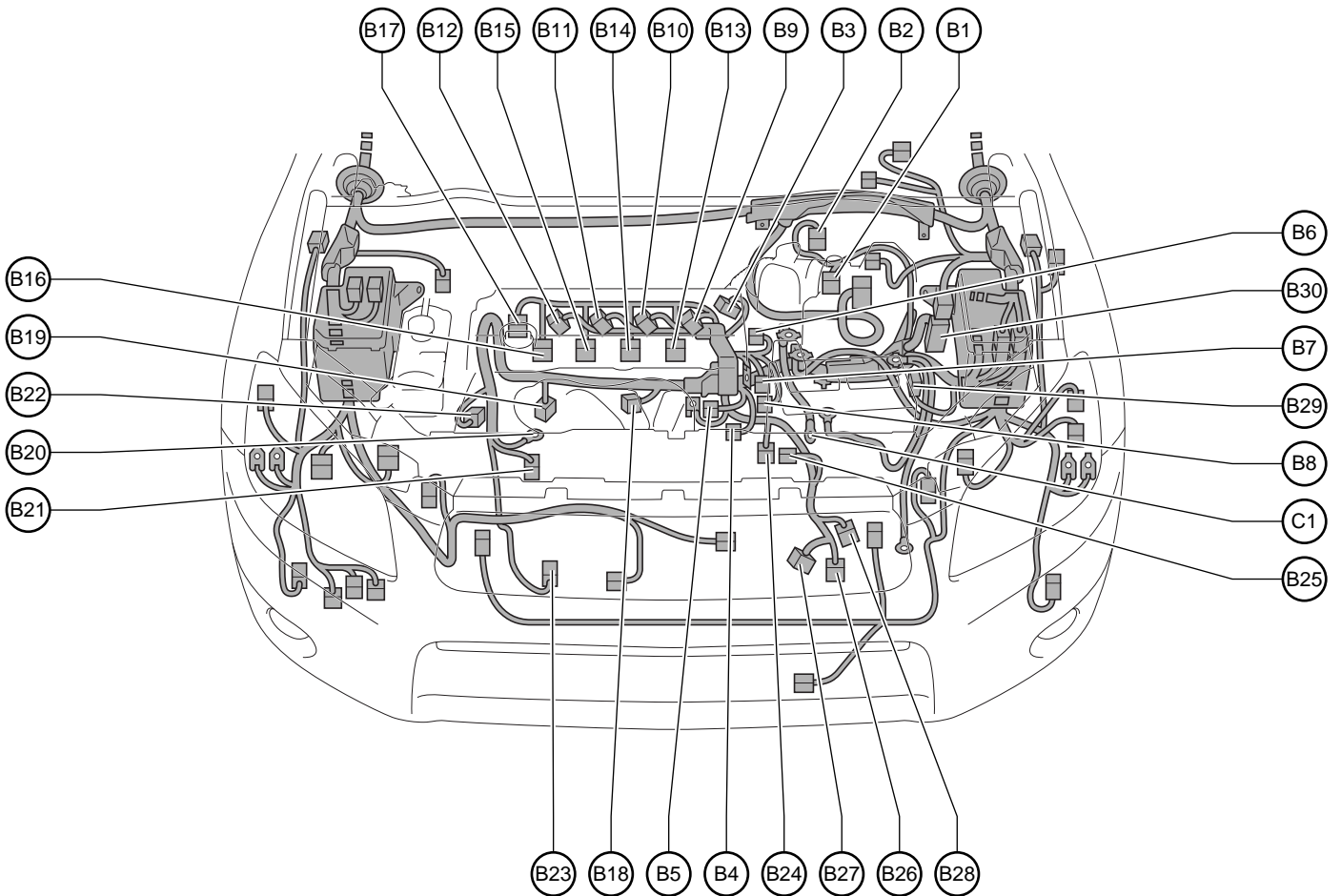
[2AZ-FE]



- | | |
|--|--|
| A 6 Windshield Wiper Motor | A22 Headlamp (RH High) |
| A 7 Front Wiper Deicer | A23 Headlamp (RH Low) |
| A 8 Brake Fluid Level Warning SW | A24 Side Marker Lamp (Front RH)
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| A11 Fog Light (Front LH) | A27 Front Washer Motor |
| A12 Side Marker Lamp (Front LH)
Turn Signal Lamp (Front LH) | A28 Fog Light (Front RH) |
| A13 Headlamp (LH Low) | A29 Airbag Sensor (Front RH) |
| A14 Headlamp (LH High) | A33 Radiator Fan Motor |
| A15 Airbag Sensor (Front LH) | A34 A/C Condenser Fan Motor |
| A16 Horn (Low) | A39 Junction Connector |
| A17 Ambient Temp. Sensor | A40 Junction Connector |
| A18 Horn (High) | A41 Speed Sensor (Front RH) |
| A19 Skid Control ECU with Actuator | A42 Speed Sensor (Front LH) |
| A21 A/C Pressure Sensor | |

Position of Parts in Engine Compartment

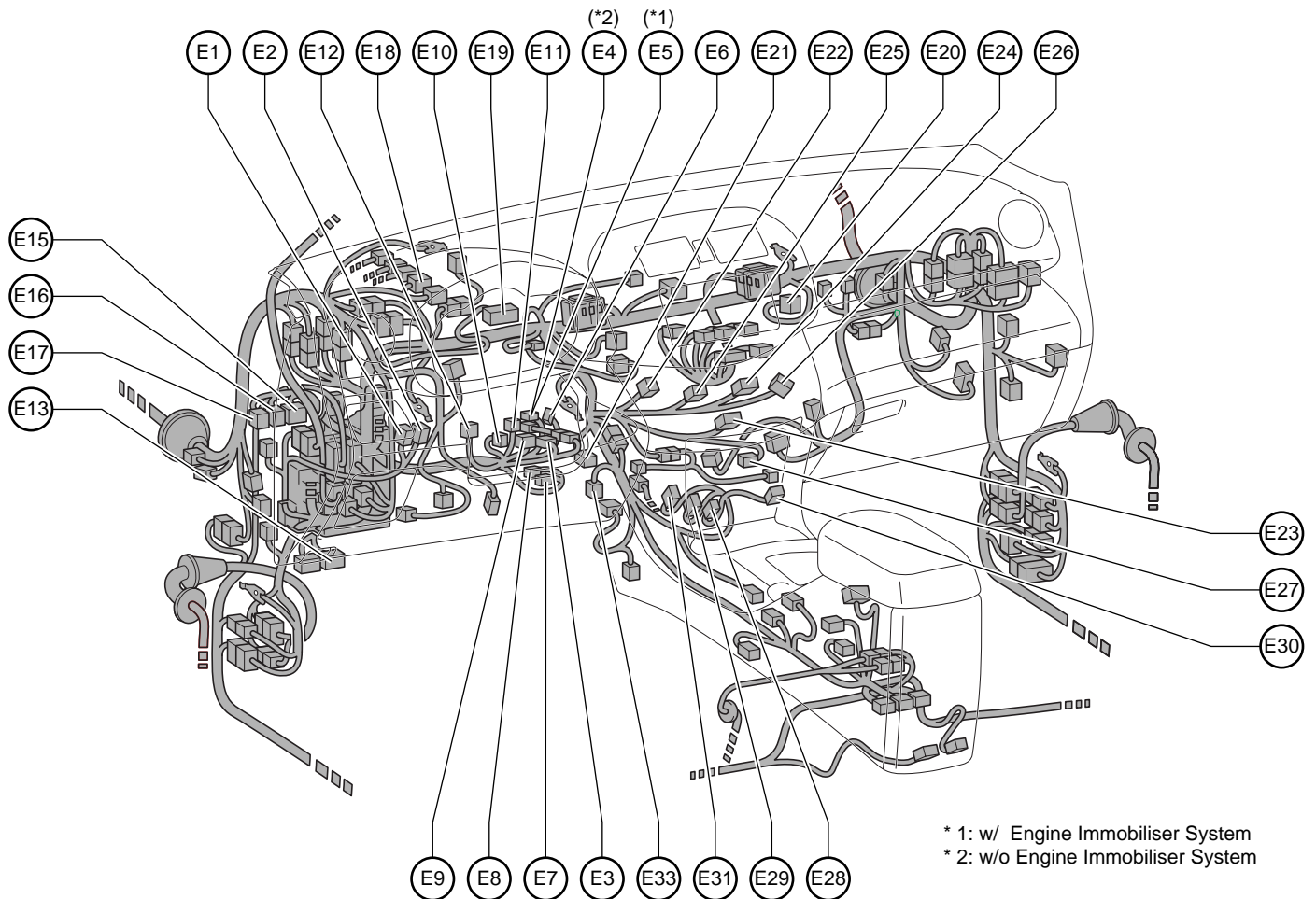
[2AZ-FE]



- | | |
|---|--|
| B 1 Mass Air Flow Meter | B 17 Camshaft Timing Oil Control Valve |
| B 2 VSV (Purge) | B 18 Knock Control Sensor (Bank 1) |
| B 3 Throttle Body Assembly | B 19 Heated Oxygen Sensor (Bank 2 Sensor 2) |
| B 4 Engine Coolant Temp. Sensor | B 20 Generator |
| B 5 Engine Oil Pressure SW | B 21 Generator |
| B 6 Camshaft Position Sensor | B 22 Crankshaft Position Sensor |
| B 7 Air Fuel Ratio Sensor (Bank 1 Sensor 1) | B 23 A/C Compressor |
| B 8 Noise Filter (Ignition) | B 24 Transmission Revolution Sensor (Counter Gear) |
| B 9 Ignition Coil (No.4) | B 25 Starter |
| B 10 Ignition Coil (No.3) | B 26 Park/Neutral Position SW |
| B 11 Ignition Coil (No.2) | B 27 Electronically Controlled Transmission Solenoid |
| B 12 Ignition Coil (No.1) | B 28 Transmission Revolution Sensor (Turbine) |
| B 13 Fuel Injector (No.4) | B 29 Battery Current Sensor |
| B 14 Fuel Injector (No.3) | B 30 Engine Control Module |
| B 15 Fuel Injector (No.2) | |
| B 16 Fuel Injector (No.1) | C 1 Starter |

G ELECTRICAL WIRING ROUTING

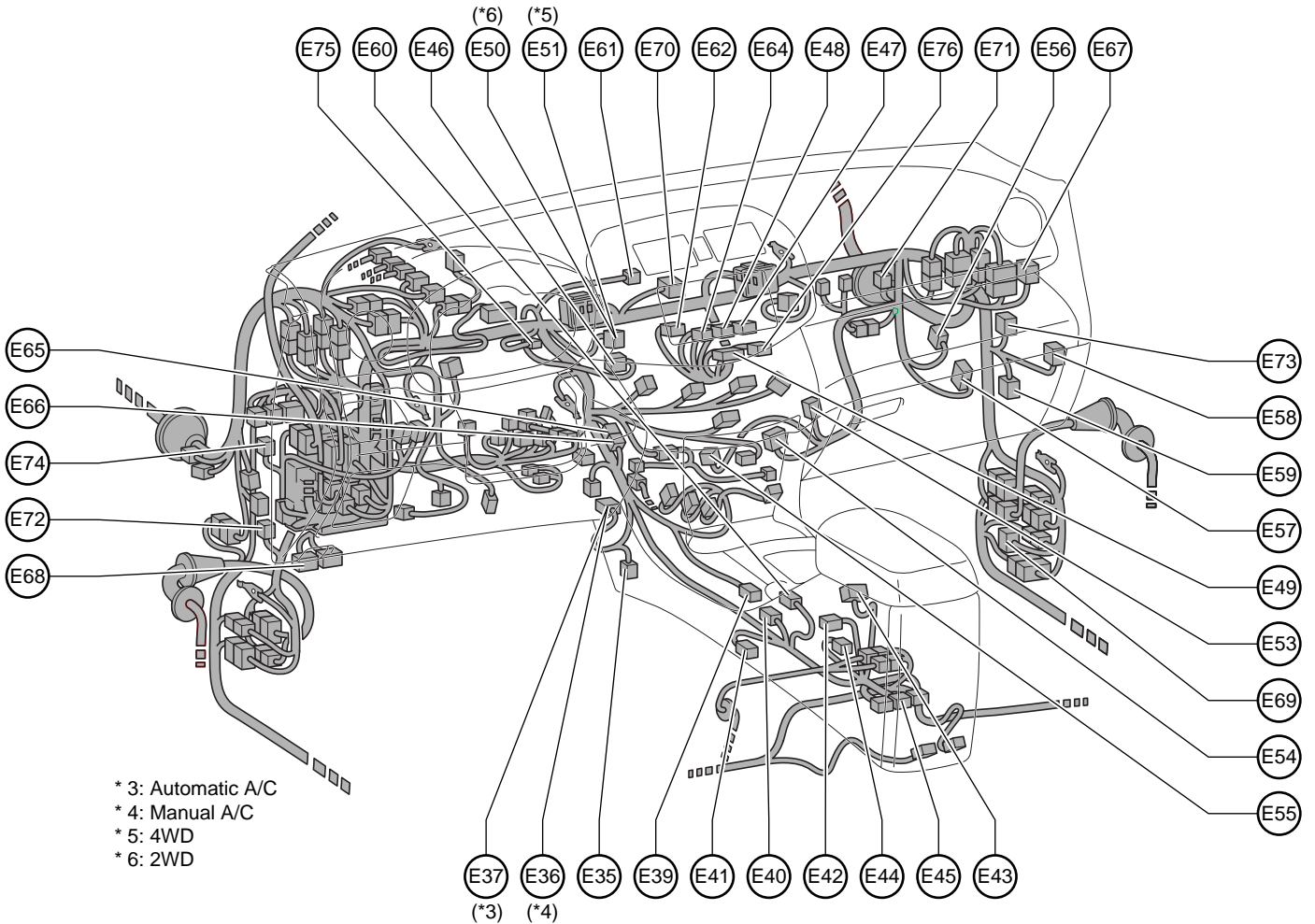
Position of Parts in Instrument Panel



* 1: w/ Engine Immobiliser System
 * 2: w/o Engine Immobiliser System

- | | |
|---------------------------------------|---|
| E 1 Main SW | E 18 Power Steering ECU |
| E 2 Light Control Rheostat | E 19 Combination Meter |
| E 3 Ignition SW | E 20 Hazard Warning Signal SW |
| E 4 Ignition Key Cylinder Lamp | E 21 A/C Room Temp. Sensor |
| E 5 Transponder Key Amplifier | E 22 Clock |
| E 6 Unlock Warning SW | E 23 Integration Control and Panel Assembly |
| E 7 Spiral Cable | E 24 Integration Control and Panel Assembly |
| E 8 Airbag Squib (Steering Wheel Pad) | E 25 Air Vent Mode Control SW |
| E 9 Windshield Wiper SW Assembly | E 26 A/C SW |
| E 10 Windshield Wiper SW Assembly | E 27 Front Console Illumination |
| E 11 Steering Sensor | E 28 Front Wiper Deicer SW |
| E 12 Headlamp Dimmer SW Assembly | E 29 Seat Heater SW |
| E 13 Data Link Connector 3 | E 30 Power Outlet Socket (Front) |
| E 15 Main Body ECU | E 31 Downhill Assist Control SW |
| E 16 Main Body ECU | E 33 A/C Thermistor |
| E 17 Main Body ECU | |

Position of Parts in Instrument Panel

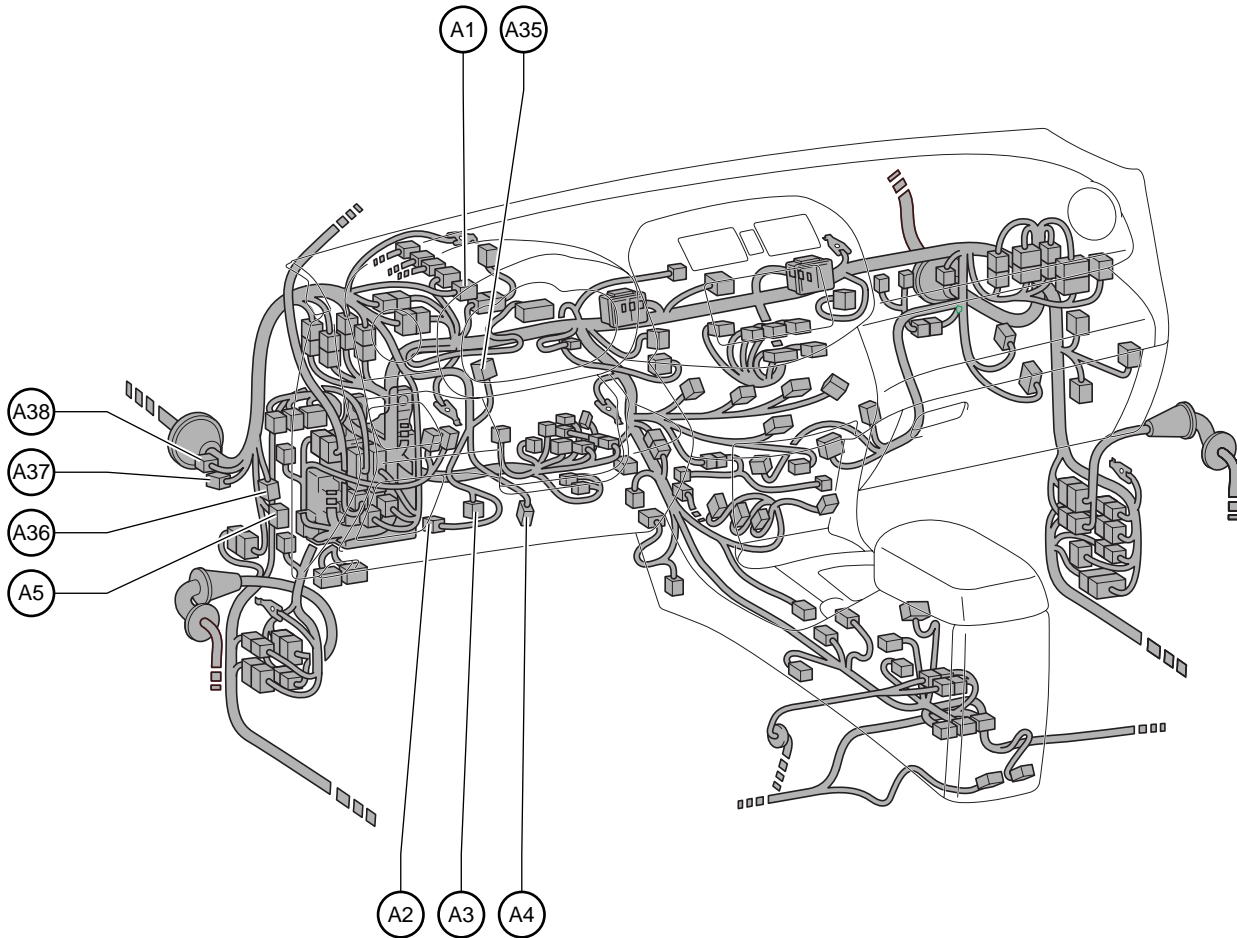


E35 Heated Oxygen Sensor (Bank 1 Sensor 2)
 E36 A/C Amplifier
 E37 A/C Amplifier
 E39 Shift Lock Control ECU
 E40 Transmission Control SW
 E41 Parking Brake SW
 E42 Outer Mirror SW
 E43 Power Outlet Socket (Front)
 E44 Stereo Jack Adapter
 E45 Airbag Sensor Assembly Center
 E46 Transponder Key ECU
 E47 Radio Receiver Assembly
 E48 Radio Receiver Assembly
 E49 Radio Receiver Assembly
 E50 4WD Control SW
 E51 Auto LSD SW
 E53 Blower Motor
 E54 Blower Motor
 E55 Blower Resistor
 E56 Tire Pressure Warning ECU

E57 4WD Control ECU
 E58 Option Connector (TVIP)
 E59 Option Connector (Bus Buffer)
 E60 A/T Shift Lever Illumination
 E61 Damper Servo Motor (Air Inlet)
 E62 Radio Receiver Assembly
 E64 Radio Receiver Assembly
 E65 Short Connector
 E66 Short Connector
 E67 Junction Connector
 E68 Junction Connector
 E69 Junction Connector
 E70 Junction Connector
 E71 Diode (Rear Wiper)
 E72 Diode (Inverter)
 E73 Junction Connector
 E74 Junction Connector
 E75 Diode (Heater)
 E76 Radio Receiver Assembly

G ELECTRICAL WIRING ROUTING

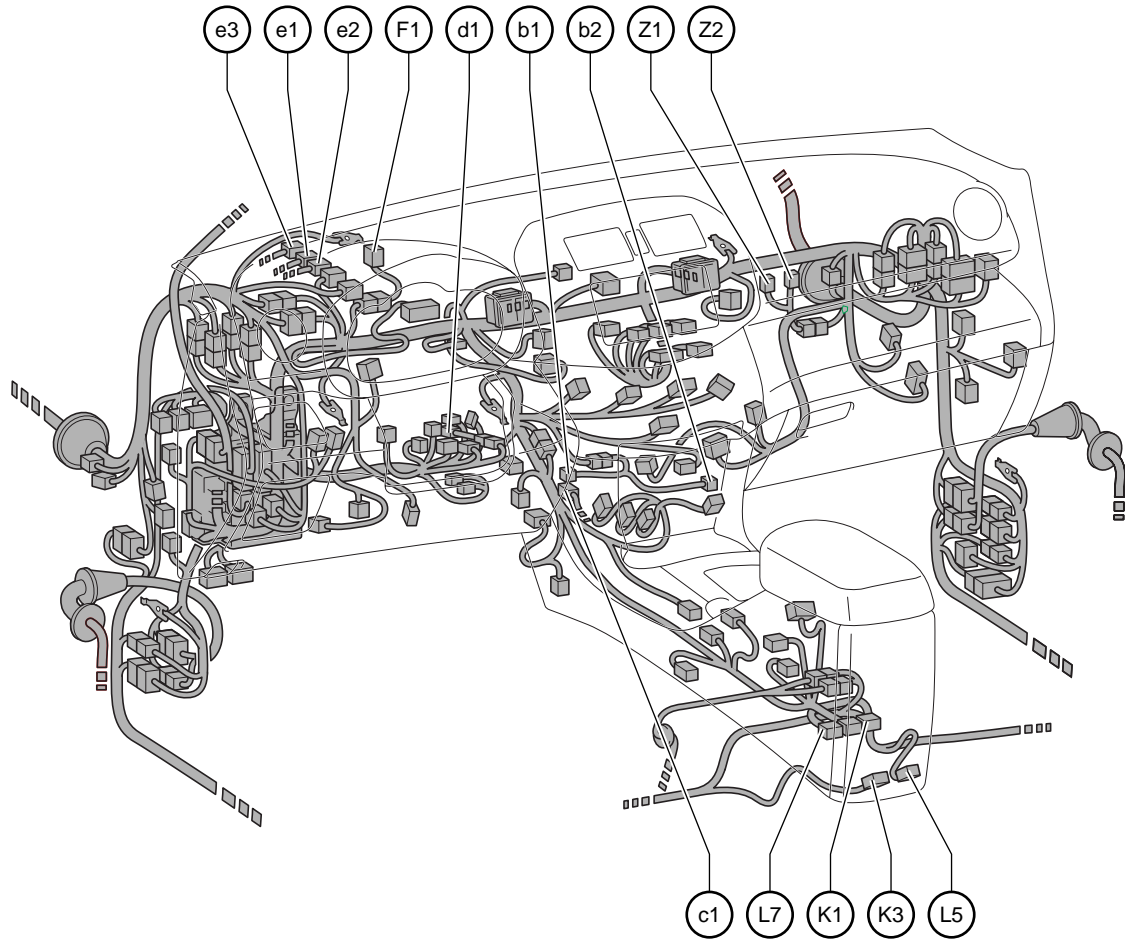
Position of Parts in Instrument Panel



- A 1 Power Steering ECU
- A 2 Brake Pedal Load Sensing SW
- A 3 Stop Lamp SW
- A 4 Accelerator Position Sensor
- A 5 Trailer Socket

- A 35 Junction Connector
- A 36 Junction Connector
- A 37 Junction Connector
- A 38 Junction Connector

Position of Parts in Instrument Panel



F 1 A/C Solar Sensor

K 1 Airbag Sensor Assembly Center

K 3 Power Outlet Socket (115V)

L 5 Video Terminal

L 7 Airbag Sensor Assembly Center

Z 1 Airbag Squib (Front Passenger's Airbag Assembly)

Z 2 Airbag Squib (Front Passenger's Airbag Assembly)

b 1 Foot Lamp (Front LH)

b 2 Foot Lamp (Front RH)

c 1 A/C Amplifier
A/C Blower Assembly

d 1 Key Interlock Solenoid

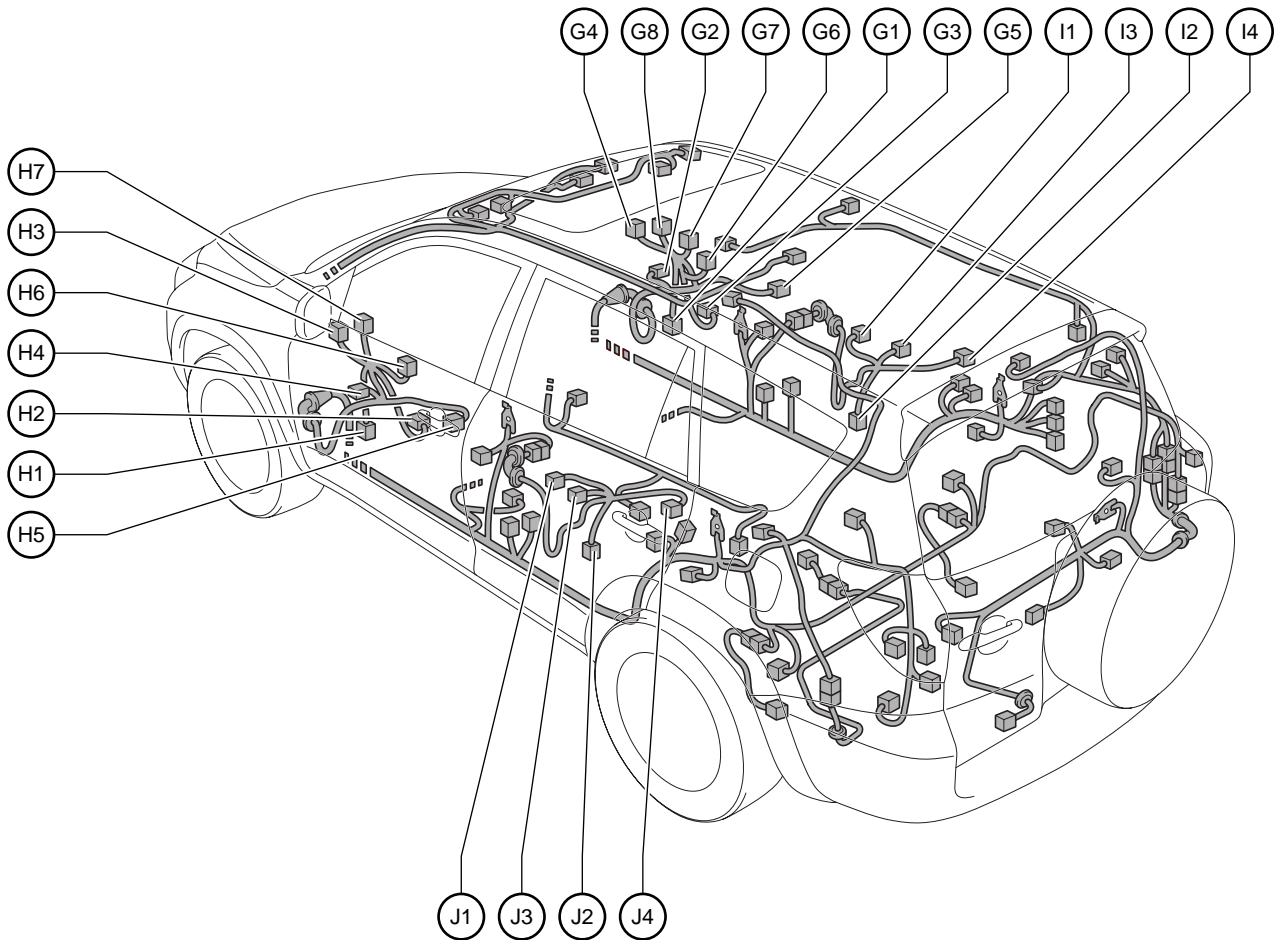
e 1 Power Steering ECU
Power Steering Torque Sensor

e 2 Power Steering ECU
Rotation Angle Sensor

e 3 Power Steering ECU
Power Steering Motor

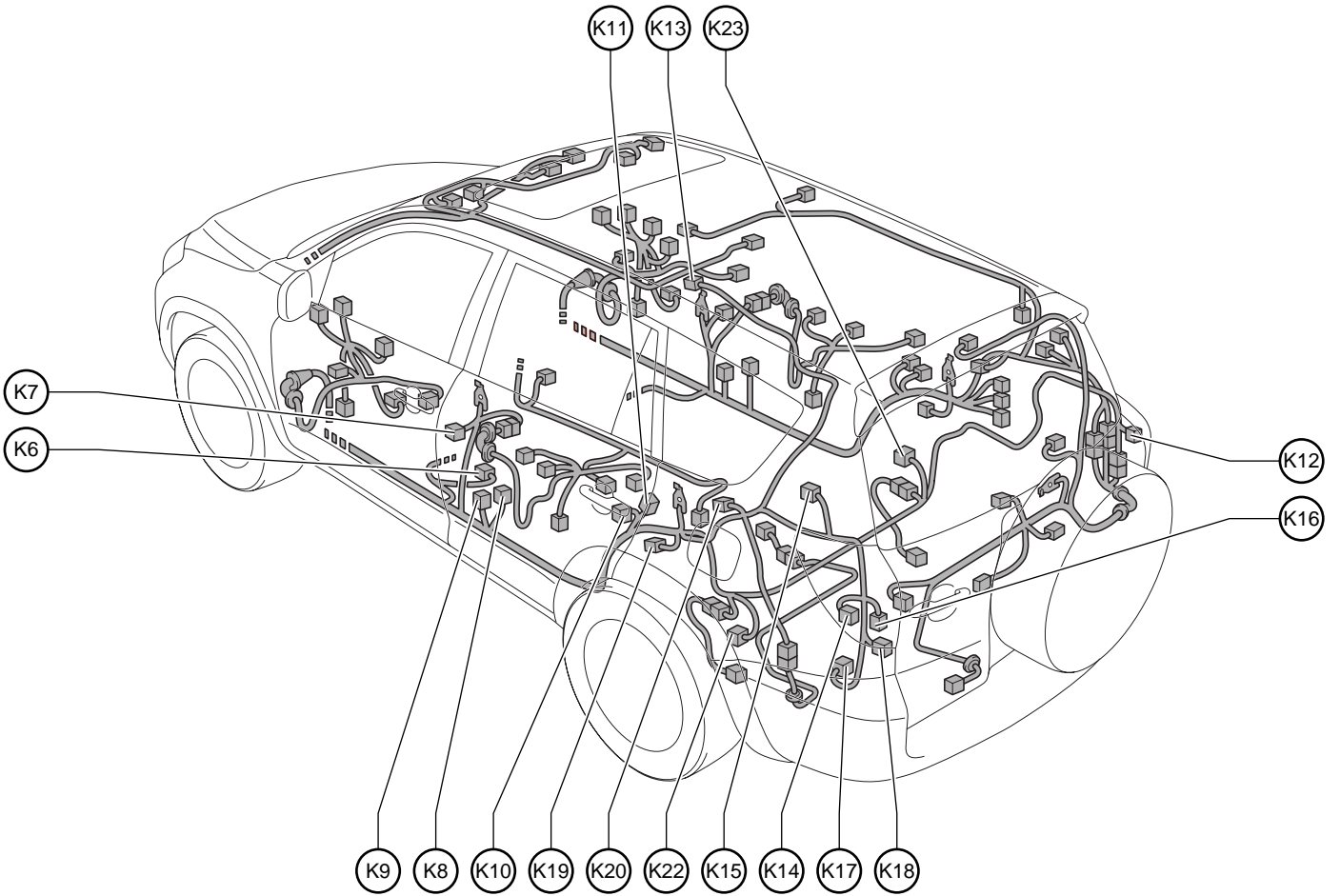
G ELECTRICAL WIRING ROUTING

Position of Parts in Body



- | | |
|---|--|
| G 1 Speaker (Front Door RH) | I 1 Power Window SW (Rear RH) |
| G 2 Power Window Regulator Motor (Front RH) | I 2 Speaker (Rear RH) |
| G 3 Power Window SW (Front Passenger's Side) | I 3 Power Window Regulator Motor (Rear RH) |
| G 4 Outer Rear View Mirror (RH) | I 4 Door Lock Assembly (Rear RH) |
| G 5 Door Lock Assembly (Front Passenger's Side) | J 1 Power Window SW (Rear LH) |
| G 6 Door Lock Control SW (Front Passenger's Side) | J 2 Speaker (Rear RH) |
| G 7 Tweeter (Front RH) | J 3 Power Window Regulator Motor (Rear LH) |
| G 8 Tweeter (Front RH) | J 4 Door Lock Assembly (Rear LH) |
| H 1 Speaker (Front Door LH) | |
| H 2 Power Window SW (Driver's Side) | |
| H 3 Outer Rear View Mirror (LH) | |
| H 4 Power Window Regulator Motor (Front LH) | |
| H 5 Door Lock Assembly (Driver's Side) | |
| H 6 Tweeter (Front LH) | |
| H 7 Tweeter (Front LH) | |

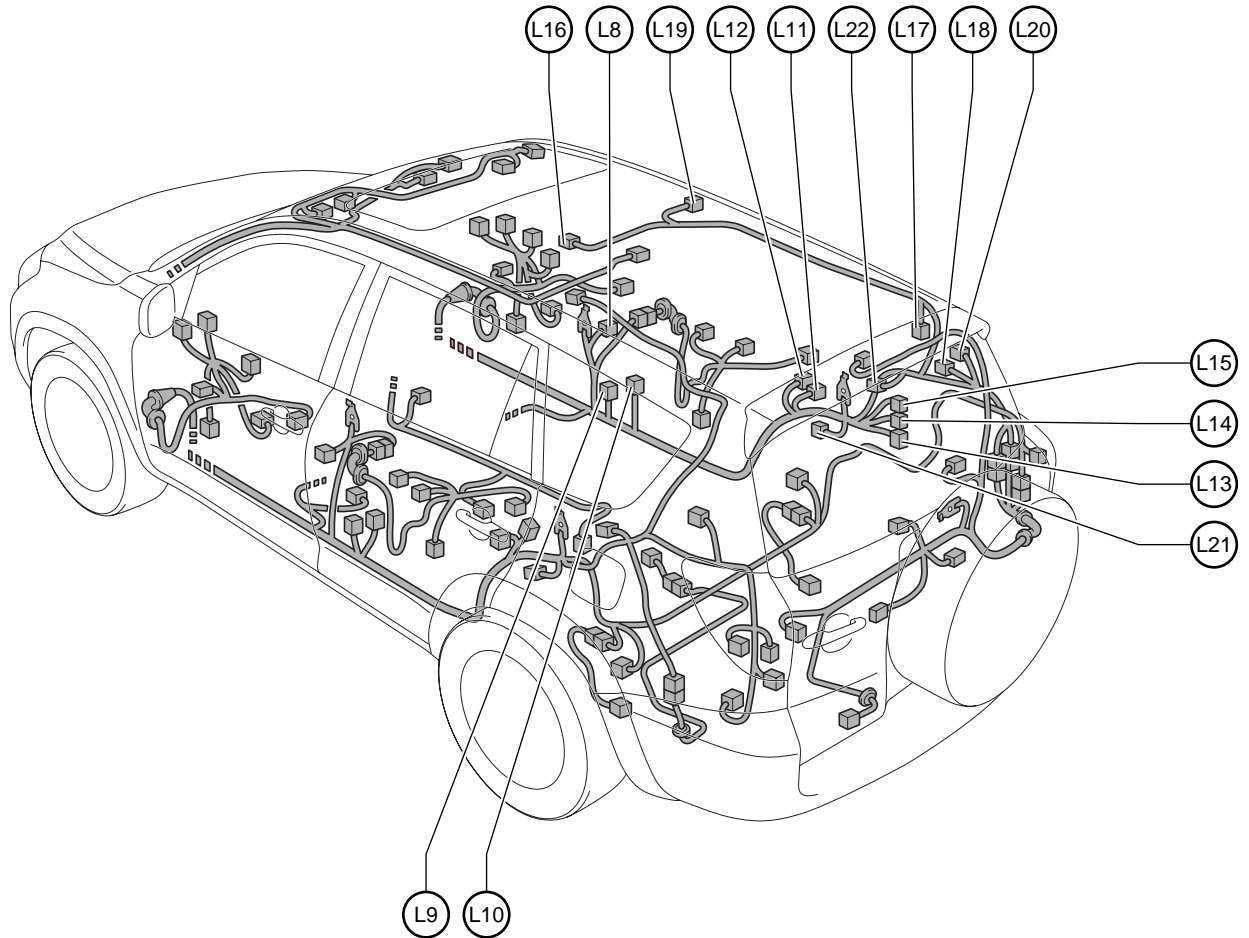
Position of Parts in Body



- | | |
|---------------------------------------|-----------------------------------|
| K 6 Yaw Rate Sensor | K 15 Voltage Inverter |
| K 7 Door Courtesy SW (Front LH) | K 16 Diode (Room Lamp) |
| K 8 Pretensioner (LH) | K 17 Power Outlet Socket (Rear) |
| K 9 Side Airbag Sensor (Front LH) | K 18 Door Courtesy SW (Back Door) |
| K 10 Door Courtesy SW (Rear LH) | K 19 Junction Connector |
| K 11 Side Airbag Sensor (Rear LH) | K 20 Junction Connector |
| K 12 Rear Combination Lamp (RH) | K 22 Speed Sensor (Rear LH) |
| K 13 Curtain Shield Airbag Squib (LH) | K 23 Speed Sensor (Rear RH) |
| K 14 Rear Combination Lamp (LH) | |

G ELECTRICAL WIRING ROUTING

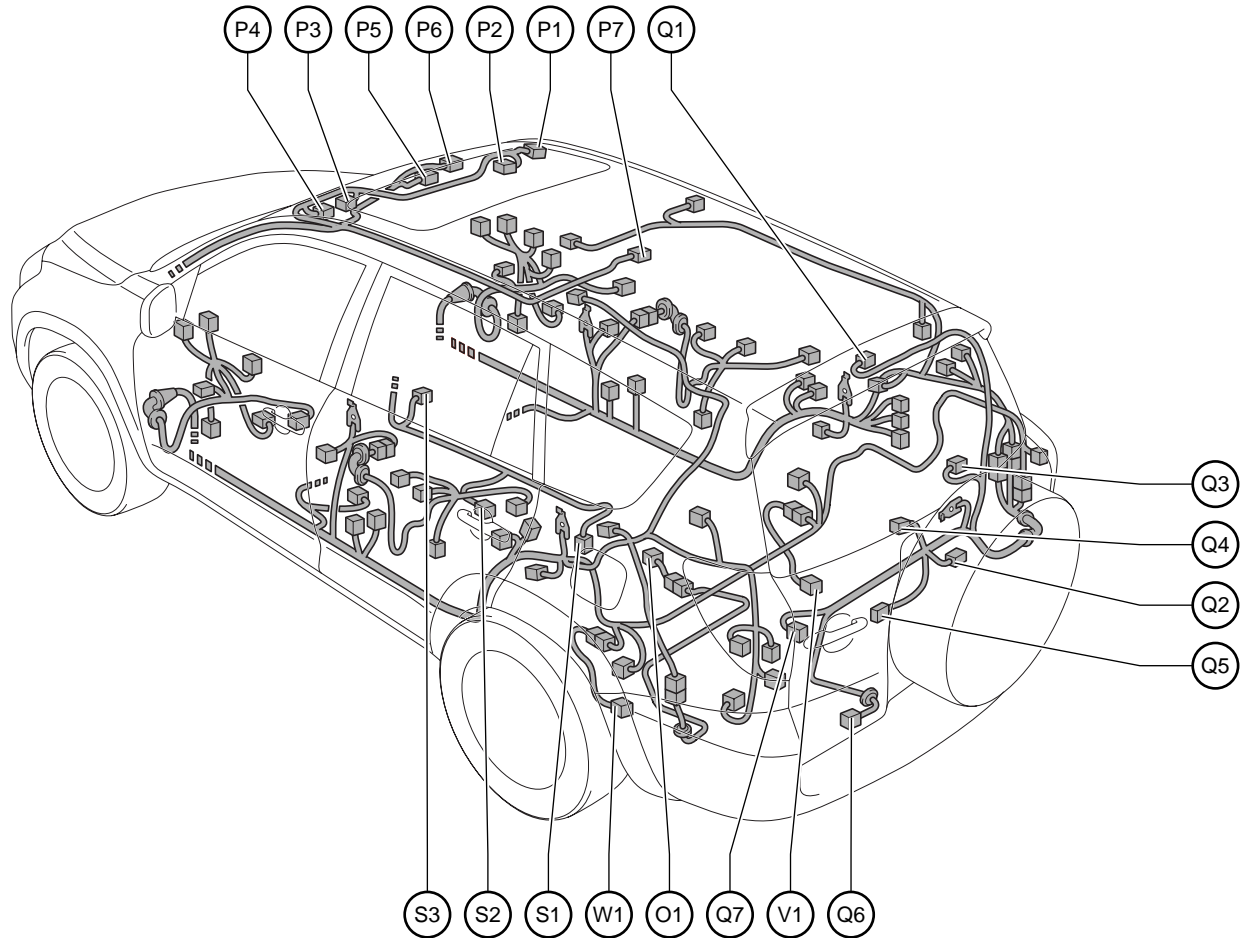
Position of Parts in Body



- L 8 Door Courtesy SW (Front RH)
- L 9 Pretensioner (RH)
- L 10 Side Airbag Sensor (Front RH)
- L 11 Door Courtesy SW (Rear RH)
- L 12 Side Airbag Sensor (Rear RH)
- L 13 Stereo Component Amplifier
- L 14 Stereo Component Amplifier
- L 15 Stereo Component Amplifier

- L 16 Rear Seat Entertainment Display
- L 17 Curtain Shield Airbag Squib (RH)
- L 18 Door Control Receiver
- L 19 Curtain Shield Airbag Squib (RH)
- L 20 Tire Pressure Warning Antenna and Receiver
- L 21 Junction Connector
- L 22 Junction Connector

Position of Parts in Body



O 1 4WD Linear Solenoid

P 1 Vanity Lamp SW (RH)

P 2 Vanity Lamp (RH)

P 3 Vanity Lamp (LH)

P 4 Vanity Lamp SW (LH)

P 5 Overhead J/B

P 6 Sliding Roof Control ECU

P 7 Room Lamp (Front)

Q 1 Center Stop Lamp

Q 2 Rear Window Defogger

Q 3 Room Lamp Rear (Rear)

Q 4 Rear Wiper Motor

Q 5 Speaker (Woofer)

Q 6 License Plate Lamp

Q 7 Back Door Lock Assmly

S 1 Fuel Suction Pump

S 2 Fuel Sender Gage

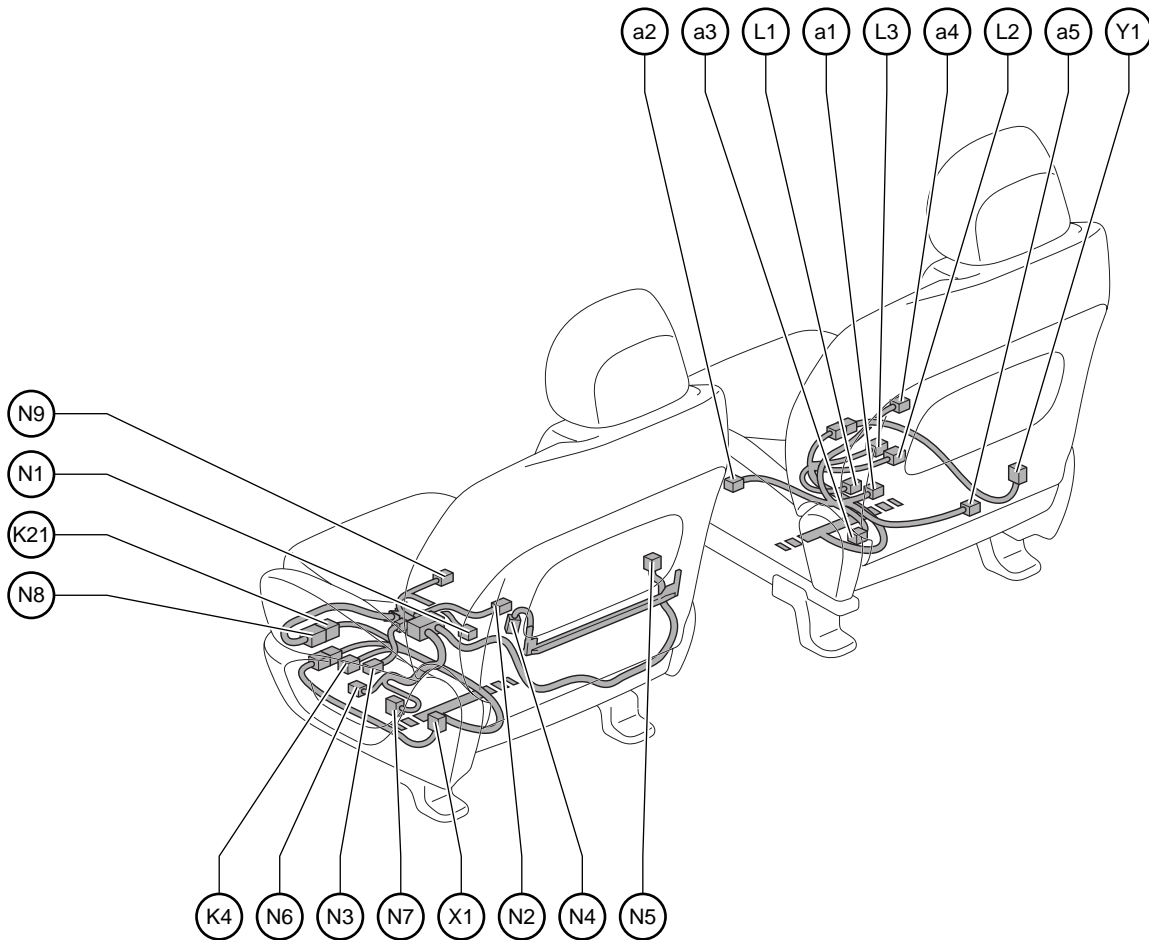
S 3 Canister Pump Module

V 1 Speed Sensor (Rear RH)

W 1 Speed Sensor (Rear LH)

G ELECTRICAL WIRING ROUTING

Position of Parts in Seat



K 4 Front Seat Inner Belt (Driver's Side)
K21 Junction Connector

L 1 Occupant Classification ECU
L 2 Front Seat Inner Belt (Front Passenger's Side)
L 3 Seat Heater (RH)

N 1 Power Seat Motor (Driver's Seat Slide Control)
N 2 Power Seat Motor (Driver's Seat Lifter Control)
N 3 Power Seat Motor (Driver's Seat Front Vertical Control)
N 4 Power Seat Motor (Driver's Seat Reclining Control)
N 5 Power Seat Motor
(Driver's Seat Lumbar Support Control)
N 6 Power Seat SW (Driver's Seat)
N 7 Power Seat SW (Lumbar Support)
N 8 Junction Connector
N 9 Seat Heater (LH)

X 1 Side Airbag Squib (LH)

Y 1 Side Airbag Squib (RH)

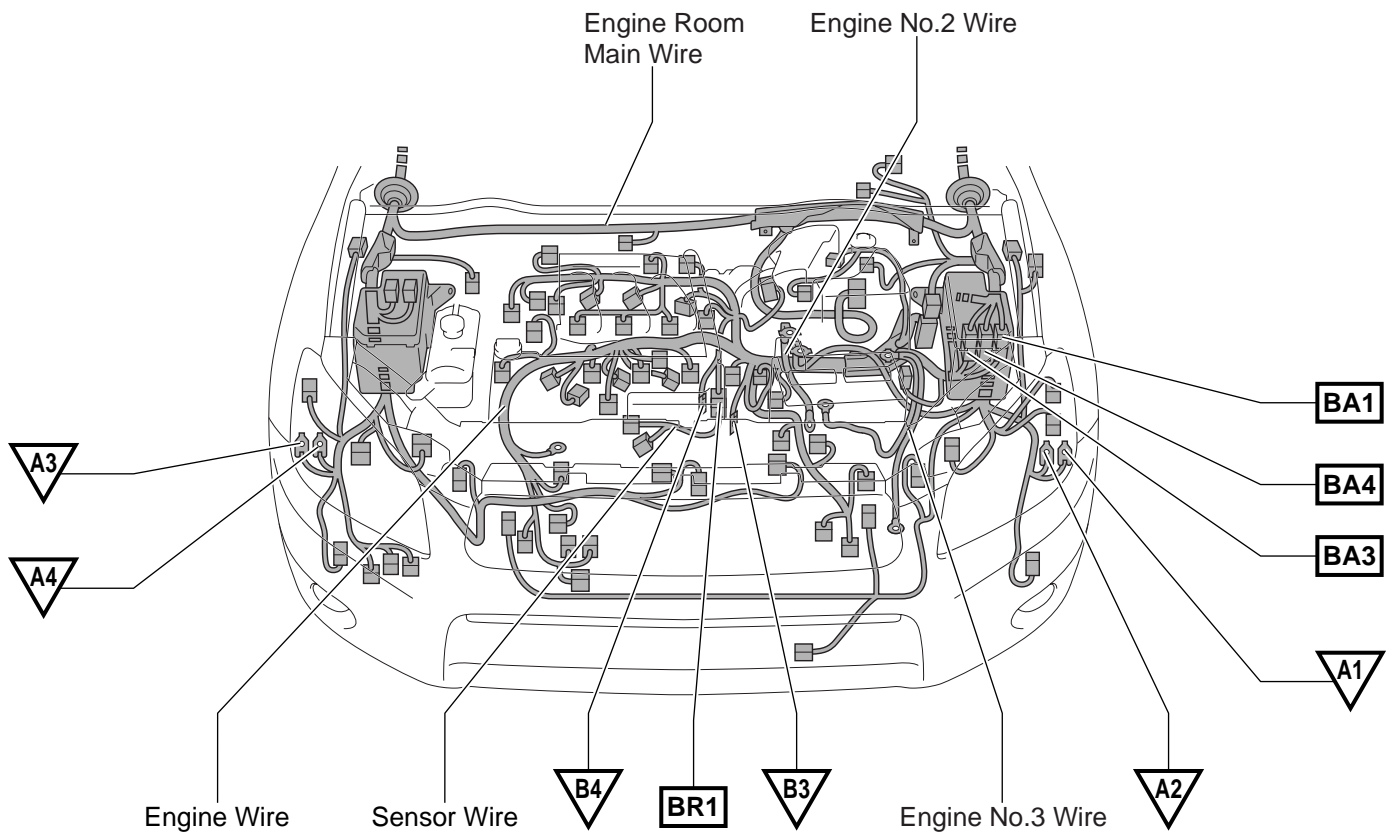
a 1 Occupant Classification ECU
a 2 Occupant Classification Sensor (Front LH)
a 3 Occupant Classification Sensor (Rear LH)
a 4 Occupant Classification Sensor (Front RH)
a 5 Occupant Classification Sensor (Rear RH)

G ELECTRICAL WIRING ROUTING

□ : Location of Connector Joining Wire Harness and Wire Harness

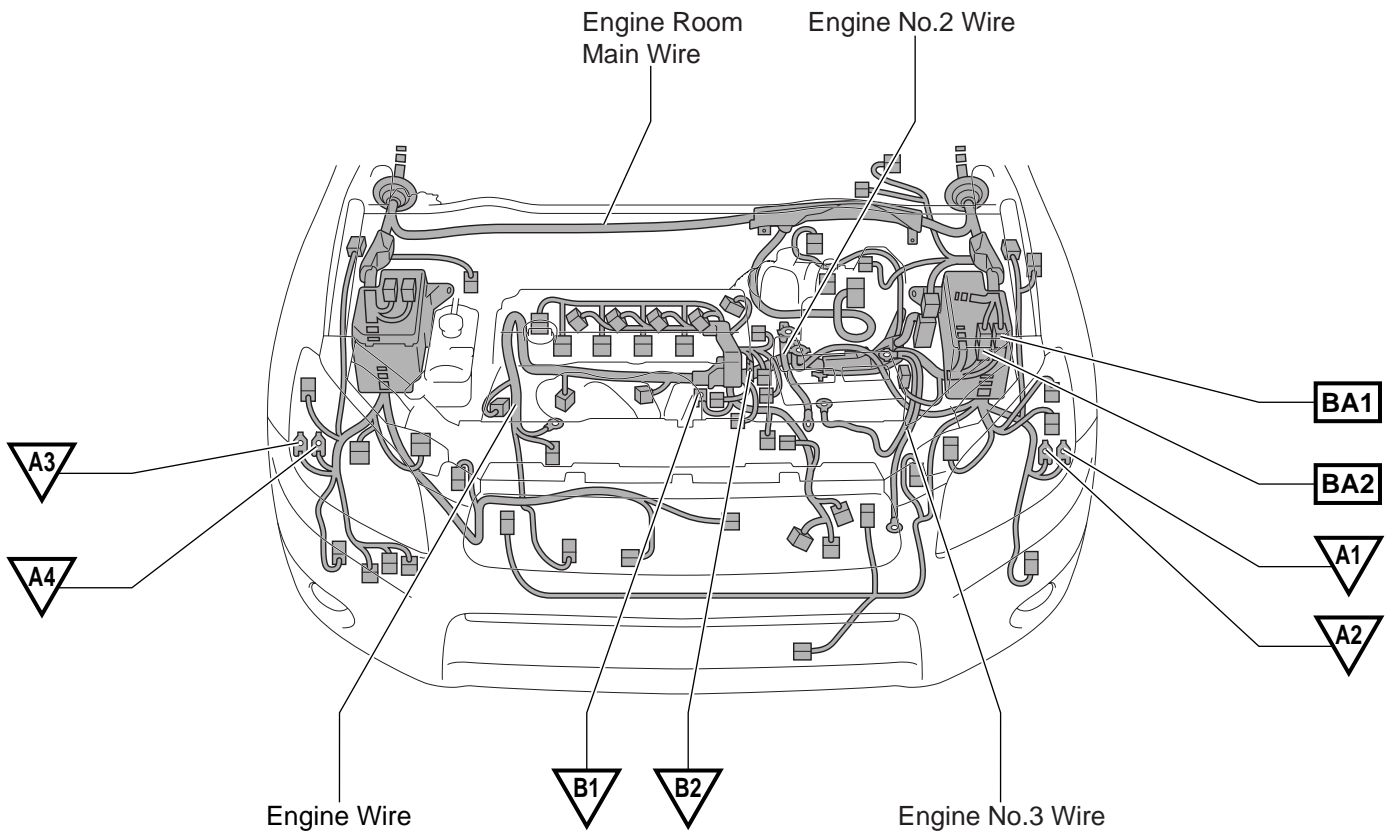
▽ : Location of Ground Points

[2GR-FE]



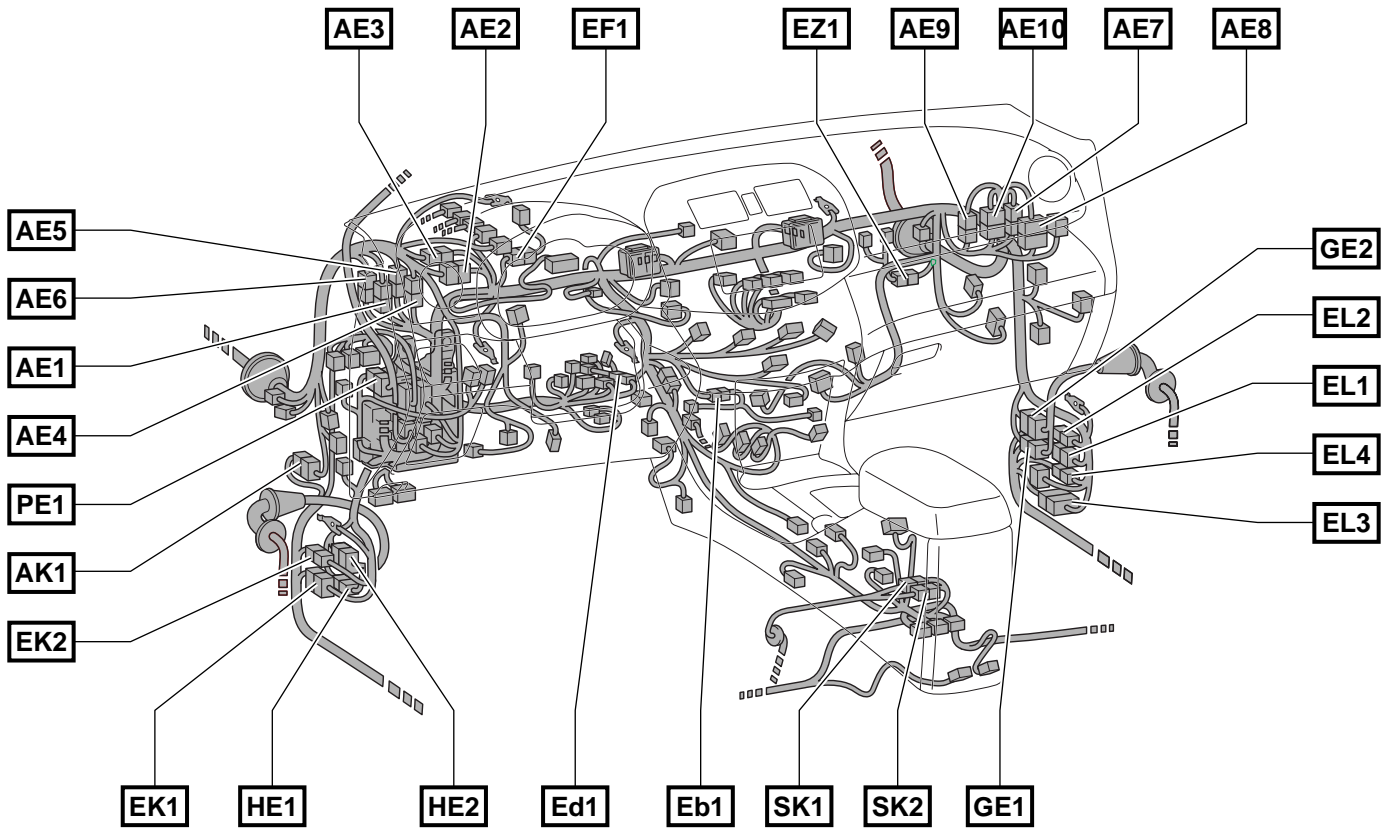
□ : Location of Connector Joining Wire Harness and Wire Harness
▽ : Location of Ground Points

[2AZ-FE]

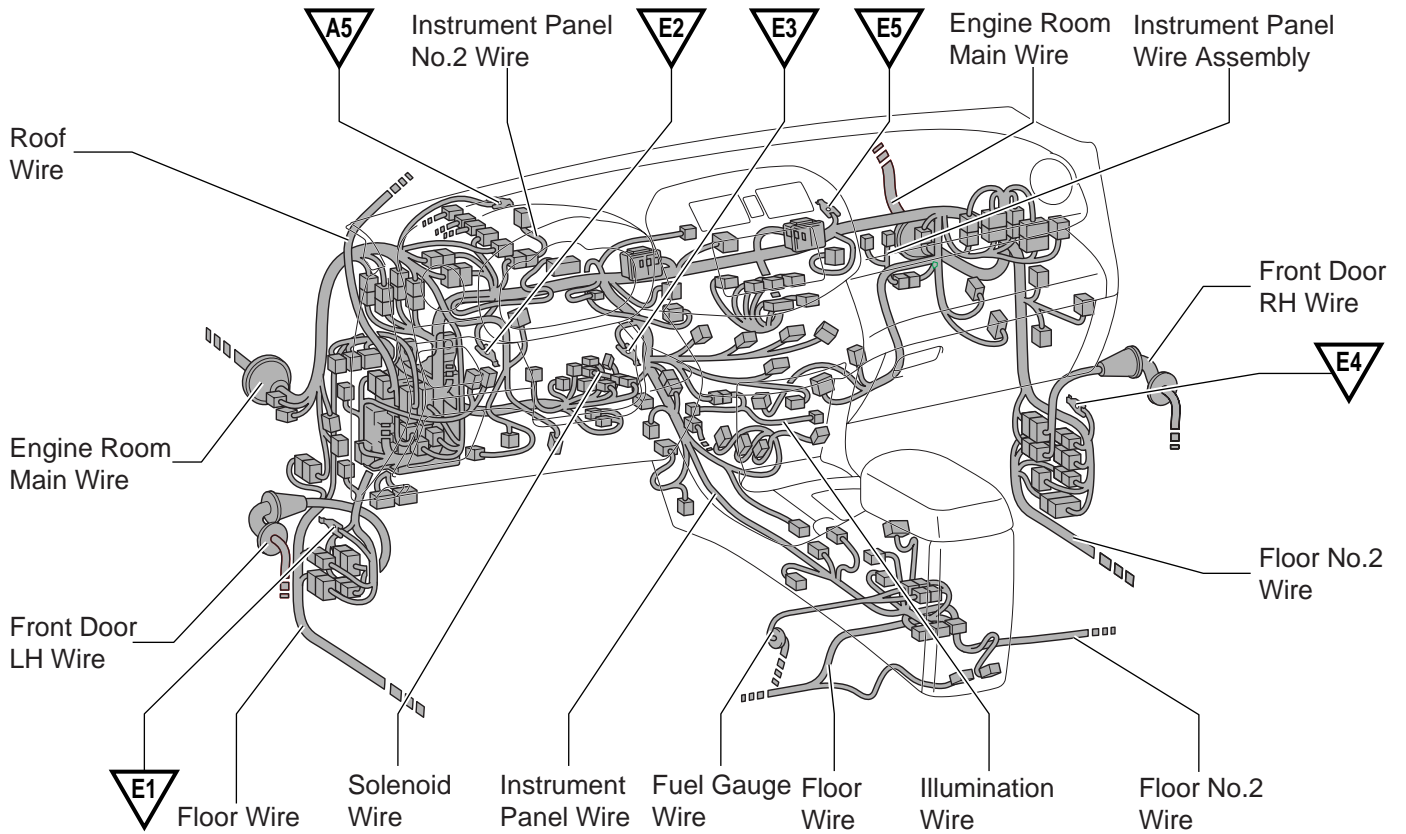


G ELECTRICAL WIRING ROUTING

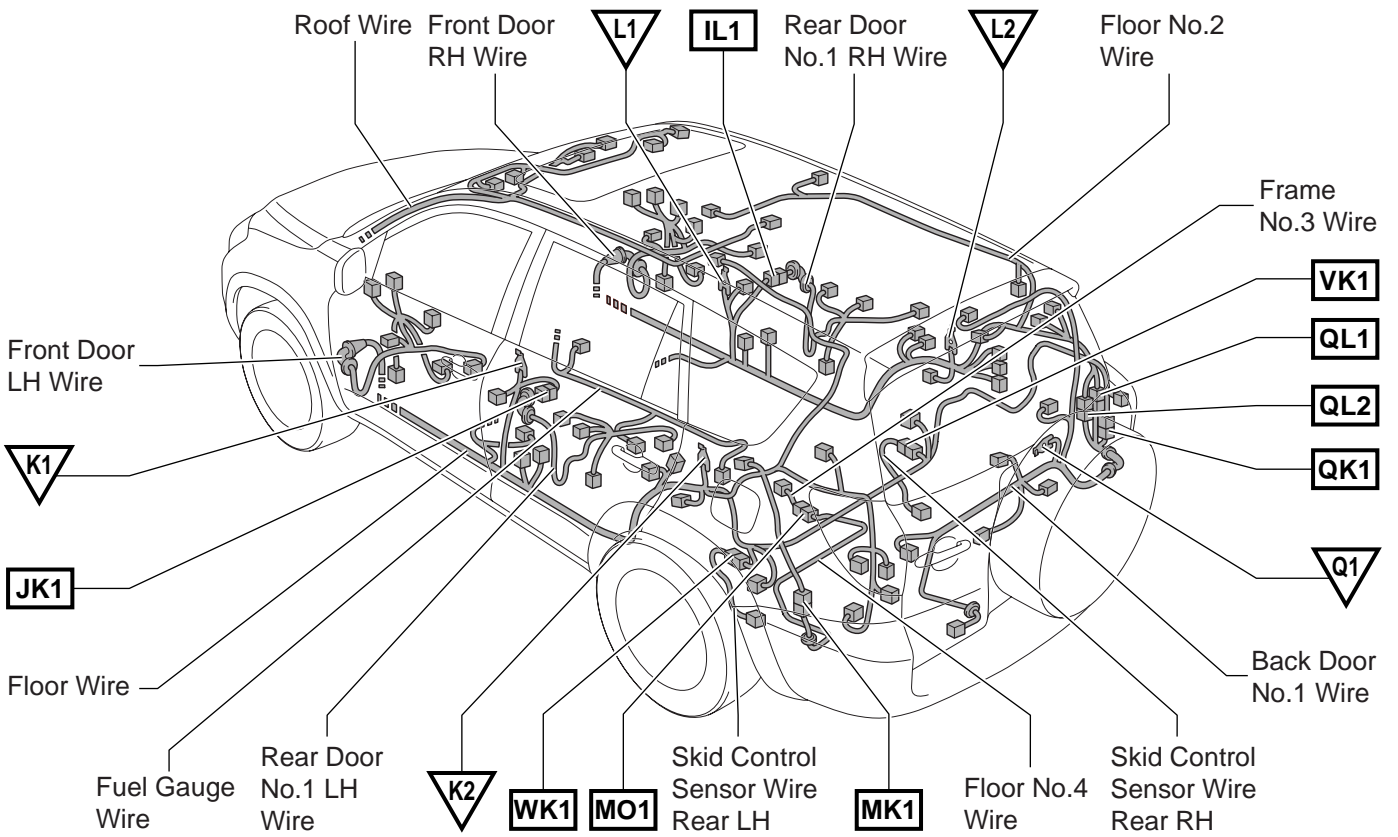
□ : Location of Connector Joining Wire Harness and Wire Harness



▽ : Location of Ground Points

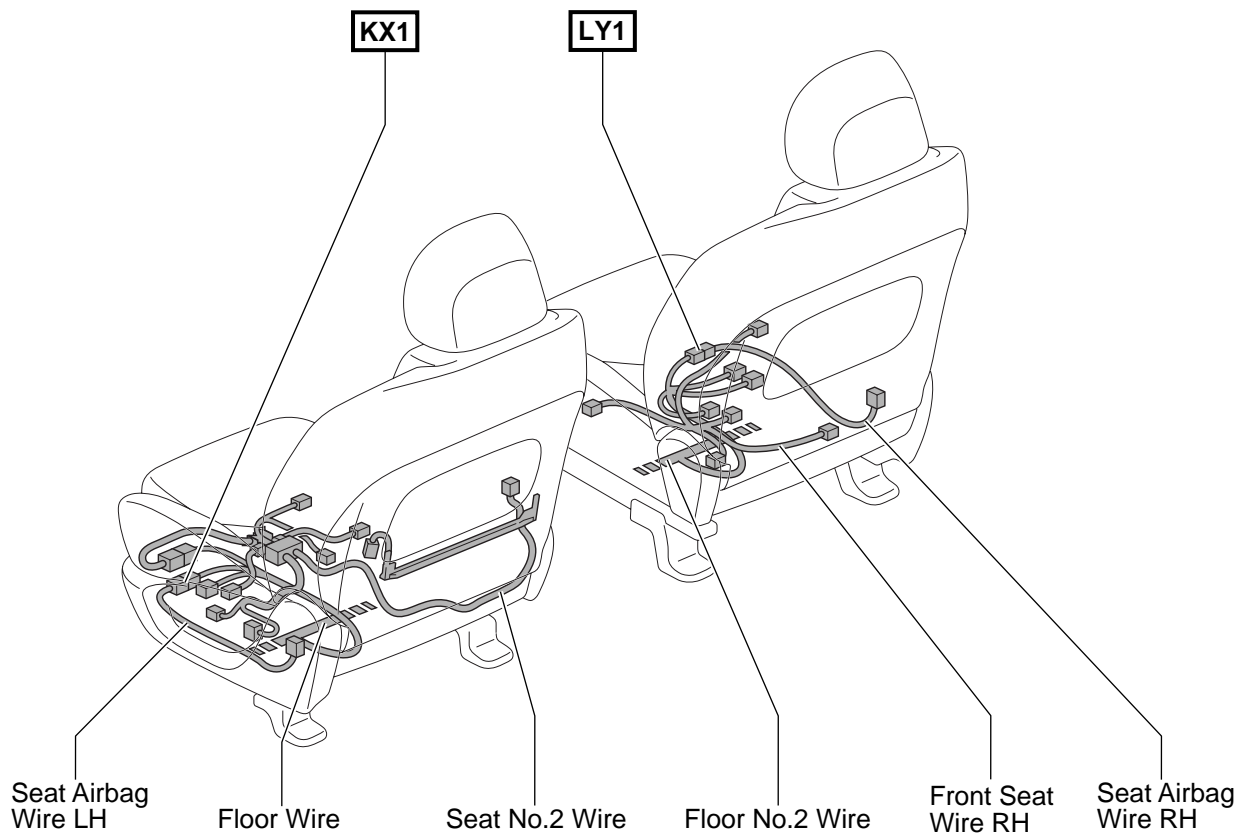


□	: Location of Connector Joining Wire Harness and Wire Harness
▽	: Location of Ground Points



G ELECTRICAL WIRING ROUTING

□ : Location of Connector Joining Wire Harness and Wire Harness

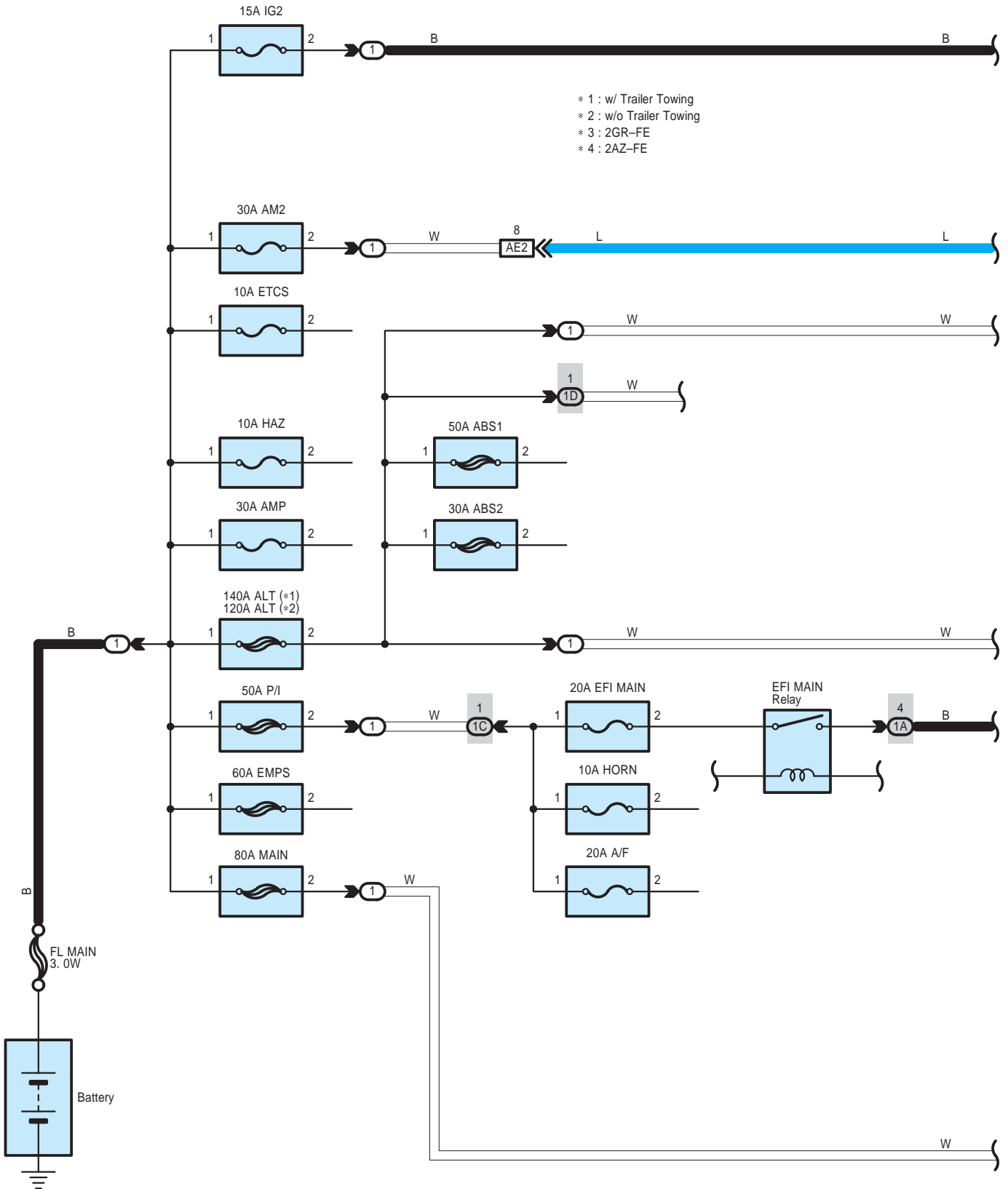


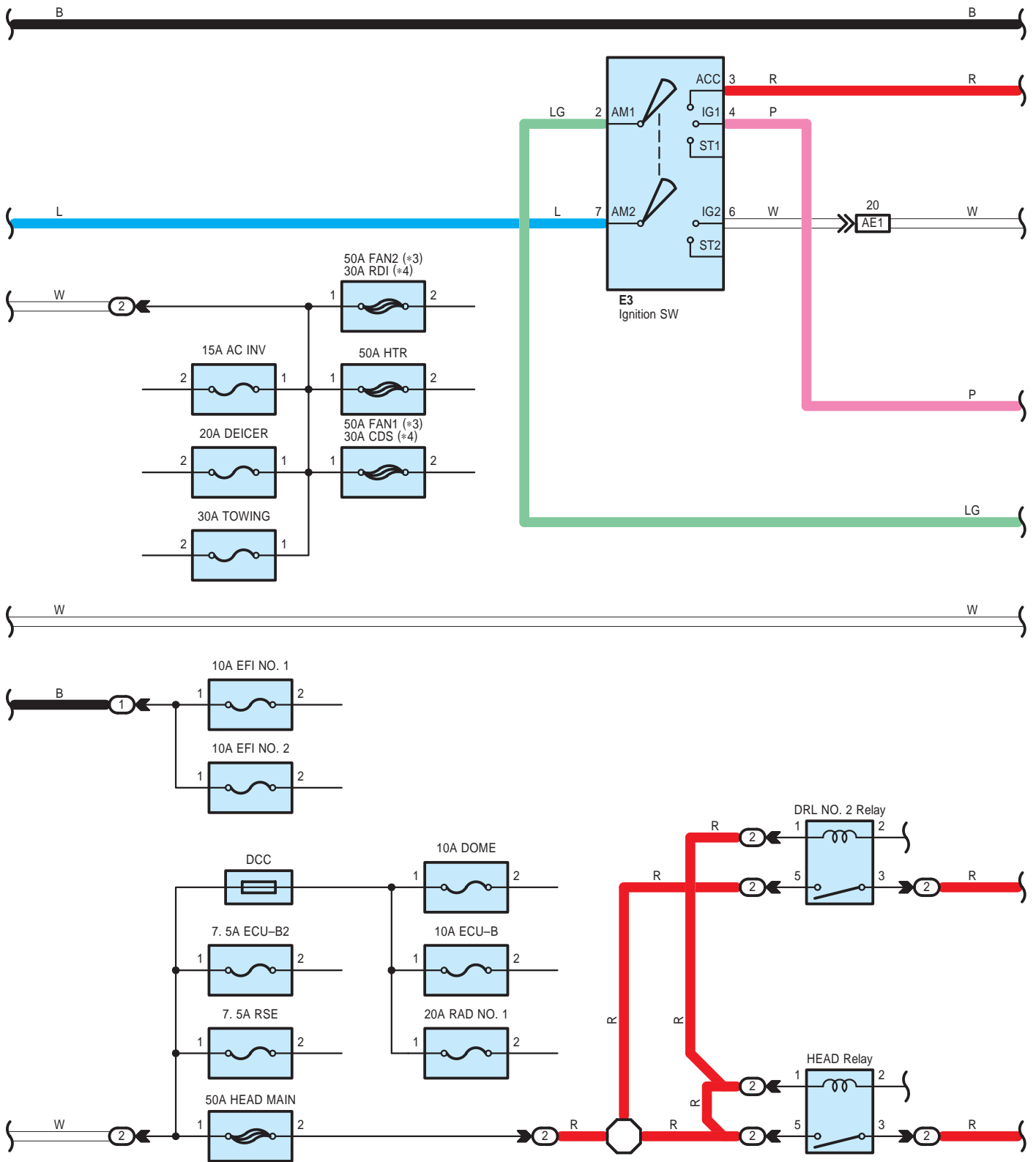
2007 RAV4 ELECTRICAL WIRING DIAGRAM SYSTEM CIRCUITS

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Downhill Assist Control	256
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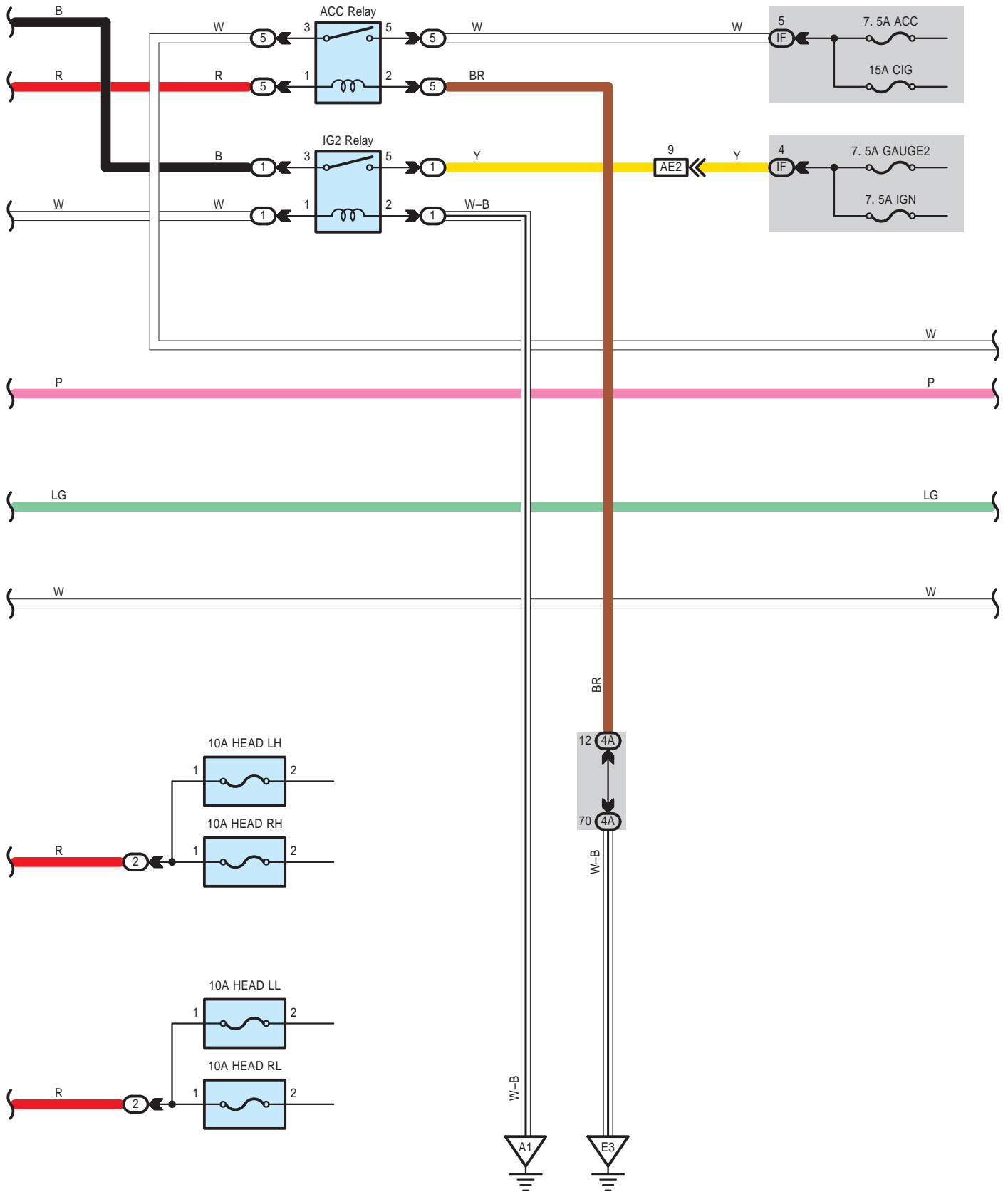
	Page
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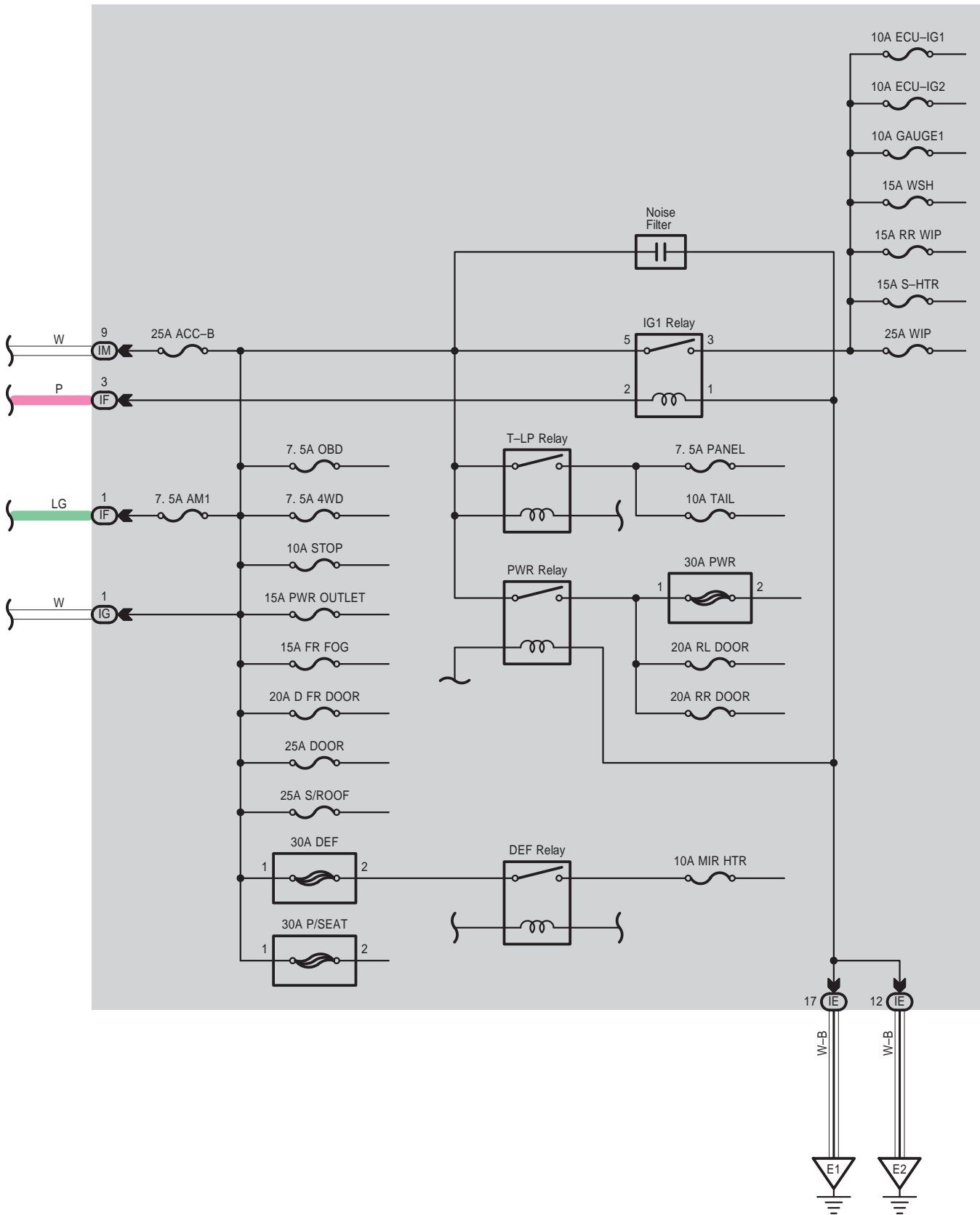
Power Source





Power Source





RAV4 (EM03T0U)

Power Source

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
E3	54				

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	
5	28	R/B No.5 (Cowl Side Left)

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
1C		
1D	22 (2GR-FE)	Engine Wire and Engine Room J/B (Engine Compartment Left)
	23 (2AZ-FE)	
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IF		
IG	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)

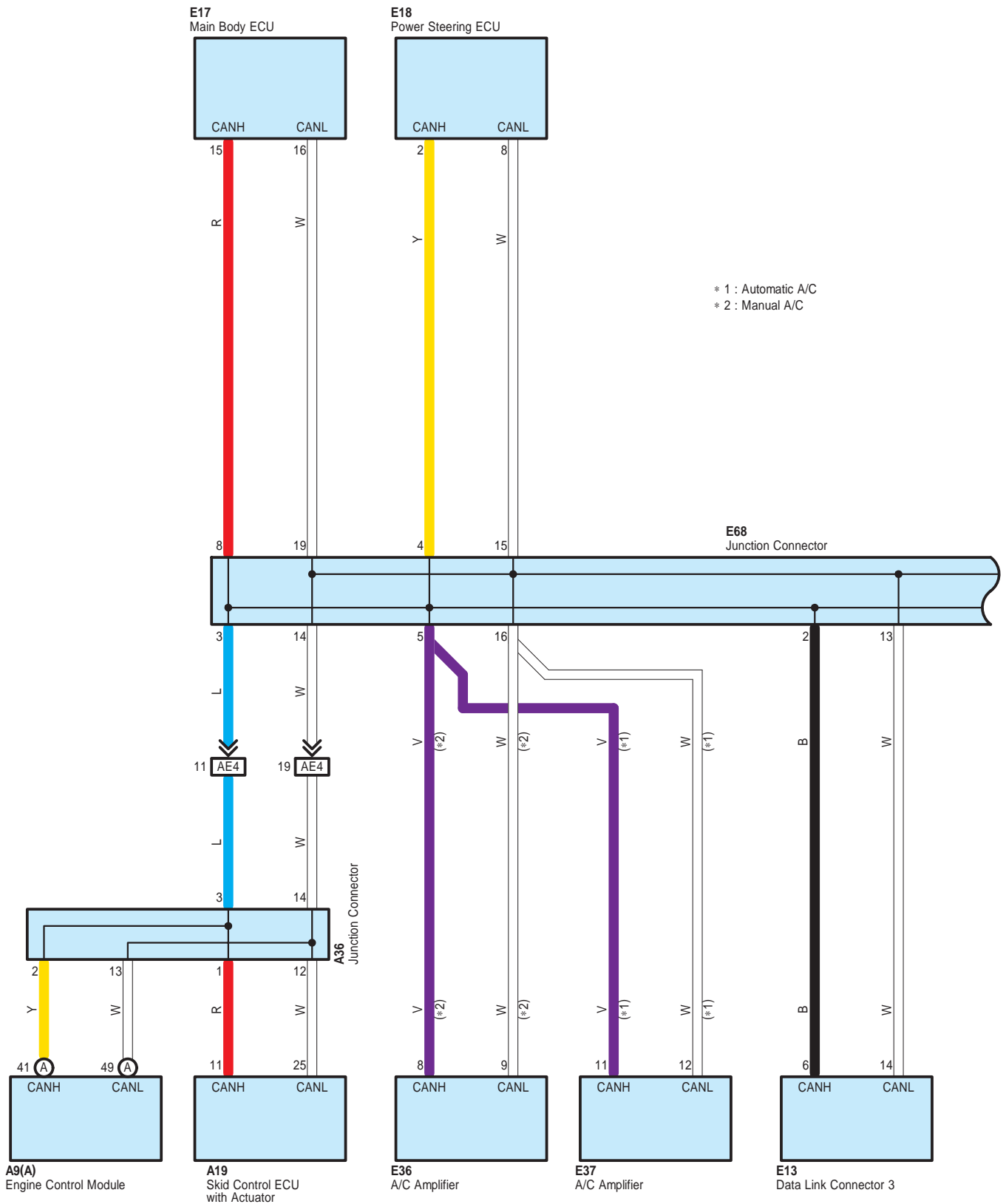
□ : Connector Joining Wire Harness and Wire Harness

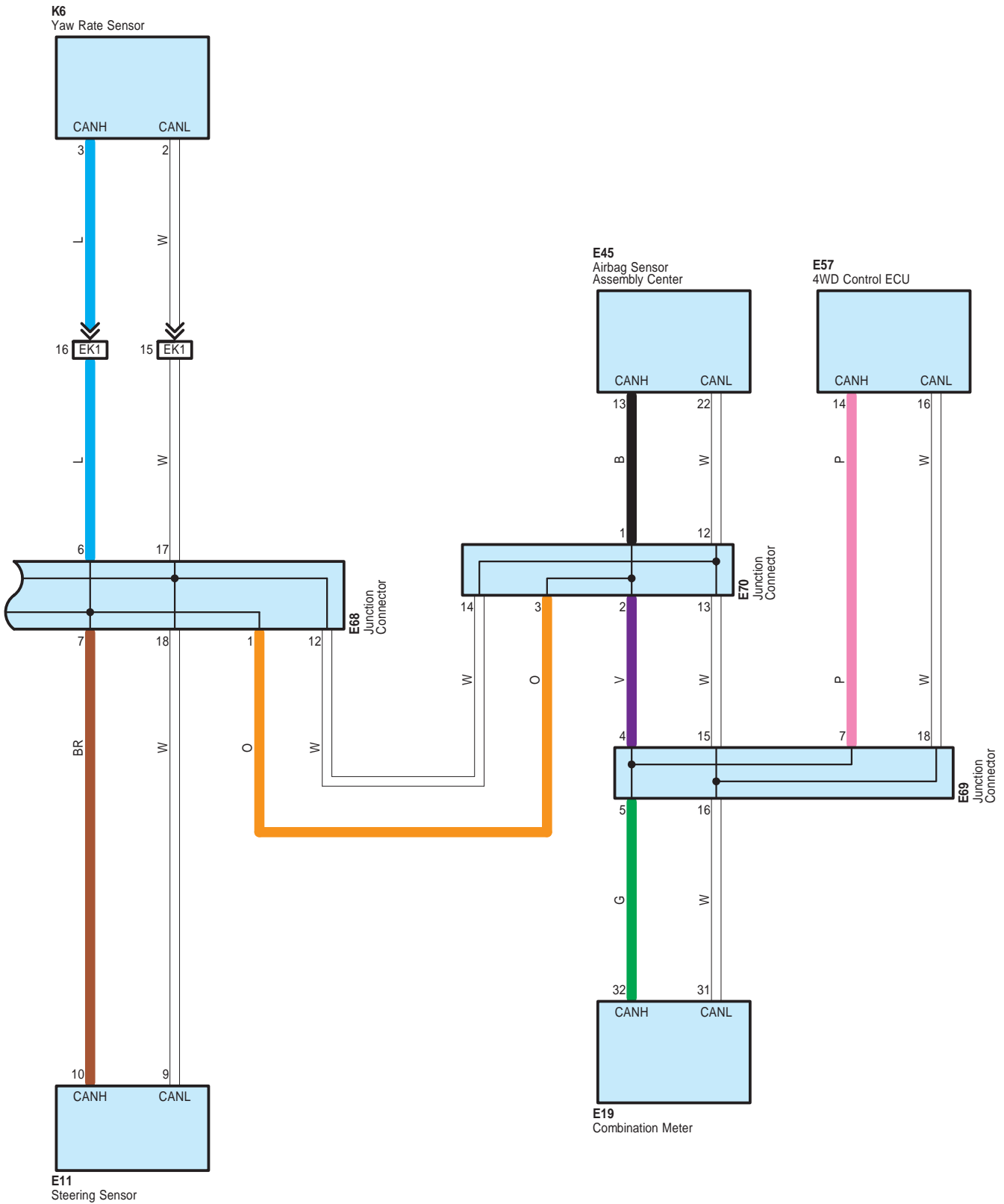
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE1	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE2		

▽ : Ground Points

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
E1	66	Left Kick Panel
E2	66	Instrument Panel Reinforcement Left
E3	66	Instrument Panel Reinforcement Center

Multiplex Communication System – CAN





Multiplex Communication System – CAN

System Outline

CAN has two lines as a pair which make communication with operating voltage. CAN has excellent data speed and error detecting capacity. It consists of vehicle control systems such as 4WD control ECU, A/C amplifier, airbag sensor assembly center, combination meter, data link connector 3, engine control module, main body ECU, power steering ECU, skid control ECU with actuator, steering sensor and yaw rate sensor.

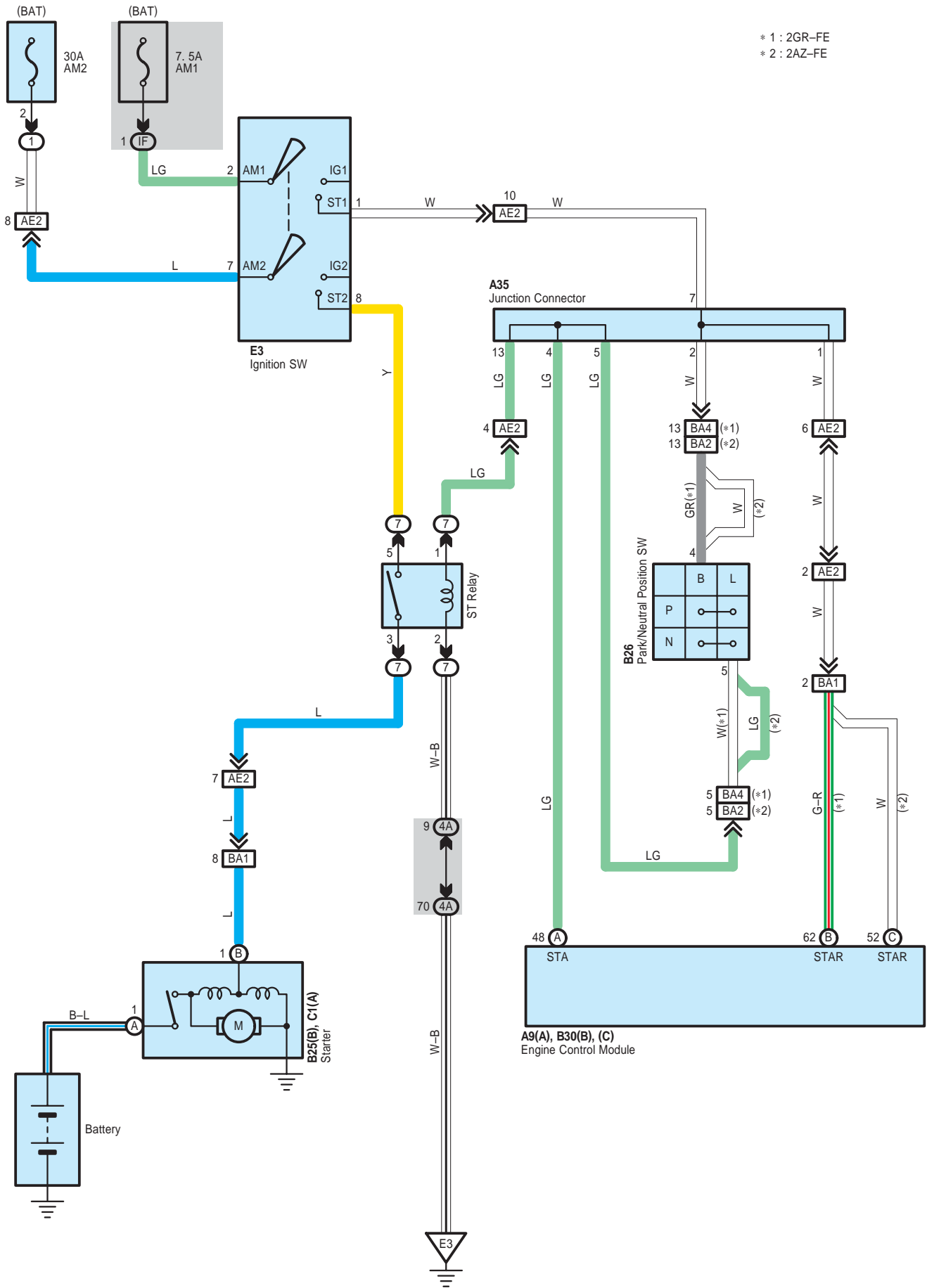
○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
A9	A	50 (2GR-FE)	E13	54	E45	55
		52 (2AZ-FE)	E17	54	E57	55
A19		50 (2GR-FE)	E18	54	E68	55
		52 (2AZ-FE)	E19	54	E69	55
A36		56	E36	55	E70	55
E11		54	E37	55	K6	59

□ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
EK1	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)

Starting



 : **Parts Location**

Code		See Page	Code		See Page	Code		See Page
A9	A	50 (2GR-FE)	B25	B	53 (2AZ-FE)	B30	C	53 (2AZ-FE)
		52 (2AZ-FE)			51 (2GR-FE)			51 (2GR-FE)
A35		56	B26		53 (2AZ-FE)	C1	A	53 (2AZ-FE)
B25	B	51 (2GR-FE)	B30	B	51 (2GR-FE)			E3

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
7	29	R/B No.7 (Cowl Side Left)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IF	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)

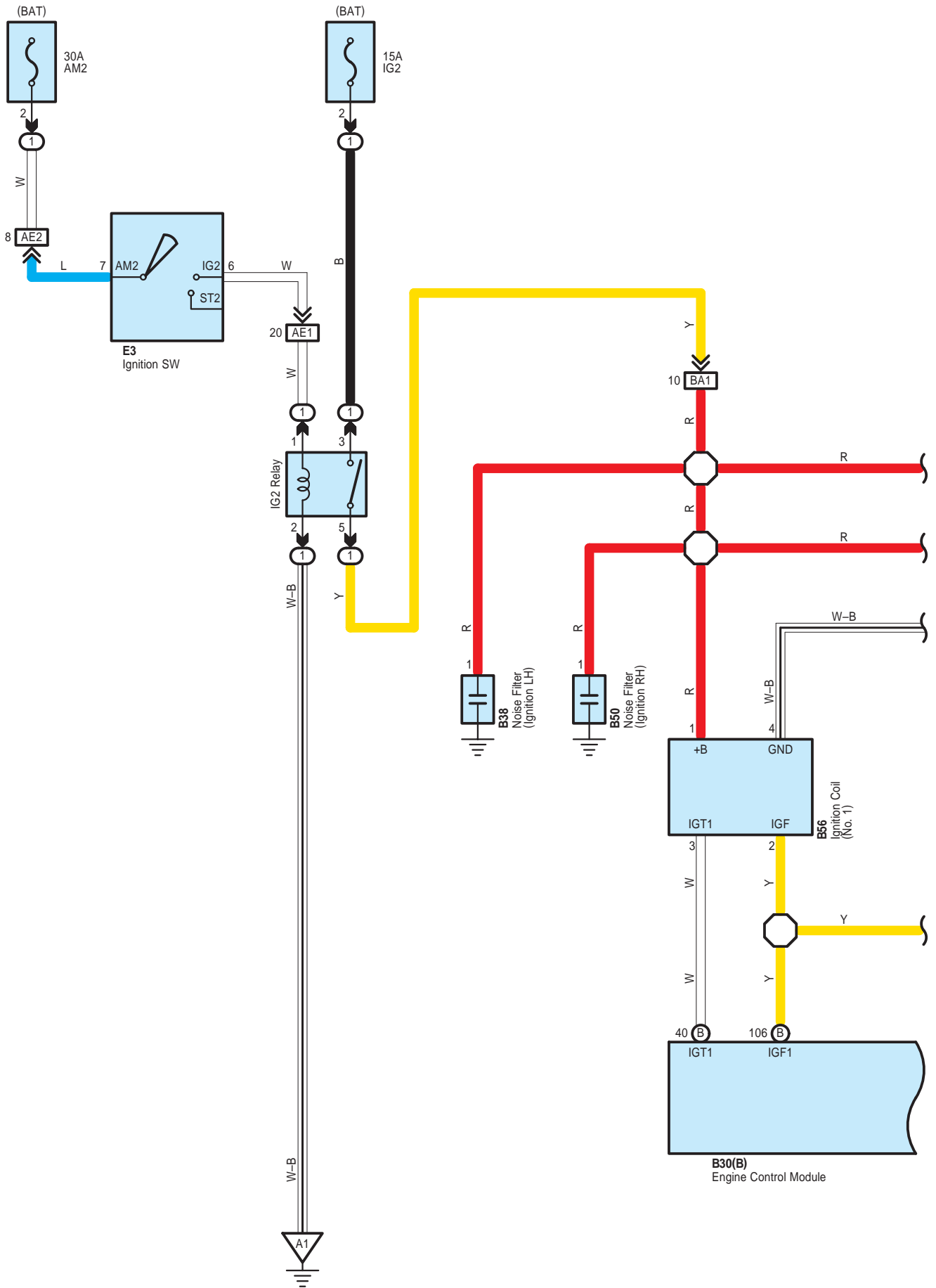
 : **Connector Joining Wire Harness and Wire Harness**

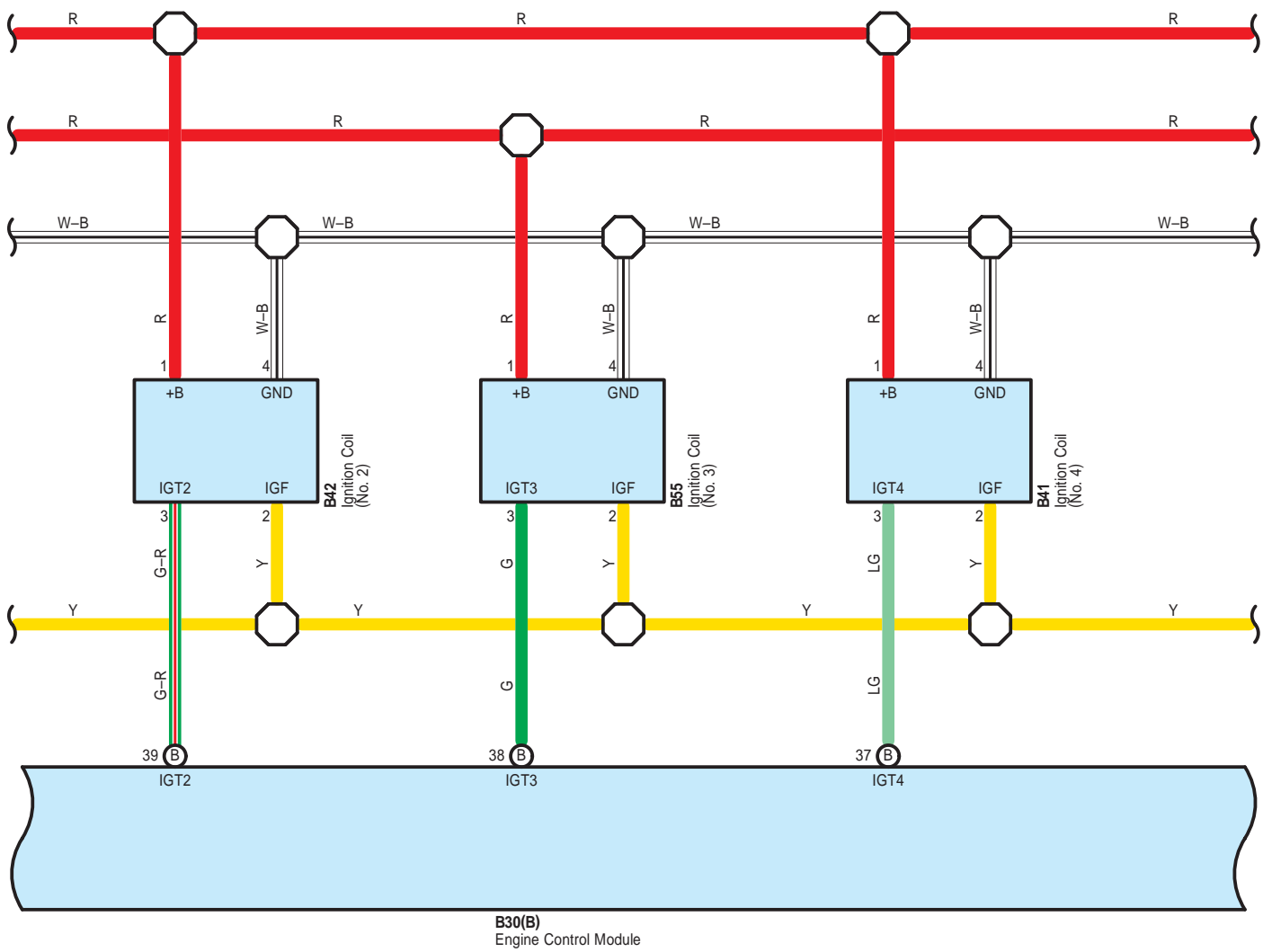
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE2	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
	65 (2AZ-FE)	
BA2	65 (2AZ-FE)	
BA4	64 (2GR-FE)	

 : **Ground Points**

Code	See Page	Ground Points Location
E3	66	Instrument Panel Reinforcement Center

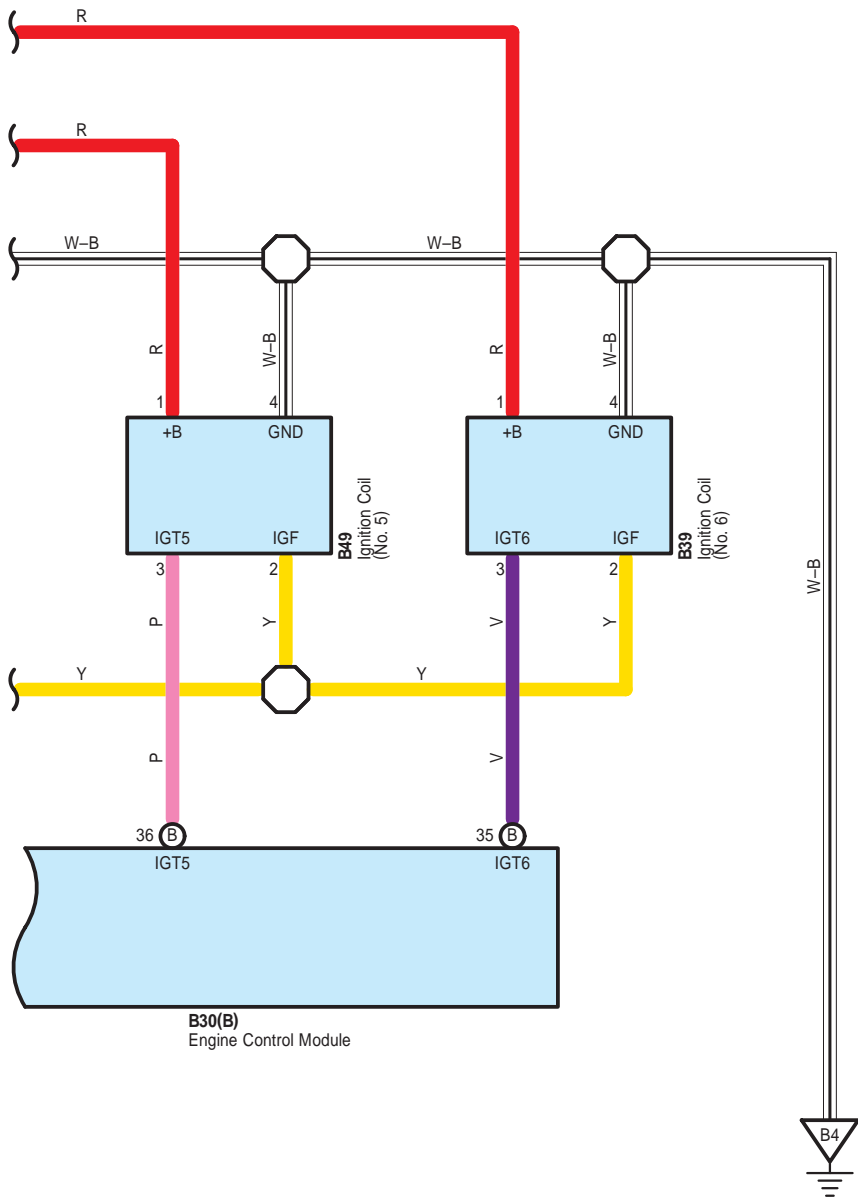
Ignition for 2GR-FE





B30(B)
Engine Control Module

Ignition for 2GR-FE



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page	
B30	B	51 (2GR-FE)	B42	51 (2GR-FE)	B56	51 (2GR-FE)
B38		51 (2GR-FE)	B49	51 (2GR-FE)	E3	54
B39		51 (2GR-FE)	B50	51 (2GR-FE)		
B41		51 (2GR-FE)	B55	51 (2GR-FE)		

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)

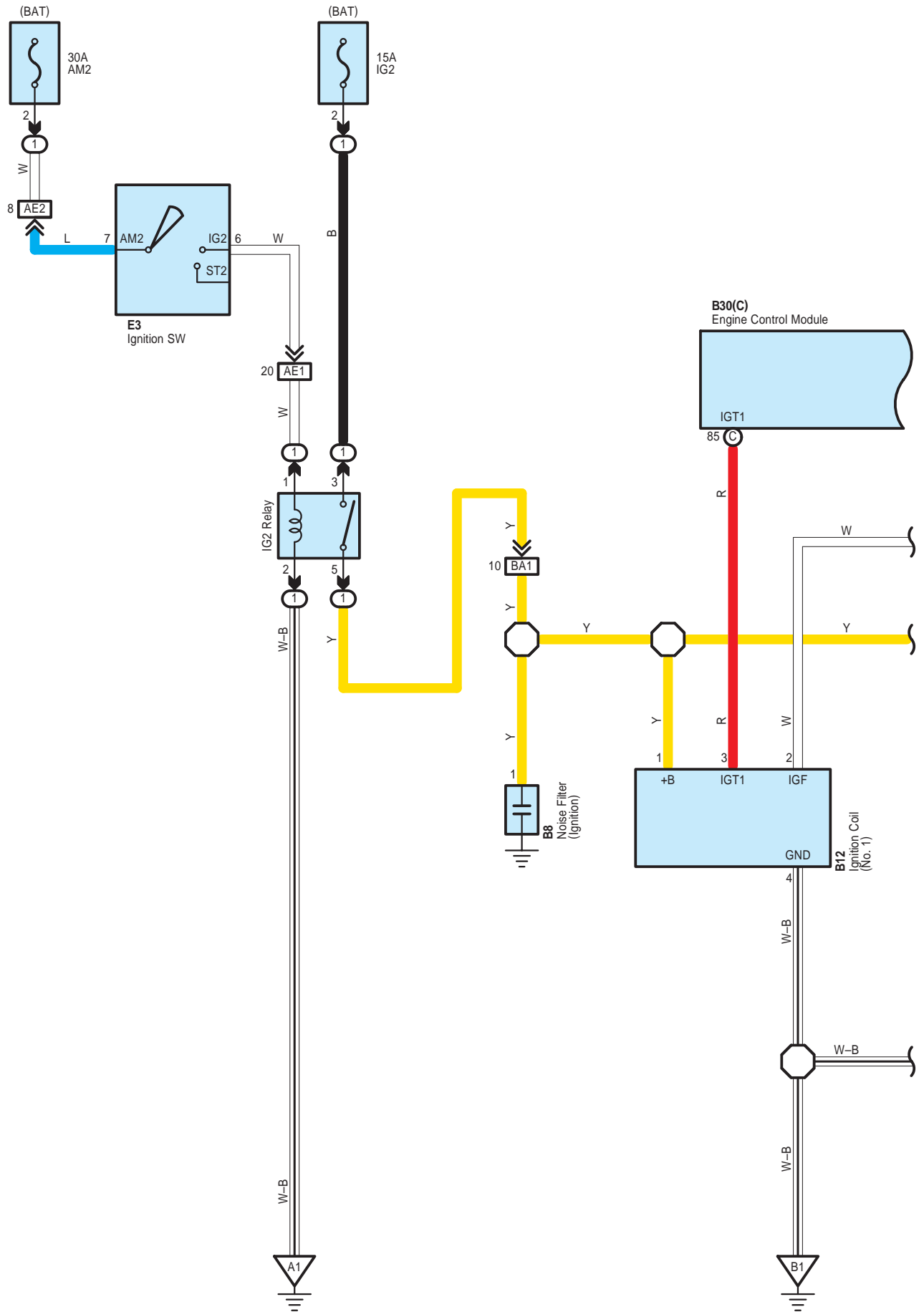
 : **Connector Joining Wire Harness and Wire Harness**

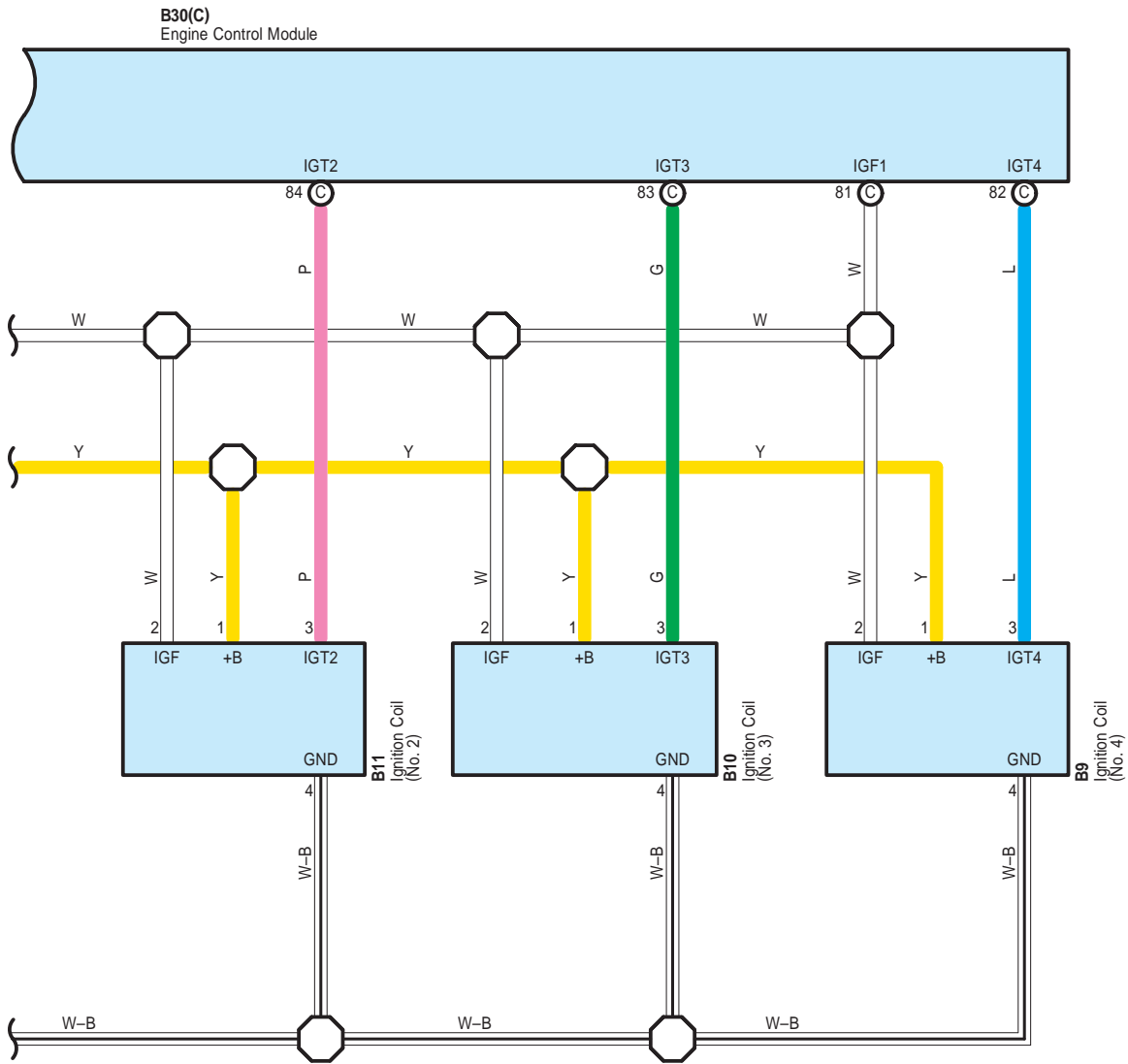
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE1	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE2		
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)

 : **Ground Points**

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
B4	64 (2GR-FE)	Left Side of the Cylinder Head

Ignition for 2AZ-FE





Ignition for 2AZ-FE

: Parts Location

Code	See Page	Code	See Page	Code	See Page
B8	53 (2AZ-FE)	B11	53 (2AZ-FE)	E3	54
B9	53 (2AZ-FE)	B12	53 (2AZ-FE)		
B10	53 (2AZ-FE)	B30	C	53 (2AZ-FE)	

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	23 (2AZ-FE)	Engine Room R/B No.1 (Engine Compartment Left)

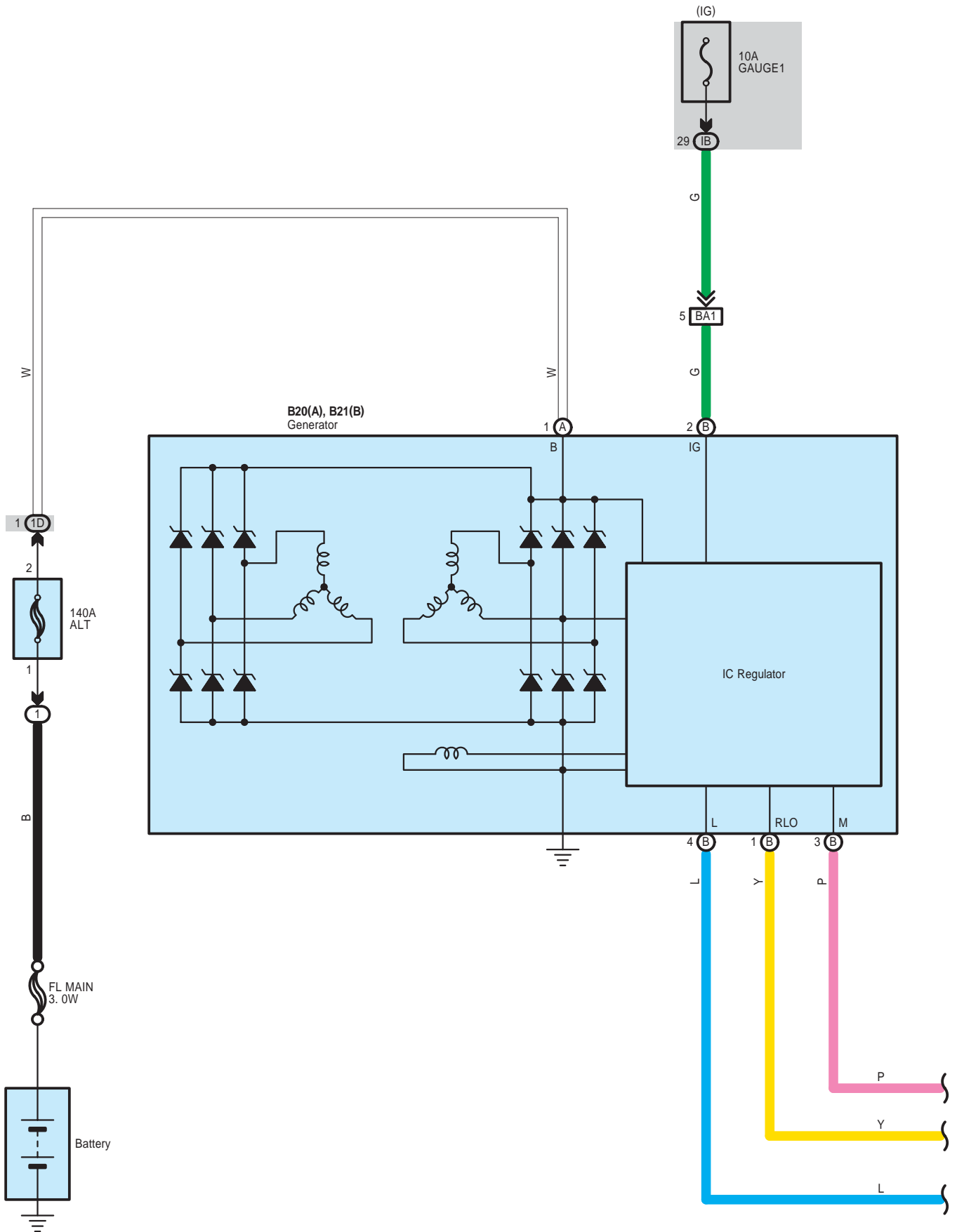
: Connector Joining Wire Harness and Wire Harness

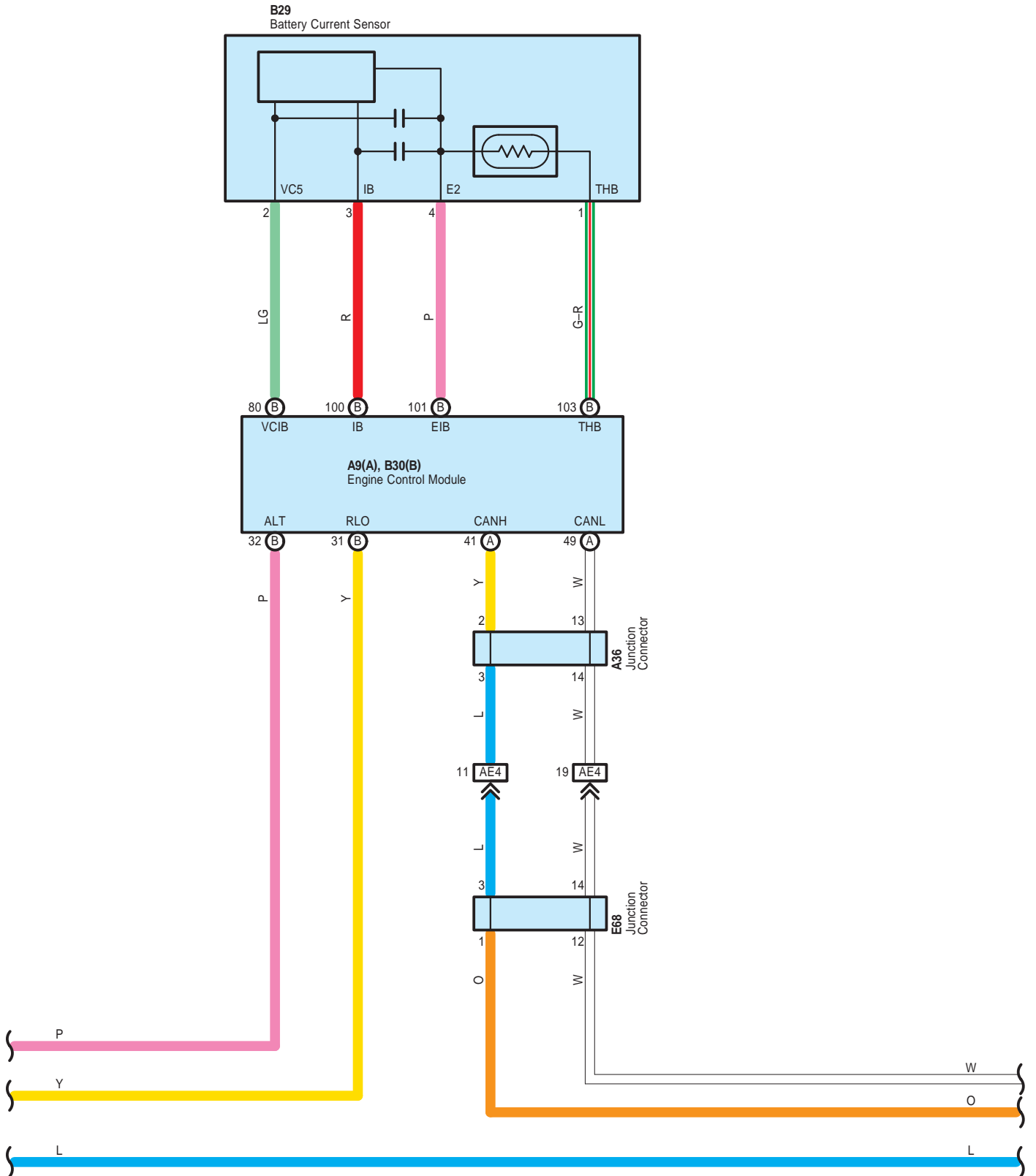
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE1	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE2		
BA1	65 (2AZ-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)

: Ground Points

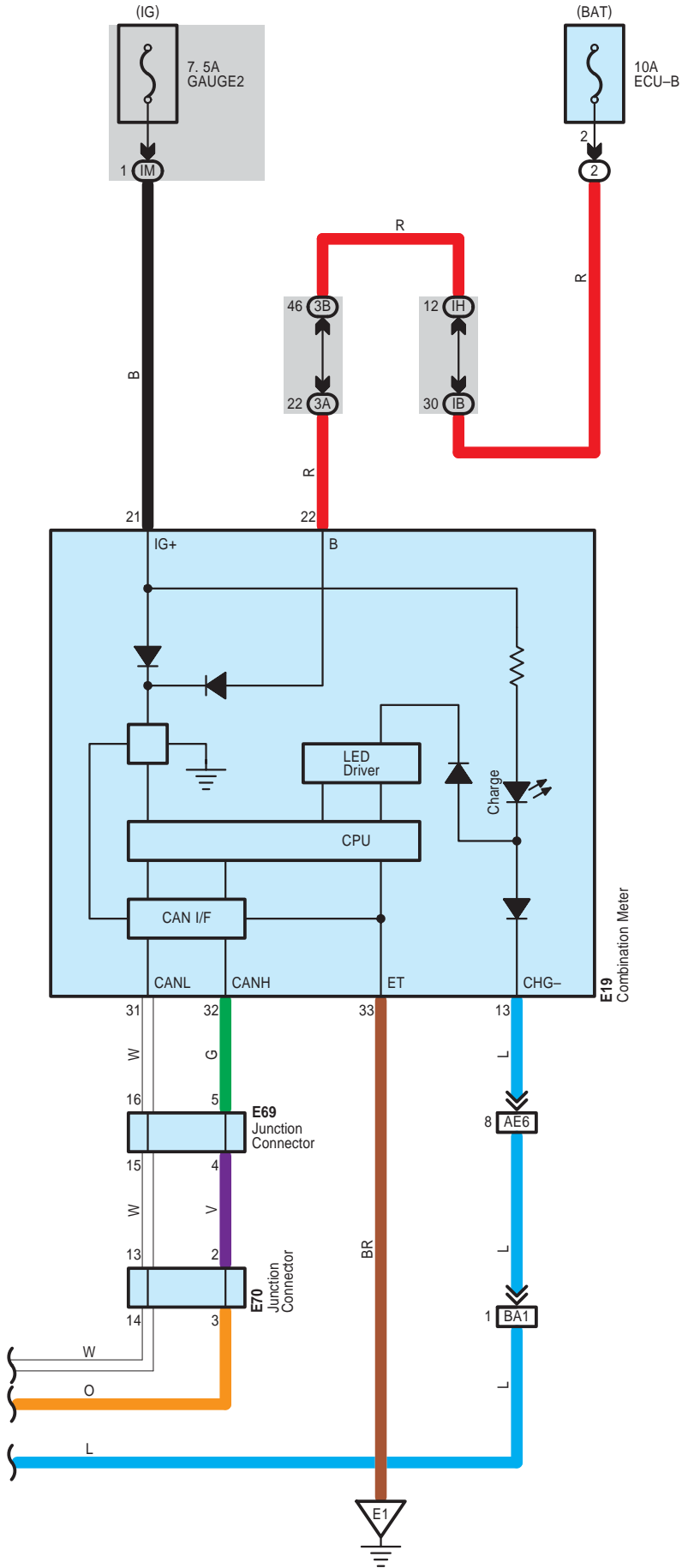
Code	See Page	Ground Points Location
A1	65 (2AZ-FE)	Front Left Fender
B1	65 (2AZ-FE)	Left Side of the Cylinder Head

Charging with Trailer Towing





Charging with Trailer Towing



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page	
A9	A	50 (2GR-FE)	B29	51 (2GR-FE)	E69	55
A36	56	B30	B	51 (2GR-FE)	E70	55
B20	A	51 (2GR-FE)	E19	54		
B21	B	51 (2GR-FE)	E68	55		

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	22 (2GR-FE)	Engine Wire and Engine Room J/B (Engine Compartment Left)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IH	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	

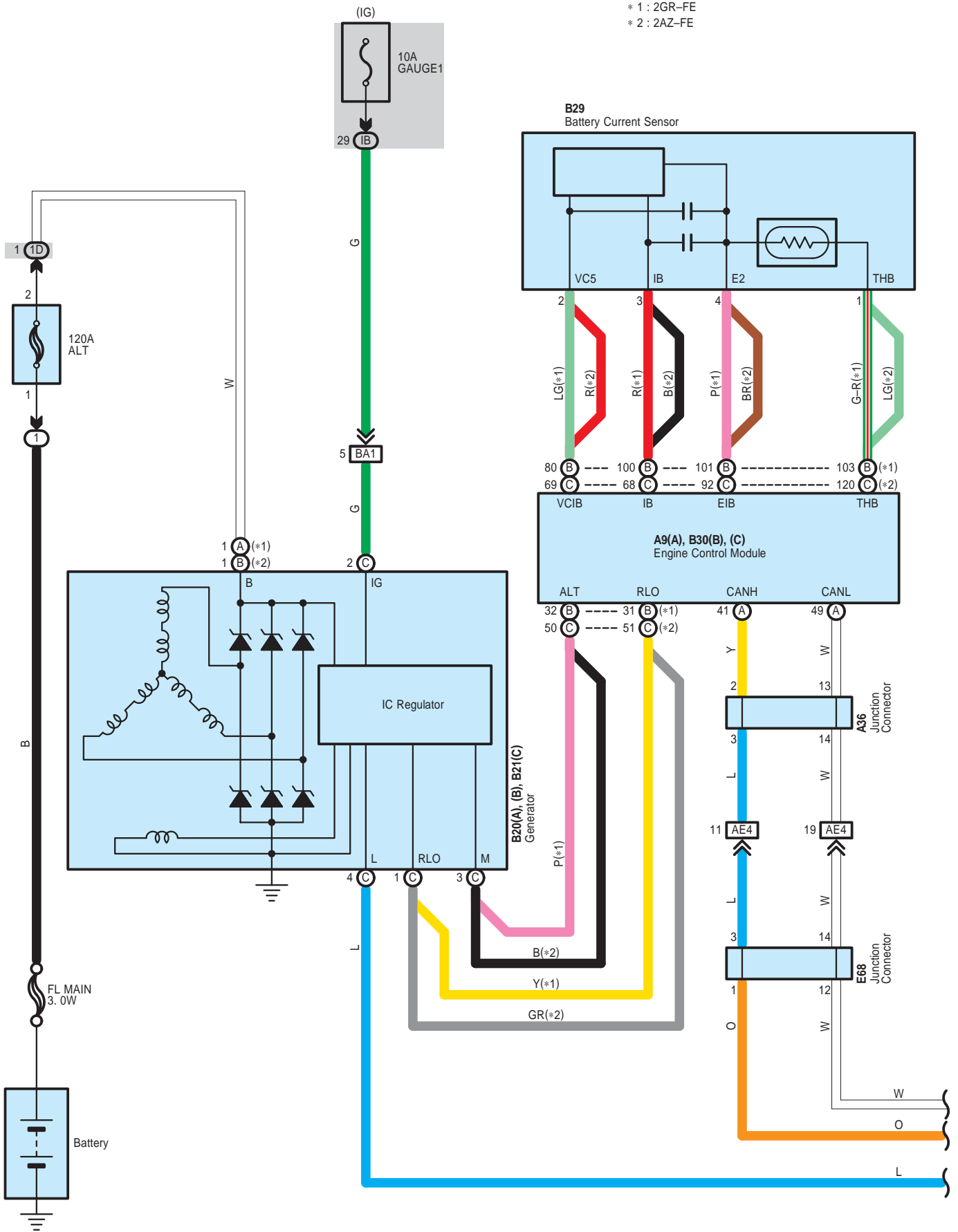
 : **Connector Joining Wire Harness and Wire Harness**

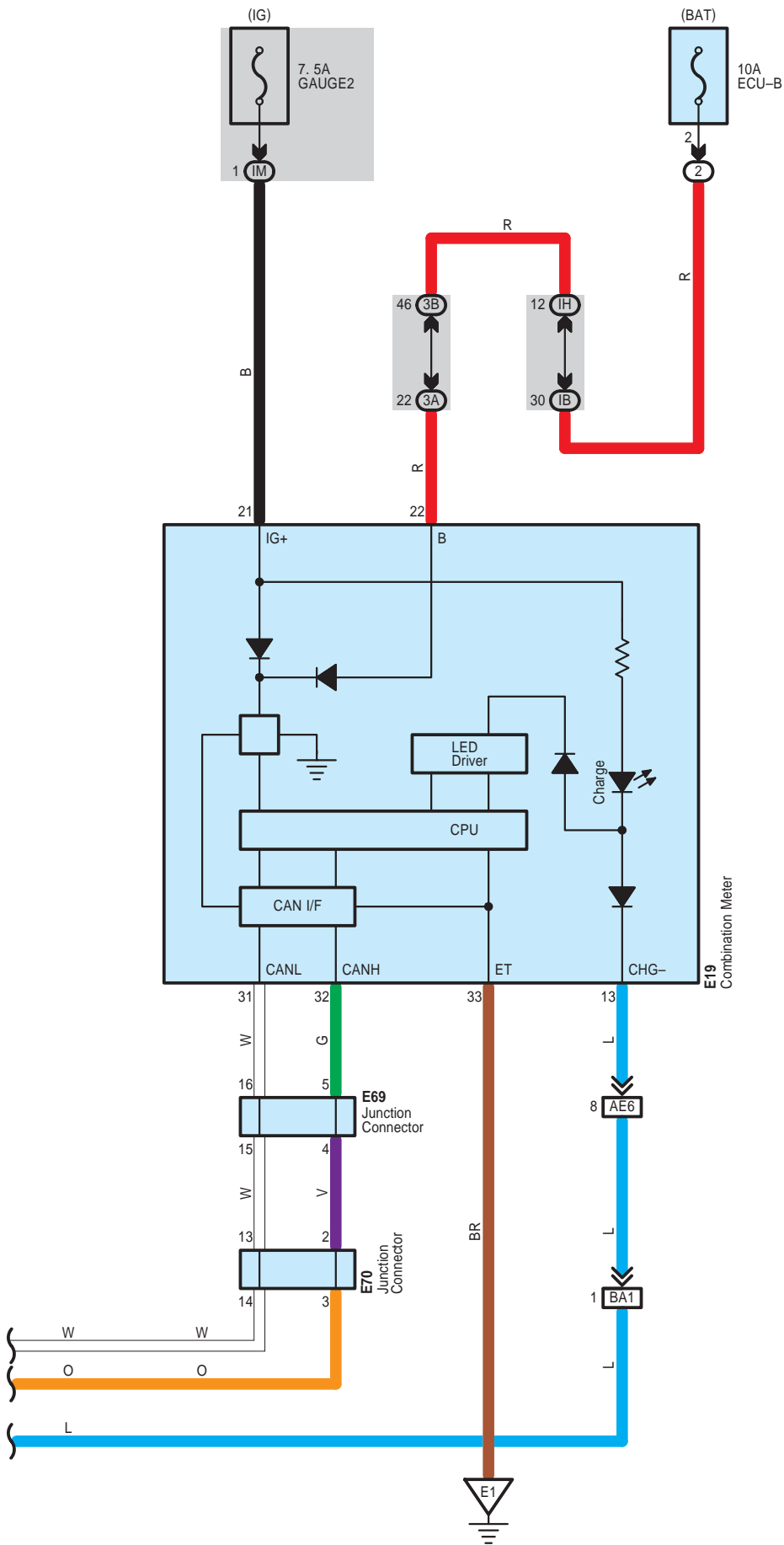
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE6		
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)

 : **Ground Points**

Code	See Page	Ground Points Location
E1	66	Left Kick Panel

Charging without Trailer Towing





RAV4 (EM03T0U)

Charging without Trailer Towing

: Parts Location

Code		See Page	Code		See Page	Code		See Page
A9	A	50 (2GR-FE)	B21	C	51 (2GR-FE)	B30	C	53 (2AZ-FE)
		52 (2AZ-FE)			E19			54
A36		56	B29		51 (2GR-FE)	E68		55
B20	A	51 (2GR-FE)			E69		55	
	B	53 (2AZ-FE)	B30	B	51 (2GR-FE)	E70		55

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	22 (2GR-FE)	Engine Wire and Engine Room J/B (Engine Compartment Left)
	23 (2AZ-FE)	
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IH	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	

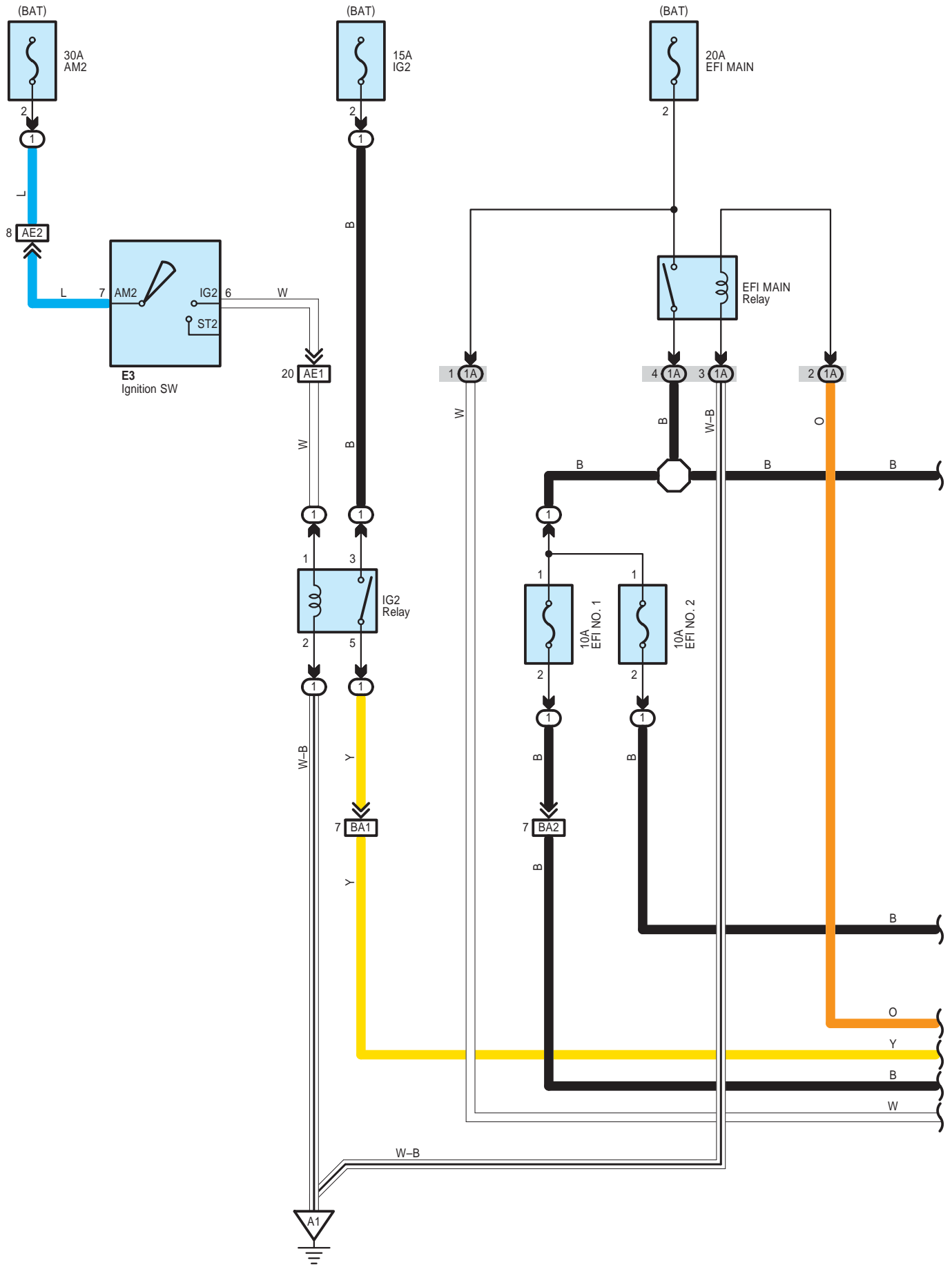
: Connector Joining Wire Harness and Wire Harness

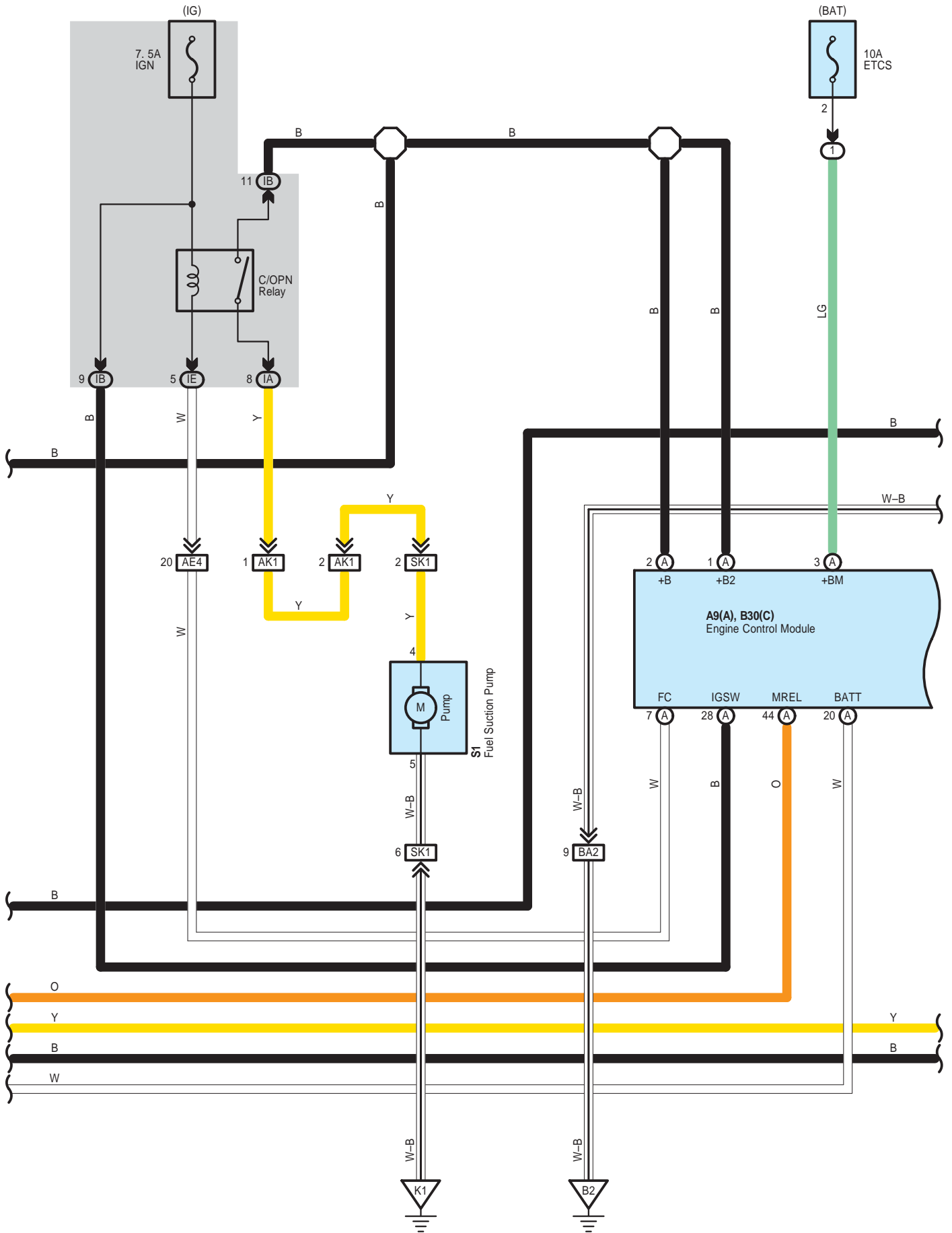
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE6		
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
	65 (2AZ-FE)	

: Ground Points

Code	See Page	Ground Points Location
E1	66	Left Kick Panel

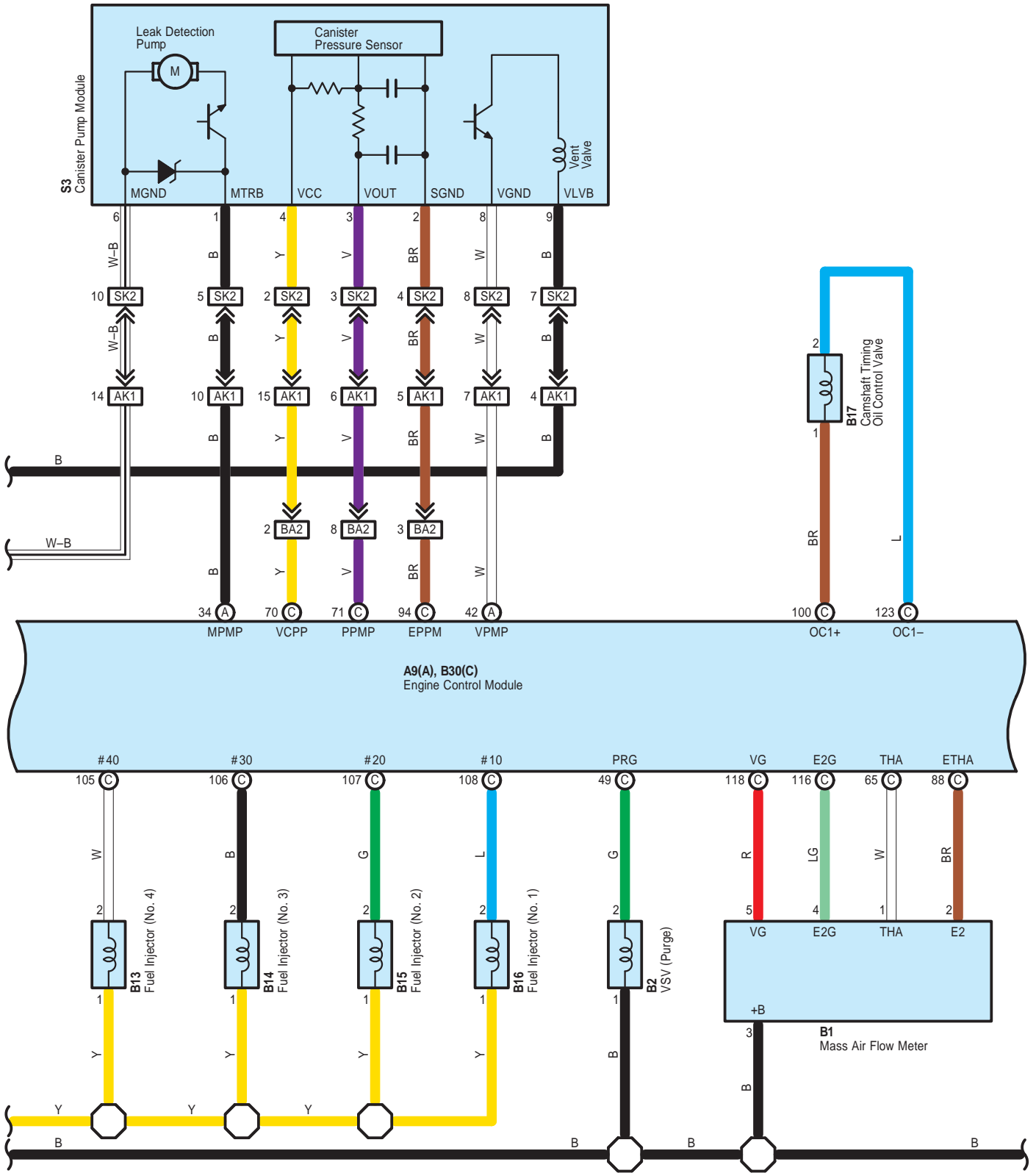
Engine Control for 2AZ-FE



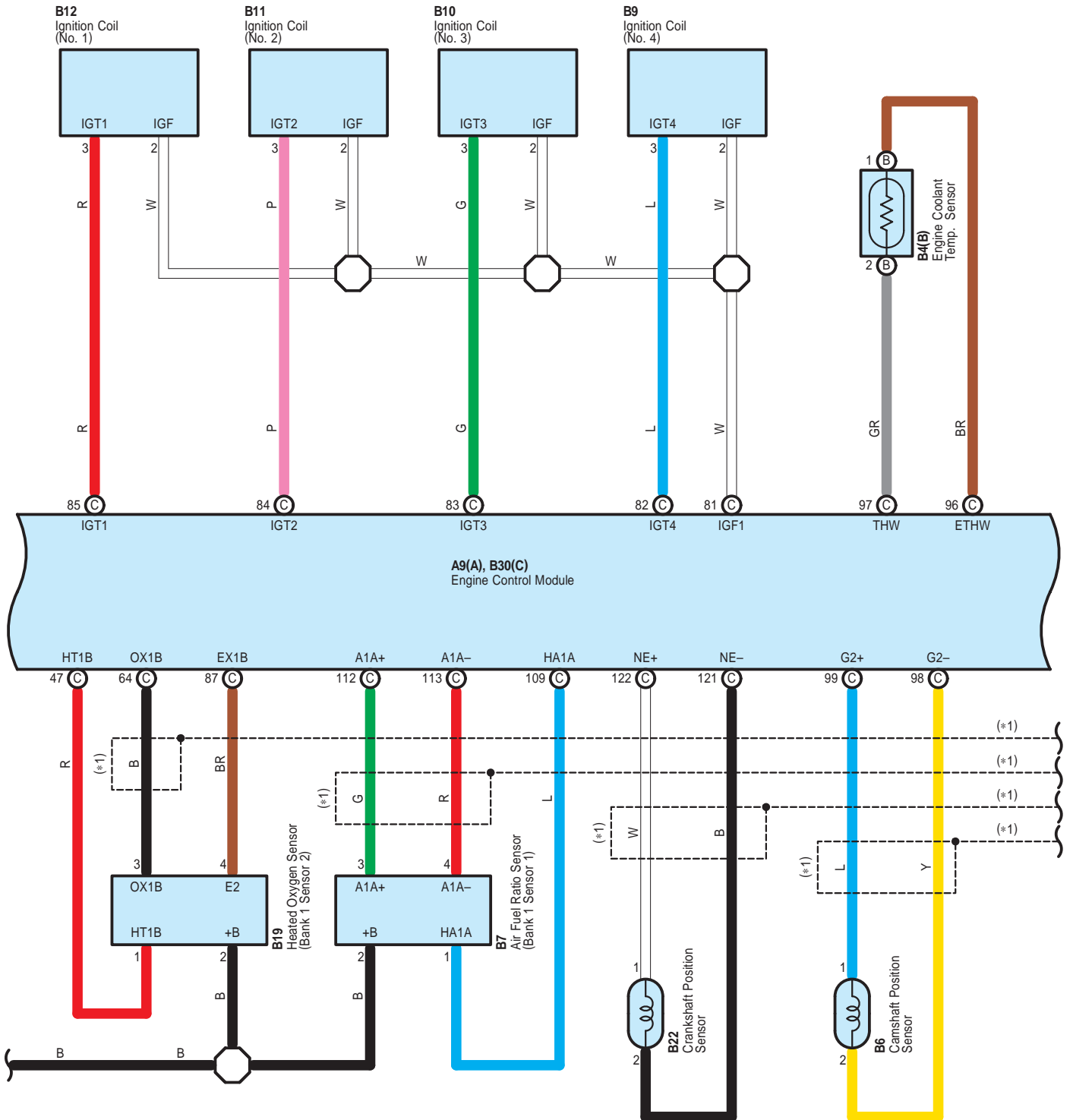


RAV4 (EM03T0U)

Engine Control for 2AZ-FE

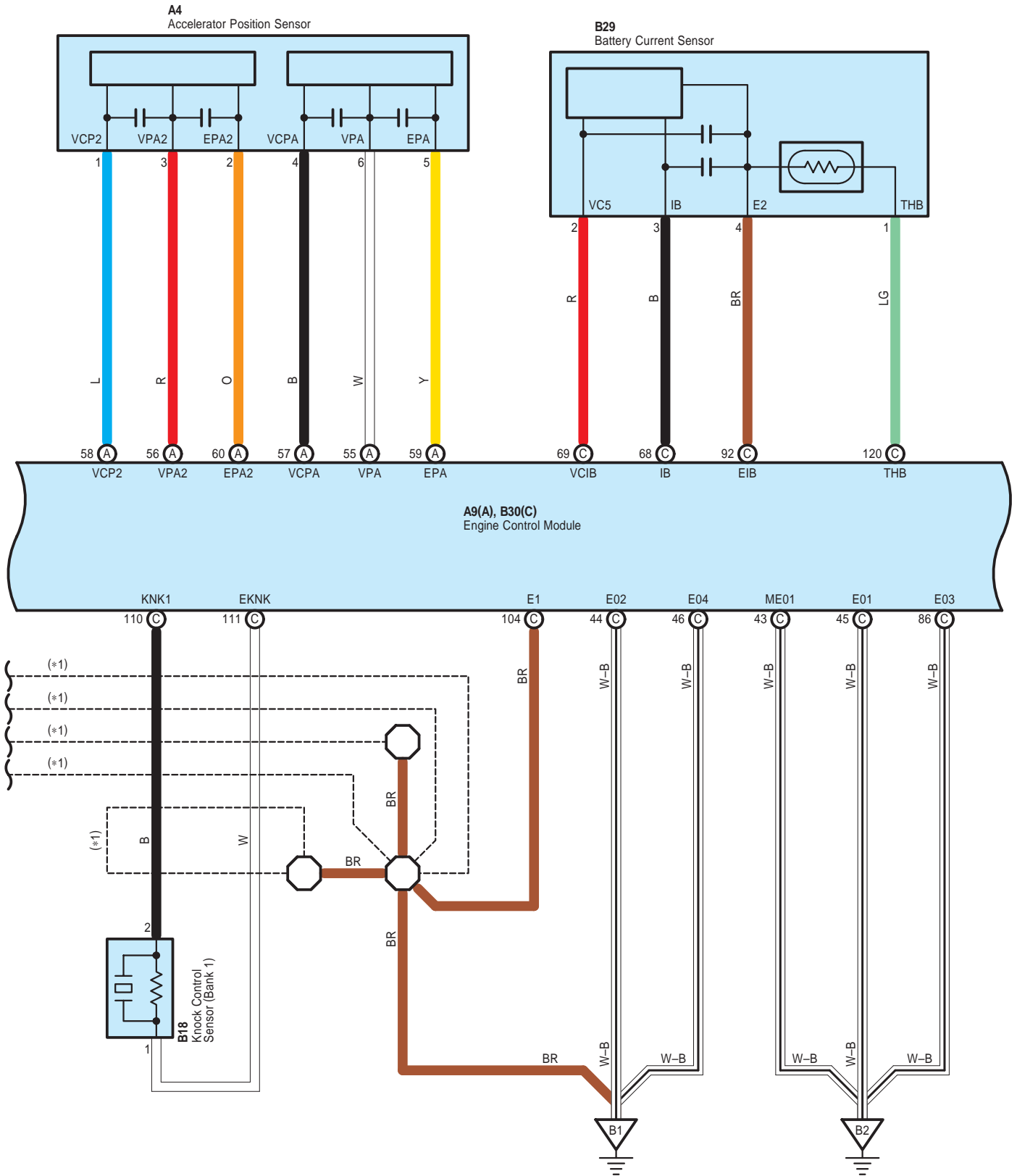


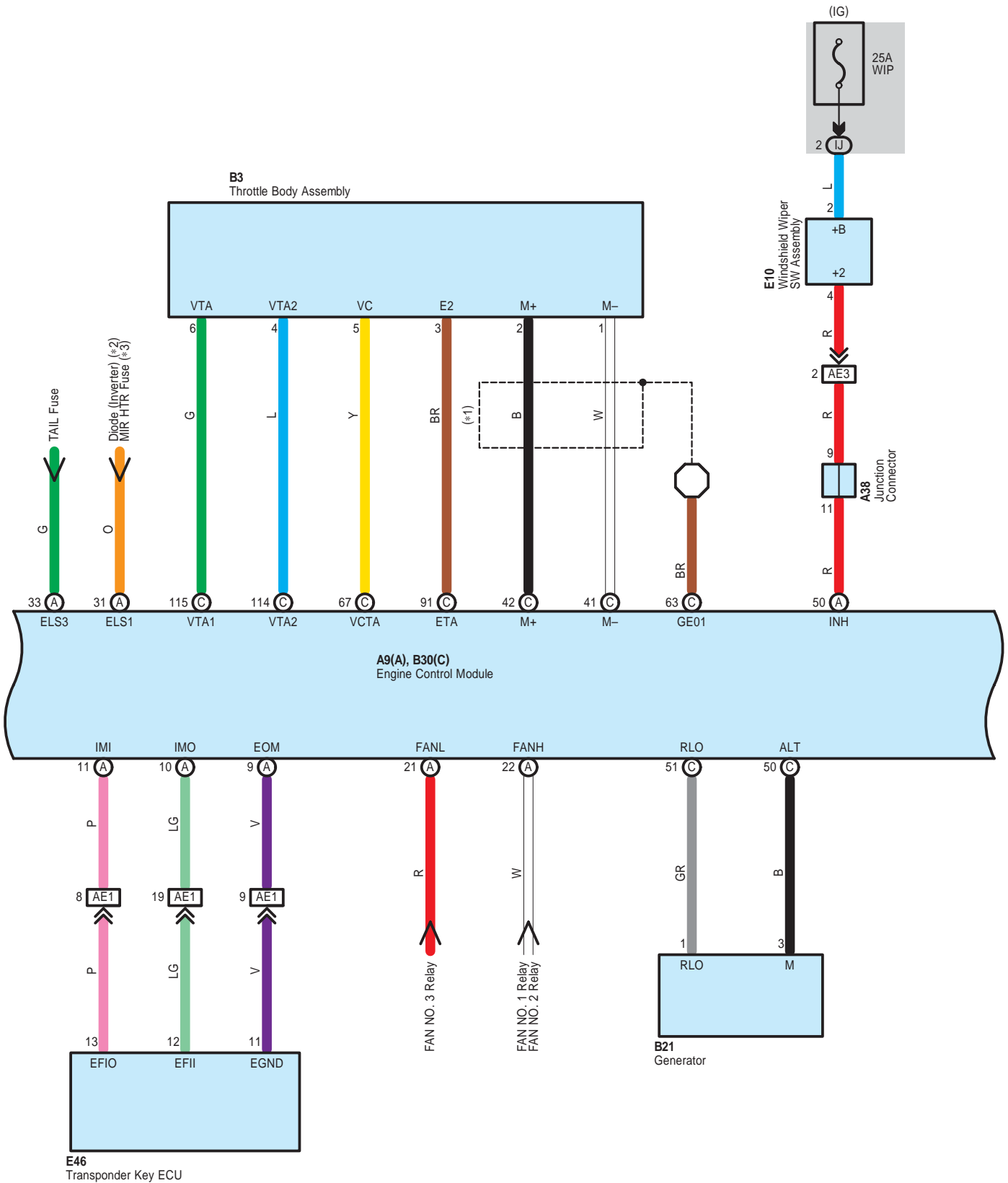
* 1 : Shielded



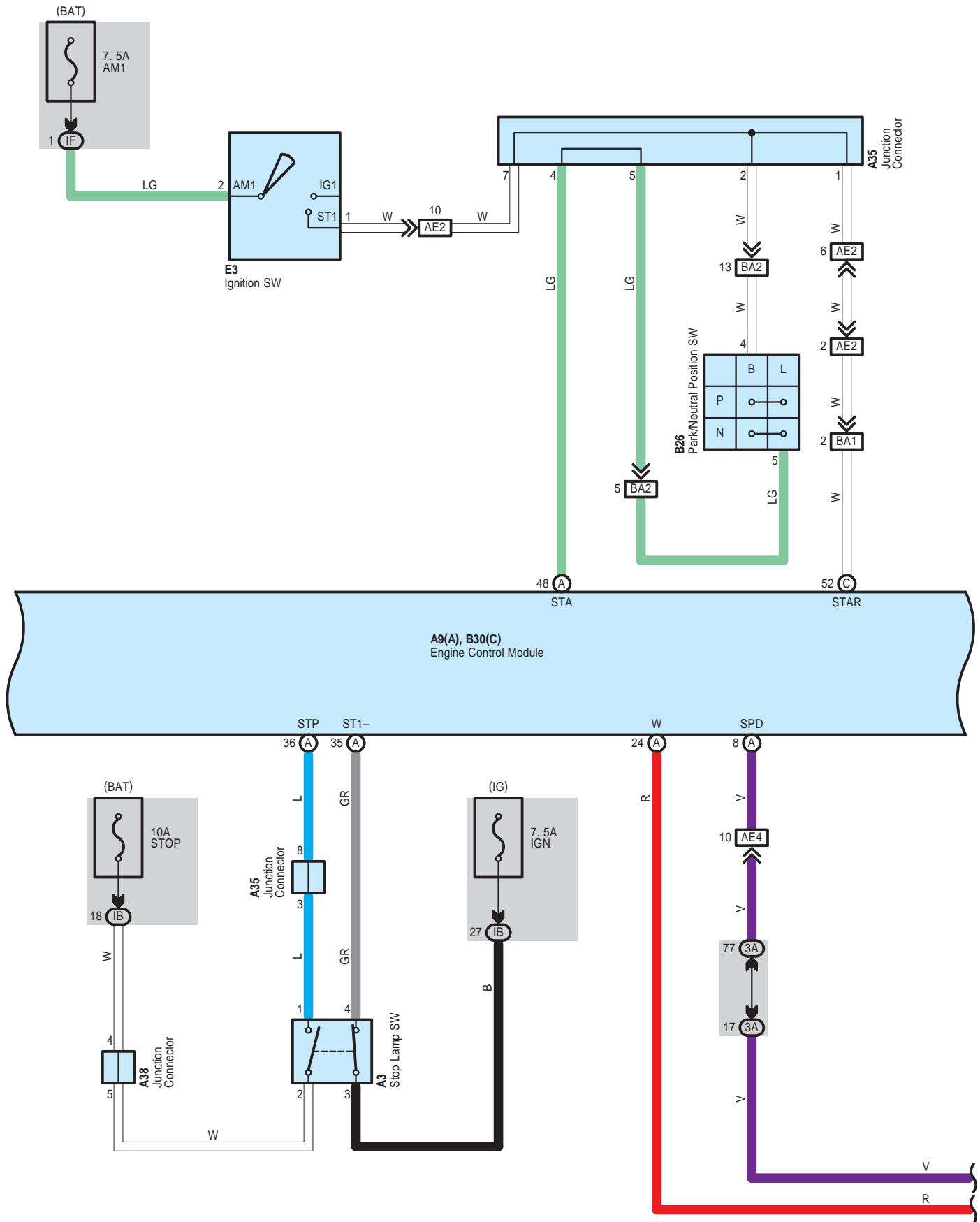
Engine Control for 2AZ-FE

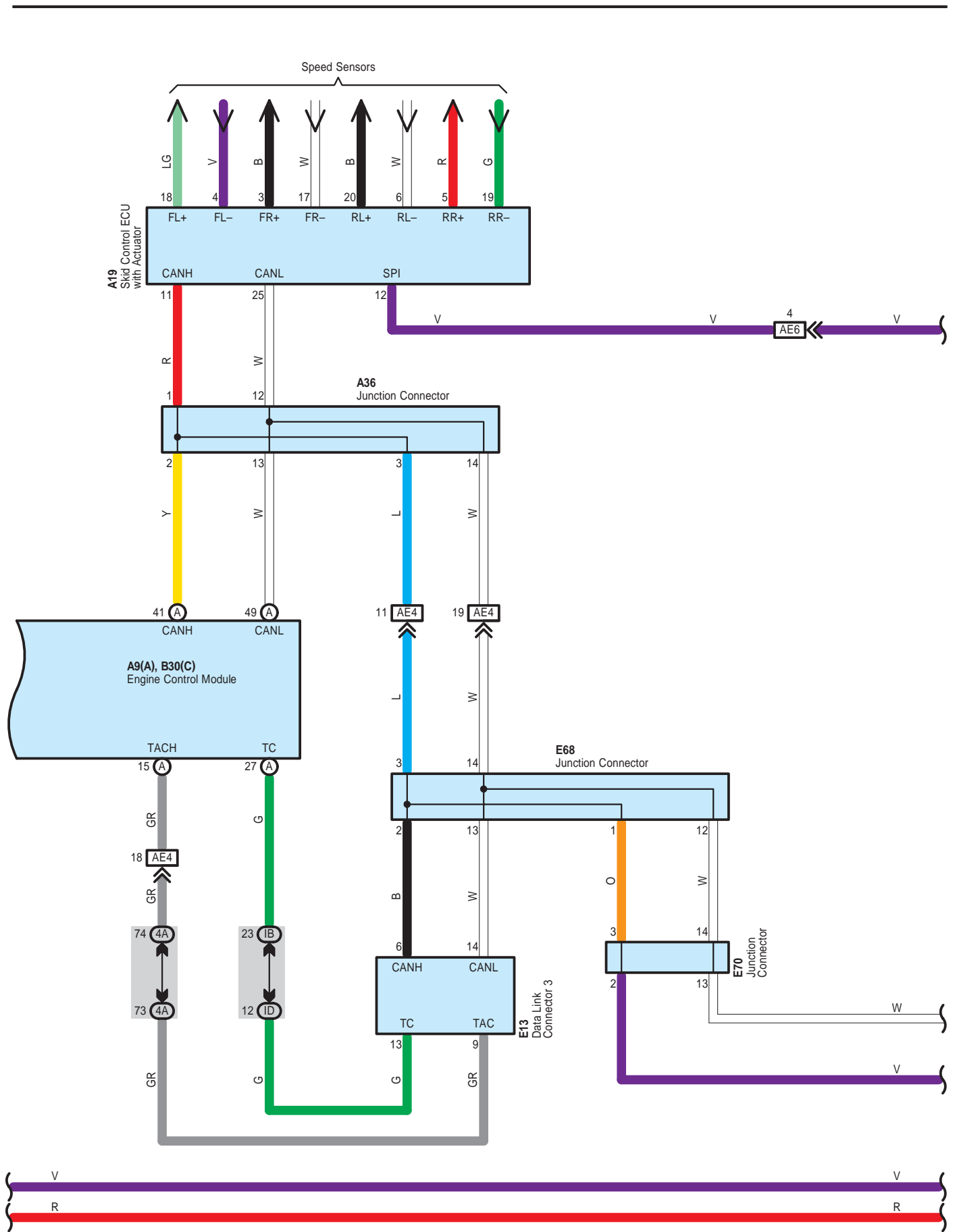
- * 1 : Shielded
- * 2 : w/ Power Outlet (115V)
- * 3 : w/o Power Outlet (115V)



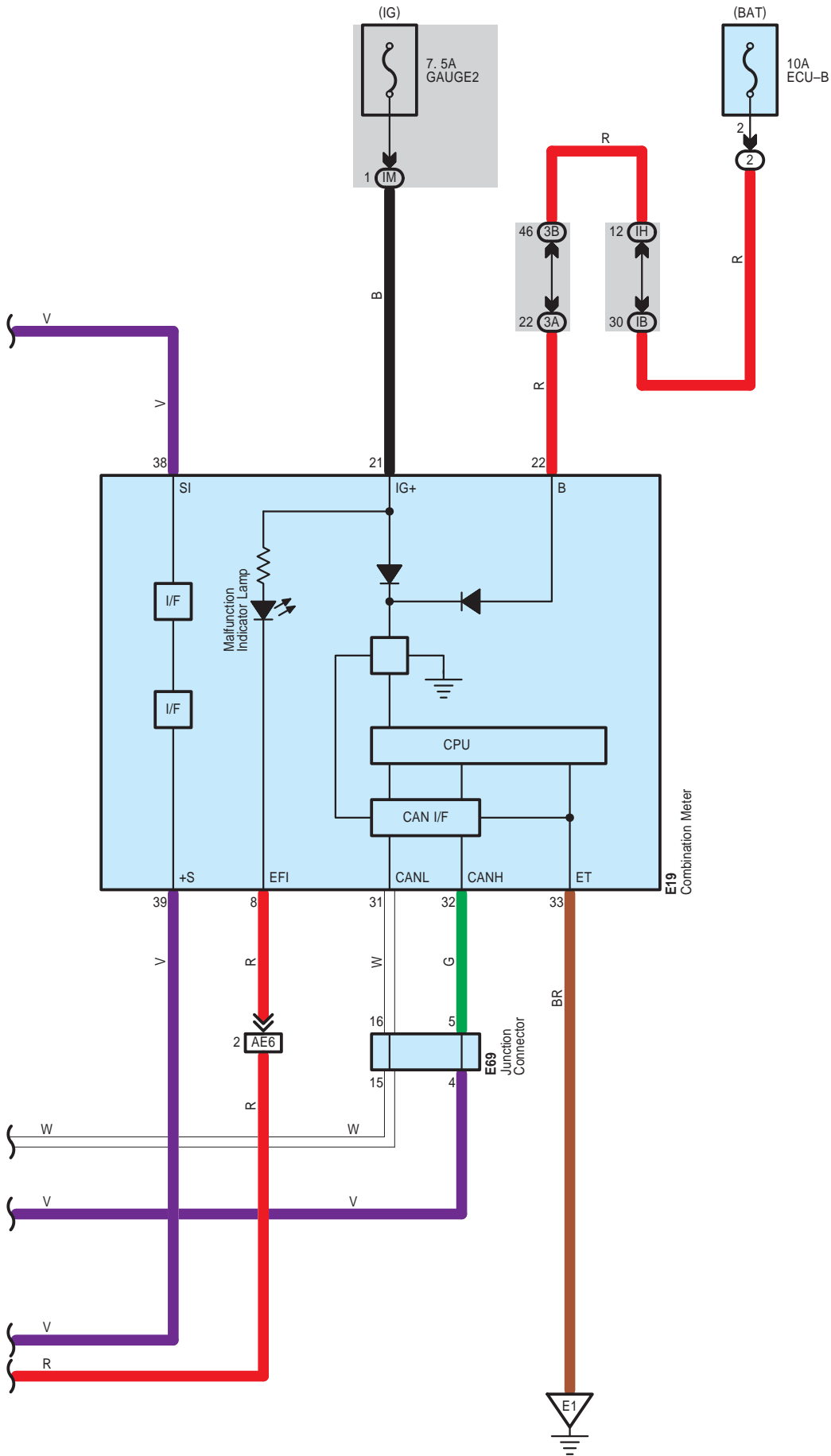


Engine Control for 2AZ-FE





Engine Control for 2AZ-FE



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. which 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) Vehicle speed signal circuit
The vehicle speed signal is input from the speed sensor to skid control ECU with actuator, and are sent to the engine control module through communication control.
- (4) RPM signal circuit
Camshaft position and crankshaft position are detected by the camshaft position sensor and crankshaft position sensor. Camshaft position is input as a control signal to TERMINAL G2+ of the engine control module, and engine RPM is input into TERMINAL NE+.
- (5) Throttle position 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) Battery signal circuit
Voltage is constantly applied to TERMINAL BATT of the engine control module. With the ignition SW turned on, the voltage for engine control module start-up power supply is applied to TERMINALS +B and +B2 of the engine control module via the EFI MAIN relay.
The current flowing through the IGN fuse flows to TERMINAL IGSW of the engine control module.
- (7) Intake air volume signal circuit
Intake air volume is detected by the mass air flow meter and the signal is input to TERMINAL VG of the engine control module as a control signal.
- (8) Stop lamp SW signal circuit
The stop lamp 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.
- (9) Starter signal circuit
To confirm whether the engine is cranking, the voltage is applied to the starter motor during cranking is detected and the signal is input into TERMINAL STA of the engine control module as a control signal.
- (10) Engine knock signal circuit
Engine knocking is detected by knock sensor and the signal is input into TERMINAL KNK1 as a control signal.
- (11) Air fuel ratio signal system
The air fuel ratio is detected and input as a control signal into TERMINAL A1A+ of the engine control module.
- (12) Oxygen sensor signal circuit
The oxygen density in the exhaust gases is detected and input as a control signal into TERMINAL OX1B of the engine control module. To maintain stable detection performance by the heated oxygen sensor, a heater is used for warming the sensor. The heater is also controlled by engine control module (O1B-).

Engine Control for 2AZ-FE

2. Control System

* SFI system

The SFI system monitors the engine condition through the signals input from each sensor to the engine control module. And the control signal is output to TERMINALS #10, #20, #30 and #40 of the engine control module to operate the injector (Inject the fuel). The SFI system controls the fuel injection operation by the engine control module in response to the driving conditions.

* ESA system

The ESA system monitors the engine condition through the signals input to the engine control module from each sensor. The best ignition timing is decided according to this data and the memorized data in the engine control module and the control signal is output to TERMINALS IGT1, IGT2, IGT3 and IGT4. This signal controls the igniter to provide the best ignition timing for the driving conditions.

3. Diagnosis System

With the 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 by the malfunction indicator lamp.

4. Fail-safe System

When a malfunction has occurred in any system, if there is a possibility of engine trouble being caused by continued control based on the signals from that system, the fail-safe system either controls the system by using data (Standard values) recorded in the engine control module memory or else stops the engine.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A3	56	B9	53 (2AZ-FE)	B26	53 (2AZ-FE)
A4	56	B10	53 (2AZ-FE)	B29	53 (2AZ-FE)
A9	A	B11	53 (2AZ-FE)	B30	C
A19	52 (2AZ-FE)	B12	53 (2AZ-FE)	E3	54
A35	56	B13	53 (2AZ-FE)	E10	54
A36	56	B14	53 (2AZ-FE)	E13	54
A38	56	B15	53 (2AZ-FE)	E19	54
B1	53 (2AZ-FE)	B16	53 (2AZ-FE)	E46	55
B2	53 (2AZ-FE)	B17	53 (2AZ-FE)	E68	55
B3	53 (2AZ-FE)	B18	53 (2AZ-FE)	E69	55
B4	B	B19	53 (2AZ-FE)	E70	55
B6	53 (2AZ-FE)	B21	53 (2AZ-FE)	S1	61
B7	53 (2AZ-FE)	B22	53 (2AZ-FE)	S3	61

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	23 (2AZ-FE)	Engine Room R/B No.1 (Engine Compartment Left)
2	27 (2AZ-FE)	Engine Room R/B No.2 (Engine Compartment Right)

 : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IF		
IH		
IJ		
IM		

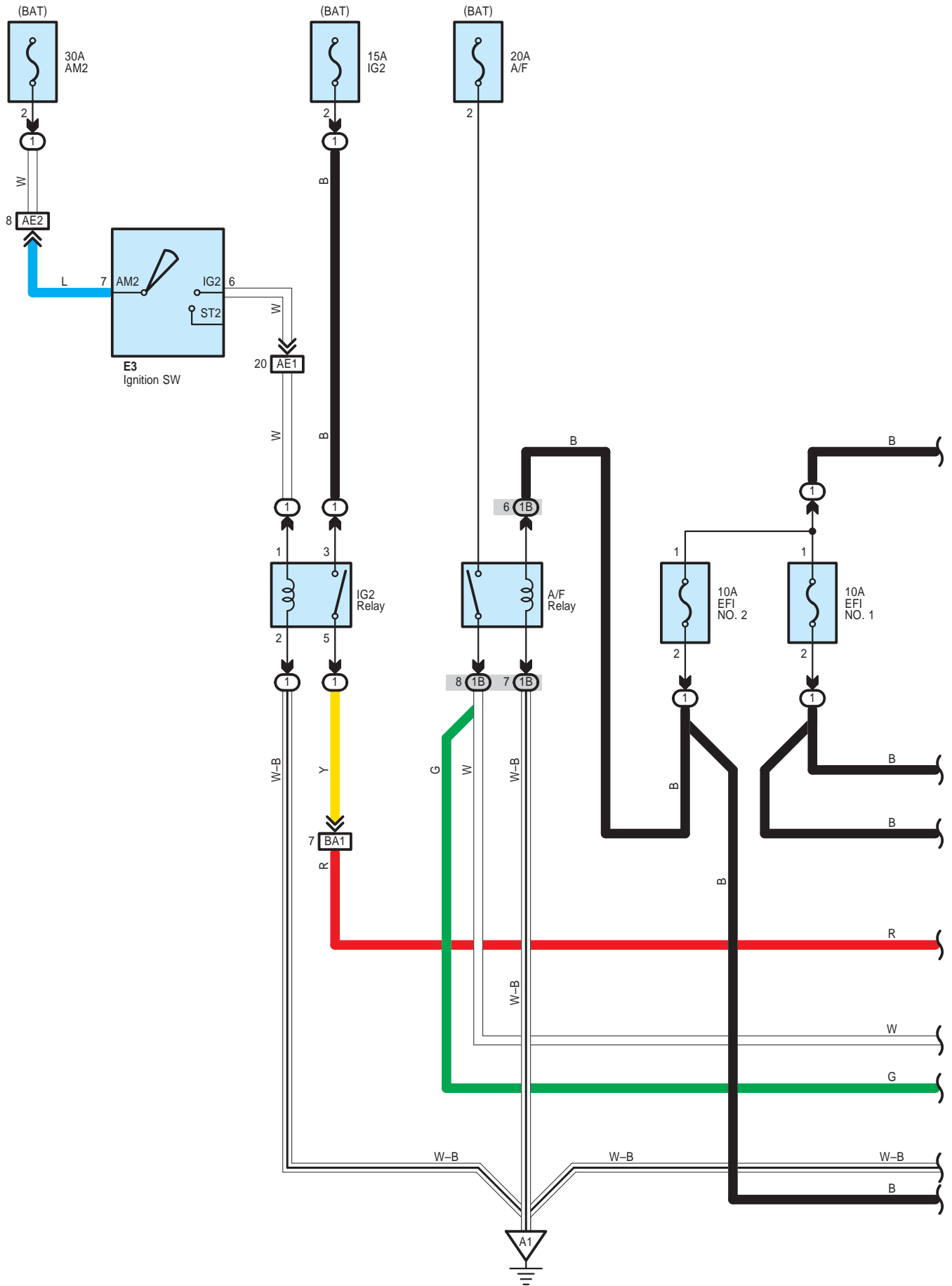
 : Connector Joining Wire Harness and Wire Harness

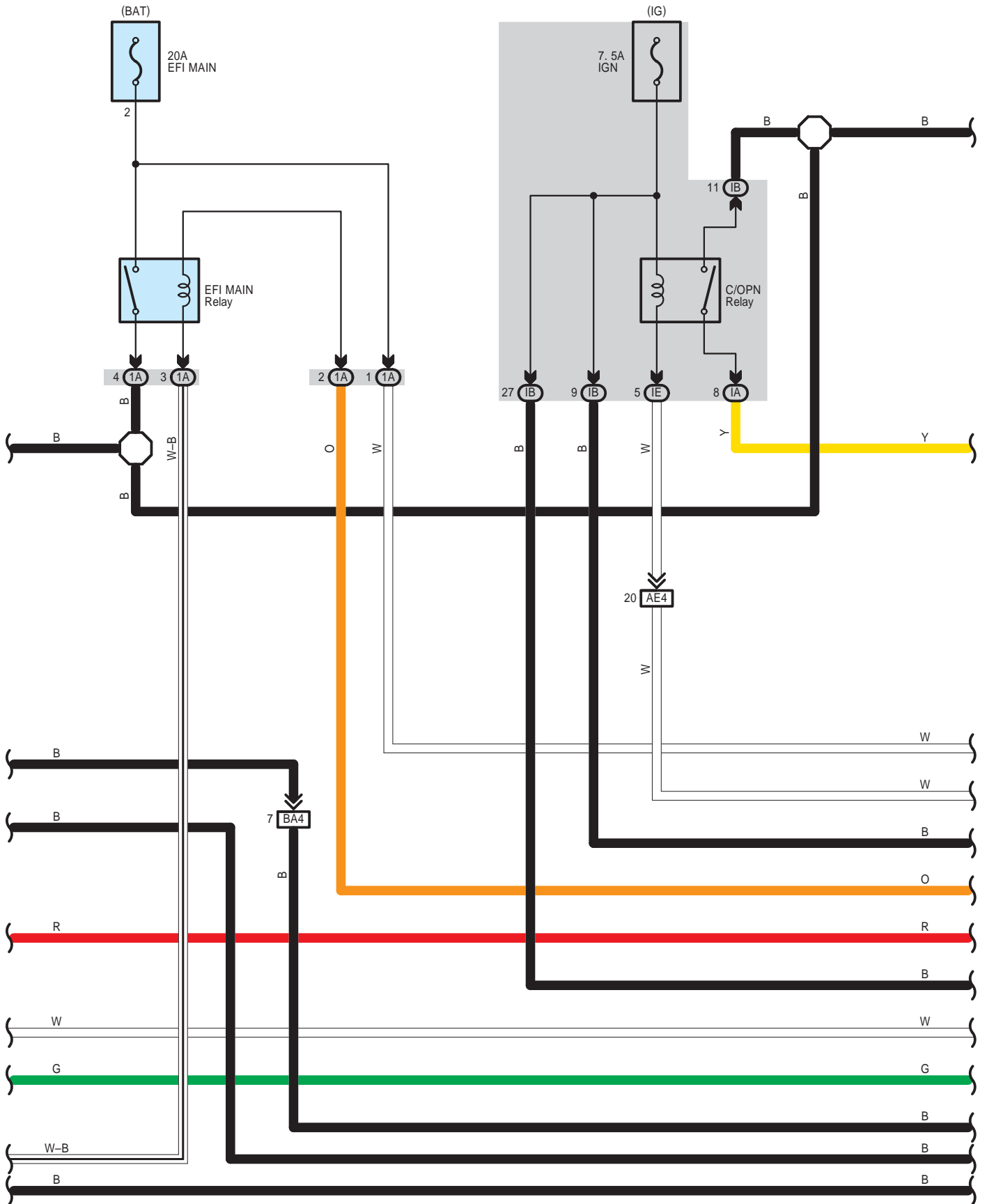
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE1	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE2		
AE3		
AE4		
AE6		
AK1	66	Engine Room Main Wire and Floor Wire (Left Kick Panel)
BA1	65 (2AZ-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
BA2		
SK1	66	Fuel Gauge Wire and Floor Wire (Under the Console Box)
SK2		

 : Ground Points

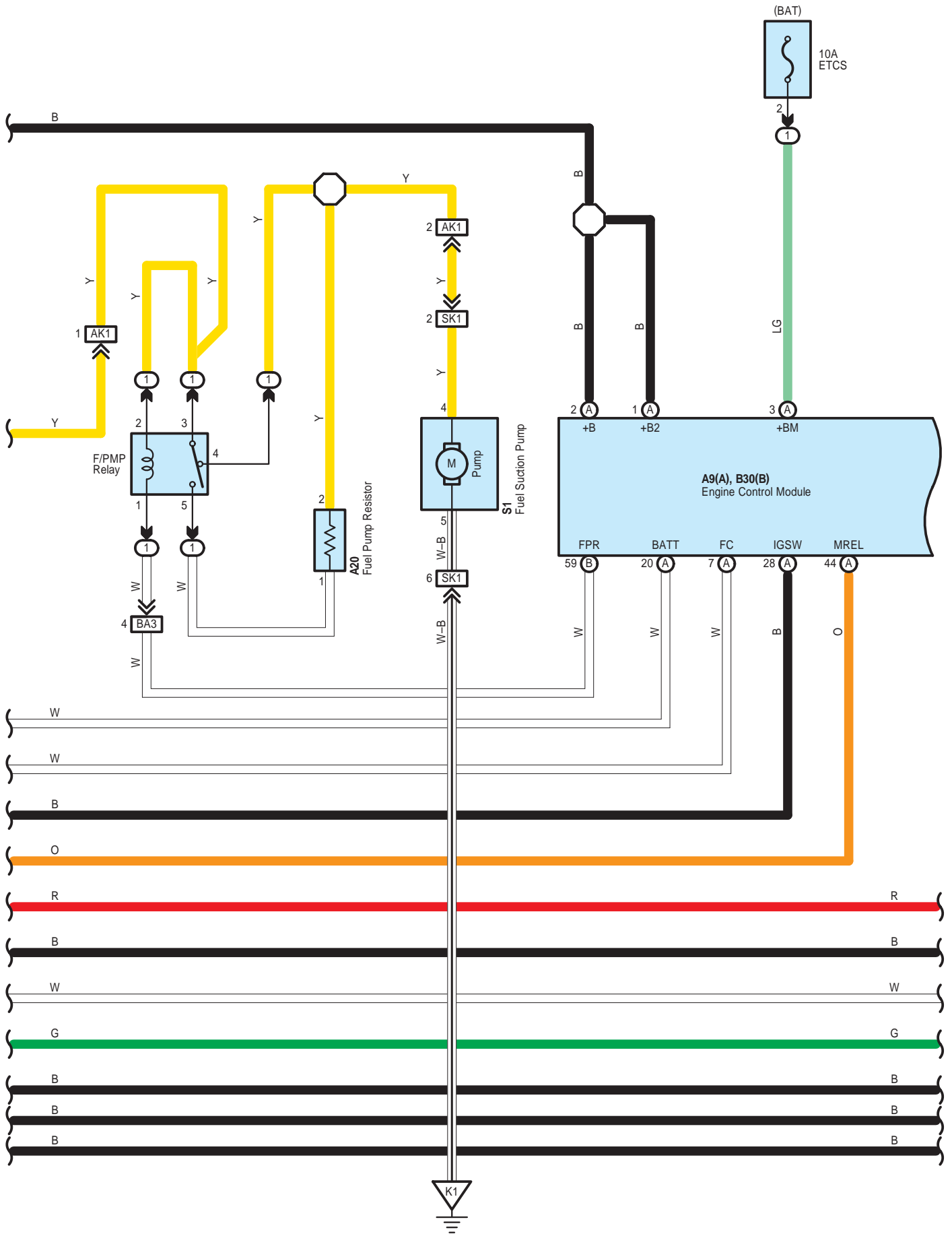
Code	See Page	Ground Points Location
A1	65 (2AZ-FE)	Front Left Fender
B1	65 (2AZ-FE)	Left Side of the Cylinder Head
B2		
E1	66	Left Kick Panel
K1	67	Left Center Pillar

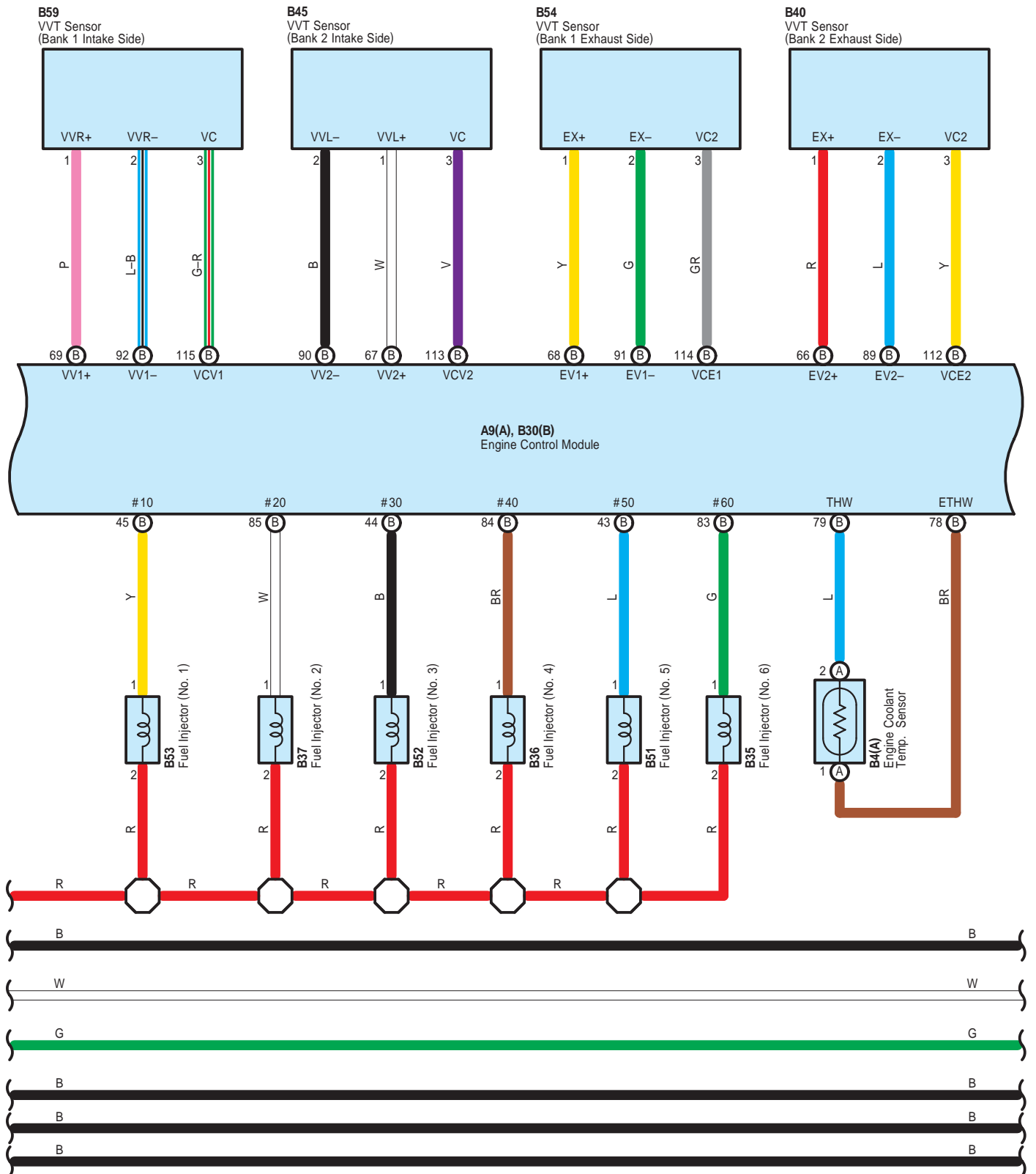
Engine Control for 2GR-FE



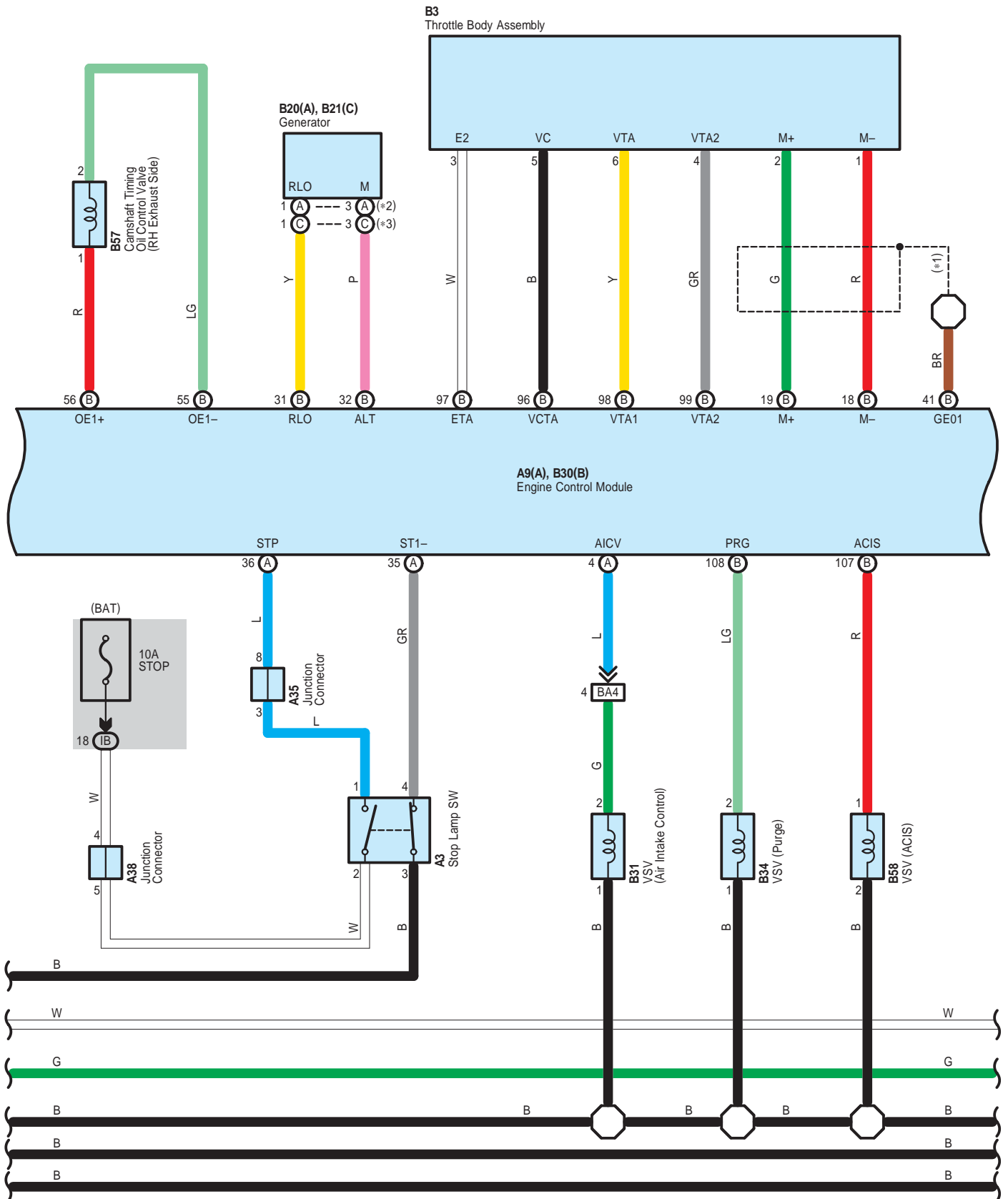


Engine Control for 2GR-FE

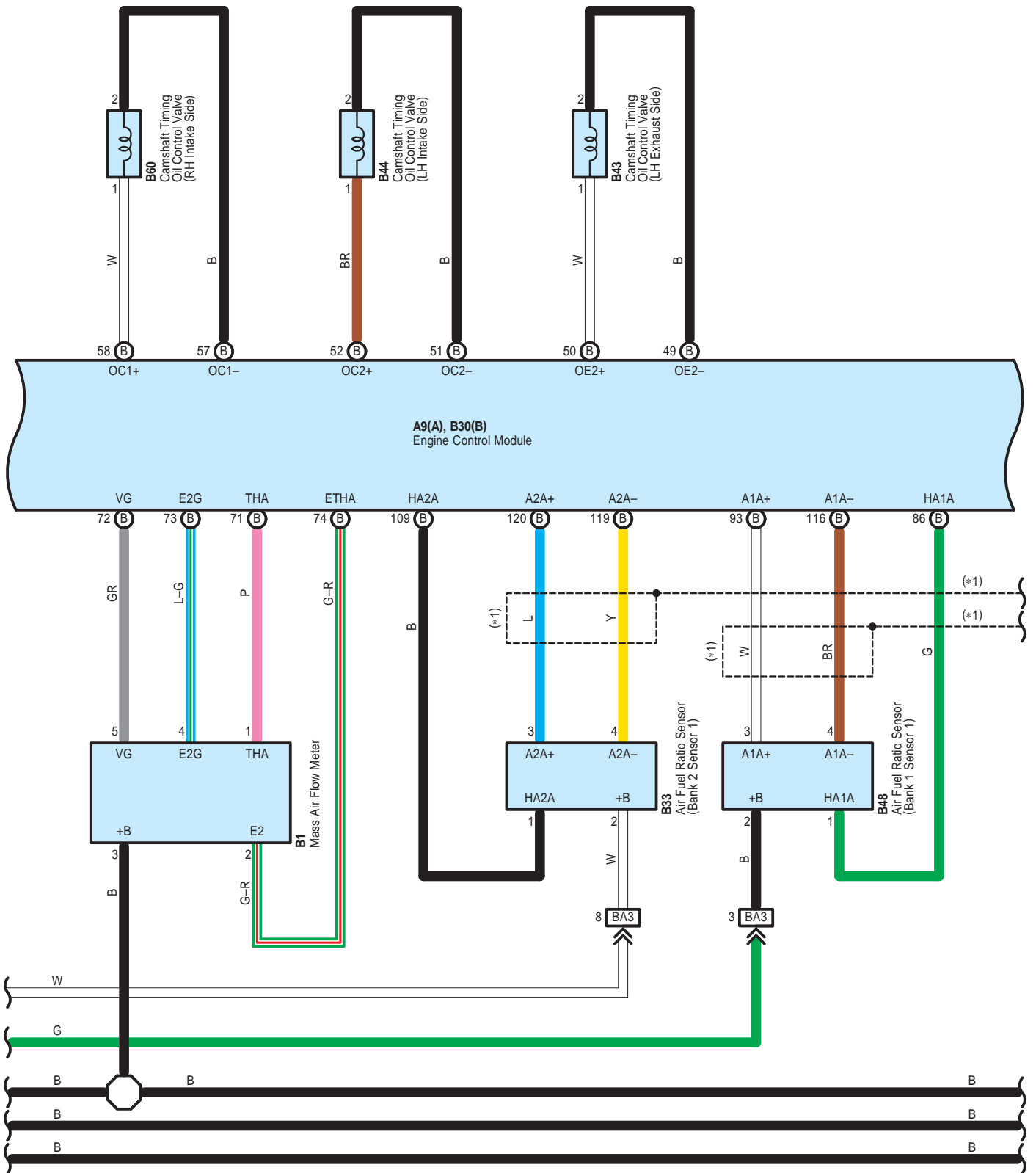




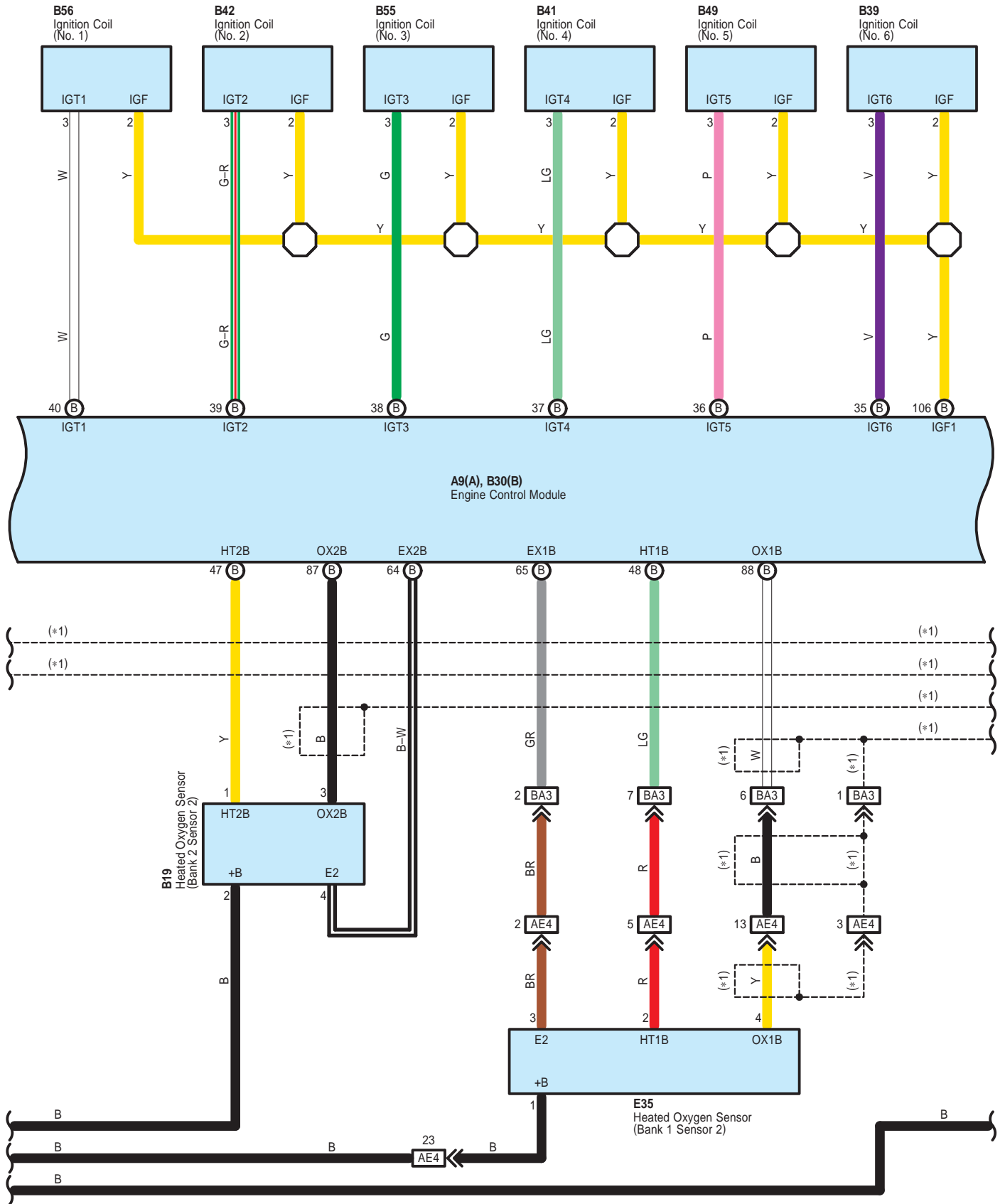
Engine Control for 2GR-FE



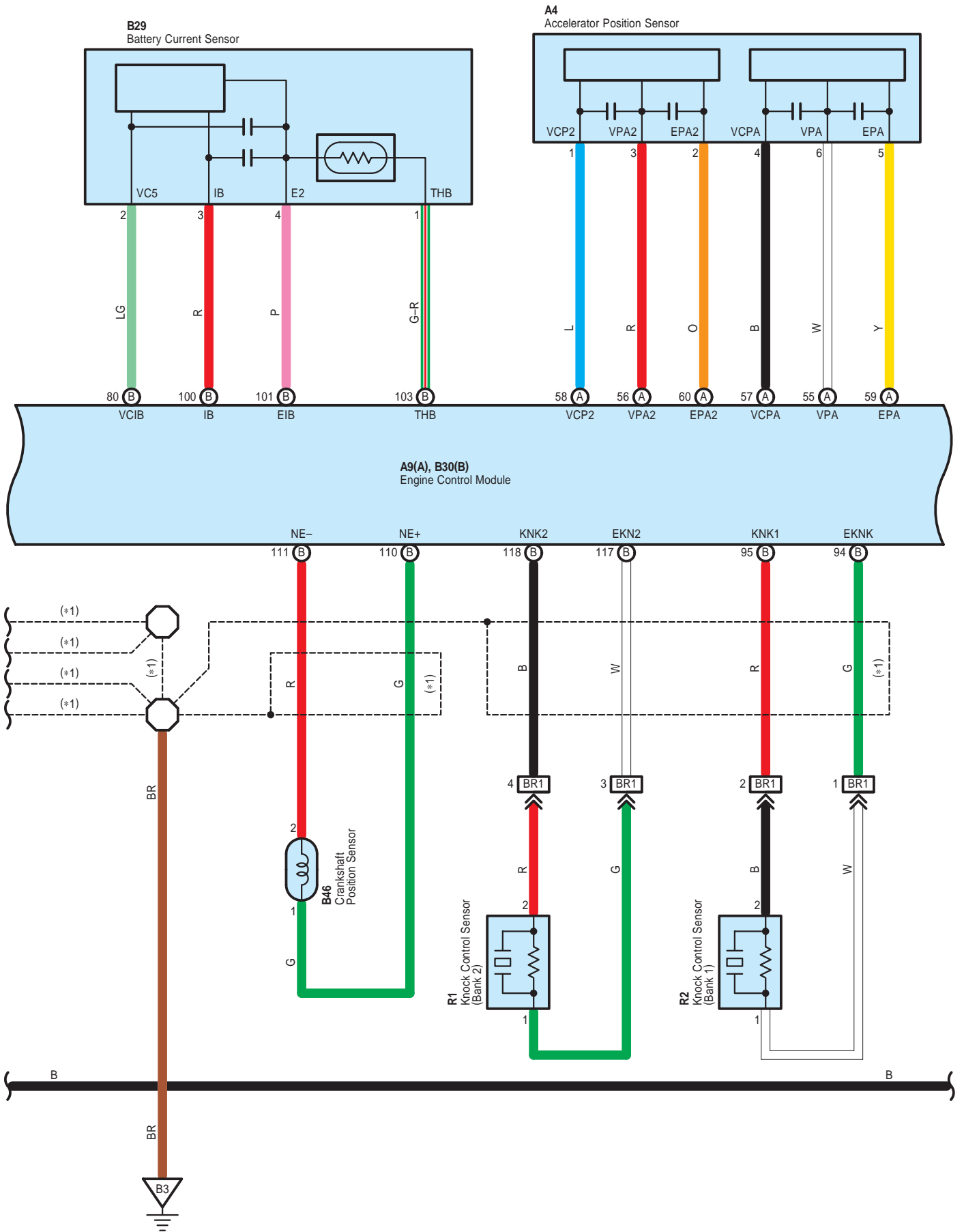
- * 1 : Shielded
- * 2 : w/ Trailer Towing
- * 3 : w/o Trailer Towing



Engine Control for 2GR-FE

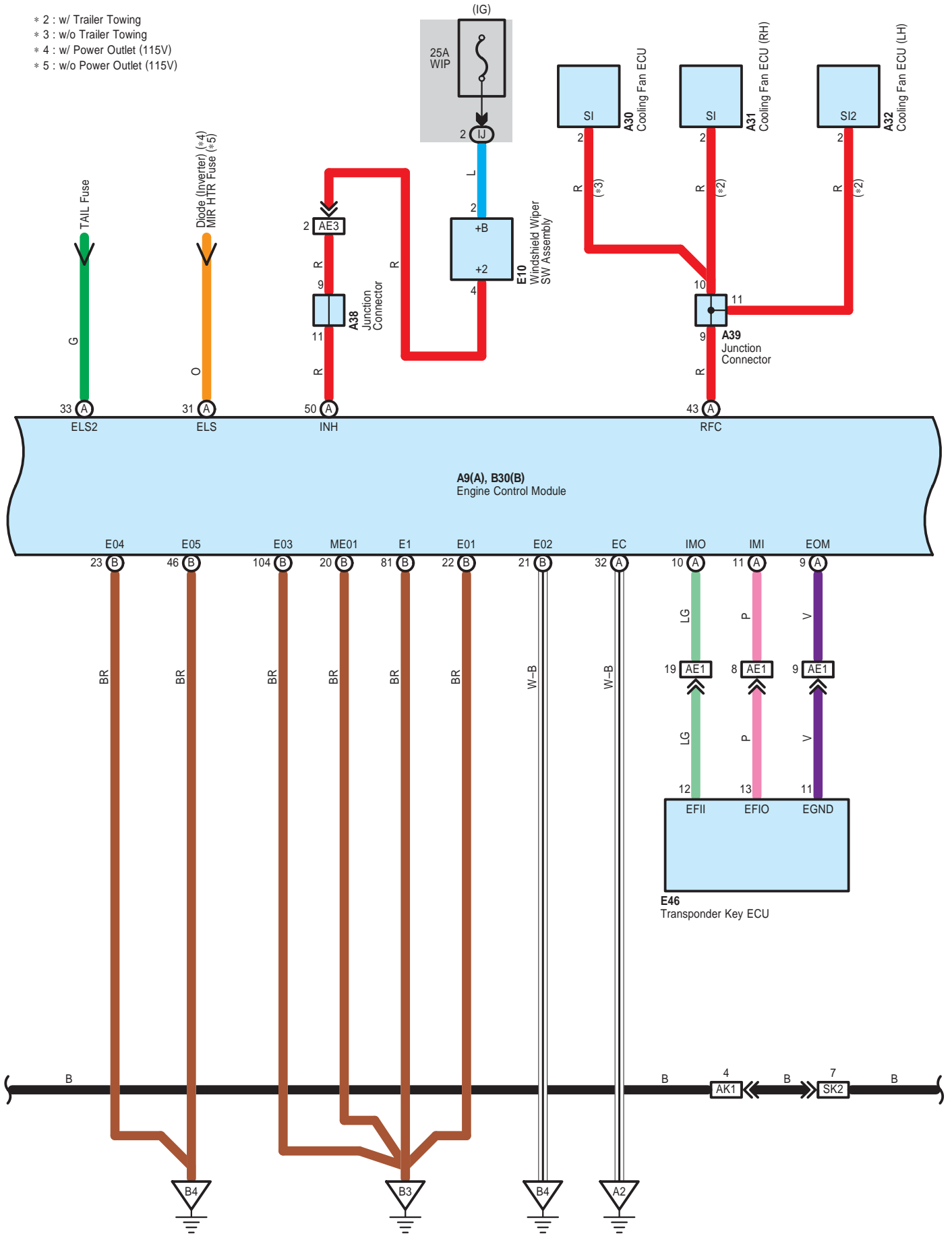


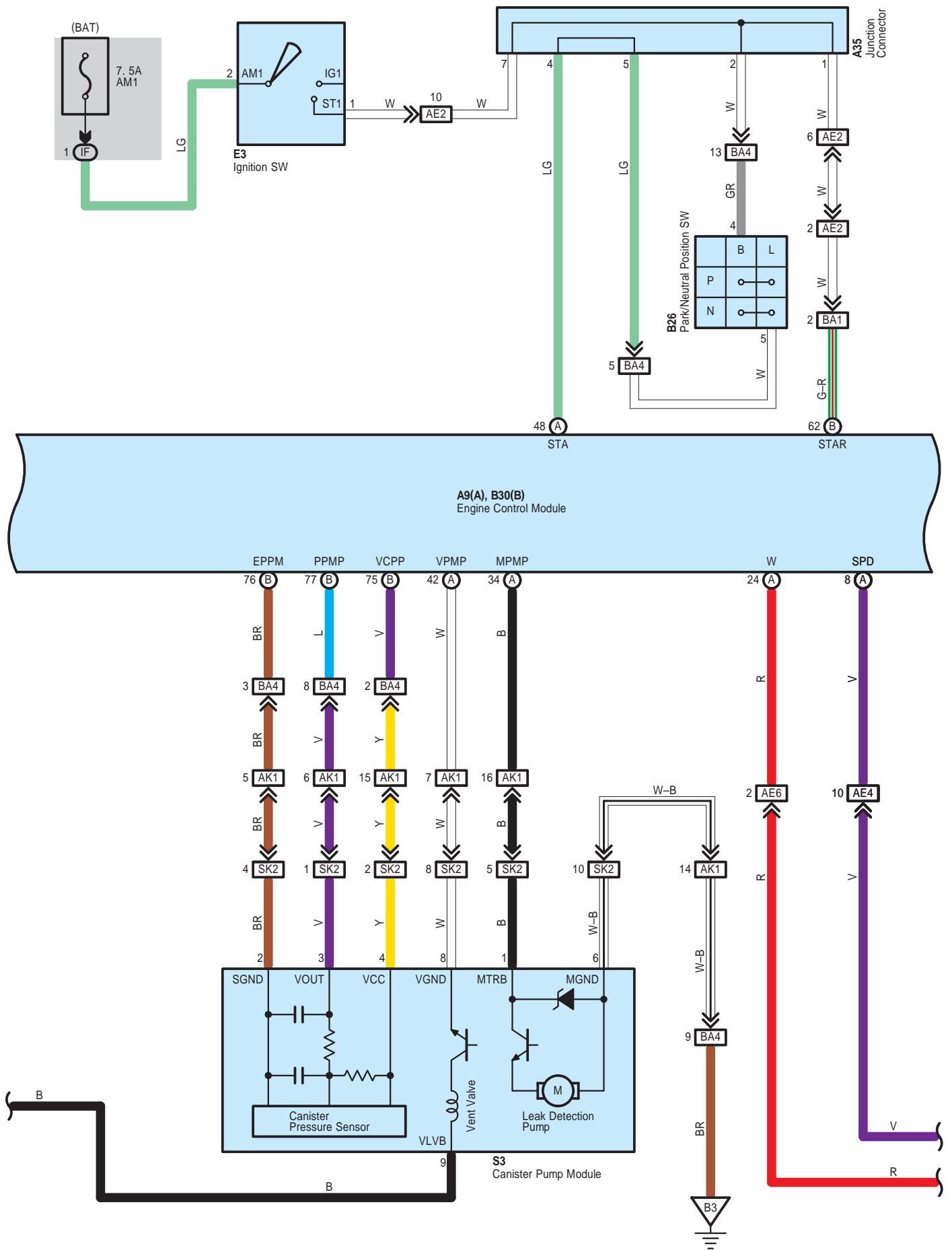
* 1 : Shielded



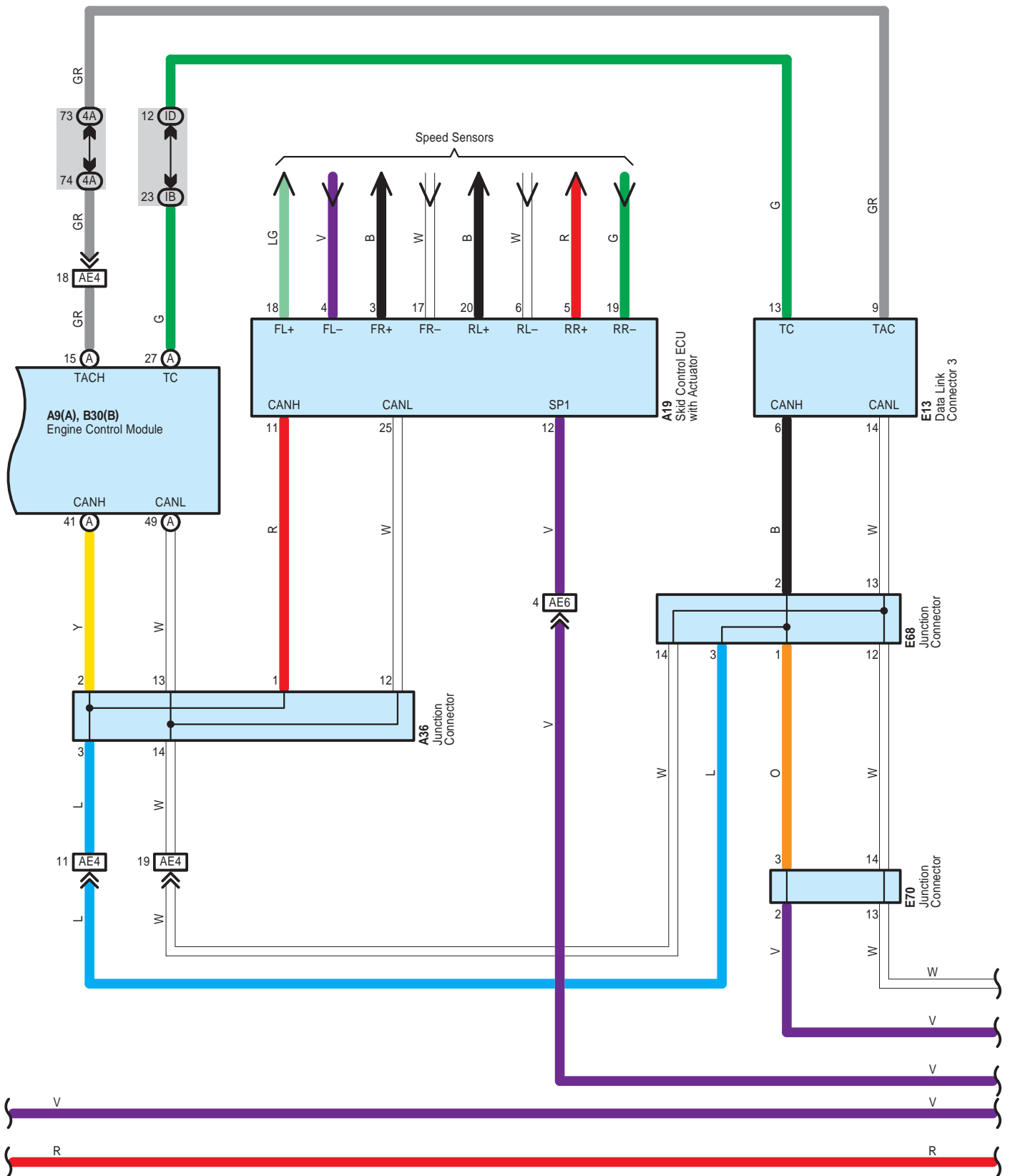
Engine Control for 2GR-FE

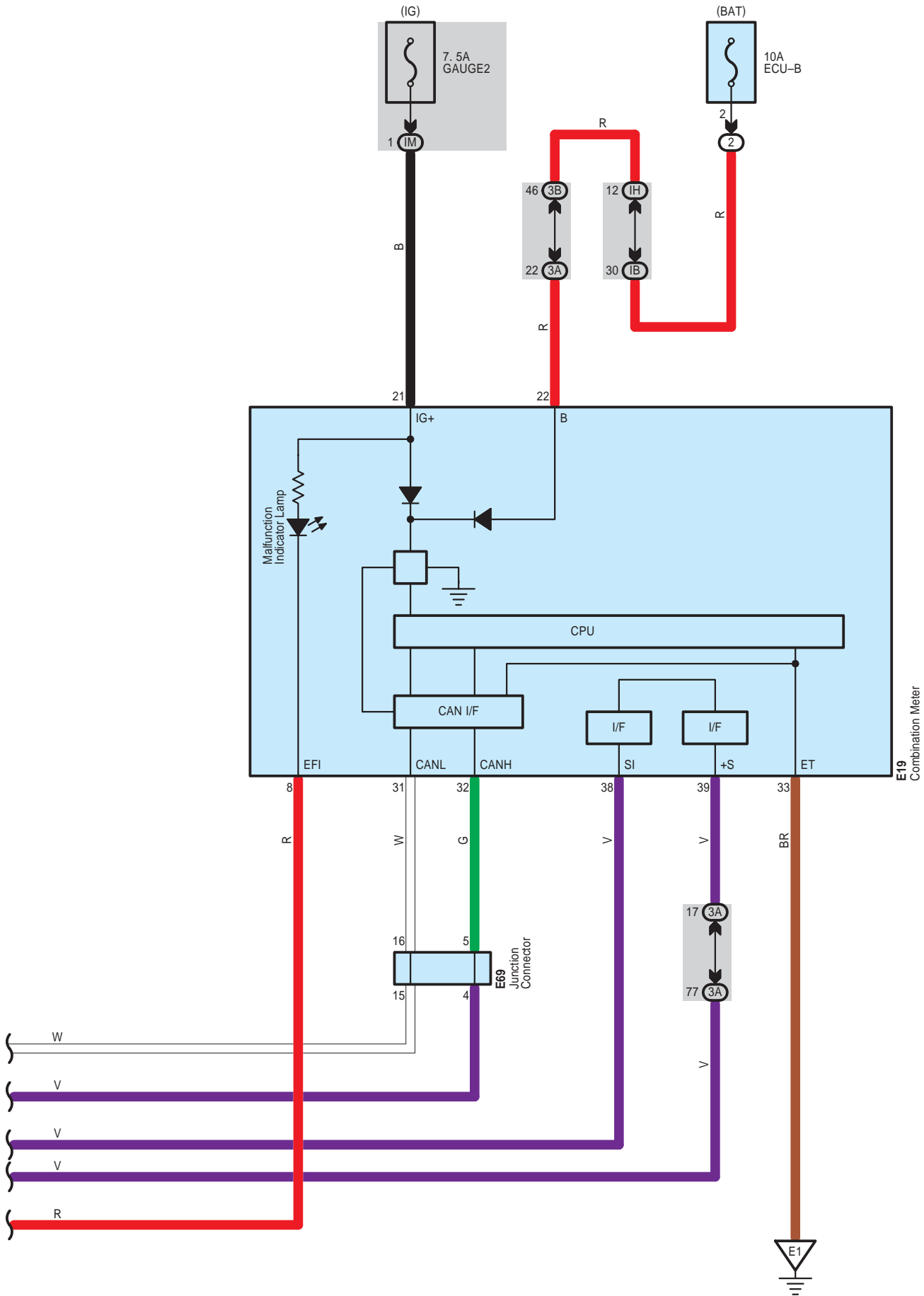
- * 2 : w/ Trailer Towing
- * 3 : w/o Trailer Towing
- * 4 : w/ Power Outlet (115V)
- * 5 : w/o Power Outlet (115V)





Engine Control for 2GR-FE





RAV4 (EM03T0U)

System Outline

The engine control system utilizes a microcomputer and maintains overall control of the engine, transaxle 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

Camshaft position is detected by the VVT sensor (Bank 1 exhaust side, bank 1 intake side and bank 2 exhaust side), VVT sensor (Bank 2 intake side) and their signals are input to TERMINALS EV1+, EV2+, VV1+ and VV2+ of the engine control module as control signals. Also, the engine RPM is detected by the crankshaft position sensor installed in the cylinder block and the signal is input into TERMINAL NE+ of the engine control module as a control signal.

(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 with actuator.

(7) Battery signal circuit

Voltage is constantly applied to TERMINAL BATT of the engine control module. When the ignition SW turned on, the voltage for engine control module start-up power supply is applied to TERMINAL +B and +B2 of engine control module via EFI MAIN relay.

(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 lamp SW signal circuit

The stop lamp 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 control sensors, and is input into TERMINALS KNK1 and KNK2 of the engine control module as a control signal.

(12) Air fuel ratio signal circuit

The air fuel ratio is detected and input as a control signal into TERMINALS A1A+, A2A+ of the engine control module.

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.

*** 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.

*** VVT-i**

Controls the 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.

Engine Control for 2GR-FE

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
A3	56	B30	B	51 (2GR-FE)	B54	51 (2GR-FE)
A4	56	B31		51 (2GR-FE)	B55	51 (2GR-FE)
A9	A	B33		51 (2GR-FE)	B56	51 (2GR-FE)
A19	50 (2GR-FE)	B34		51 (2GR-FE)	B57	51 (2GR-FE)
A20	50 (2GR-FE)	B35		51 (2GR-FE)	B58	51 (2GR-FE)
A30	50 (2GR-FE)	B36		51 (2GR-FE)	B59	51 (2GR-FE)
A31	50 (2GR-FE)	B37		51 (2GR-FE)	B60	51 (2GR-FE)
A32	50 (2GR-FE)	B39		51 (2GR-FE)	E3	54
A35	56	B40		51 (2GR-FE)	E10	54
A36	56	B41		51 (2GR-FE)	E13	54
A38	56	B42		51 (2GR-FE)	E19	54
A39	50 (2GR-FE)	B43		51 (2GR-FE)	E35	55
B1	51 (2GR-FE)	B44		51 (2GR-FE)	E46	55
B3	51 (2GR-FE)	B45		51 (2GR-FE)	E68	55
B4	A	B46		51 (2GR-FE)	E69	55
B19	51 (2GR-FE)	B48		51 (2GR-FE)	E70	55
B20	A	B49		51 (2GR-FE)	R1	51 (2GR-FE)
B21	C	B51		51 (2GR-FE)	R2	51 (2GR-FE)
B26	51 (2GR-FE)	B52		51 (2GR-FE)	S1	61
B29	51 (2GR-FE)	B53		51 (2GR-FE)	S3	61

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
1B		
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IF		
IH		
IJ		
IM	31	

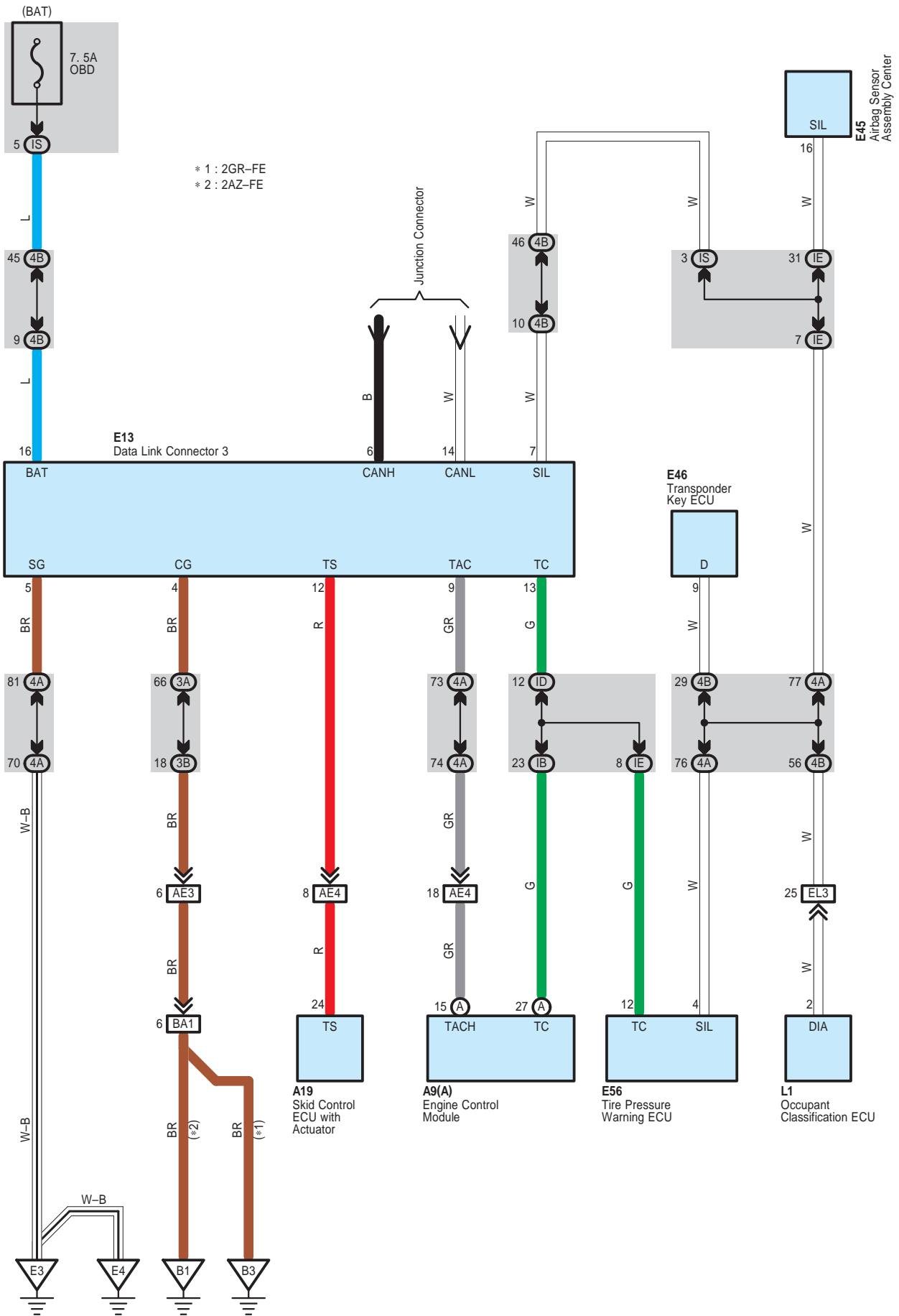
 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE1	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE2		
AE3		
AE4		
AE6		
AK1	66	Engine Room Main Wire and Floor Wire (Left Kick Panel)
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
BA3		
BA4		
BR1	64 (2GR-FE)	Engine Wire and Sensor Wire (Left Side of the Cylinder Block)
SK1	66	Fuel Gauge Wire and Floor Wire (Under the Console Box)
SK2		

 : Ground Points

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
A2		
B3	64 (2GR-FE)	Left Side of the Cylinder Head
B4		
E1	66	Left Kick Panel
K1	67	Left Center Pillar

Data Link Connector 3



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page	
A9	A	50 (2GR-FE)	A19	52 (2AZ-FE)	E46	55
		52 (2AZ-FE)	E13	54	E56	55
A19		50 (2GR-FE)	E45	55	L1	62

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IS		

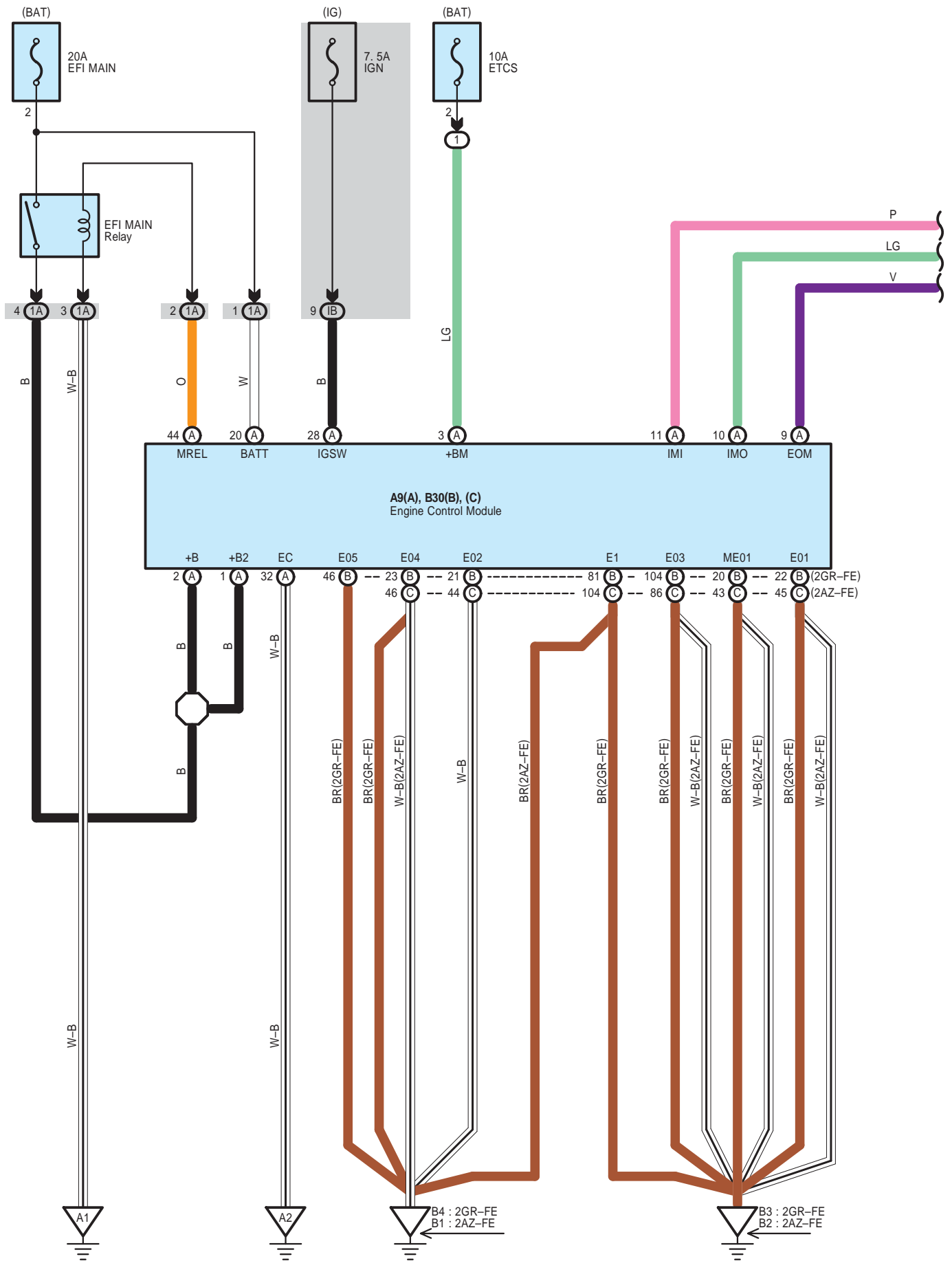
 : **Connector Joining Wire Harness and Wire Harness**

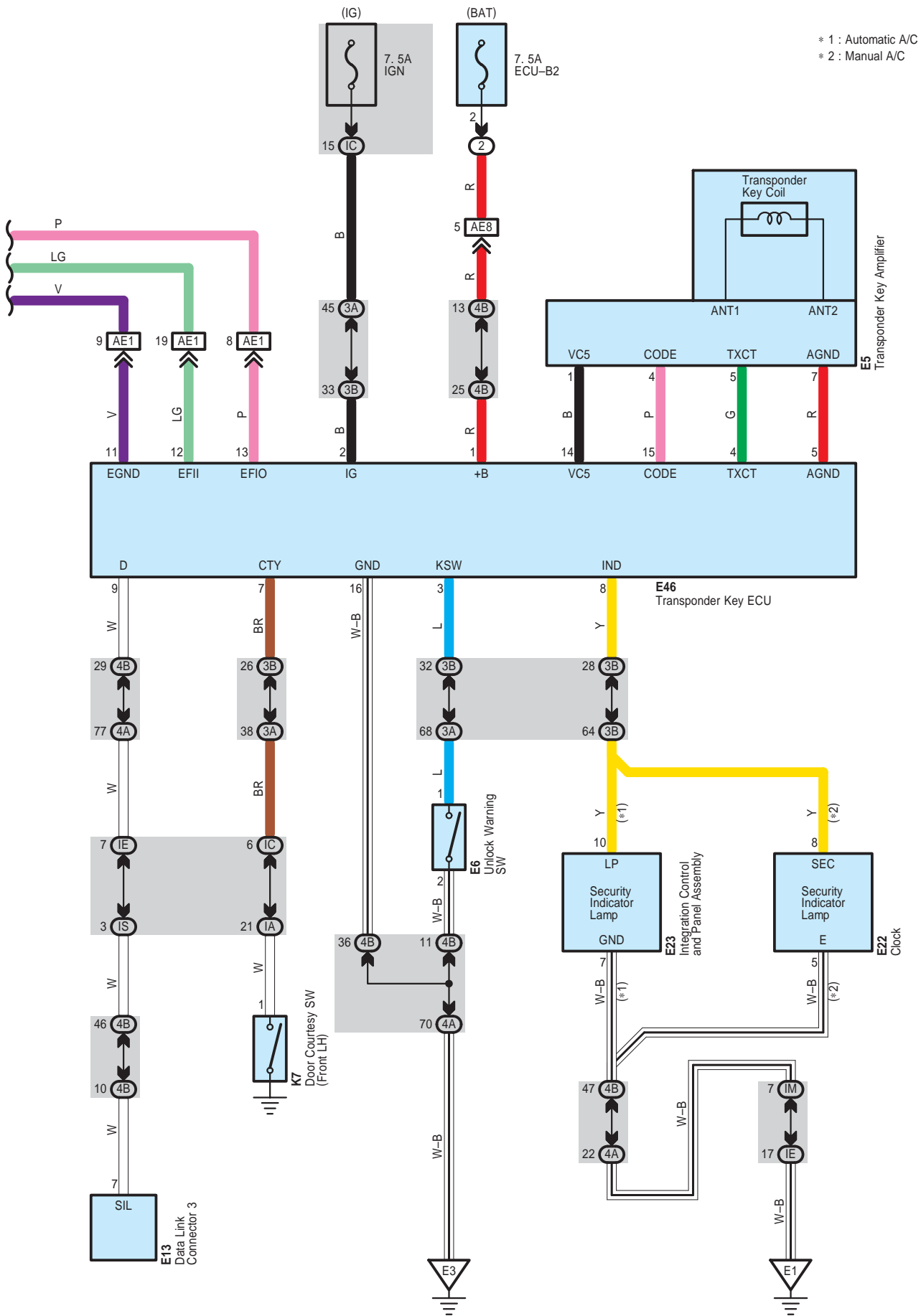
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE3	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE4		
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
	65 (2AZ-FE)	
EL3	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)

 : **Ground Points**

Code	See Page	Ground Points Location
B1	65 (2AZ-FE)	Left Side of the Cylinder Head
B3	64 (2GR-FE)	
E3	66	Instrument Panel Reinforcement Center
E4	66	Right Kick Panel

Engine Immobiliser System





Engine Immobiliser System

○ : Parts Location

Code		See Page	Code	See Page	Code	See Page
A9	A	50 (2GR-FE)	E5	54	E23	54
		52 (2AZ-FE)	E6	54	E46	55
B30	B	51 (2GR-FE)	E13	54	K7	59
	C	53 (2AZ-FE)	E22	54		

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IC	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IM		
IS	31	

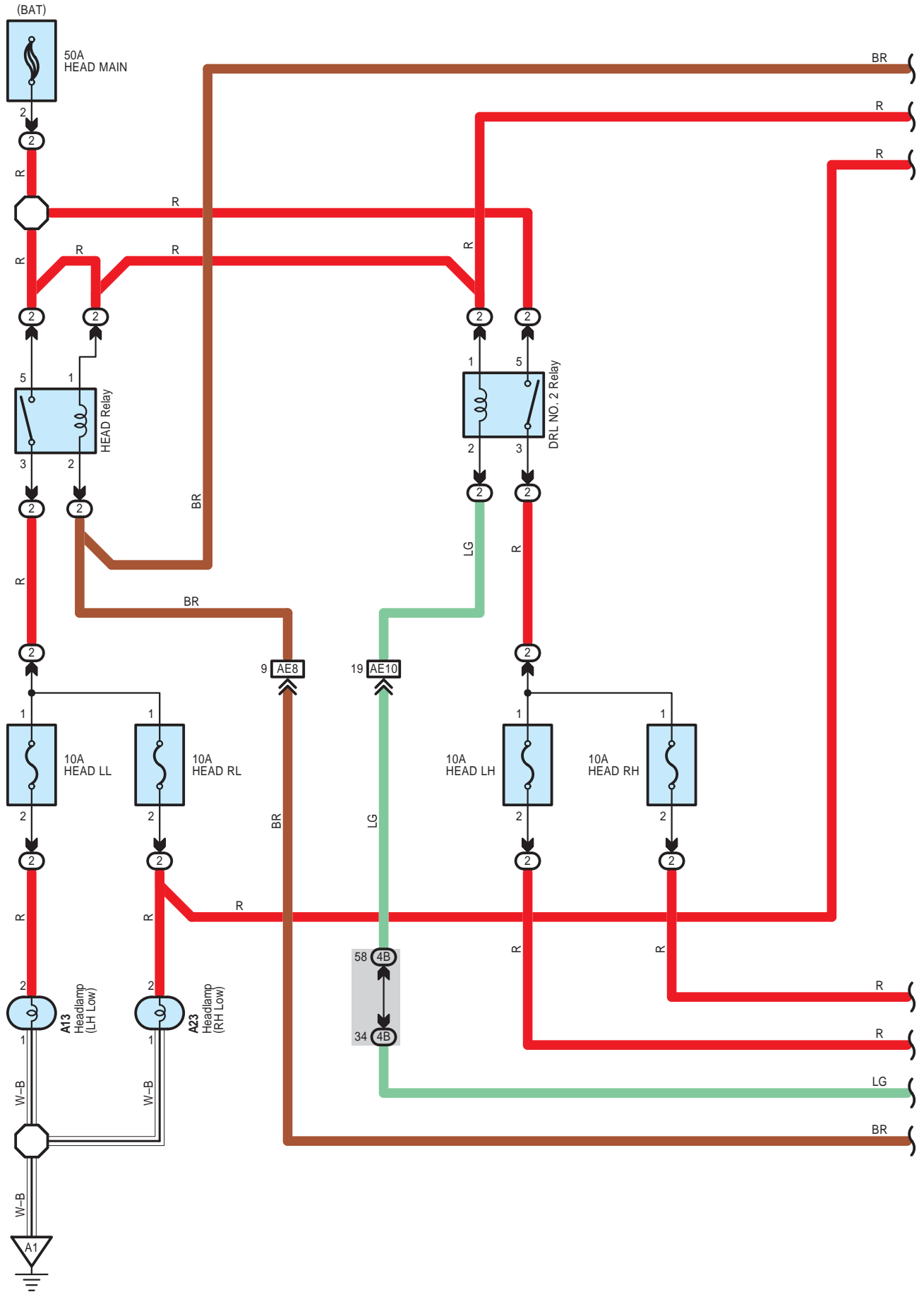
□ : Connector Joining Wire Harness and Wire Harness

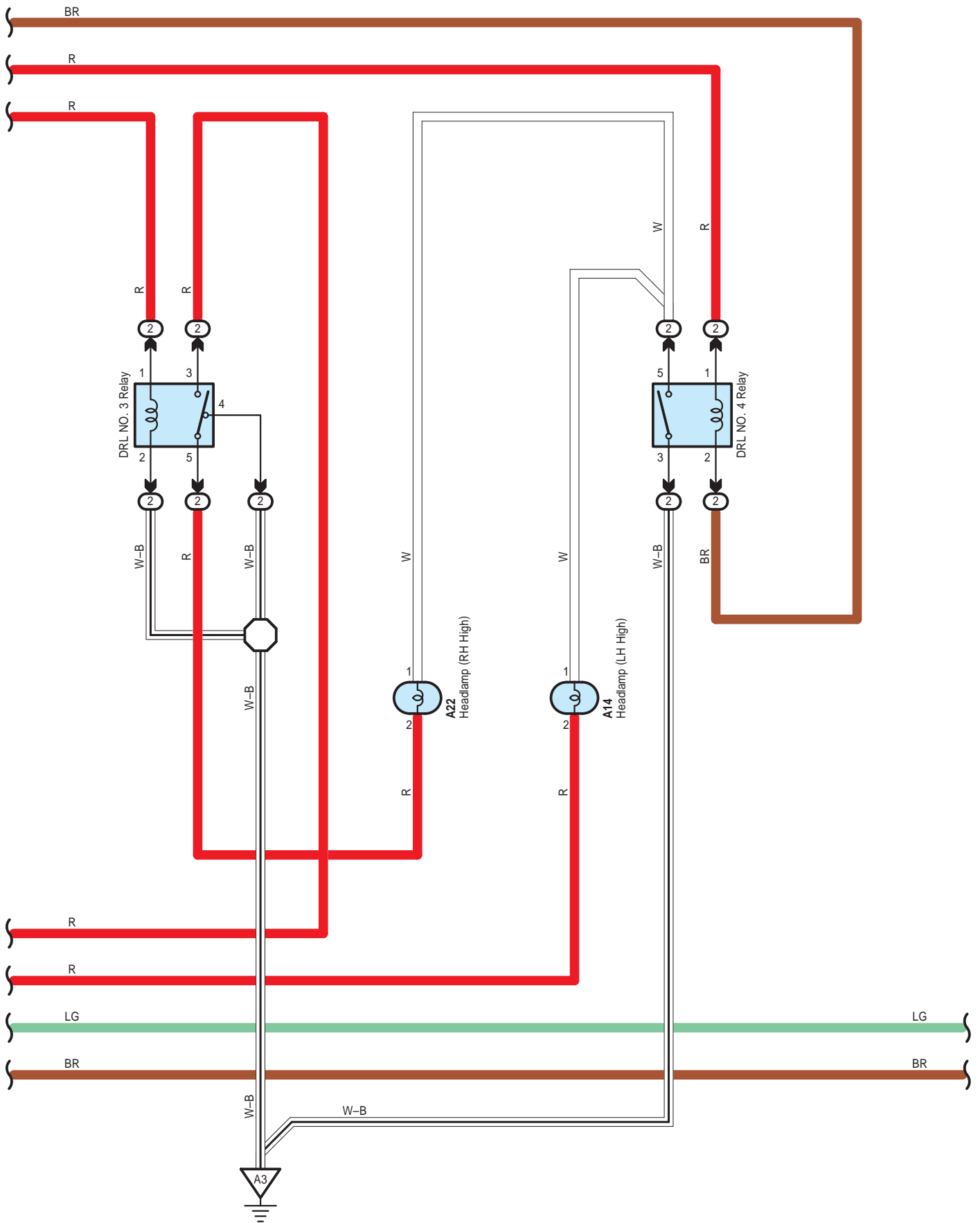
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE1	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE8	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)

▽ : Ground Points

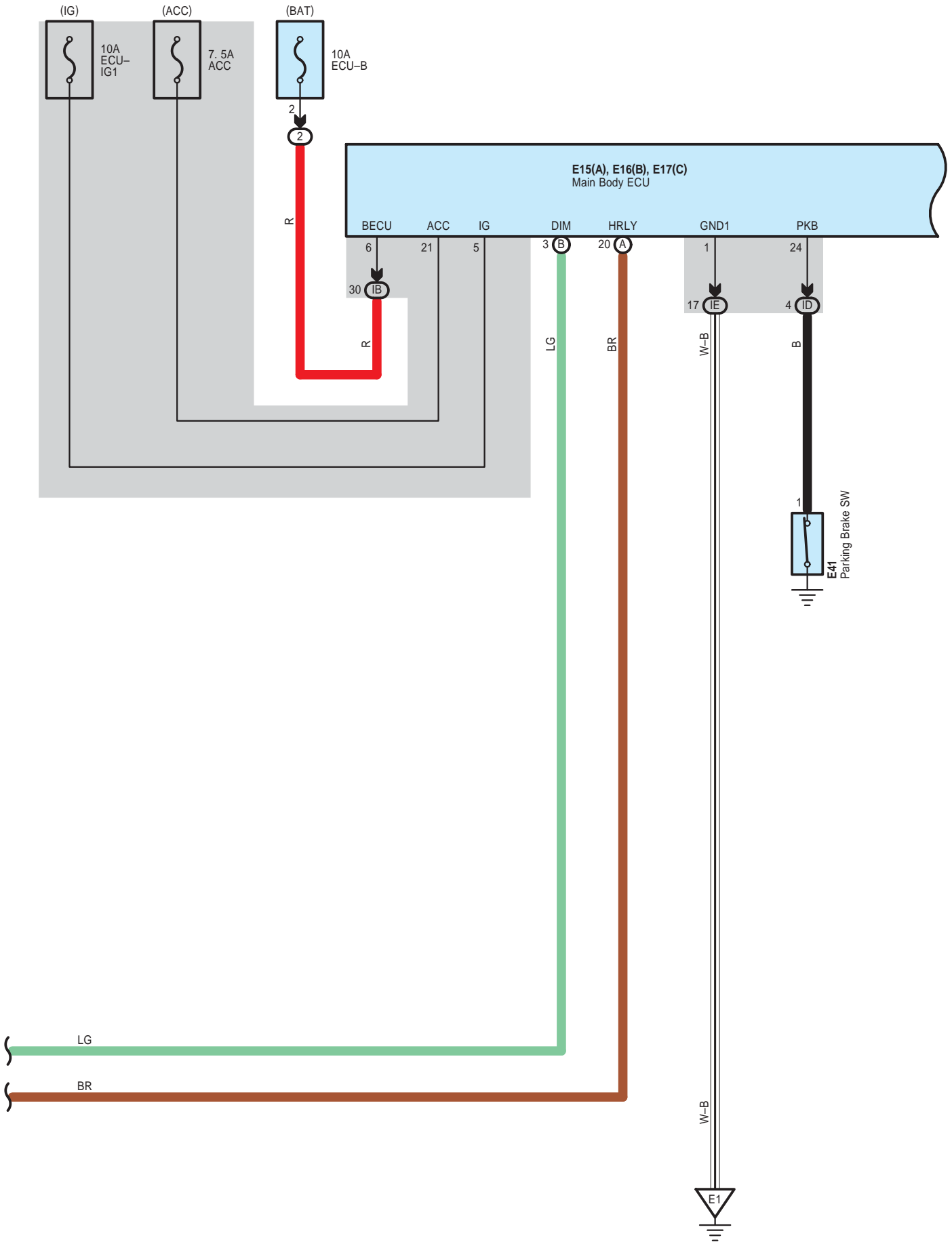
Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
A2	64 (2GR-FE)	
	65 (2AZ-FE)	
B1	65 (2AZ-FE)	Left Side of the Cylinder Head
B2		
B3		
B4		
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center

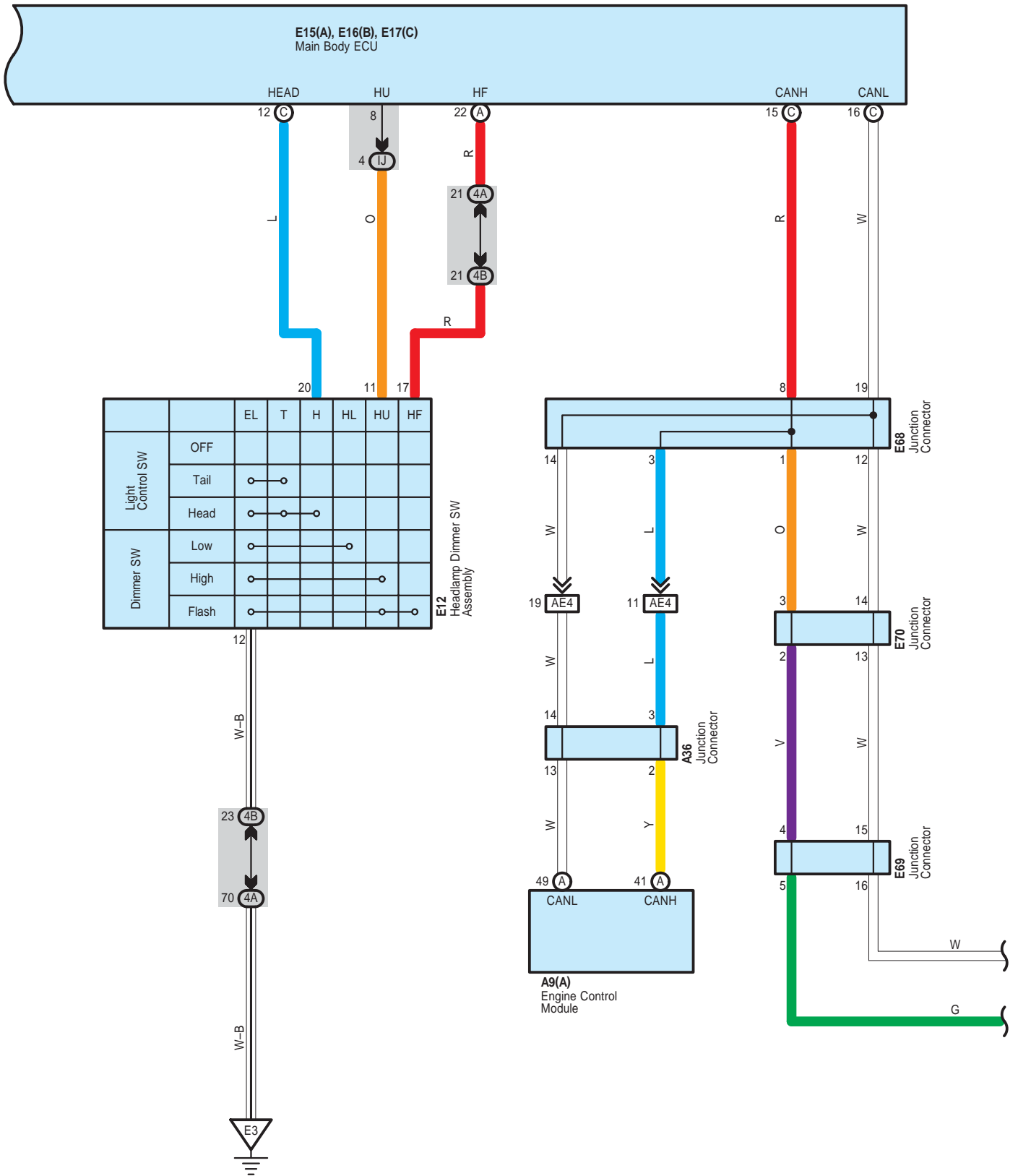
Headlight



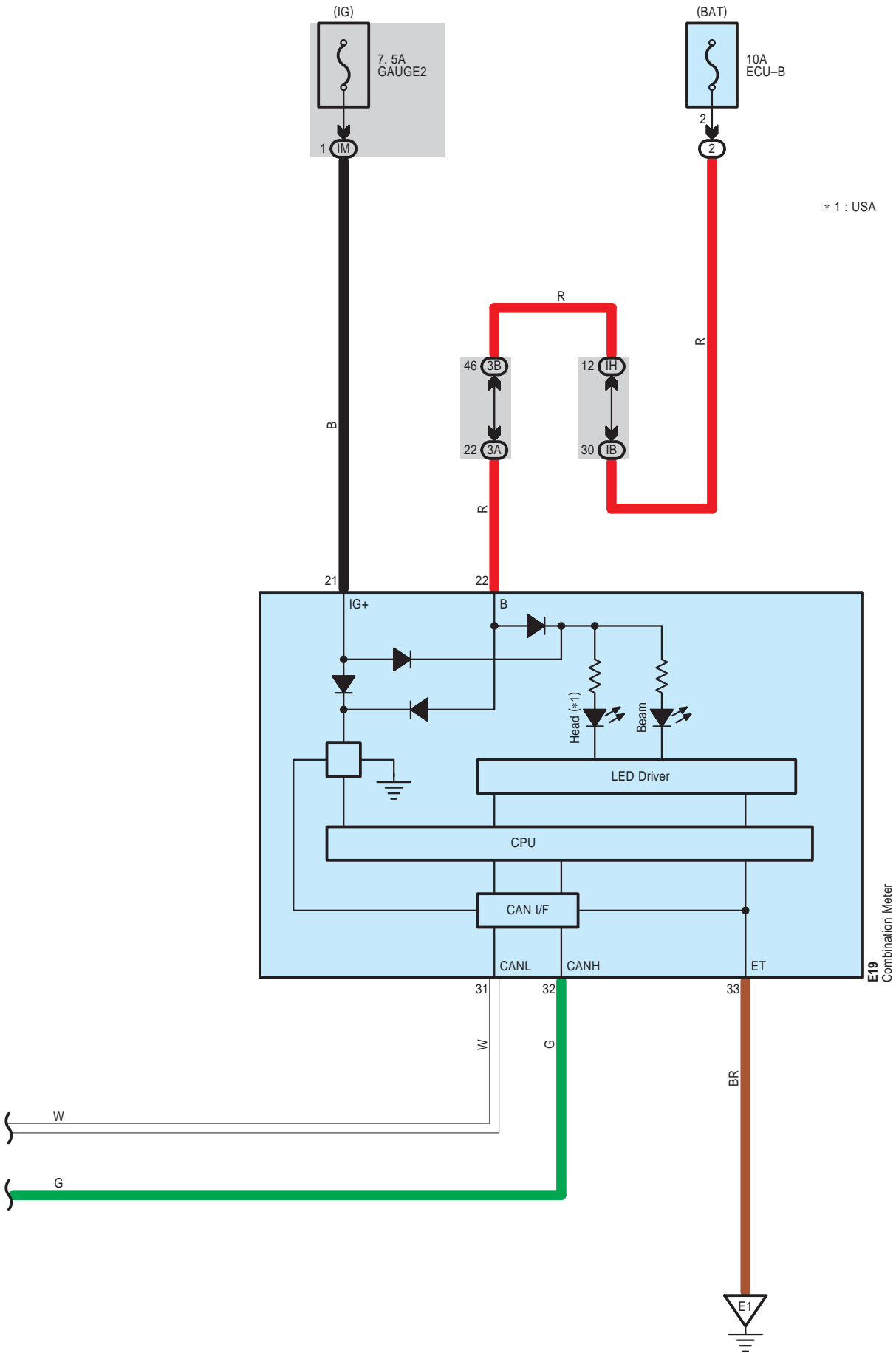


Headlight





Headlight



 : Parts Location

Code		See Page	Code		See Page	Code		See Page	
A9	A	50 (2GR-FE)	A22	52 (2AZ-FE)		E17	C	54	
		52 (2AZ-FE)		A23	50 (2GR-FE)		E19		54
A13	50 (2GR-FE)		A36		52 (2AZ-FE)		E41		55
	52 (2AZ-FE)			56		E68		55	
A14	50 (2GR-FE)		E12		54		E69		55
	52 (2AZ-FE)		E15	A	54		E70		55
A22	50 (2GR-FE)		E16	B	54				

 : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

 : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IH		
IJ		
IM		

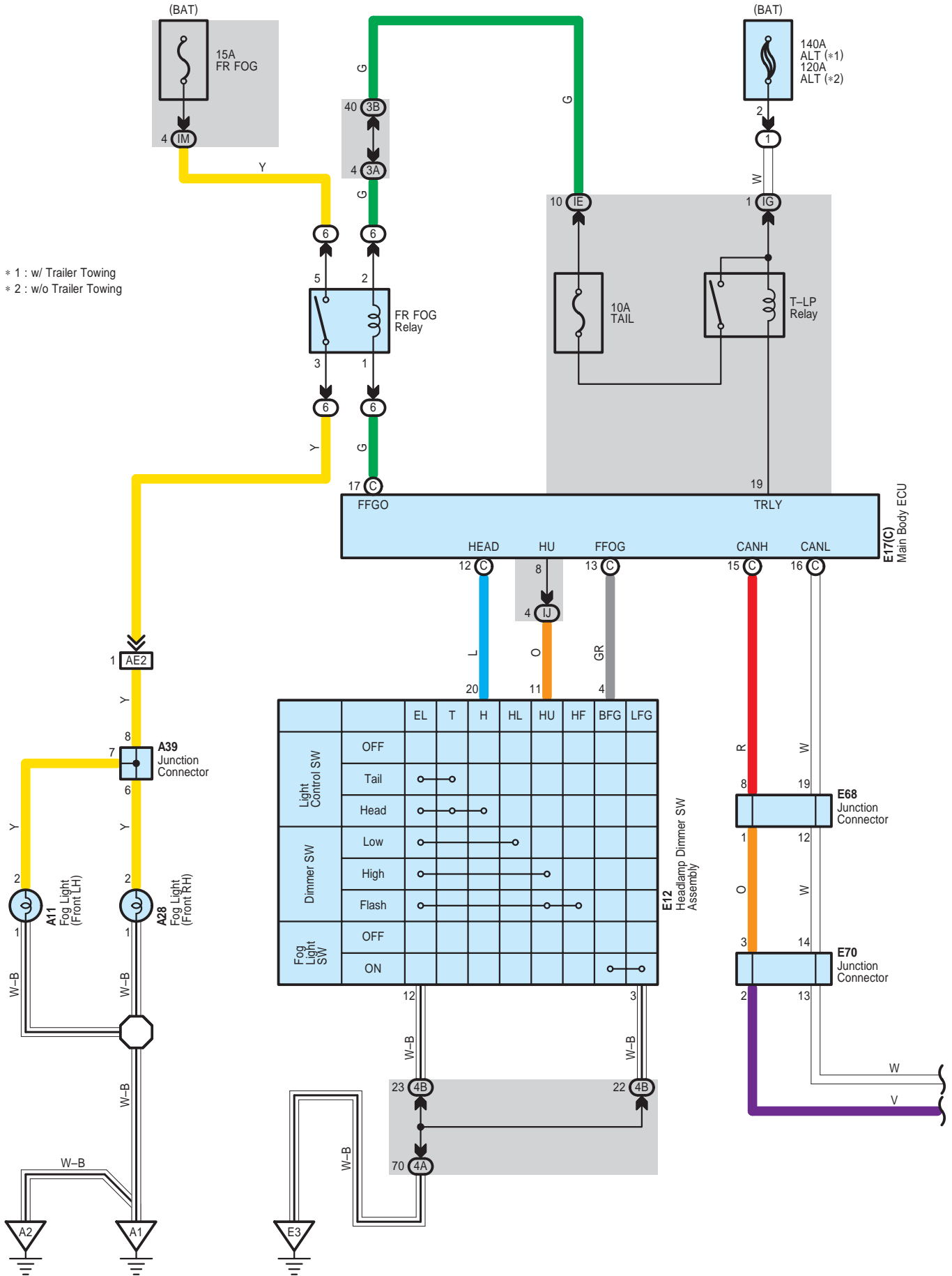
 : Connector Joining Wire Harness and Wire Harness

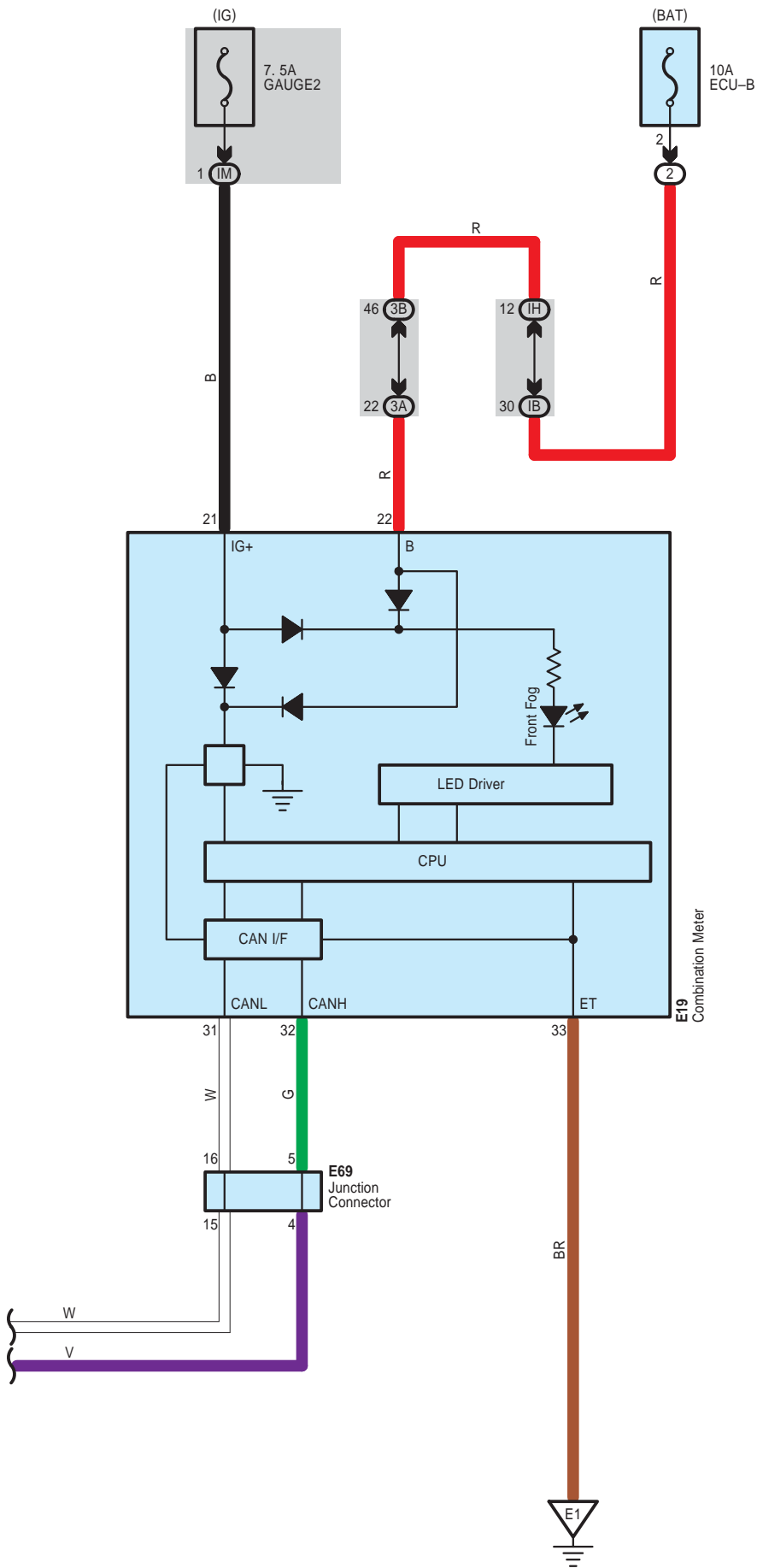
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE8	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)
AE10		

 : Ground Points

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
A3	64 (2GR-FE)	Front Right Fender
	65 (2AZ-FE)	
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center

Front Fog Light





RAV4 (EM03T0U)

Front Fog Light

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A11	50 (2GR-FE)	A39	50 (2GR-FE)	E19	54
	52 (2AZ-FE)		52 (2AZ-FE)	E68	55
A28	50 (2GR-FE)	E12	54	E69	55
	52 (2AZ-FE)	E17	C	54	E70

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	
6	28	R/B No.6 (Cowl Side Left)

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IG	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IH	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IJ		
IM		

□ : Connector Joining Wire Harness and Wire Harness

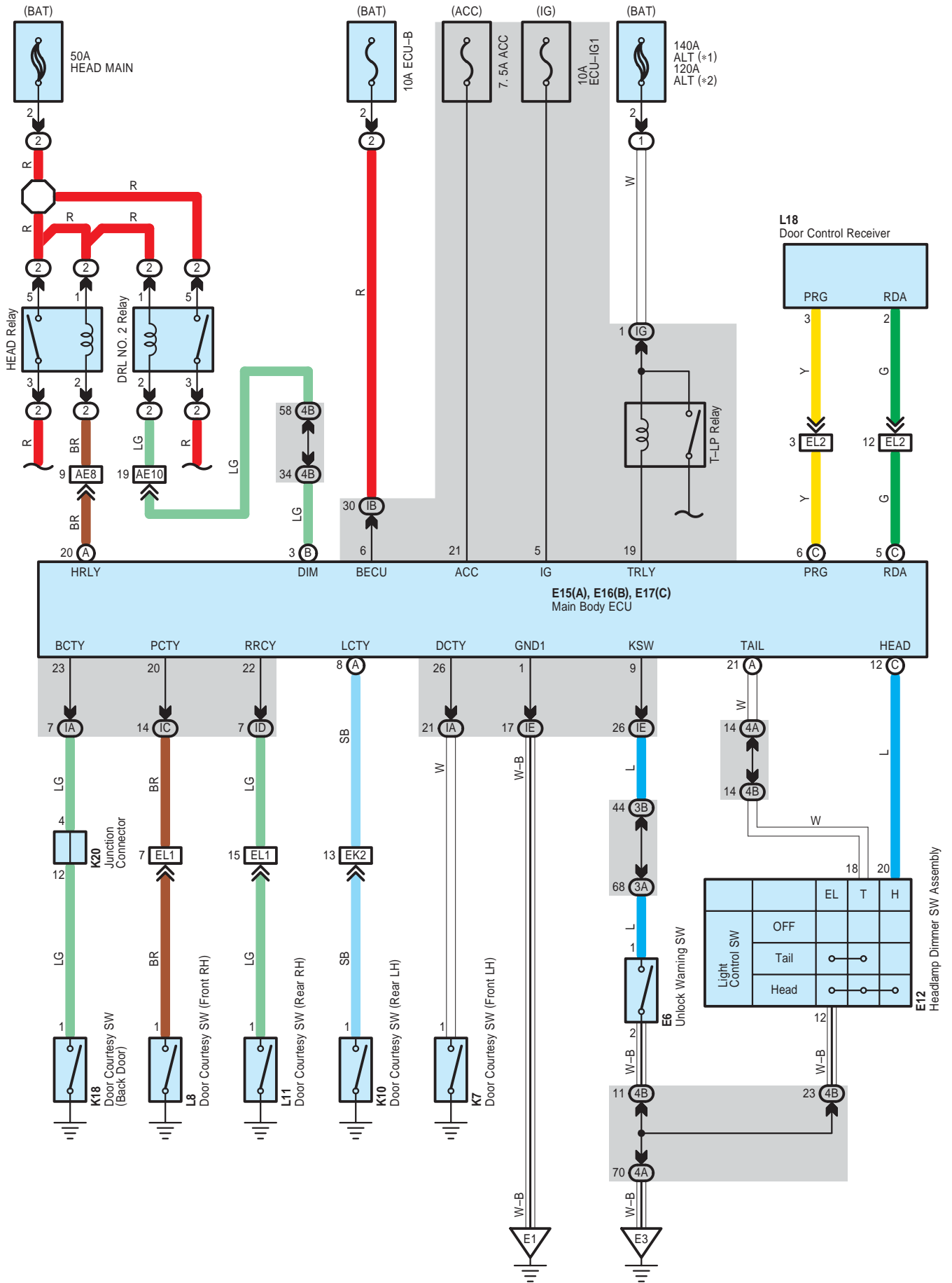
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE2	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)

▽ : Ground Points

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
A2	64 (2GR-FE)	
	65 (2AZ-FE)	
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center

Light Auto Turn Off System

* 1 : w/ Trailer Towing
 * 2 : w/o Trailer Towing



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page	
E6	54	E17	C	54	K20	59
E12	54	K7		59	L8	60
E15	A	K10		59	L11	60
E16	B	K18		59	L18	60

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IC	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
ID		
IE		
IG	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)

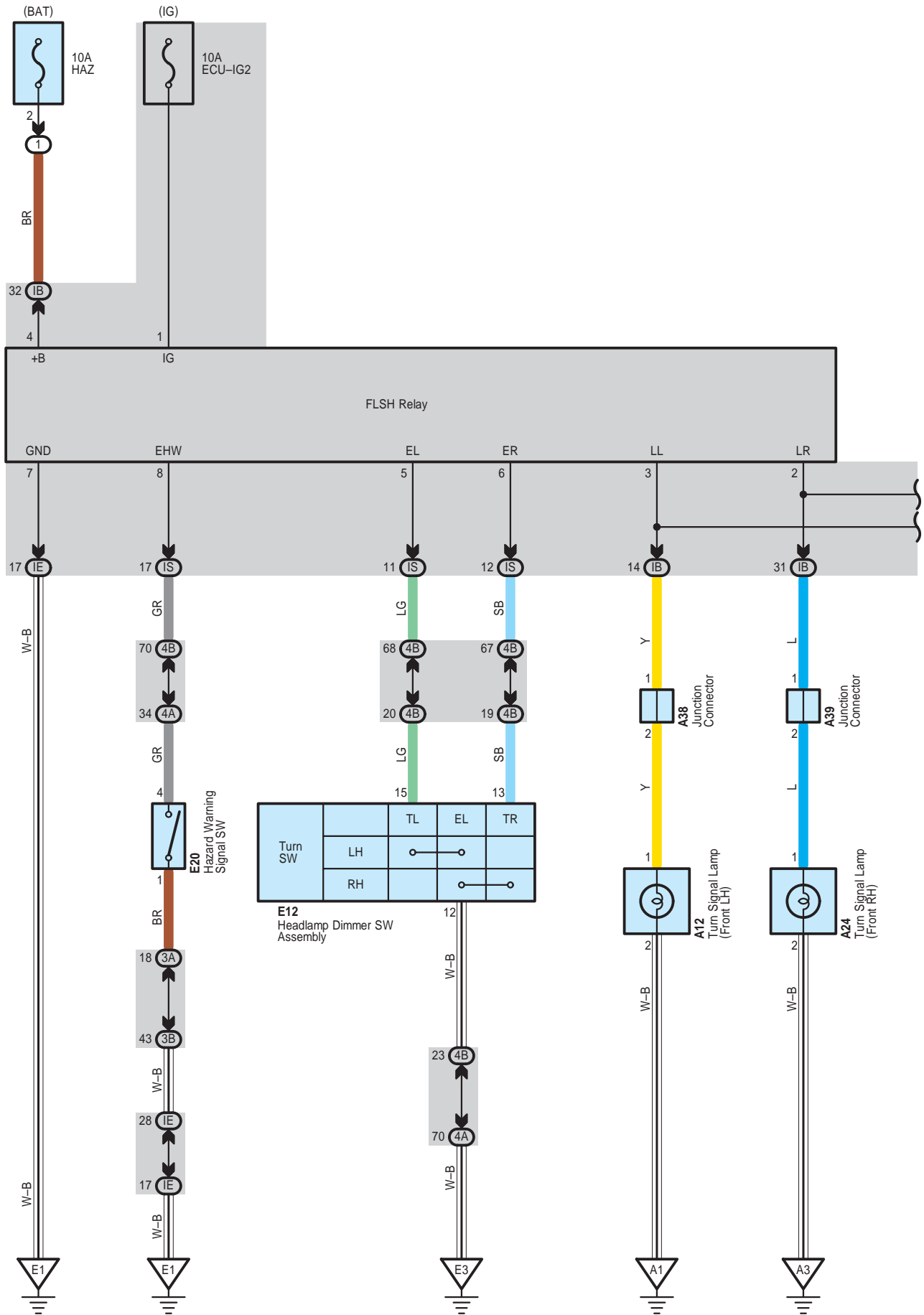
 : **Connector Joining Wire Harness and Wire Harness**

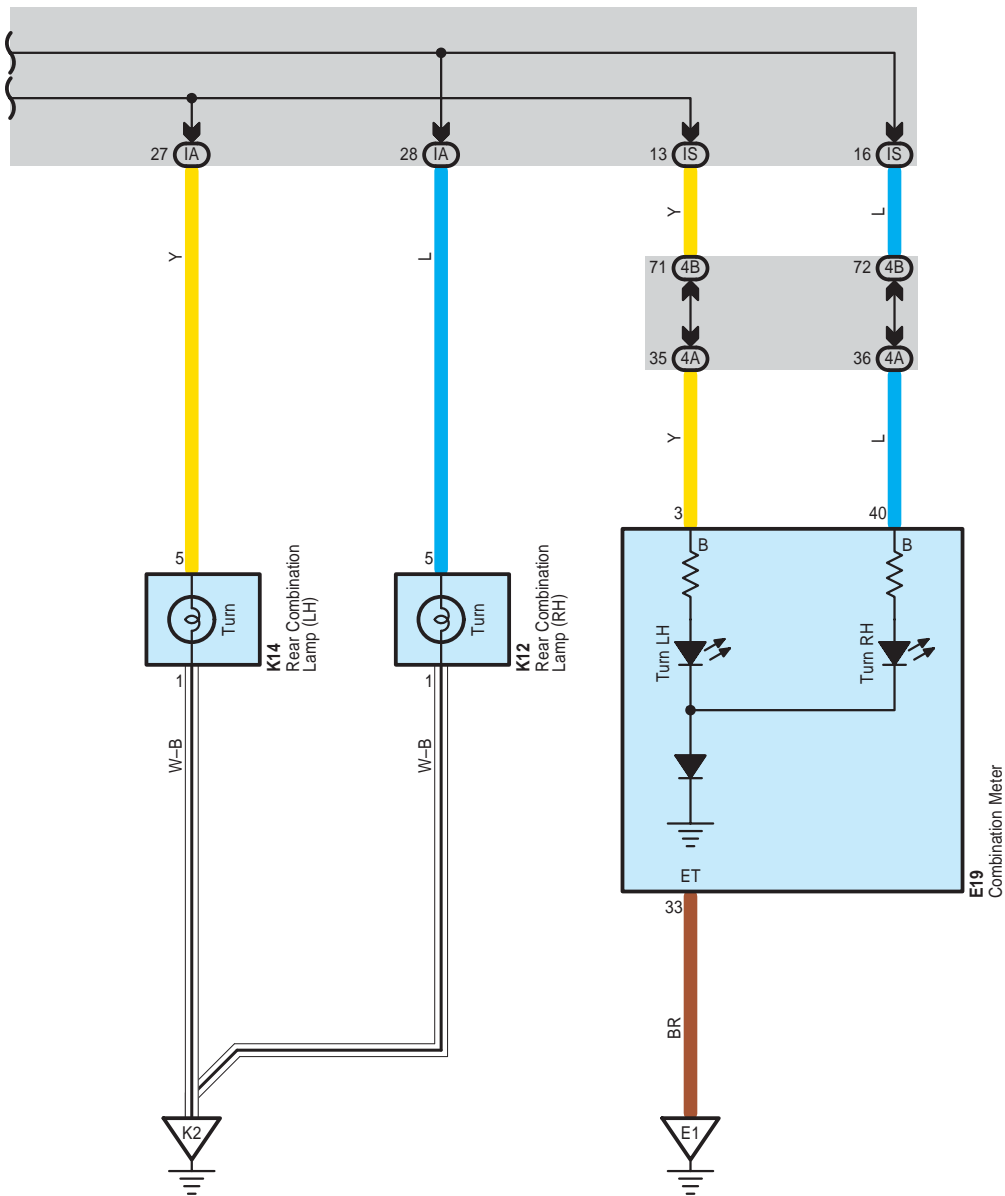
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE8	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)
AE10		
EK2	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)
EL1	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)
EL2		

 : **Ground Points**

Code	See Page	Ground Points Location
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center

Turn Signal and Hazard Warning Light





Turn Signal and Hazard Warning Light

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A12	50 (2GR-FE)	A38	56	E19	54
	52 (2AZ-FE)		50 (2GR-FE)	E20	54
A24	50 (2GR-FE)	E12	54	K12	59
	52 (2AZ-FE)		52 (2AZ-FE)	K14	59

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	

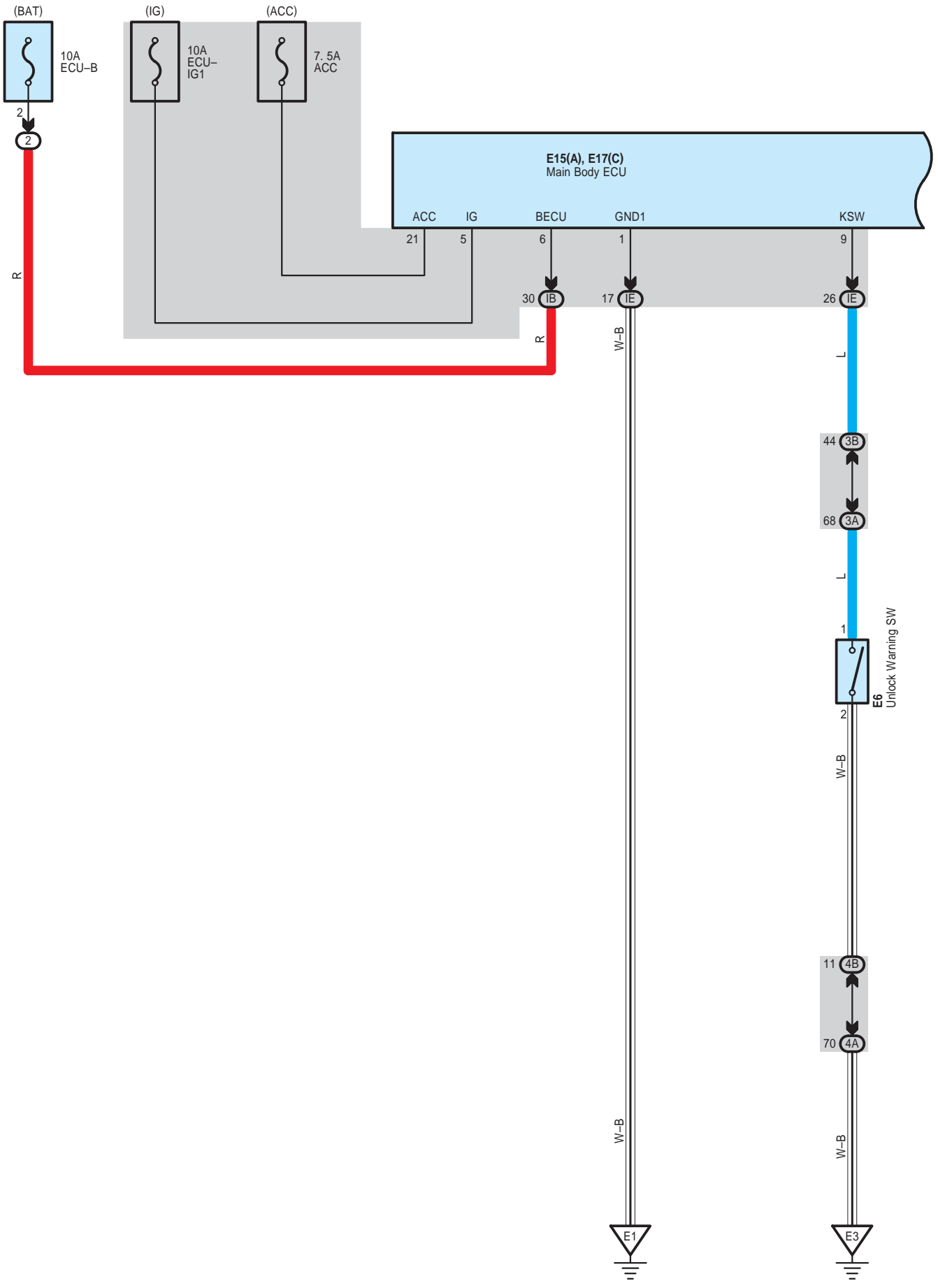
○ : Junction Block and Wire Harness Connector

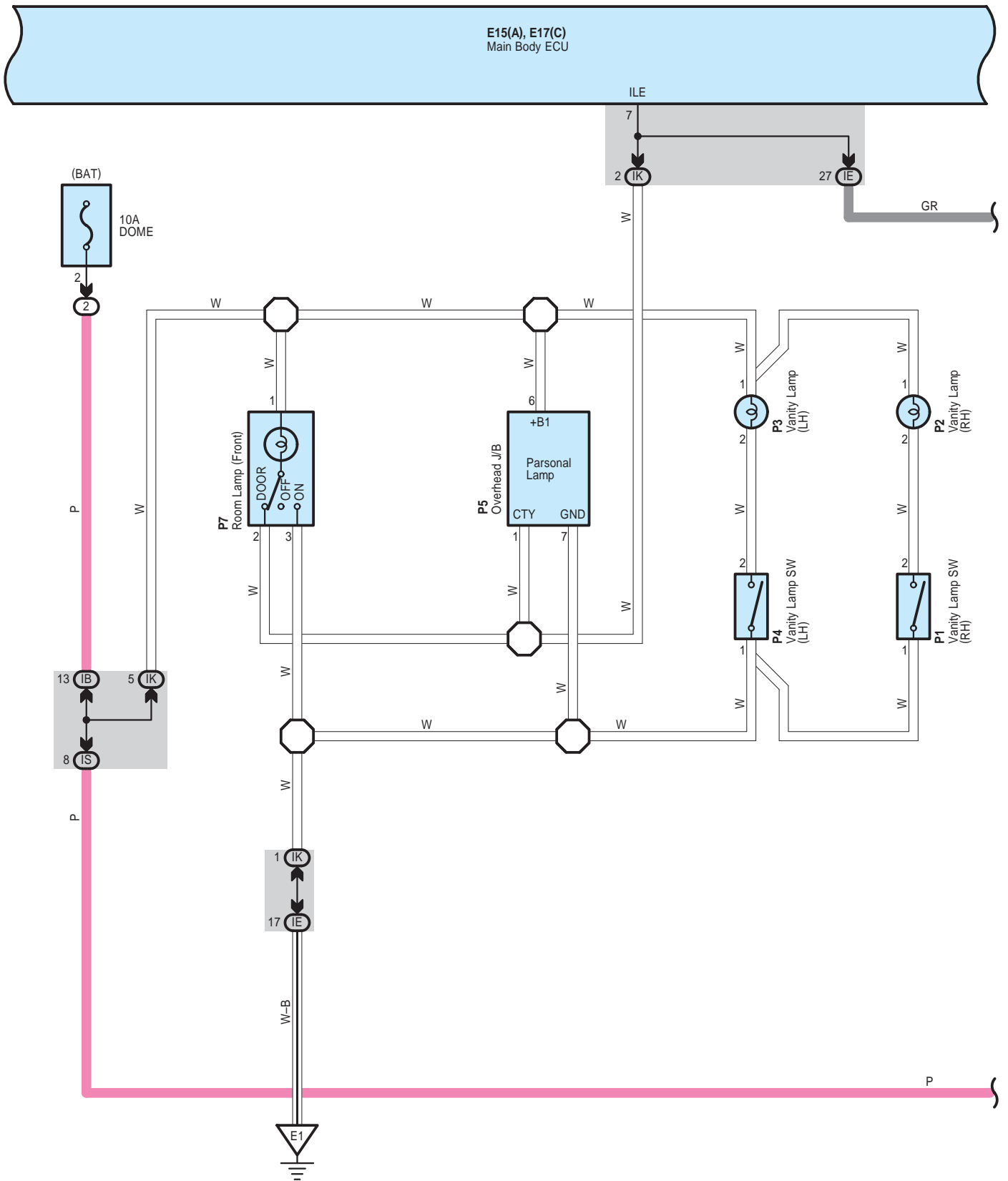
Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IS	31	

▽ : Ground Points

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
A3	64 (2GR-FE)	Front Right Fender
	65 (2AZ-FE)	
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center
K2	67	Left Quarter Panel

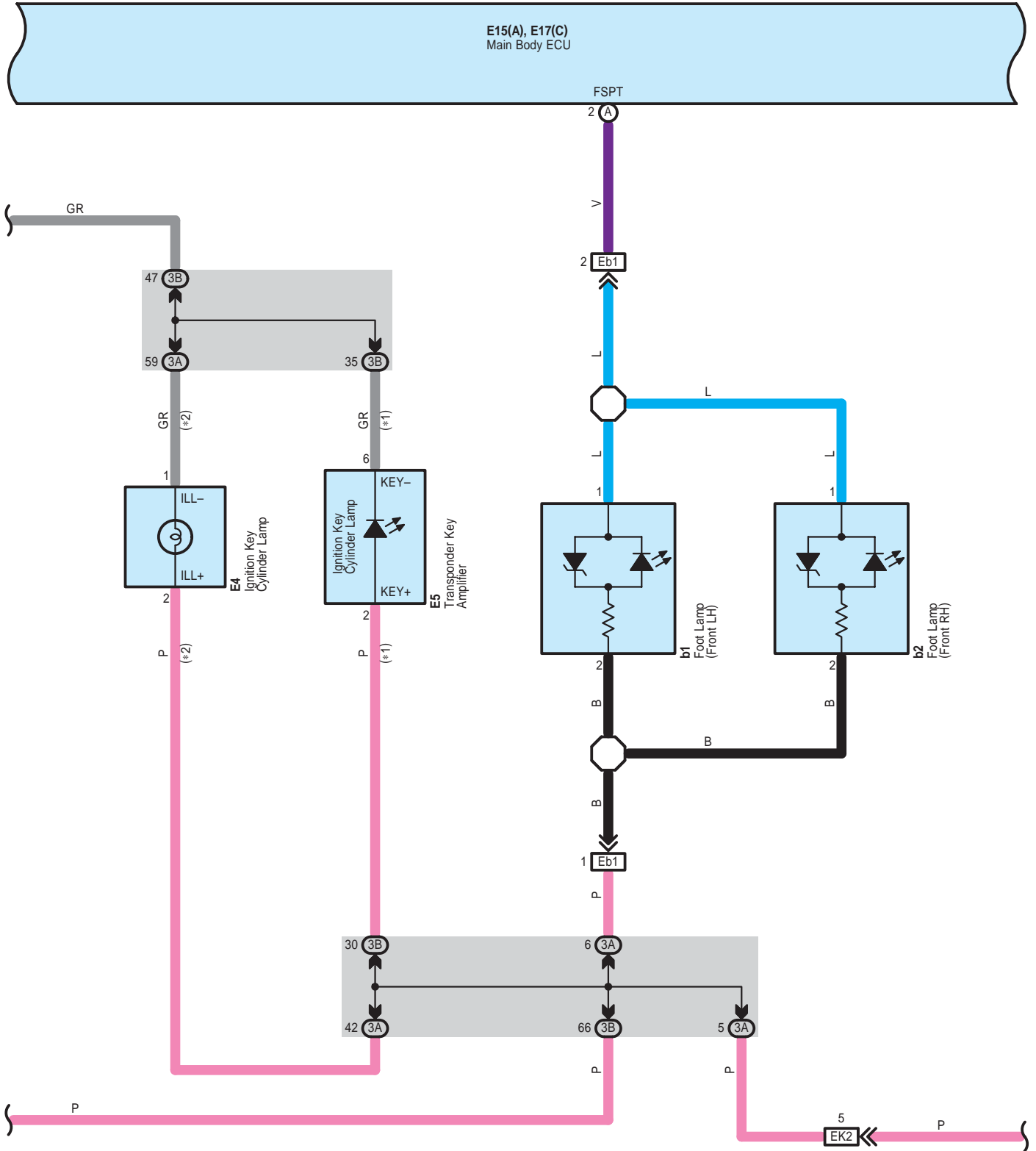
Interior Light

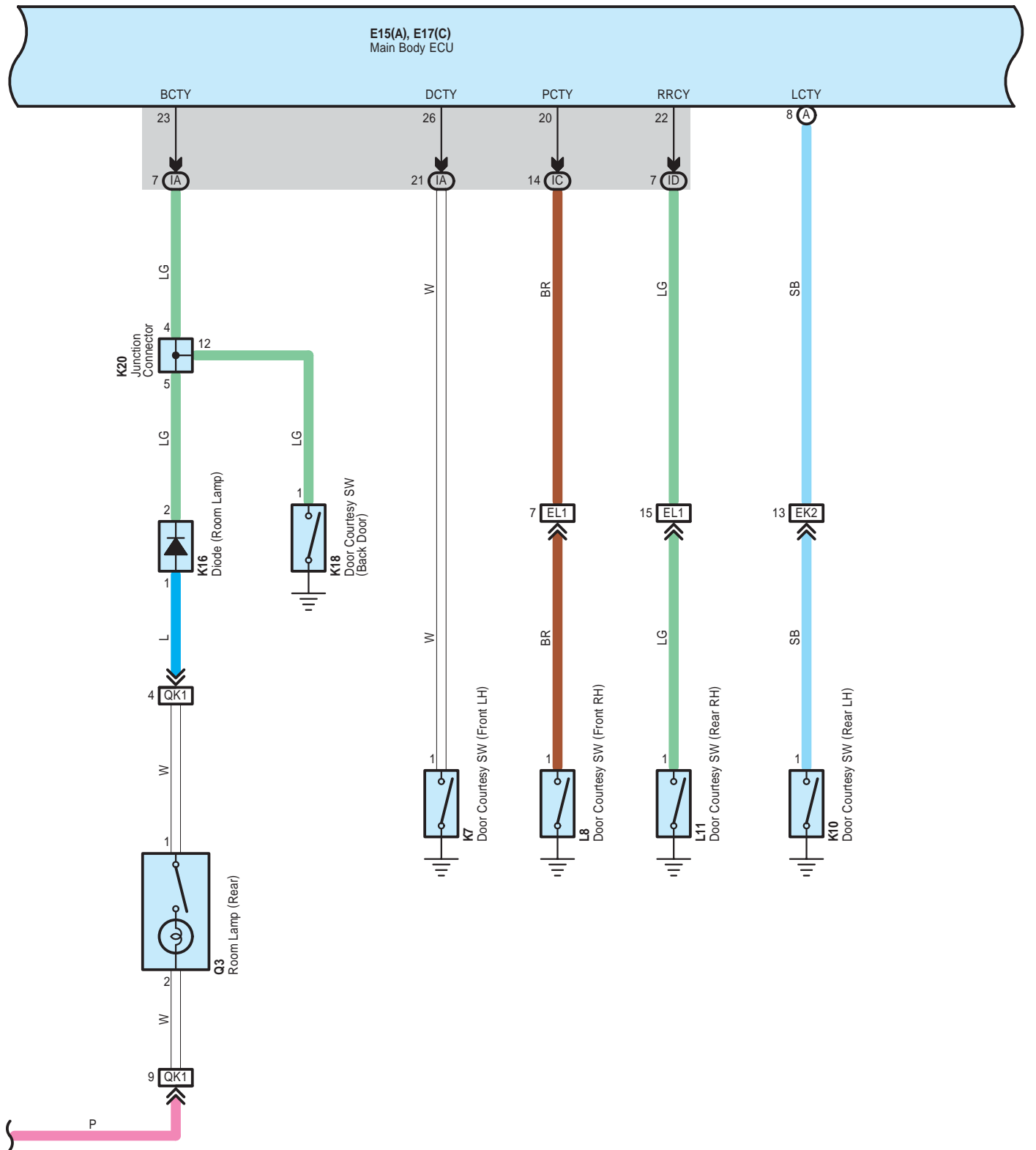




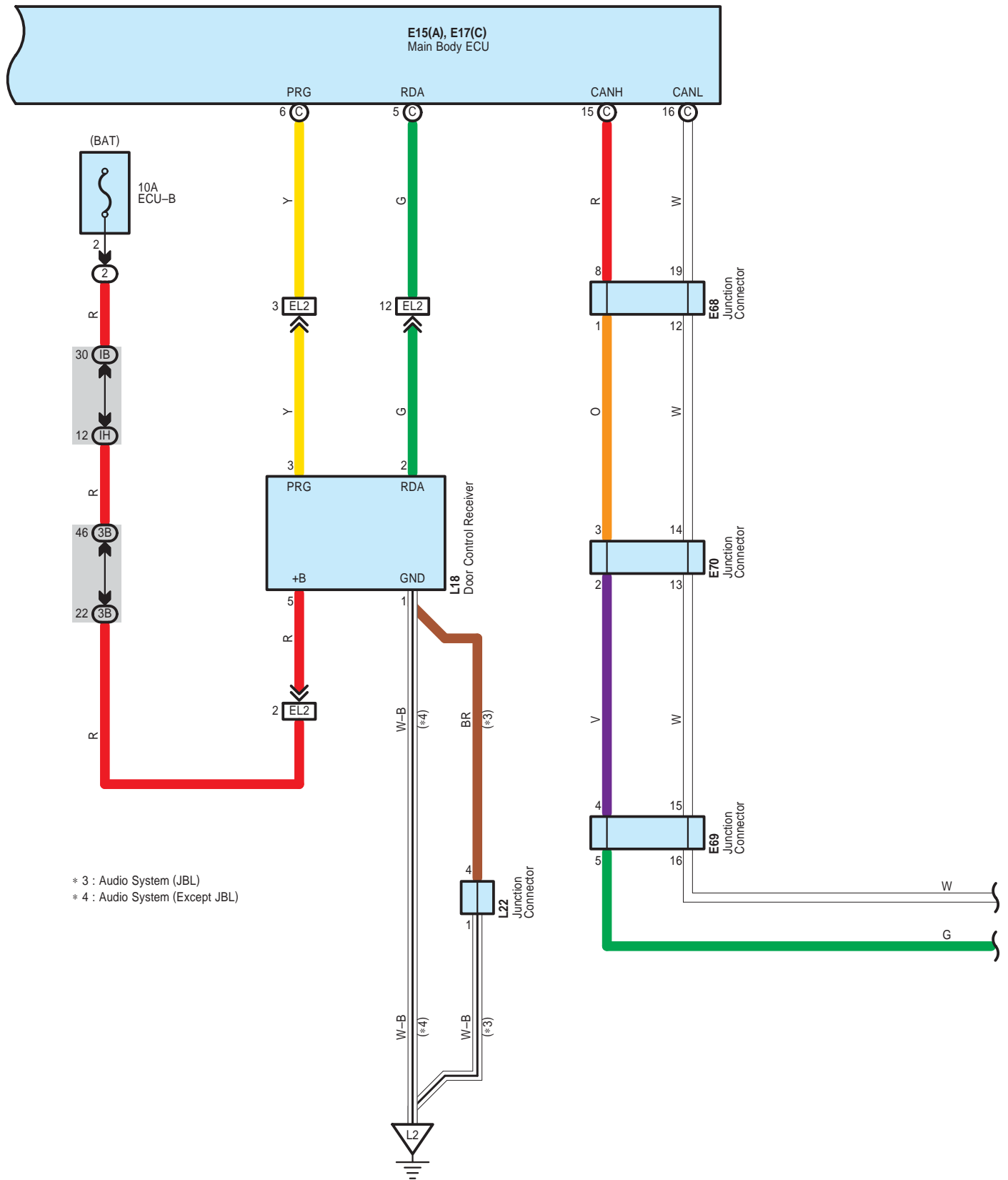
Interior Light

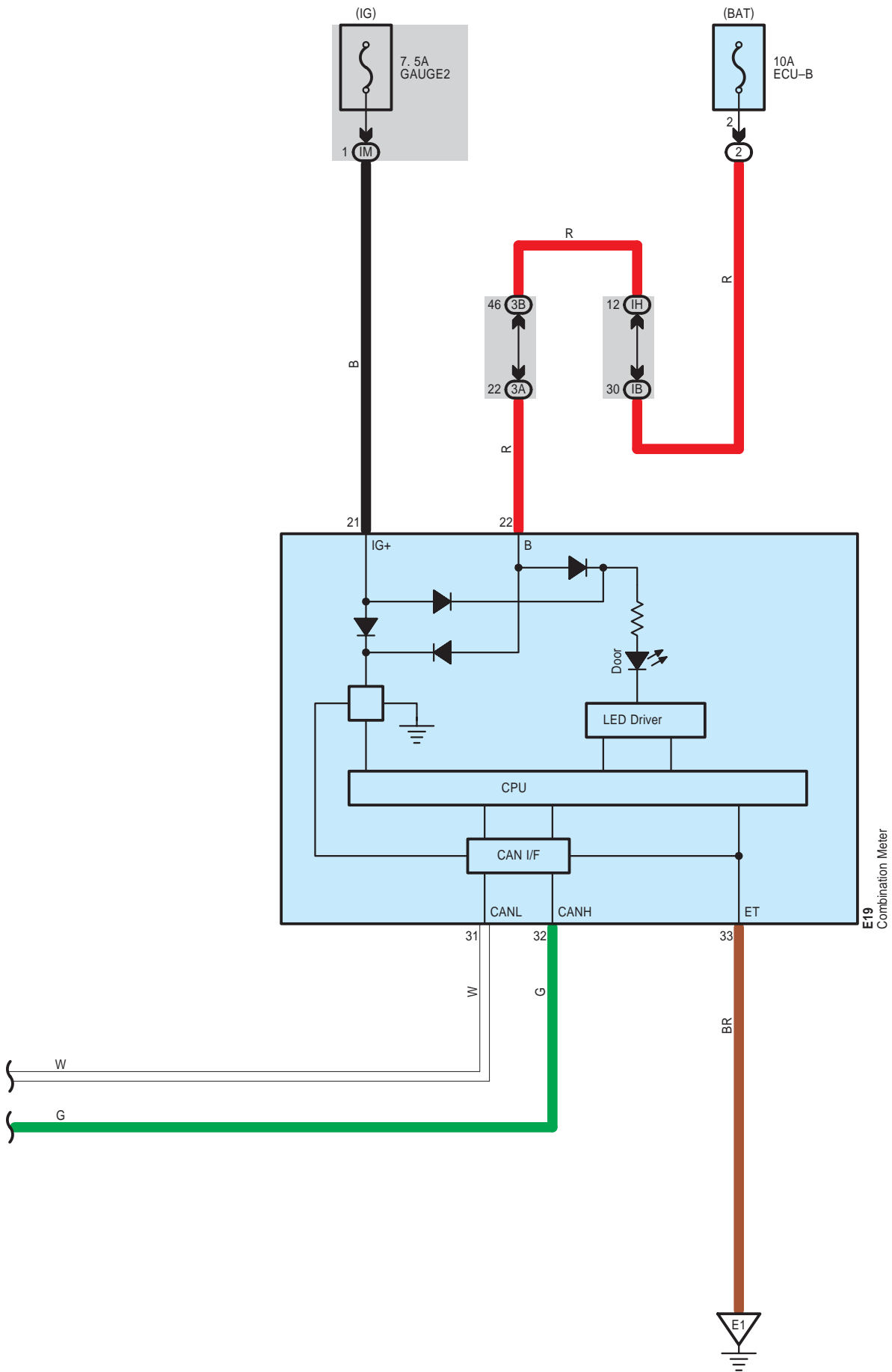
- * 1 : w/ Engine Immobiliser System
- * 2 : w/o Engine Immobiliser System





Interior Light





RAV4 (EM03T0U)

Interior Light

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
E4	54	K7	59	P1	61
E5	54	K10	59	P2	61
E6	54	K16	59	P3	61
E15	A 54	K18	59	P4	61
E17	C 54	K20	59	P5	61
E19	54	L8	60	P7	61
E68	55	L11	60	Q3	61
E69	55	L18	60	b1	57
E70	55	L22	60	b2	57

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE) 27 (2AZ-FE)	Engine Room R/B No.2 (Engine Compartment Right)

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IC	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
ID		
IE		
IH		
IK	30	Roof Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IS		

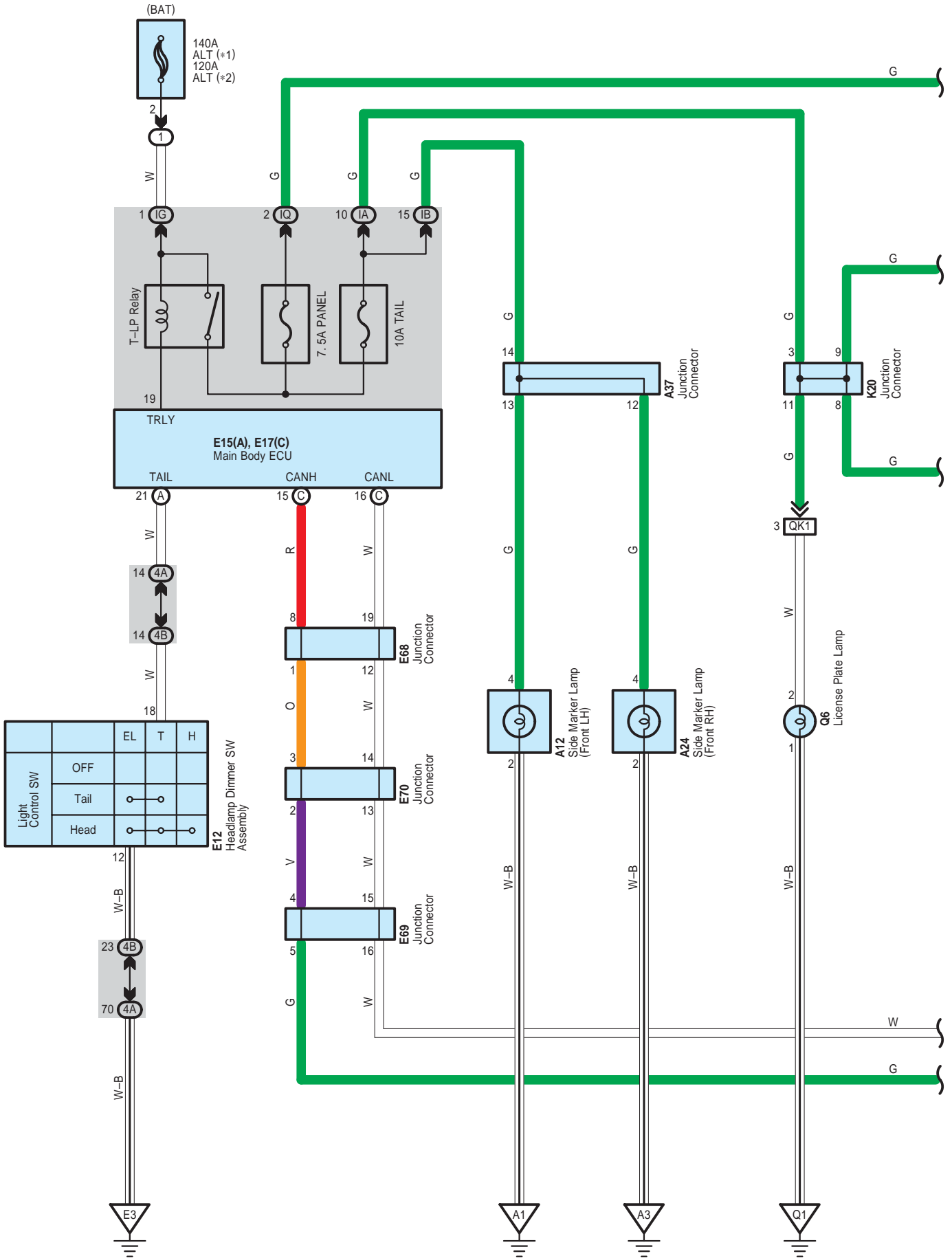
□ : Connector Joining Wire Harness and Wire Harness

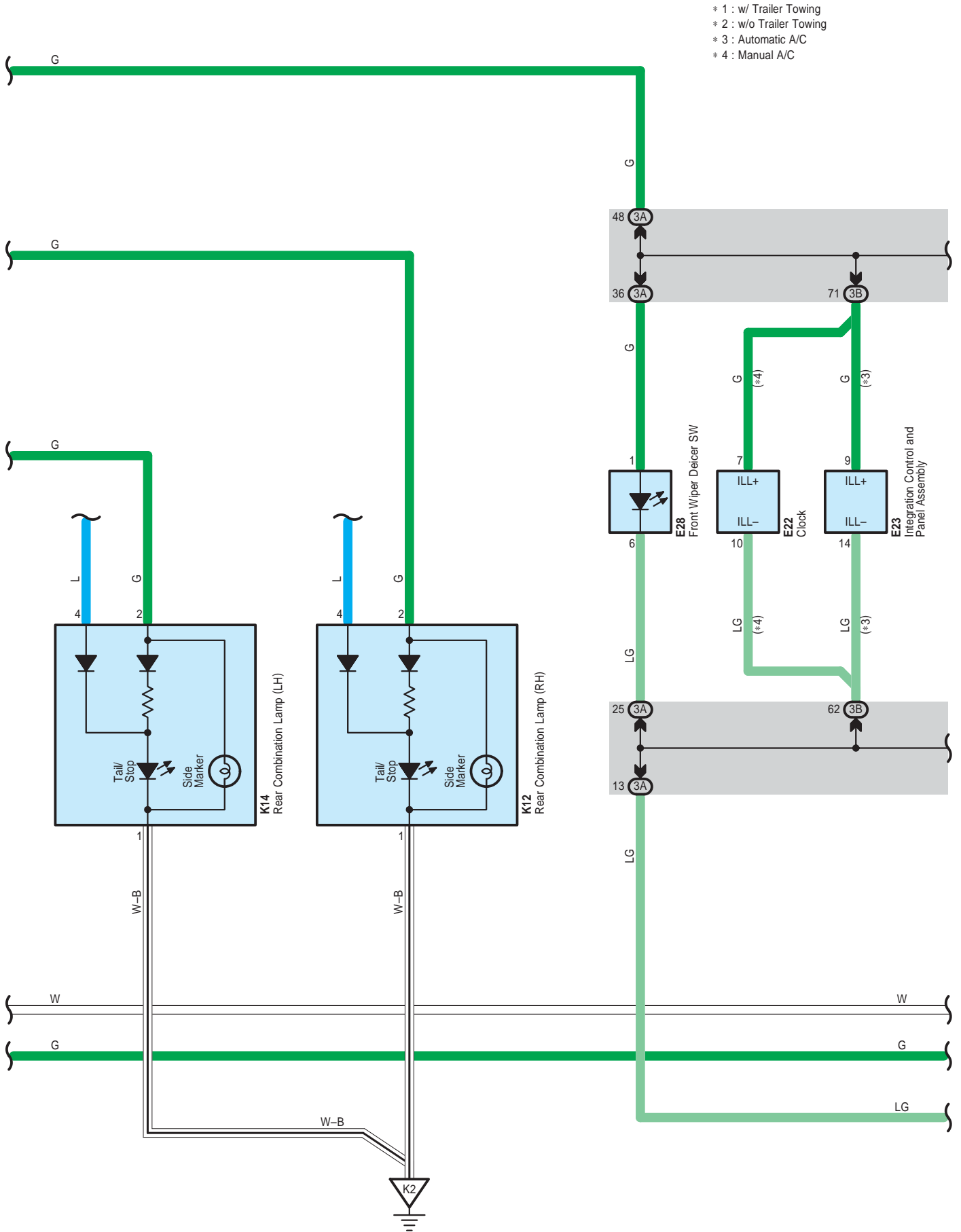
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EK2	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)
EL1	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)
EL2		
Eb1	66	Instrument Panel Wire and Illumination Wire (Instrument Panel Brace RH)
QK1	67	Back Door No.1 Wire and Floor Wire (Right Rear Quarter Panel)

▽ : Ground Points

Code	See Page	Ground Points Location
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center
L2	67	Right Quarter Panel

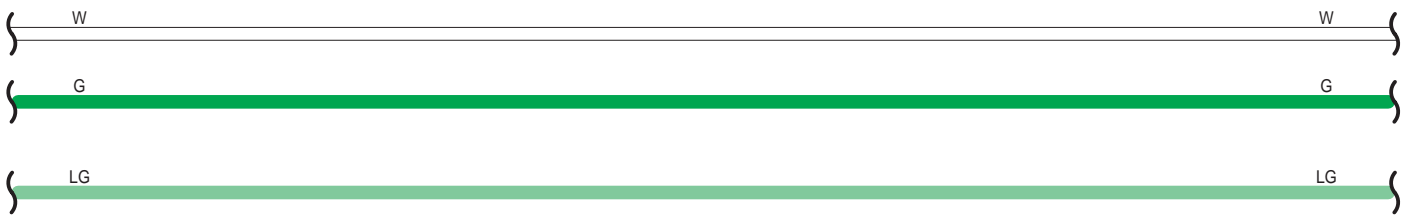
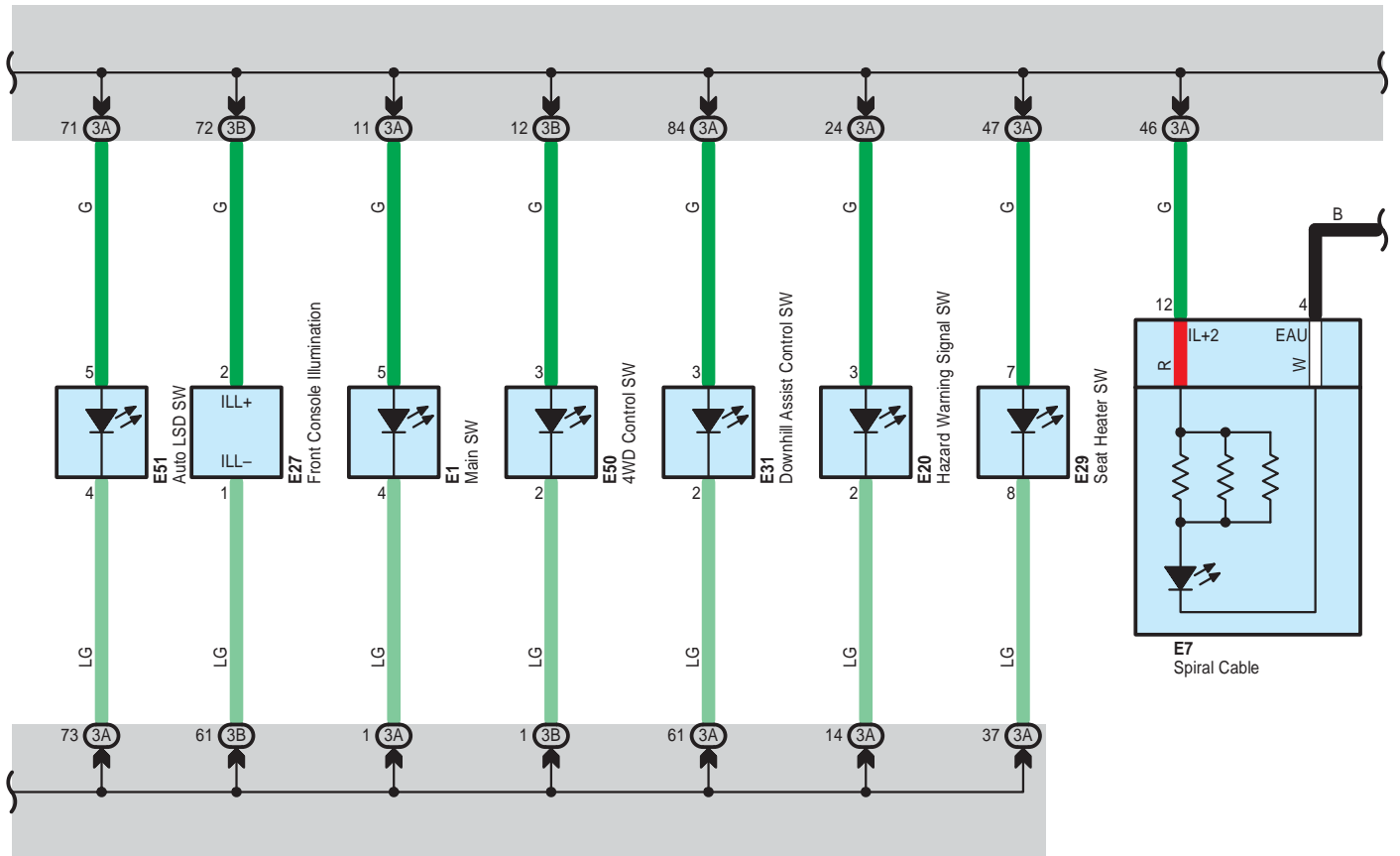
Taillight and Illumination



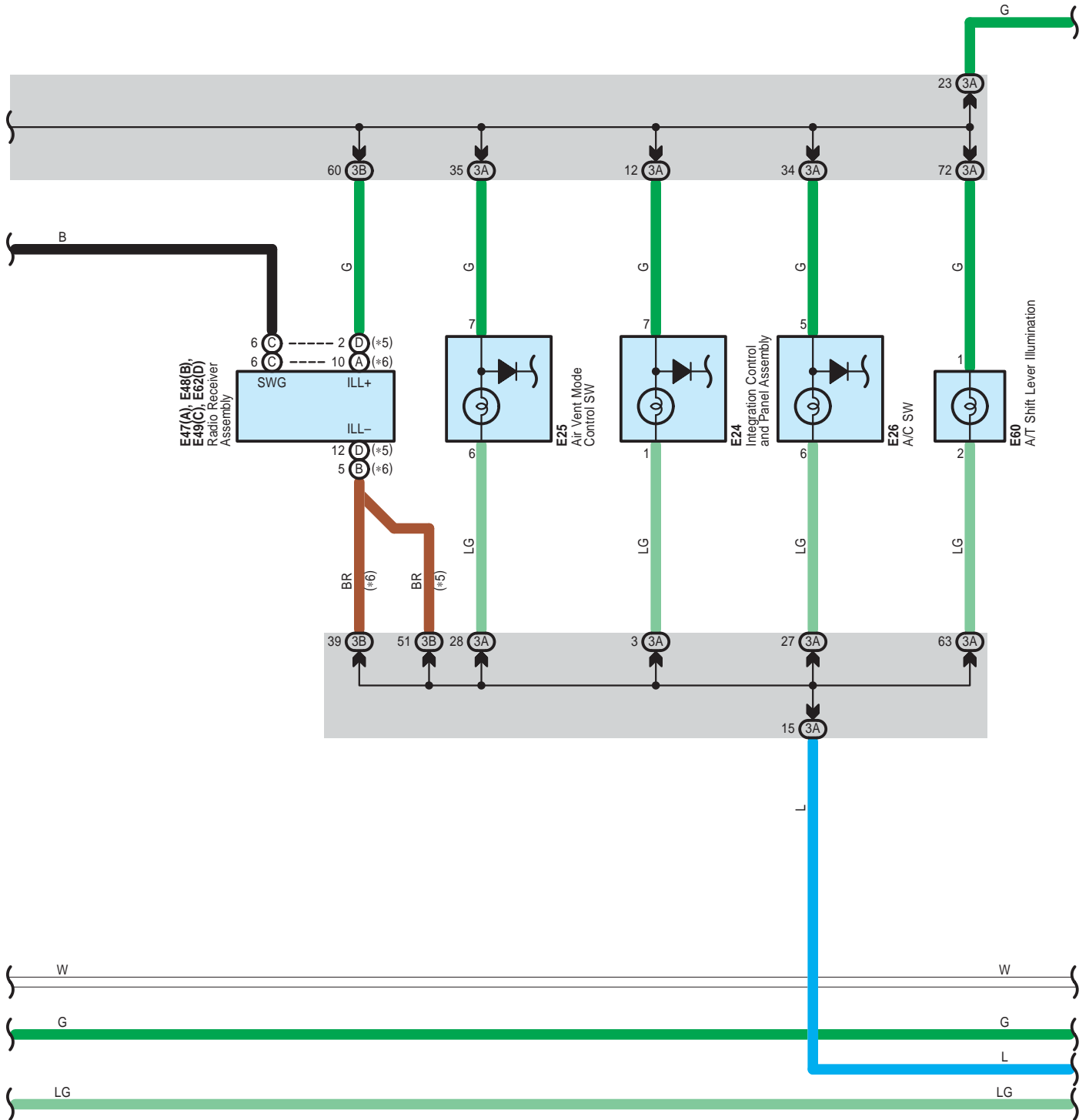


- * 1 : w/ Trailer Towing
- * 2 : w/o Trailer Towing
- * 3 : Automatic A/C
- * 4 : Manual A/C

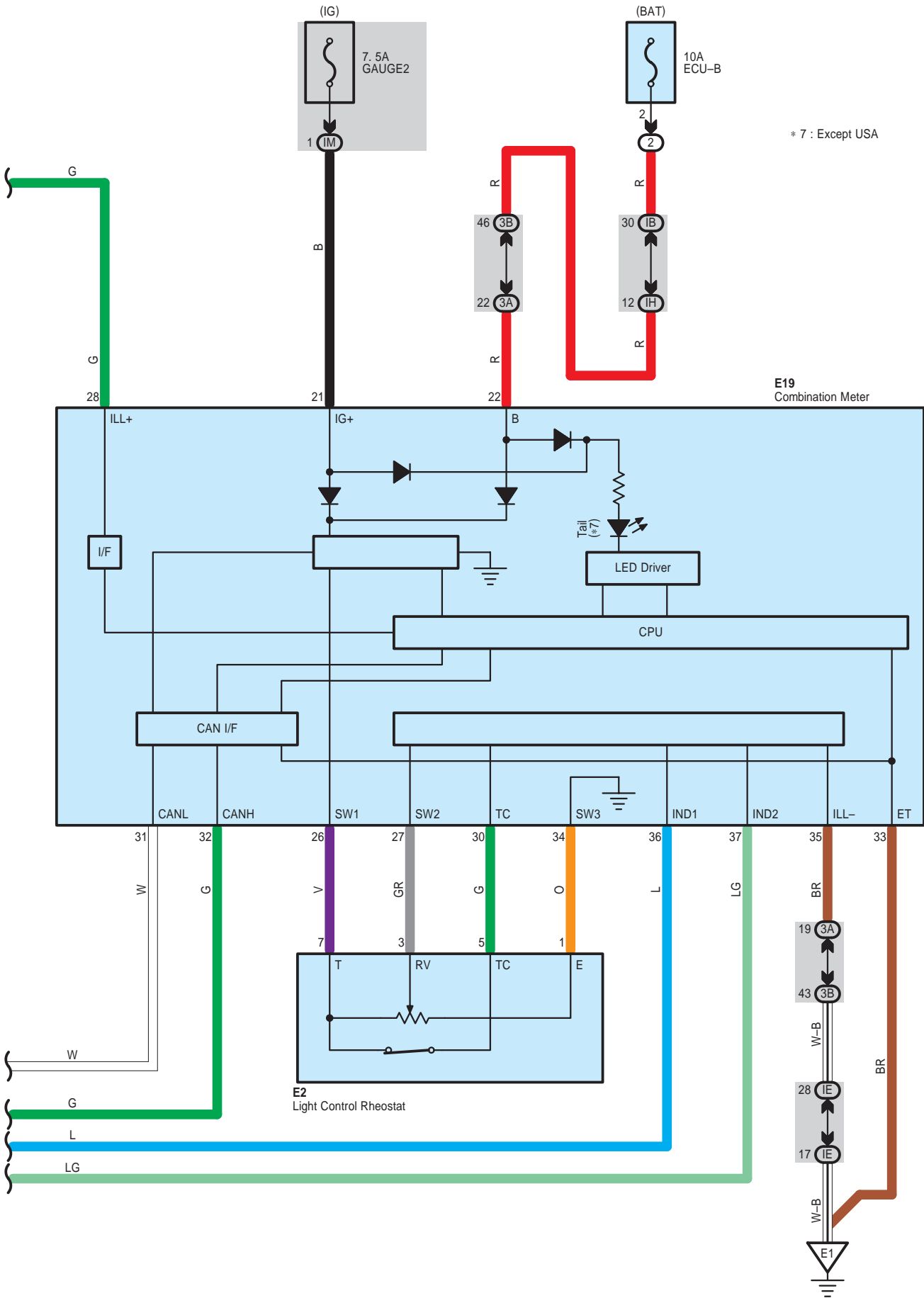
Taillight and Illumination



- * 5 : Audio System (JBL)
- * 6 : Audio System (Except JBL)



Taillight and Illumination



 : Parts Location

Code	See Page	Code	See Page	Code	See Page
A12	50 (2GR-FE)	E20	54	E49	C 55
	52 (2AZ-FE)	E22	54	E50	55
A24	50 (2GR-FE)	E23	54	E51	55
	52 (2AZ-FE)	E24	54	E60	55
A37	56	E25	54	E62	D 55
E1	54	E26	54	E68	55
E2	54	E27	54	E69	55
E7	54	E28	54	E70	55
E12	54	E29	54	K12	59
E15	A 54	E31	54	K14	59
E17	C 54	E47	A 55	K20	59
E19	54	E48	B 55	Q6	61

 : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

 : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IG	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IH	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	
IQ		

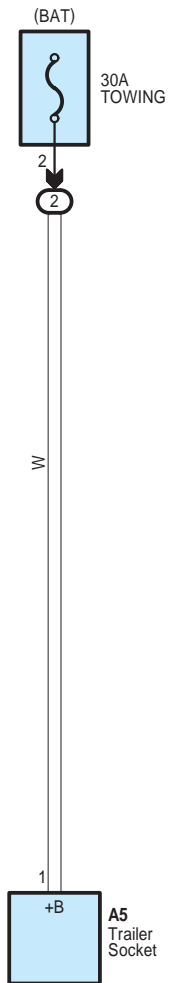
 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
QK1	67	Back Door No.1 Wire and Floor Wire (Right Rear Quarter Panel)

 : Ground Points

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
A3	64 (2GR-FE)	Front Right Fender
	65 (2AZ-FE)	
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center
K2	67	Left Quarter Panel
Q1	67	Left Side of the Back Door

Trailer Towing



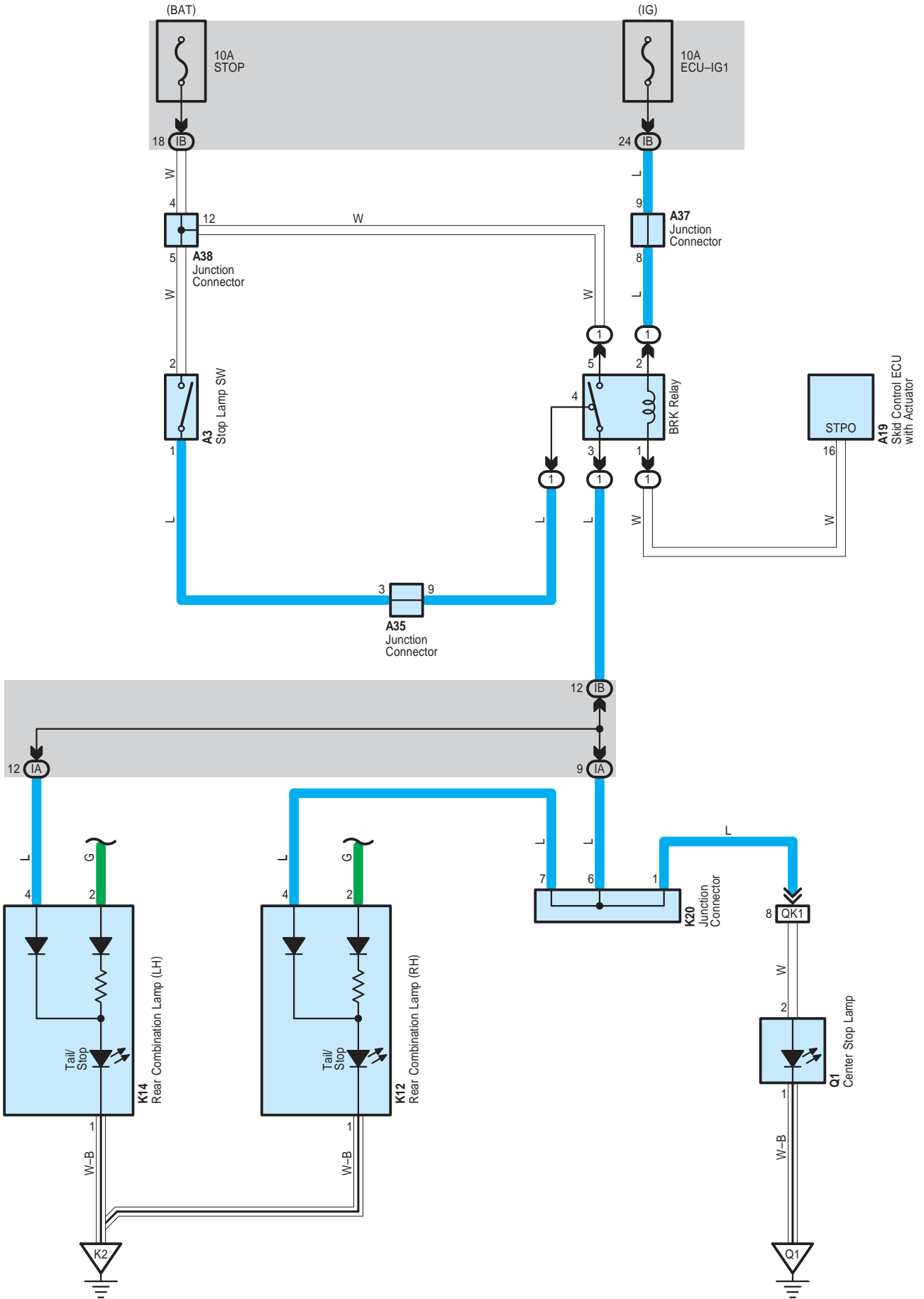
○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A5	56				

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

Stop Light



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
A3	56	A37	56	K20	59
A19	50 (2GR-FE)	A38	56	Q1	61
	52 (2AZ-FE)	K12	59		
A35	56	K14	59		

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)

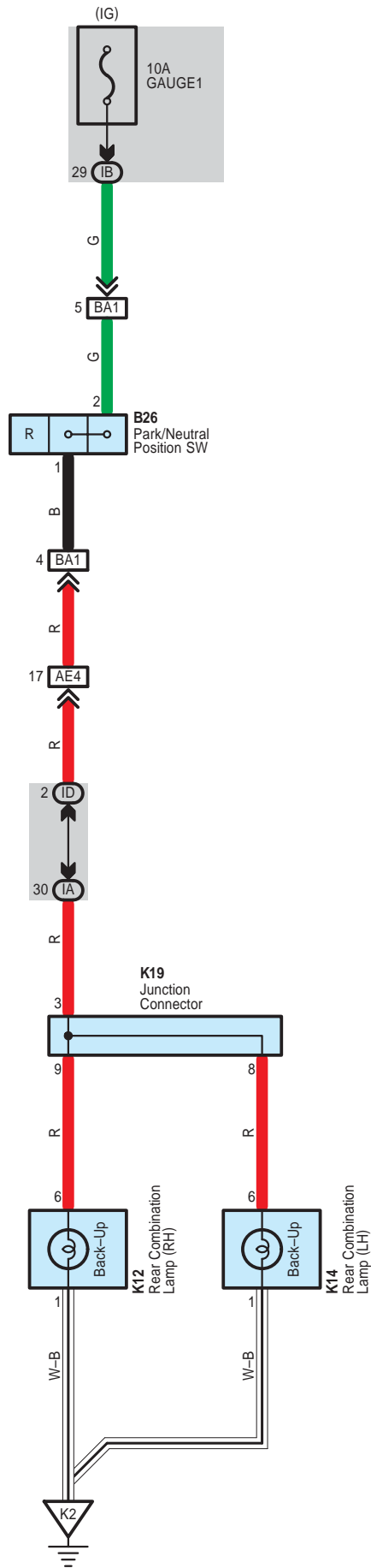
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
QK1	67	Back Door No.1 Wire and Floor Wire (Right Rear Quarter Panel)

 : **Ground Points**

Code	See Page	Ground Points Location
K2	67	Left Quarter Panel
Q1	67	Left Side of the Back Door

Back-Up Light



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
B26	51 (2GR-FE)	K12	59	K19	59
	53 (2AZ-FE)	K14	59		

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)

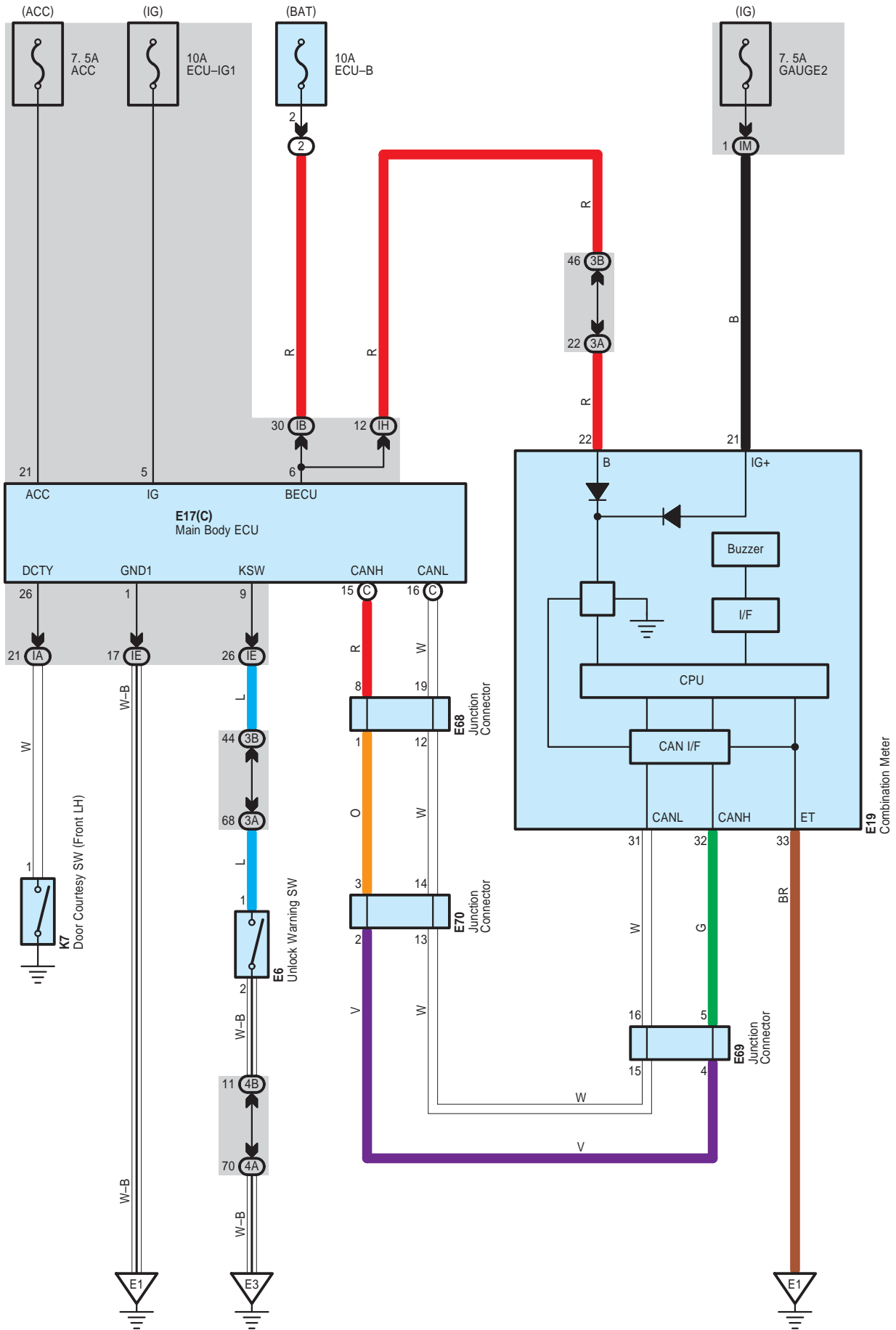
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
	65 (2AZ-FE)	

 : **Ground Points**

Code	See Page	Ground Points Location
K2	67	Left Quarter Panel

Key Reminder



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
E6	54	E68	55	K7	59
E17	C 54	E69	55		
E19	54	E70	55		

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

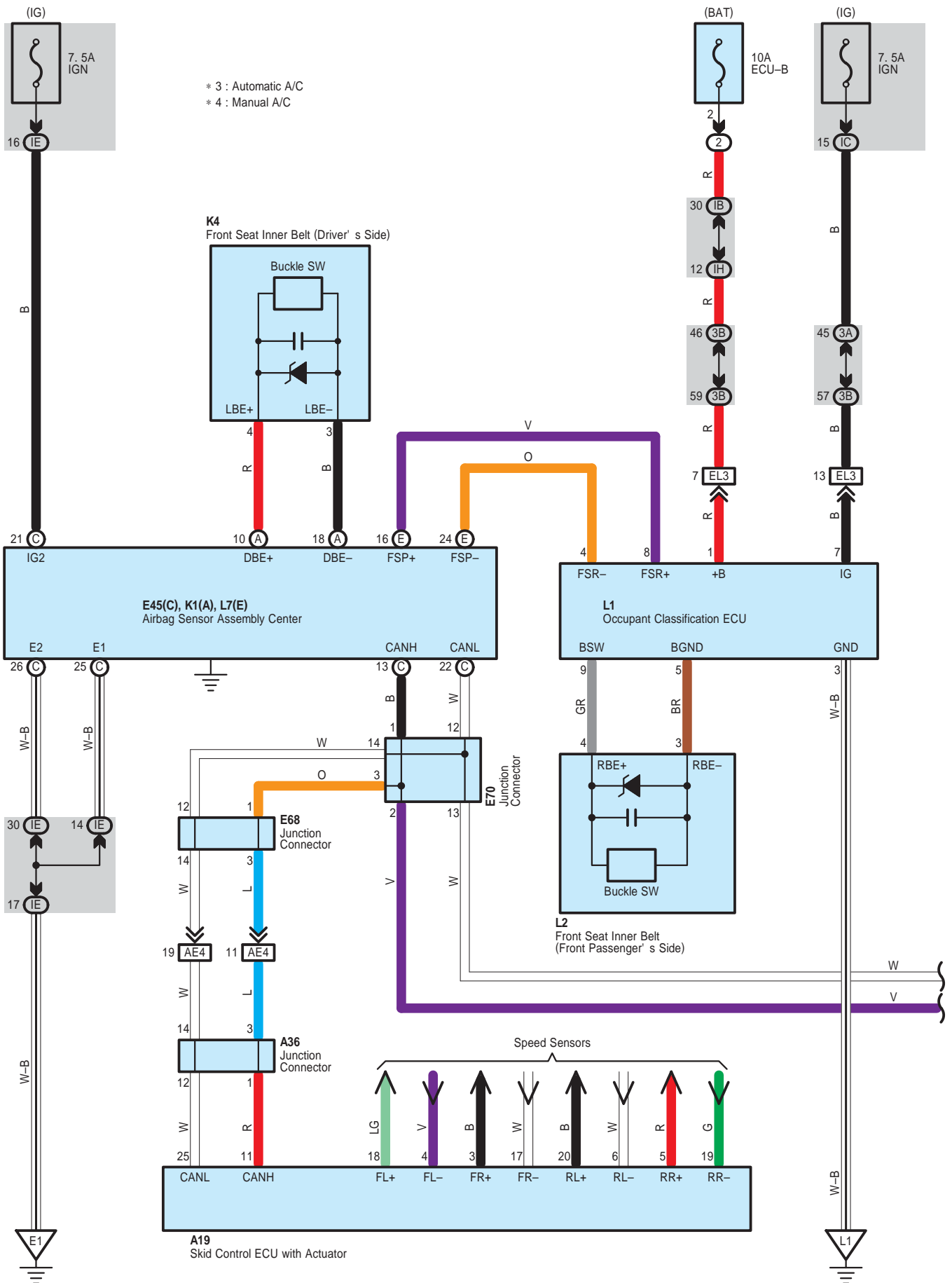
 : **Junction Block and Wire Harness Connector**

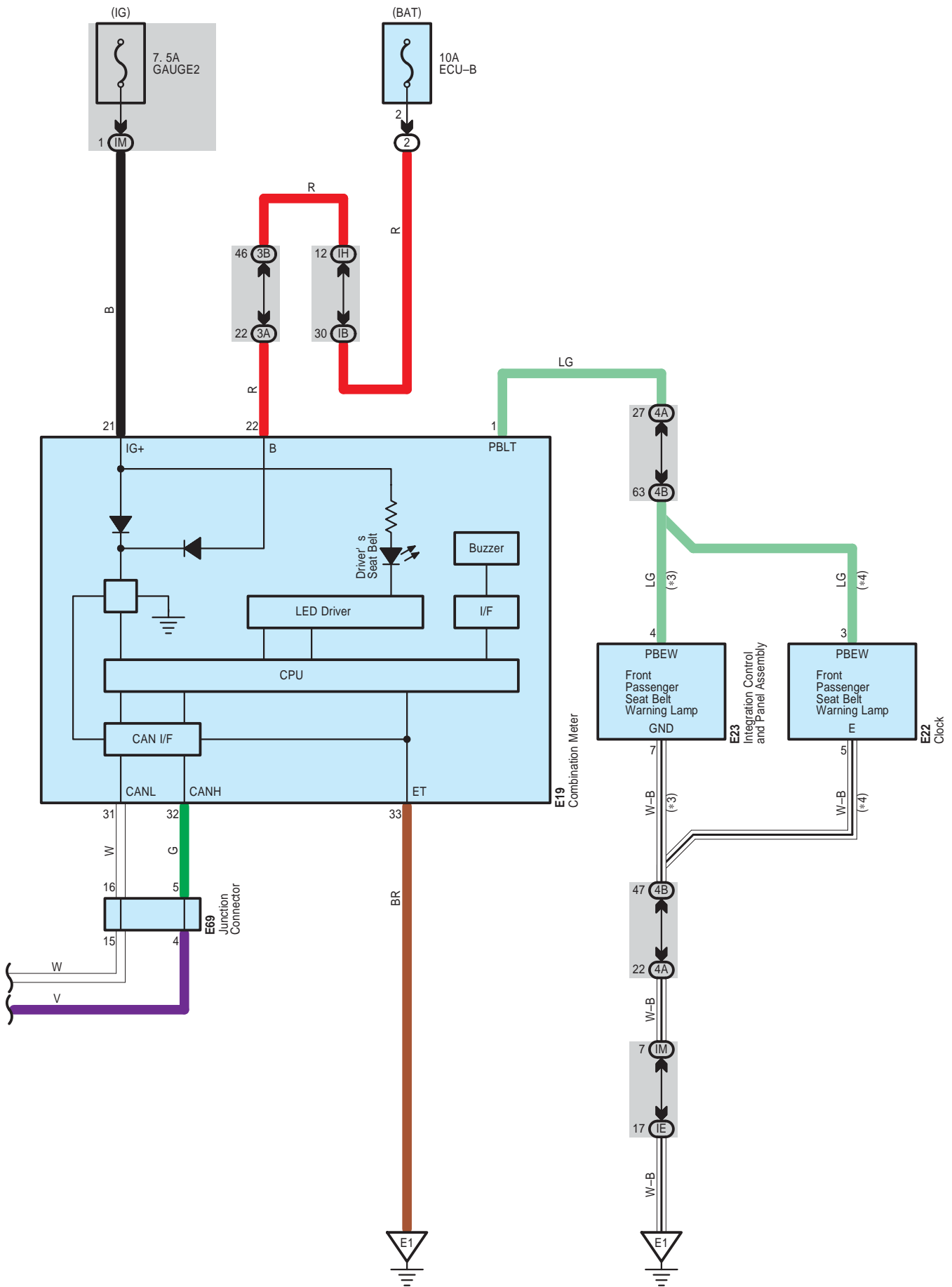
Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IH		
IM		

 : **Ground Points**

Code	See Page	Ground Points Location
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center

Seat Belt Warning





RAV4 (EM03T0U)

Seat Belt Warning

: Parts Location

Code	See Page	Code	See Page	Code	See Page
A19	50 (2GR-FE)	E23	54	K1	A
	52 (2AZ-FE)	E45	C	55	K4
A36	56	E68	55	L1	62
E19	54	E69	55	L2	62
E22	54	E70	55	L7	E

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IC	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IH		
IM		

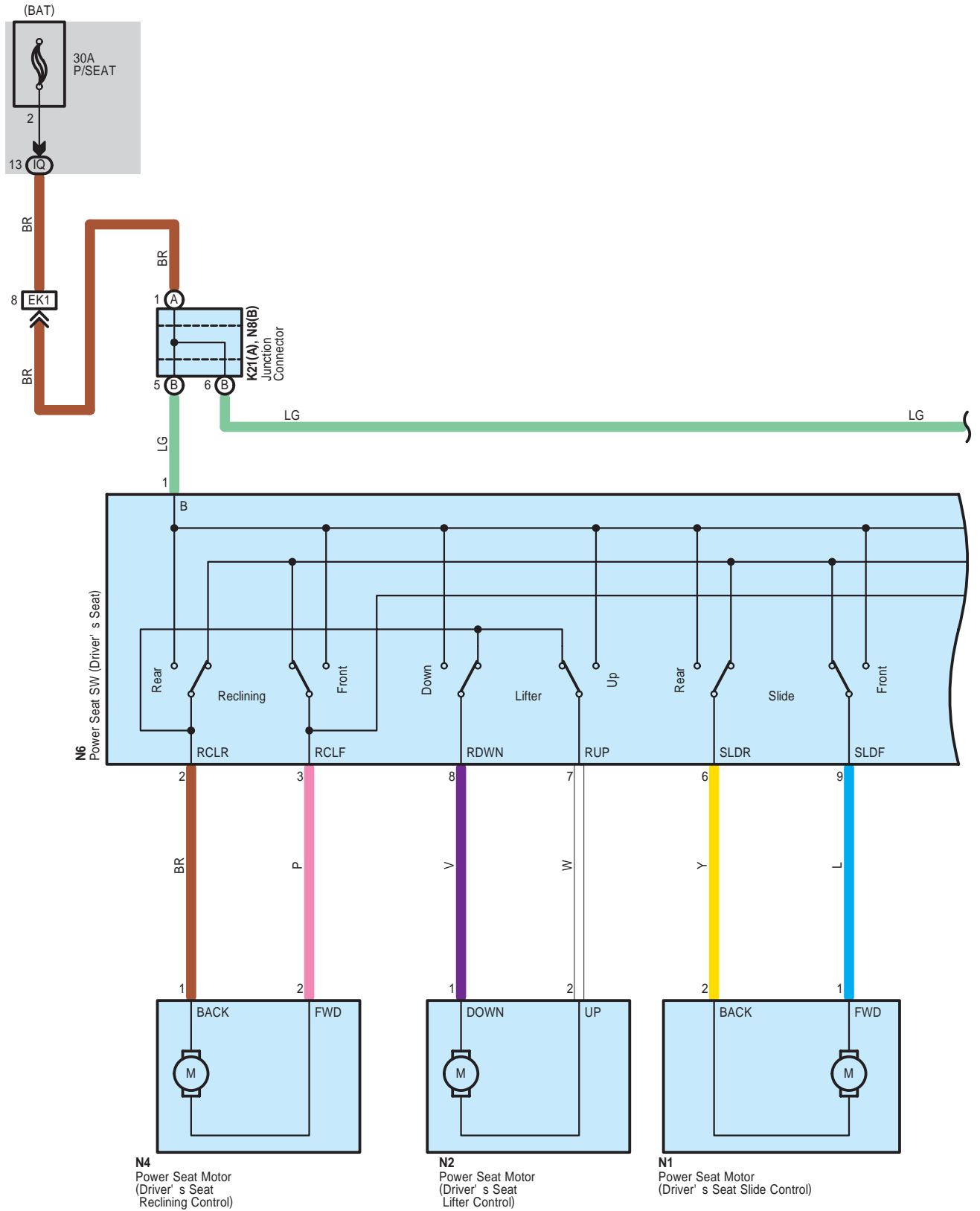
: Connector Joining Wire Harness and Wire Harness

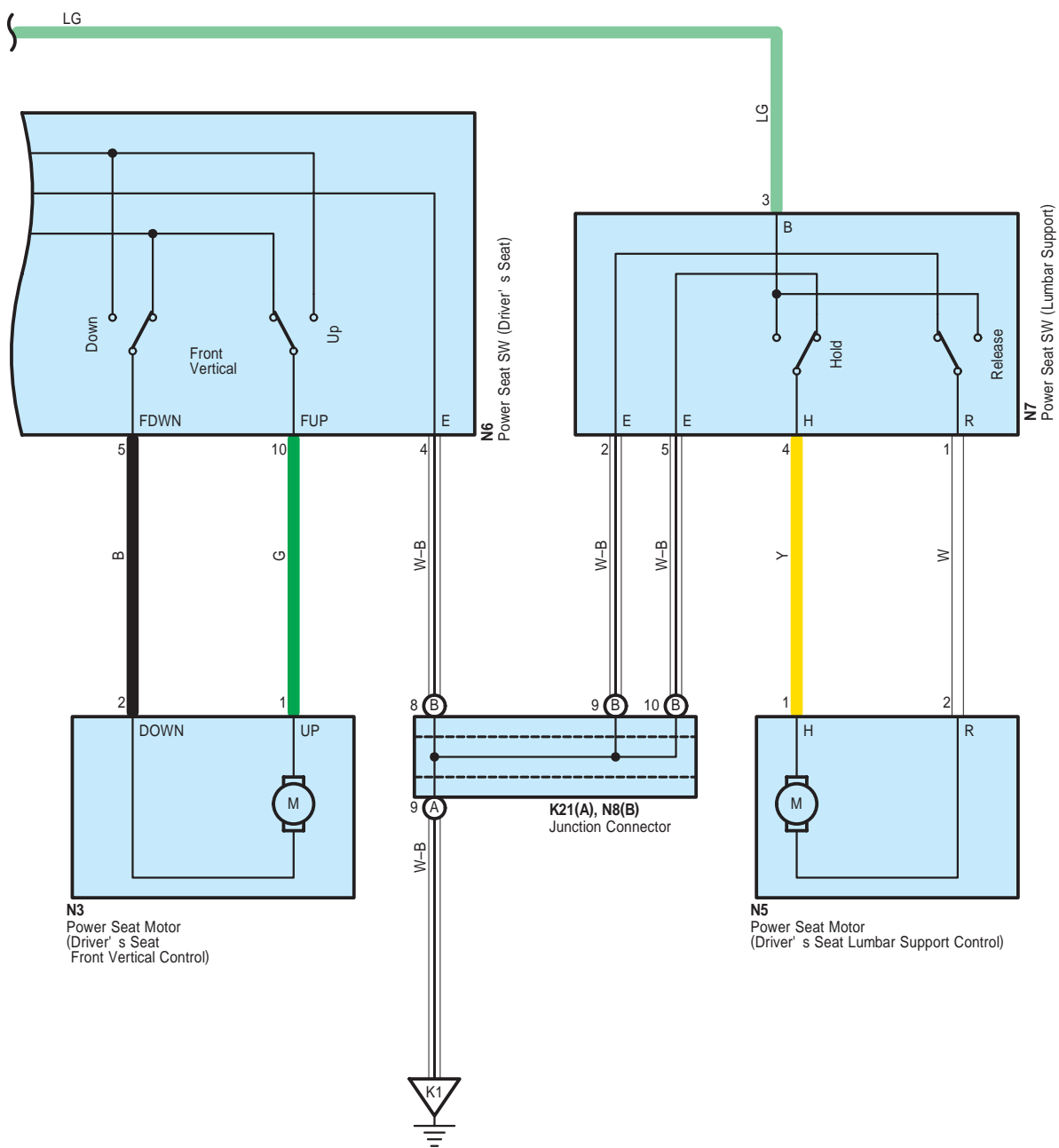
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
EL3	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)

: Ground Points

Code	See Page	Ground Points Location
E1	66	Left Kick Panel
L1	67	Right Center Pillar

Power Seat





Power Seat

 : **Parts Location**

Code		See Page	Code	See Page	Code	See Page
K21	A	62	N3	62	N6	62
N1		62	N4	62	N7	
N2		62	N5	62	N8	B

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
IQ	31	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)

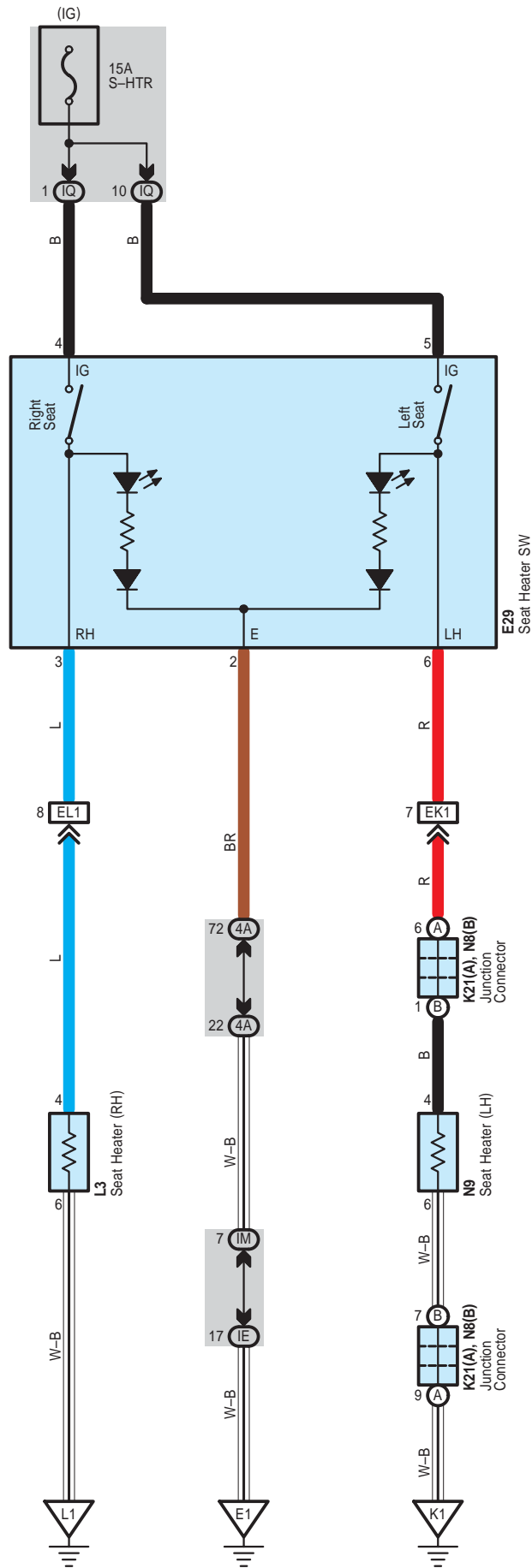
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EK1	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)

 : **Ground Points**

Code	See Page	Ground Points Location
K1	67	Left Center Pillar

Seat Heater



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
E29	54	L3	62	N9	62
K21	A 62	N8	B 62		

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	
IQ		

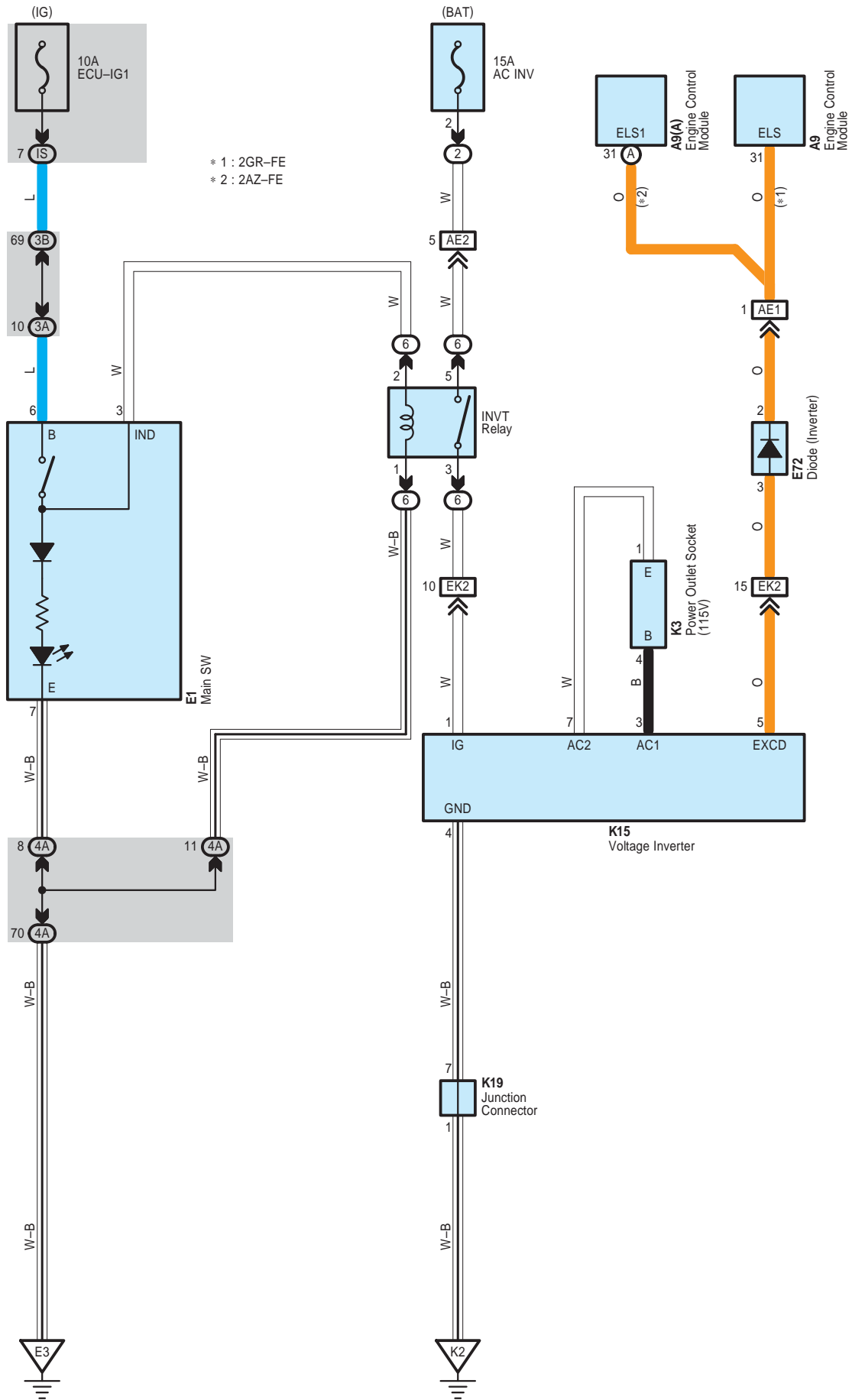
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EK1	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)
EL1	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)

 : **Ground Points**

Code	See Page	Ground Points Location
E1	66	Left Kick Panel
K1	67	Left Center Pillar
L1	67	Right Center Pillar

Power Outlet – 115V



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
A9	A	50 (2GR-FE)	E72	55	K19
		52 (2AZ-FE)	K3	57	
E1		54	K15	59	

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE) 27 (2AZ-FE)	Engine Room R/B No.2 (Engine Compartment Right)
6	28	R/B No.6 (Cowl Side Left)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IS	31	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)

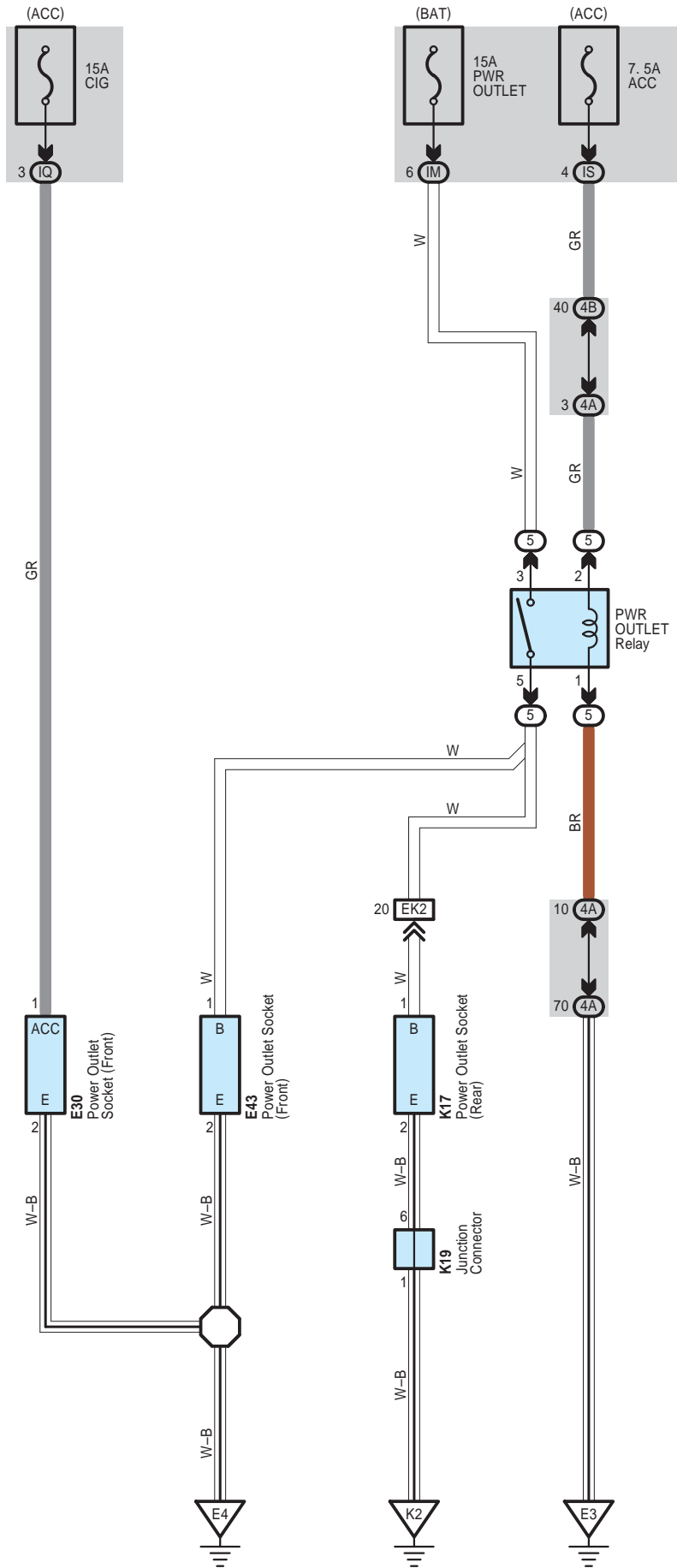
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE1	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE2		
EK2	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)

 : **Ground Points**

Code	See Page	Ground Points Location
E3	66	Instrument Panel Reinforcement Center
K2	67	Left Quarter Panel

Power Outlet – 12V



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
E30	54	K17	59		
E43	55	K19	59		

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
5	28	R/B No.5 (Cowl Side Left)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IM	31	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IQ		
IS		

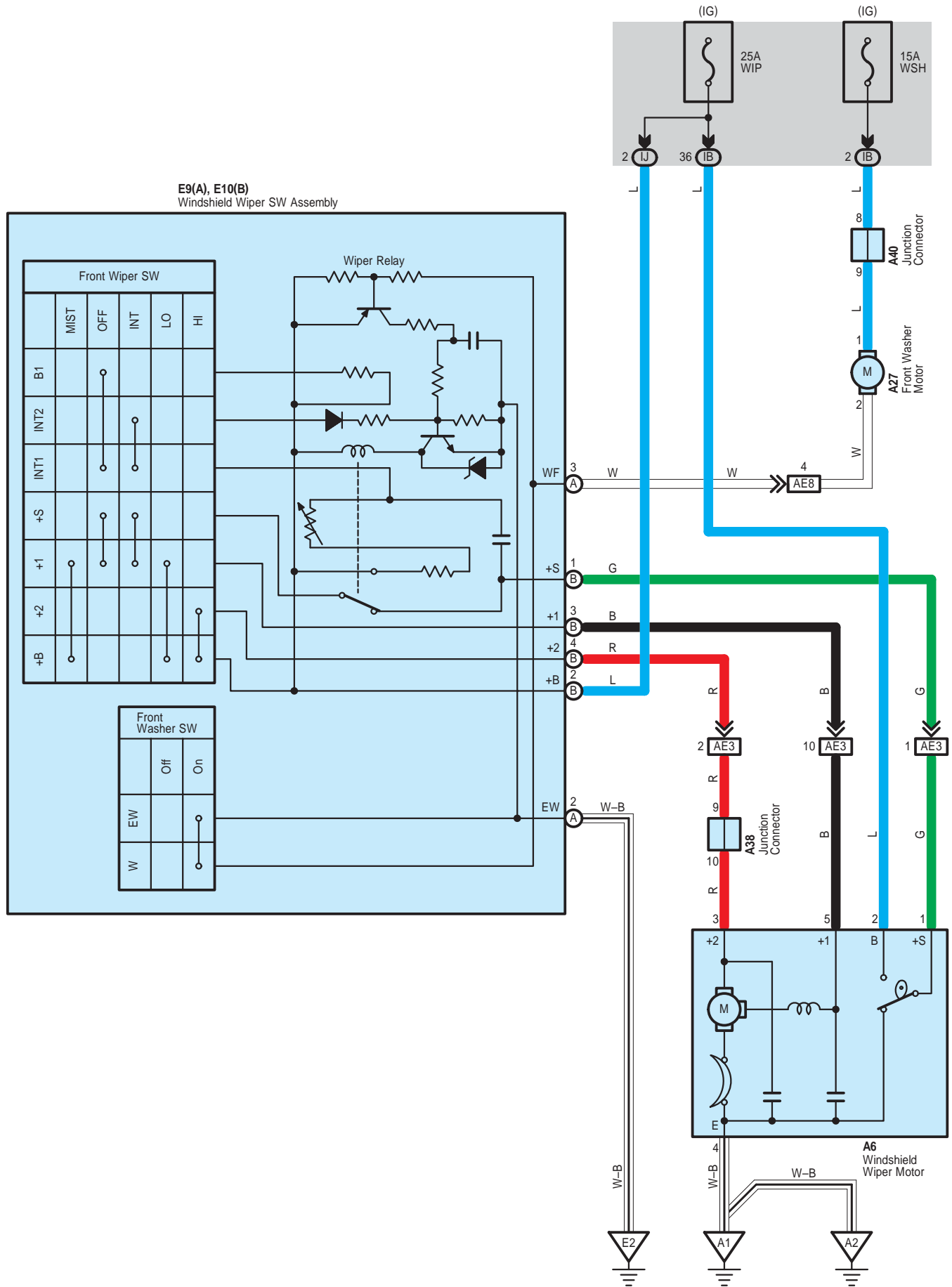
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EK2	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)

 : **Ground Points**

Code	See Page	Ground Points Location
E3	66	Instrument Panel Reinforcement Center
E4	66	Right Kick Panel
K2	67	Left Quarter Panel

Front Wiper and Washer



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
A6	50 (2GR-FE)	A27	52 (2AZ-FE)	A40 52 (2AZ-FE)	
	52 (2AZ-FE)	A38	56	E9	A 54
A27	50 (2GR-FE)	A40	50 (2GR-FE)	E10	B 54

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IJ	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)

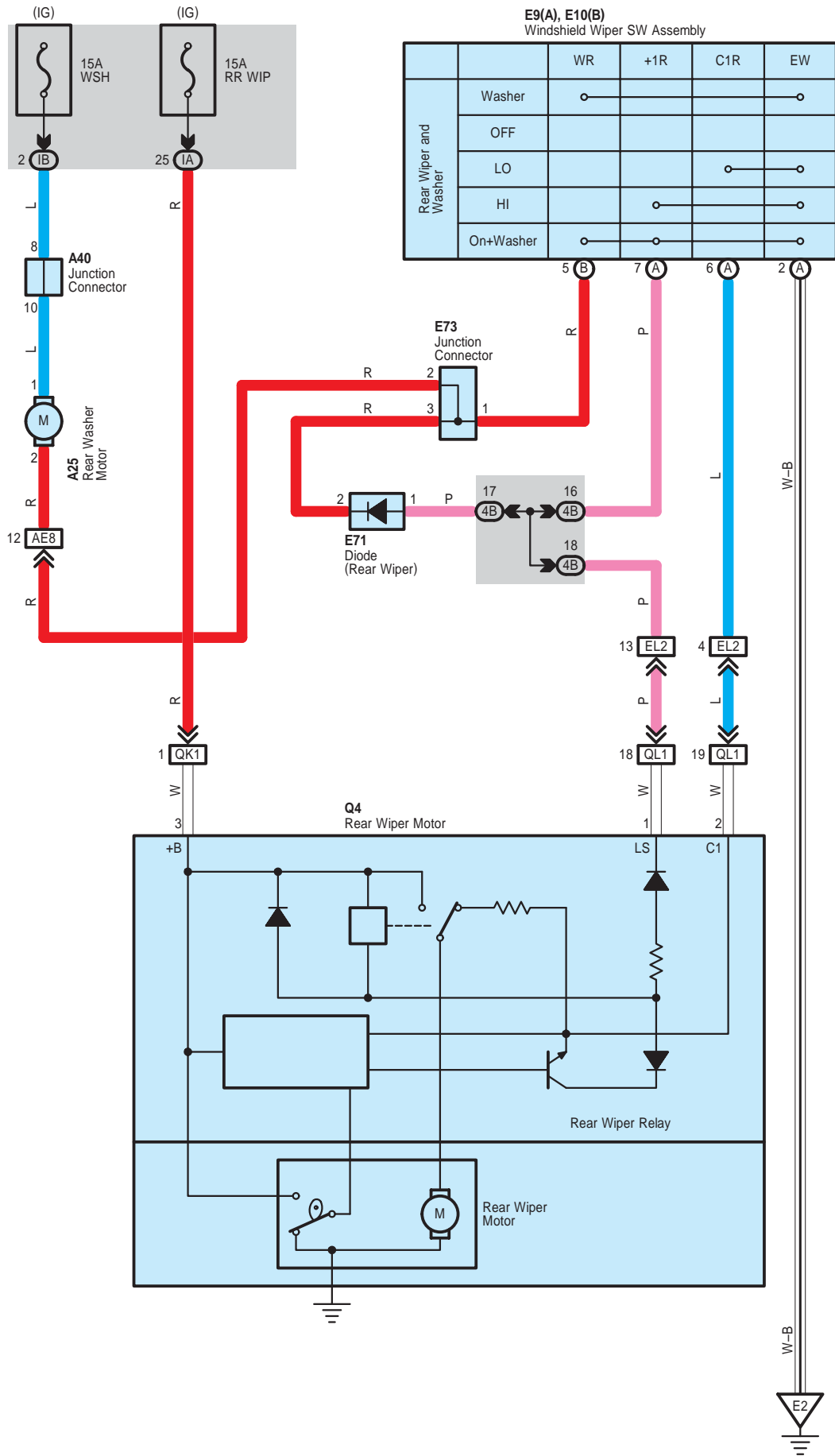
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE3	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE8	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)

 : **Ground Points**

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
A2	64 (2GR-FE)	
	65 (2AZ-FE)	
E2	66	Instrument Panel Reinforcement Left

Rear Wiper and Washer



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page	
A25	50 (2GR-FE)	A40	52 (2AZ-FE)	E71	55	
	52 (2AZ-FE)	E9	A	54	E73	55
A40	50 (2GR-FE)	E10	B	54	Q4	61

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
4B	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)

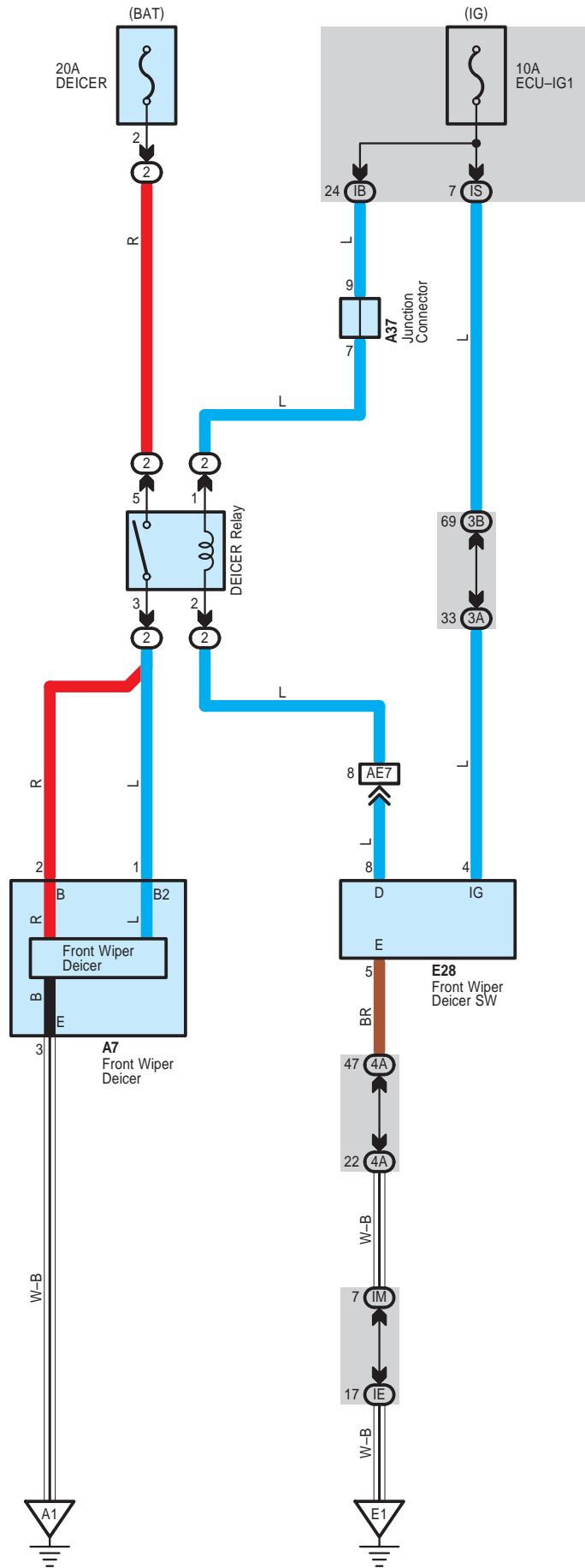
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE8	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)
EL2	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)
QK1	67	Back Door No.1 Wire and Floor Wire (Right Rear Quarter Panel)
QL1	67	Back Door No.2 Wire and Floor No.2 Wire (Right Rear Quarter Panel)

 : **Ground Points**

Code	See Page	Ground Points Location
E2	66	Instrument Panel Reinforcement Left

Front Window Deicer



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
A7	50 (2GR-FE)	A37	56		
	52 (2AZ-FE)	E28	54		

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	
IS		

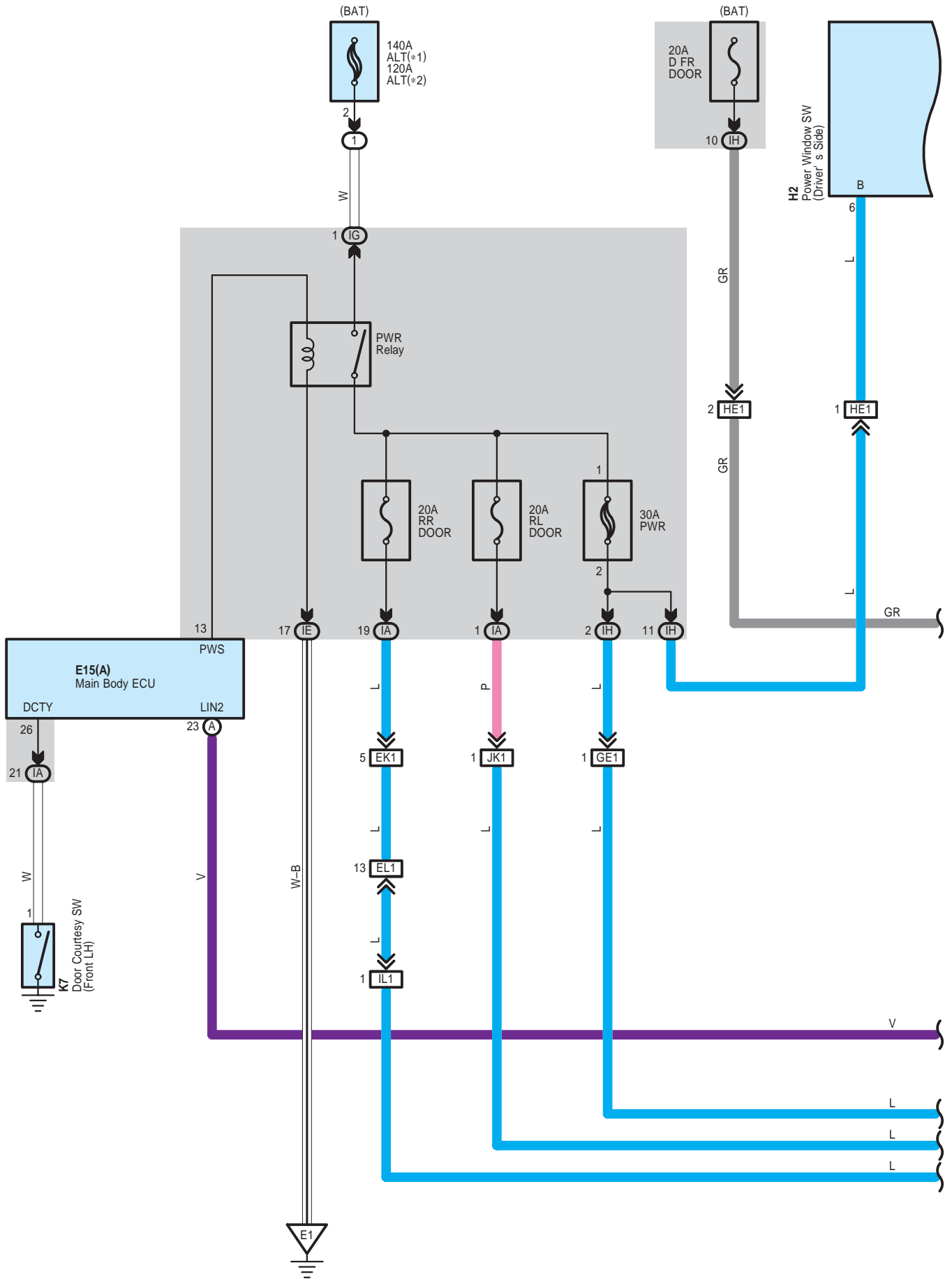
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE7	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)

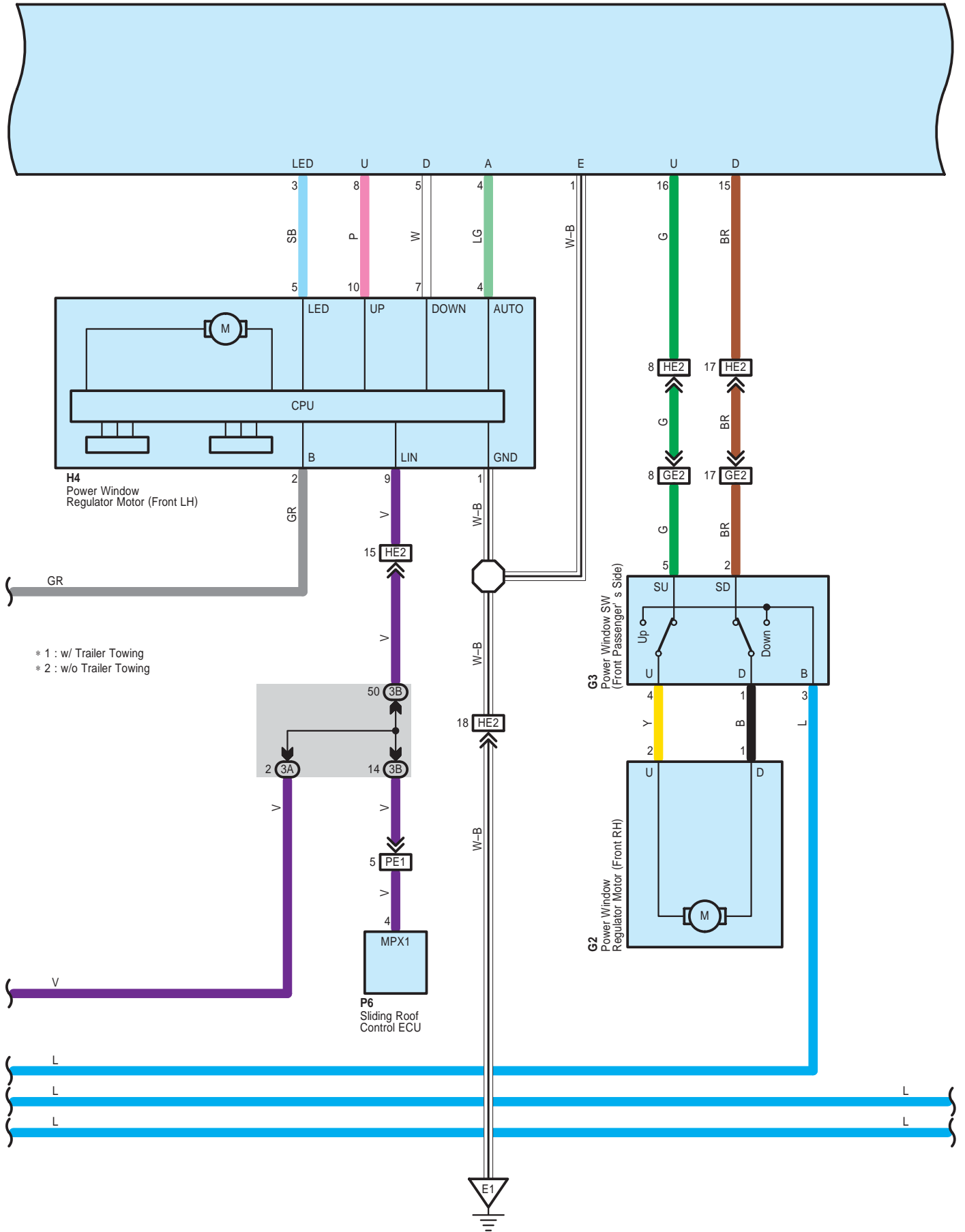
 : **Ground Points**

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
E1	66	Left Kick Panel

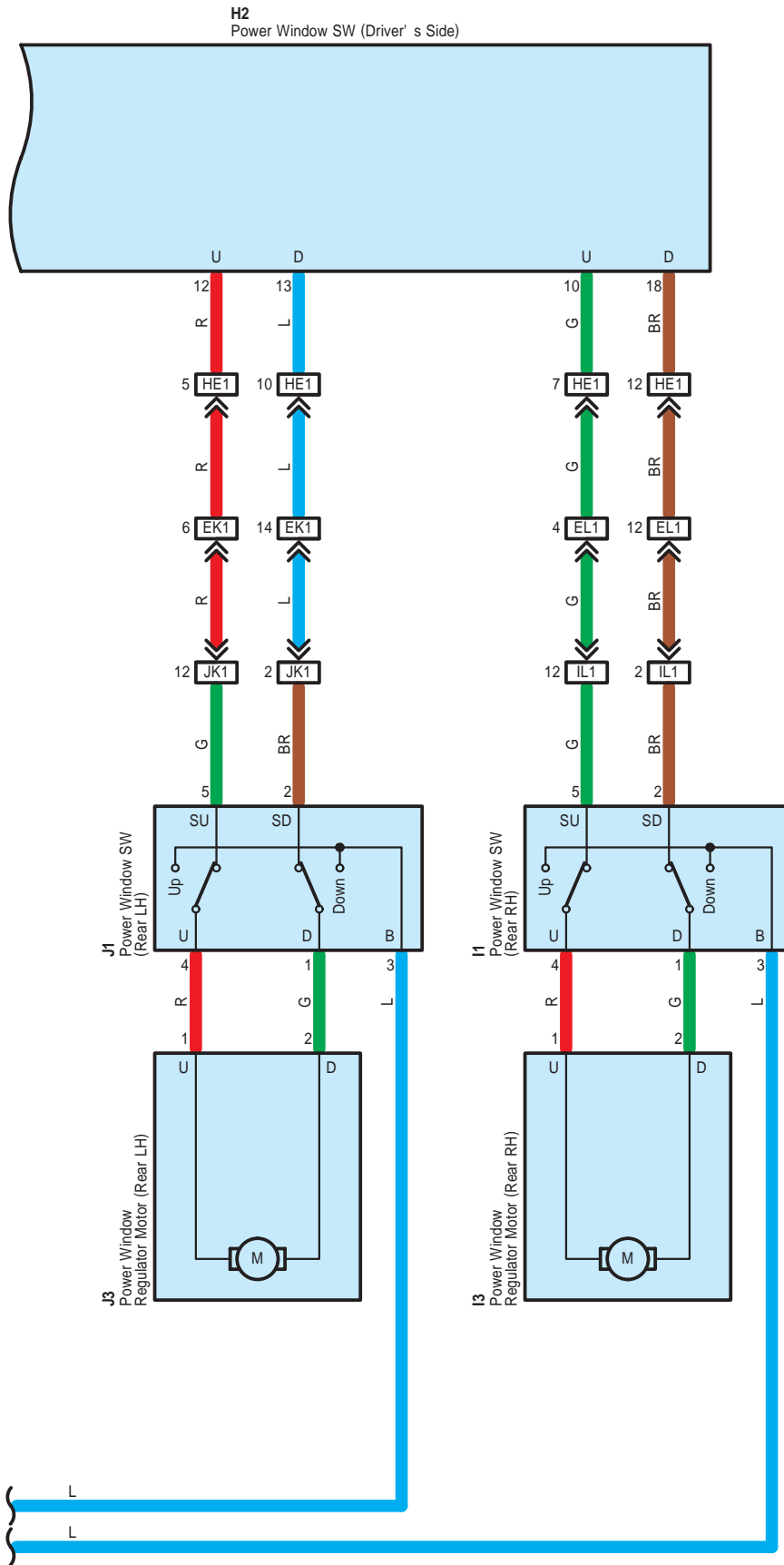
Power Window



H2
Power Window SW (Driver's Side)



Power Window



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page	
E15	A	54	H4	58	J3	58
G2	58	I1	58	K7	59	
G3	58	I3	58	P6	61	
H2	58	J1	58			

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IG	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IH	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)

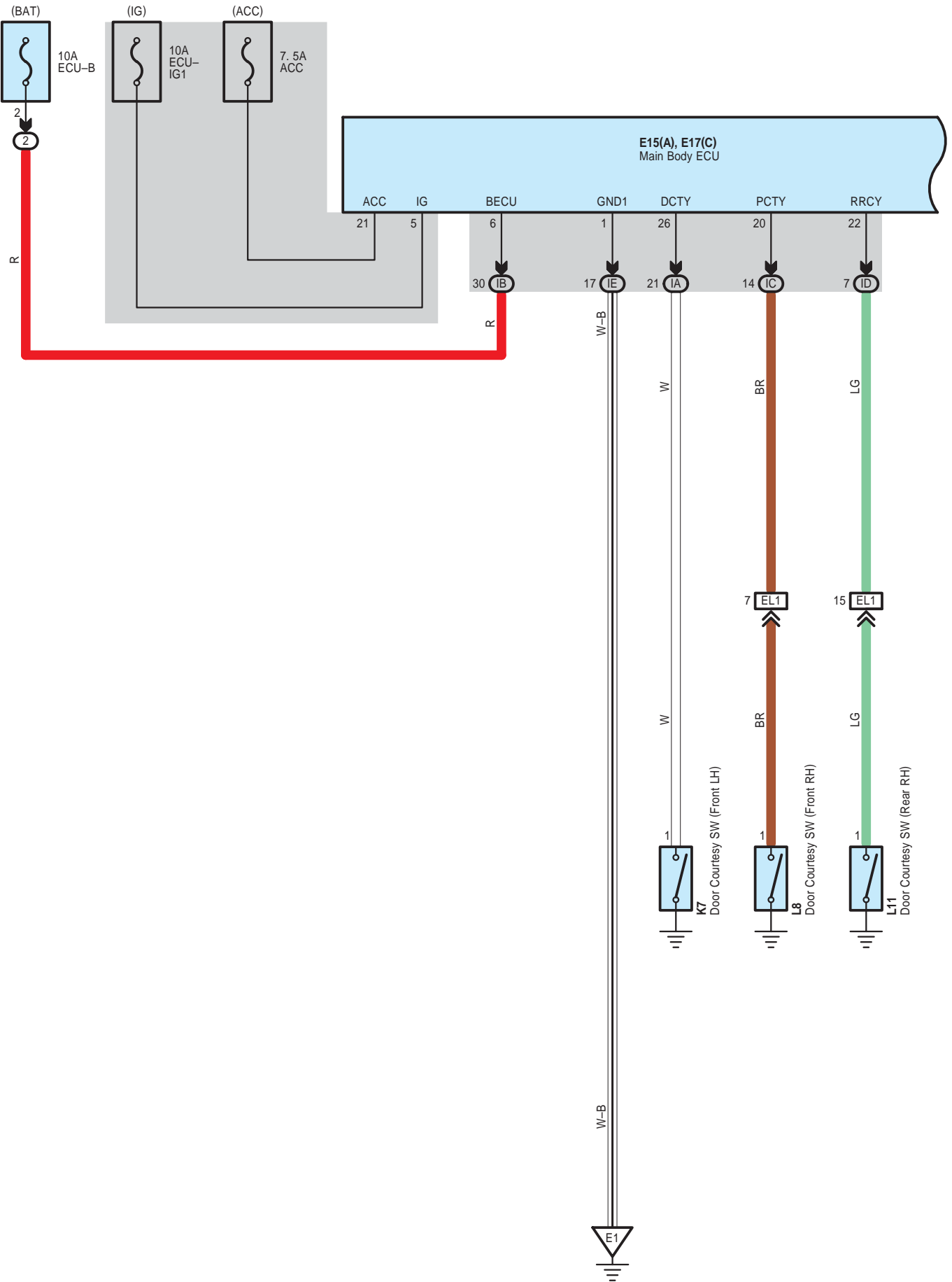
 : **Connector Joining Wire Harness and Wire Harness**

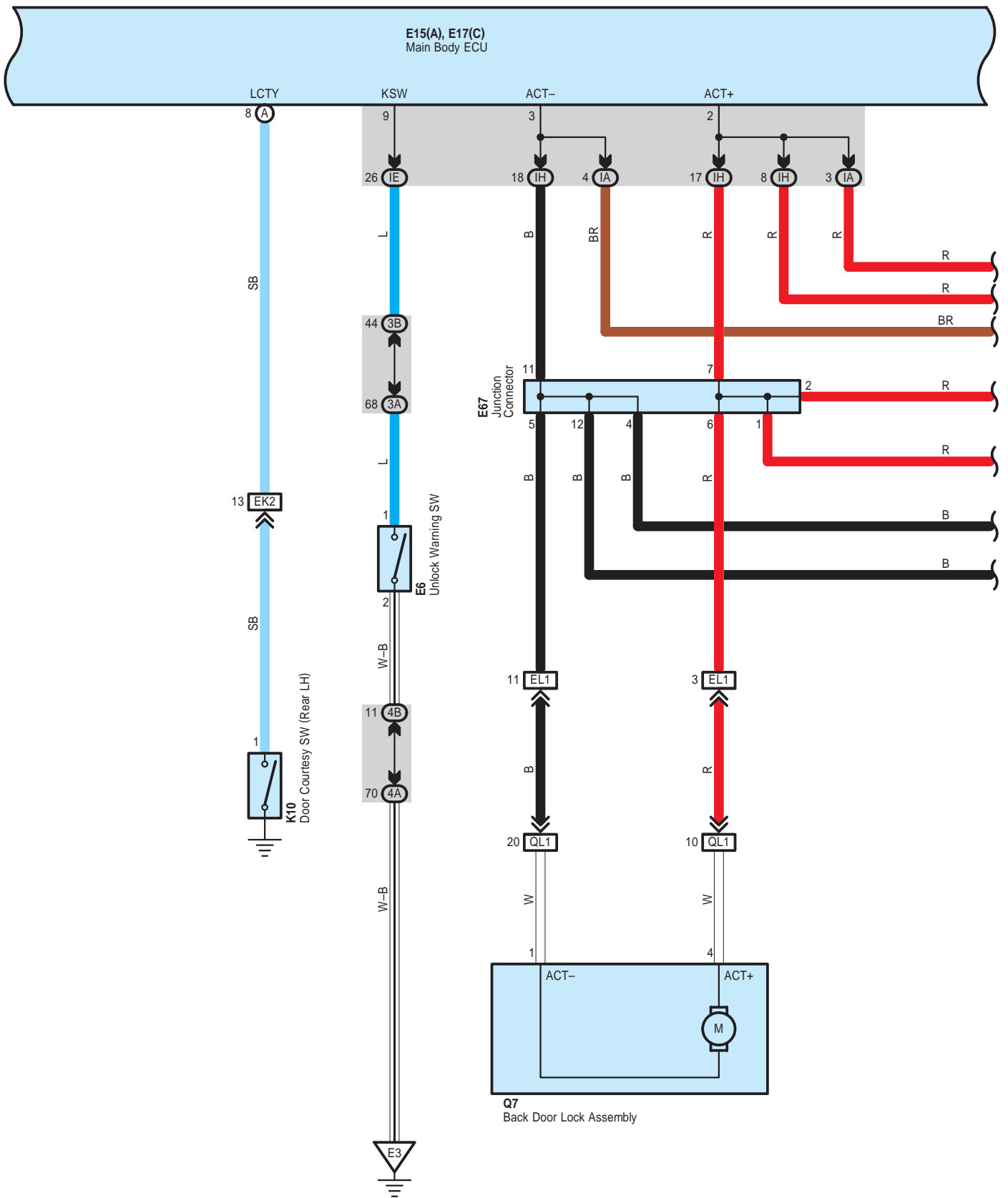
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EK1	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)
EL1	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)
GE1	66	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
GE2		
HE1	66	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
HE2		
IL1	67	Rear Door No.1 RH Wire and Floor No.2 Wire (Right Center Pillar)
JK1	67	Rear Door No.1 LH Wire and Floor Wire (Left Center Pillar)
PE1	66	Roof Wire and Instrument Panel Wire (Left Side of the Instrument Panel)

 : **Ground Points**

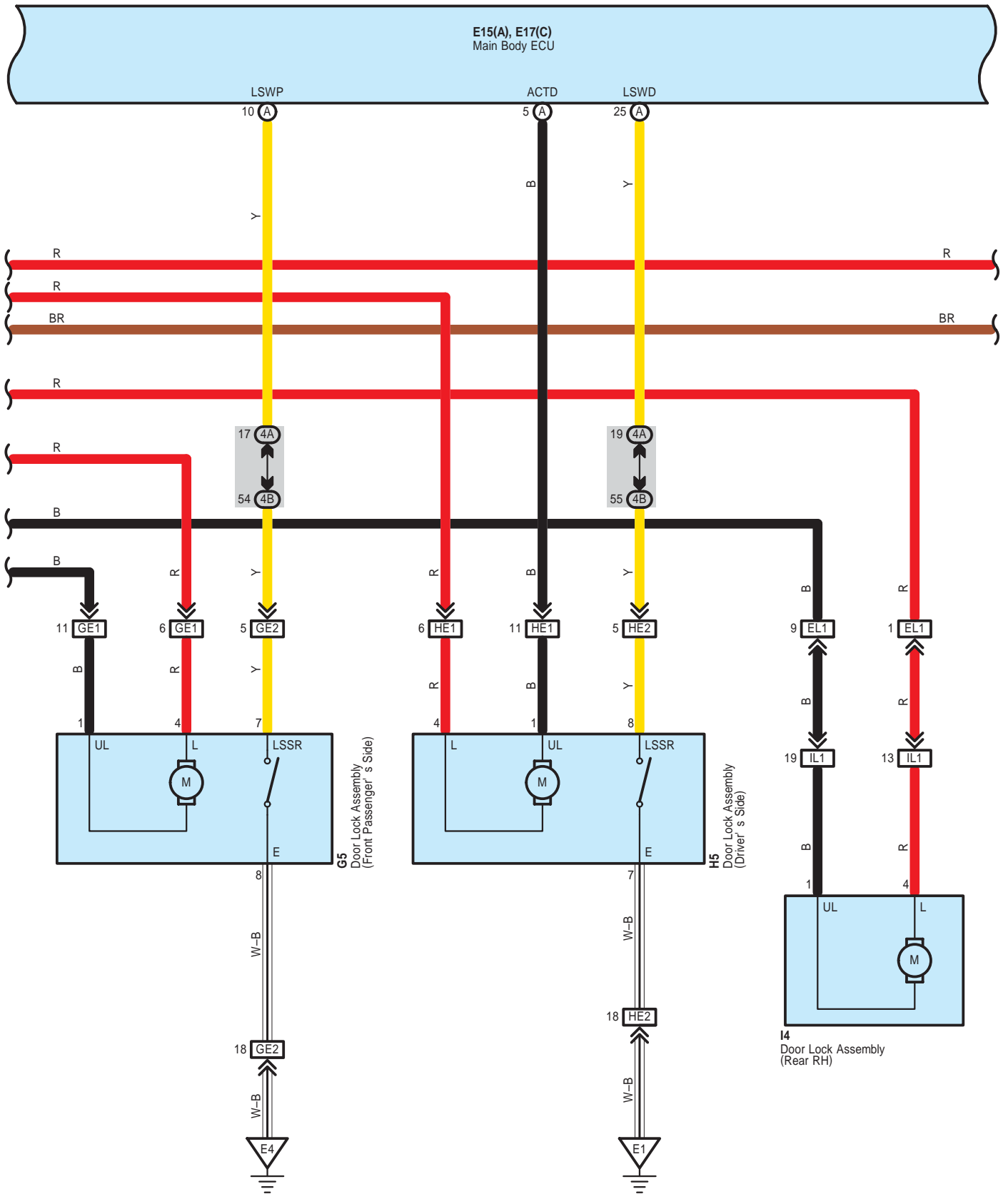
Code	See Page	Ground Points Location
E1	66	Left Kick Panel

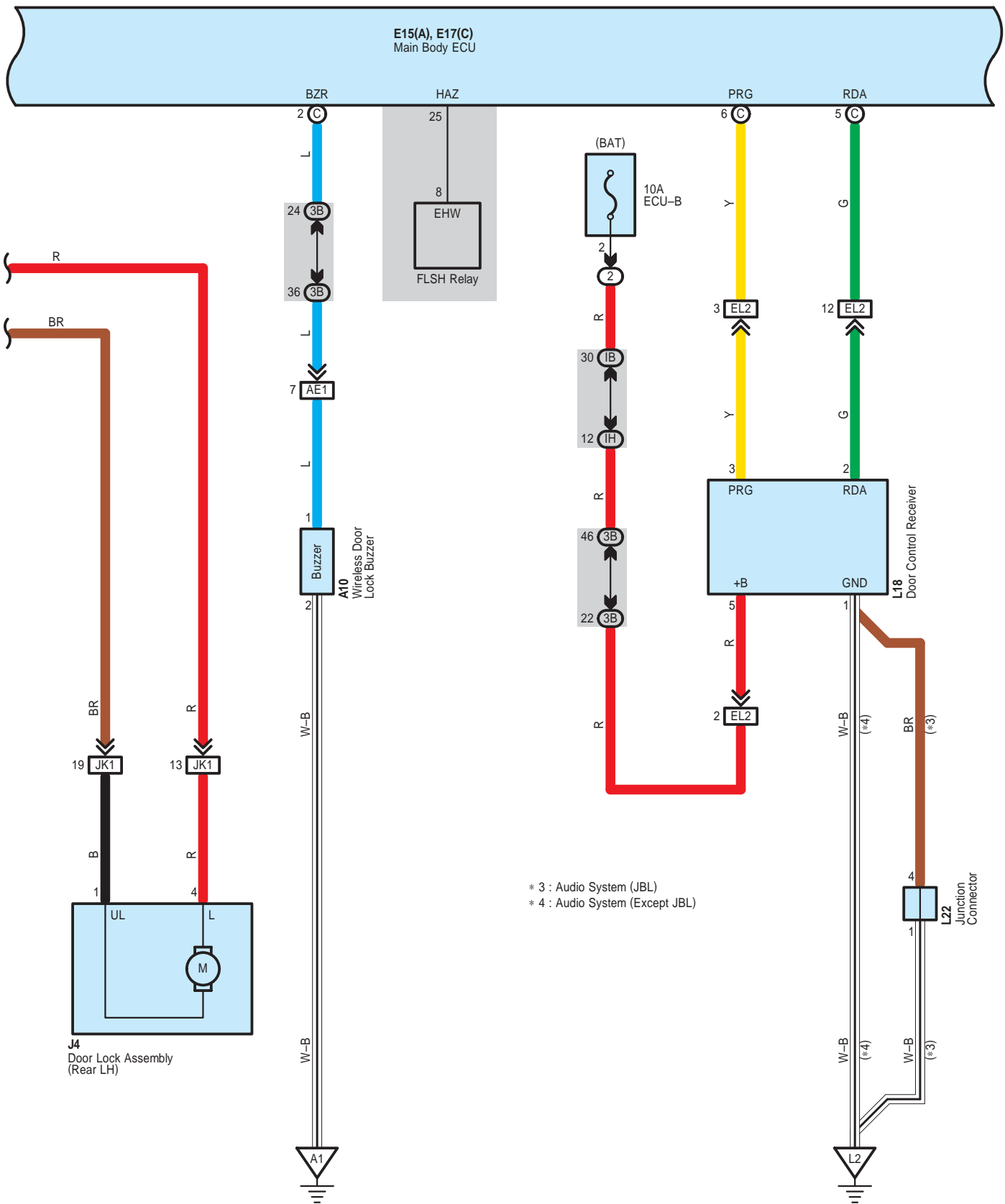
Wireless Door Lock Control



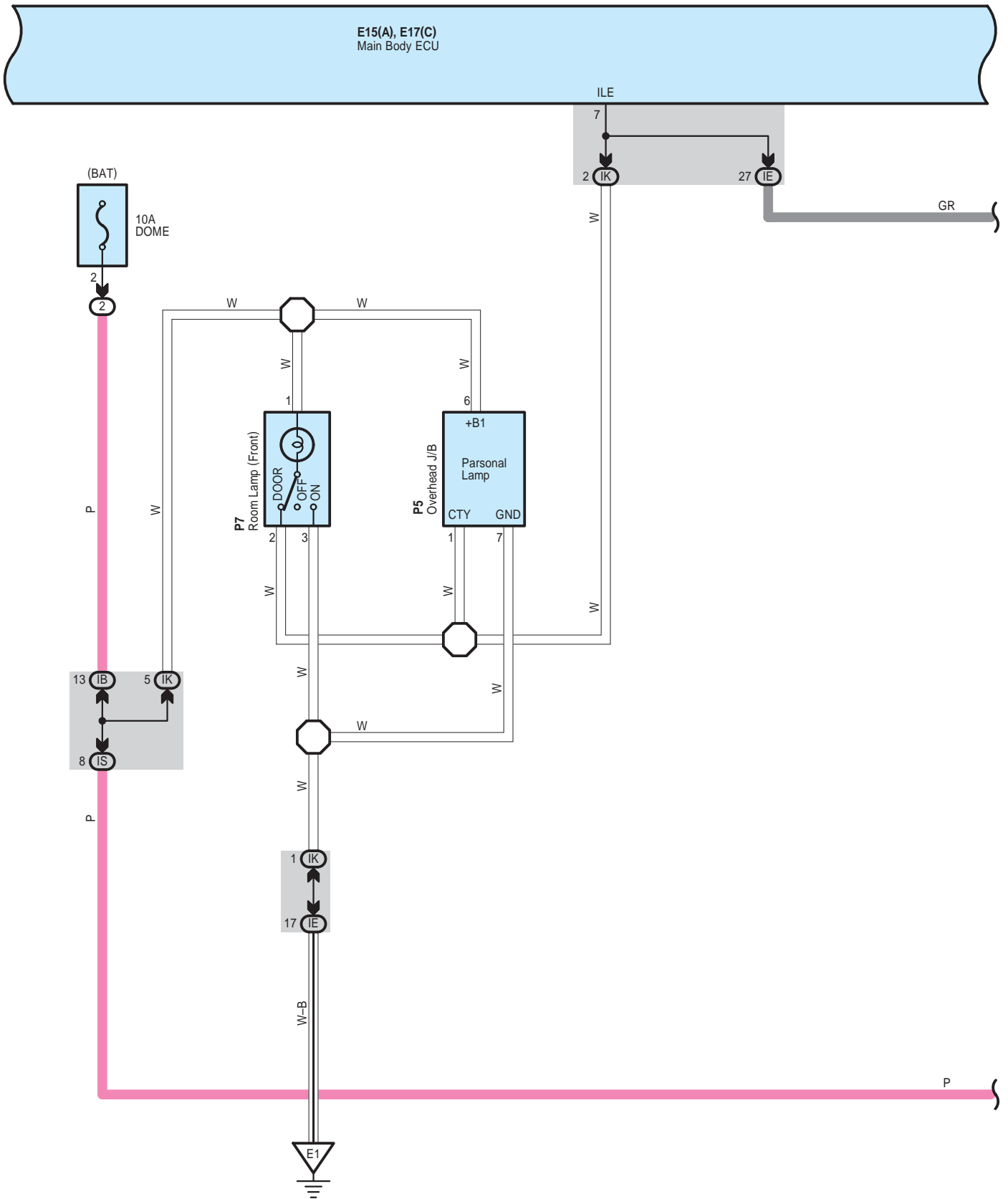


Wireless Door Lock Control

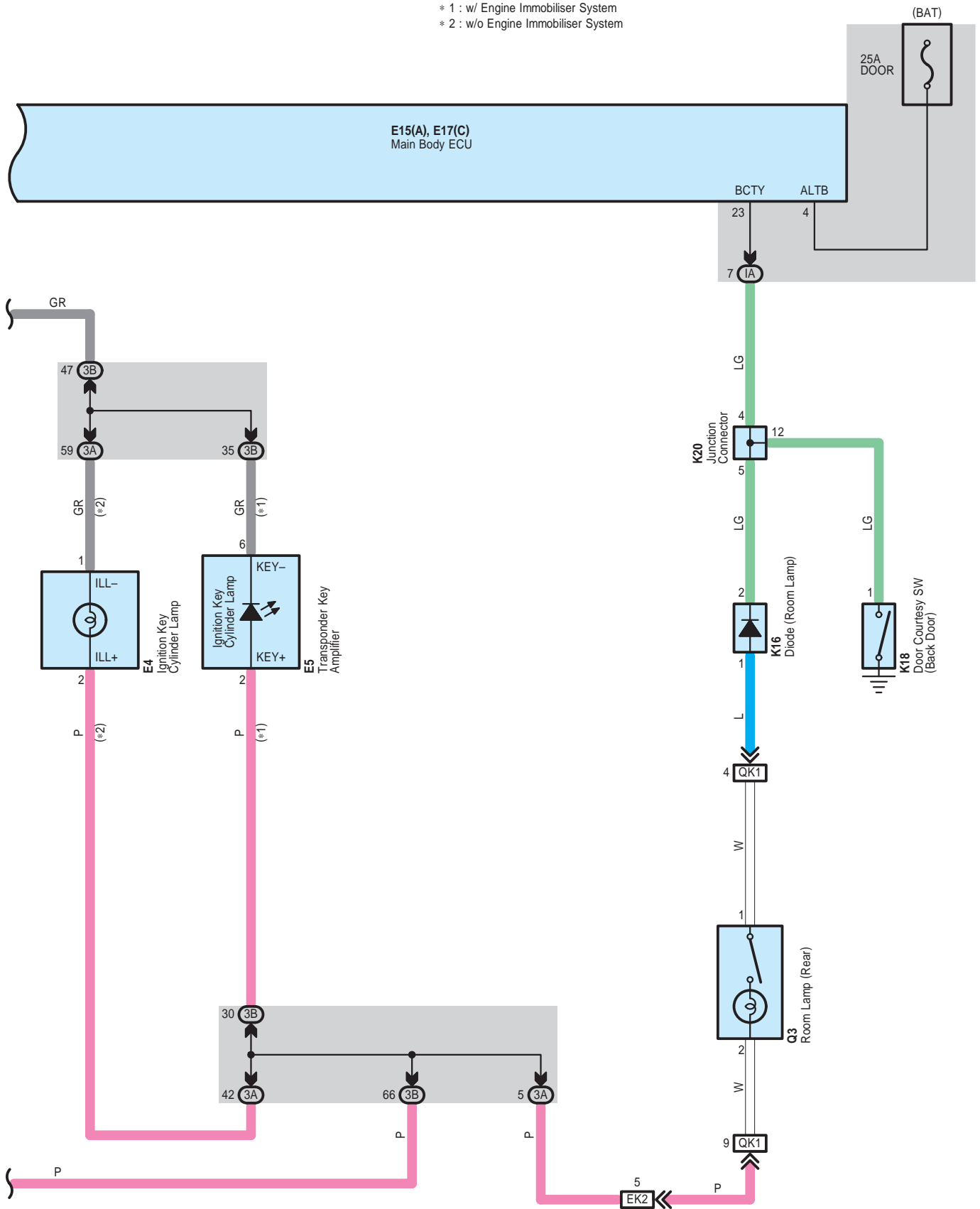




Wireless Door Lock Control



- * 1 : w/ Engine Immobiliser System
- * 2 : w/o Engine Immobiliser System



Wireless Door Lock Control

: Parts Location

Code	See Page	Code	See Page	Code	See Page
A10	50 (2GR-FE)	H5	58	L11	60
	52 (2AZ-FE)	I4	58	L18	60
E4	54	J4	58	L22	60
E5	54	K7	59	P5	61
E6	54	K10	59	P7	61
E15	A 54	K16	59	Q3	61
E17	C 54	K18	59	Q7	61
E67	55	K20	59		
G5	58	L8	60		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IC	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
ID		
IE		
IH		
IK	30	Roof Wire and Instrument Panel J/B (Cowl Side Left)
IS	31	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)

: Connector Joining Wire Harness and Wire Harness

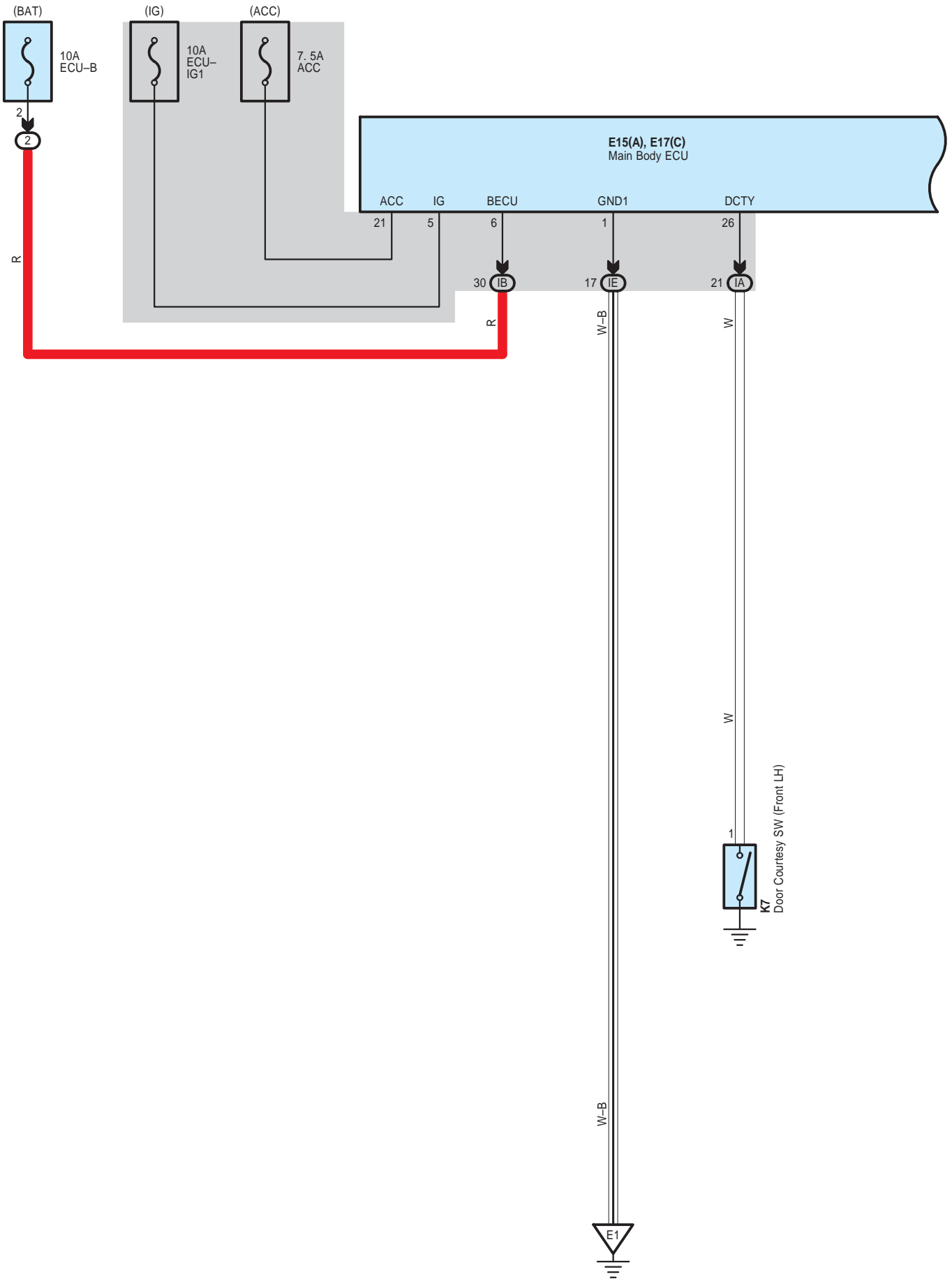
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE1	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
EK2	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)
EL1	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)
EL2		
GE1	66	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
GE2		
HE1	66	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
HE2		
IL1	67	Rear Door No.1 RH Wire and Floor No.2 Wire (Right Center Pillar)
JK1	67	Rear Door No.1 LH Wire and Floor Wire (Left Center Pillar)
QK1	67	Back Door No.1 Wire and Floor Wire (Right Rear Quarter Panel)
QL1	67	Back Door No.2 Wire and Floor No.2 Wire (Right Rear Quarter Panel)

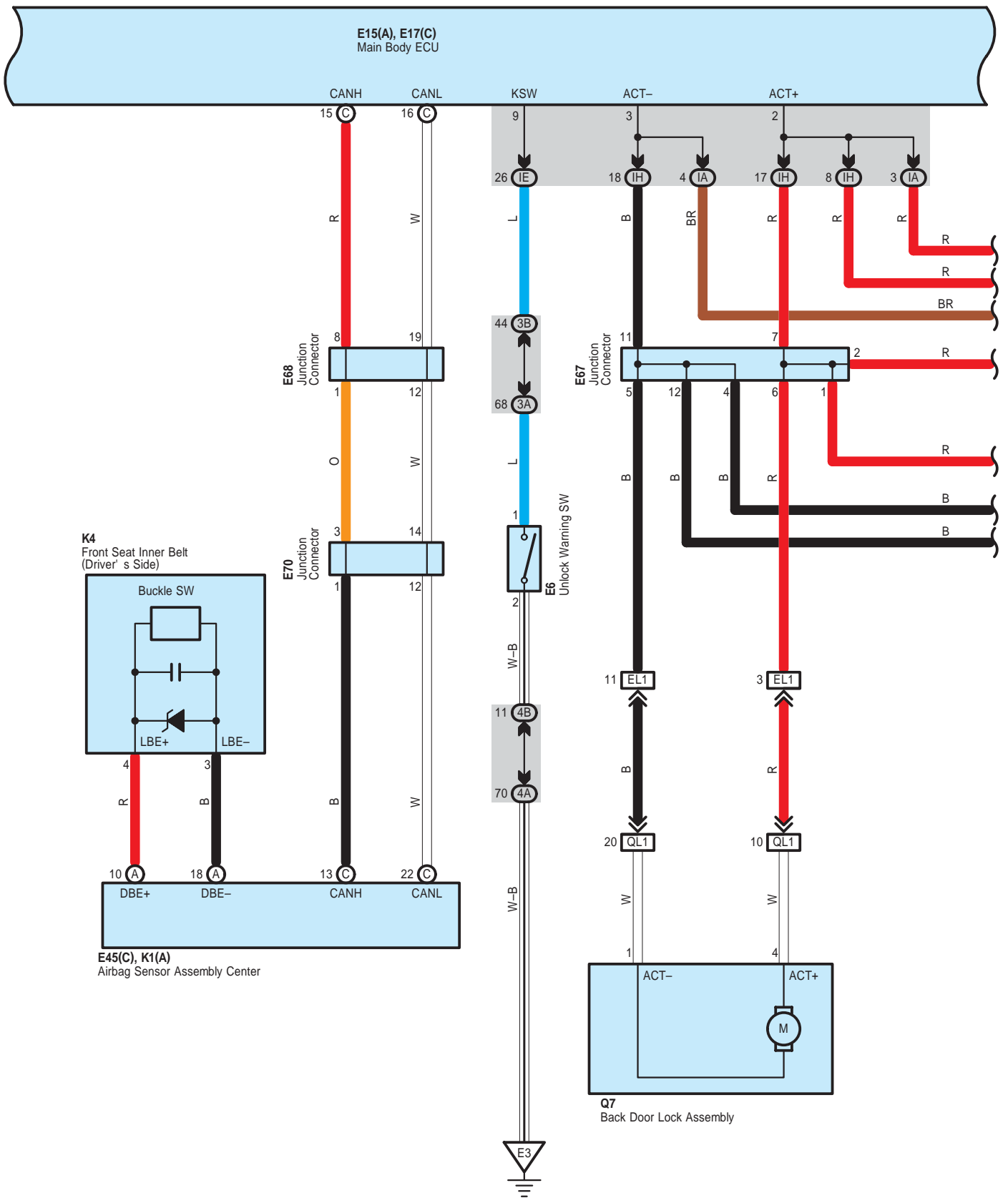


: Ground Points

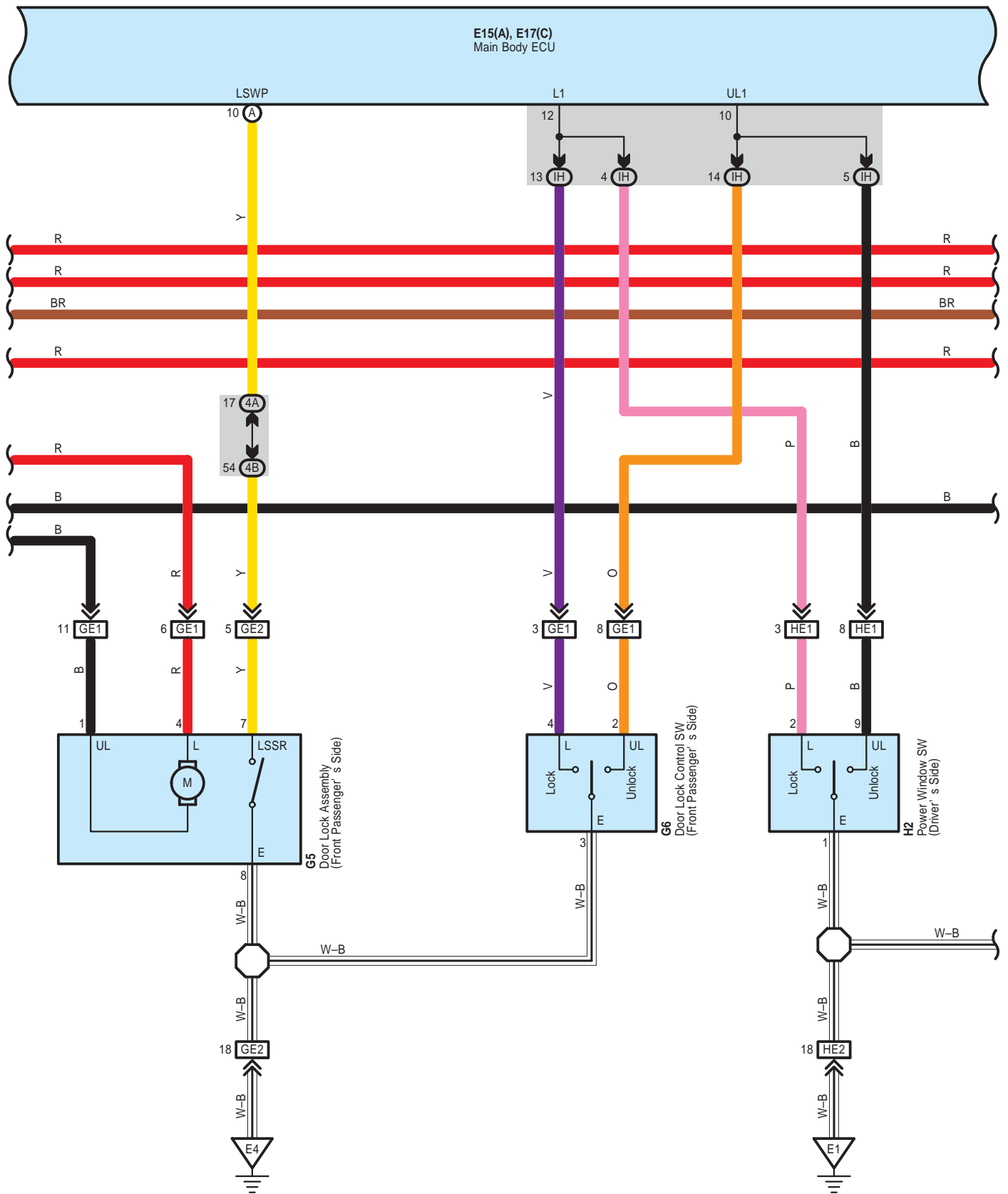
Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center
E4	66	Right Kick Panel
L2	67	Right Quarter Panel

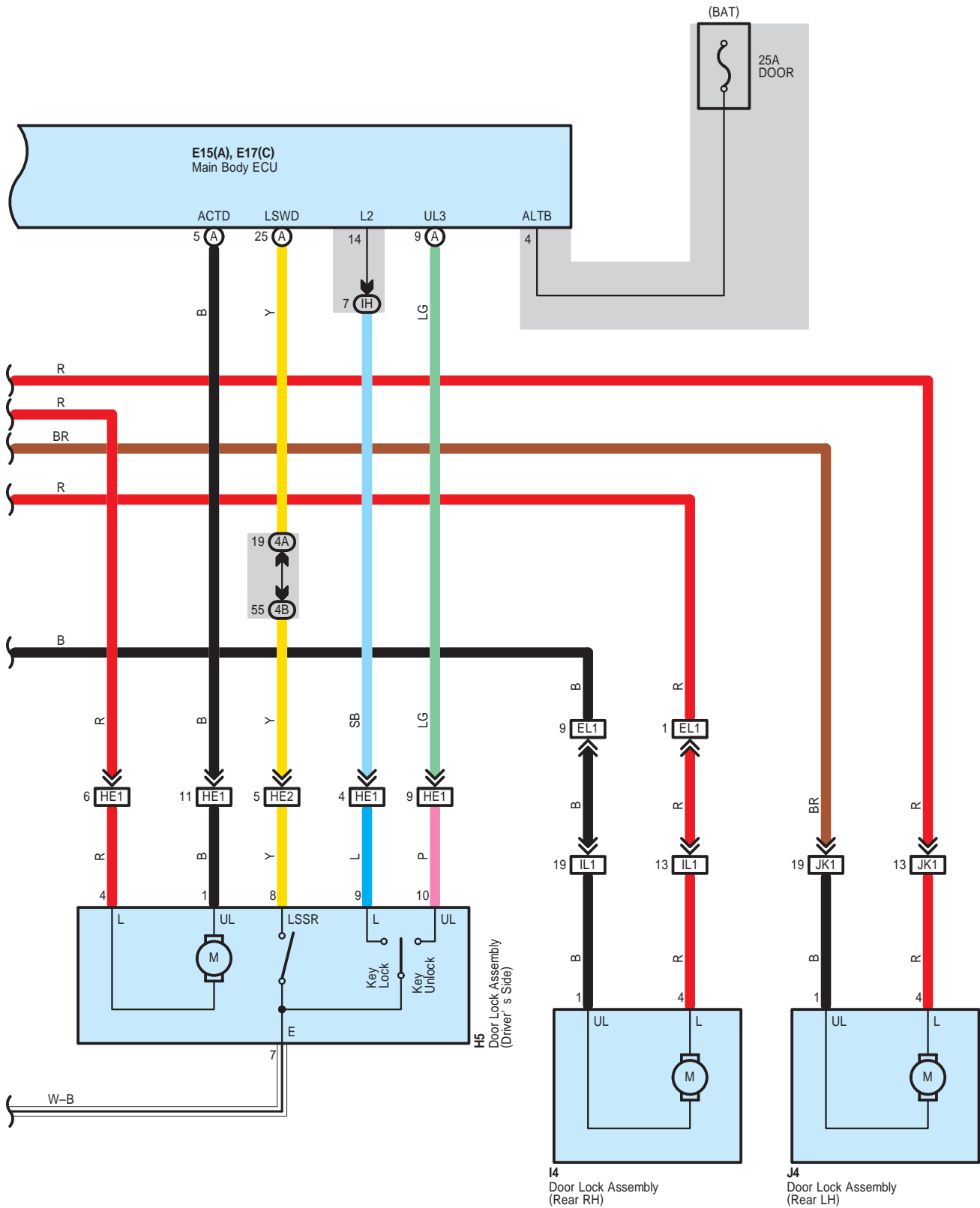
Door Lock Control





Door Lock Control





Door Lock Control

: Parts Location

Code	See Page	Code	See Page	Code	See Page
E6	54	E70	55	J4	58
E15	A 54	G5	58	K1	A 57
E17	C 54	G6	58	K4	62
E45	C 55	H2	58	K7	59
E67	55	H5	58	Q7	61
E68	55	I4	58		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE) 27 (2AZ-FE)	Engine Room R/B No.2 (Engine Compartment Right)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IH		

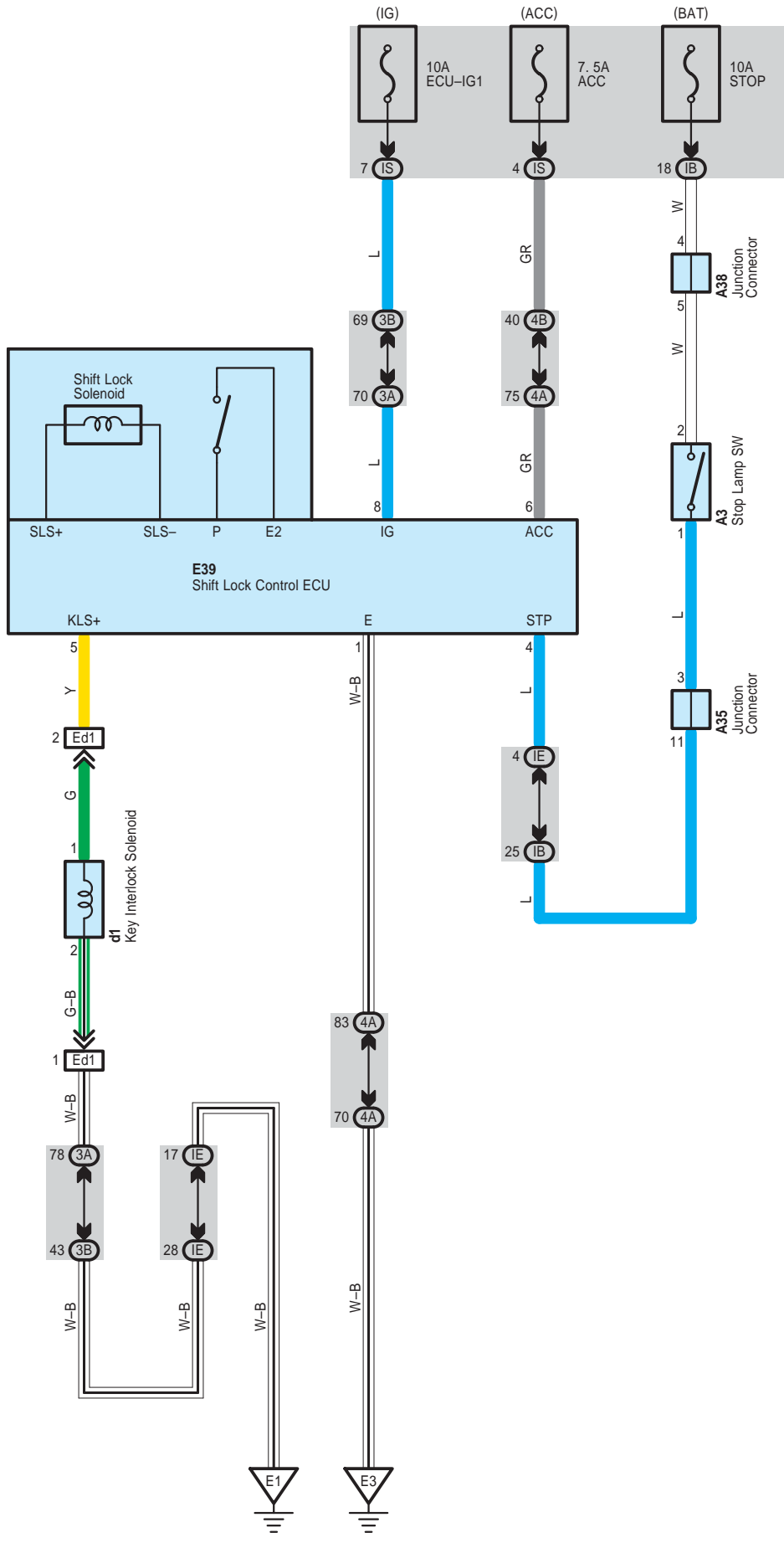
: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EL1	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)
GE1	66	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
GE2		
HE1	66	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
HE2		
IL1	67	Rear Door No.1 RH Wire and Floor No.2 Wire (Right Center Pillar)
JK1	67	Rear Door No.1 LH Wire and Floor Wire (Left Center Pillar)
QL1	67	Back Door No.2 Wire and Floor No.2 Wire (Right Rear Quarter Panel)

: Ground Points

Code	See Page	Ground Points Location
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center
E4	66	Right Kick Panel

Shift Lock



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
A3	56	A38	56	d1	57
A35	56	E39	55		

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IS	31	

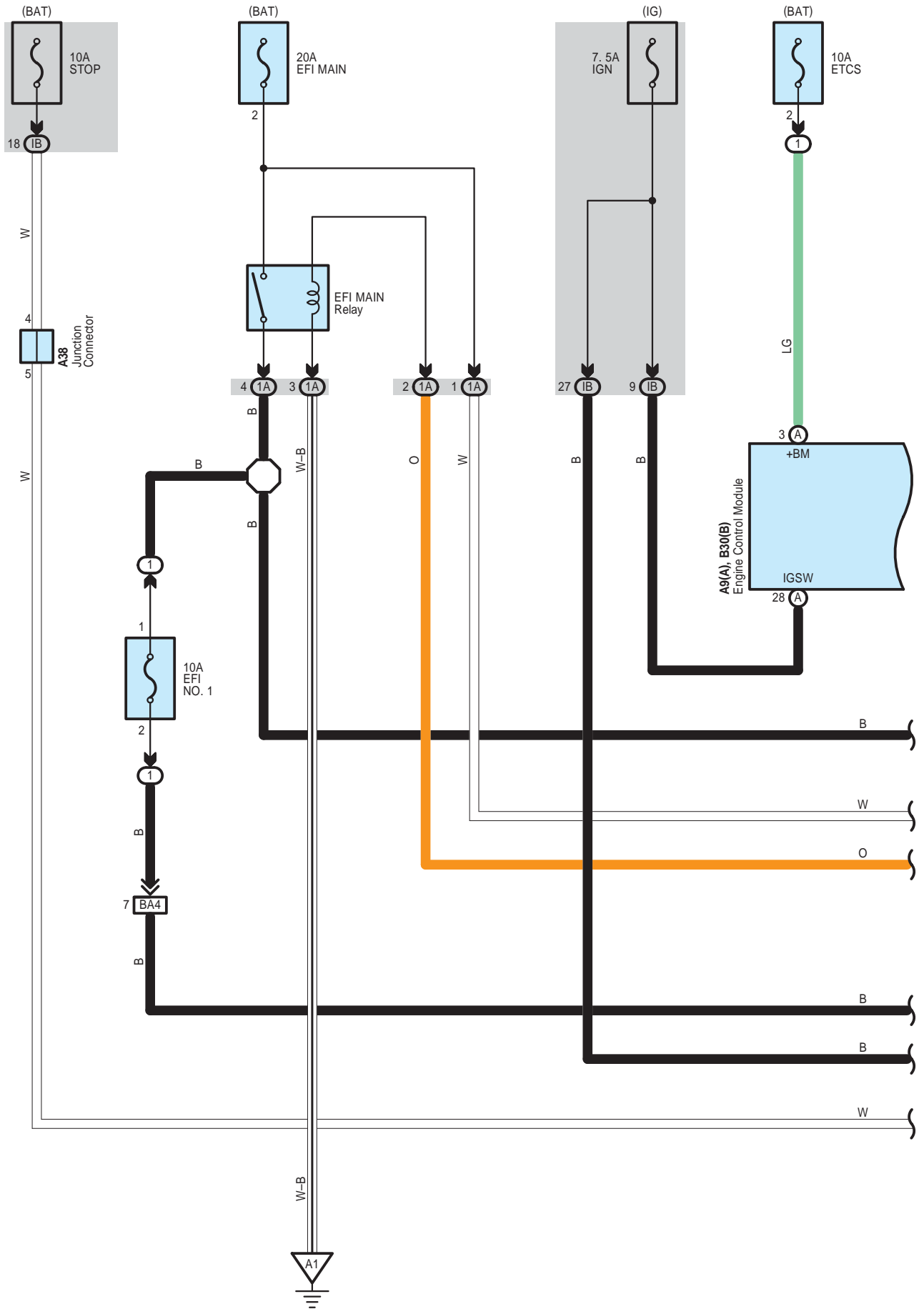
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
Ed1	66	Instrument Panel Wire and Solenoid Wire (Steering Column)

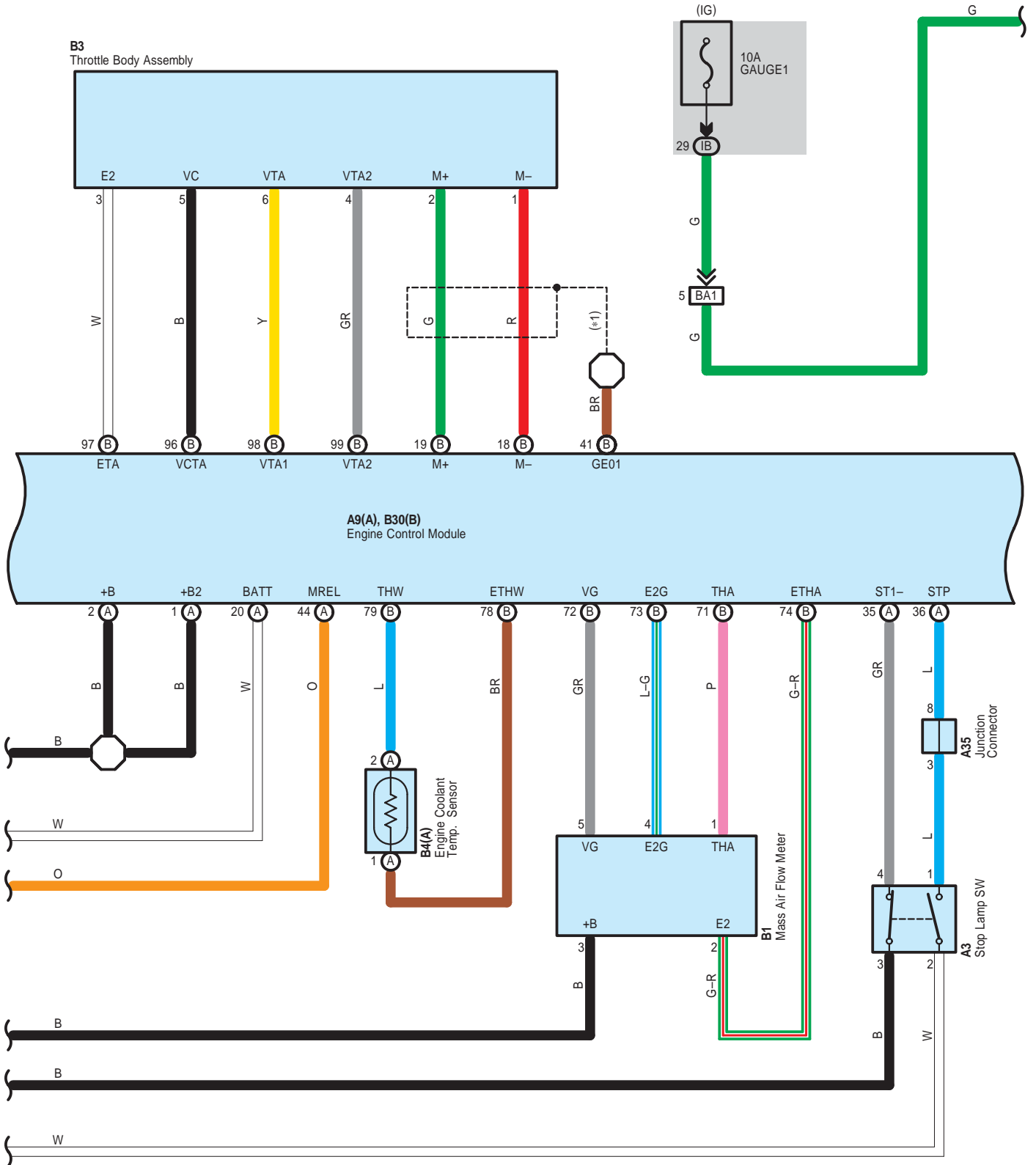
 : **Ground Points**

Code	See Page	Ground Points Location
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center

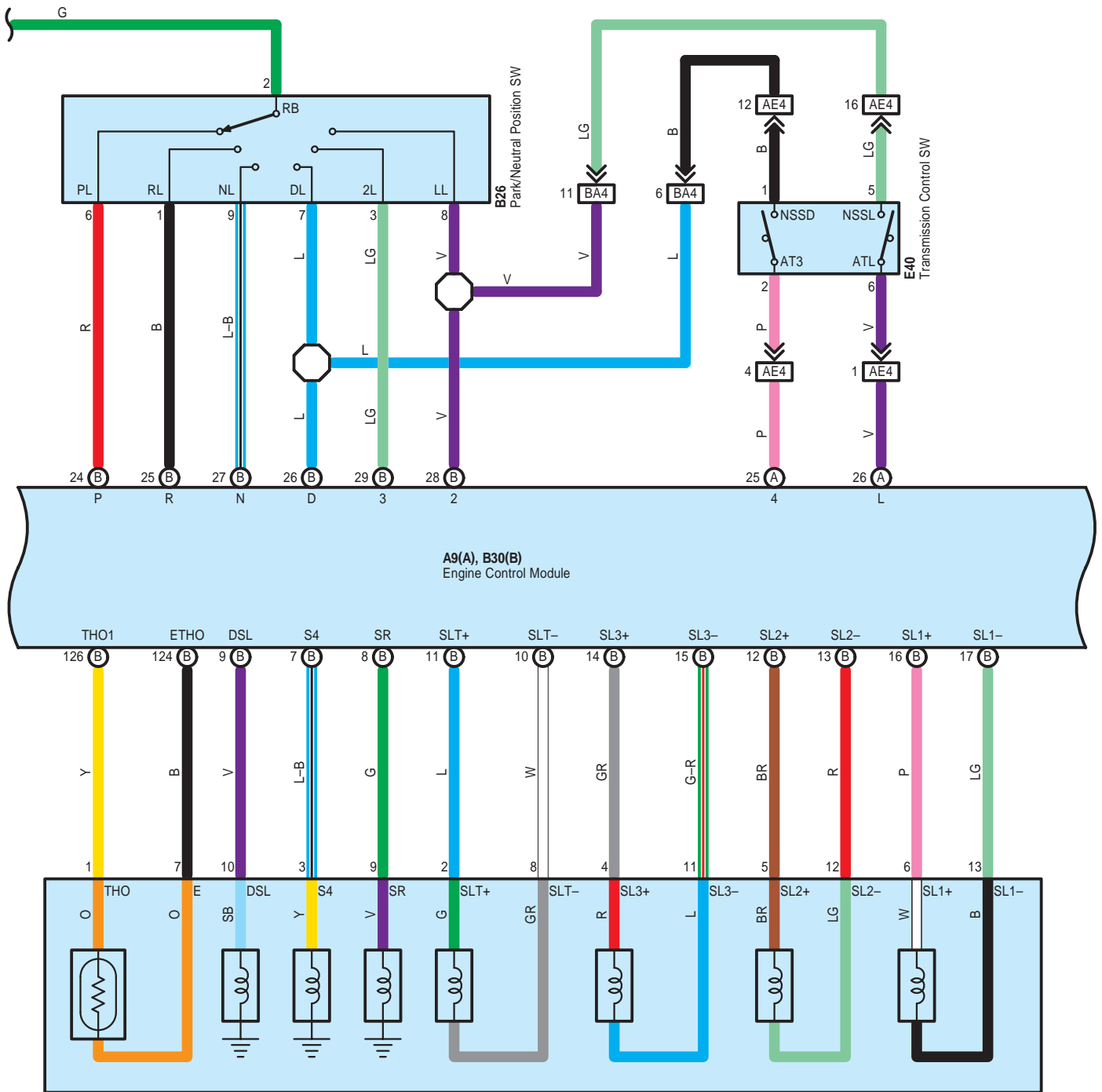
ECT and A/T Indicator for 2GR-FE



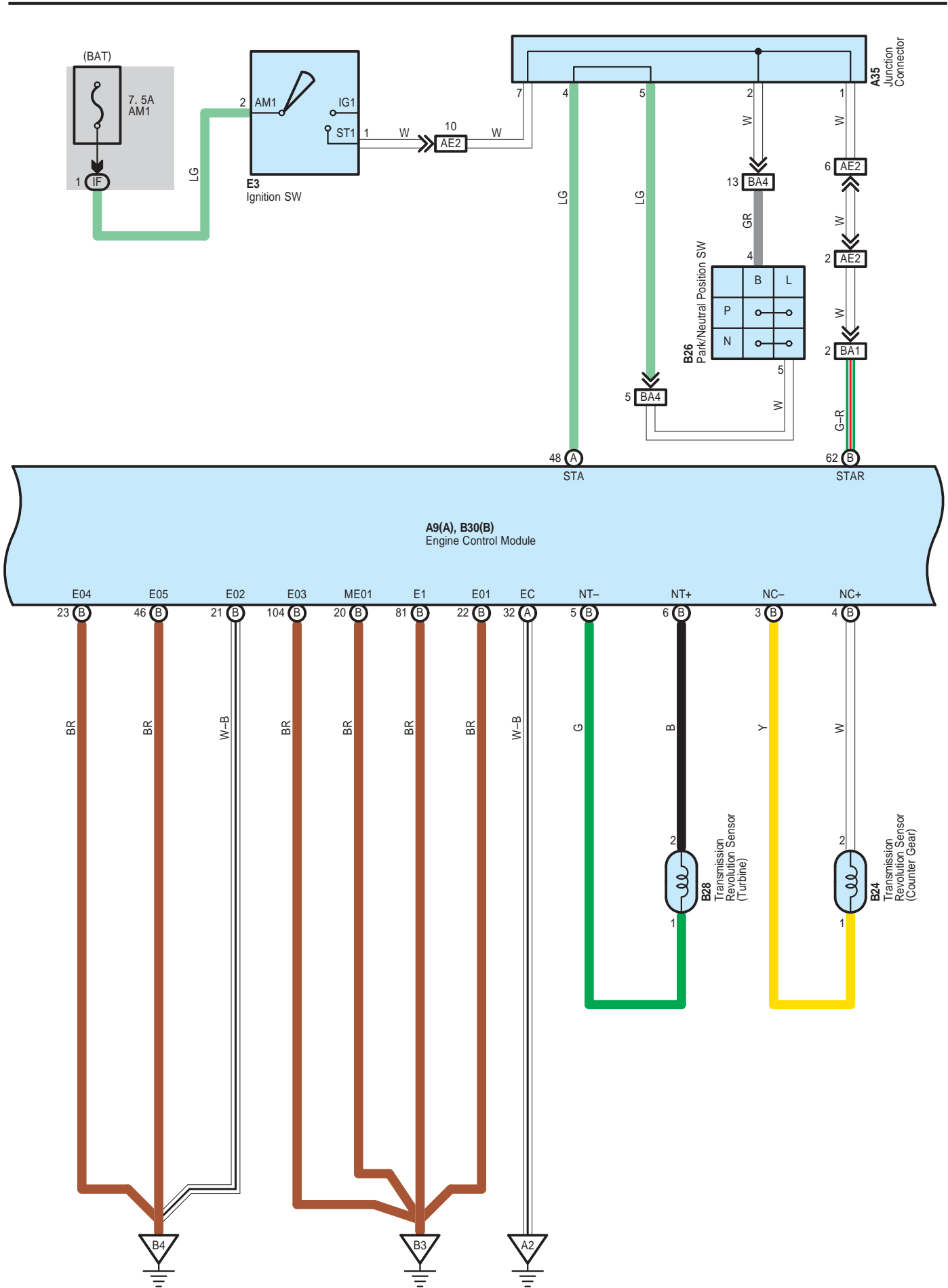
* 1 : Shielded



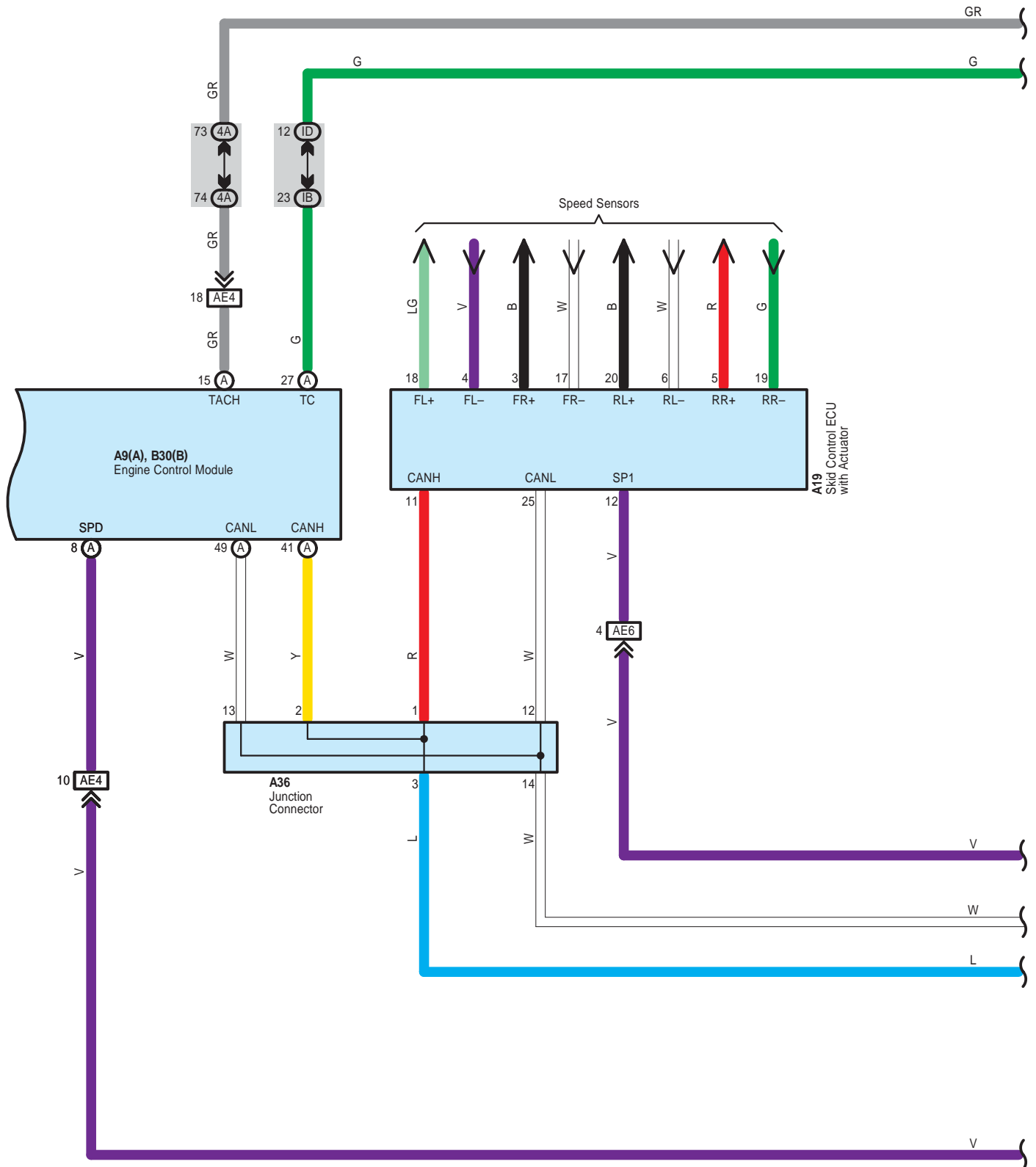
ECT and A/T Indicator for 2GR-FE

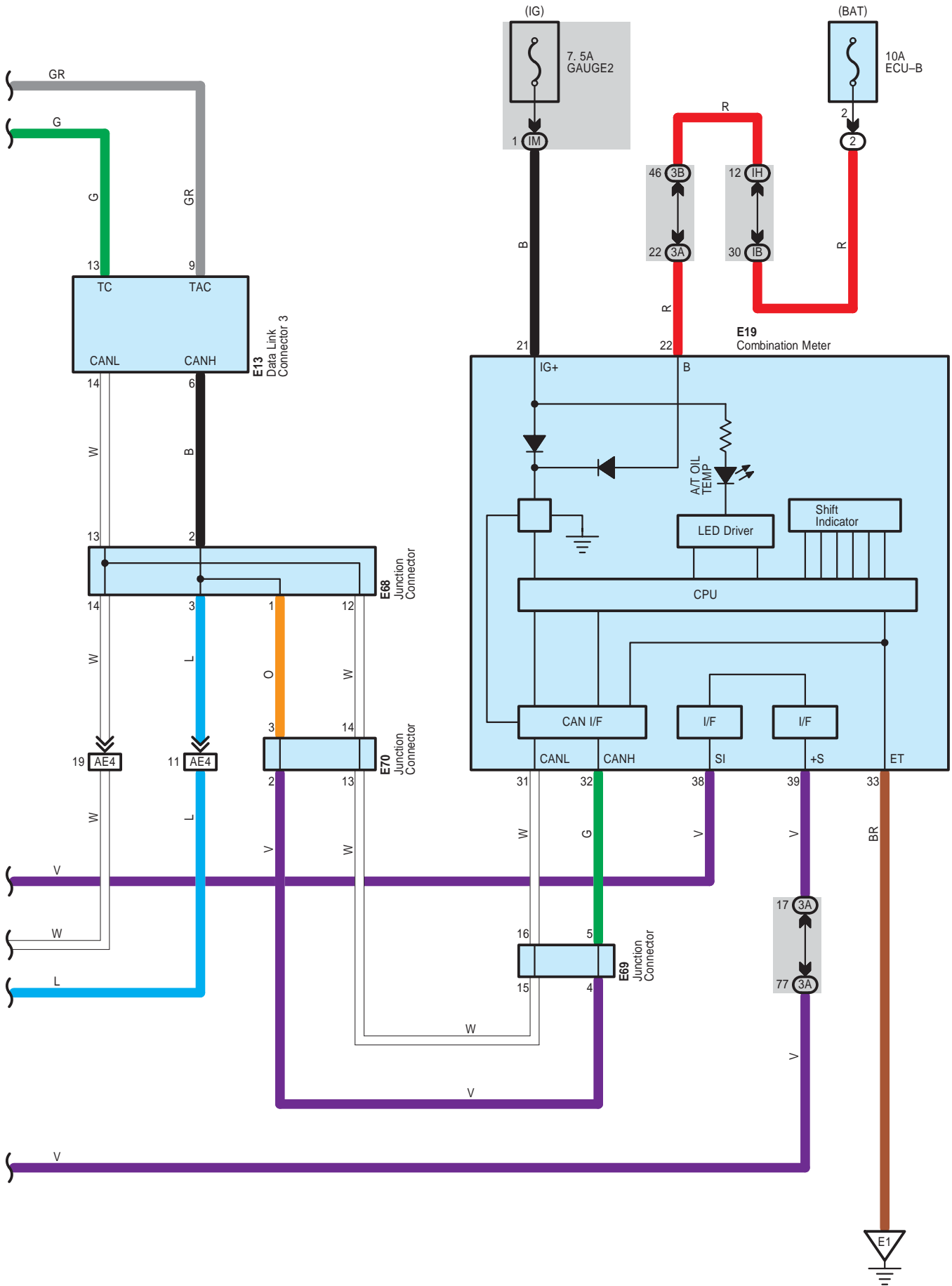


B32
Electronically Controlled Transmission Solenoid



ECT and A/T Indicator for 2GR-FE





RAV4 (EM03T0U)

ECT and A/T Indicator for 2GR-FE

System Outline

1. Line Pressure Optimal Control

Through the use of the solenoid valve SLT+, the line pressure is optimally controlled in accordance with the engine torque information, as well as with the internal operating conditions of the torque converter and the transaxle. Accordingly, the line pressure can be controlled minutely in accordance with the engine output, traveling condition, and the ATF temperature, thus realizing smooth shift characteristics and optimizing the workload in the oil pump.

2. Clutch Pressure Optimal Control

The engine control module monitors the signals from various types of sensor such as the input turbine speed sensor, allowing shift solenoid valves SL1+, SL2+ and SL3+ to minutely control the clutch pressure in accordance with engine output and driving conditions. As a result, smooth shift characteristics have been realized.

3. Shifting Control in Uphill/Downhill Traveling

This control minimizes the shifting of gears when the driver operates the accelerator pedal while driving on a winding road with ups and downs, in order to ensure a smooth drive.

4. Flex Lock-Up Clutch Control

The flex lock-up clutch control operates during acceleration, in the 4th and 5th gear in the D position, and during deceleration, in the 4th and 5th gear in the D position and in the 4th gear in the 4 position.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A3	56	B3	51 (2GR-FE)	E3	54
A9 A	50 (2GR-FE)	B4 A	51 (2GR-FE)	E13	54
A19	50 (2GR-FE)	B24	51 (2GR-FE)	E19	54
A35	56	B26	51 (2GR-FE)	E40	55
A36	56	B28	51 (2GR-FE)	E68	55
A38	56	B30 B	51 (2GR-FE)	E69	55
B1	51 (2GR-FE)	B32	51 (2GR-FE)	E70	55

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IF		
IH		
IM	31	

□ : Connector Joining Wire Harness and Wire Harness

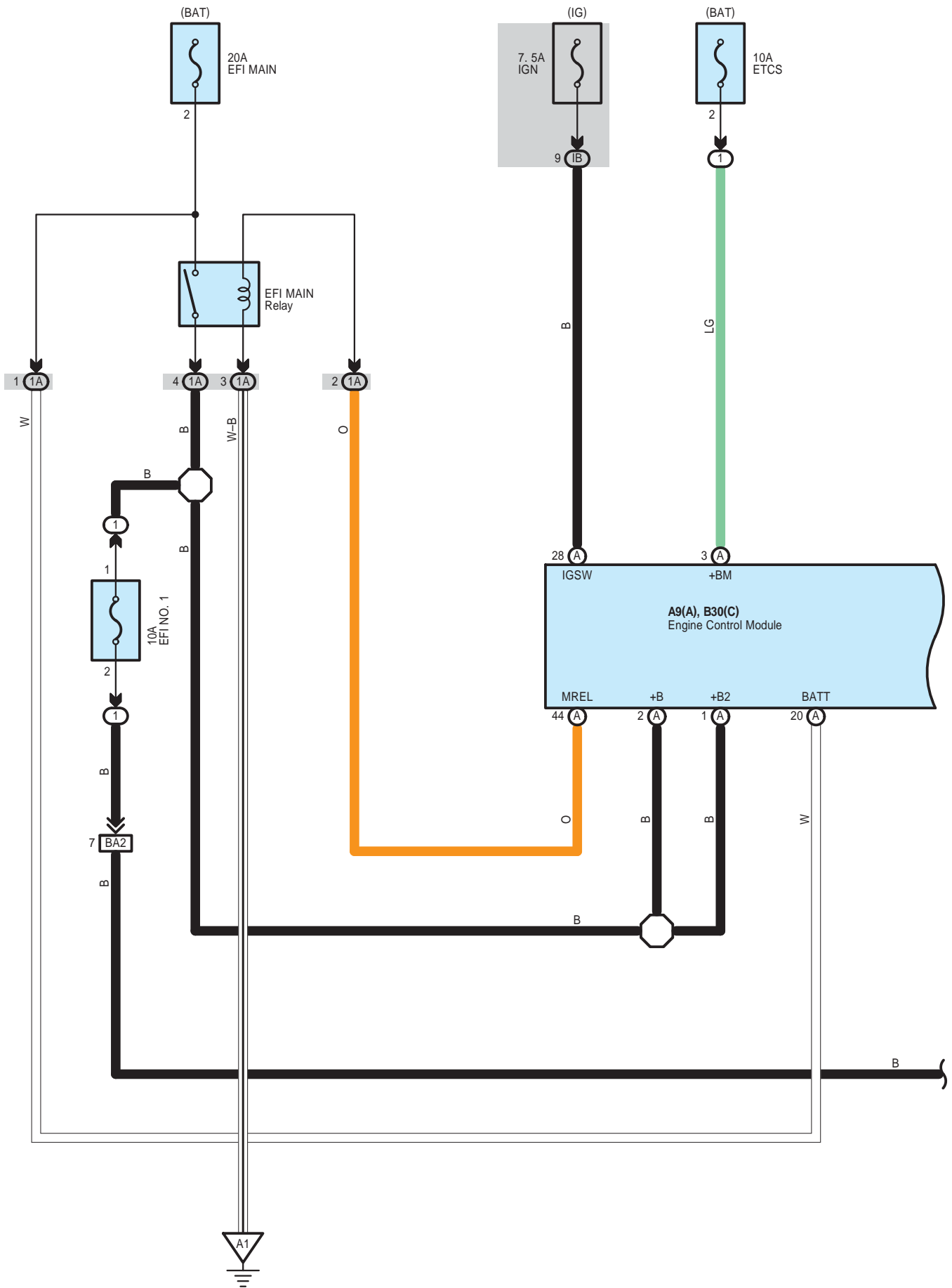
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE2	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE4		
AE6		
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
BA4		

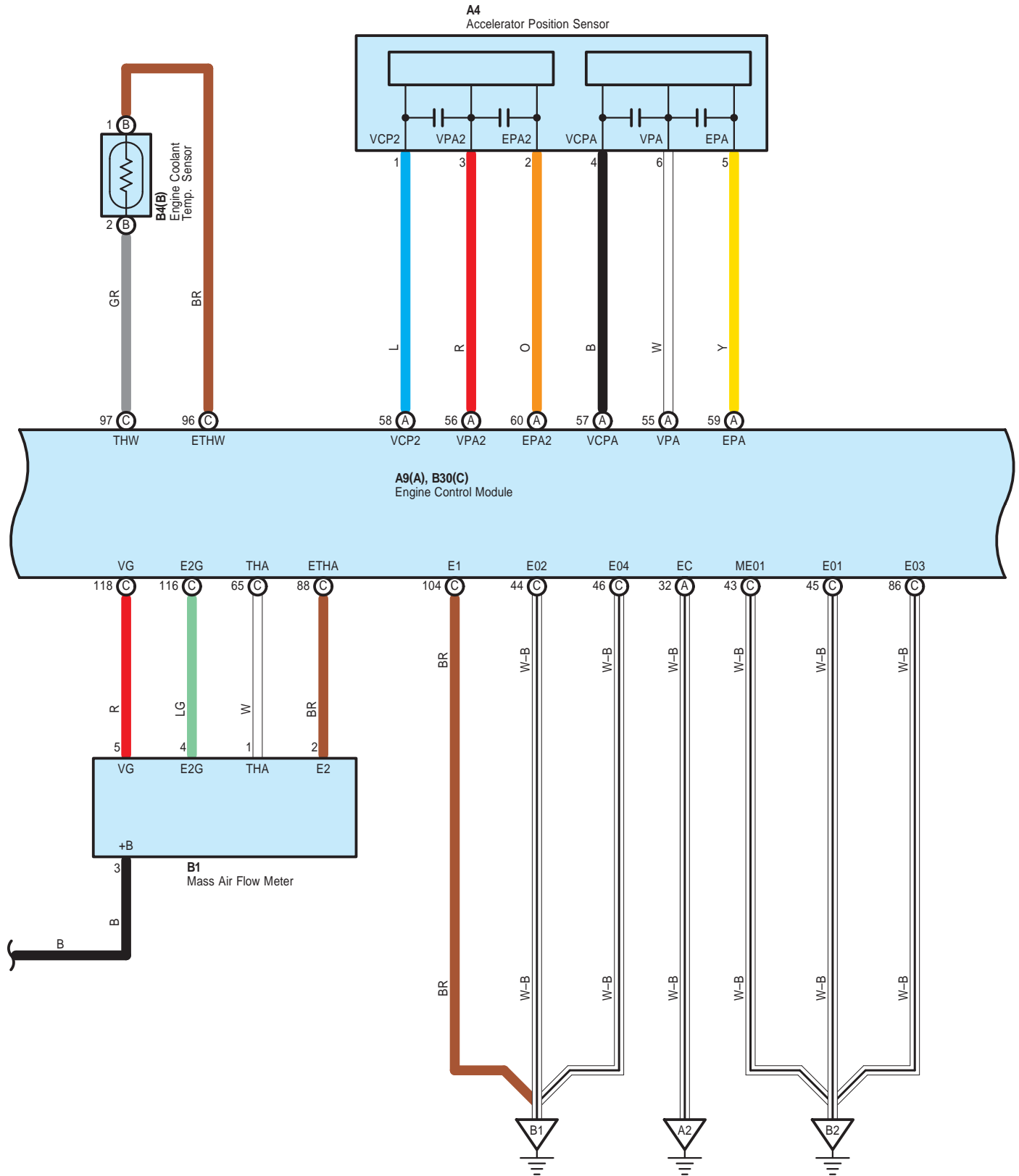


: Ground Points

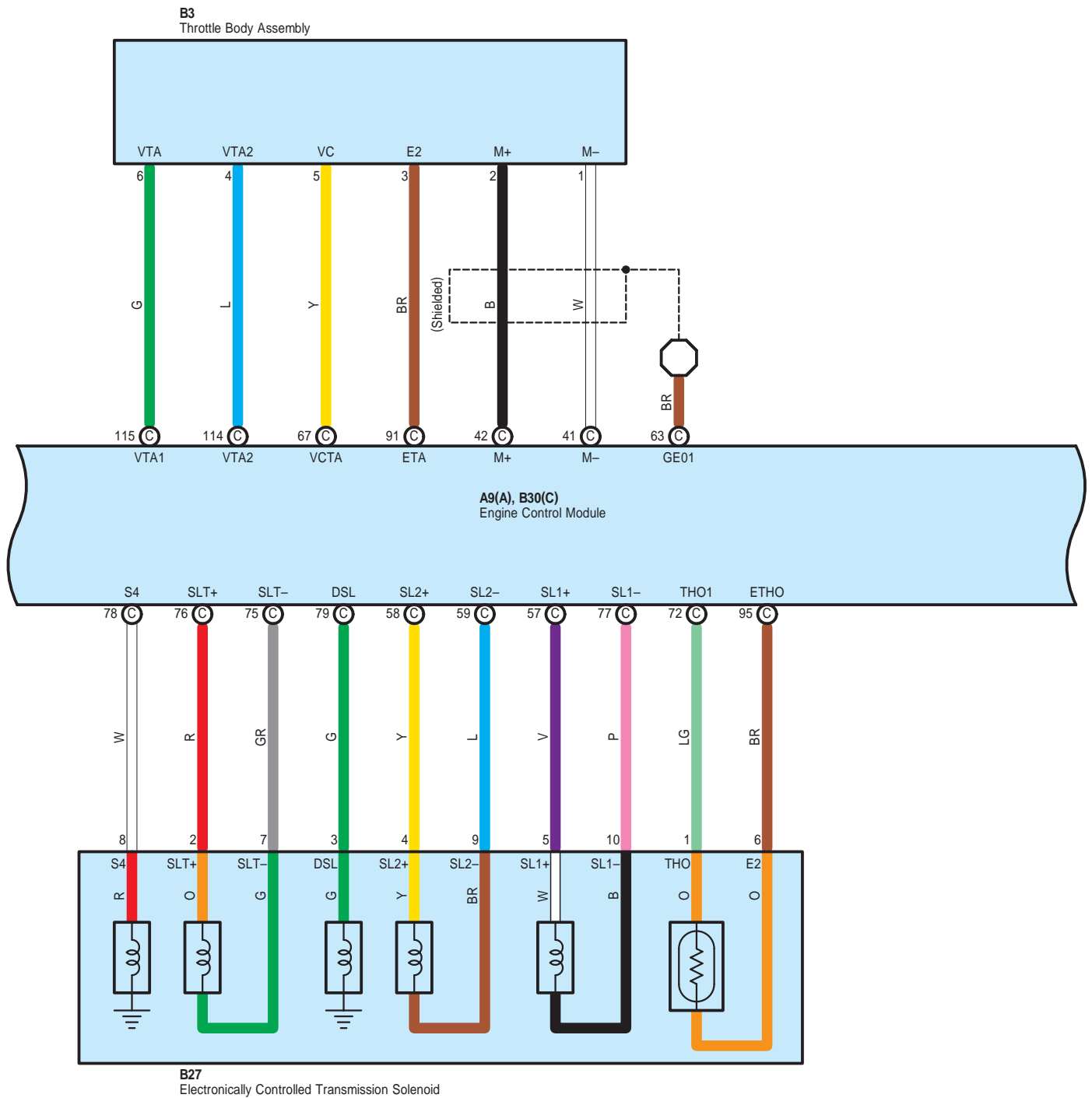
Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
A2		
B3	64 (2GR-FE)	Left Side of the Cylinder Head
B4		
E1	66	Left Kick Panel

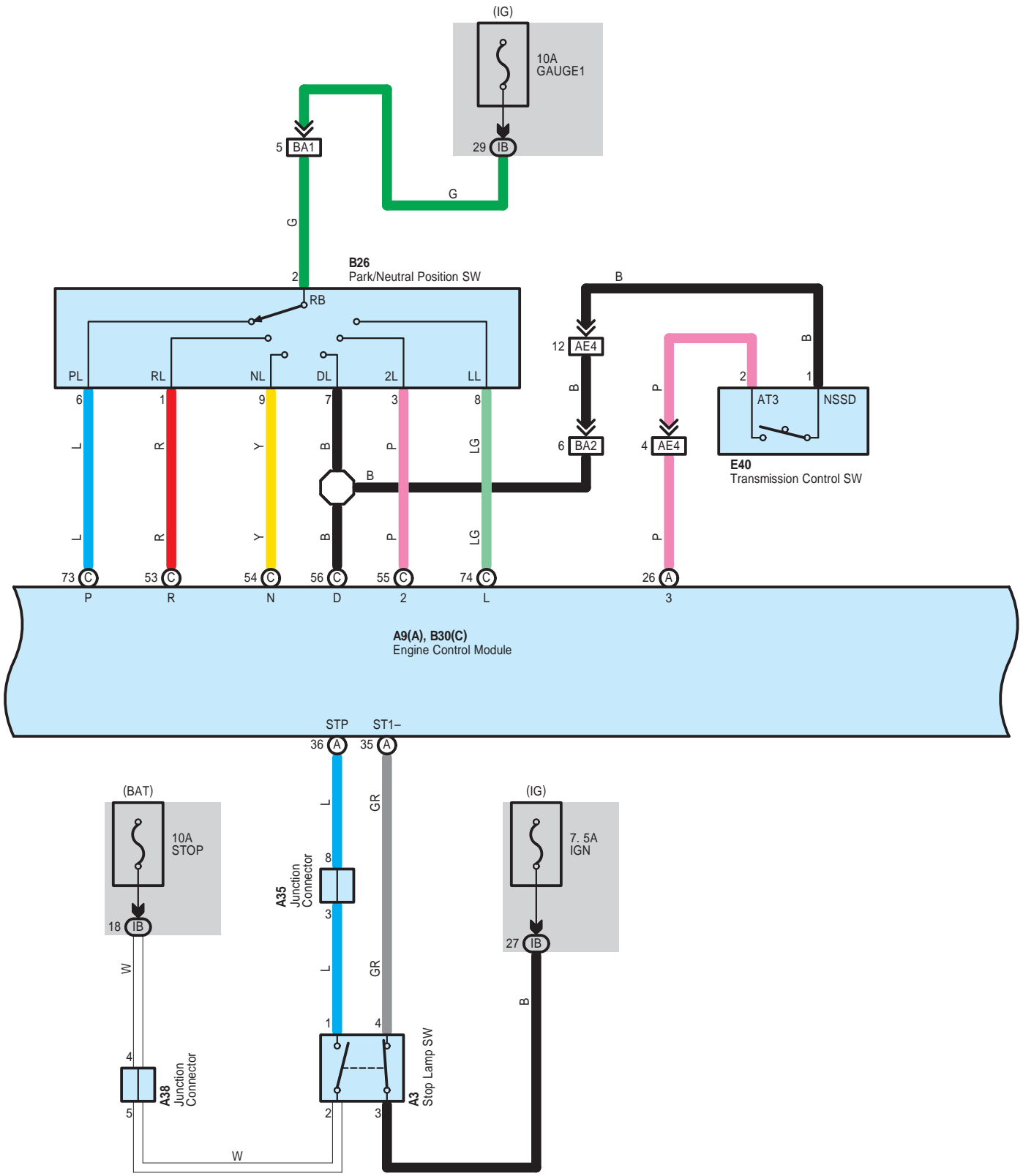
ECT and A/T Indicator for 2AZ-FE



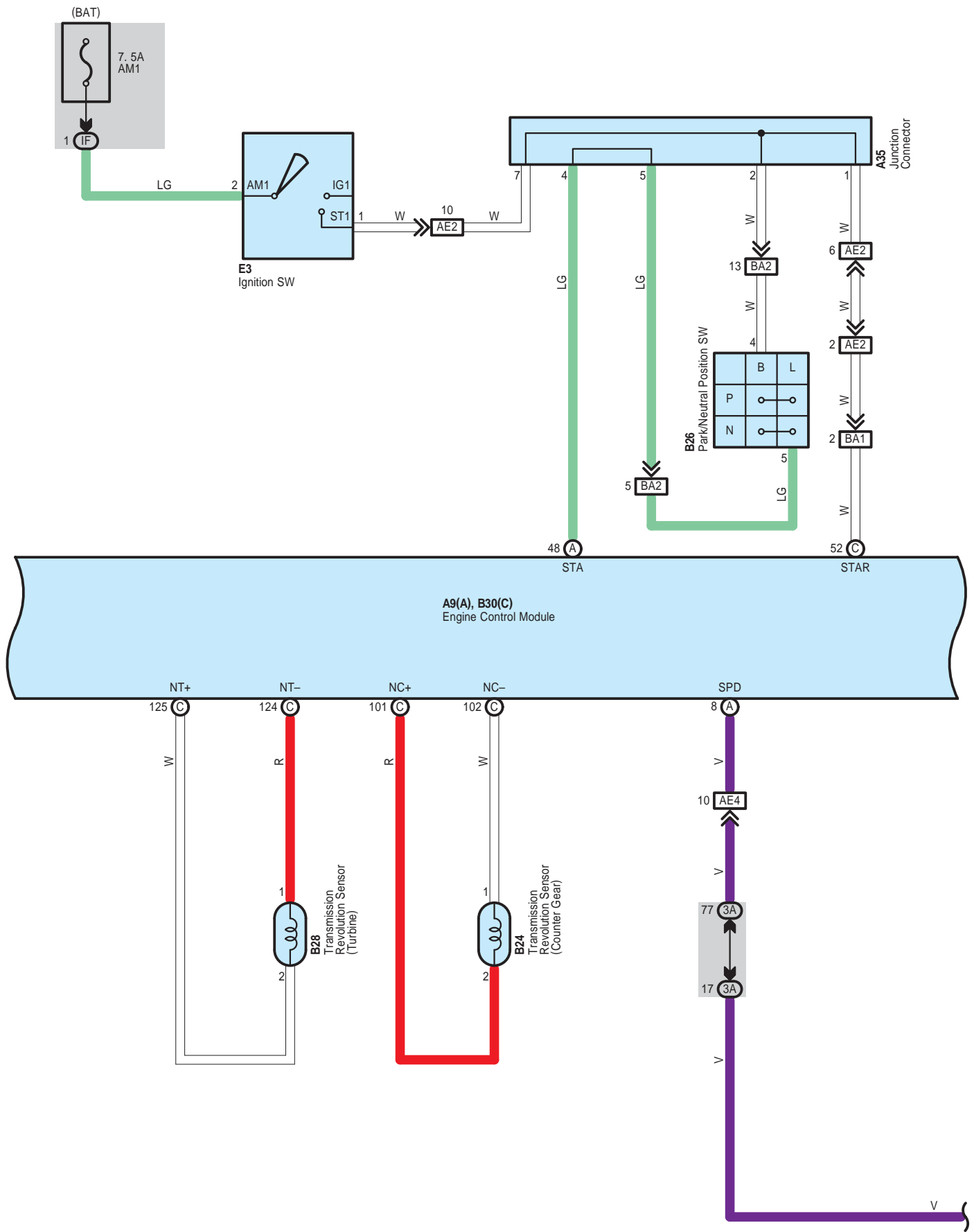


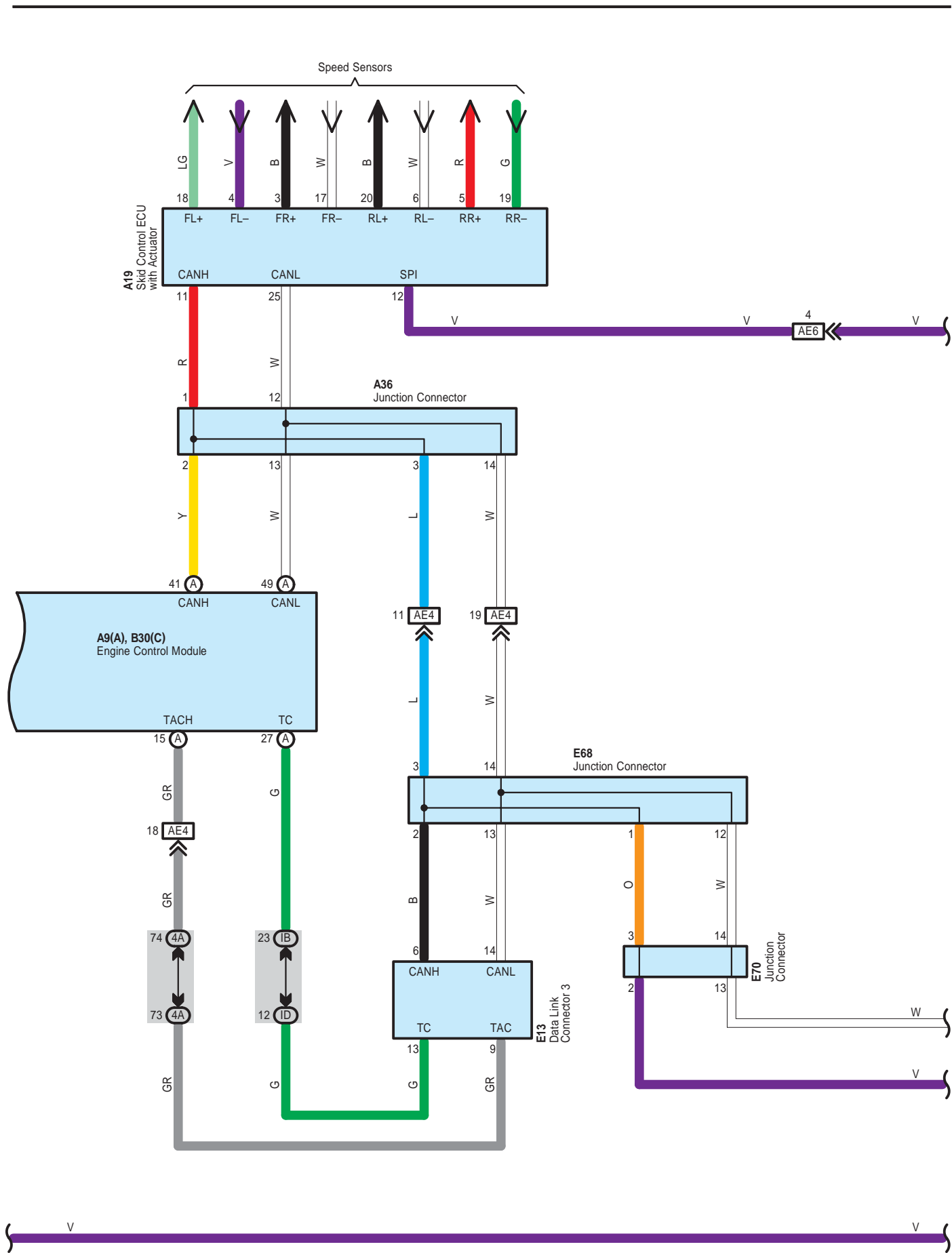
ECT and A/T Indicator for 2AZ-FE



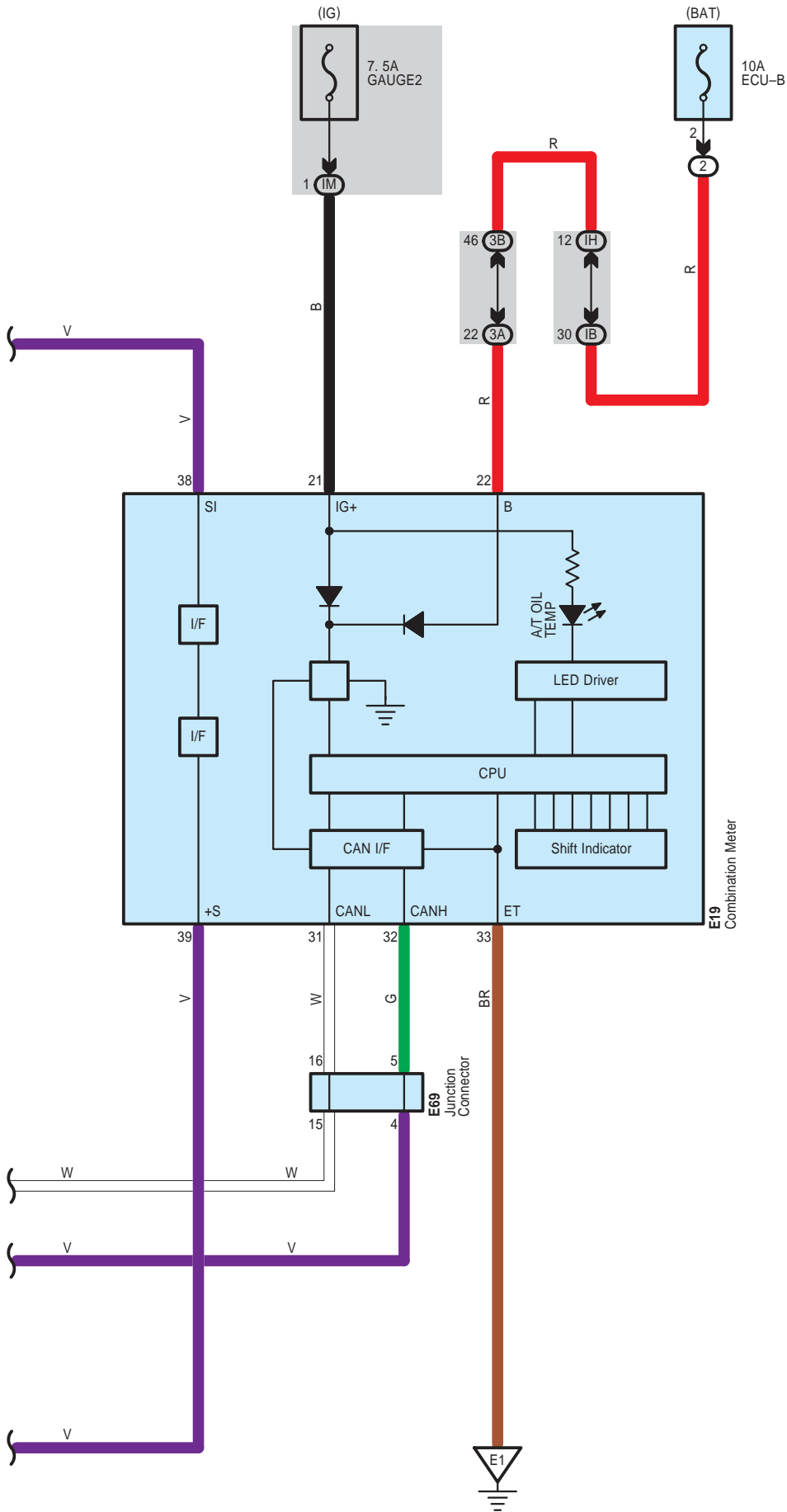


ECT and A/T Indicator for 2AZ-FE





ECT and A/T Indicator for 2AZ-FE



System Outline

Previous automatic transaxle 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

During driving the engine warm up condition signal is input from engine coolant temp. sensor to TERMINAL THW of the engine control module, and the vehicle speed signal is input from the speed sensor to skid control ECU with actuator, and are sent to the engine control module through communication control. At the same time, the throttle valve opening signal is sent from the throttle position sensor to the TERMINALS VTA1 and VTA2 of the engine control module, as the throttle angle signal.

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 DSL of the engine control module to TERMINAL 3 of the electronically controlled transmission solenoid to GROUND.

3. Stop Lamp SW Circuit

If the brake pedal is depressed (Stop lamp 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.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A3	56	B3	53 (2AZ-FE)	E13	54
A4	56	B4	B	E19	54
A9	A	B24	53 (2AZ-FE)	E40	55
A19	52 (2AZ-FE)	B26	53 (2AZ-FE)	E68	55
A35	56	B27	53 (2AZ-FE)	E69	55
A36	56	B28	53 (2AZ-FE)	E70	55
A38	56	B30	C		
B1	53 (2AZ-FE)	E3	54		

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	23 (2AZ-FE)	Engine Room R/B No.1 (Engine Compartment Left)
2	27 (2AZ-FE)	Engine Room R/B No.2 (Engine Compartment Right)

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IF		
IH		
IM		

ECT and A/T Indicator for 2AZ-FE

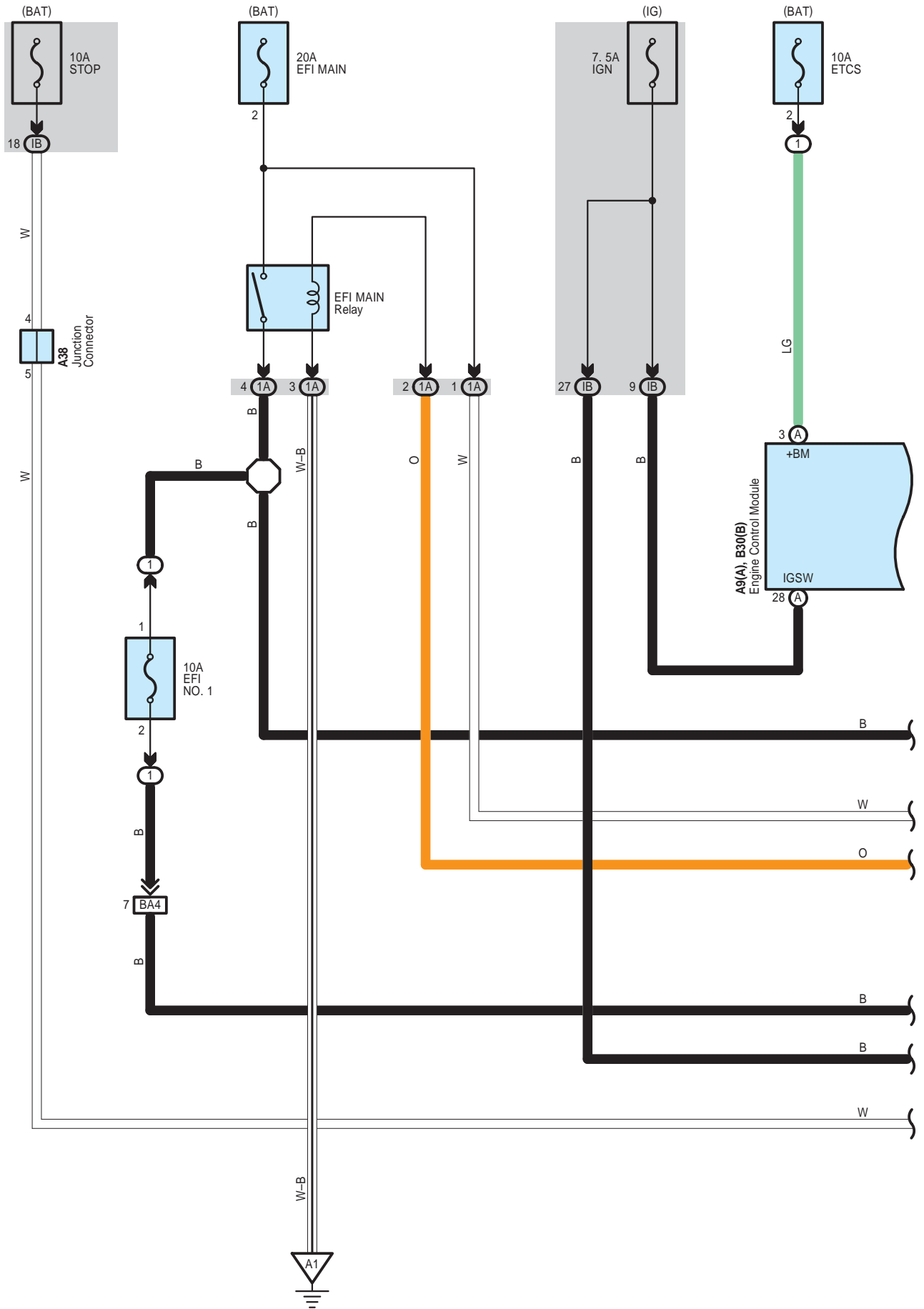
 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE2	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE4		
AE6		
BA1	65 (2AZ-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
BA2		

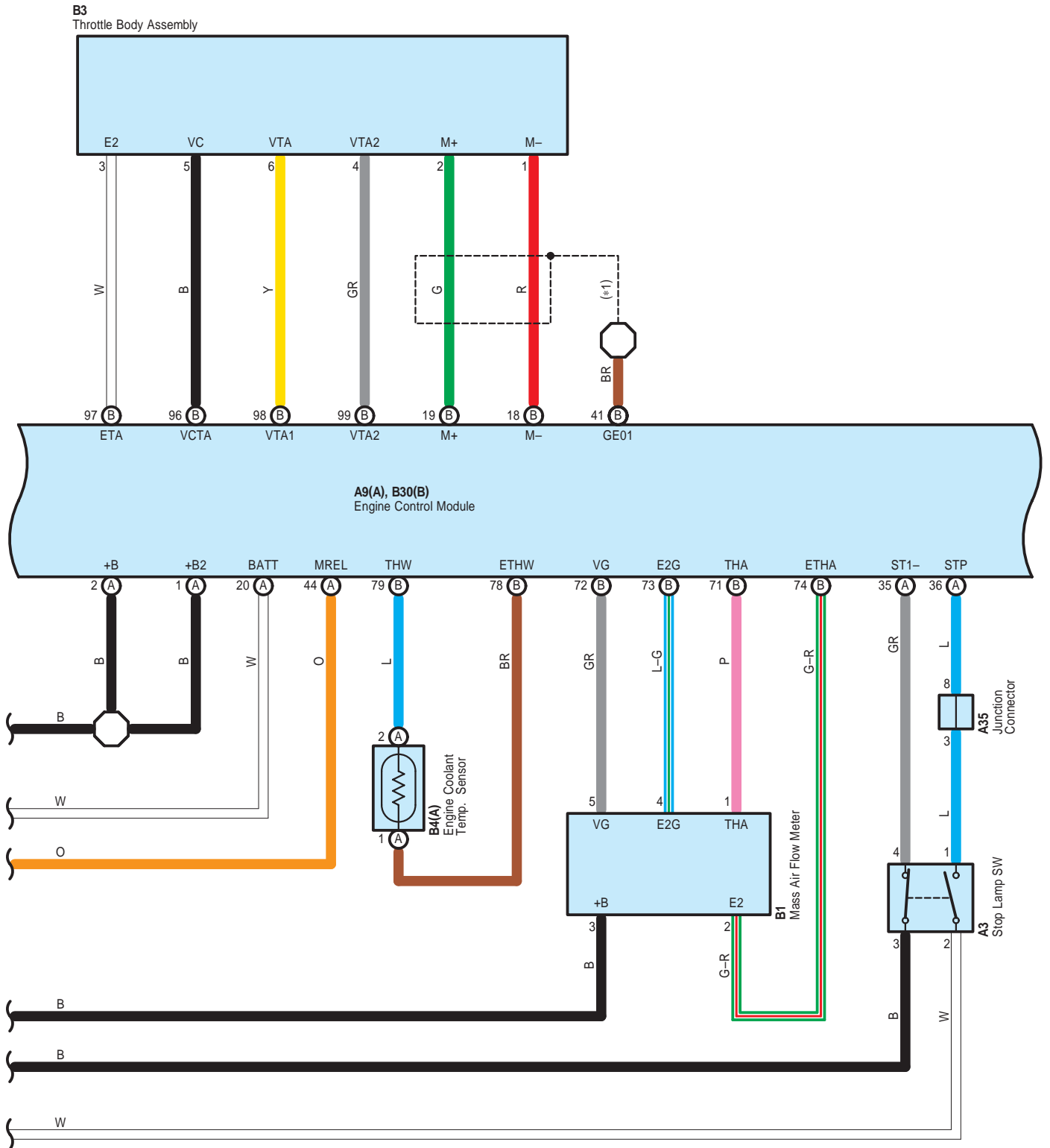
 : Ground Points

Code	See Page	Ground Points Location
A1	65 (2AZ-FE)	Front Left Fender
A2		
B1	65 (2AZ-FE)	Left Side of the Cylinder Head
B2		
E1	66	Left Kick Panel

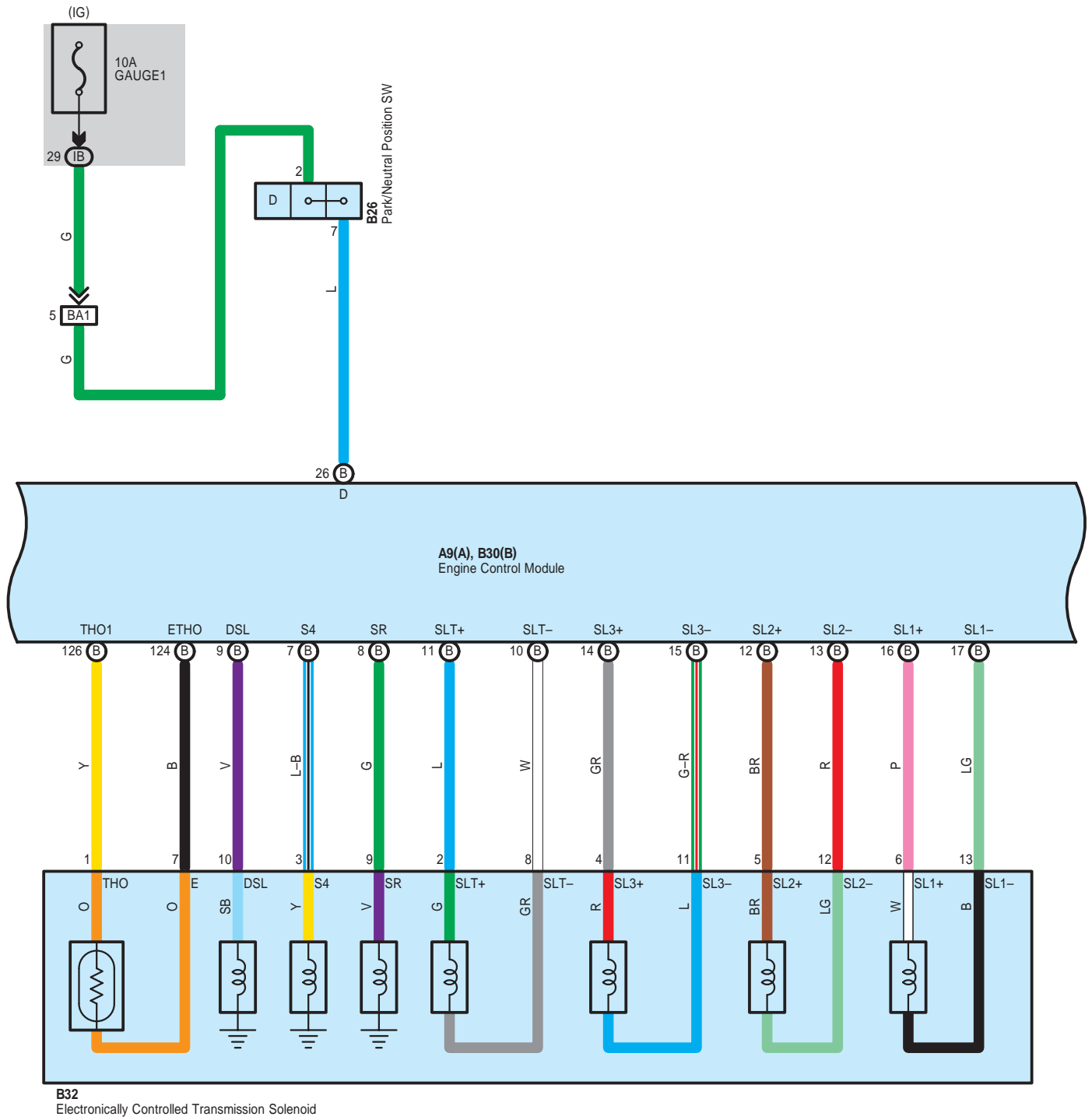
Cruise Control for 2GR-FE

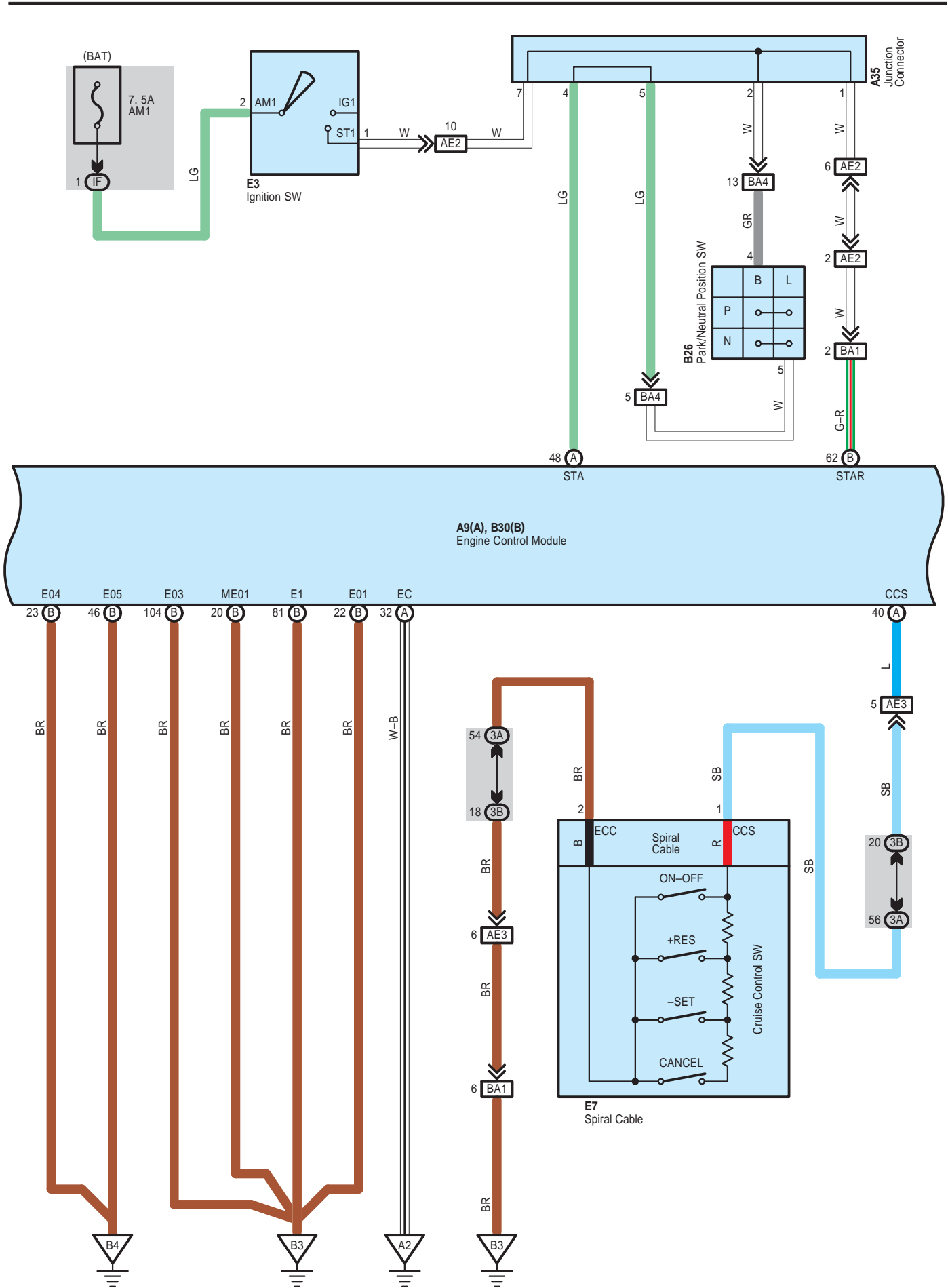


* 1 : Shielded

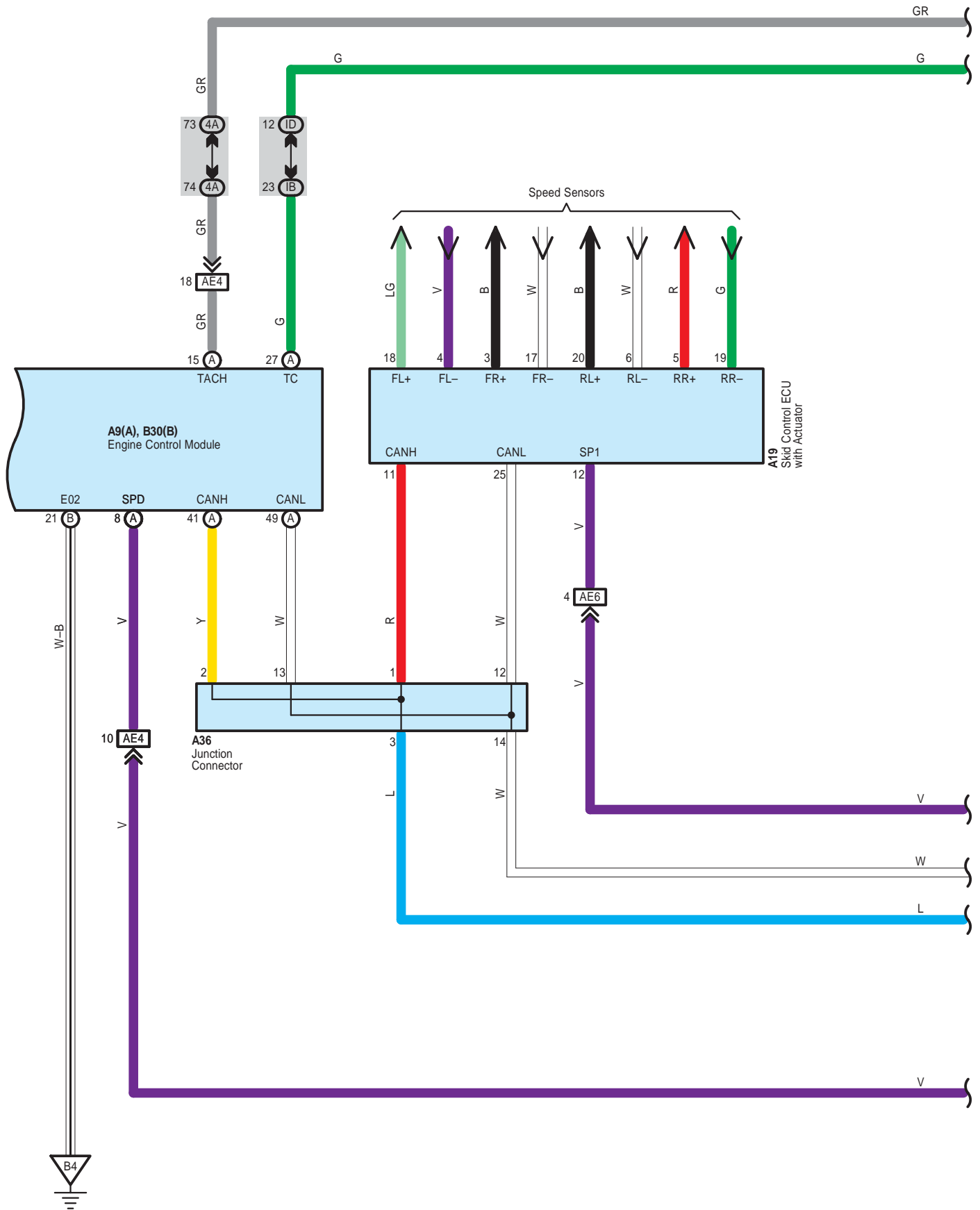


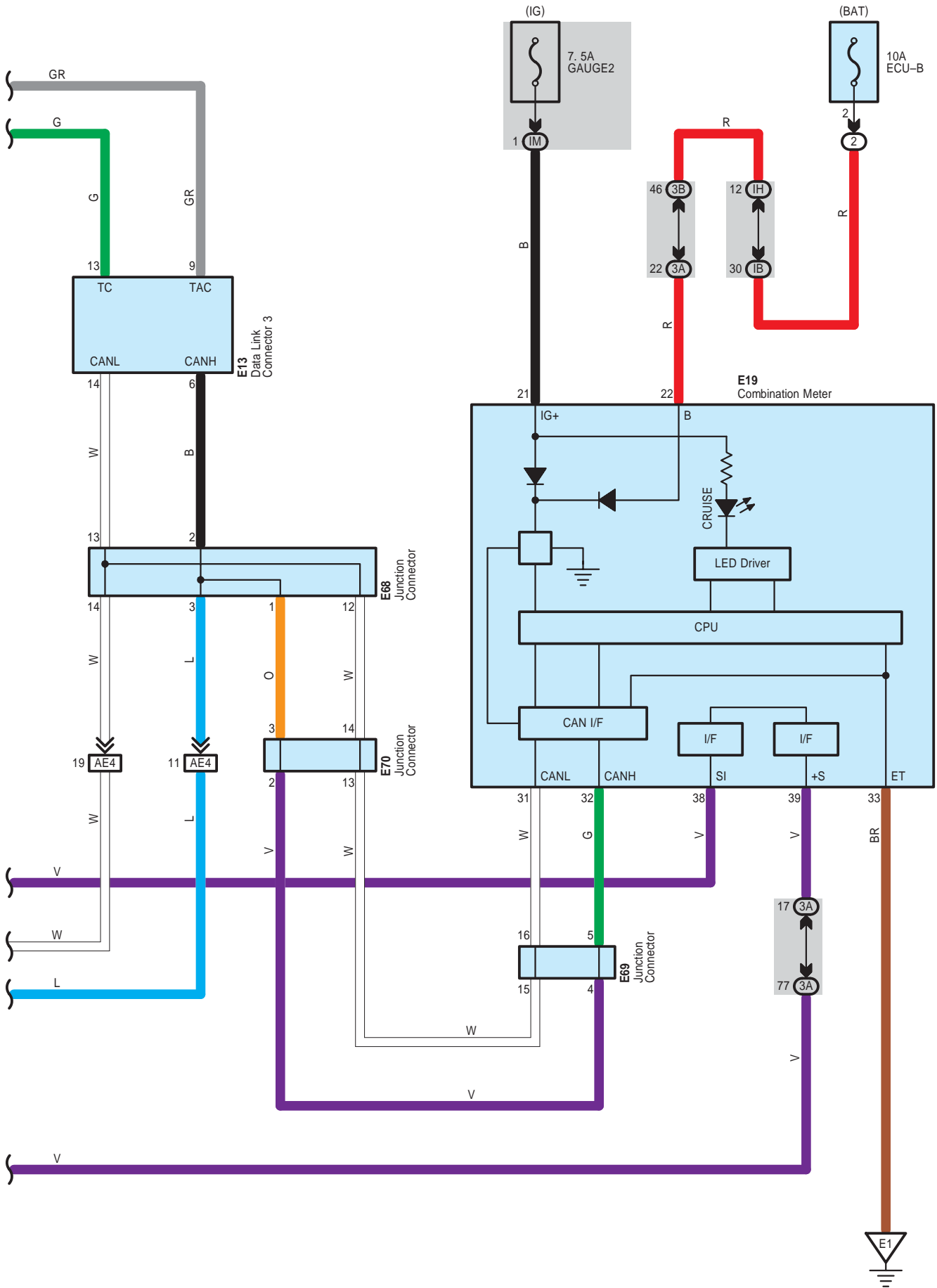
Cruise Control for 2GR-FE





Cruise Control for 2GR-FE





Cruise Control for 2GR-FE

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 Control

When the -SET switch is turned from ON to OFF during driving with the main switch ON, the vehicle speed at that time is registered and the vehicle is controlled at that constant speed.

2. Coast Control

When the -SET switch is kept ON during driving with the cruise control, the cruise control required opening gets zero to reduce the vehicle speed. If the SET/COAST switch is turned OFF, the vehicle speed at that time is registered and the vehicle is controlled at the constant speed.

3. Tap Up Control

Whenever +RES switch is tapped ON instantaneously (For approximately 0.5 sec.), the registered vehicle speed increases by about 1.6 km/h.

4. Tap Down Control

Whenever the -SET switch is tapped ON instantaneously (For approximately 0.5 sec.), the registered vehicle speed decreased by about 1.6 km/h.

5. Accel Control

When +RES switch kept ON during driving with the cruise control, the engine control module controls the throttle valve to accelerate the vehicle.

It also registers the vehicle speed when +RES switch is turned OFF and controls the vehicle at the constant speed.

6. Manual Cancel Mechanism

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

- * The stop lamp SW is turned on.
- * The CANCEL SW is turned on.
- * The ON-OFF SW is turned off.
- * Gear is shifted from D position to other positions than D.

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. Other Cancel Function

If any operate VSC system the cruise control is cancelled.

9. Overdrive Control Function

The overdrive control may be cancelled if the vehicle travels on the slope during cruise control travelling. After the overdrive control has been cancelled, when climbing hill is judged to finish from throttle opening information, the vehicle returns to the overdrive control mode again after the overdrive return timer is completed.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A3	56	B3	51 (2GR-FE)	E13	54
A9 A	50 (2GR-FE)	B4 A	51 (2GR-FE)	E19	54
A19	50 (2GR-FE)	B26	51 (2GR-FE)	E68	55
A35	56	B30 B	51 (2GR-FE)	E69	55
A36	56	B32	51 (2GR-FE)	E70	55
A38	56	E3	54		
B1	51 (2GR-FE)	E7	54		

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IF		
IH		
IM		
IM	31	

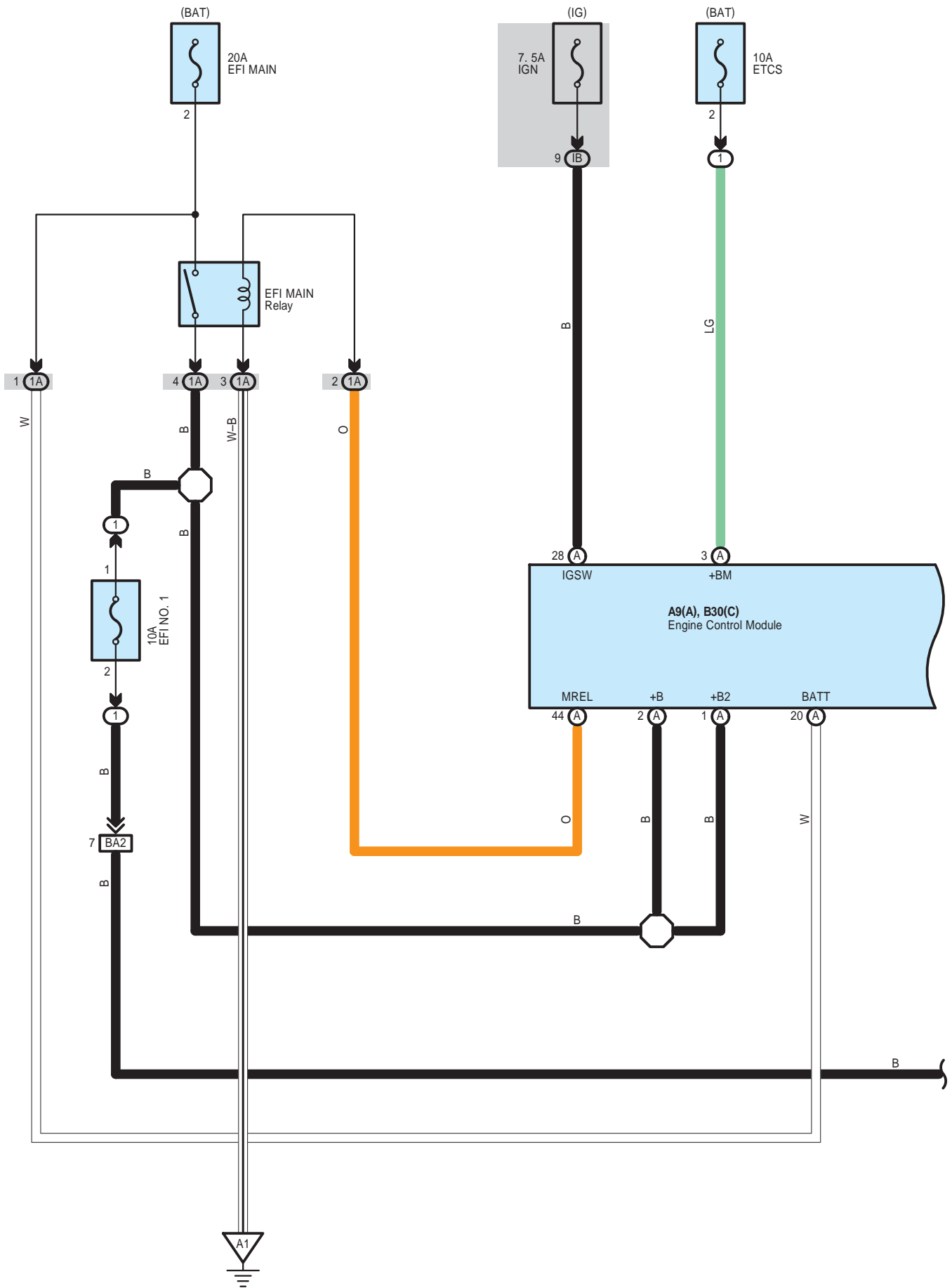
 : **Connector Joining Wire Harness and Wire Harness**

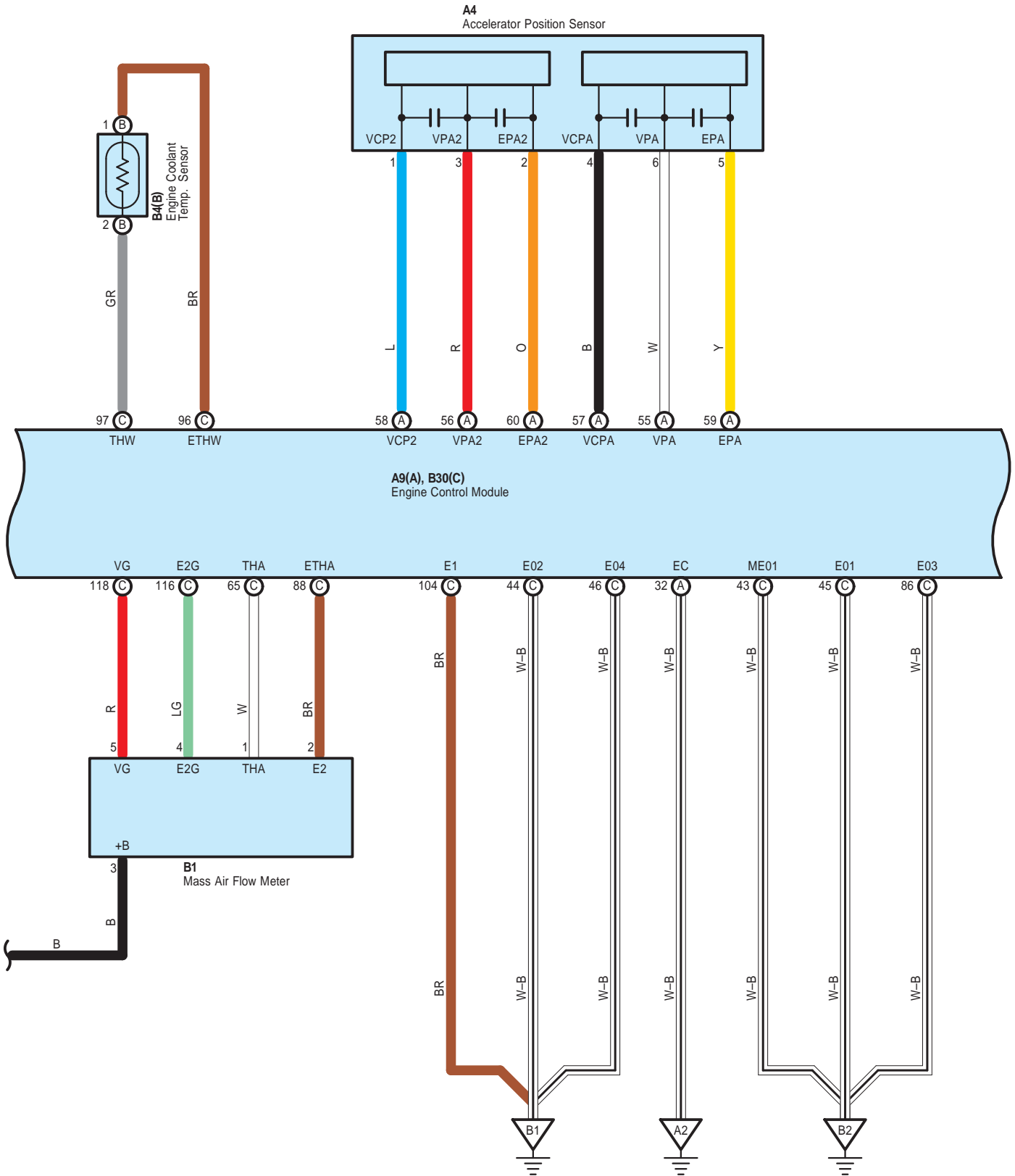
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE2	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE3		
AE4		
AE6		
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
BA4		

 : **Ground Points**

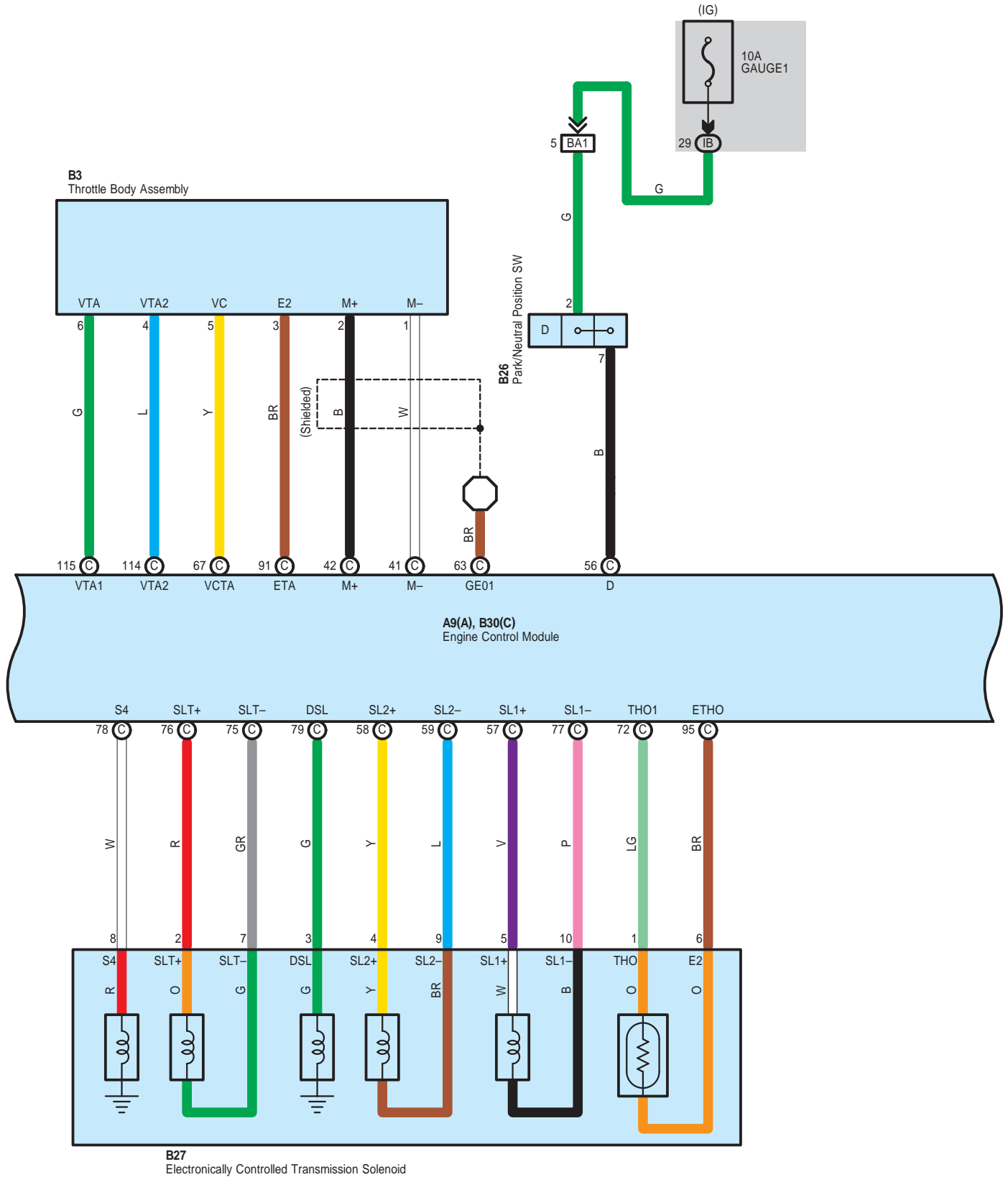
Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
A2		
B3	64 (2GR-FE)	Left Side of the Cylinder Head
B4		
E1	66	Left Kick Panel

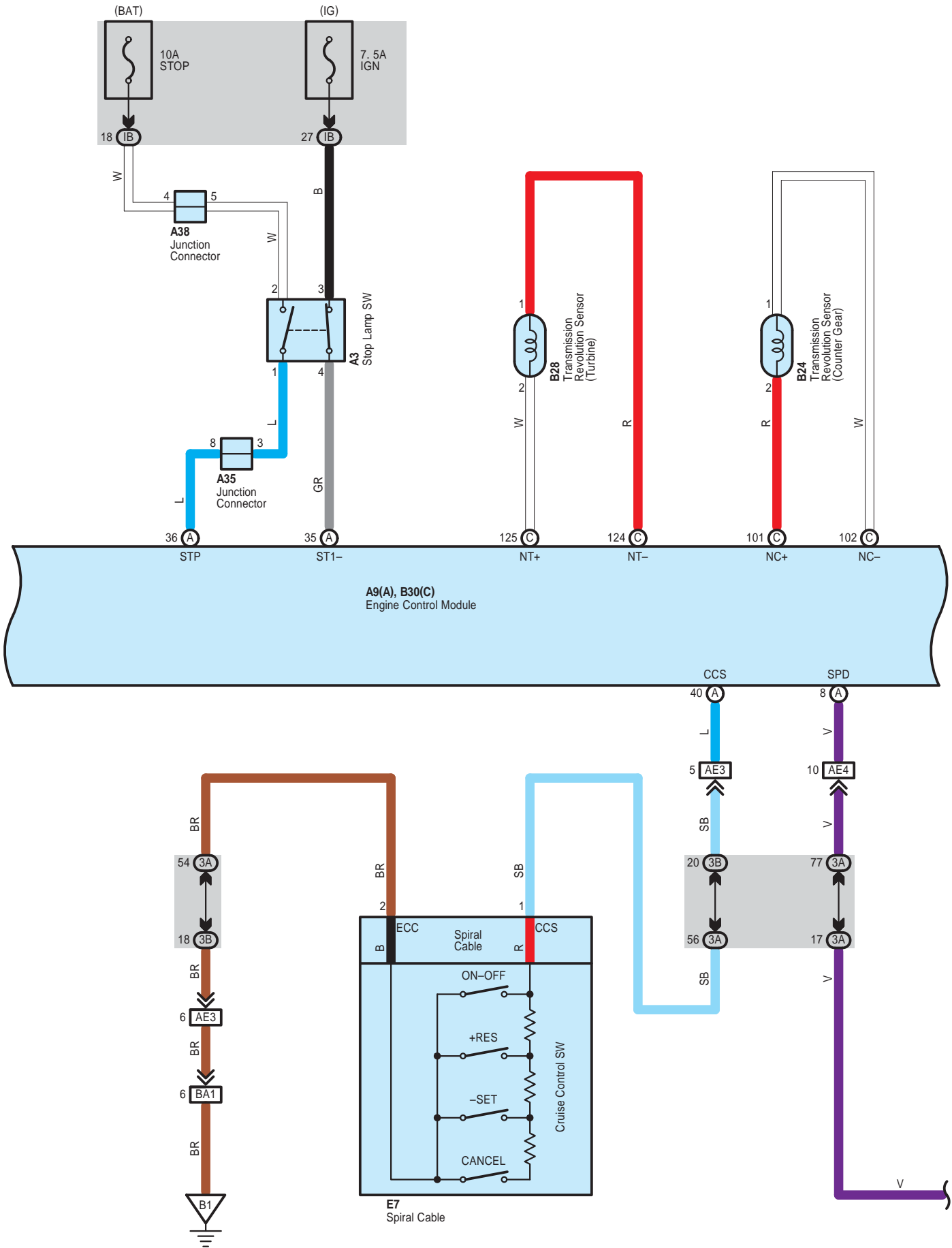
Cruise Control for 2AZ-FE



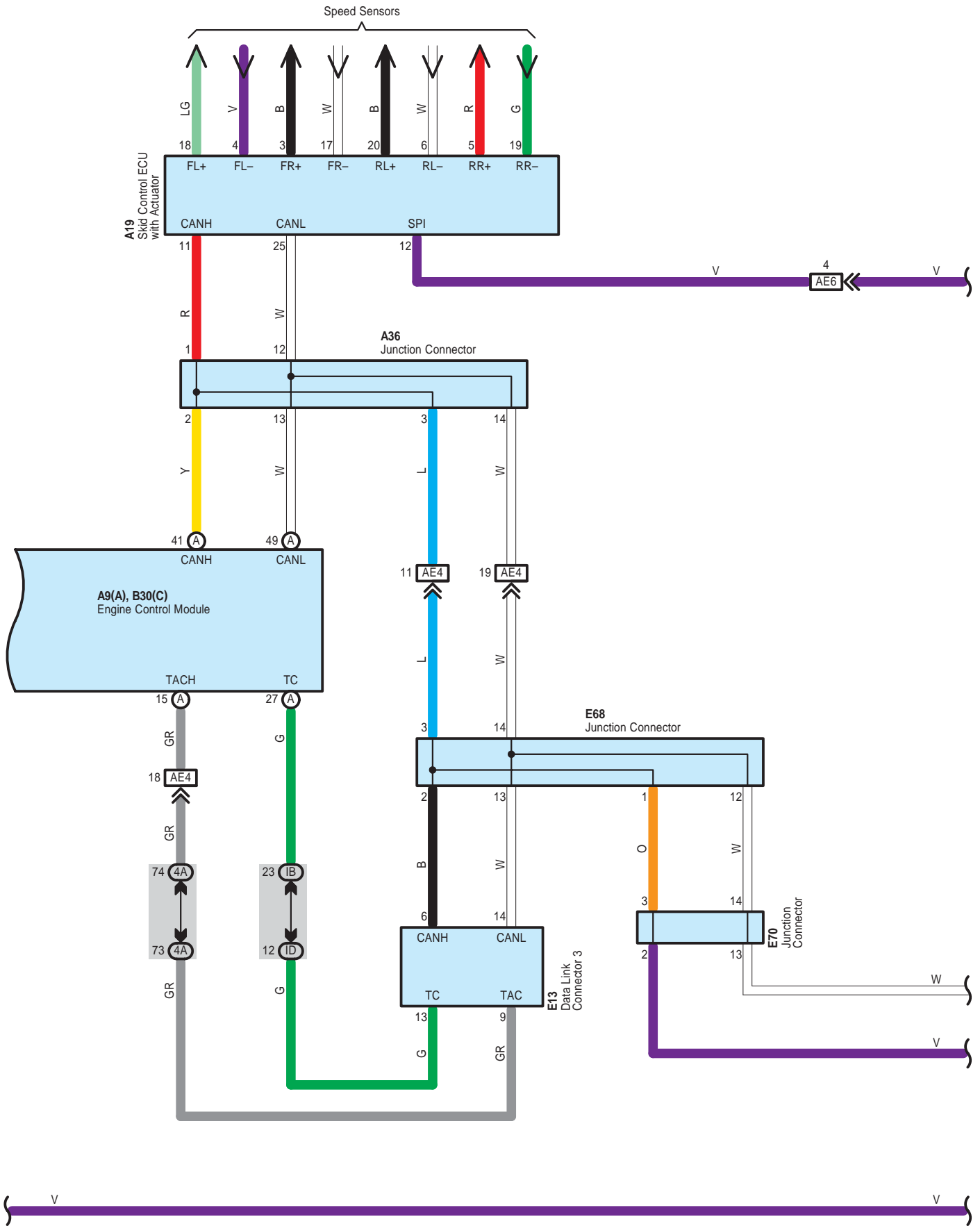


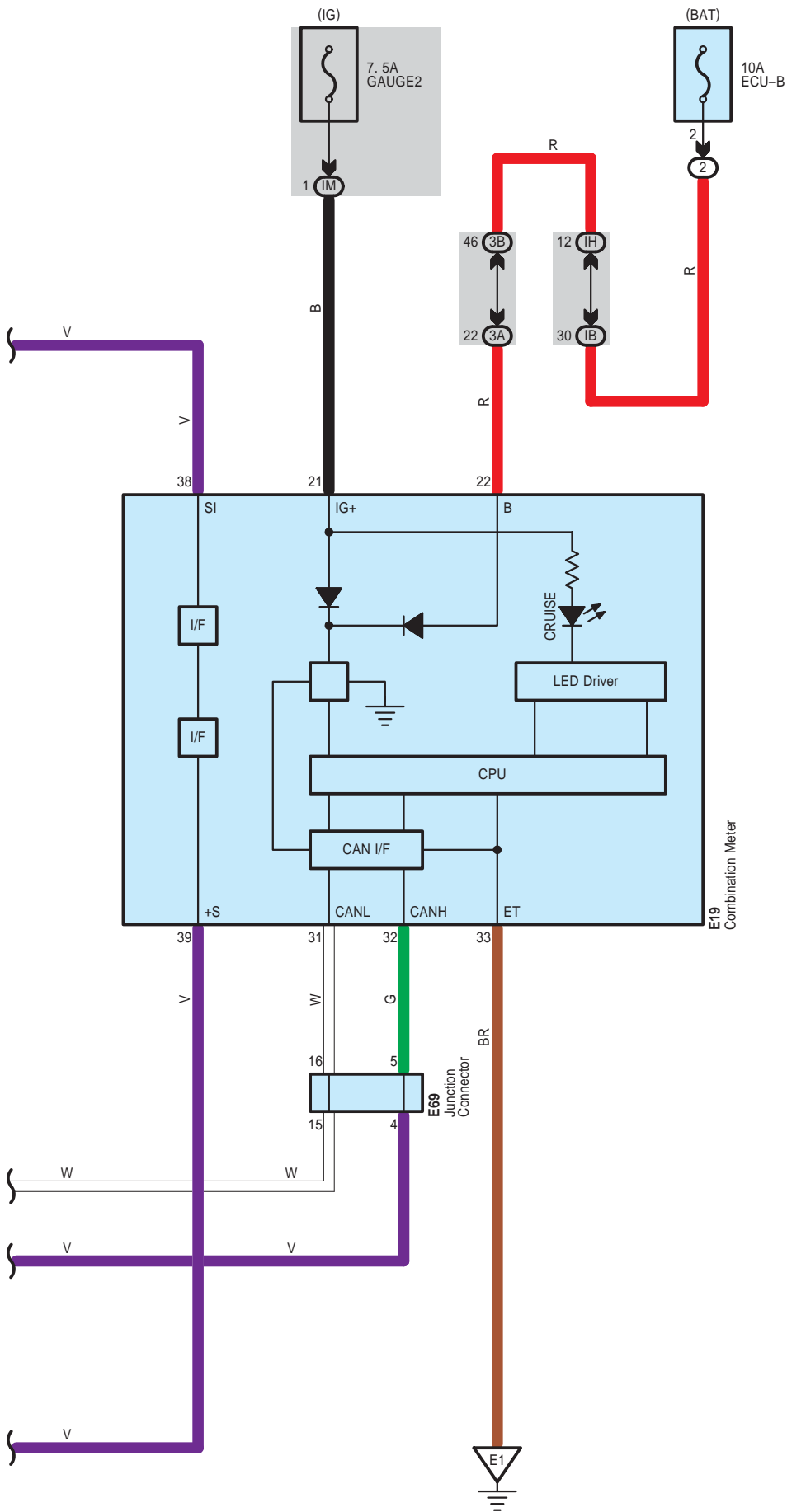
Cruise Control for 2AZ-FE





Cruise Control for 2AZ-FE





RAV4 (EM03T0U)

Cruise Control for 2AZ-FE

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 Control

When the -SET switch is turned from ON to OFF during driving with the main switch ON, the vehicle speed at that time is registered and the vehicle is controlled at that constant speed.

2. Coast Control

When the -SET switch is kept ON during driving with the cruise control, the cruise control required opening gets zero to reduce the vehicle speed. If the SET/COAST switch is turned OFF, the vehicle speed at that time is registered and the vehicle is controlled at the constant speed.

3. Tap Up Control

Whenever +RES switch is tapped ON instantaneously (For approximately 0.5 sec.), the registered vehicle speed increases by about 1.6 km/h.

4. Tap Down Control

Whenever the -SET switch is tapped ON instantaneously (For approximately 0.5 sec.), the registered vehicle speed decreased by about 1.6 km/h.

5. Accel Control

When +RES switch kept ON during driving with the cruise control, the engine control module controls the throttle valve to accelerate the vehicle.

It also registers the vehicle speed when +RES switch is turned OFF and controls the vehicle at the constant speed.

6. Manual Cancel Mechanism

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

- * The stop lamp SW is turned on.
- * The CANCEL SW is turned on.
- * The ON-OFF SW is turned off.
- * Gear is shifted from D position to other positions than D.

7. Auto Cancel Function

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

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- * The vehicle speed signal is faulty.
- * The electronically controlled throttle malfunctions.

8. Other Cancel Function

If any operate VSC system the cruise control is cancelled.

9. Overdrive Control Function

The overdrive control may be cancelled if the vehicle travels on the slope during cruise control travelling. After the overdrive control has been cancelled, when climbing hill is judged to finish from throttle opening information, the vehicle returns to the overdrive control mode again after the overdrive return timer is completed.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A3	56	B1	53 (2AZ-FE)	B30 C	53 (2AZ-FE)
A4	56	B3	53 (2AZ-FE)	E7	54
A9 A	52 (2AZ-FE)	B4 B	53 (2AZ-FE)	E13	54
A19	52 (2AZ-FE)	B24	53 (2AZ-FE)	E19	54
A35	56	B26	53 (2AZ-FE)	E68	55
A36	56	B27	53 (2AZ-FE)	E69	55
A38	56	B28	53 (2AZ-FE)	E70	55

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	23 (2AZ-FE)	Engine Room R/B No.1 (Engine Compartment Left)
2	27 (2AZ-FE)	Engine Room R/B No.2 (Engine Compartment Right)

 : **Junction Block and Wire Harness Connector**

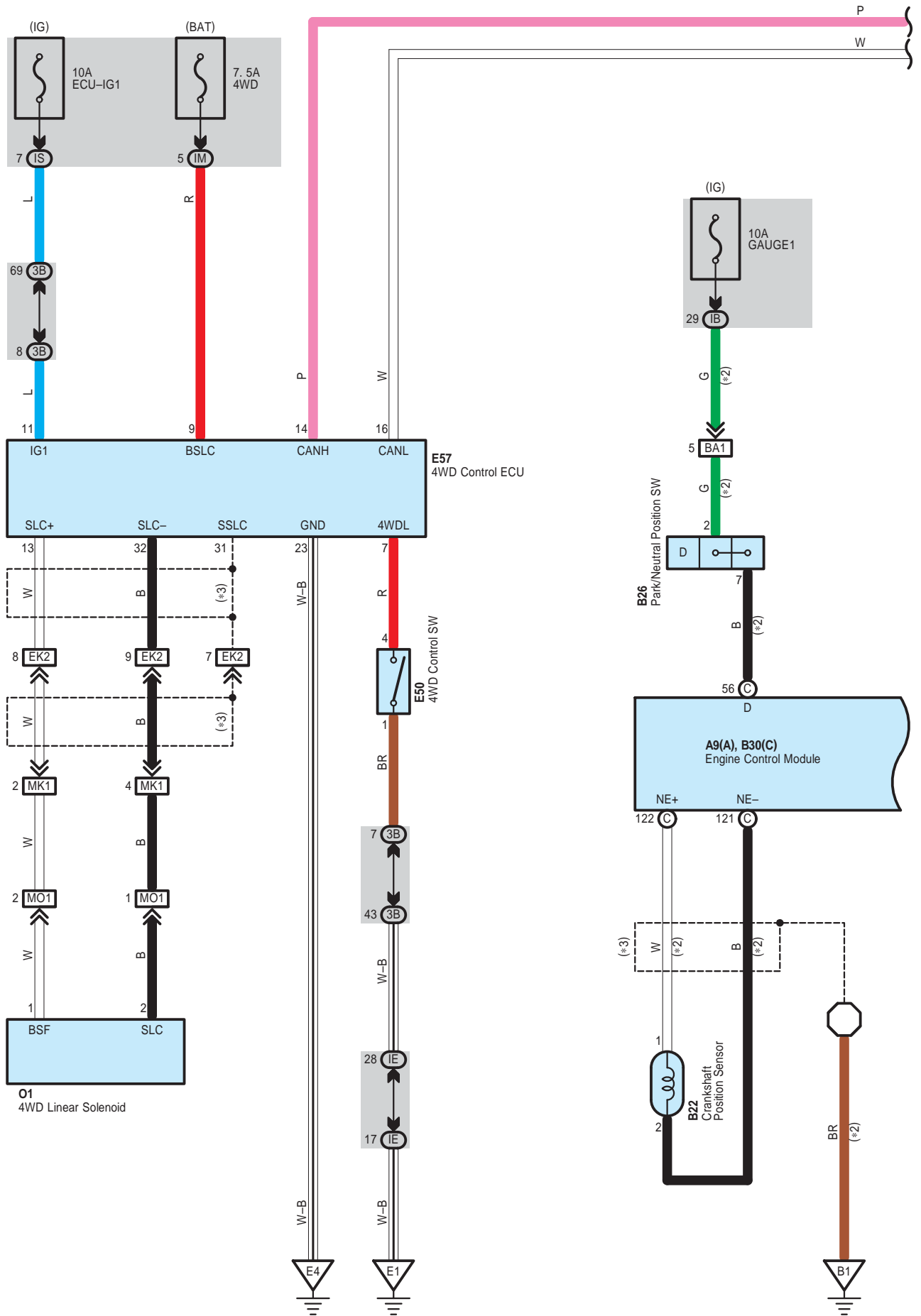
Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IH		
IM		
IM	31	

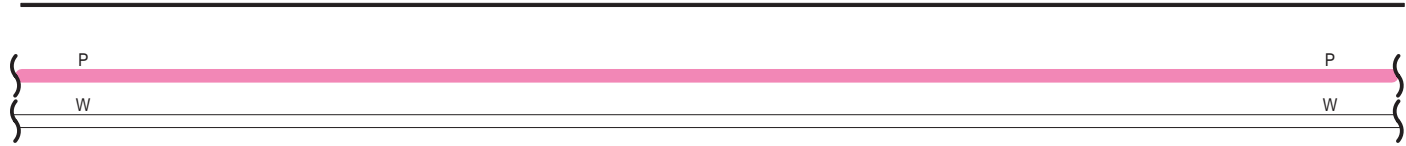
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE3	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE4		
AE6		
BA1	65 (2AZ-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
BA2		

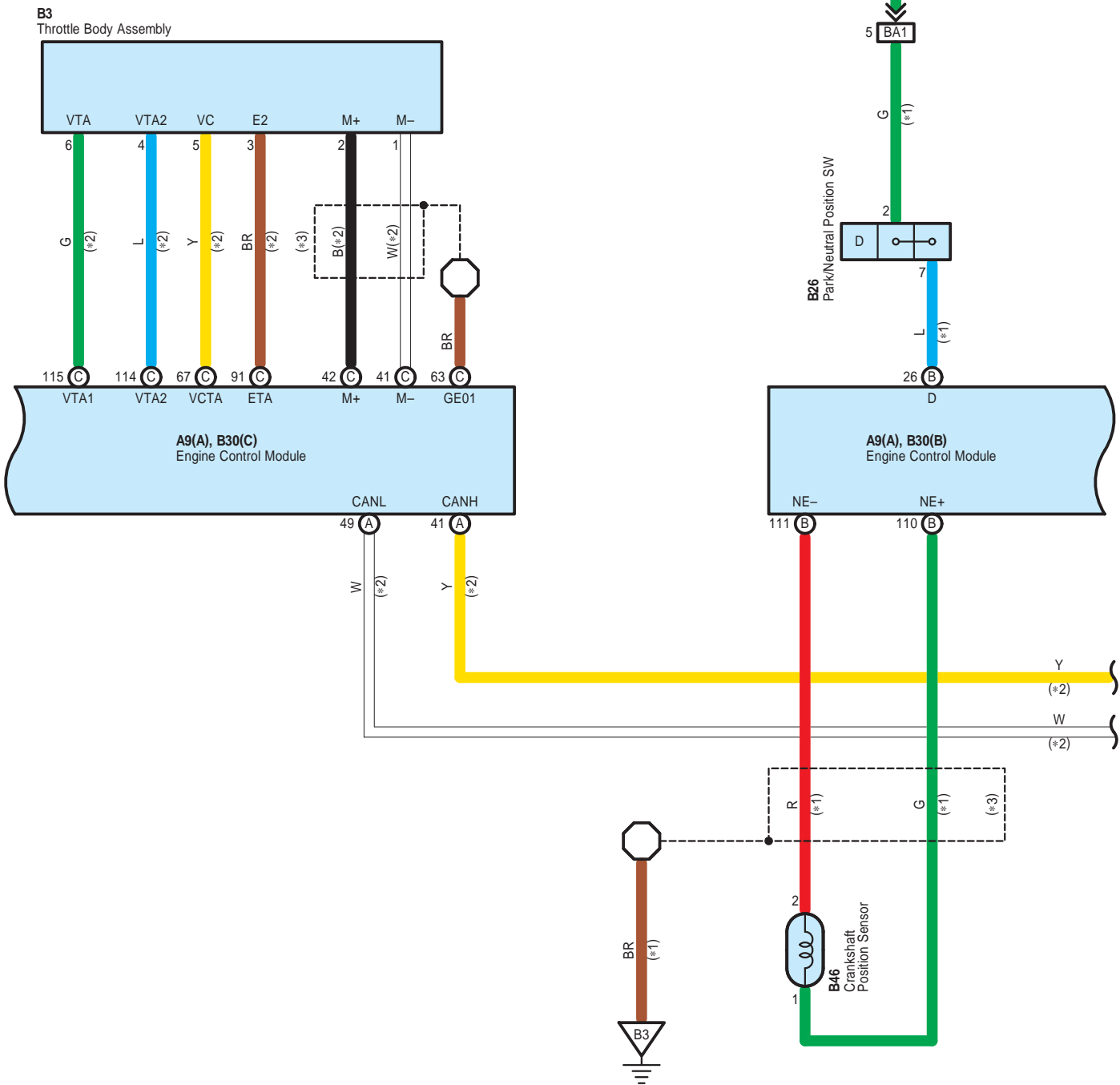
 : **Ground Points**

Code	See Page	Ground Points Location
A1	65 (2AZ-FE)	Front Left Fender
A2		
B1	65 (2AZ-FE)	Left Side of the Cylinder Head
B2		
E1	66	Left Kick Panel



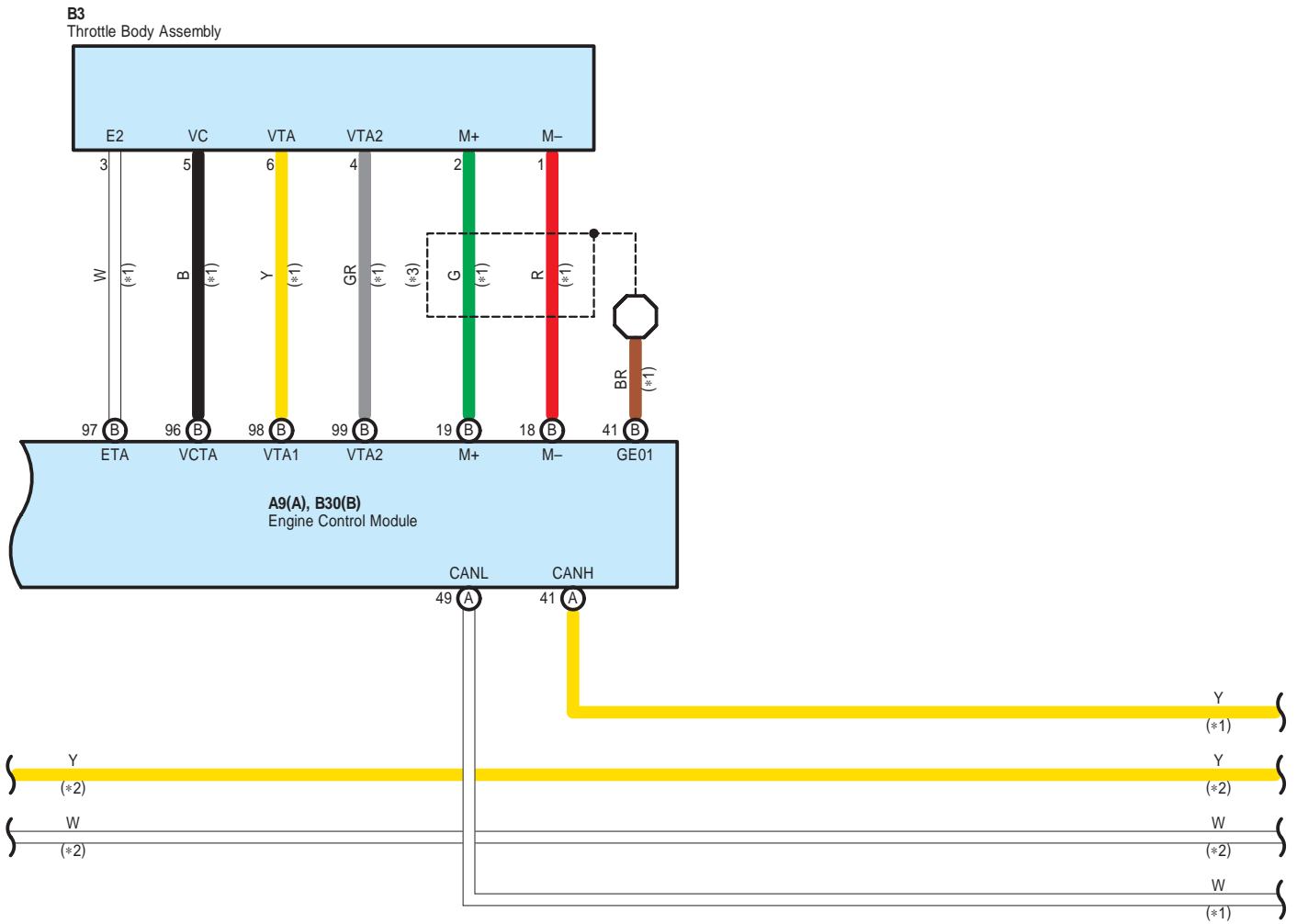


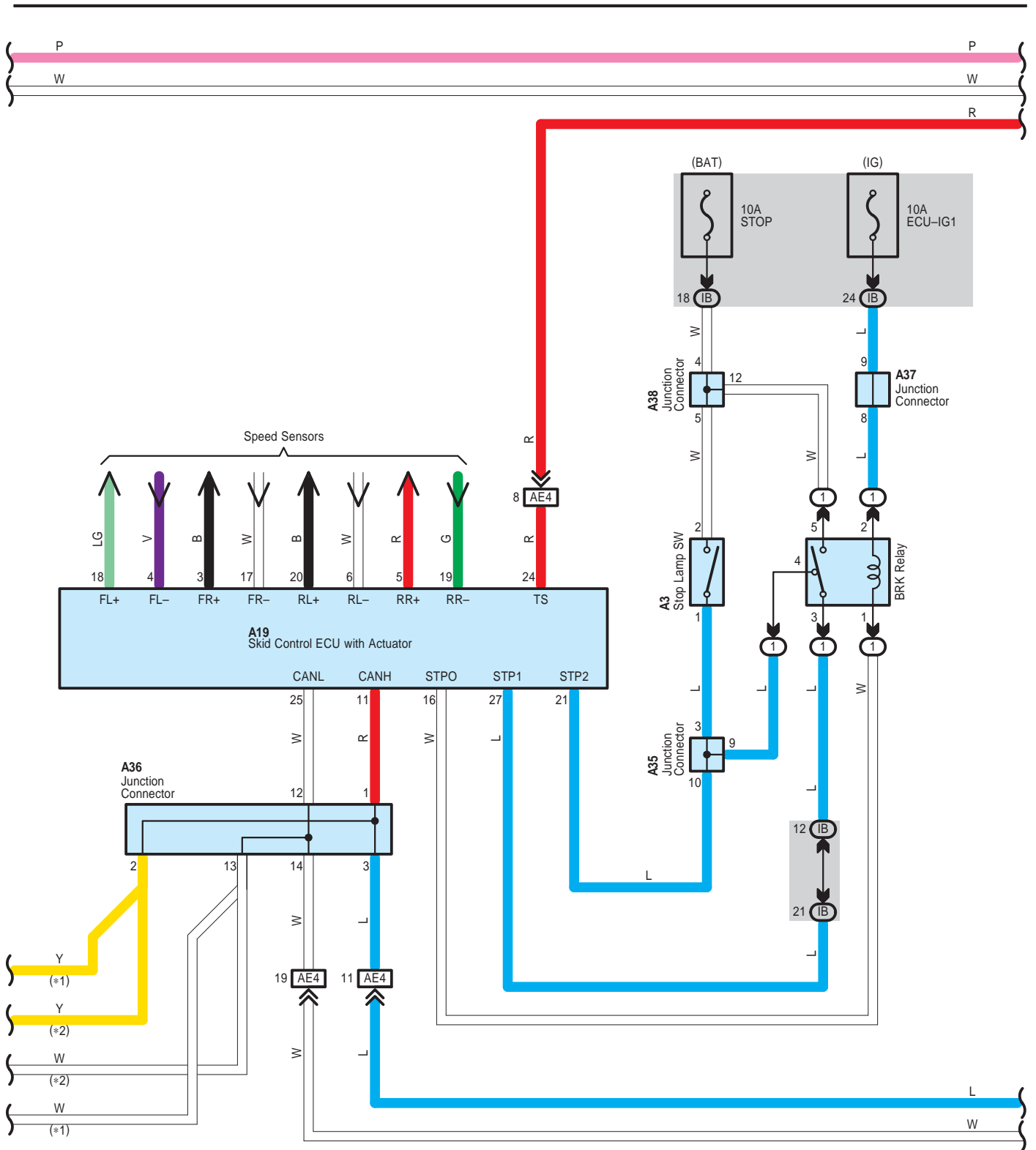
- * 1 : 2GR-FE
- * 2 : 2AZ-FE
- * 3 : Shielded

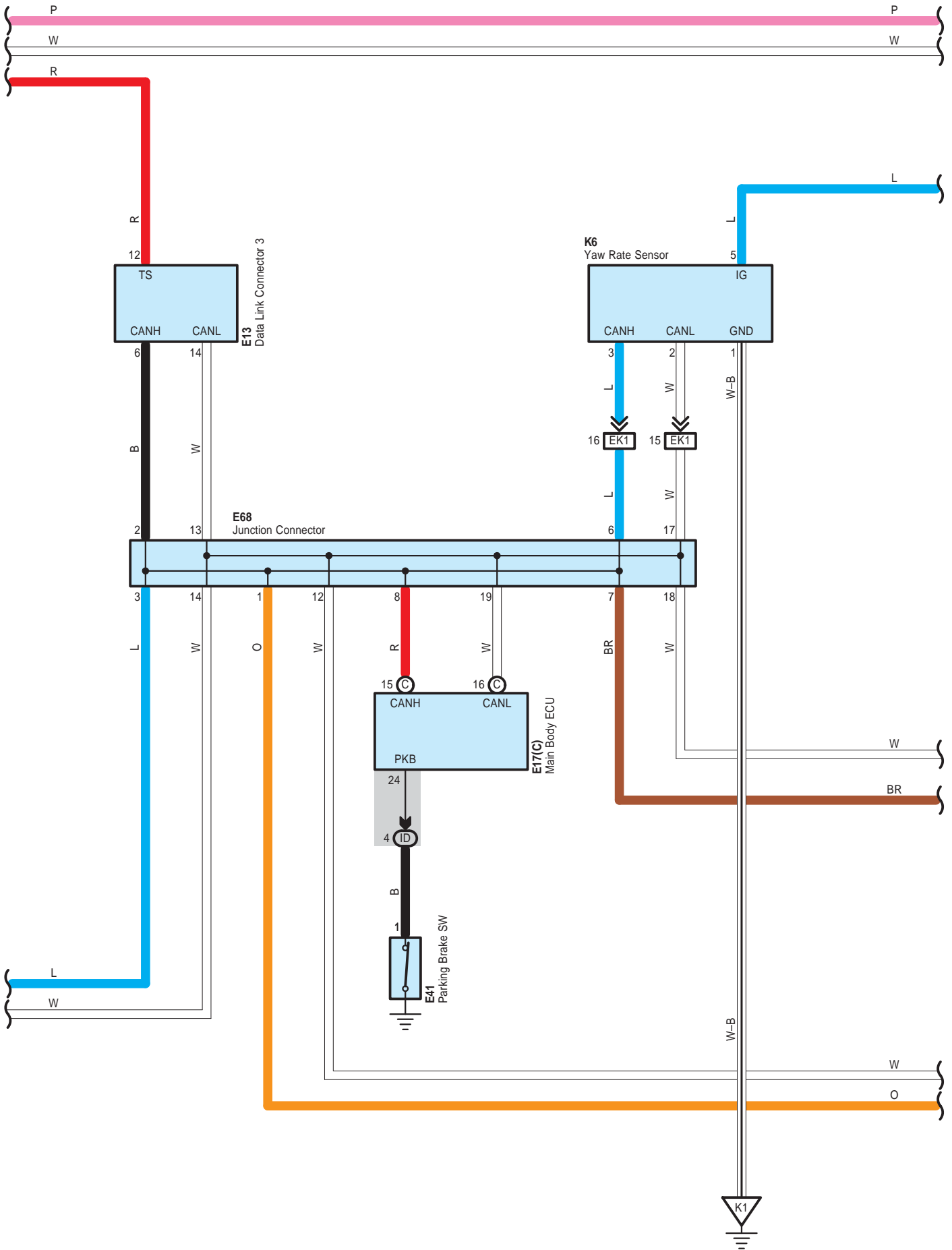


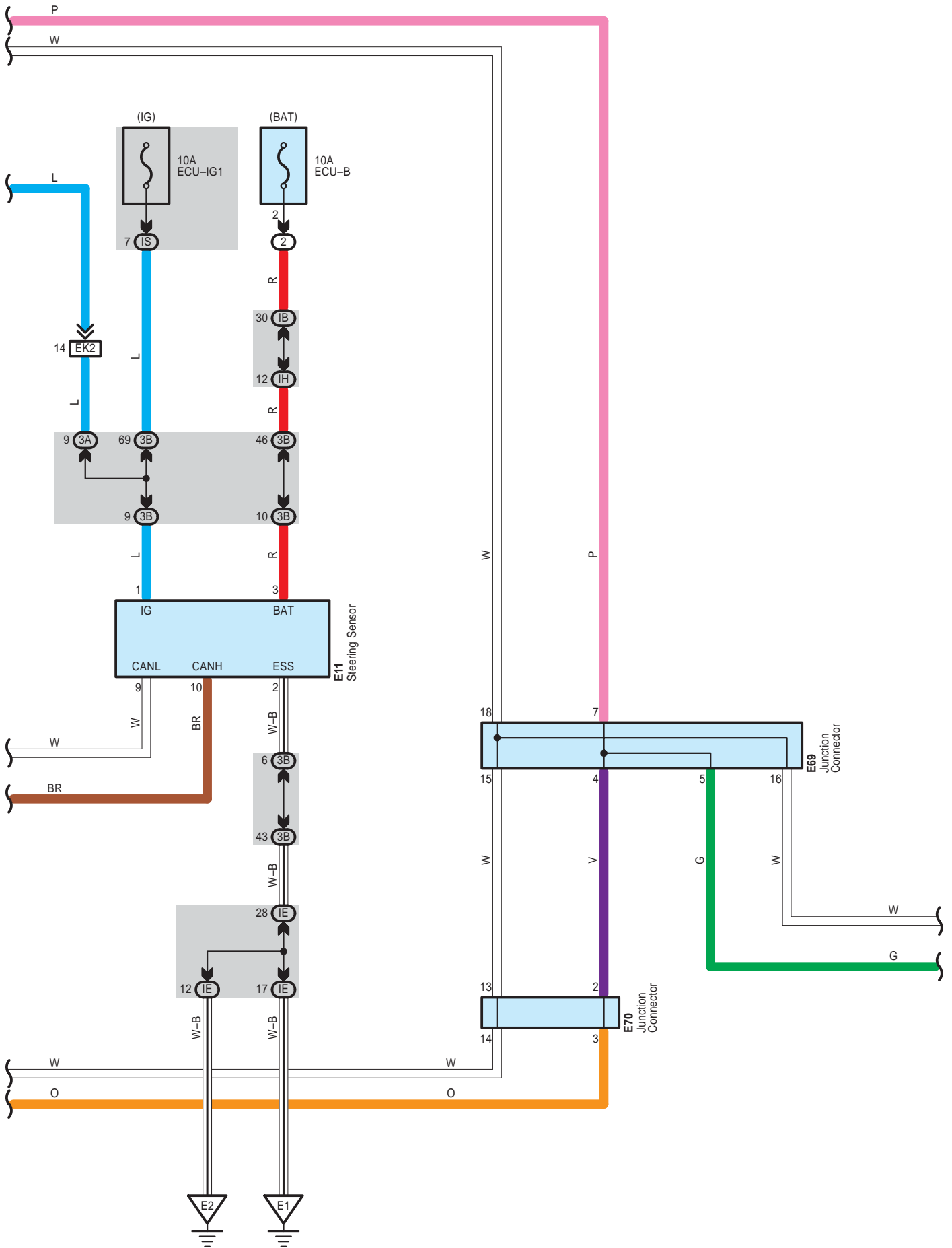


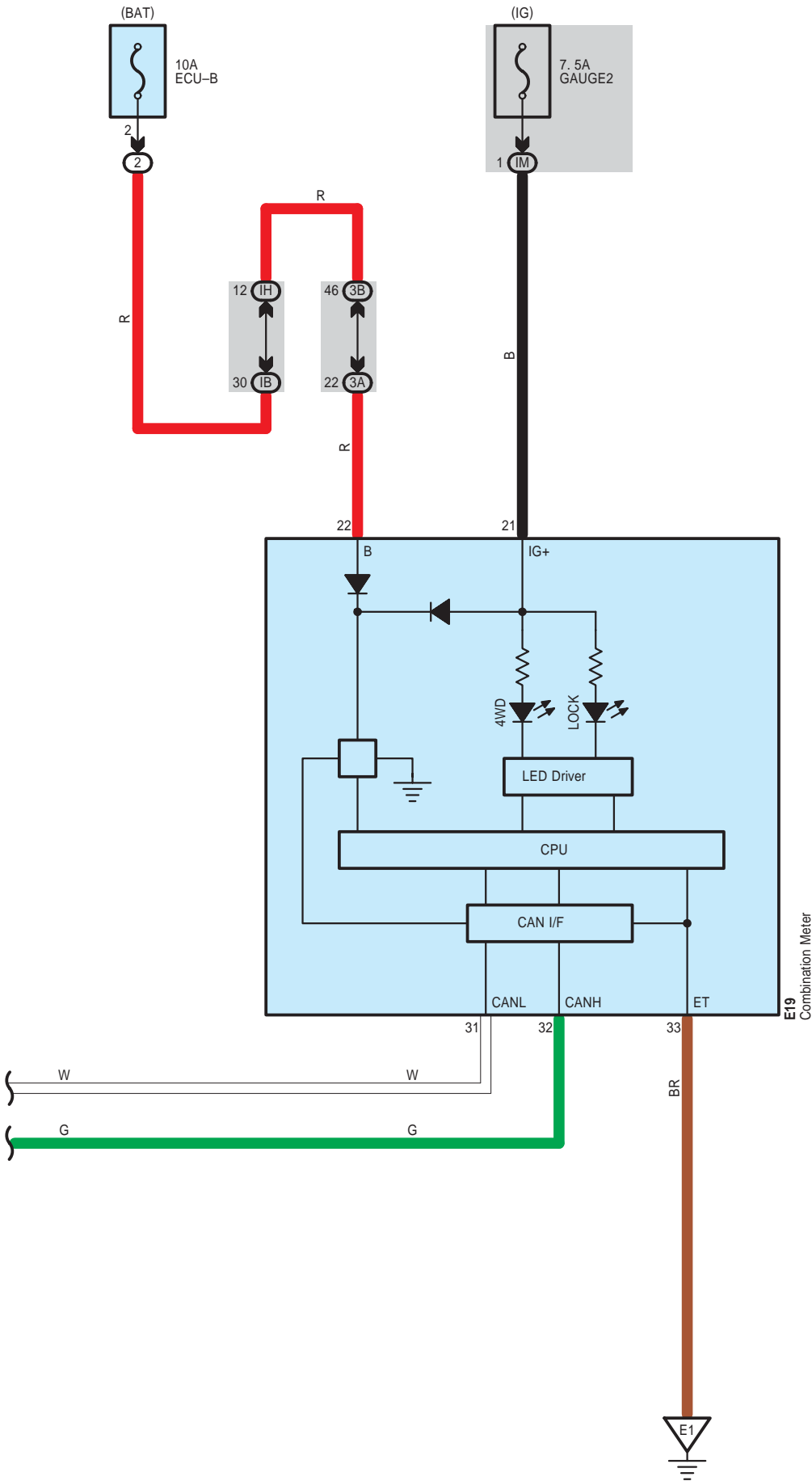
- * 1 : 2GR-FE
- * 2 : 2AZ-FE
- * 3 : Shielded











System Outline

Driving conditions are detected through indicators such as wheel speed, yaw rate sensor and steering angle signals, which are sent by ECUs, sensors and switches. The current delivered to the solenoid is controlled to provide the optimum torque to the rear wheels, in accordance with the driving conditions.

* Auto mode control

- * The torque distribution to the rear wheels is increased at vehicle start, to ensure a stable start.
- * The torque distribution to the rear wheels is reduced during slow speed driving to stabilize.
- * During stable driving, the torque distribution to the rear wheels is discontinued, making the vehicle front wheel drive and reducing fuel consumption.
- * During deceleration using the brakes, the 4 wheel drive is released to enhance the effect of the ABS/VSC control.

* Lock mode control

- * The torque distribution to the rear wheels is fixed at the maximum level.
- * At vehicle start, the torque distribution to the rear wheels is set at the maximum level to facilitate escape from the stuck condition.
- * The mode automatically reverts to auto mode at a vehicle speed of 40 km/h or over.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
A3	56	B3	53 (2AZ-FE)	E19	54	
A9	A	B22	53 (2AZ-FE)	E41	55	
						52 (2AZ-FE)
A19	50 (2GR-FE)	B26	53 (2AZ-FE)	E57	55	
						52 (2AZ-FE)
A35	56	B30	B	53 (2AZ-FE)	E69	55
A36	56		C	51 (2GR-FE)	E70	55
A37	56	B46	51 (2GR-FE)	E70	55	
A38	56	E11	54	K6	59	
A38	56	E13	54	O1	61	
B3	51 (2GR-FE)	E17	C	54		

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IH		
IM		
IS	31	

□ : Connector Joining Wire Harness and Wire Harness

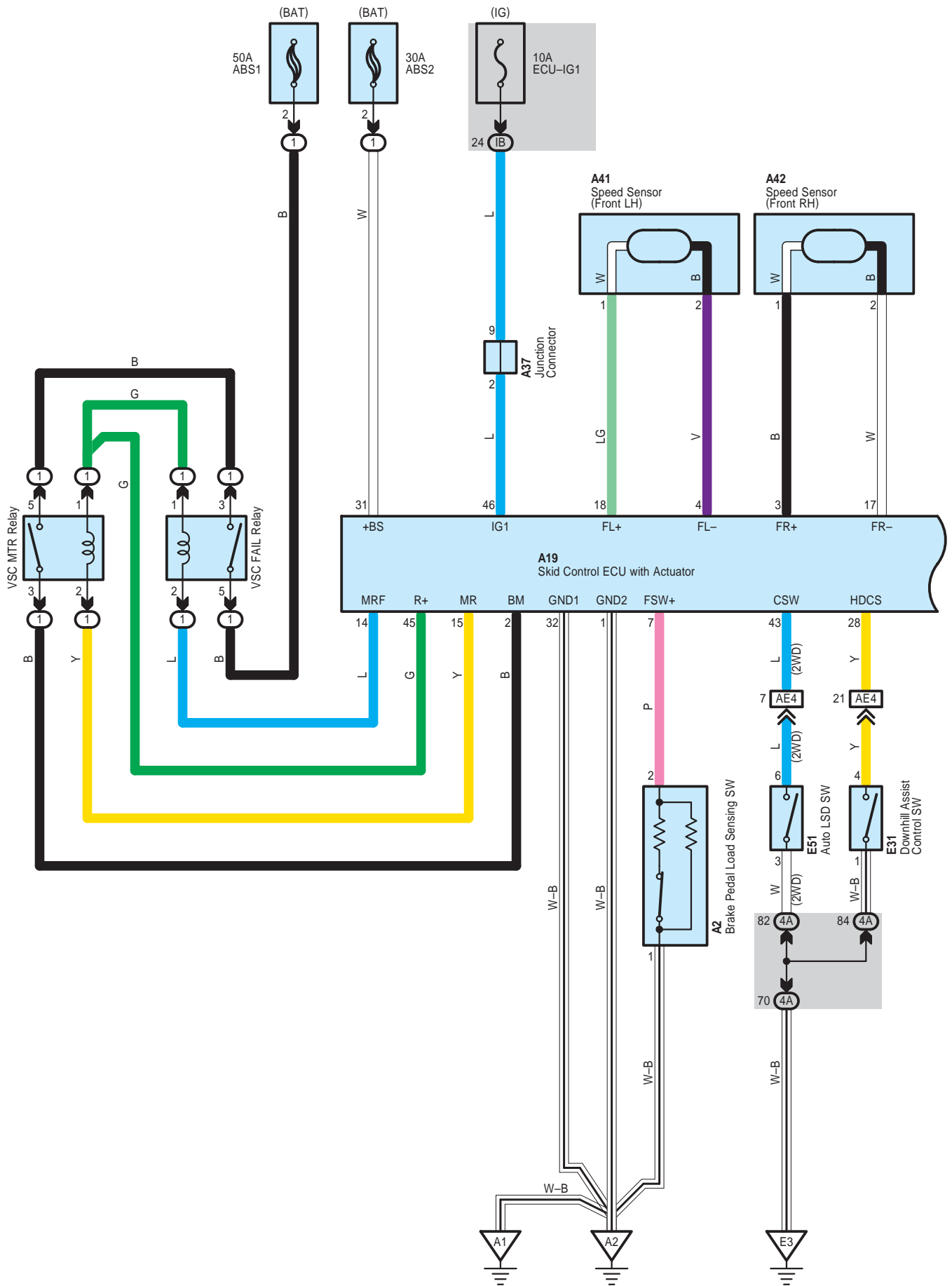
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
	65 (2AZ-FE)	
EK1	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)
EK2		
MK1	67	Floor No.4 Wire and Floor Wire (Left Quarter Panel)
MO1	67	Floor No.4 Wire and Frame No.3 Wire (Near the Rear Differential)

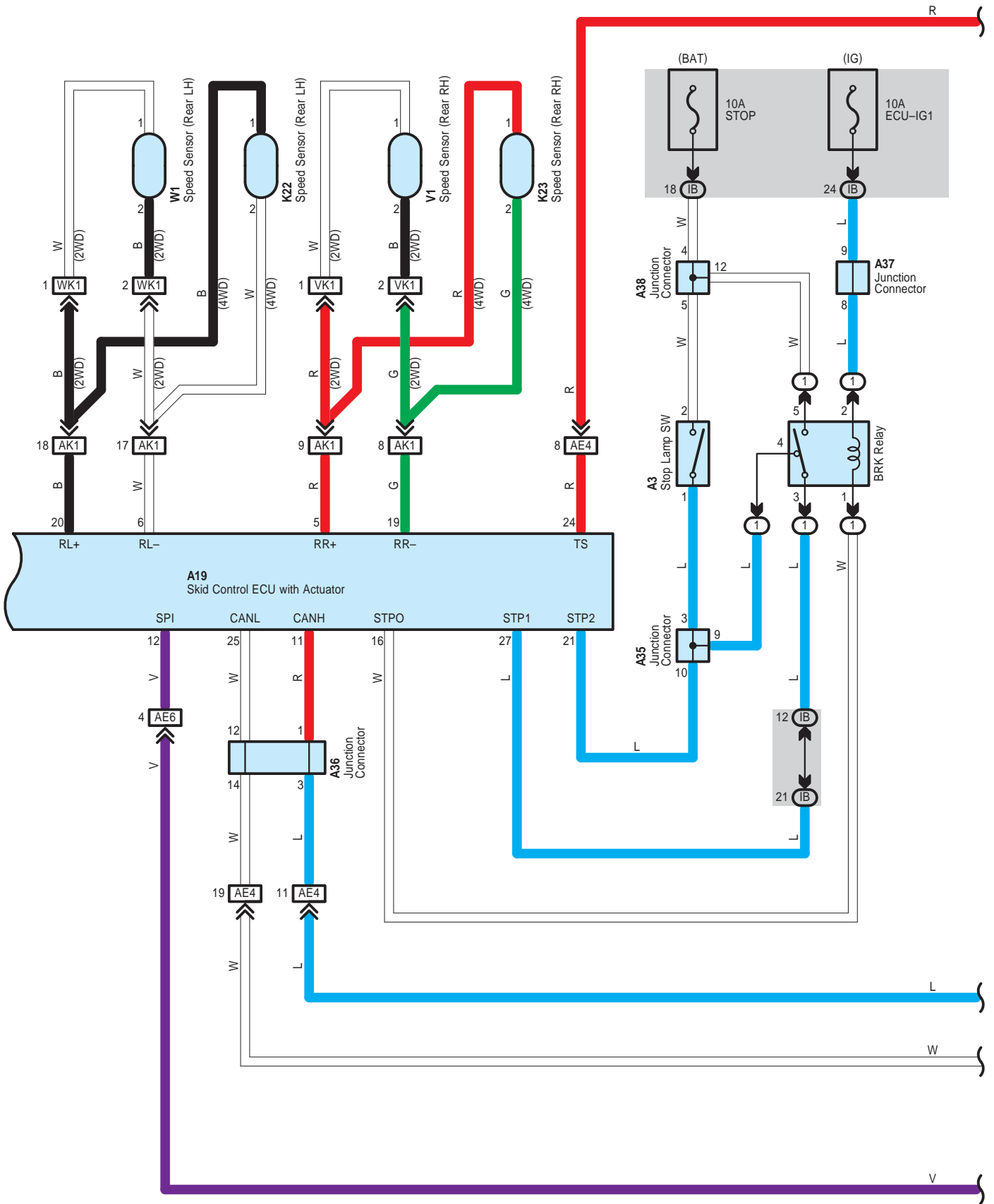


: Ground Points

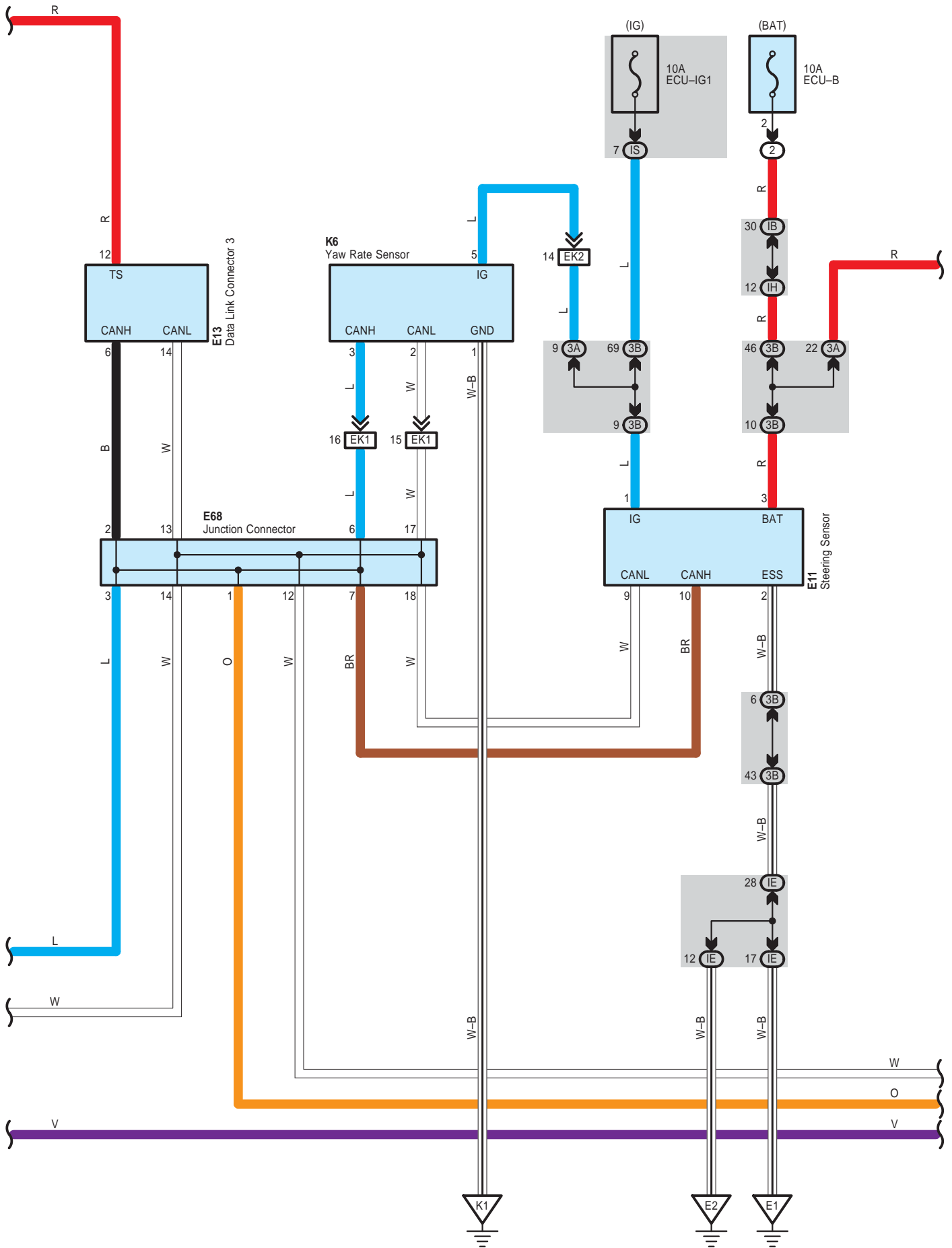
Code	See Page	Ground Points Location
B1	65 (2AZ-FE)	Left Side of the Cylinder Head
B3	64 (2GR-FE)	
E1	66	Left Kick Panel
E2	66	Instrument Panel Reinforcement Left
E4	66	Right Kick Panel
K1	67	Left Center Pillar

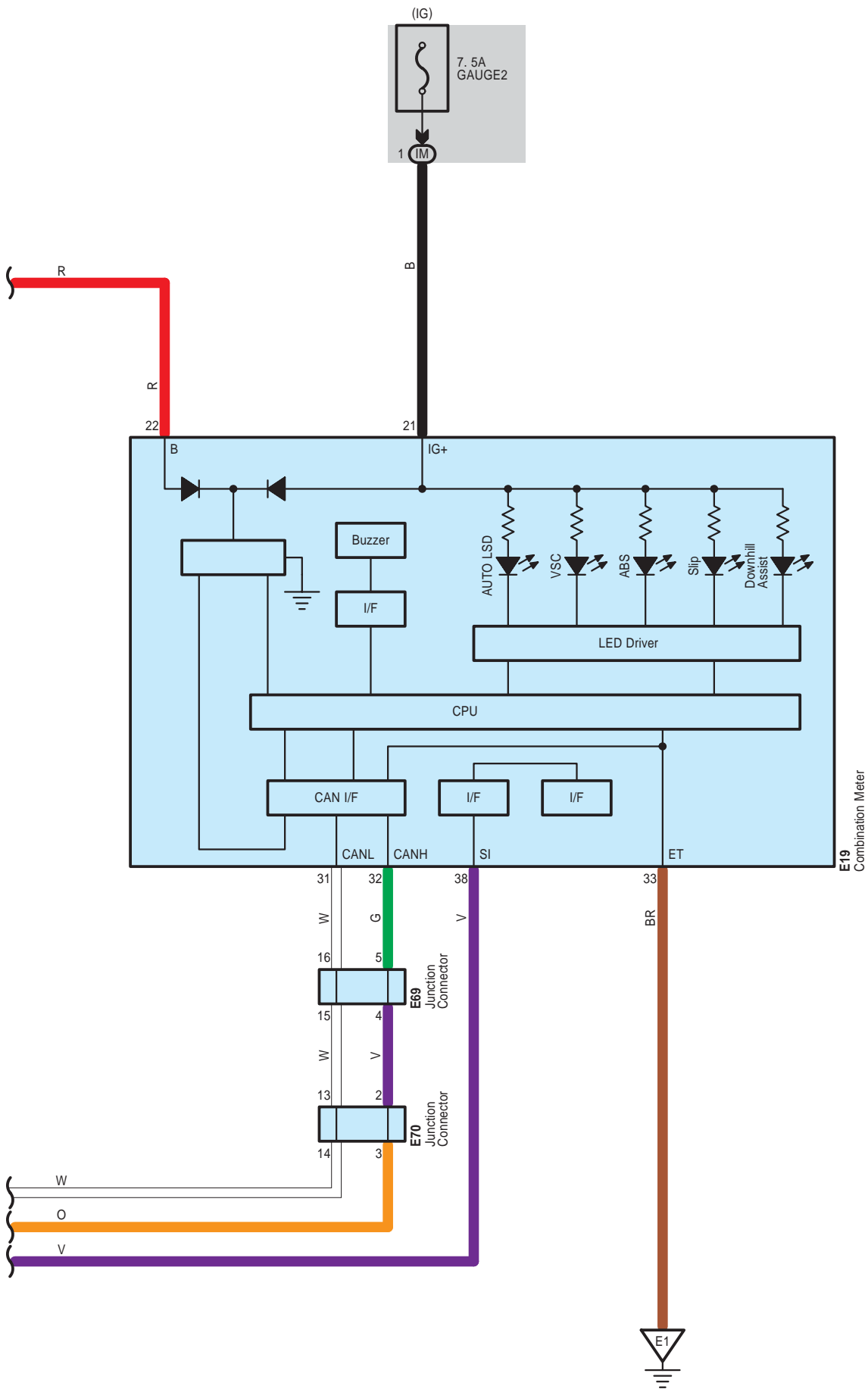
ABS, TRAC, VSC, Downhill Assist Control, Hill-Start Assist Control and Auto LSD





ABS, TRAC, VSC, Downhill Assist Control, Hill-Start Assist Control and Auto LSD





RAV4 (EM03T0U)

System Outline

1. ABS Operation

If the brake pedal is depressed suddenly, the ABS controls the hydraulic pressure of the wheel cylinders for all the four wheels to automatically avoid wheel locking and ensure the directional and steering stability of the vehicle. If the brake pedal is depressed suddenly, the skid control ECU controls the solenoids in the actuators using the signals from the sensors to move the brake fluid to the reservoir in order to release the braking pressure applied to the wheel cylinder. If the skid control ECU detects that the fluid pressure in the wheel cylinder is insufficient, the ECU controls the solenoids in the actuators to increase the braking pressure.

2. Traction Control Operation

The traction control system controls the engine torque, the hydraulic pressure of the driving wheel cylinders, slipping of the wheels which may occur at start or acceleration of the vehicle, to ensure an optimal driving power and vehicle stability corresponding to the road conditions.

3. VSC Operation

Unexpected road conditions, vehicle speed, emergency situation, and any other external factors may cause large under- or over-steering of the vehicle. If this occurs, the VSC system automatically controls the engine power and wheel brakes to reduce the under- or over-steering.

To reduce large over-steering :

If the VSC system determines that the over-steering is large, it activates the brakes for the outer turning wheels depending on the degree of the over-steering to produce the moment toward the outside of the vehicle and reduce the over-steering.

To reduce large under-steering :

If the VSC system determines that the under-steering is large, it controls the engine power and activates the rear wheel brakes to reduce the under-steering.

4. Fail Safe Function

If an error occurs in the skid control ECU, sensor signals, and/or actuators, the skid control ECU inhibits the brake actuator control and inputs the error signal to the engine control module. According to the error signal, the brake actuator turns off the solenoid and the engine control module rejects any electronically controlled throttle open request from the VSC system. As a result, the vehicle functions regardless of the ABS, TRAC, and VSC systems.

5. 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 control vehicles speed within the range of 5 to 7 km/h.

6. Hill–Start Assist 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.

7. Auto LSD

Auto LSD fulfills the function of LSD (Limited Slip Differential) by using the system of TRAC. Its control focuses on 'getting out', which ensures to recover from run-off condition and to take off on roads with much travel resistance such as sand.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A2	56	A41	52 (2AZ–FE)	E69	55
A3	56	A42	50 (2GR–FE)	E70	55
A19	50 (2GR–FE)		52 (2AZ–FE)	K6	59
	52 (2AZ–FE)	E11	54	K22	59
A35	56	E13	54	K23	59
A36	56	E19	54	V1	61
A37	56	E31	54	W1	61
A38	56	E51	55		
A41	50 (2GR–FE)	E68	55		

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

 : **Junction Block and Wire Harness Connector**

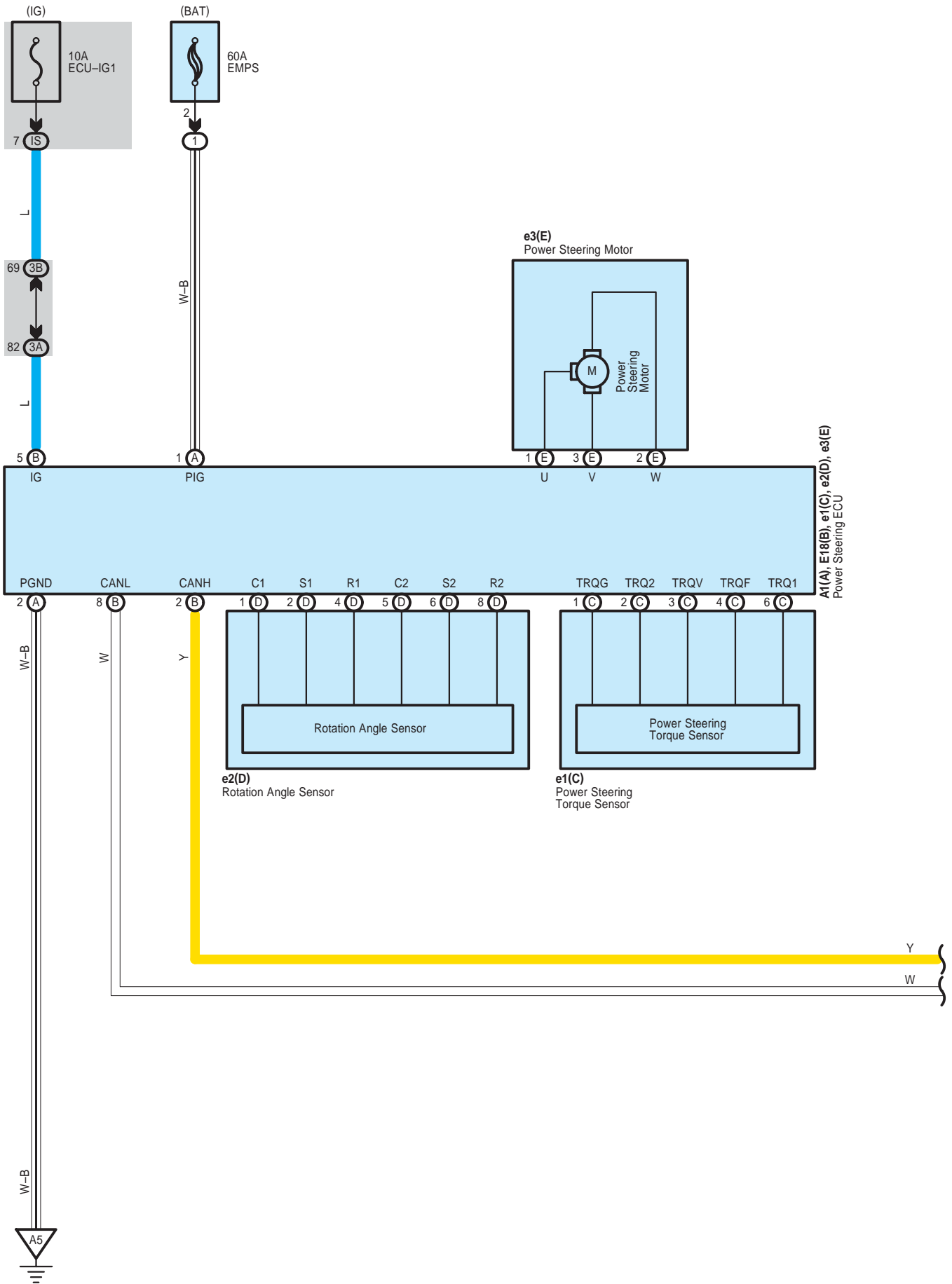
Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IH		
IM	31	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IS		

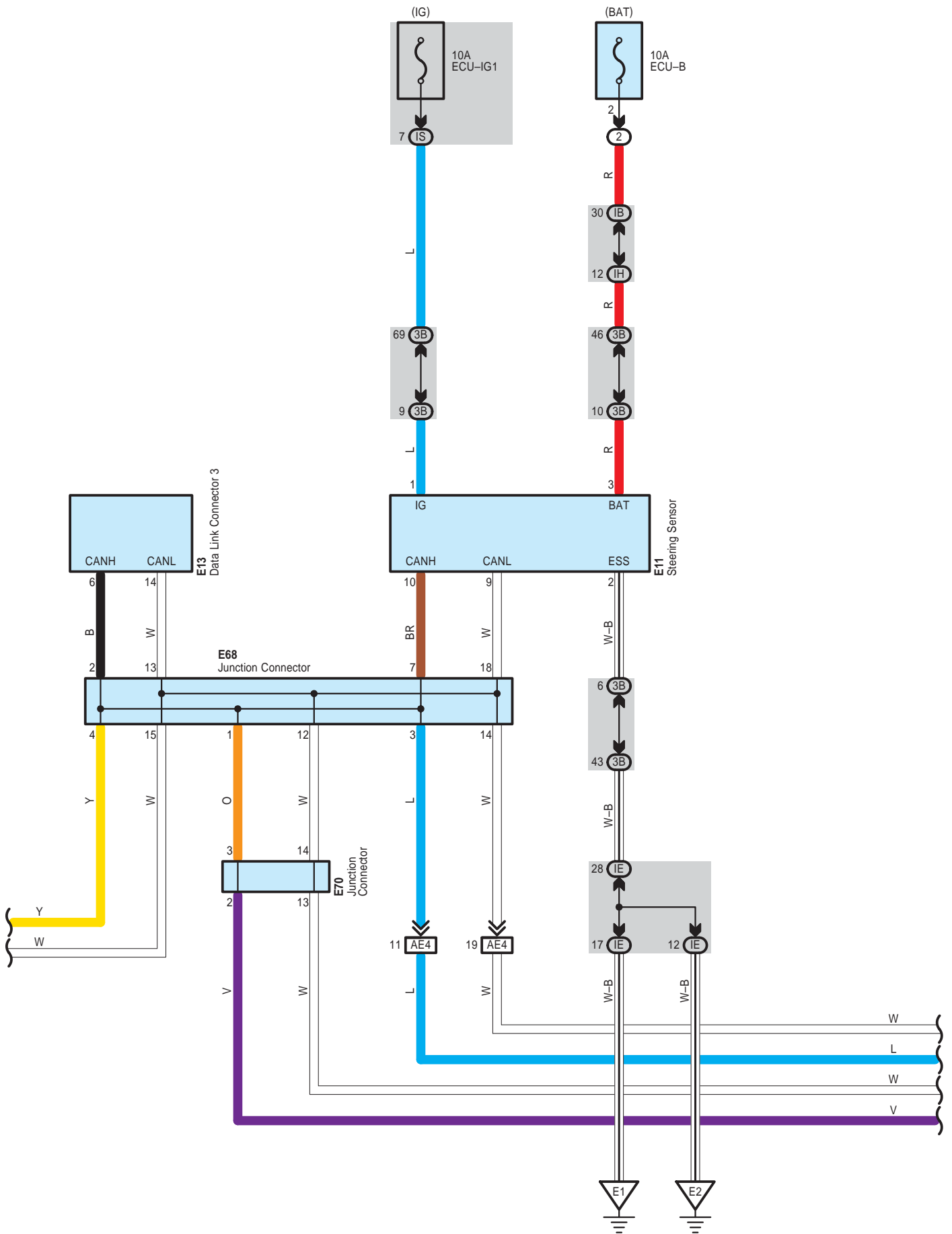
 : **Connector Joining Wire Harness and Wire Harness**

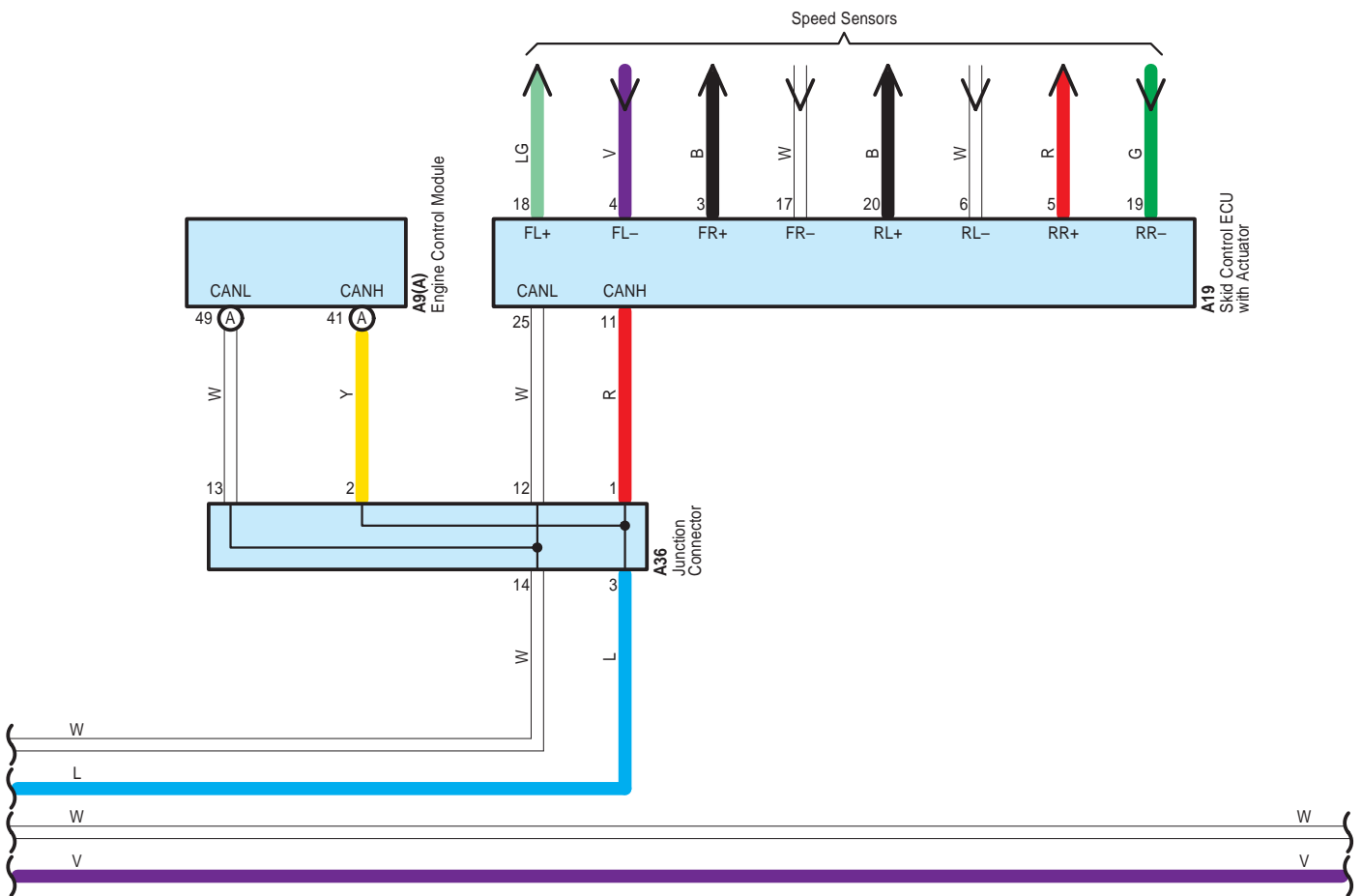
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE6		
AK1	66	Engine Room Main Wire and Floor Wire (Left Kick Panel)
EK1	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)
EK2		
VK1	67	Skid Control Sensor Wire Rear RH and Floor Wire (Quarter Wheel House Panel RH)
WK1	67	Skid Control Sensor Wire Rear LH and Floor Wire (Quarter Wheel House Panel LH)

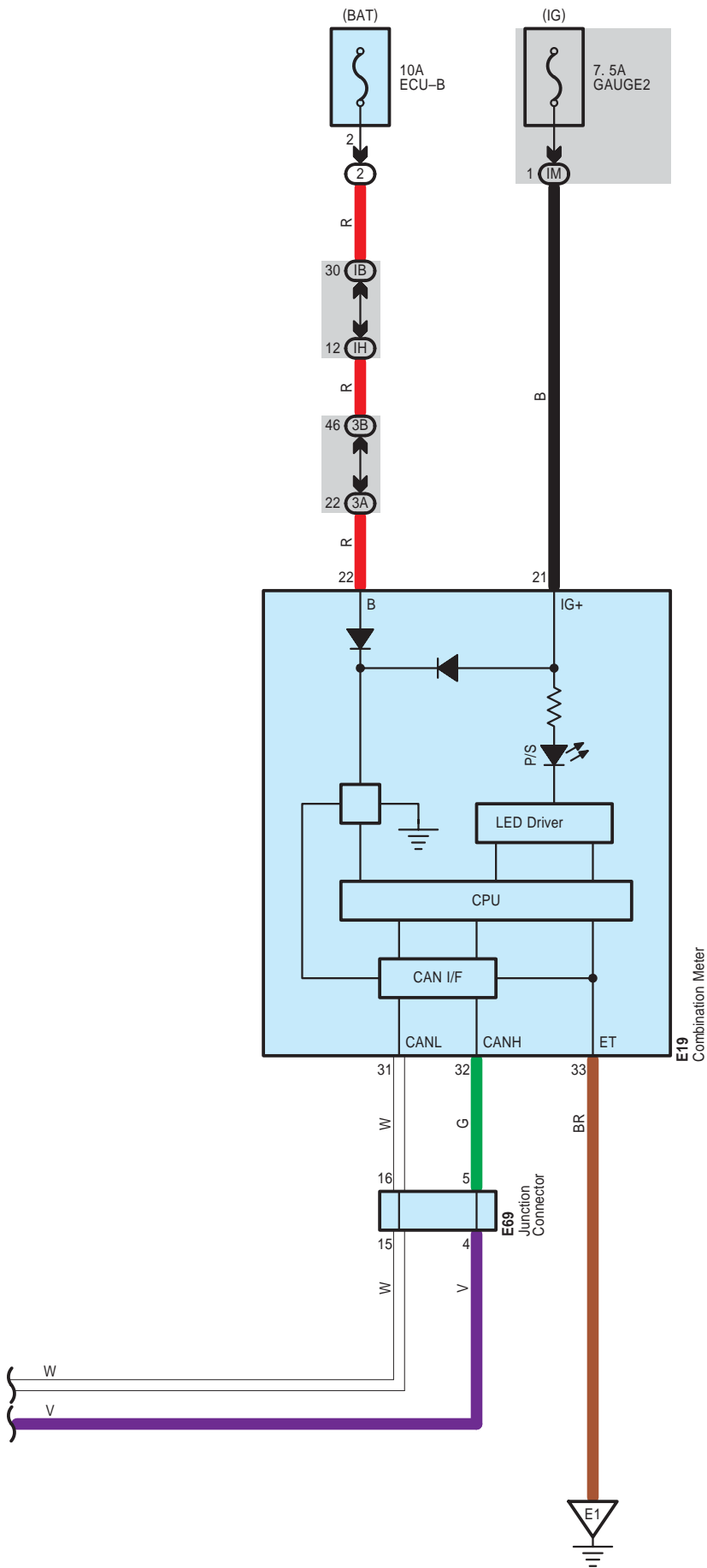
 : **Ground Points**

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
A2	64 (2GR-FE)	
	65 (2AZ-FE)	
E1	66	Left Kick Panel
E2	66	Instrument Panel Reinforcement Left
E3	66	Instrument Panel Reinforcement Center
K1	67	Left Center Pillar









System Outline

- * To reduce driver's steering force, assist current is calculated from torque sensor signal and vehicle speed signal to output them to the motor.
- * When abnormality is found in the system, the power relay and motor relay (Built in the ECU) are shut off to stop the assistance and the warning lamp (P/S) illuminates in the meter.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A1	A	56	E11	54	E70
A9	A	50 (2GR-FE)	E13	54	e1 C
		52 (2AZ-FE)	E18 B	54	e2 D
A19		50 (2GR-FE)	E19	54	e3 E
		52 (2AZ-FE)	E68	55	
A36		56	E69	55	

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IH		
IM	31	
IS		

□ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)

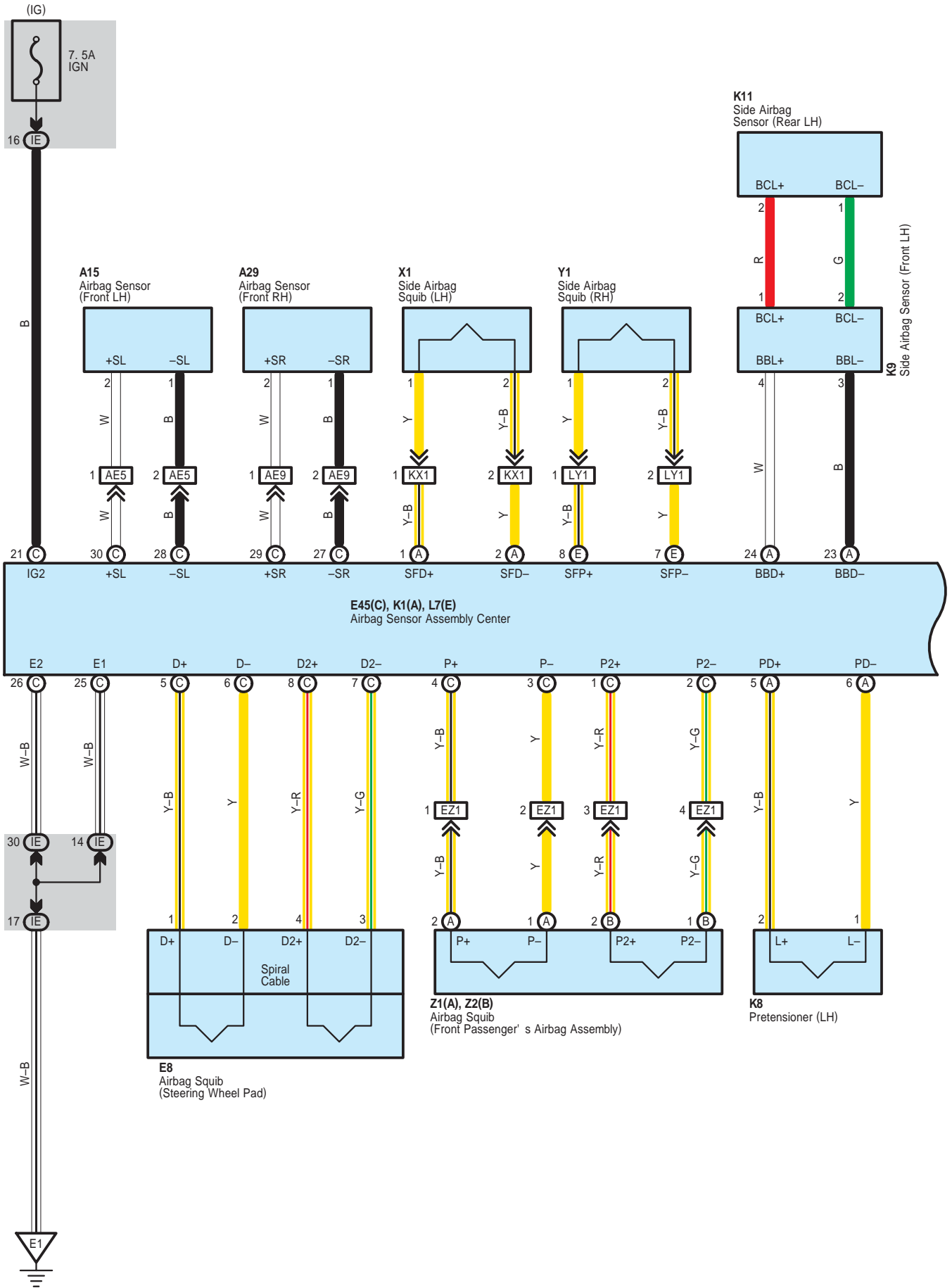
▽ : Ground Points

Code	See Page	Ground Points Location
A5	66	Left Side of the Instrument Panel
E1	66	Left Kick Panel
E2	66	Instrument Panel Reinforcement Left

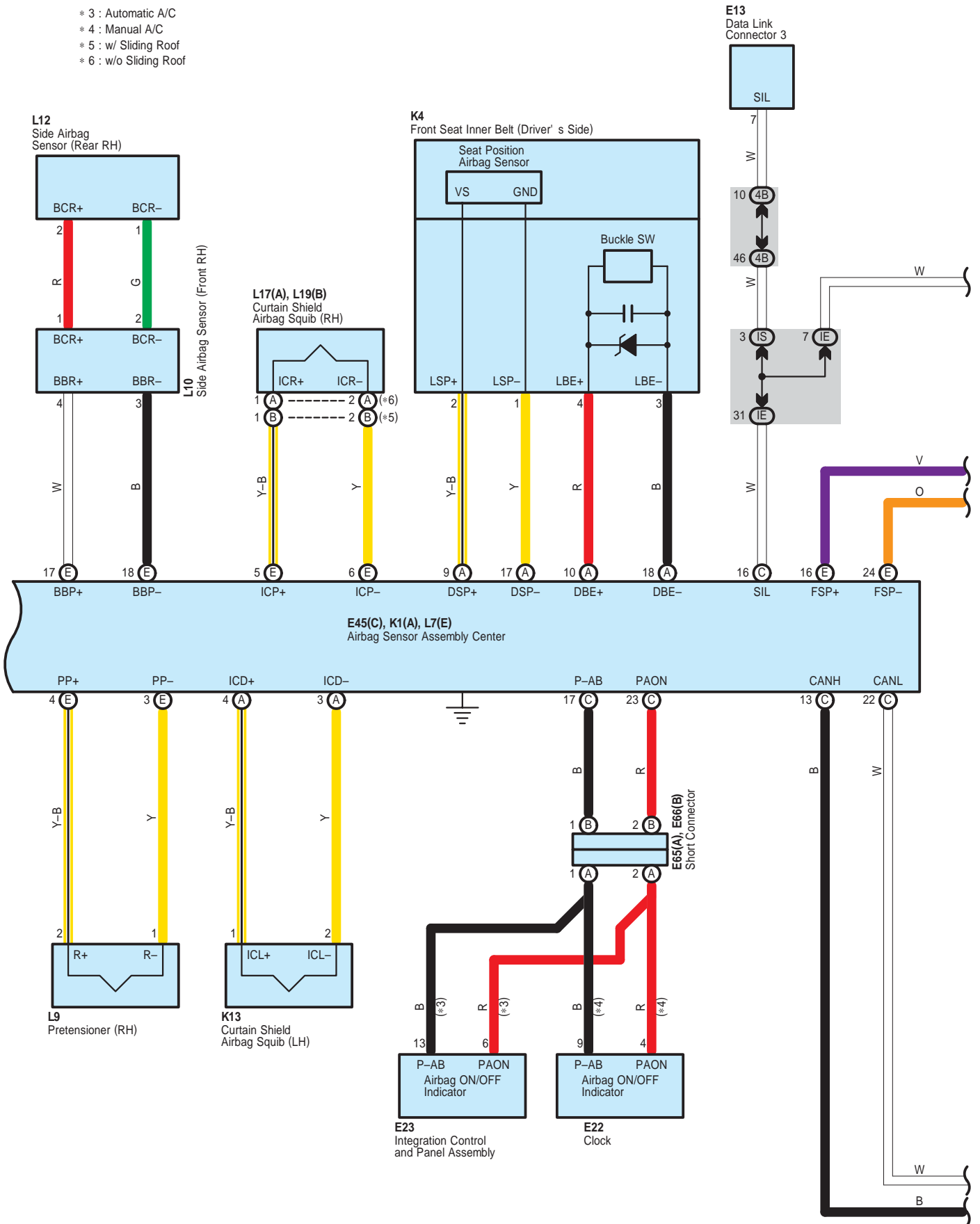
NOTICE: When inspecting or repairing the SRS, perform service in accordance with the following precautionary instructions and the procedure, and precautions in the Repair Manual applicable for the model year.

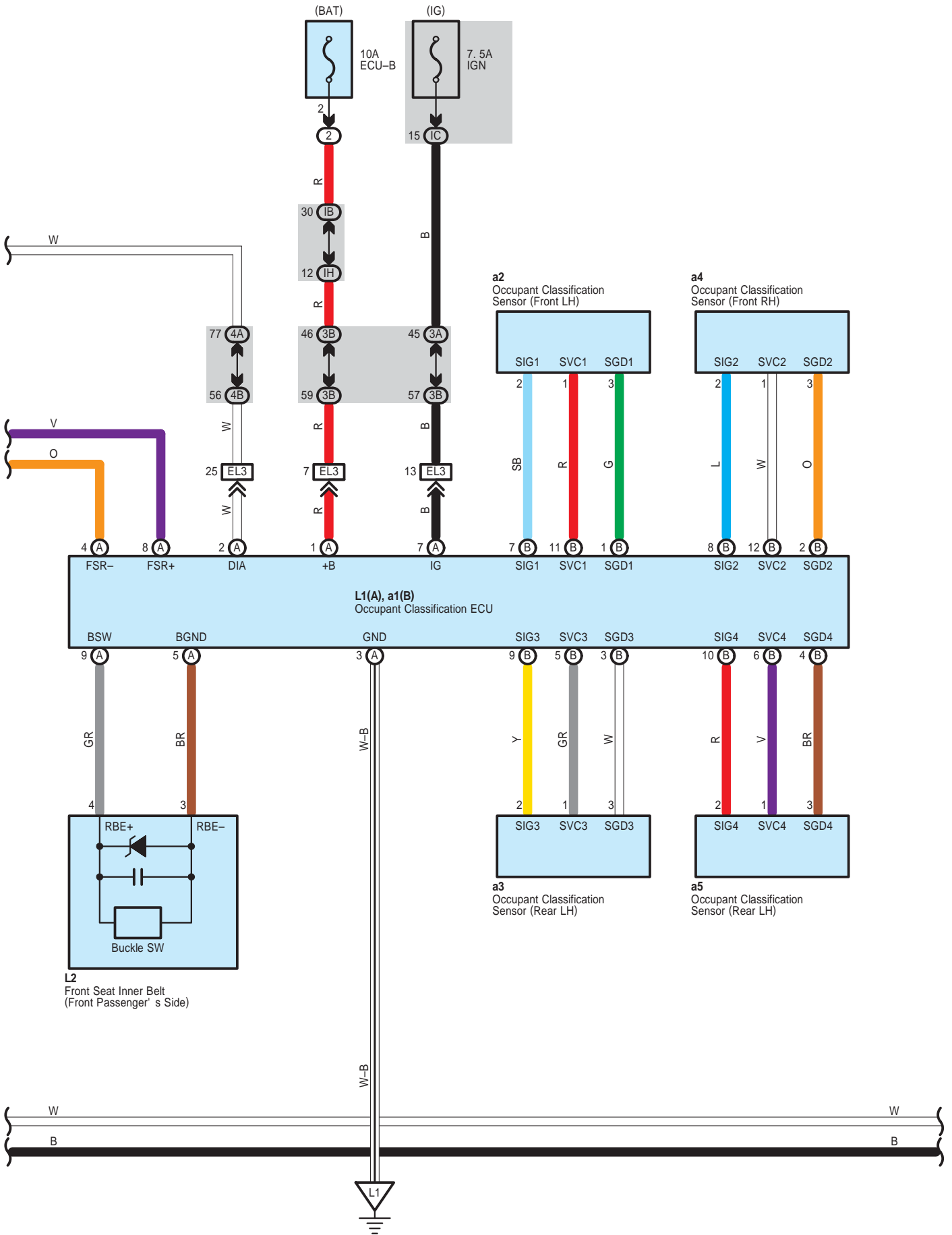
- Malfunction symptoms of the SRS are difficult to confirm, so the DTCs become the most important source of information when troubleshooting. When troubleshooting the SRS, always inspect the DTCs before disconnecting the battery.
- **Work must be started more than 90 seconds after the ignition SW is 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 deploy.)
- When the negative (-) terminal cable is disconnected from the battery, the memory of the clock and audio system will be cleared. So before starting work, make a record of the contents in the audio memory system. When work is finished, reset the audio systems as they were before and adjust the clock. Some vehicles have power tilt steering, 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 these memory contents. So when the work is finished, it will be necessary to explain it to your customer, and ask the customer to adjust the features and reset the memory. To avoid erasing the memory in each system, never use a back-up power supply from outside the vehicle.
- Before repair, remove the airbag sensor if shocks are likely to be applied to the sensor during repair.
- Do not expose the following parts directly to hot air or flame;
- Even in cases of a minor collision where the SRS does not deploy, the following parts should be inspected;
- Never use SRS parts from another vehicle. When replacing parts, replace with new parts.
- For the purpose of reuse, never disassemble and repair the following parts.
- If the following parts have been dropped, or have cracks, dents and other defects in their case, bracket, and connector, replace with new one.
- Use a volt/ohmmeter with high impedance (10 k Ω /V minimum) for troubleshooting electrical circuits of the system.
- Information labels are attached to the periphery of the SRS components. Follow the instructions of the notice.
- After work on the SRS is completed, check the SRS warning light.
- If the vehicle is equipped with a mobile communication system, refer to the precaution in the IN section of the Repair Manual.

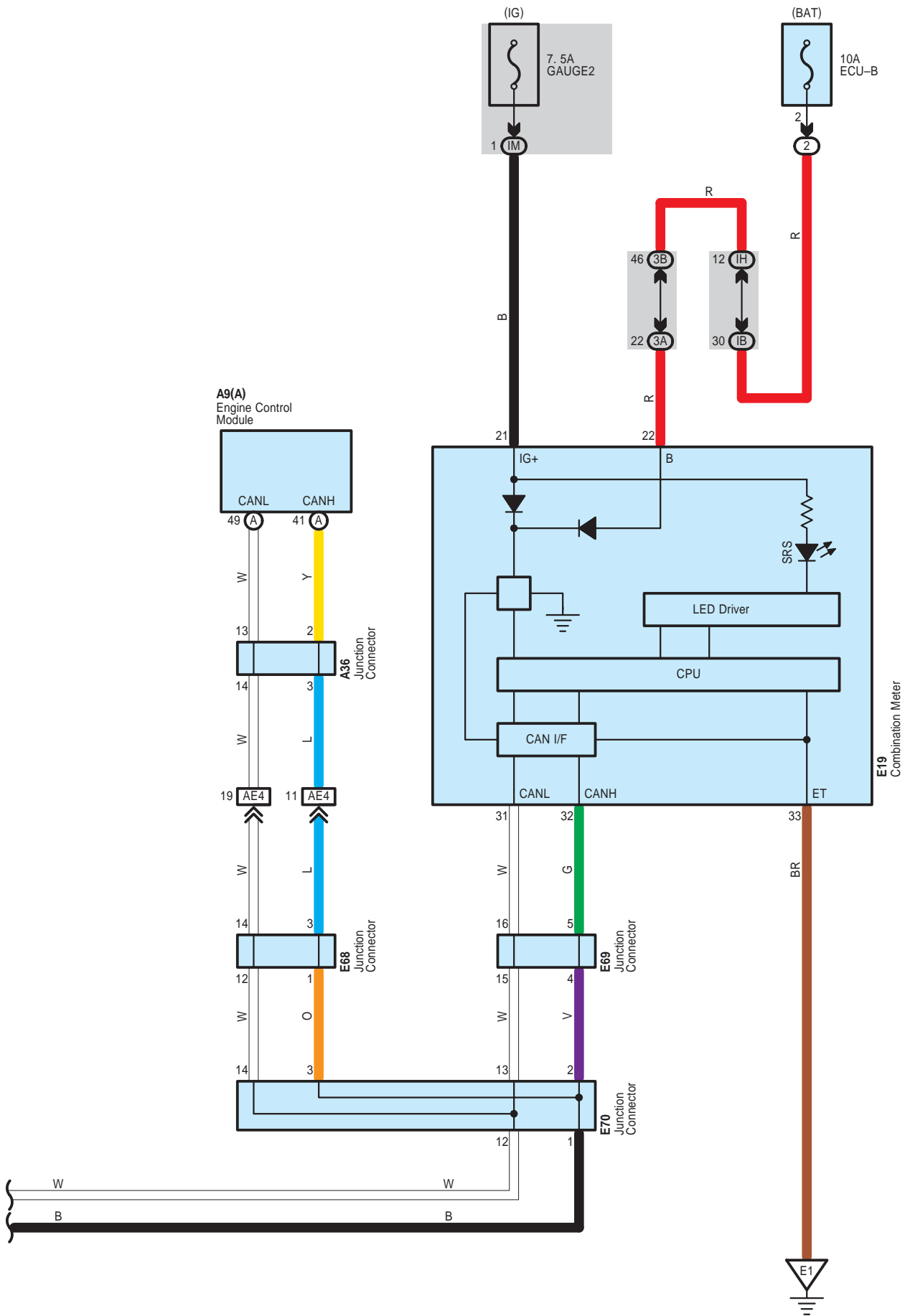
- * Steering wheel pad
- * Front passenger airbag assembly
- * Side airbag assembly
- * Curtain shield airbag assembly
- * Seat belt pretensioner
- * Center airbag sensor assembly
- * Front airbag sensor assembly
- * Side airbag sensor assembly
- * Rear airbag sensor assembly



- * 3 : Automatic A/C
- * 4 : Manual A/C
- * 5 : w/ Sliding Roof
- * 6 : w/o Sliding Roof







System Outline

- * The system reaches an ignition judgment to deploy the following device based on the signals received from the front airbag sensor and deceleration sensor.
 - Driver Airbag
 - Front Passenger Airbag
 - Seat Belt Pretensioner
- * The system reaches an ignition judgment to deploy the following device based on the signals received from the side airbag sensors.
 - Side Airbags
 - Curtain Shield Airbags
- * The dual-stage SRS airbag system has been used for the driver and front passenger airbags. This system controls the optimal airbag inflation by judging the extent of impact, seat position (driver seat), whether or not the seat belt is fastened (driver seat) and information from the front passenger occupant classification system.
- * The front passenger occupant classification system judges whether the front passenger seat is occupied by an adult or child (with child seat) or is unoccupied, according to the load applied to the front passenger seat and whether the seat belt is buckled. Based on the results, it restricts the deployment of the front passenger airbag, front passenger side airbag, and front passenger seat belt pretensioner. In addition, the system informs the driver of the result of the judgment through the use of the AIRBAG ON/OFF indicator lights.
- * A Roll Sensing Curtain Shield Airbag system has been adopted in order to deploy the curtain shield airbags and the pretensioners, in the event that the vehicle rolls over.
- * The airbag sensor assembly transmits a signal to the engine control module in order to stop the fuel pump when the airbag is deployed.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A9	A	50 (2GR-FE)	E66 B	55	L10 60
		52 (2AZ-FE)	E68	55	L12 60
A15		50 (2GR-FE)	E69	55	L17 A 60
		52 (2AZ-FE)	E70	55	L19 B 60
A29		50 (2GR-FE)	K1 A	57	X1 62
		52 (2AZ-FE)	K4	62	Y1 62
A36	56	K8	59	Z1 A 57	
E8	54	K9	59	Z2 B 57	
E13	54	K11	59	a1 B 62	
E19	54	K13	59	a2 62	
E22	54	L1 A	62	a3 62	
E23	54	L2	62	a4 62	
E45	C	L7 E	57	a5 62	
E65	A	L9	60		

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IC	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IH		
IM	31	
IS		

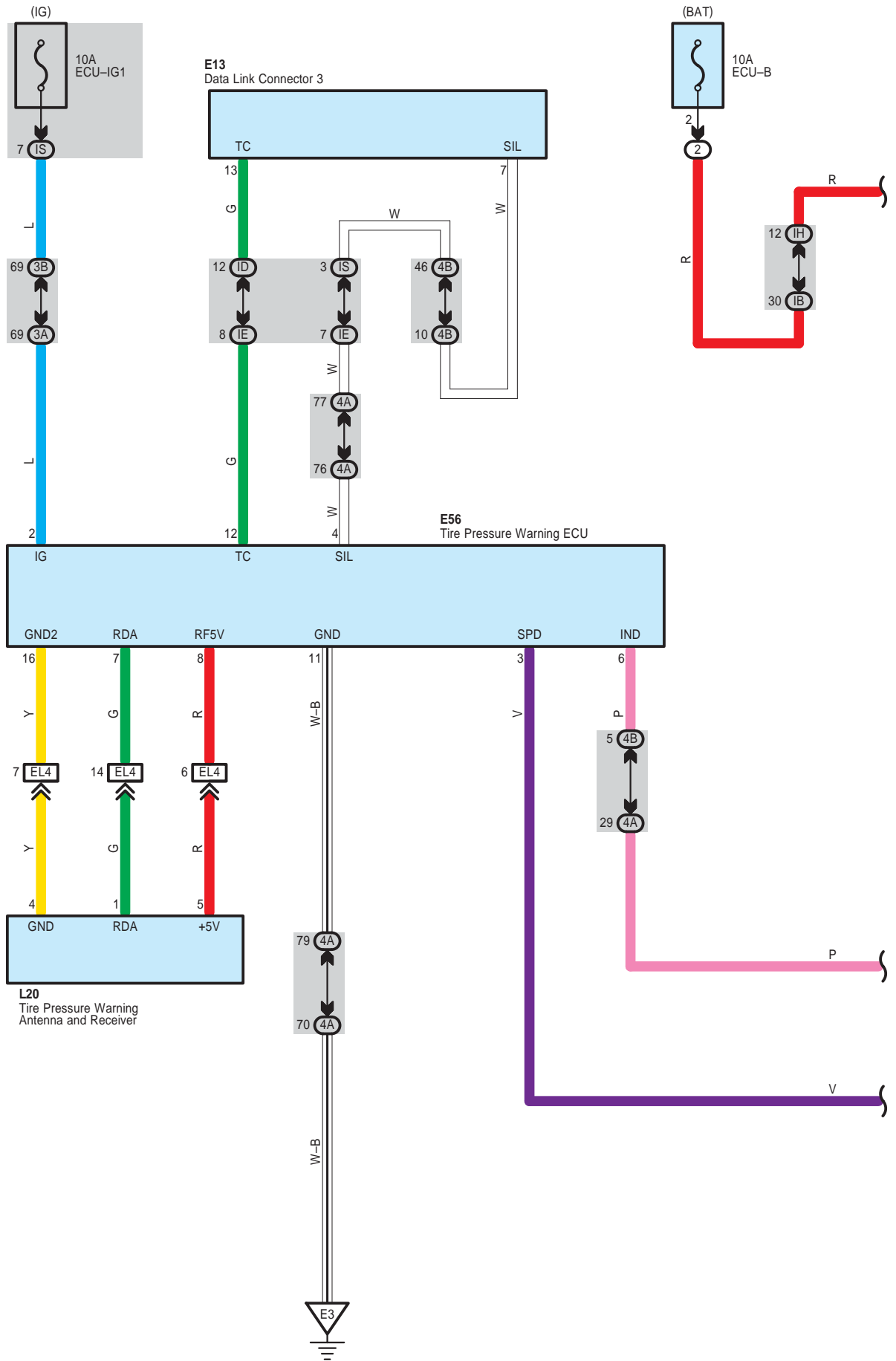
 : Connector Joining Wire Harness and Wire Harness

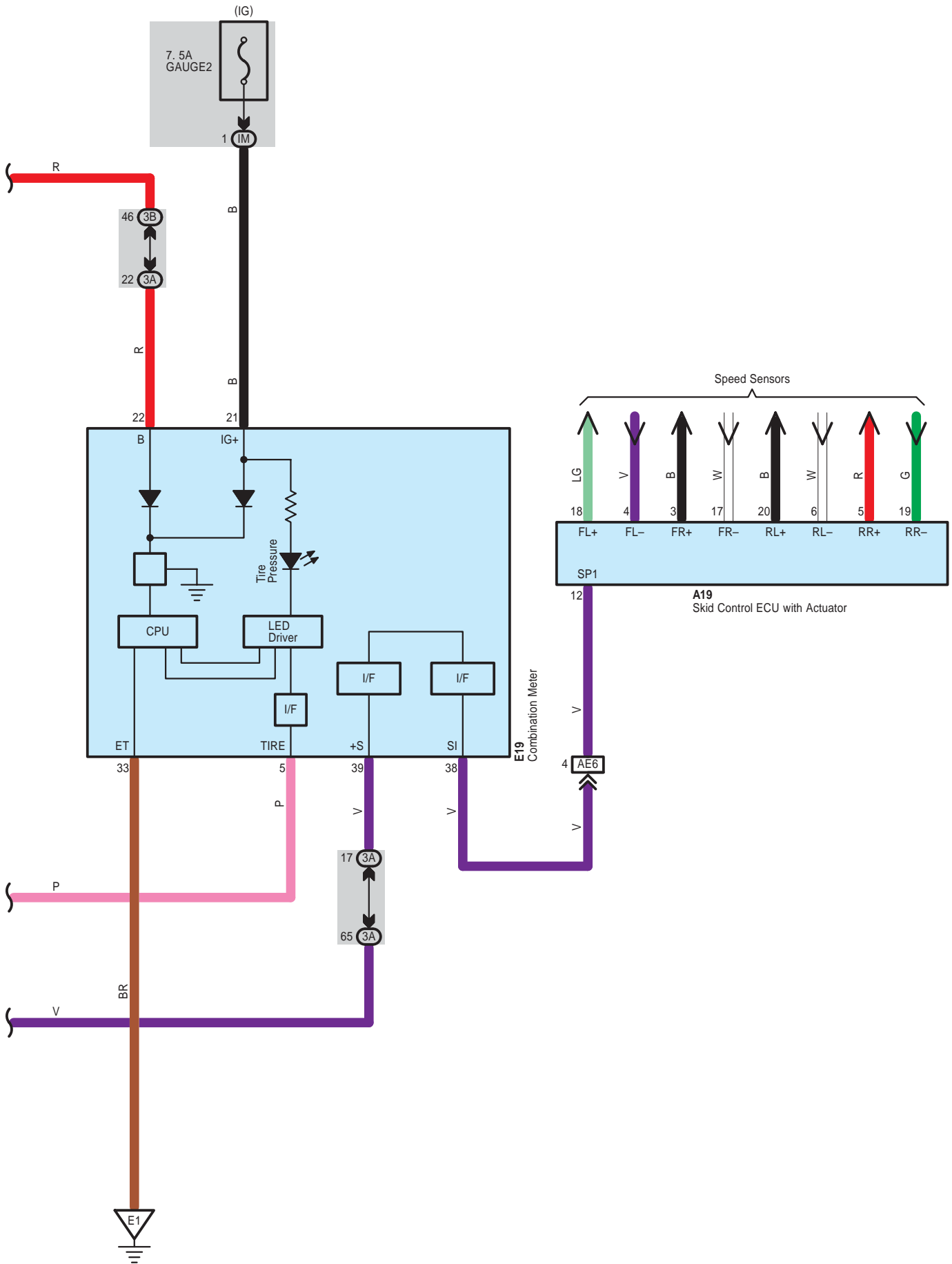
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE5		
AE9	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)
EL3	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)
EZ1	66	Instrument Panel Wire and Instrument Panel Wire Assembly (Behind the Glove Box)
KX1	68	Floor Wire and Seat Airbag Wire LH (Left Side of the Driver's Seat)
LY1	68	Floor No.2 Wire and Seat Airbag Wire RH (Under the Front Passenger's Seat)

 : Ground Points

Code	See Page	Ground Points Location
E1	66	Left Kick Panel
L1	67	Right Center Pillar

Tire Pressure Warning System





Tire Pressure Warning System

System Outline

- * In the tire pressure warning system, the warning light illuminates to alert the driver about the low tire pressure when the vehicle continues driving with one of the five tires (Include spare tire) under such low pressure to cause possible driving disturbance.
- * The air pressure sensors installed in the wheels measure air pressure in the tires directly.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A19	50 (2GR-FE)	E13	54	E56	55
	52 (2AZ-FE)	E19	54	L20	60

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IB	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
ID		
IE		
IH		
IM	31	
IS		

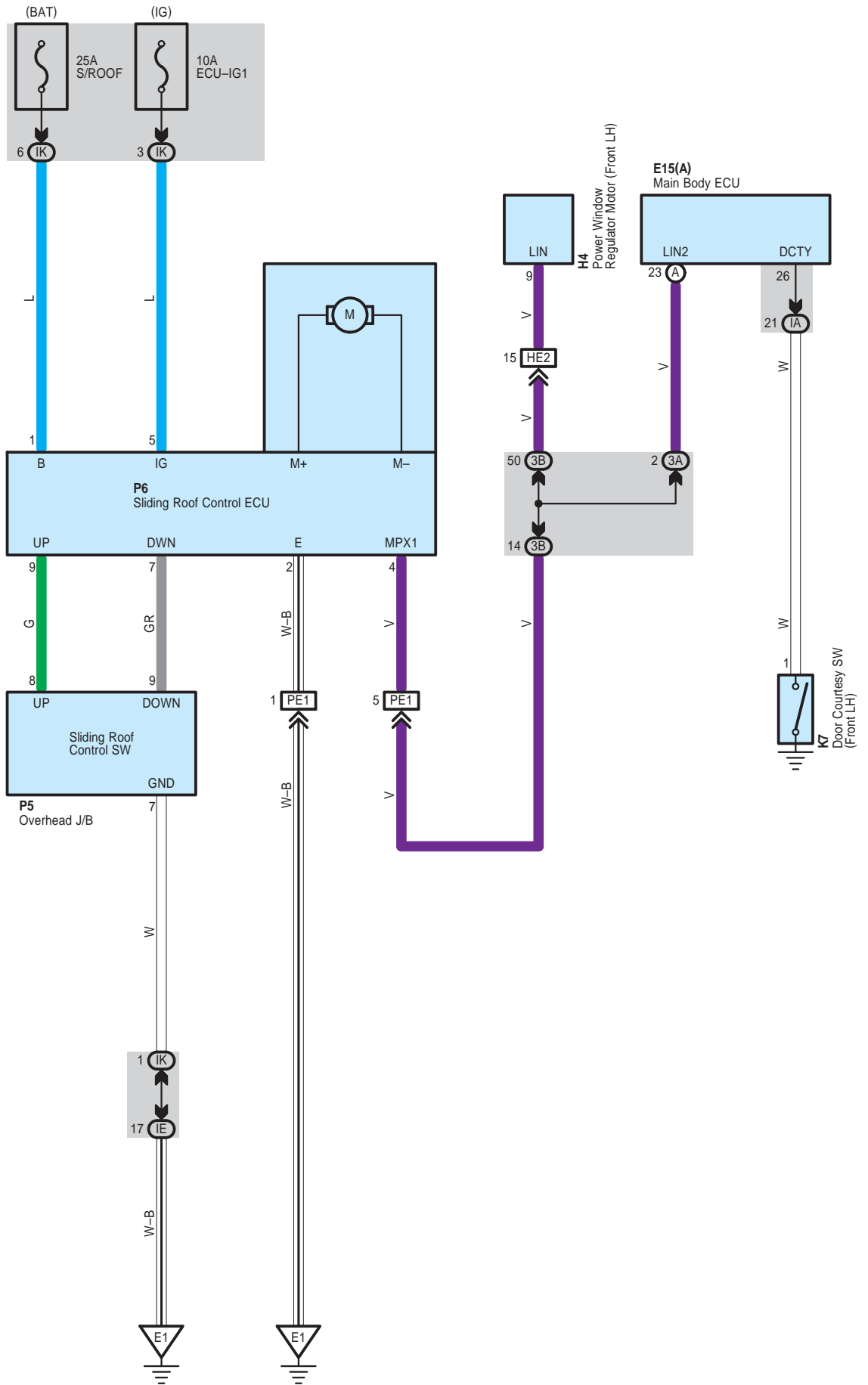
□ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE6	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
EL4	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)

▽ : Ground Points

Code	See Page	Ground Points Location
E3	66	Instrument Panel Reinforcement Center

Sliding Roof



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page	
E15	A	54	K7	59	P6	61
H4	58	P5	61			

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
IA	30	Floor Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IK	30	Roof Wire and Instrument Panel J/B (Cowl Side Left)

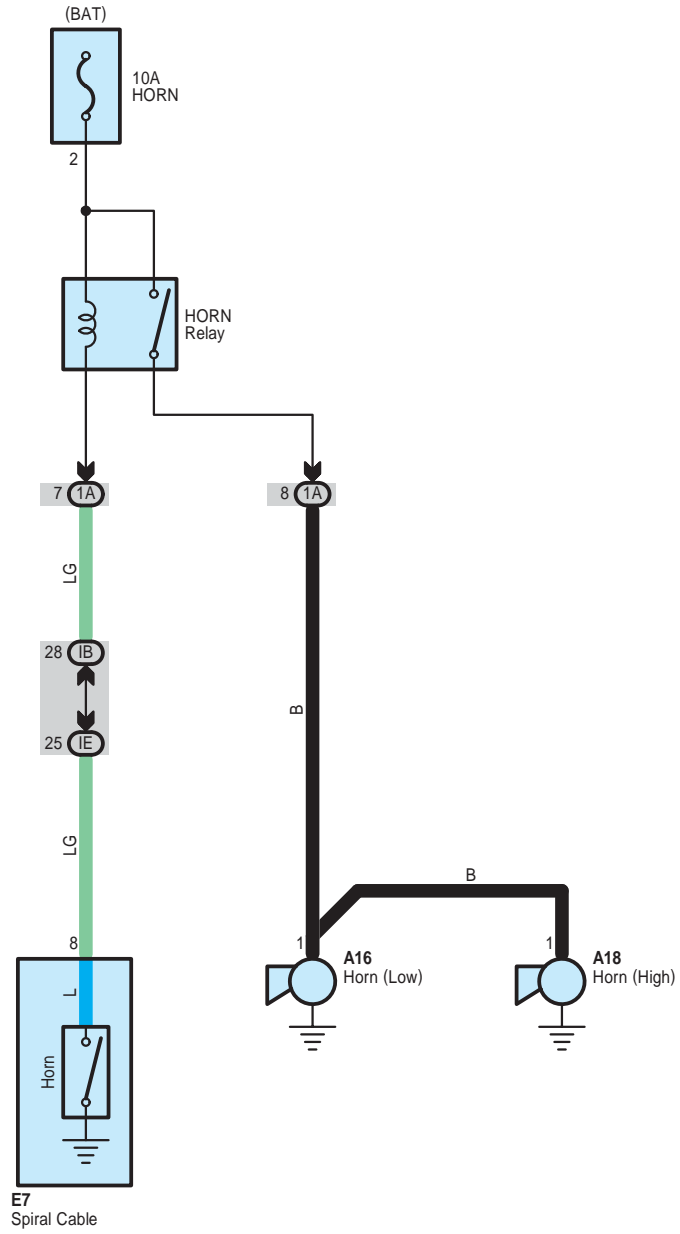
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
HE2	66	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
PE1	66	Roof Wire and Instrument Panel Wire (Left Side of the Instrument Panel)

 : **Ground Points**

Code	See Page	Ground Points Location
E1	66	Left Kick Panel

Horn



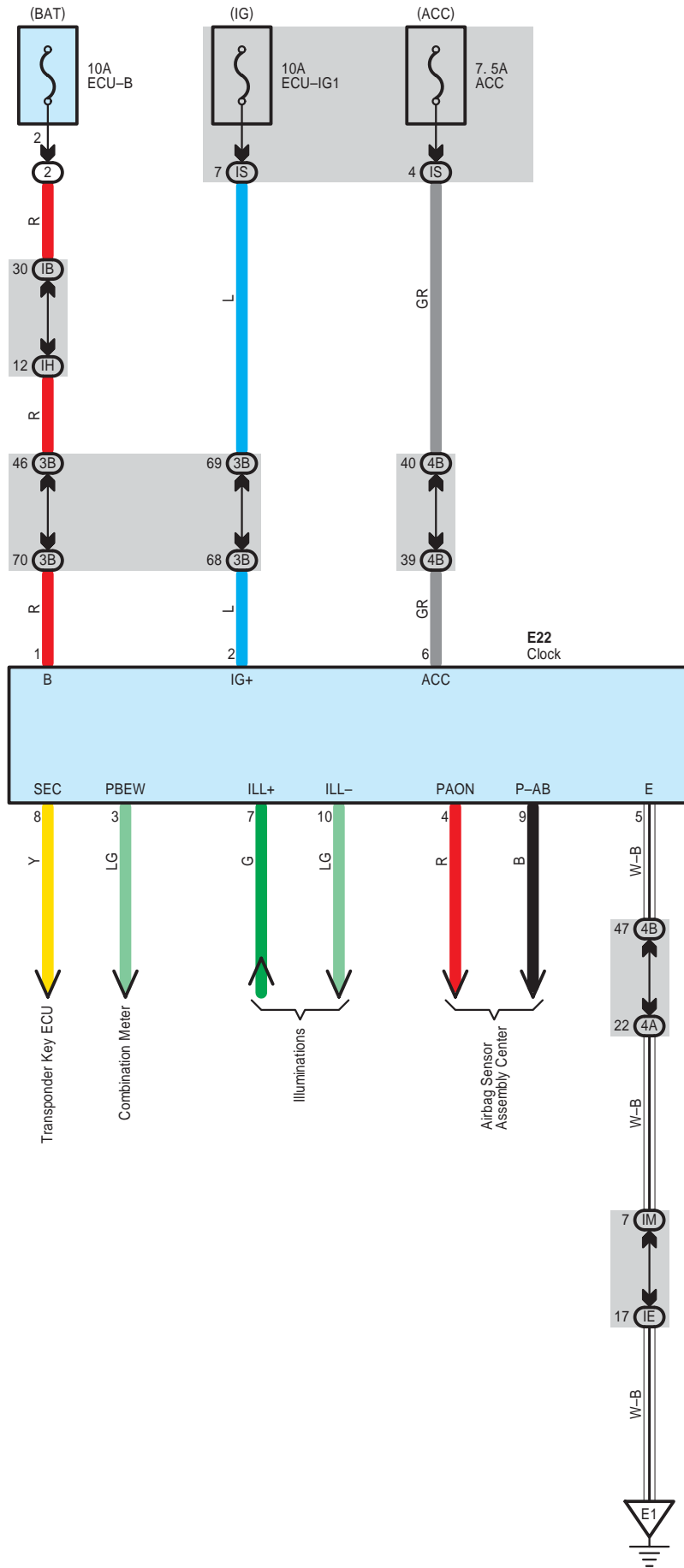
○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A16	50 (2GR-FE)	A18	50 (2GR-FE)	E7	54
	52 (2AZ-FE)		52 (2AZ-FE)		

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)

Clock without Automatic Air Conditioning



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
E22	54				

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

 : **Junction Block and Wire Harness Connector**

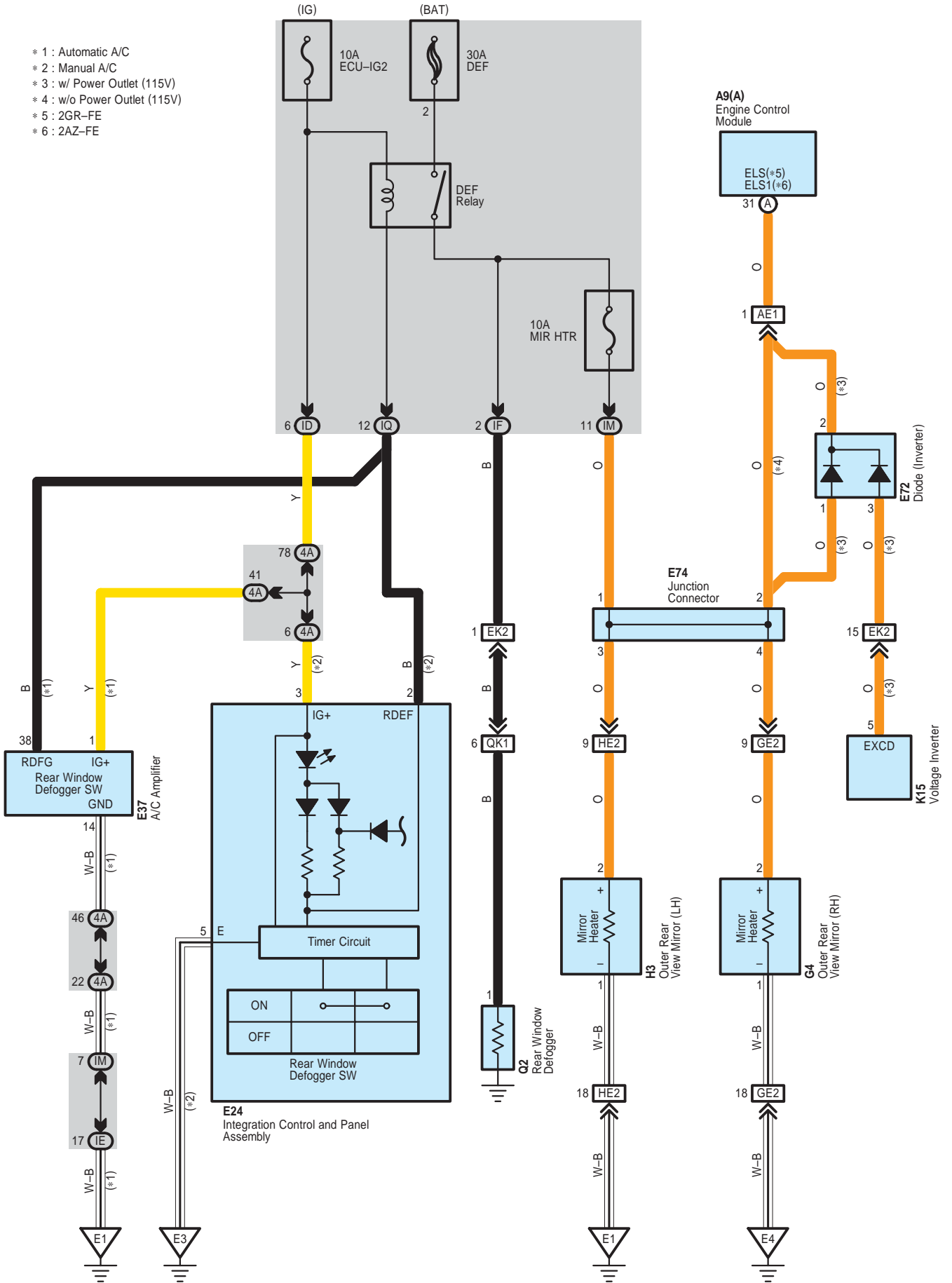
Code	See Page	Junction Block and Wire Harness (Connector Location)
3B	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IH		
IM	31	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IS		

 : **Ground Points**

Code	See Page	Ground Points Location
E1	66	Left Kick Panel

Rear Window Defogger and Mirror Heater

- * 1 : Automatic A/C
- * 2 : Manual A/C
- * 3 : w/ Power Outlet (115V)
- * 4 : w/o Power Outlet (115V)
- * 5 : 2GR-FE
- * 6 : 2AZ-FE



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page	
A9	A	50 (2GR-FE)	E72	55	K15	59
		52 (2AZ-FE)	E74	55	Q2	61
E24	54	G4	58			
E37	55	H3	58			

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IF		
IM	31	
IQ		

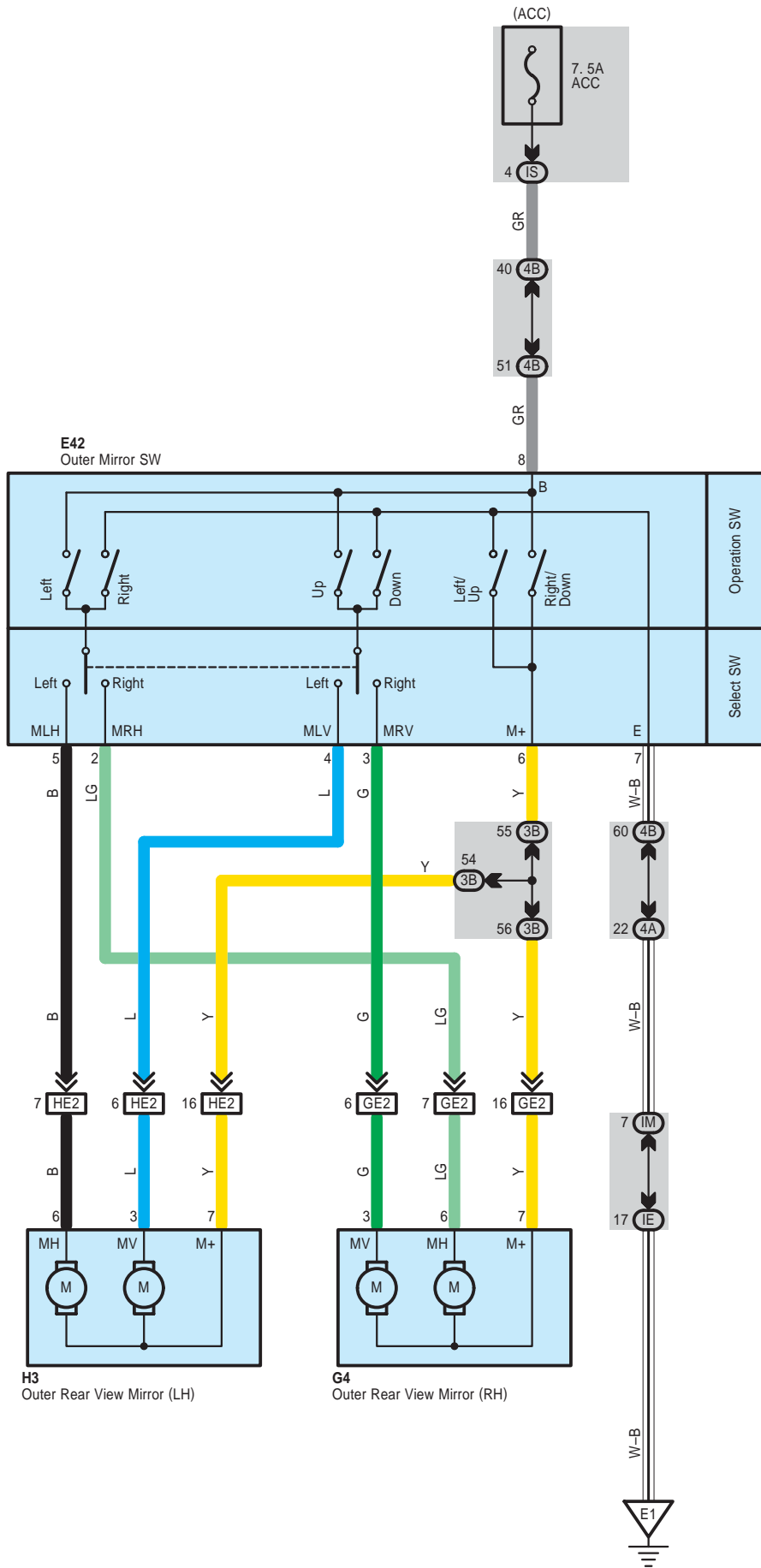
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE1	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
EK2	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)
GE2	66	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
HE2	66	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
QK1	67	Back Door No.1 Wire and Floor Wire (Right Rear Quarter Panel)

 : **Ground Points**

Code	See Page	Ground Points Location
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center
E4	66	Right Kick Panel

Remote Control Mirror



 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
E42	55	G4	58	H3	58

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
3B	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	
IS		

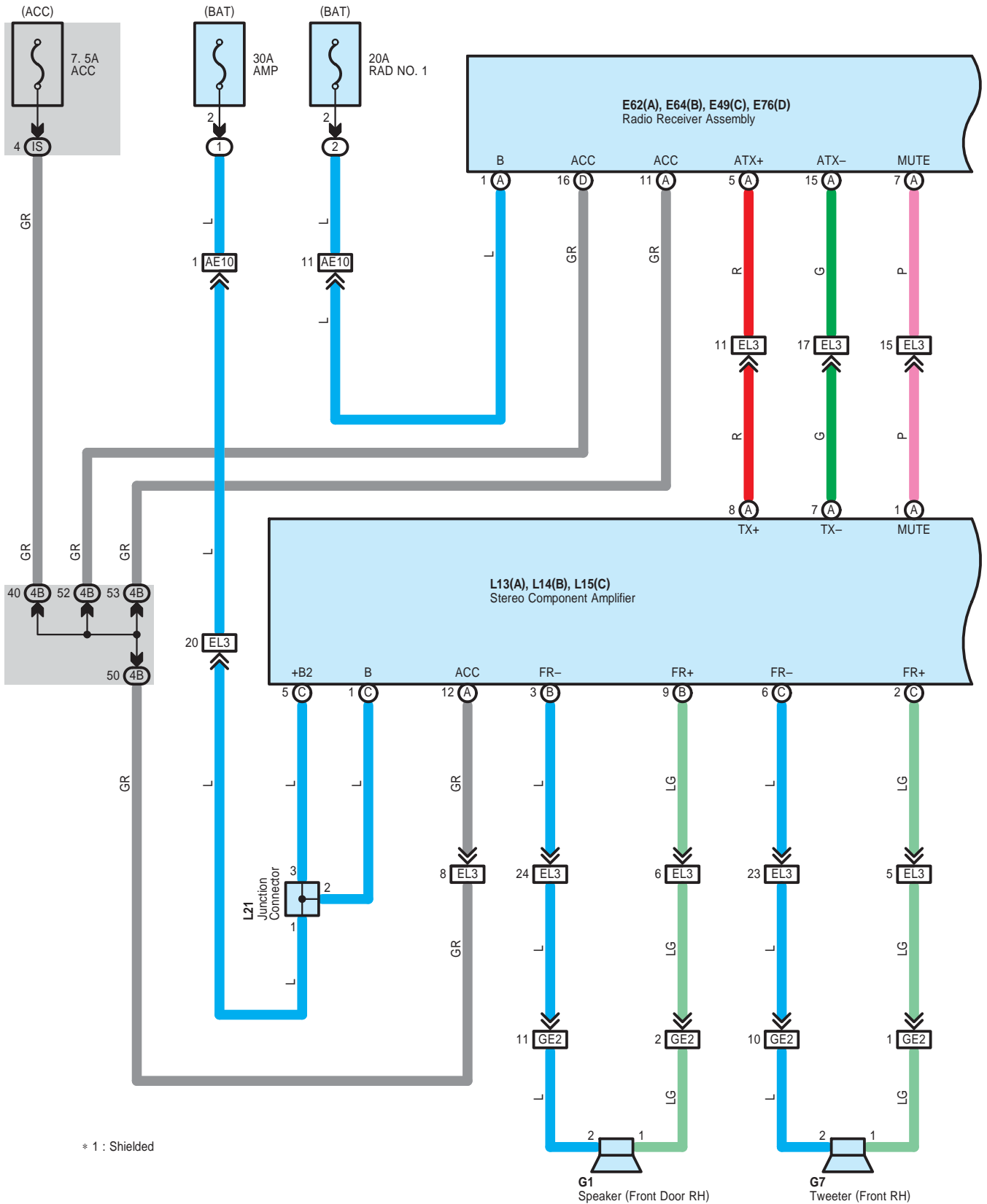
 : **Connector Joining Wire Harness and Wire Harness**

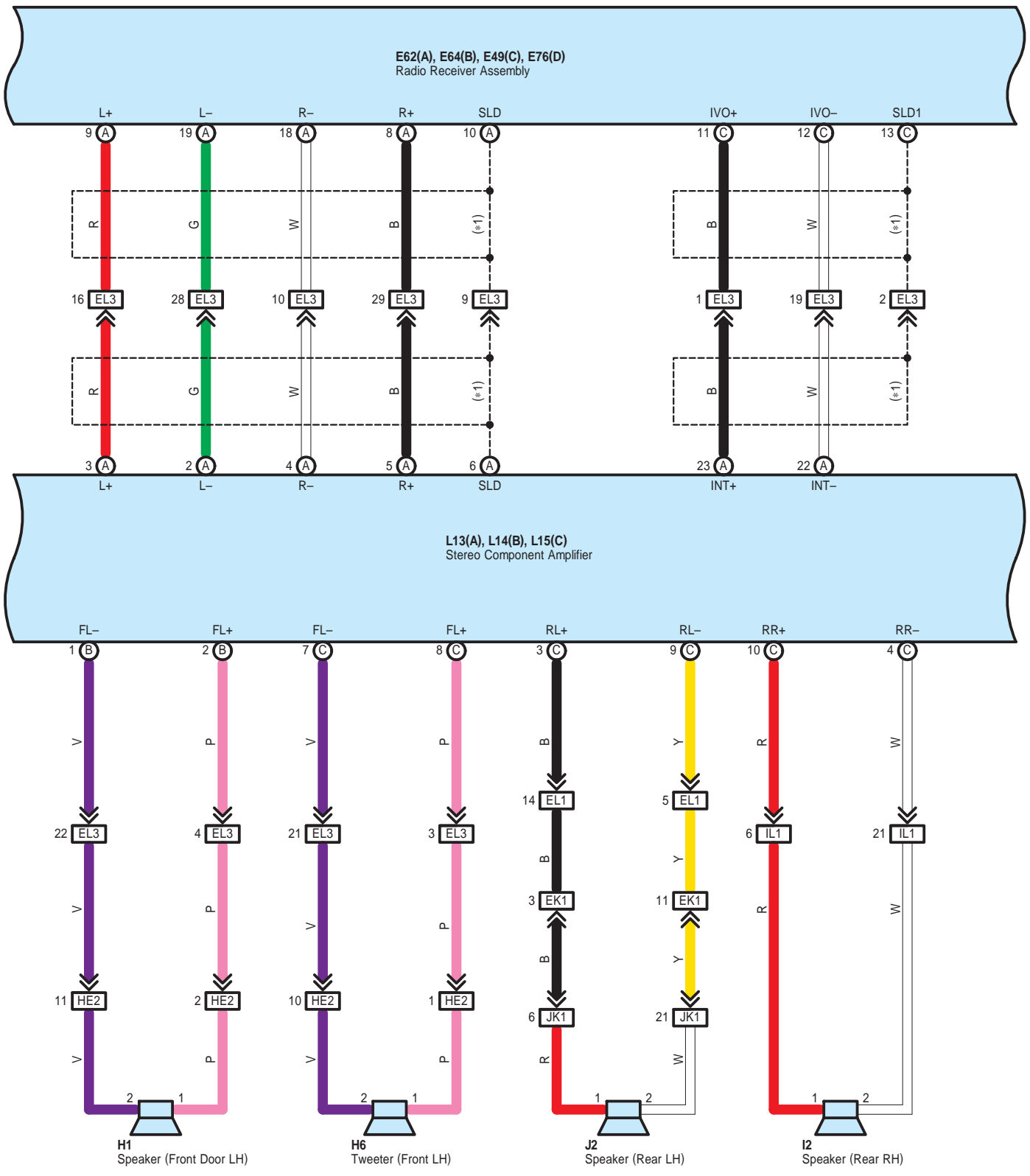
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
GE2	66	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
HE2	66	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)

 : **Ground Points**

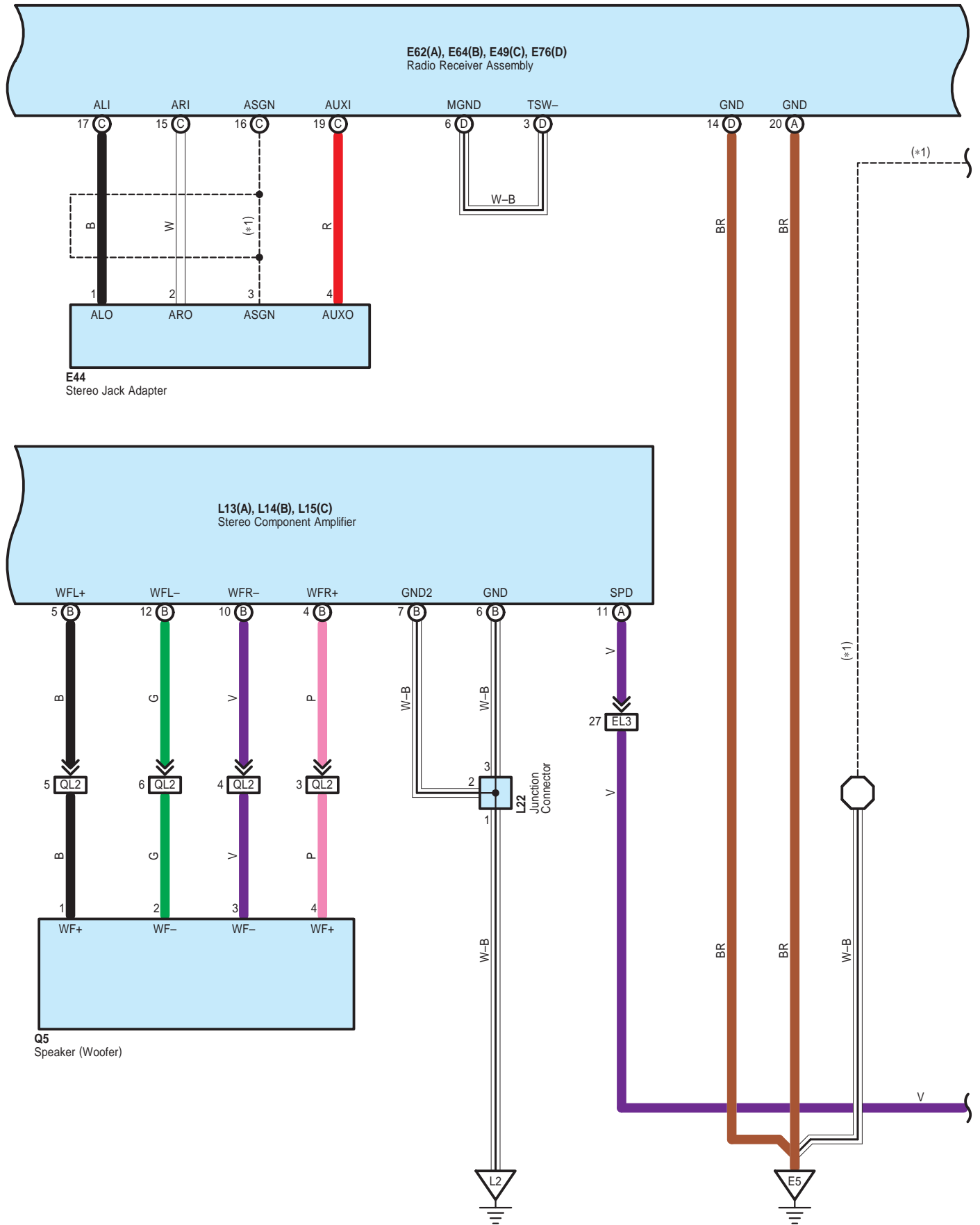
Code	See Page	Ground Points Location
E1	66	Left Kick Panel

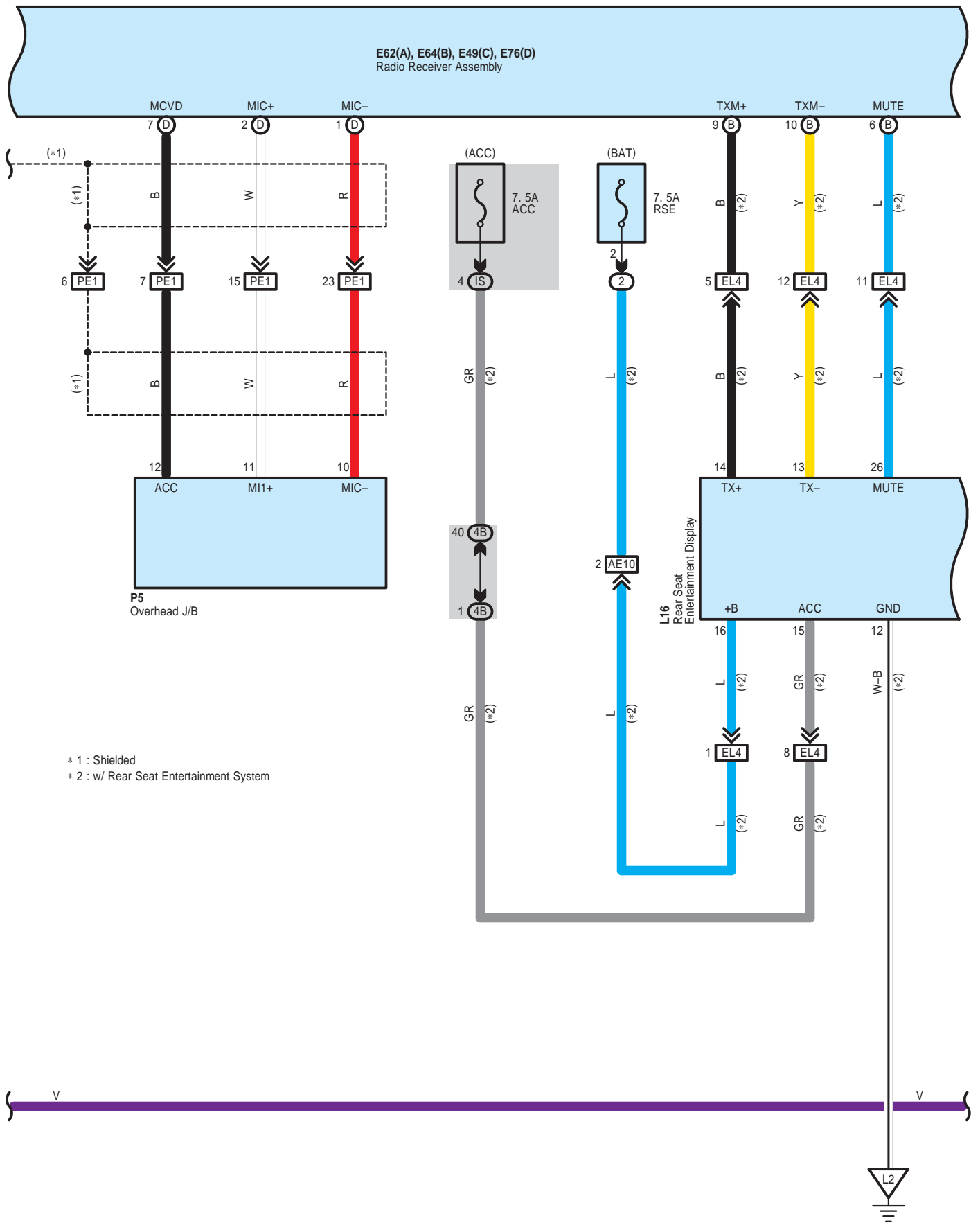
Audio System for JBL





Audio System for JBL

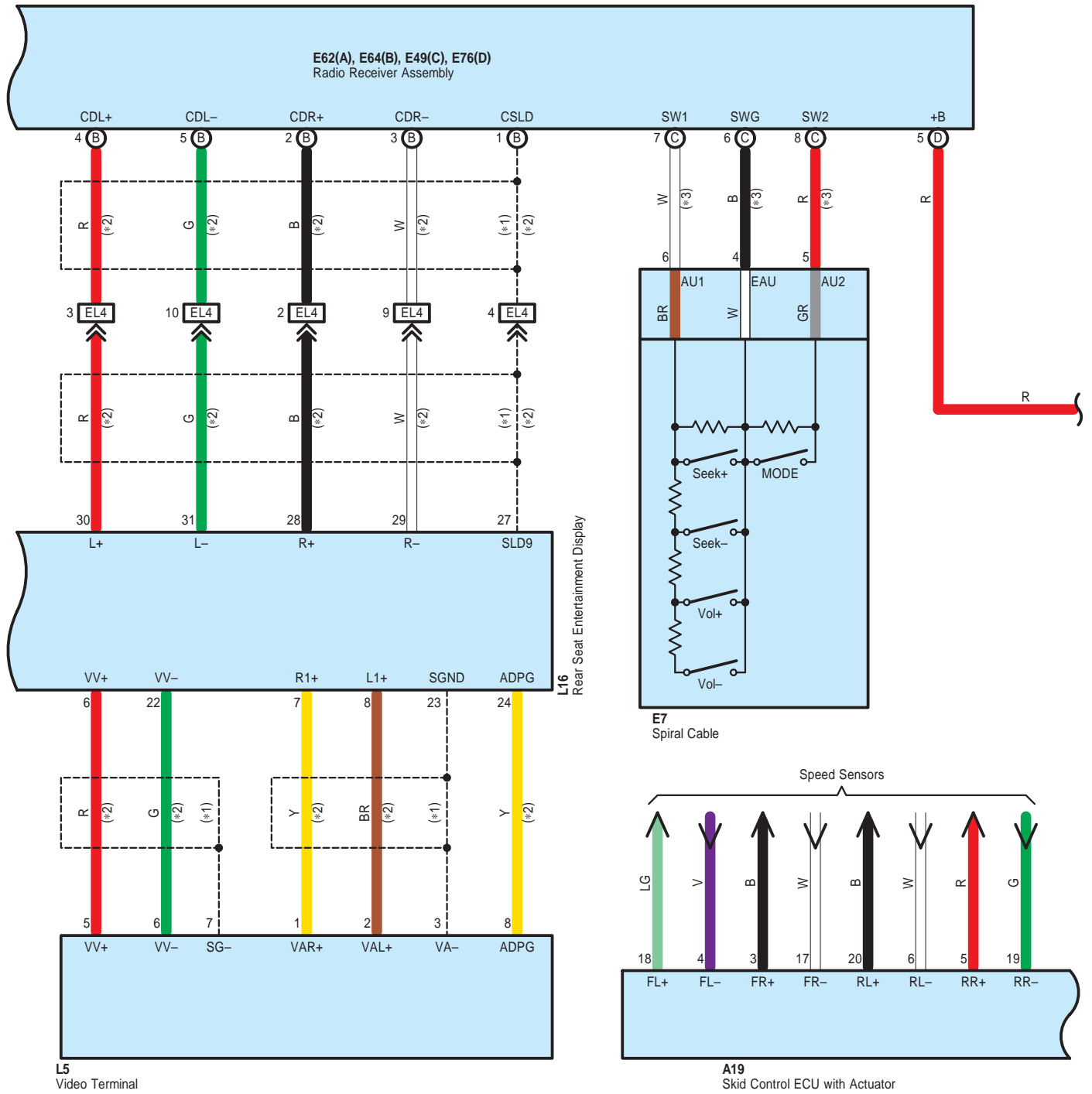


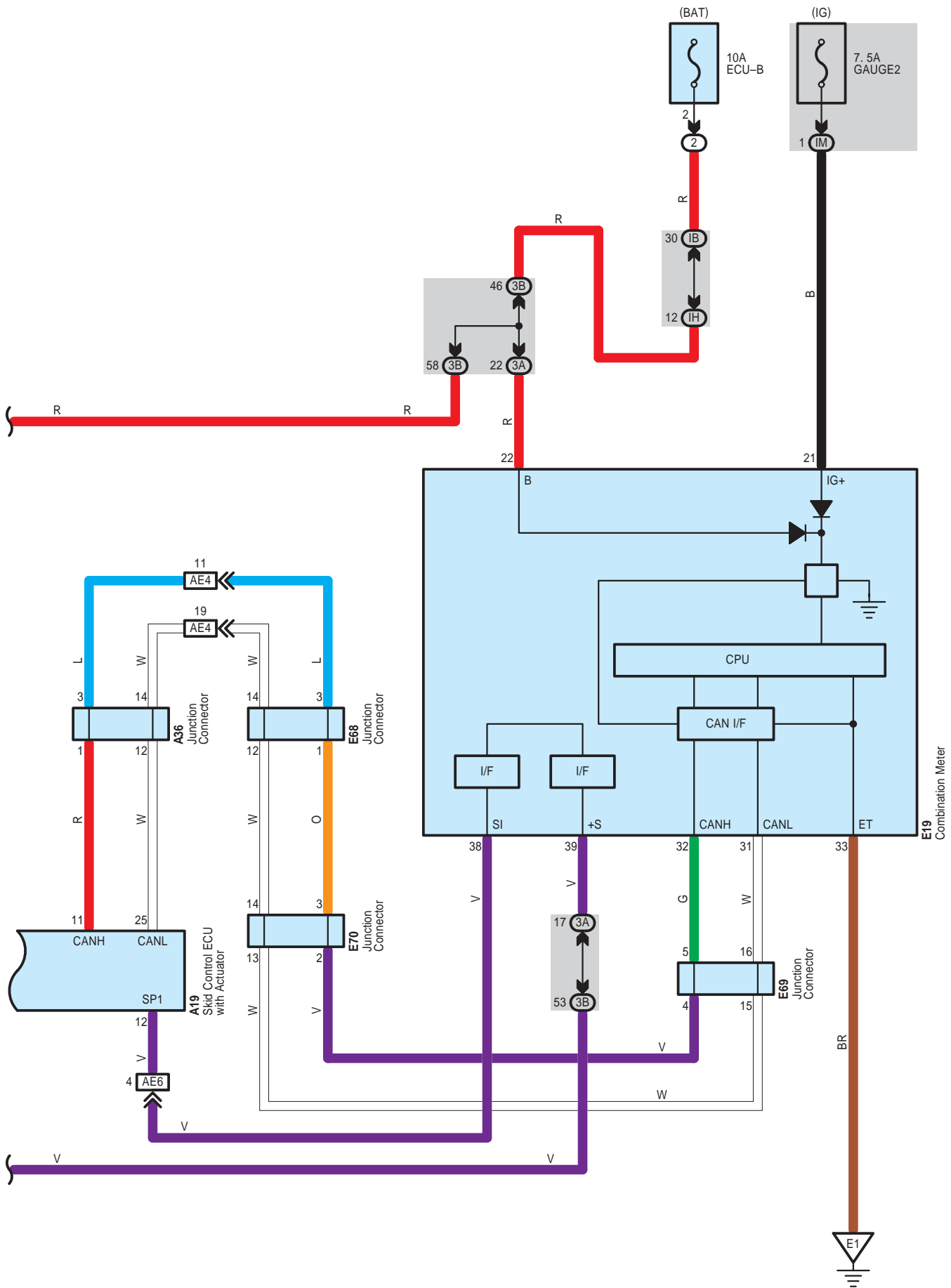


- * 1 : Shielded
- * 2 : w/ Rear Seat Entertainment System

Audio System for JBL

- * 1 : Shielded
- * 2 : w/ Rear Seat Entertainment System
- * 3 : w/ Audio SW in Steering Wheel





Audio System for JBL

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A19	50 (2GR-FE)	E69	55	L13	A 60
	52 (2AZ-FE)	E70	55	L14	B 60
A36	56	E76	D 55	L15	C 60
E7	54	G1	58	L16	60
E19	54	G7	58	L21	60
E44	55	H1	58	L22	60
E49	C 55	H6	58	P5	61
E62	A 55	I2	58	Q5	61
E64	B 55	J2	58		
E68	55	L5	57		

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4B	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IH	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	
IS		

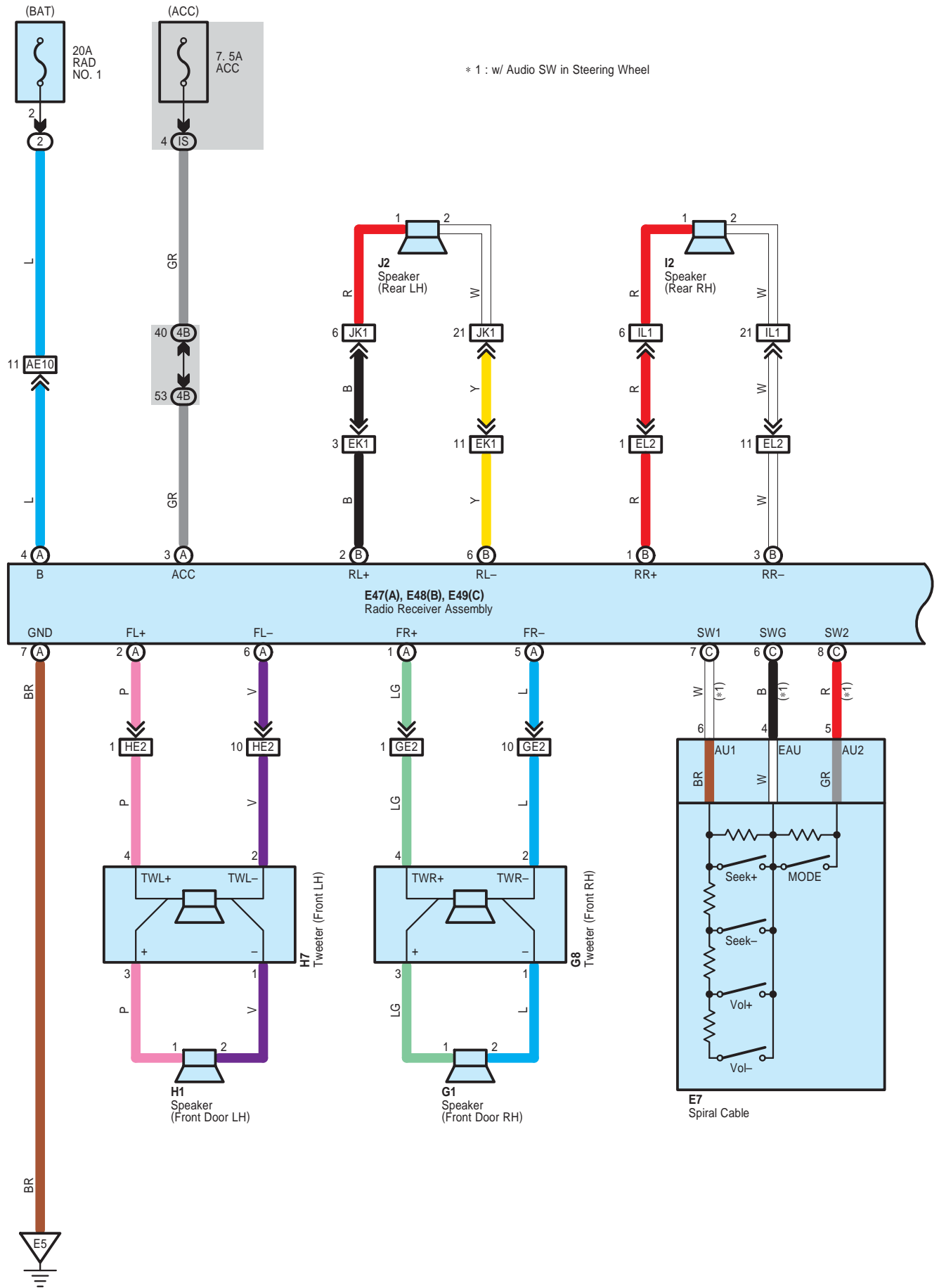
□ : Connector Joining Wire Harness and Wire Harness

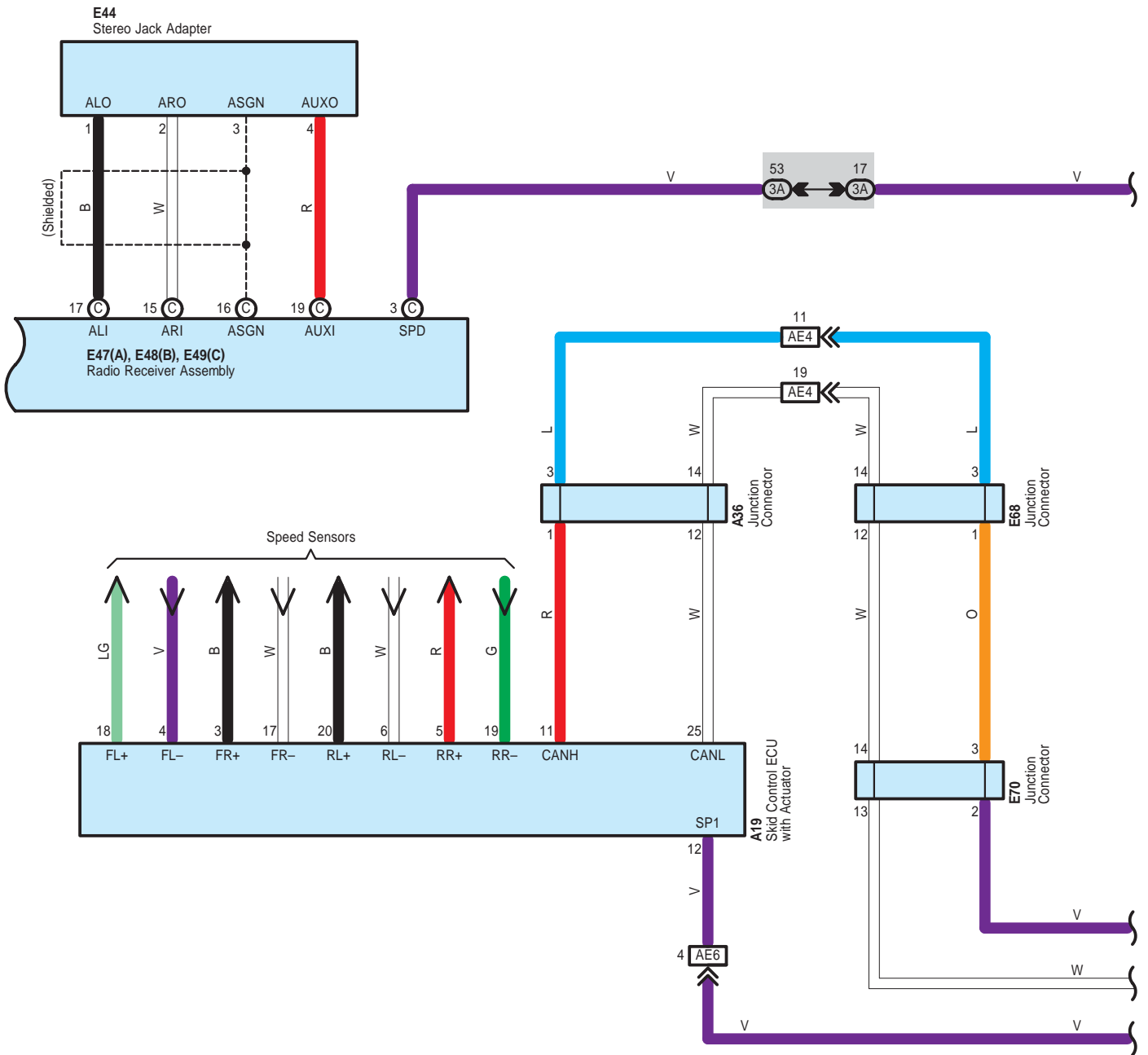
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE6		
AE10	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)
EK1	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)
EL1	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)
EL3		
EL4		
GE2	66	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
HE2	66	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IL1	67	Rear Door No.1 RH Wire and Floor No.2 Wire (Right Center Pillar)
JK1	67	Rear Door No.1 LH Wire and Floor Wire (Left Center Pillar)
PE1	66	Roof Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
QL2	67	Back Door No.3 Wire and Floor No.2 Wire (Right Rear Quarter Panel)

▽ : Ground Points

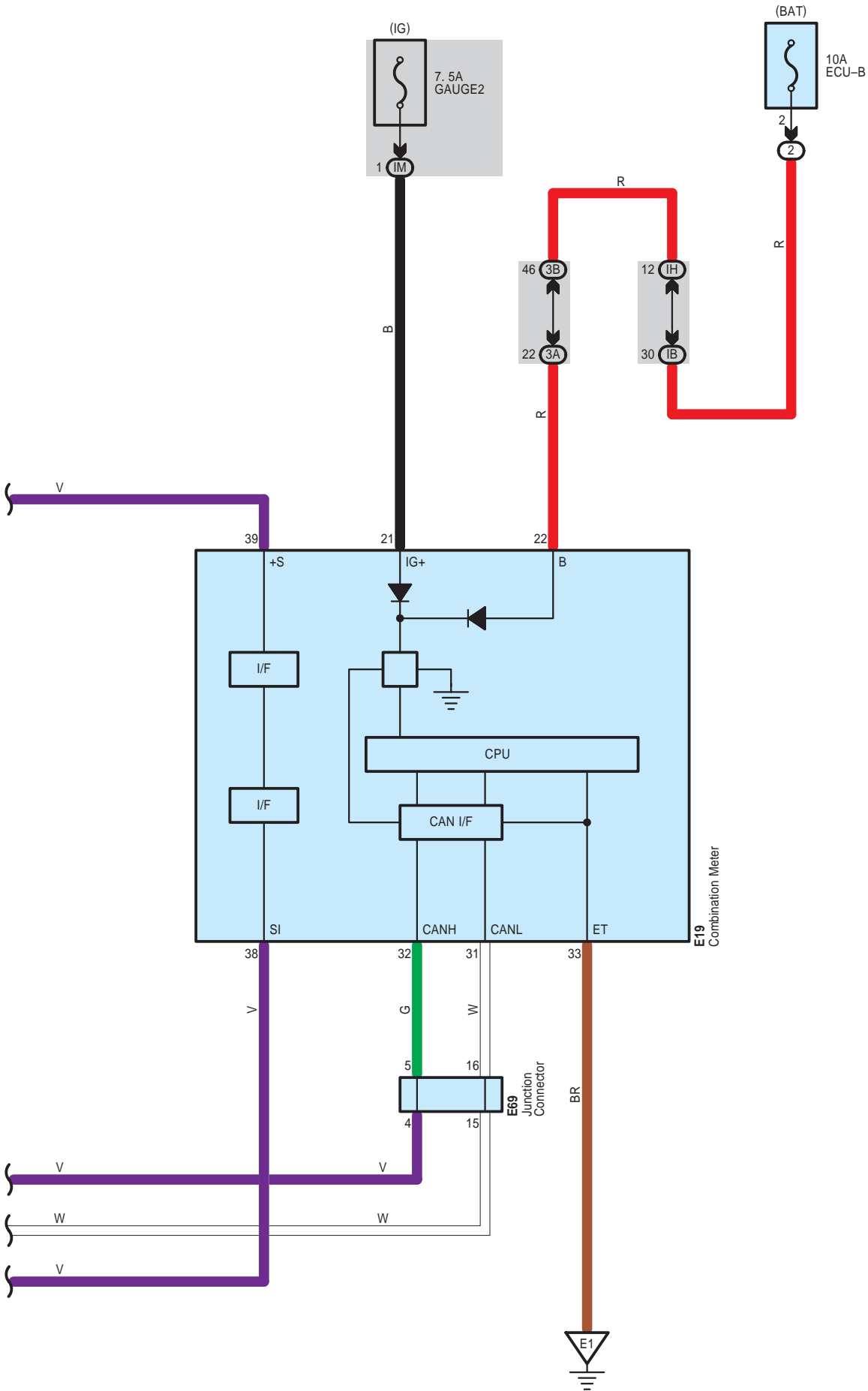
Code	See Page	Ground Points Location
E1	66	Left Kick Panel
E5	66	Instrument Panel Reinforcement Center
L2	67	Right Quarter Panel

Audio System Except JBL





Audio System Except JBL



 : Parts Location

Code	See Page	Code	See Page	Code	See Page	
A19	50 (2GR-FE)	E47	A	55	G1	58
	52 (2AZ-FE)	E48	B	55	G8	58
A36	56	E49	C	55	H1	58
E7	54	E68		55	H7	58
E19	54	E69		55	I2	58
E44	55	E70		55	J2	58

 : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

 : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4B	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IH	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	
IS		

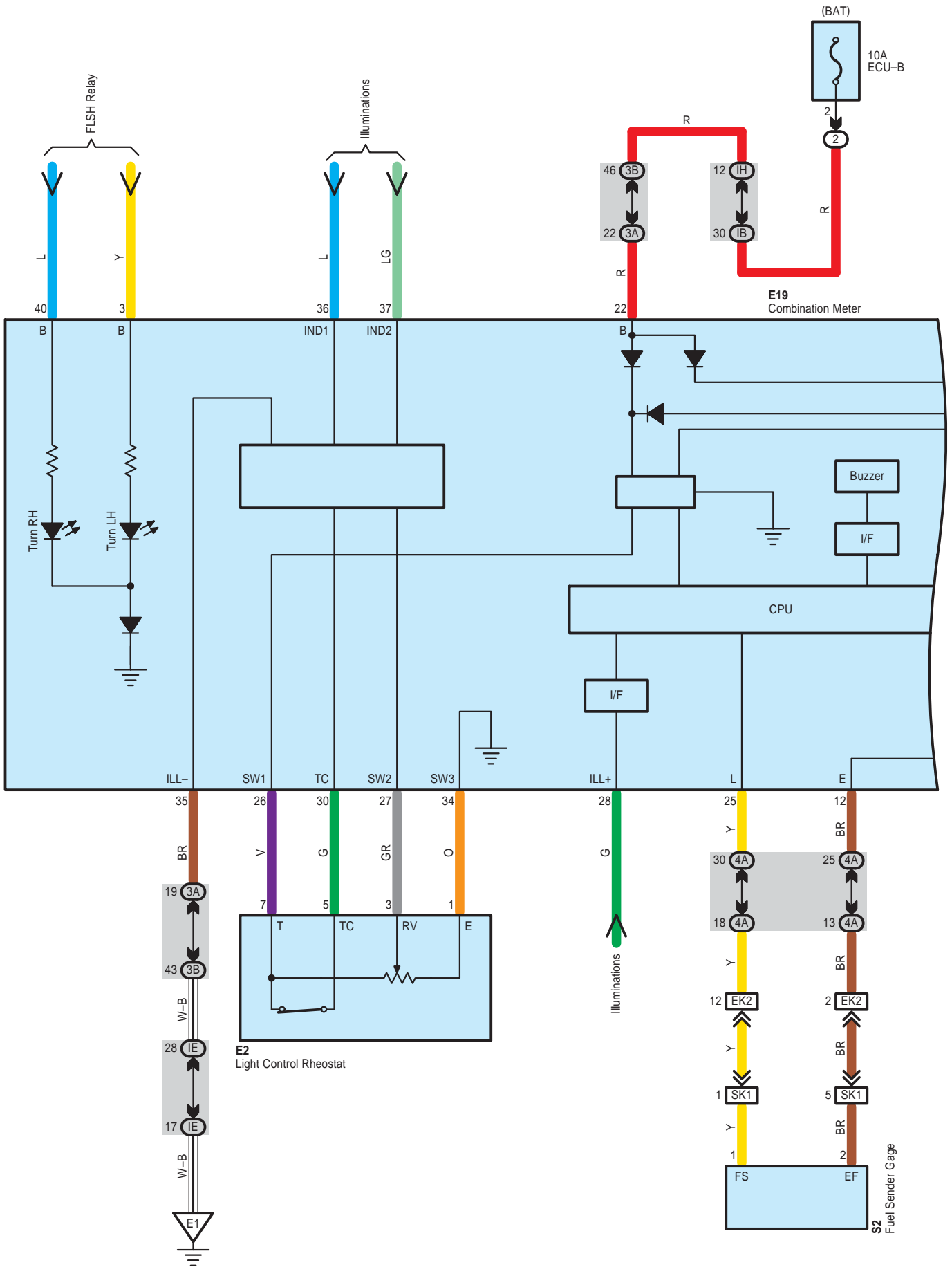
 : Connector Joining Wire Harness and Wire Harness

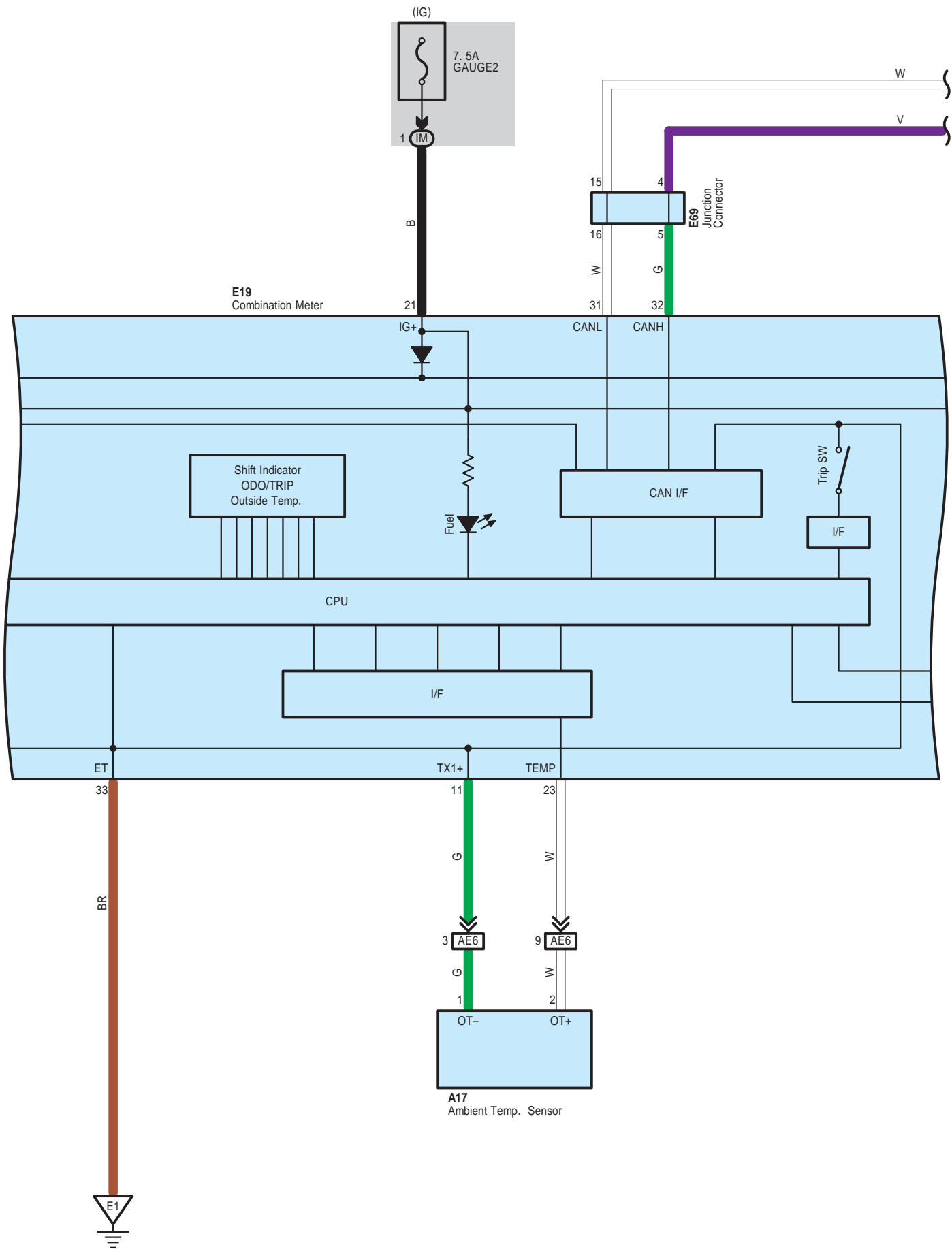
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE6		
AE10	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)
EK1	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)
EL2	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)
GE2	66	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
HE2	66	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IL1	67	Rear Door No.1 RH Wire and Floor No.2 Wire (Right Center Pillar)
JK1	67	Rear Door No.1 LH Wire and Floor Wire (Left Center Pillar)

 : Ground Points

Code	See Page	Ground Points Location
E1	66	Left Kick Panel
E5	66	Instrument Panel Reinforcement Center

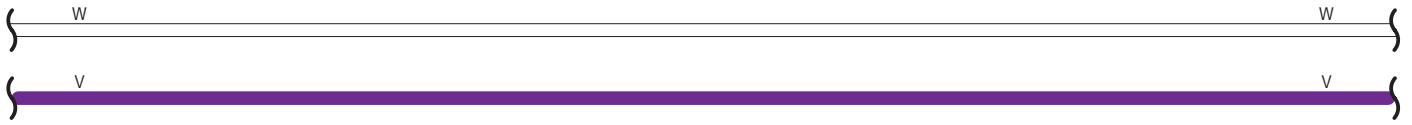
Combination Meter



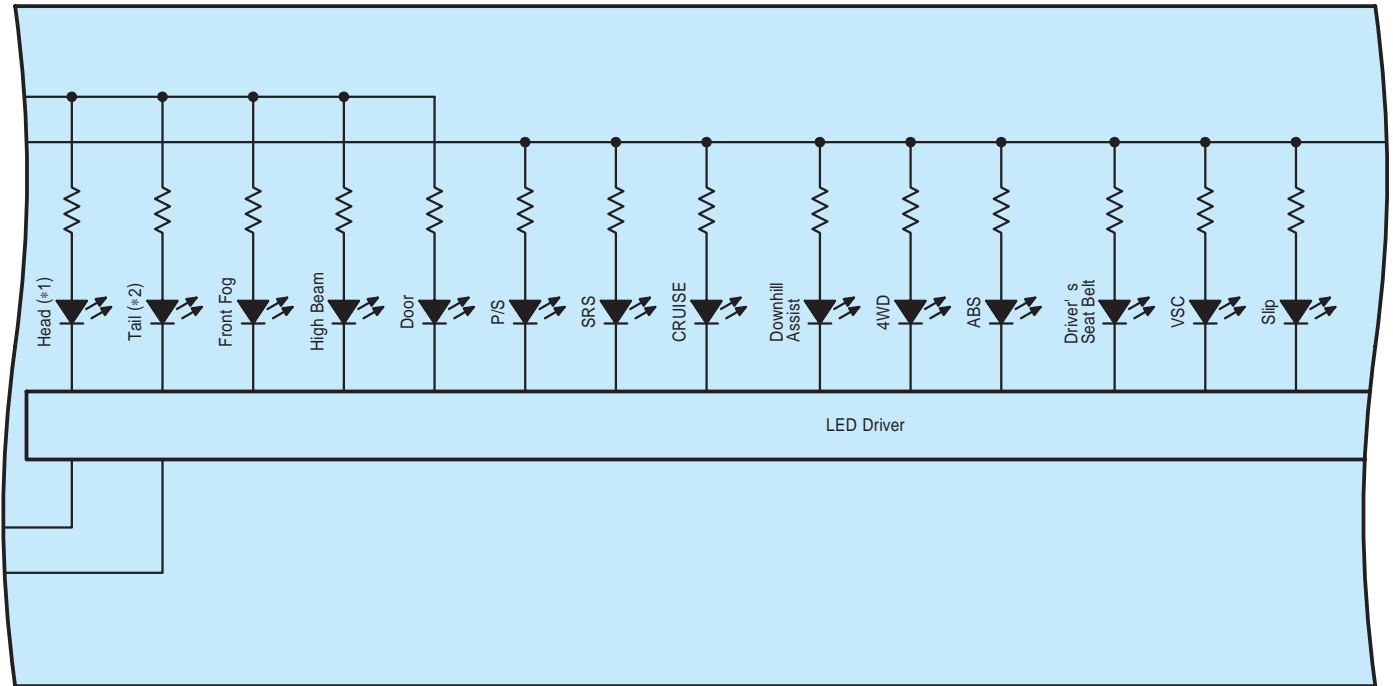


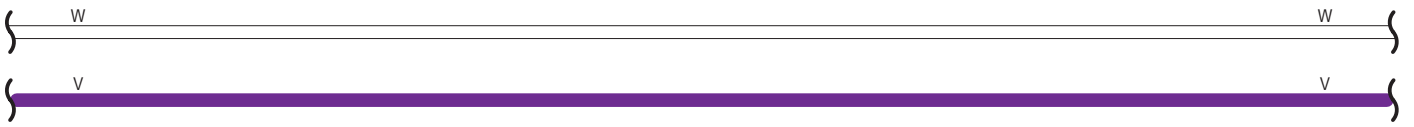
Combination Meter

- * 1 : USA
- * 2 : Except USA

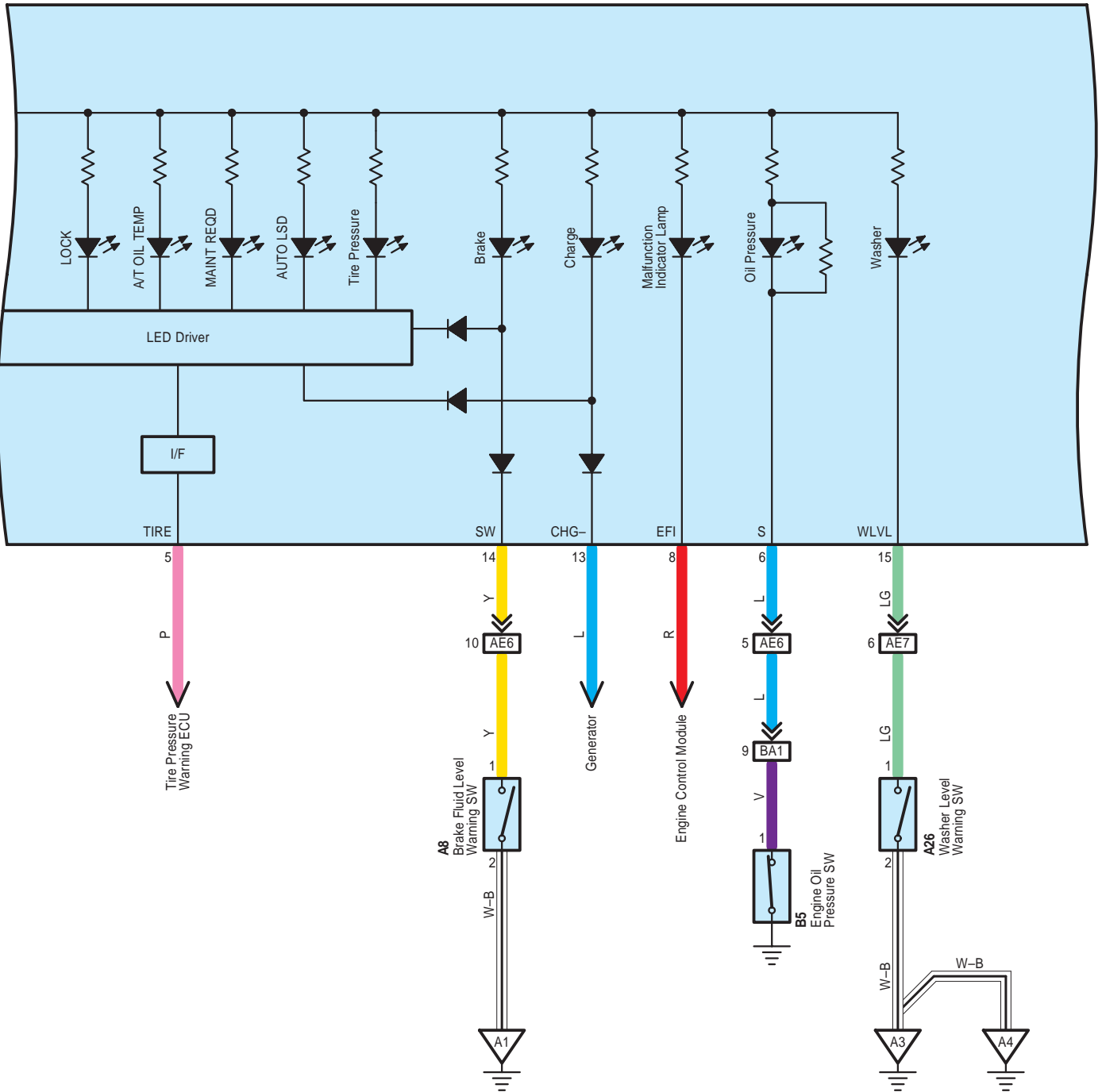


E19
Combination Meter

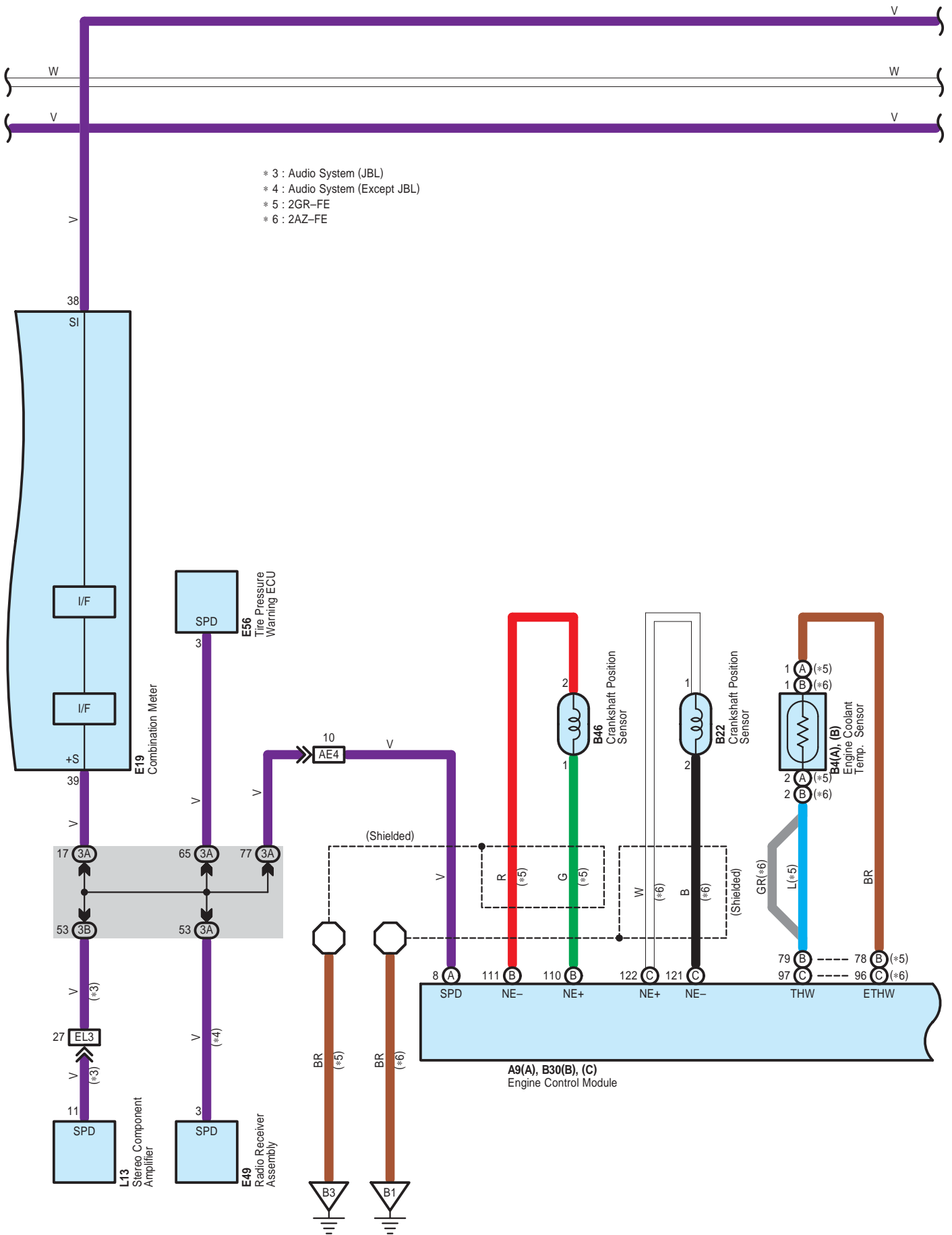


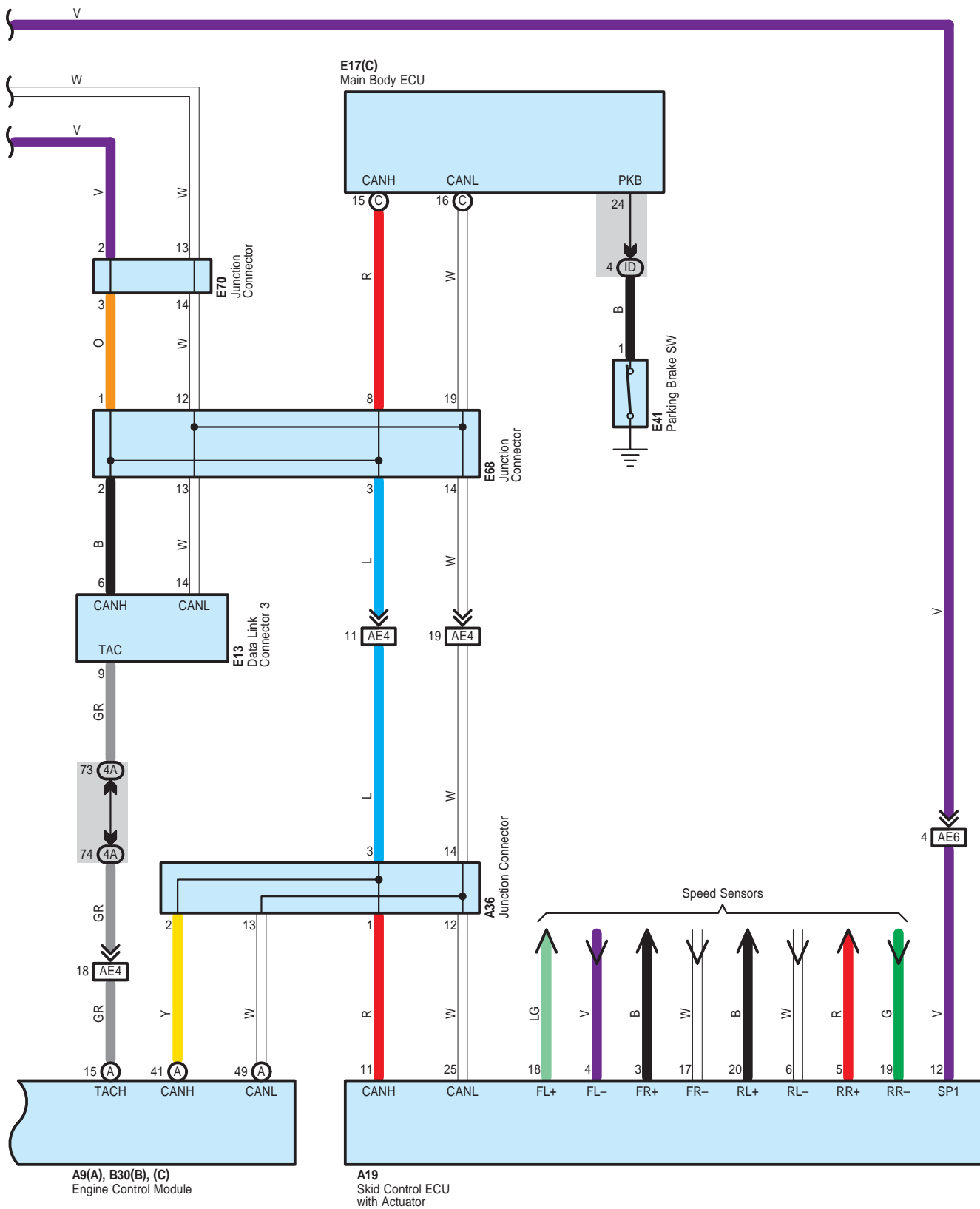


E19
Combination Meter



Combination Meter





Combination Meter

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
A8	50 (2GR-FE)	B4	A	51 (2GR-FE)	E19	54
	52 (2AZ-FE)		B	53 (2AZ-FE)	E41	55
A9	50 (2GR-FE)	B5		51 (2GR-FE)	E49	55
	52 (2AZ-FE)			53 (2AZ-FE)	E56	55
A17	50 (2GR-FE)	B22		53 (2AZ-FE)	E68	55
	52 (2AZ-FE)	B30	B	51 (2GR-FE)	E69	55
A19	50 (2GR-FE)		C	53 (2AZ-FE)	E70	55
	52 (2AZ-FE)	B46		51 (2GR-FE)	L13	60
A26	50 (2GR-FE)	E2		54	S2	61
	52 (2AZ-FE)	E13		54		
A36	56	E17	C	54		

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IH		
IM		

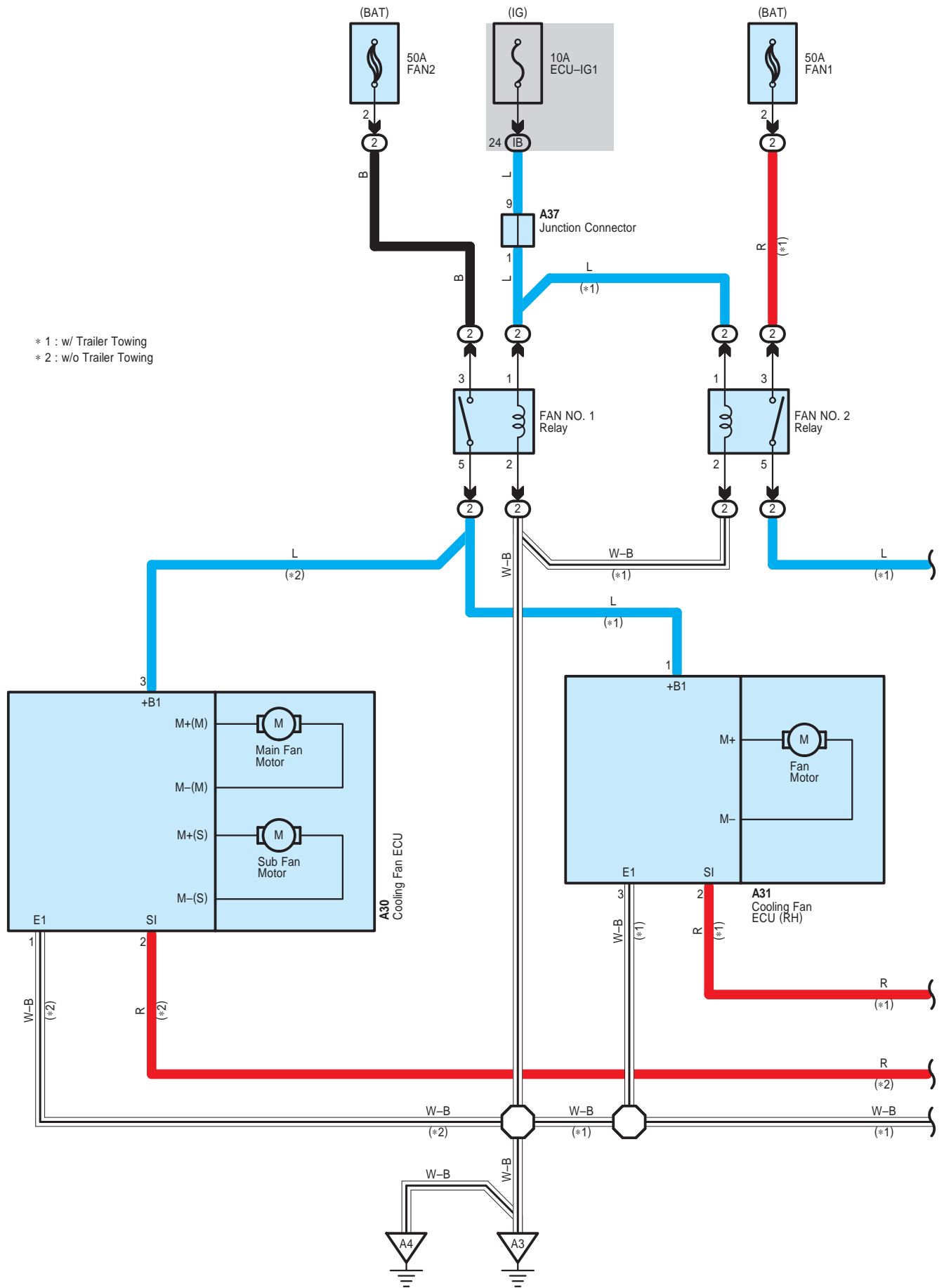
□ : Connector Joining Wire Harness and Wire Harness

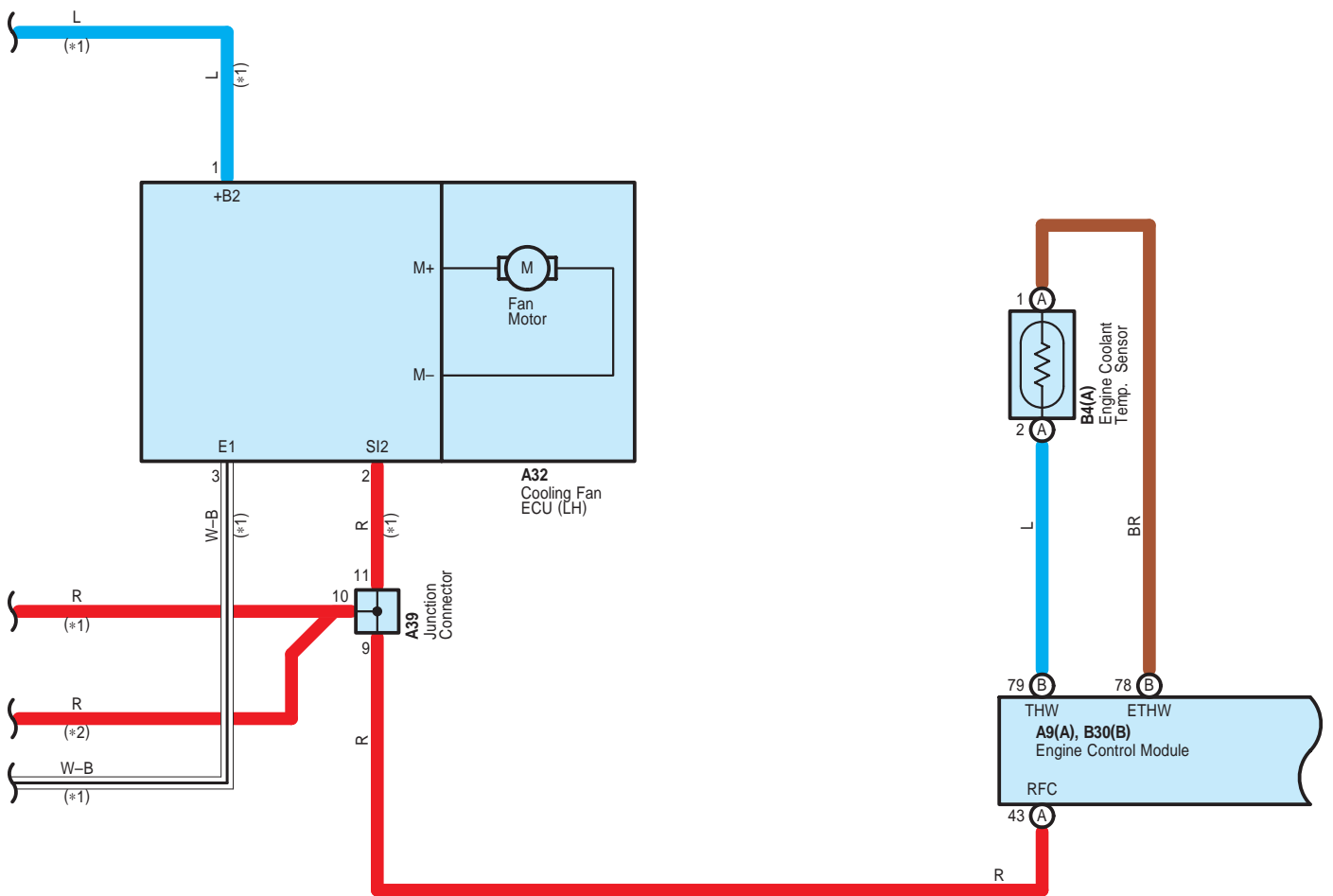
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE6		
AE7	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
	65 (2AZ-FE)	
EK2	66	Instrument Panel Wire and Floor Wire (Left Kick Panel)
EL3	66	Instrument Panel Wire and Floor No.2 Wire (Right Kick Panel)
SK1	66	Fuel Gauge Wire and Floor Wire (Under the Console Box)

▽ : Ground Points

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
A3	64 (2GR-FE)	Front Right Fender
	65 (2AZ-FE)	
A4	64 (2GR-FE)	Front Right Fender
	65 (2AZ-FE)	
B1	65 (2AZ-FE)	Left Side of the Cylinder Head
B3	64 (2GR-FE)	
E1	66	Left Kick Panel

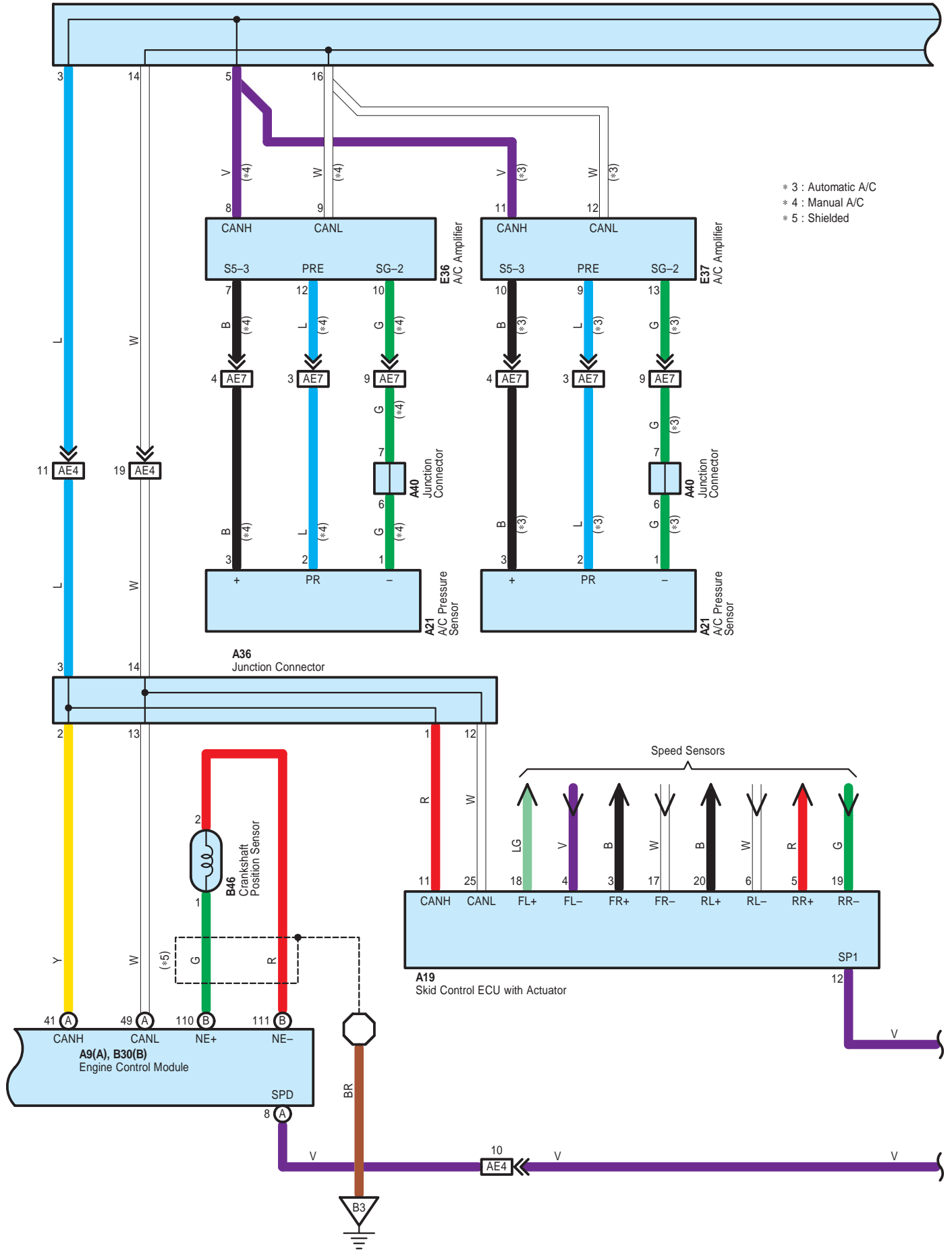
Cooling Fan for 2GR-FE



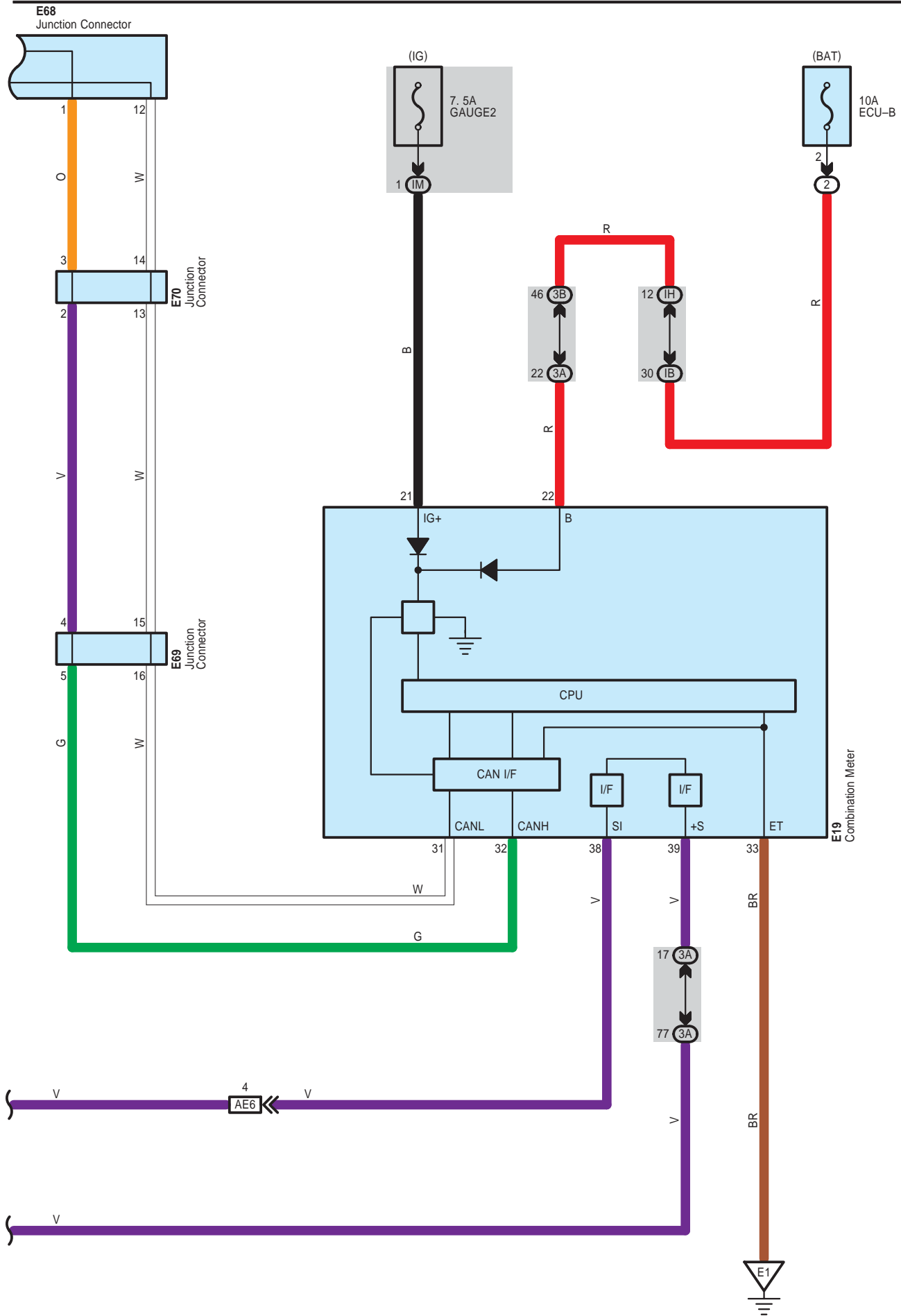


Cooling Fan for 2GR-FE

E68
Junction Connector



- * 3 : Automatic A/C
- * 4 : Manual A/C
- * 5 : Shielded



RAV4 (EM03T0U)

Cooling Fan for 2GR-FE

System Outline

In accordance with signals from the engine control module, which calculates the engine coolant temperature, the air conditioner refrigerant pressure and the engine and vehicle speeds, the cooling fan controller seamlessly controls rotational speed of the cooling fan, to maintain the balance between the cooling performance and the air conditioning performance.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
A9	A	50 (2GR-FE)	A37	56	E36	55	
A19		50 (2GR-FE)	A39	50 (2GR-FE)	E37	55	
A21		50 (2GR-FE)	A40	50 (2GR-FE)	E68	55	
A30		50 (2GR-FE)	B4	A	51 (2GR-FE)	E69	55
A31		50 (2GR-FE)	B30	B	51 (2GR-FE)	E70	55
A32		50 (2GR-FE)	B46		51 (2GR-FE)		
A36		56	E19	54			

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IH	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	

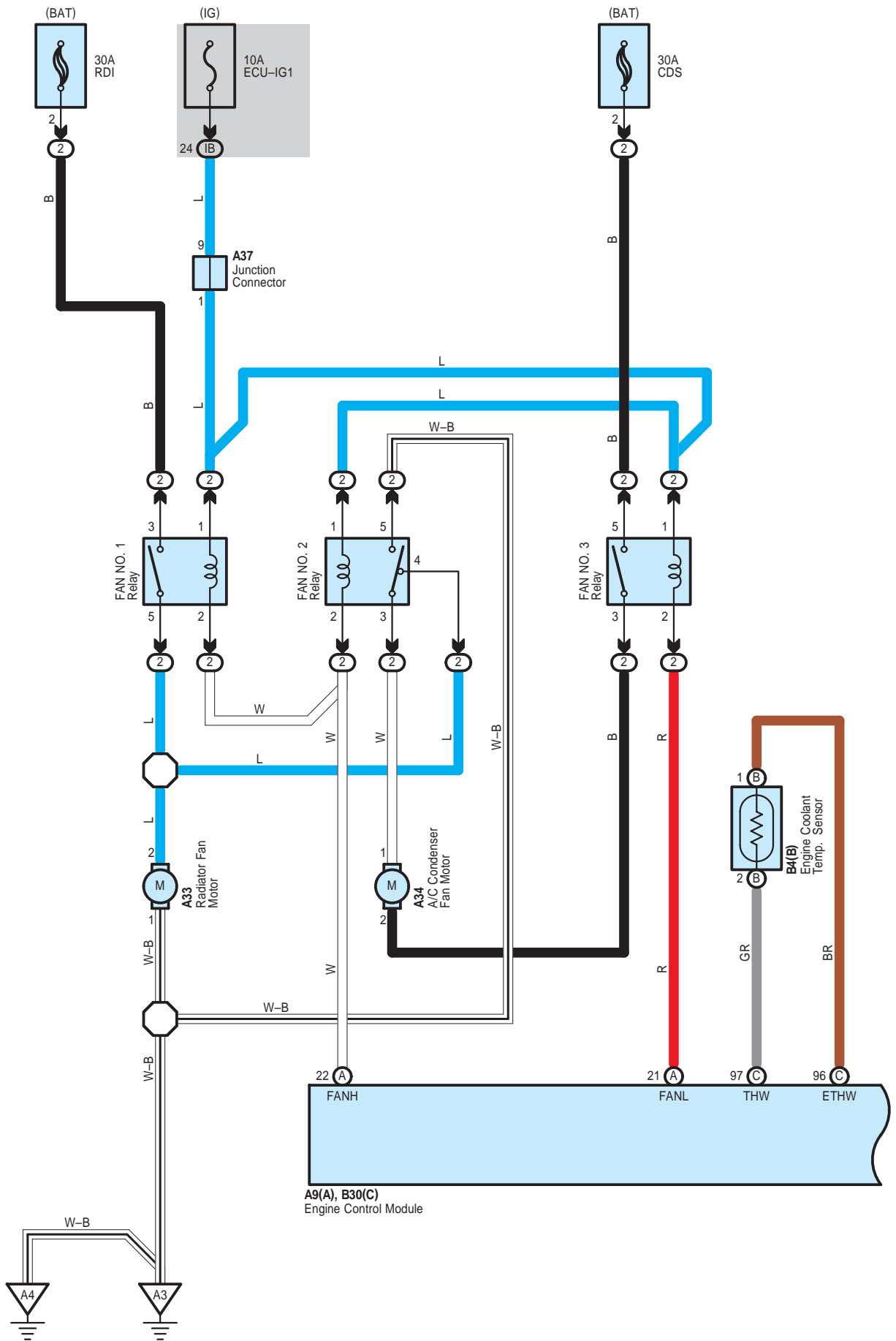
□ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE6		
AE7	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)

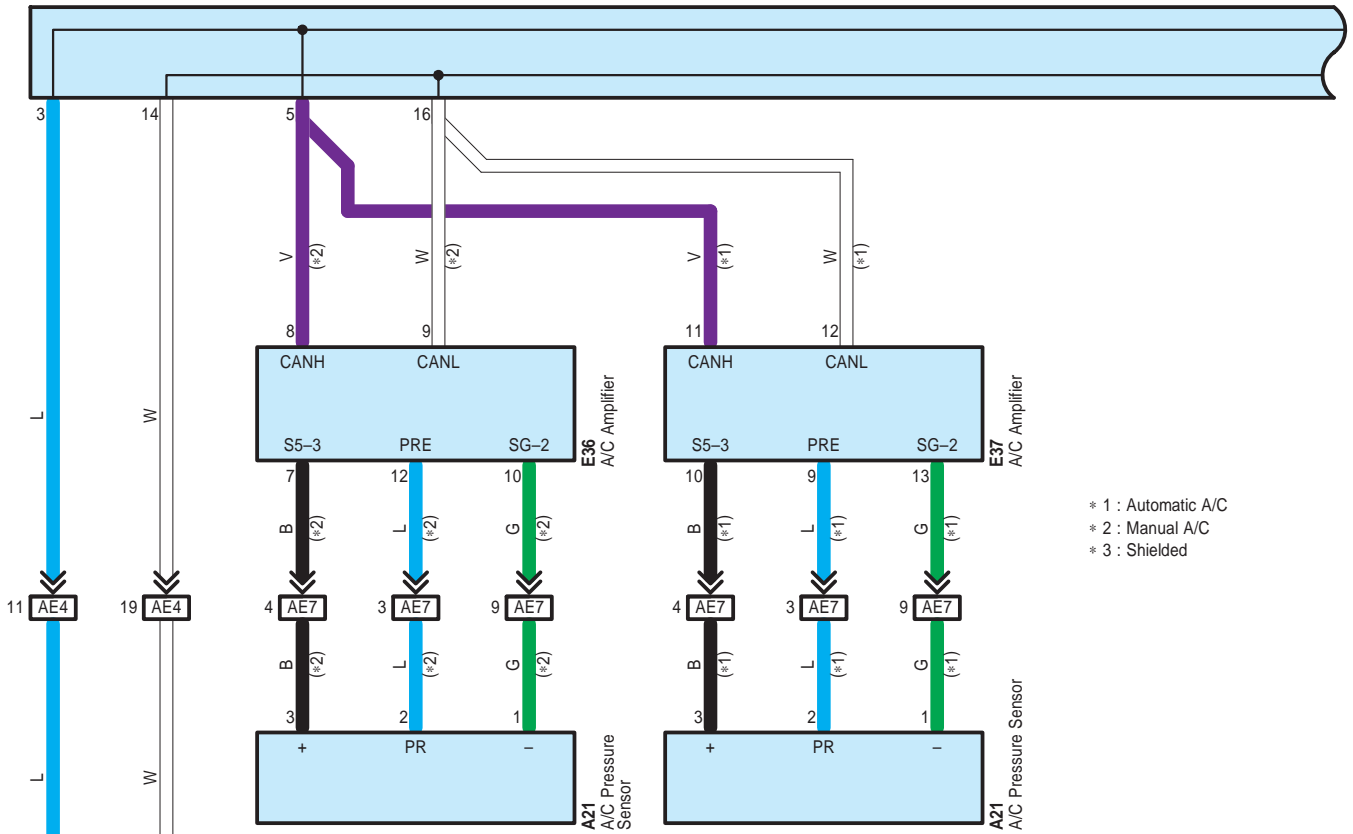
▽ : Ground Points

Code	See Page	Ground Points Location
A3	64 (2GR-FE)	Front Right Fender
A4		
B3	64 (2GR-FE)	Left Side of the Cylinder Head
E1	66	Left Kick Panel

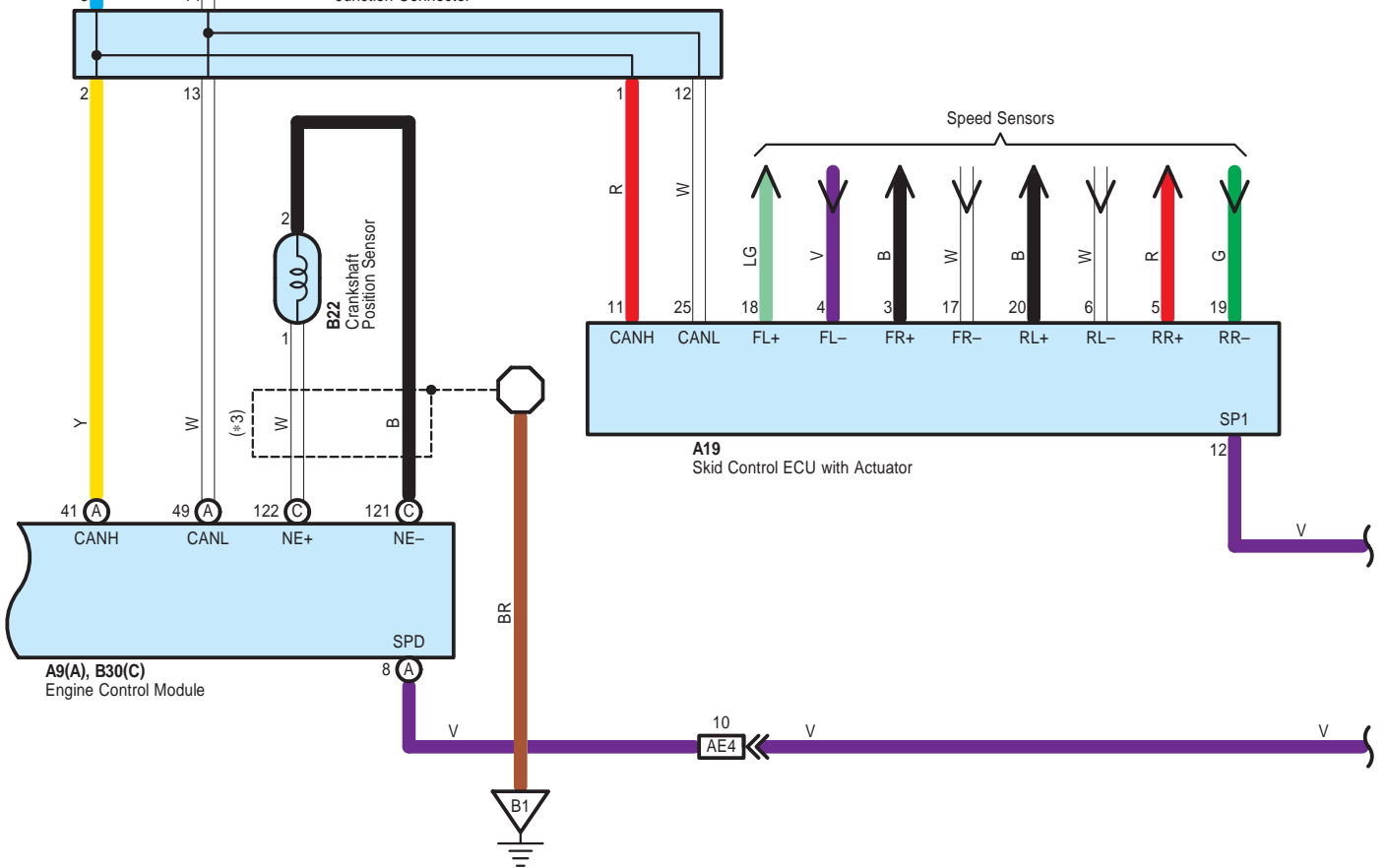
Radiator Fan and Condenser Fan for 2AZ-FE



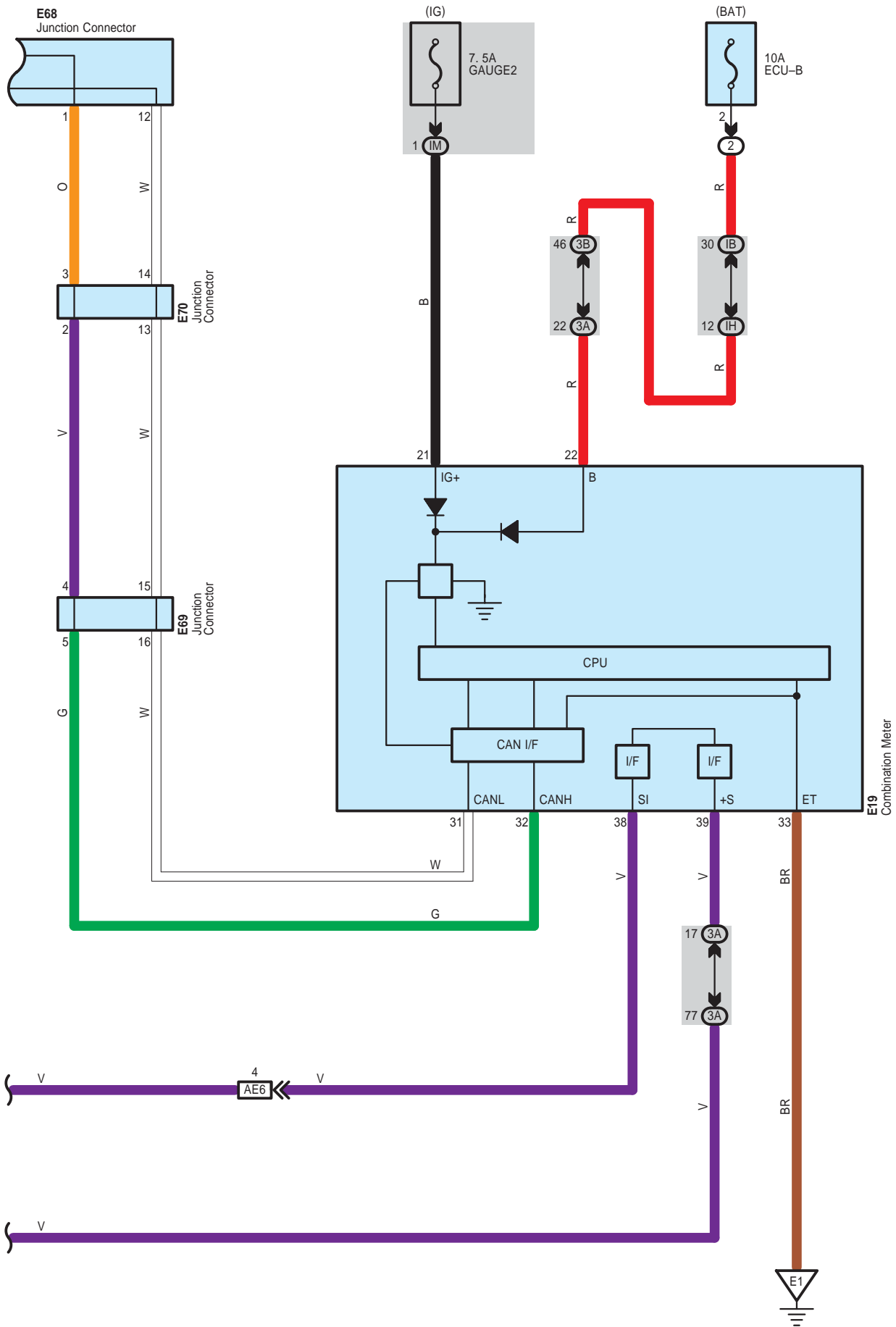
E68
Junction Connector



A36
Junction Connector



Radiator Fan and Condenser Fan for 2AZ-FE



System Outline

In accordance with signals from the engine control module, which calculates the engine coolant temperature, the air conditioner refrigerant pressure and the engine and vehicle speeds, the fan relay is activated to control the fan motor in two steps, to maintain the balance between the cooling performance and the air conditioning performance.

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
A9	A	52 (2AZ-FE)	A37	56	E37	55
A19	52 (2AZ-FE)	B4	B	53 (2AZ-FE)	E68	55
A21	52 (2AZ-FE)	B22	53 (2AZ-FE)	E69	55	
A33	52 (2AZ-FE)	B30	C	53 (2AZ-FE)	E70	55
A34	52 (2AZ-FE)	E19	54			
A36	56	E36	55			

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	27 (2AZ-FE)	Engine Room R/B No.2 (Engine Compartment Right)

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IH	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	

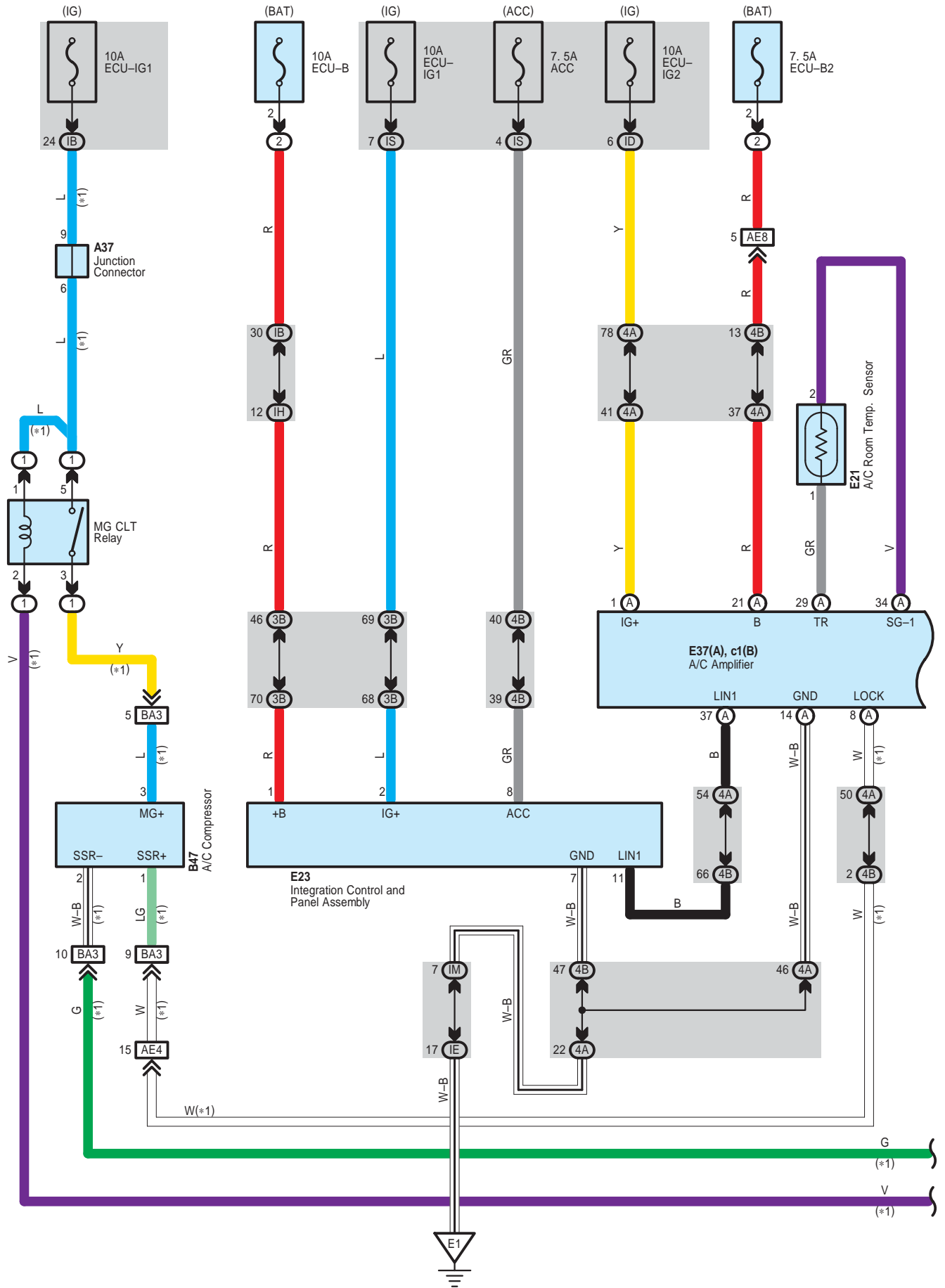
□ : Connector Joining Wire Harness and Wire Harness

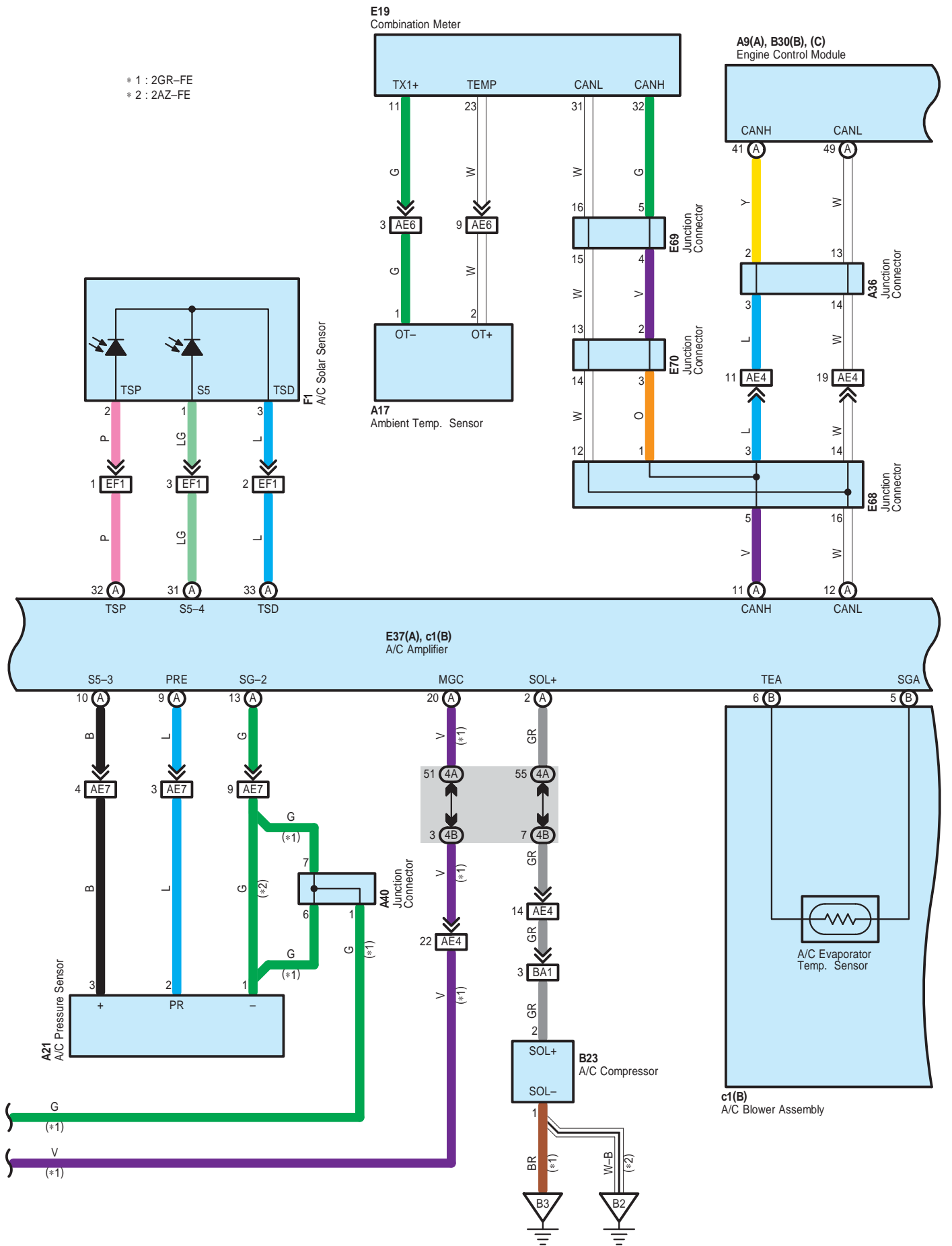
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE6		
AE7	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)

▽ : Ground Points

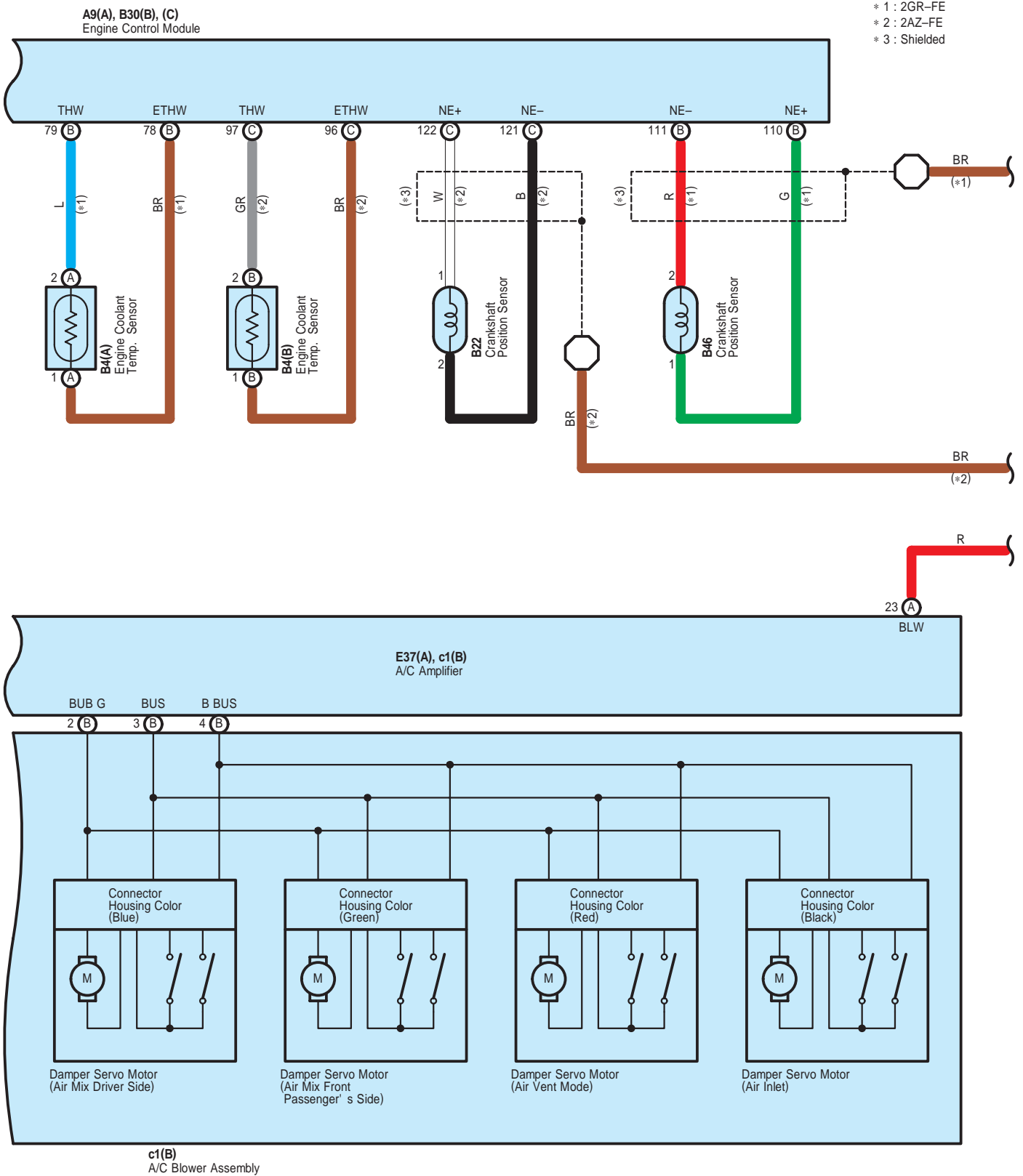
Code	See Page	Ground Points Location
A3	65 (2AZ-FE)	Front Right Fender
A4		
B1	65 (2AZ-FE)	Left Side of the Cylinder Head
E1	66	Left Kick Panel

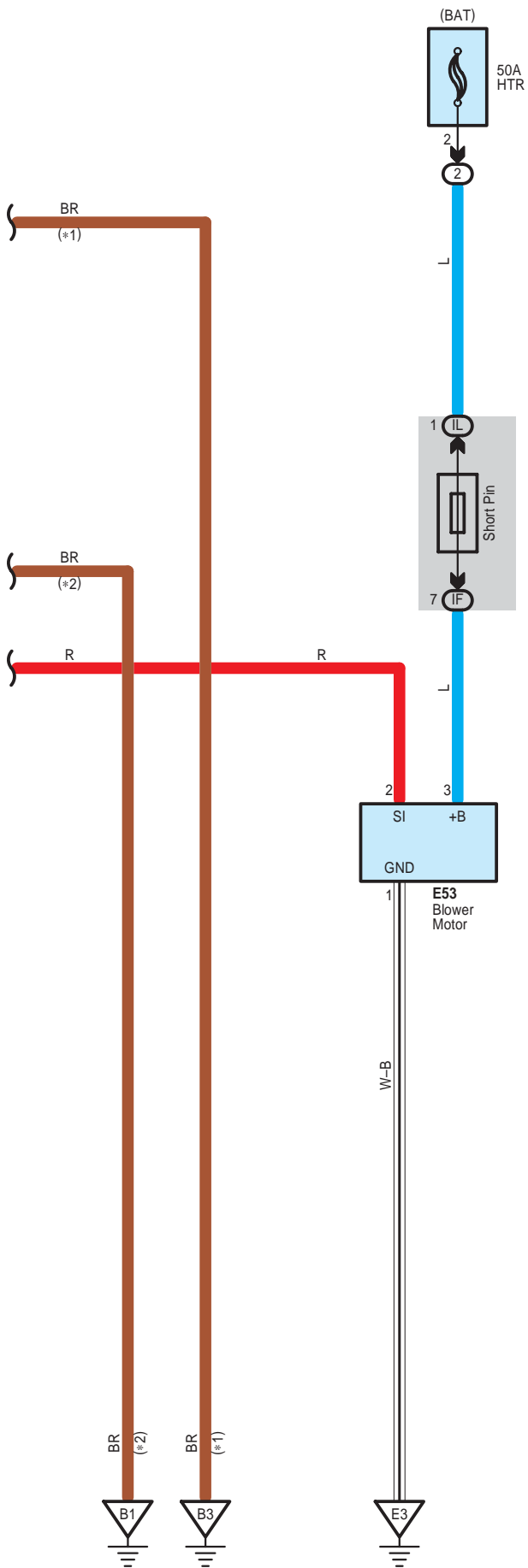
Automatic Air Conditioning and Clock





Automatic Air Conditioning and Clock





Automatic Air Conditioning and Clock

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
A9	A	B4	A	51 (2GR-FE)	E21	54	
			B	53 (2AZ-FE)	E23	54	
A17	50 (2GR-FE) 52 (2AZ-FE)	B23	B22	53 (2AZ-FE)	E37	A	55
				51 (2GR-FE)	E53	55	
A21	50 (2GR-FE) 52 (2AZ-FE)	B30	B	53 (2AZ-FE)	E68	55	
				51 (2GR-FE)	E69	55	
A36	56	B30	C	53 (2AZ-FE)	E70	55	
A37	56			B46	51 (2GR-FE)	F1	57
A40	50 (2GR-FE) 52 (2AZ-FE)	B47	E19	51 (2GR-FE)	c1	B	57
				54			

○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3B	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IF		
IH		
IL	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IS		

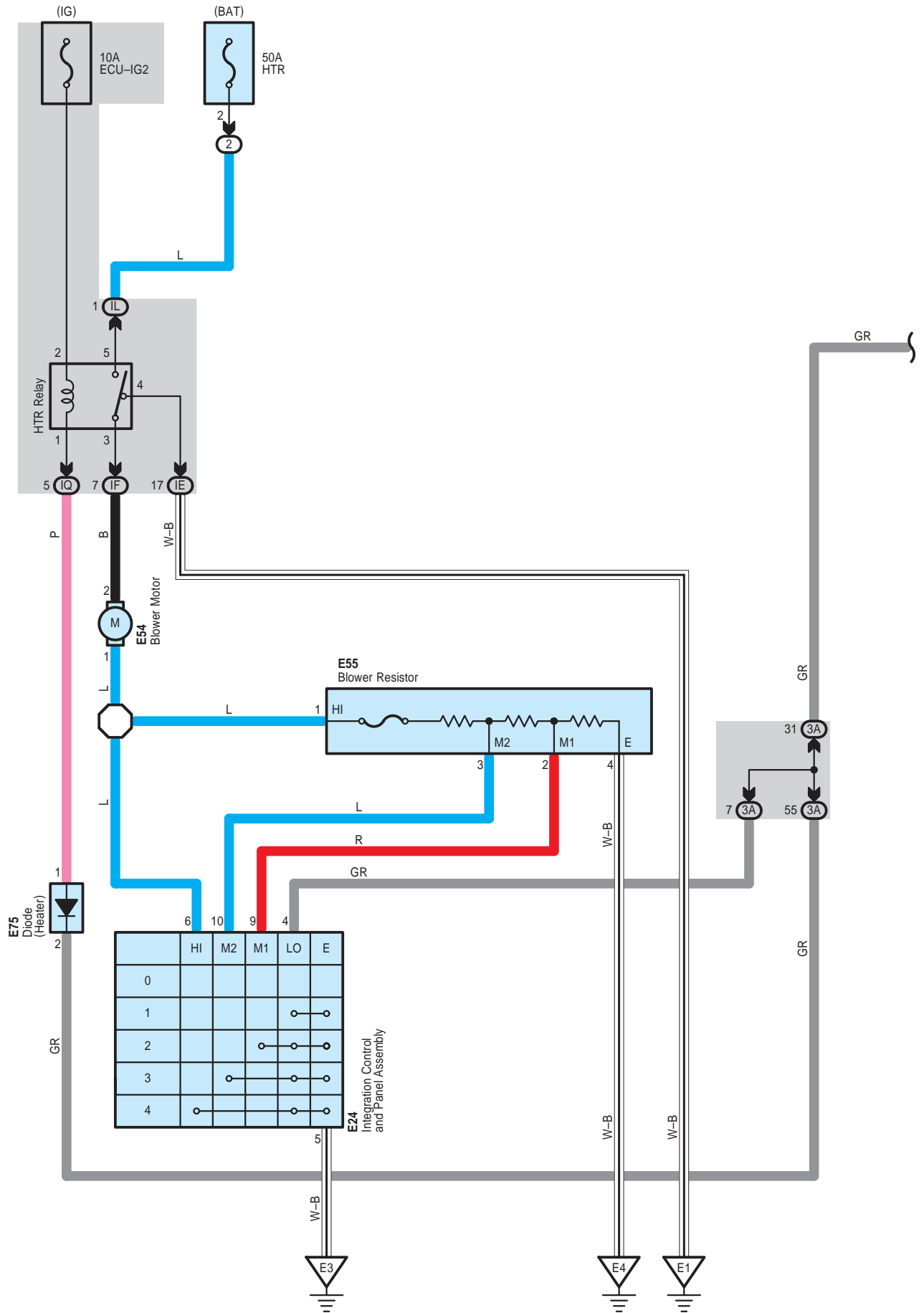
□ : Connector Joining Wire Harness and Wire Harness

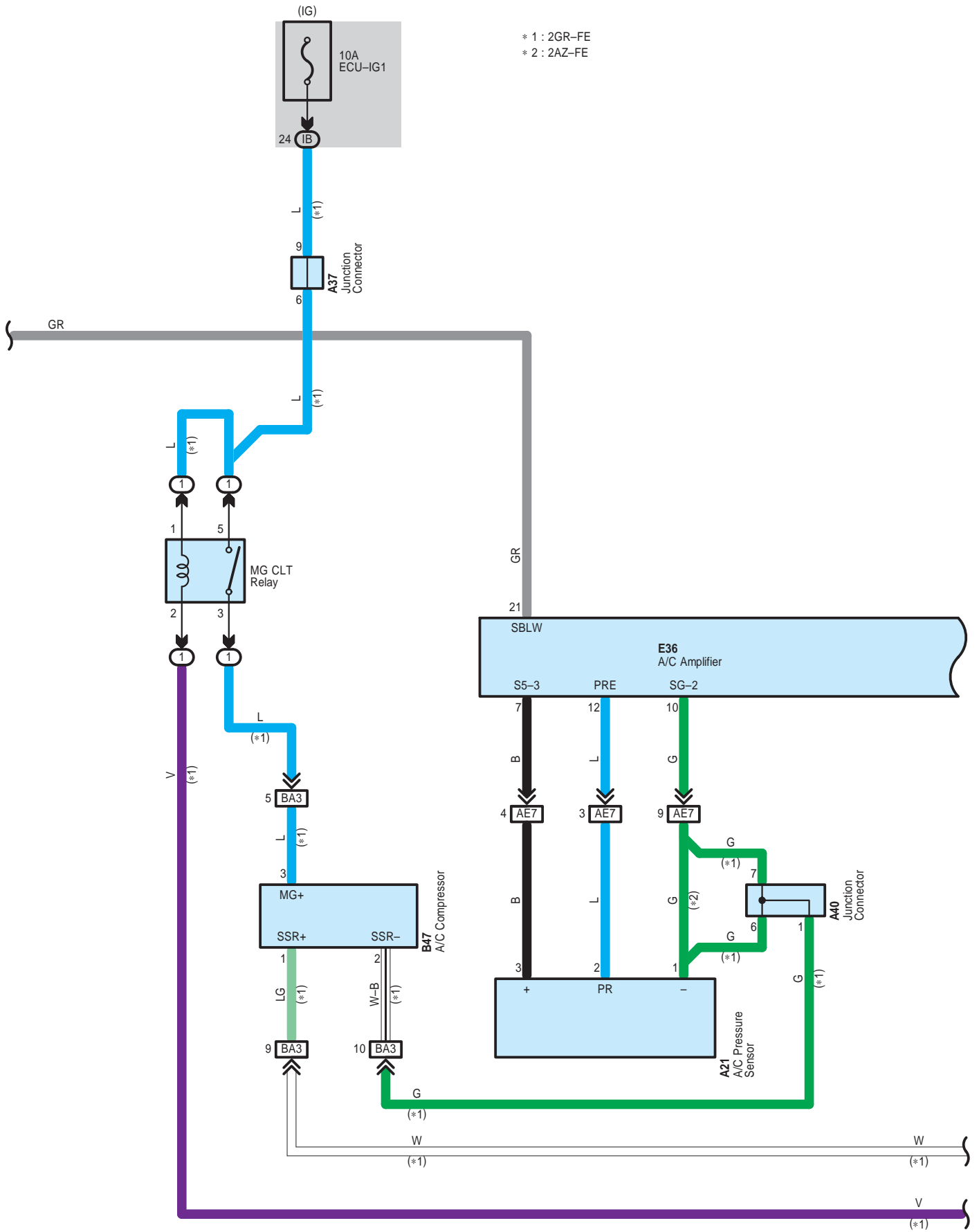
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE6		
AE7	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)
AE8		
BA1	64 (2GR-FE) 65 (2AZ-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
BA3	64 (2GR-FE)	
EF1	66	Instrument Panel Wire and Instrument Panel No.2 Wire (Left Side of the Instrument Panel)

▽ : Ground Points

Code	See Page	Ground Points Location
B1	65 (2AZ-FE)	Left Side of the Cylinder Head
B2		
B3		
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center

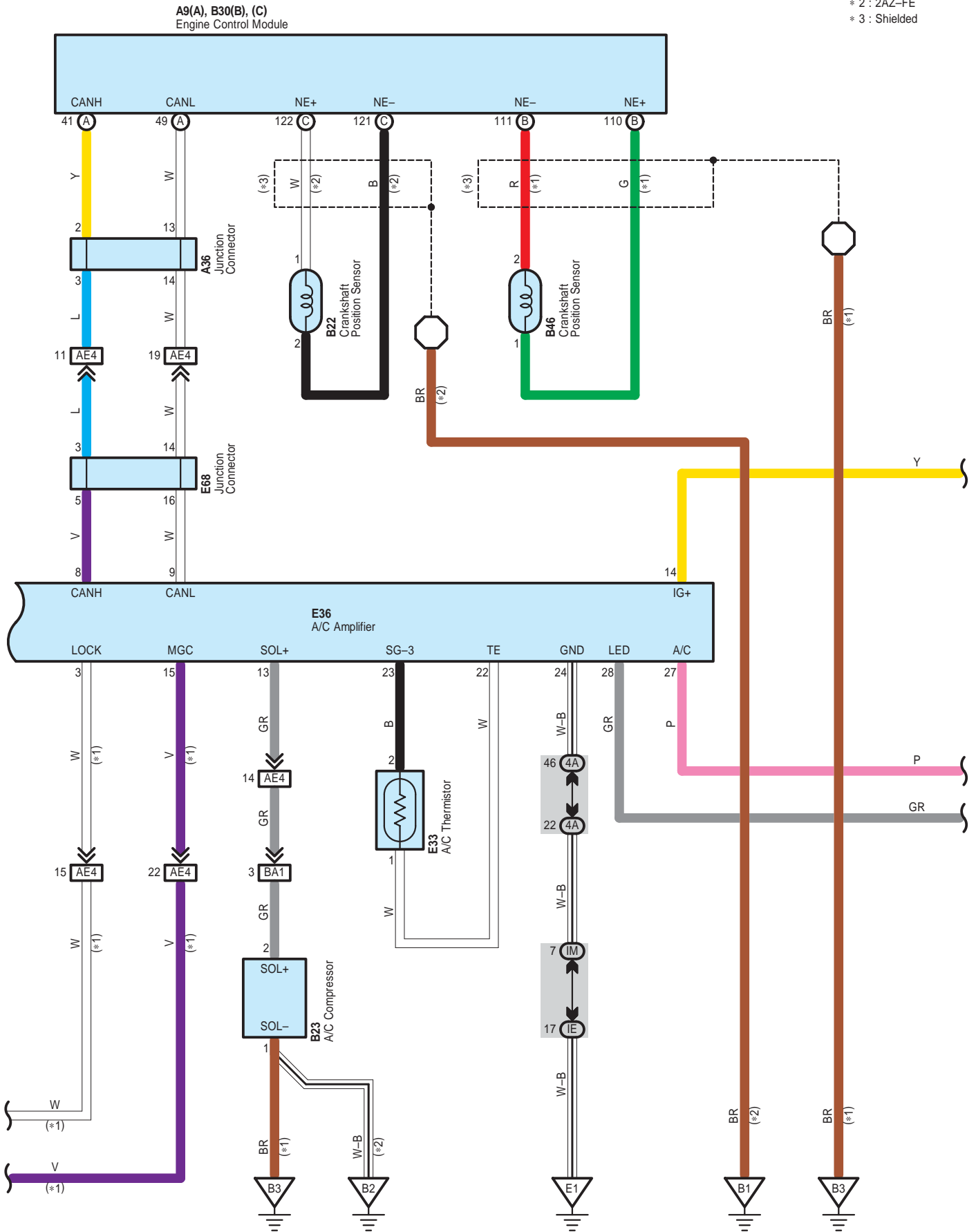
Manual Air Conditioning

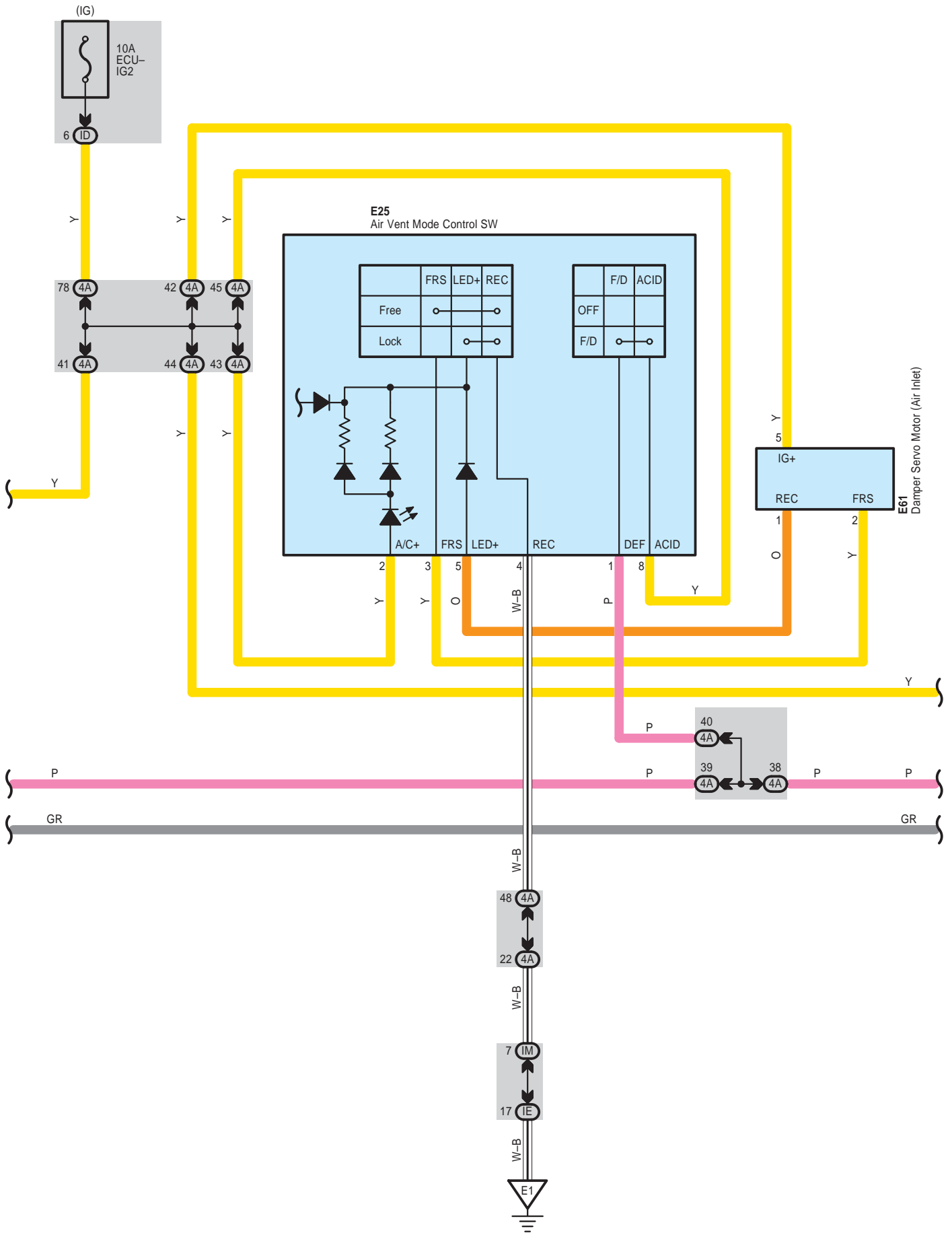


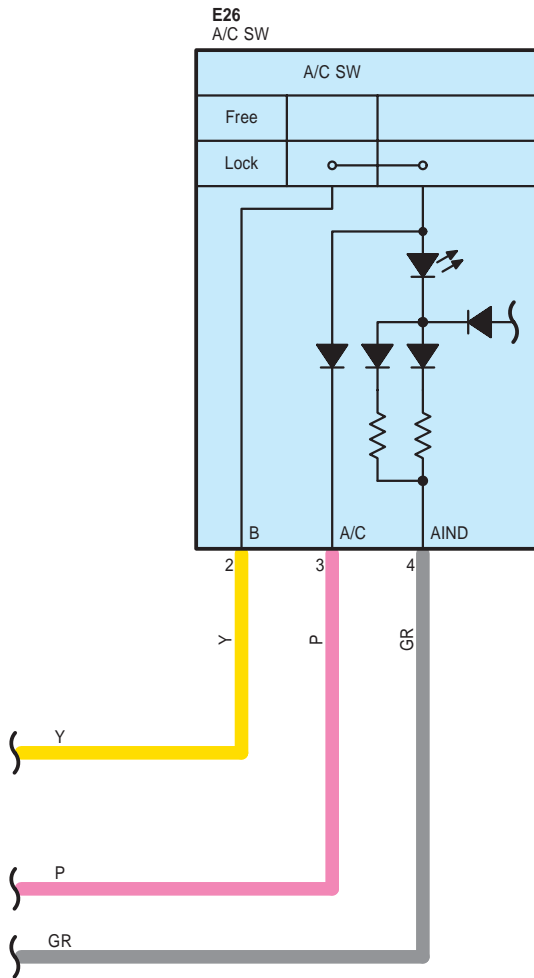


Manual Air Conditioning

- * 1 : 2GR-FE
- * 2 : 2AZ-FE
- * 3 : Shielded







 : Parts Location

Code	See Page	Code	See Page	Code	See Page
A9	A	B23		50 (2GR-FE)	E33 54
				52 (2AZ-FE)	E36 55
A21		B30	B	51 (2GR-FE)	E54 55
				C	53 (2AZ-FE)
A36	56	B46		51 (2GR-FE)	E61 55
A37	56	B47		51 (2GR-FE)	E68 55
A40	50 (2GR-FE)	E24		54	E75 55
	52 (2AZ-FE)	E25		54	
B22	53 (2AZ-FE)	E26		54	

 : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	

 : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
IB	30	Engine Room Main Wire and Instrument Panel J/B (Cowl Side Left)
ID	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IE		
IF		
IL		
IM	31	
IQ		

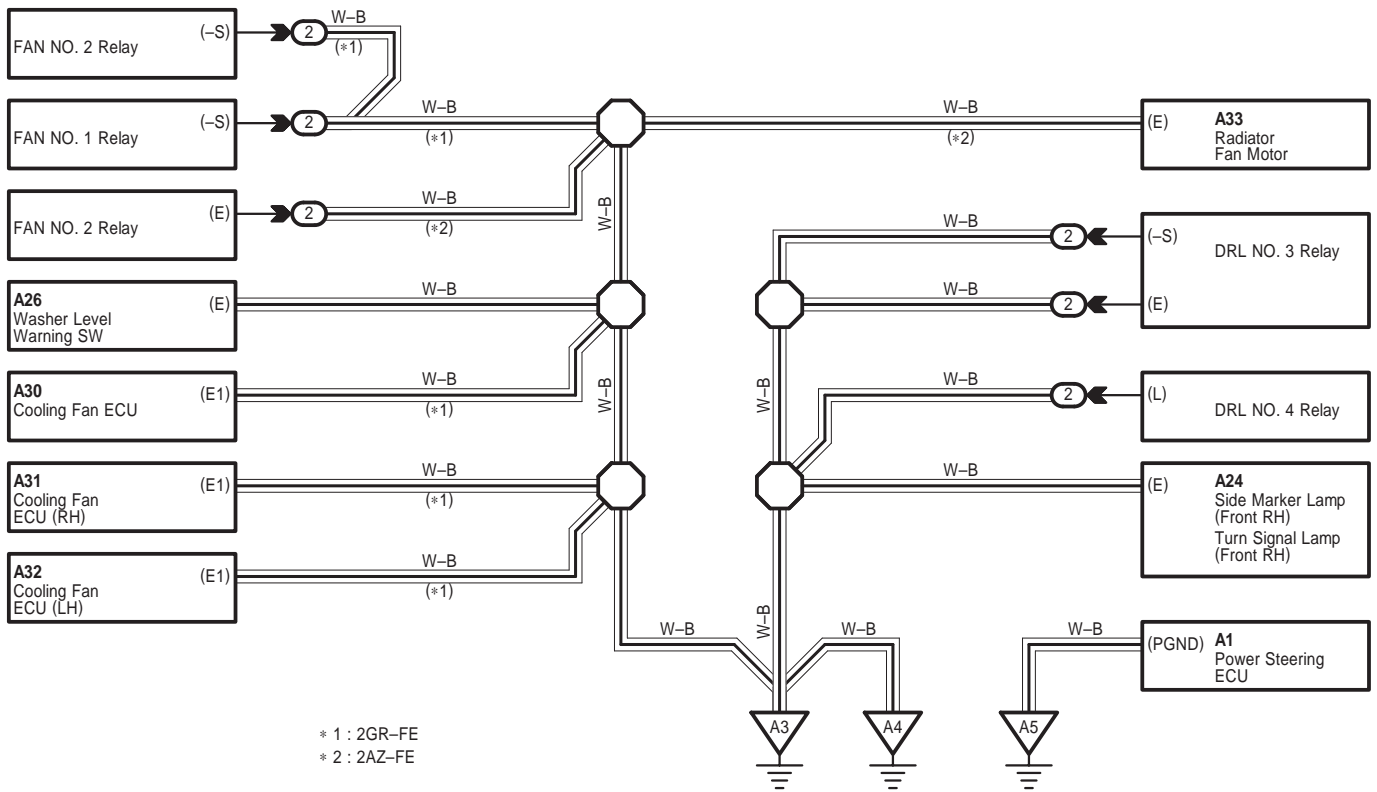
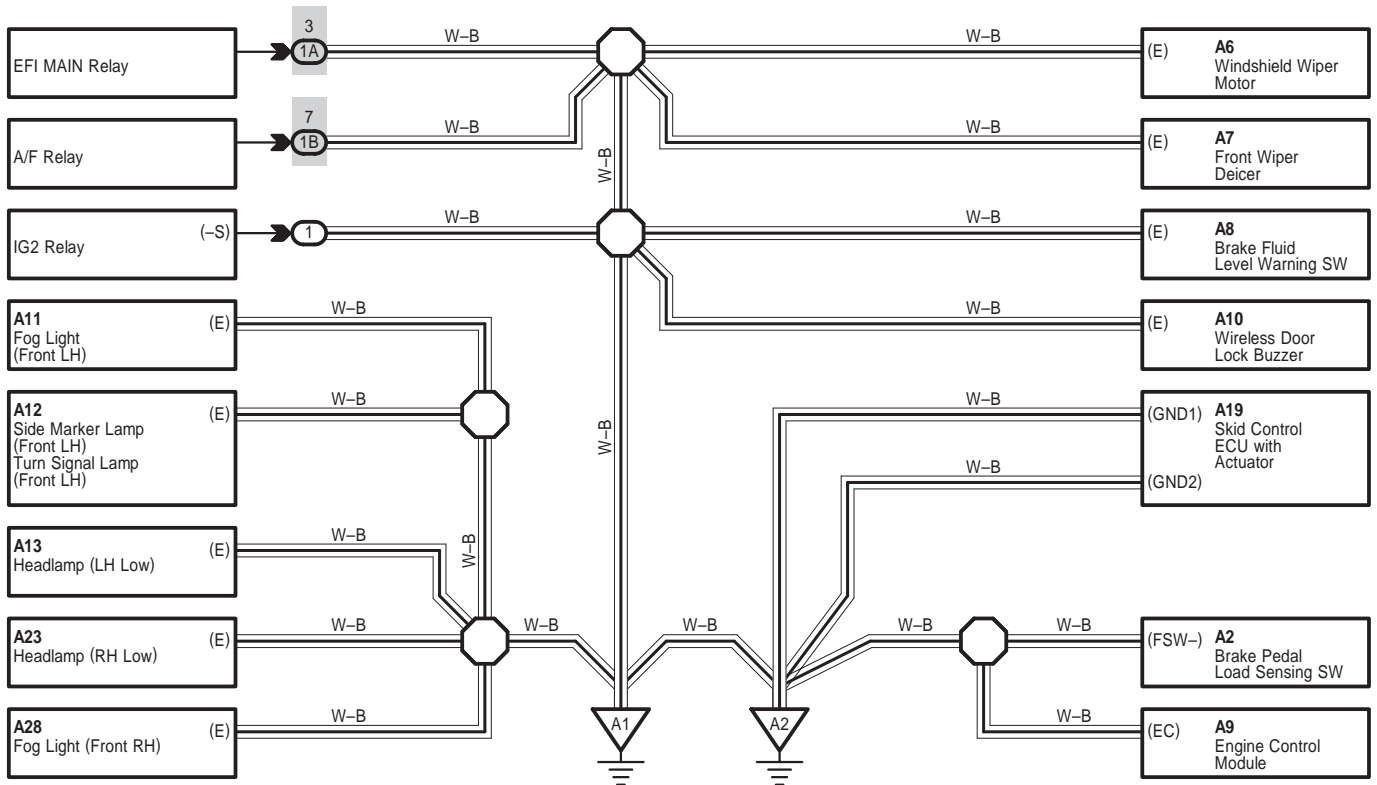
 : Connector Joining Wire Harness and Wire Harness

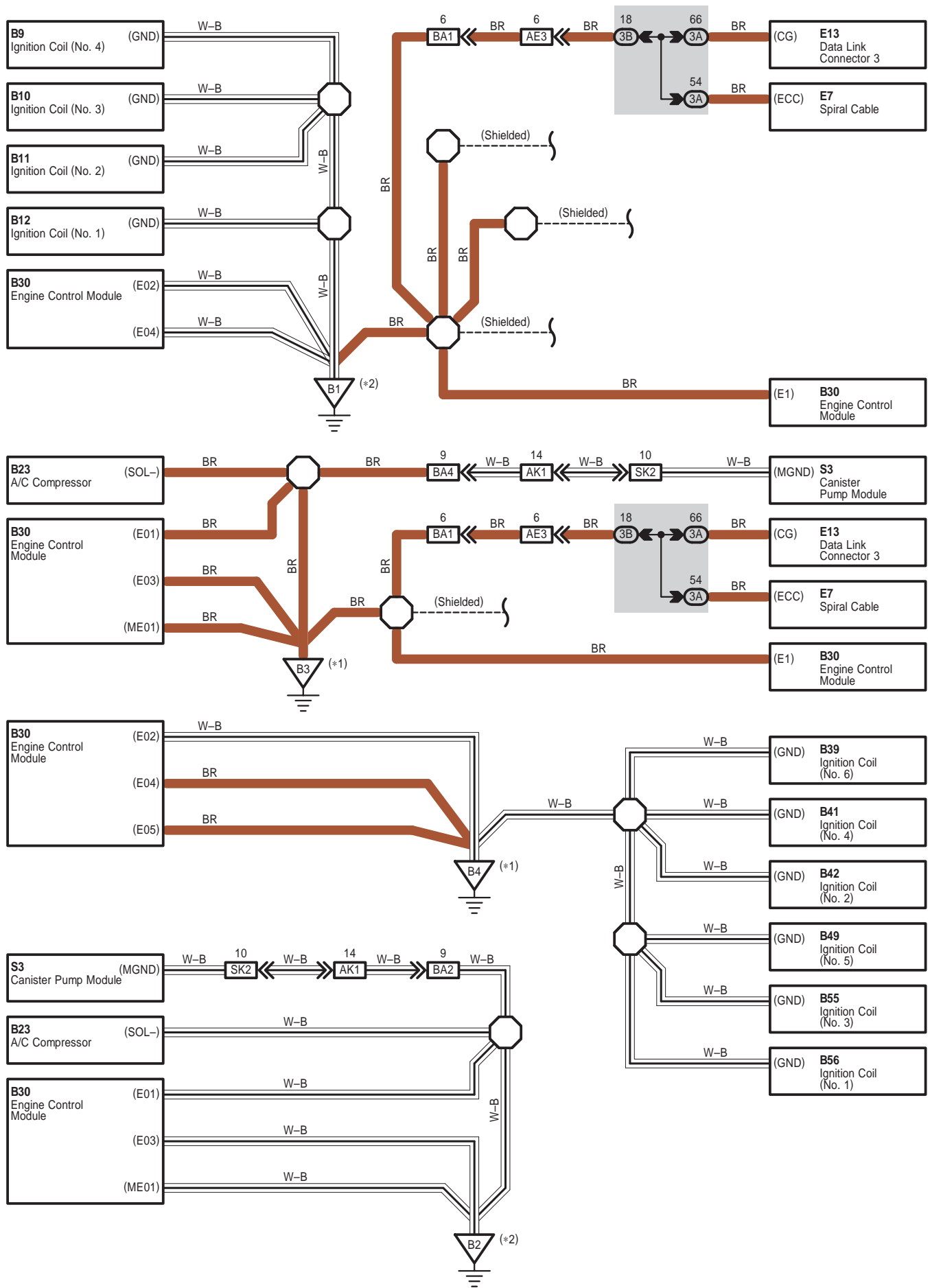
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
AE4	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)
AE7	66	Engine Room Main Wire and Instrument Panel Wire (Right Side of the Instrument Panel)
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)
	65 (2AZ-FE)	
BA3	64 (2GR-FE)	

 : Ground Points

Code	See Page	Ground Points Location
B1	65 (2AZ-FE)	Left Side of the Cylinder Head
B2		
B3	64 (2GR-FE)	
E1	66	Left Kick Panel
E3	66	Instrument Panel Reinforcement Center
E4	66	Right Kick Panel

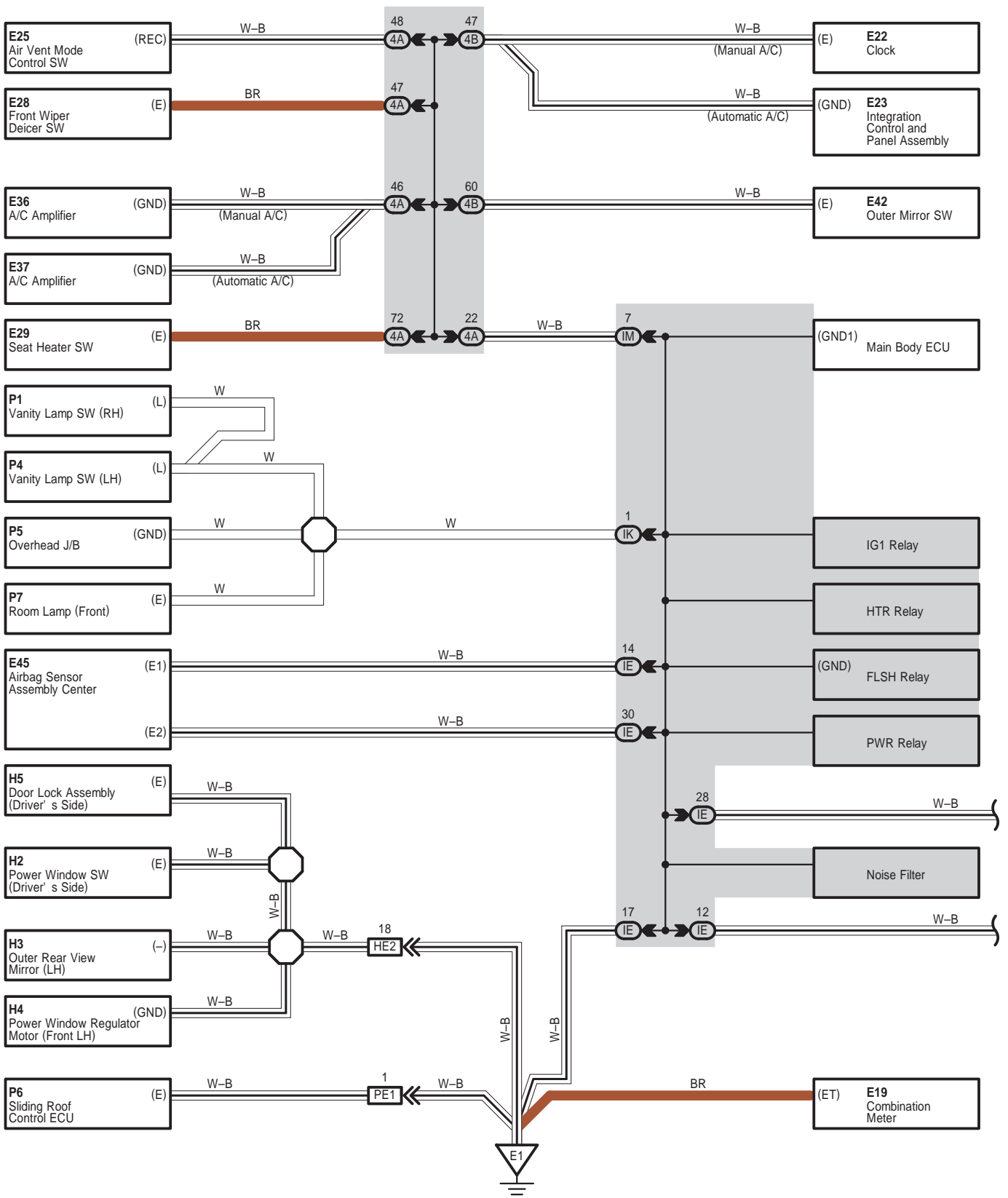
I GROUND POINT

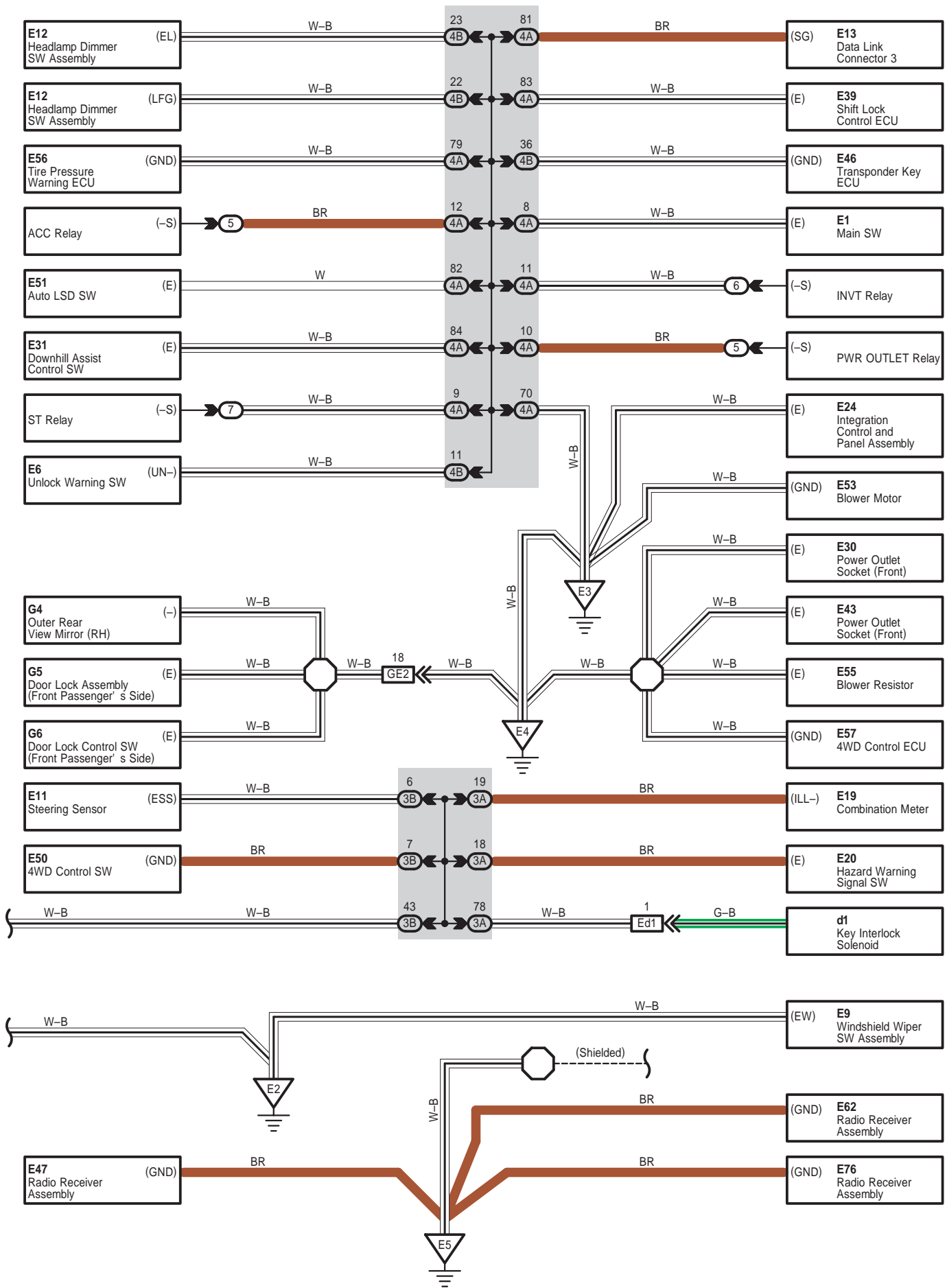




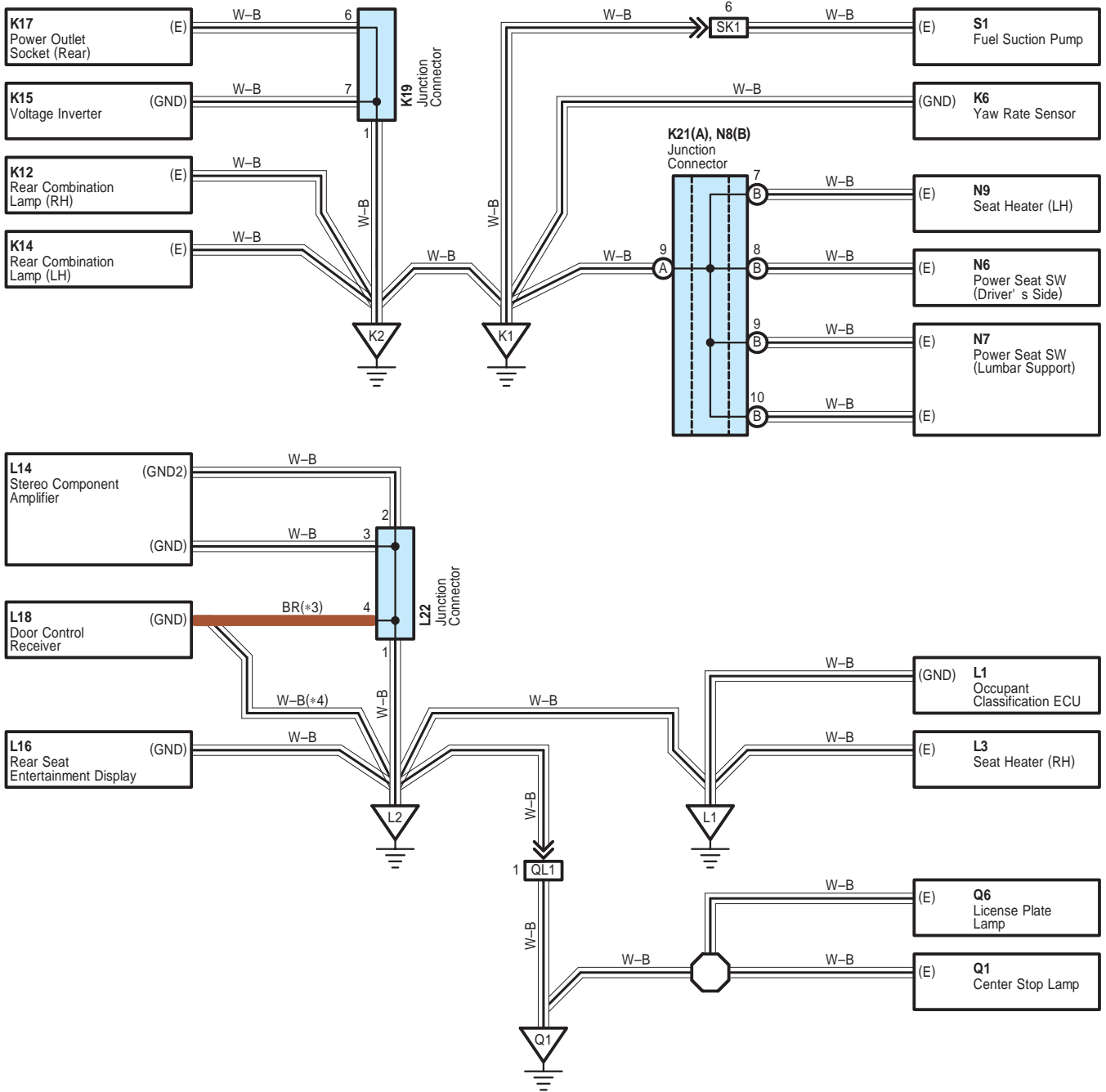
RAV4 (EM03T0U)

I GROUND POINT





I GROUND POINT



* 3 : Audio System (JBL)
 * 4 : Audio System (Except JBL)

: Parts Location

Code	See Page	Code	See Page	Code	See Page
K19	59	L22	60		
K21	A 62	N8	B 62		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22 (2GR-FE)	Engine Room R/B No.1 (Engine Compartment Left)
	23 (2AZ-FE)	
2	26 (2GR-FE)	Engine Room R/B No.2 (Engine Compartment Right)
	27 (2AZ-FE)	
5	28	R/B No.5 (Cowl Side Left)
6	28	R/B No.6 (Cowl Side Left)
7	29	R/B No.7 (Cowl Side Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
1B		
3A	38	Instrument Panel Wire and J/B No.3 (Instrument Panel Center)
3B		
4A	44	Instrument Panel Wire and J/B No.4 (Instrument Panel Center)
4B		
IE	30	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)
IK	30	Roof Wire and Instrument Panel J/B (Cowl Side Left)
IM	31	Instrument Panel Wire and Instrument Panel J/B (Cowl Side Left)

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)	
AE3	66	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel)	
AK1	66	Engine Room Main Wire and Floor Wire (Left Kick Panel)	
BA1	64 (2GR-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B No.1 and Engine Room J/B No.1)	
	65 (2AZ-FE)		
	BA2		65 (2AZ-FE)
	BA4		64 (2GR-FE)
Ed1	66	Instrument Panel Wire and Solenoid Wire (Steering Column)	
GE2	66	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)	
HE2	66	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)	
PE1	66	Roof Wire and Instrument Panel Wire (Left Side of the Instrument Panel)	
QL1	67	Back Door No.2 Wire and Floor No.2 Wire (Right Rear Quarter Panel)	
SK1	66	Fuel Gauge Wire and Floor Wire (Under the Console Box)	
SK2			

I GROUND POINT

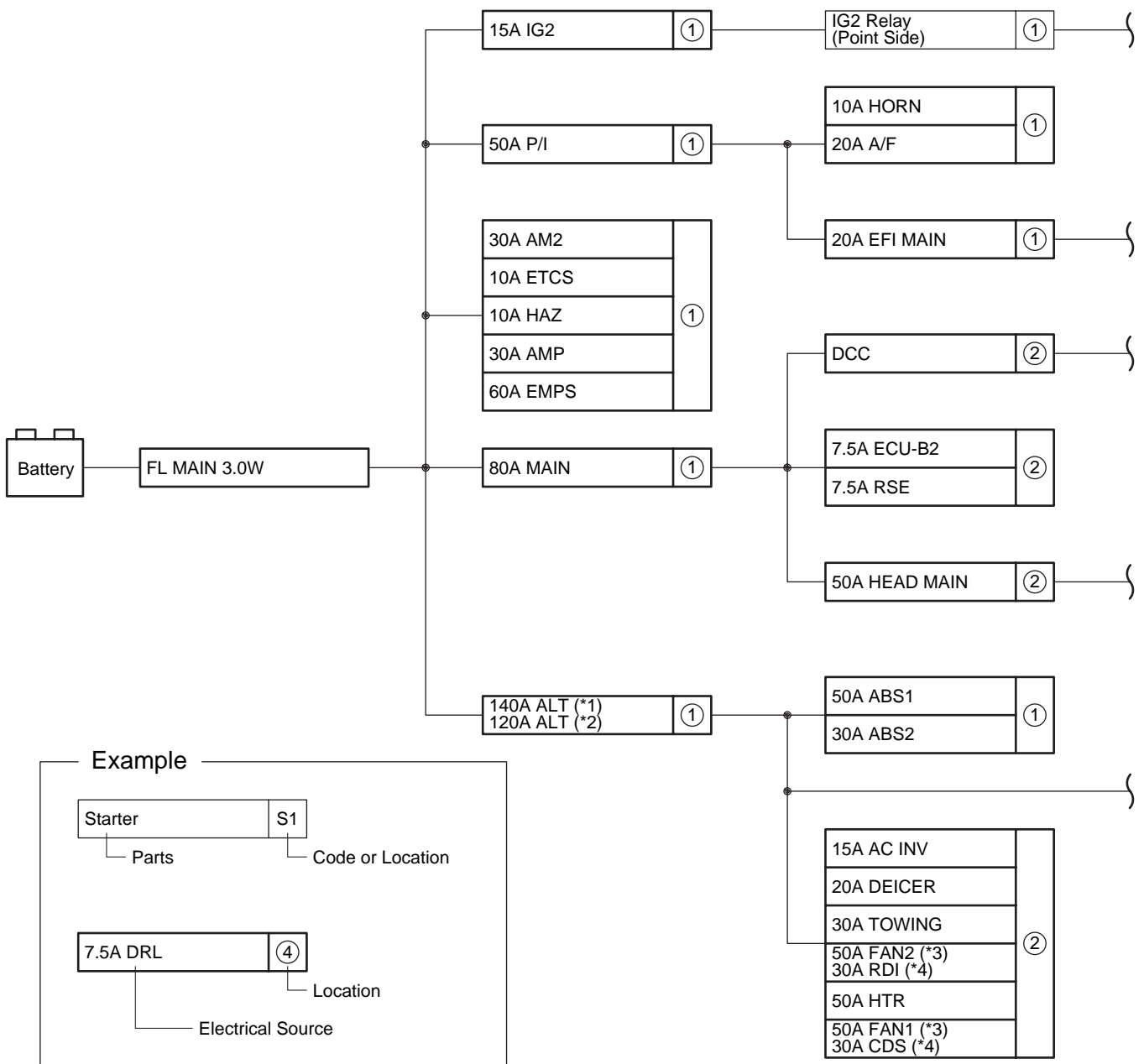


: Ground Points

Code	See Page	Ground Points Location
A1	64 (2GR-FE)	Front Left Fender
	65 (2AZ-FE)	
A2	64 (2GR-FE)	
	65 (2AZ-FE)	
A3	64 (2GR-FE)	Front Right Fender
	65 (2AZ-FE)	
A4	64 (2GR-FE)	
	65 (2AZ-FE)	
A5	66	Left Side of the Instrument Panel
B1	65 (2AZ-FE)	Left Side of the Cylinder Head
B2		
B3	64 (2GR-FE)	
B4		
E1	66	Left Kick Panel
E2	66	Instrument Panel Reinforcement Left
E3	66	Instrument Panel Reinforcement Center
E4	66	Right Kick Panel
E5	66	Instrument Panel Reinforcement Center
K1	67	Left Center Pillar
K2	67	Left Quarter Panel
L1	67	Right Center Pillar
L2	67	Right Quarter Panel
Q1	67	Left Side of the Back Door

J POWER SOURCE (Current Flow Chart)

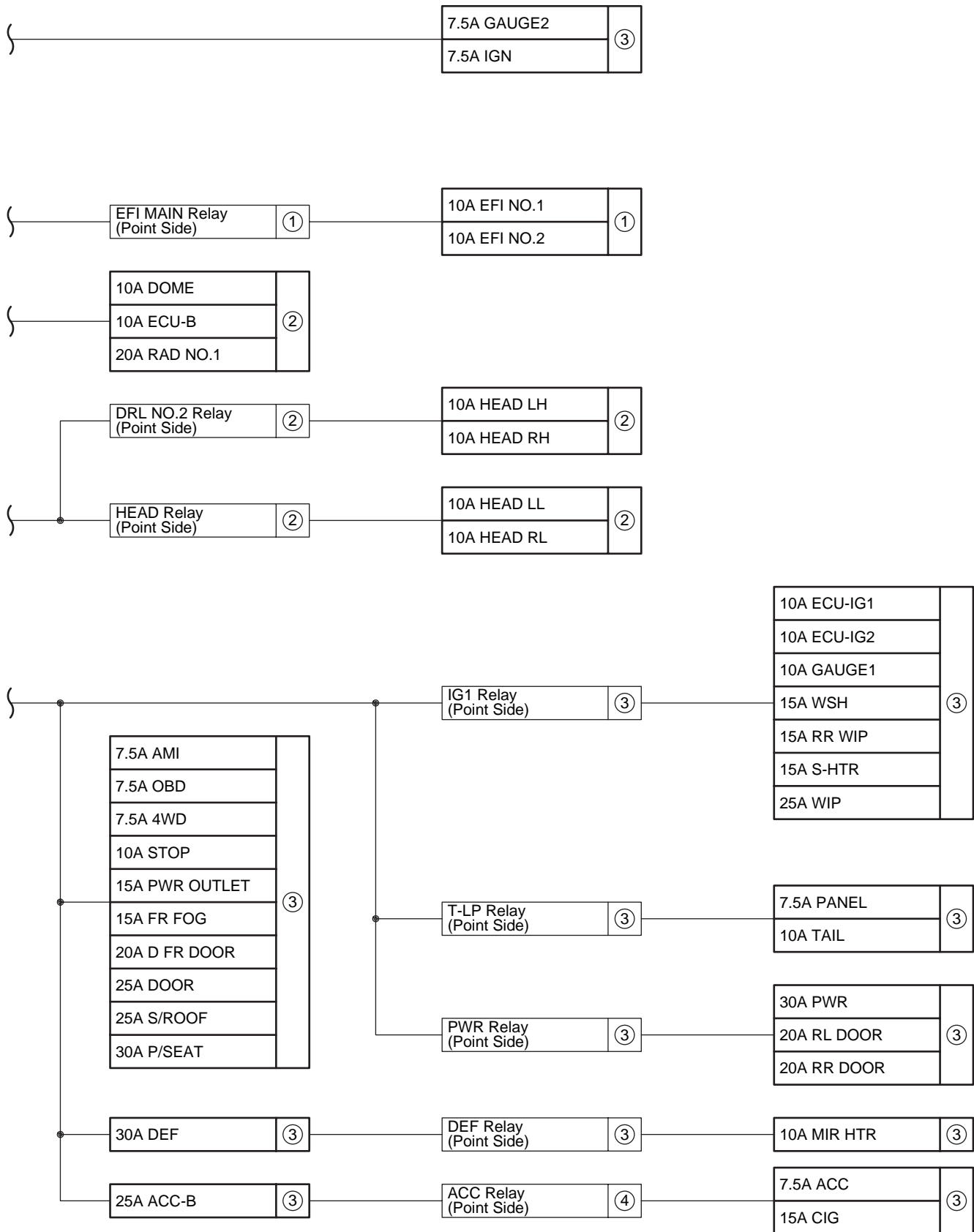
The chart below shows the route by which current flows from the battery to each electrical source (Fusible Link, Circuit Breaker, Fuse, etc.) and other Parts.



- * 1:w/ Trailer Towing
- * 2:w/o Trailer Towing
- * 3:2GR-FE
- * 4:2AZ-FE

[LOCATION]

- ① : Engie Room R/B No.1 and Engine Room J/B No.1 (See Page 22 (*3) , 23 (*4))
- ② : Engie Room R/B No.2 (See Page 26 (*3) , 27 (*4))
- ③ : Instrument Panel J/B (See Page 30)
- ④ : R/B No.5 (See Page 28)



J POWER SOURCE (Current Flow Chart)

Engine Room R/B No.1 and Engine Room J/B No.1 (See Page 22 (2GR-FE), 23 (2AZ-FE))

Fuse		System	Page
10A	EFI NO.1	Cruise Control (2AZ-FE)	238
		Cruise Control (2GR-FE)	230
		Electronically Controlled Transmission and A/T Indicator (2AZ-FE)	220
		Electronically Controlled Transmission and A/T Indicator (2GR-FE)	212
		Engine Control (2AZ-FE)	116
		Engine Control (2GR-FE)	100
10A	EFI NO.2	Engine Control (2AZ-FE)	116
		Engine Control (2GR-FE)	100
10A	ETCS	Cruise Control (2AZ-FE)	238
		Cruise Control (2GR-FE)	230
		Electronically Controlled Transmission and A/T Indicator (2AZ-FE)	220
		Electronically Controlled Transmission and A/T Indicator (2GR-FE)	212
		Engine Control (2AZ-FE)	116
		Engine Control (2GR-FE)	100
		Engine Immobiliser System	130
10A	HAZ	Turn Signal and Hazard Warning Light	146
10A	HORN	Horn	280
15A	IG2	Engine Control (2AZ-FE)	116
		Engine Control (2GR-FE)	100
		Ignition (2AZ-FE)	88
		Ignition (2GR-FE)	84
20A	A/F	Engine Control (2GR-FE)	100
20A	EFI MAIN	Cruise Control (2AZ-FE)	238
		Cruise Control (2GR-FE)	230
		Electronically Controlled Transmission and A/T Indicator (2AZ-FE)	220
		Electronically Controlled Transmission and A/T Indicator (2GR-FE)	212
		Engine Control (2AZ-FE)	116
		Engine Control (2GR-FE)	100
		Engine Immobiliser System	130
30A	ABS2	ABS, TRAC, VSC, Auto LSD, Downhill Assist Control and Hill-Start Assist Control	256
30A	AMP	Audio System (JBL)	288
30A	AM2	Engine Control (2AZ-FE)	116
		Engine Control (2GR-FE)	100
		Ignition (2AZ-FE)	88
		Ignition (2GR-FE)	84
		Starting	82
50A	ABS1	ABS, TRAC, VSC, Auto LSD, Downhill Assist Control and Hill-Start Assist Control	256
60A	EMPS	EPS	262

* These are the page numbers of the first page on which the related system is shown.

Fuse		System	Page
120A	ALT (w/o Trailer Towing)	Charging (w/o Trailer Towing)	96
		Front Fog Light	140
		Light Auto Turn Off System	144
		Power Window	192
		Taillight and Illumination	158
140A	ALT (w/ Trailer Towing)	Charging (w/ Trailer Towing)	92
		Front Fog Light	140
		Light Auto Turn Off System	144
		Power Window	192
		Taillight and Illumination	158

Engine Room R/B No.2 (See Page 26 (2GR-FE), 27 (2AZ-FE))

Fuse		System	Page
7.5A	ECU-B2	Automatic Air Conditioning and Clock (w/ Automatic Air Conditioning)	318
		Engine Immobiliser System	130
7.5A	RSE	Audio System (JBL)	288
10A	DOME	Interior Light	150
		Wireless Door Lock Control	196
10A	ECU-B	ABS, TRAC, VSC, Auto LSD, Downhill Assist Control and Hill-Start Assist Control	256
		Audio System (Except JBL)	296
		Audio System (JBL)	288
		Automatic Air Conditioning and Clock (w/ Automatic Air Conditioning)	318
		Charging (w/ Trailer Towing)	92
		Charging (w/o Trailer Towing)	96
		Clock (w/o Automatic Air Conditioning)	282
		Combination Meter	300
		Cooling Fan (2GR-FE)	308
		Cruise Control (2AZ-FE)	238
		Cruise Control (2GR-FE)	230
		Door Lock Control	204
		Electronically Controlled Transmission and A/T Indicator (2AZ-FE)	220
		Electronically Controlled Transmission and A/T Indicator (2GR-FE)	212
		Engine Control (2AZ-FE)	116
		Engine Control (2GR-FE)	100
		EPS	262
		Front Fog Light	140
		Headlight	134
		Interior Light	150
		Key Reminder	170
Light Auto Turn Off System	144		
Radiator Fan and Condenser Fan (2AZ-FE)	314		
Seat Belt Warning	172		

* These are the page numbers of the first page on which the related system is shown.

J POWER SOURCE (Current Flow Chart)

Fuse		System	Page
10A	ECU-B	SRS	267
		Taillight and Illumination	158
		Tire Pressure Warning System	274
		Wireless Door Lock Control	196
		4WD	246
10A	HEAD LH	Headlight	134
10A	HEAD LL	Headlight	134
10A	HEAD RH	Headlight	134
10A	HEAD RL	Headlight	134
15A	AC INV	Power Outlet (115V)	182
20A	DEICER	Front Window Deicer	190
20A	RAD NO.1	Audio System (Except JBL)	296
		Audio System (JBL)	288
30A	CDS (2AZ-FE)	Radiator Fan and Condenser Fan (2AZ-FE)	314
30A	RDI (2AZ-FE)	Radiator Fan and Condenser Fan (2AZ-FE)	314
30A	TOWING	Trailer Towing	164
50A	FAN1 (2GR-FE)	Cooling Fan (2GR-FE)	308
50A	FAN2 (2GR-FE)	Cooling Fan (2GR-FE)	308
50A	HEAD MAIN	Headlight	134
		Light Auto Turn Off System	144
50A	HTR	Automatic Air Conditioning and Clock (w/ Automatic Air Conditioning)	318
		Manual Air Conditioning	324

Instrument Panel J/B (See page 30)

Fuse		System	Page
7.5A	ACC	Audio System (Except JBL)	296
		Audio System (JBL)	288
		Automatic Air Conditioning and Clock (w/ Automatic Air Conditioning)	318
		Clock (w/o Automatic Air Conditioning)	282
		Door Lock Control	204
		Headlight	134
		Interior Light	150
		Key Reminder	170
		Light Auto Turn Off System	144
		Power Outlet (12V)	184
		Remote Control Mirror	286
		Shift Lock	210
		Wireless Door Lock Control	196
7.5A	AM1	Cruise Control (2GR-FE)	230
		Electronically Controlled Transmission and A/T Indicator (2AZ-FE)	220
		Electronically Controlled Transmission and A/T Indicator (2GR-FE)	212
		Engine Control (2AZ-FE)	116

* These are the page numbers of the first page on which the related system is shown.

Fuse		System	Page
7.5A	AM1	Engine Control (2GR-FE)	100
		Starting	82
7.5A	GAUGE2	ABS, TRAC, VSC, Auto LSD, Downhill Assist Control and Hill-Start Assist Control	256
		Audio System (Except JBL)	296
		Audio System (JBL)	288
		Charging (w/ Trailer Towing)	92
		Charging (w/o Trailer Towing)	96
		Combination Meter	300
		Cooling Fan (2GR-FE)	308
		Cruise Control (2AZ-FE)	238
		Cruise Control (2GR-FE)	230
		Electronically Controlled Transmission and A/T Indicator (2AZ-FE)	220
		Electronically Controlled Transmission and A/T Indicator (2GR-FE)	212
		Engine Control (2AZ-FE)	116
		Engine Control (2GR-FE)	100
		EPS	262
		Front Fog Light	140
		Headlight	134
		Interior Light	150
		Key Reminder	170
		Radiator Fan and Condenser Fan (2AZ-FE)	314
		Seat Belt Warning	172
SRS	267		
Taillight and Illumination	158		
Tire Pressure Warning System	274		
4WD	246		
7.5A	IGN	Cruise Control (2AZ-FE)	238
		Cruise Control (2GR-FE)	230
		Electronically Controlled Transmission and A/T Indicator (2AZ-FE)	220
		Electronically Controlled Transmission and A/T Indicator (2GR-FE)	212
		Engine Control (2AZ-FE)	116
		Engine Control (2GR-FE)	100
		Engine Immobiliser System	130
		Seat Belt Warning	172
SRS	267		
7.5A	OBD	Data Link Connector 3	128
7.5A	PANEL	Taillight and Illumination	158
7.5A	4WD	4WD	246
10A	ECU-IG1	ABS, TRAC, VSC, Auto LSD, Downhill Assist Control and Hill-Start Assist Control	256
		Automatic Air Conditioning and Clock (w/ Automatic Air Conditioning)	318
		Clock (w/o Automatic Air Conditioning)	282
		Cooling Fan (2GR-FE)	308

* These are the page numbers of the first page on which the related system is shown.

J POWER SOURCE (Current Flow Chart)

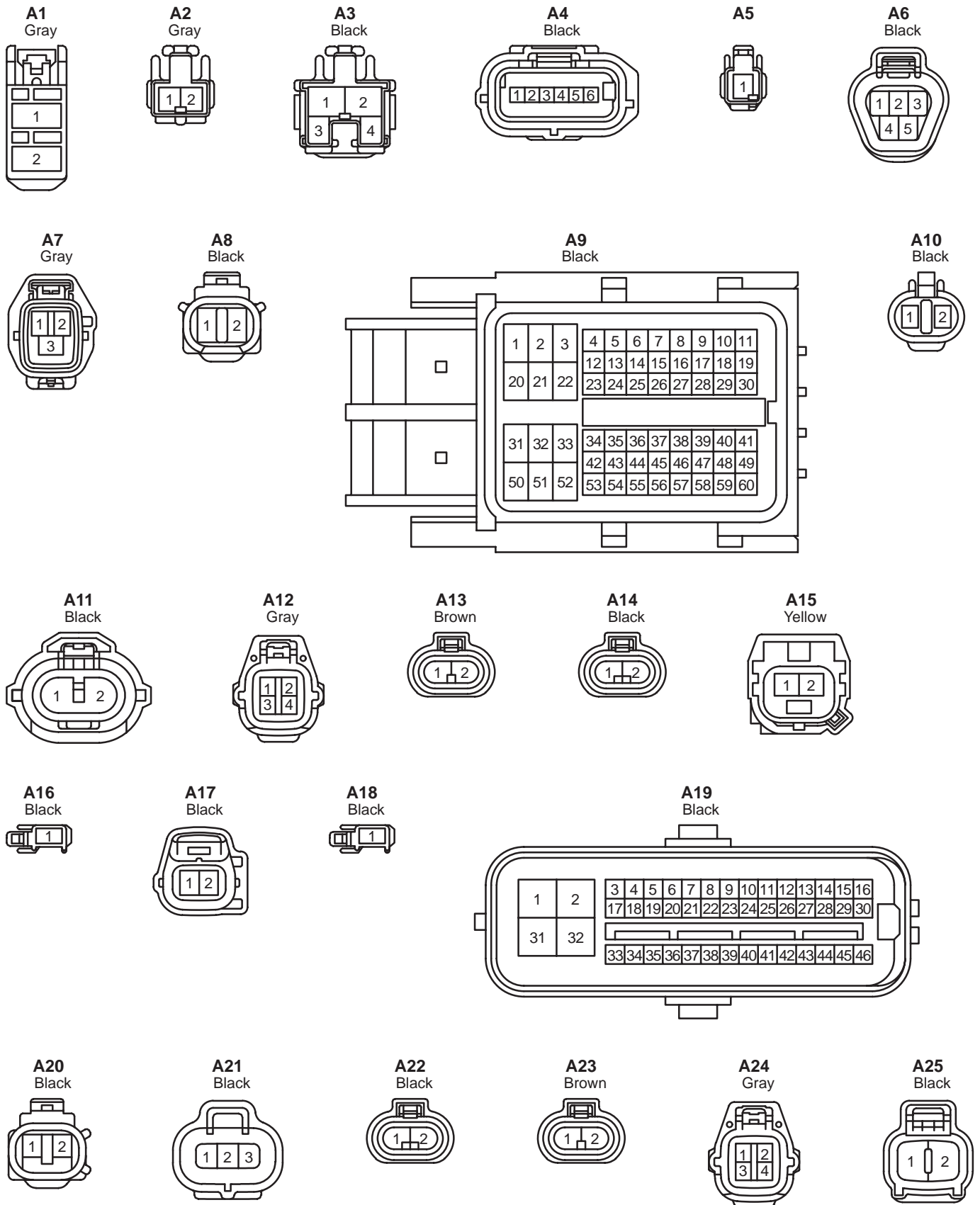
Fuse		System	Page
10A	ECU-IG1	Door Lock Control	204
		EPS	262
		Front Window Deicer	190
		Headlight	134
		Interior Light	150
		Key Reminder	170
		Light Auto Turn Off System	144
		Manual Air Conditioning	324
		Power Outlet (115V)	182
		Radiator Fan and Condenser Fan (2AZ-FE)	314
		Shift Lock	210
		Sliding Roof	278
		Stop Light	166
		Tire Pressure Warning System	274
		Wireless Door Lock Control	196
4WD	246		
10A	ECU-IG2	Automatic Air Conditioning and Clock (w/ Automatic Air Conditioning)	318
		Manual Air Conditioning	324
		Rear Window Defogger and Mirror Heater	284
		Turn Signal and Hazard Warning Light	146
10A	GAUGE1	Back-Up Light	168
		Charging (w/ Trailer Towing)	92
		Charging (w/o Trailer Towing)	96
		Cruise Control (2AZ-FE)	238
		Cruise Control (2GR-FE)	230
		Electronically Controlled Transmission and A/T Indicator (2AZ-FE)	220
		Electronically Controlled Transmission and A/T Indicator (2GR-FE)	212
4WD	246		
10A	MIR HTR	Rear Window Defogger and Mirror Heater	284
10A	STOP	ABS, TRAC, VSC, Auto LSD, Downhill Assist Control and Hill-Start Assist Control	256
		Cruise Control (2AZ-FE)	238
		Cruise Control (2GR-FE)	230
		Electronically Controlled Transmission and A/T Indicator (2AZ-FE)	220
		Electronically Controlled Transmission and A/T Indicator (2GR-FE)	212
		Engine Control (2AZ-FE)	116
		Engine Control (2GR-FE)	100
		Shift Lock	210
		Stop Light	166
4WD	246		
10A	TAIL	Front Fog Light	140
		Taillight and Illumination	158
15A	CIG	Power Outlet (12V)	184

* These are the page numbers of the first page on which the related system is shown.

Fuse		System	Page
15A	FR FOG	Front Fog Light	140
15A	PWR OUTLET	Power Outlet (12V)	184
15A	RR WIP	Rear Wiper and Washer	188
15A	S-HTR	Seat Heater	180
15A	WSH	Front Wiper and Washer	186
		Rear Wiper and Washer	188
20A	D FR DOOR	Power Window	192
20A	RL DOOR	Power Window	192
20A	RR DOOR	Power Window	192
25A	DOOR	Door Lock Control	204
		Wireless Door Lock Control	196
25A	S/ROOF	Sliding Roof	278
25A	WIP	Engine Control (2AZ-FE)	116
		Engine Control (2GR-FE)	100
		Front Wiper and Washer	186
30A	DEF	Rear Window Defogger and Mirror Heater	284
30A	P/SEAT	Power Seat	176
30A	PWR	Power Window	192

* These are the page numbers of the first page on which the related system is shown.

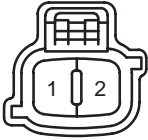
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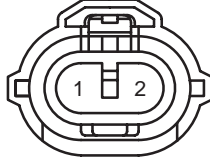
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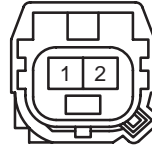
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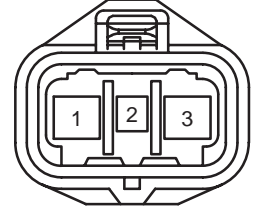
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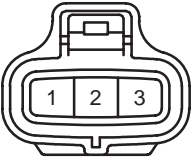
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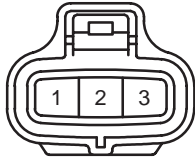
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A31
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A32
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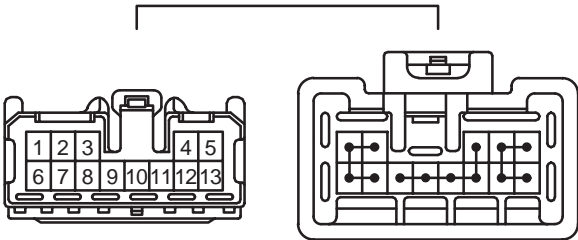
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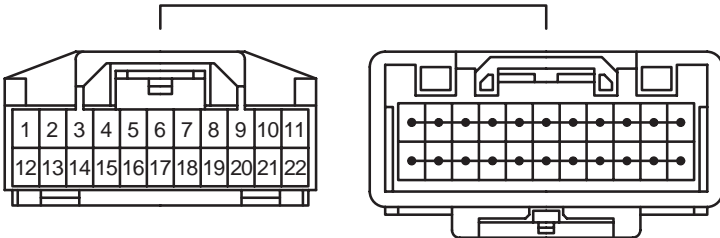
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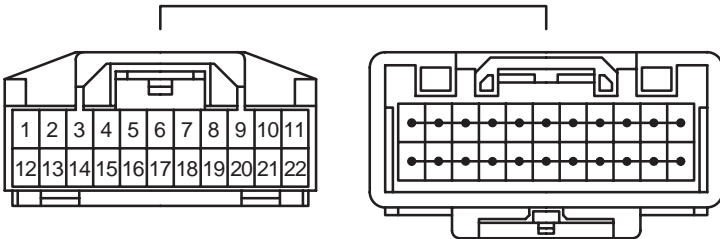
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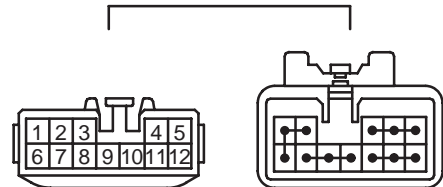
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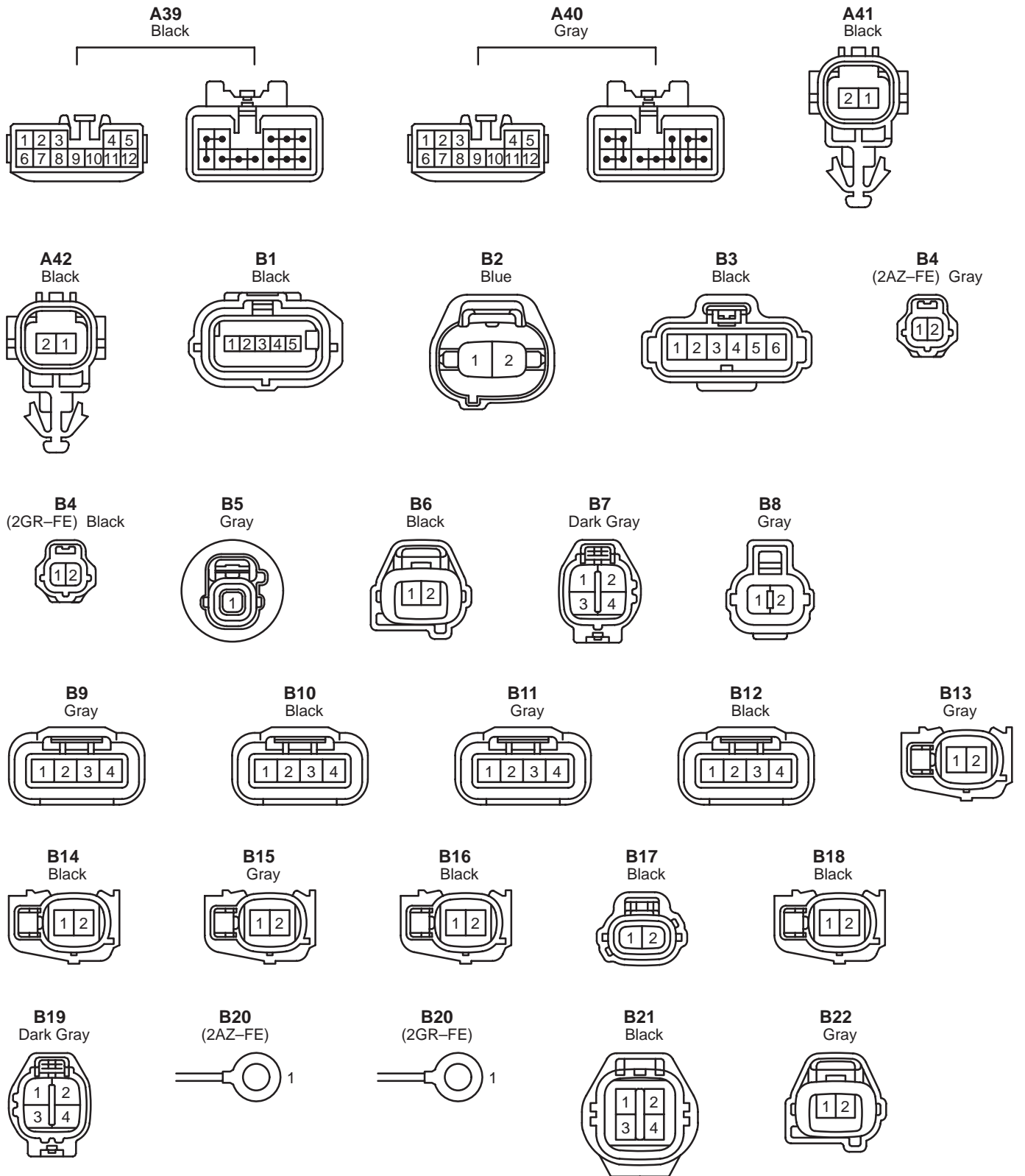
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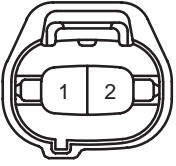
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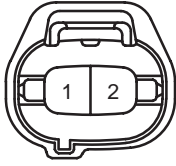
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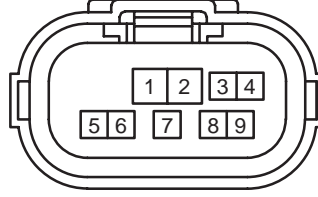
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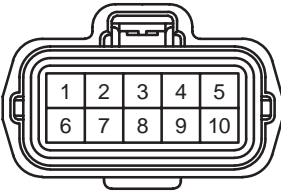
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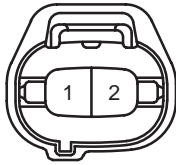
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B27
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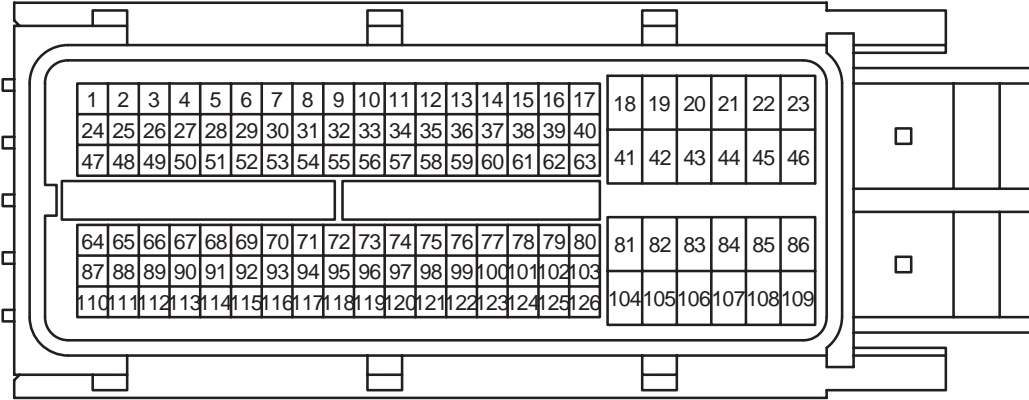
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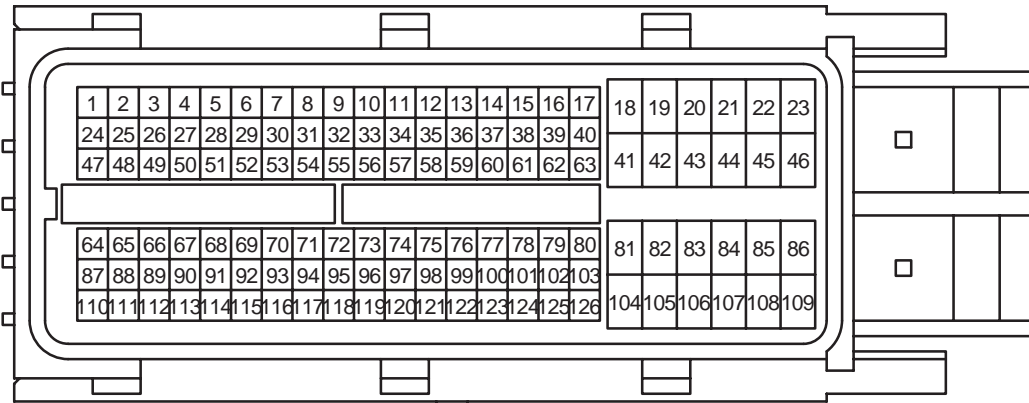
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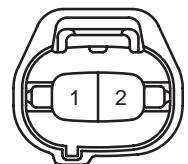
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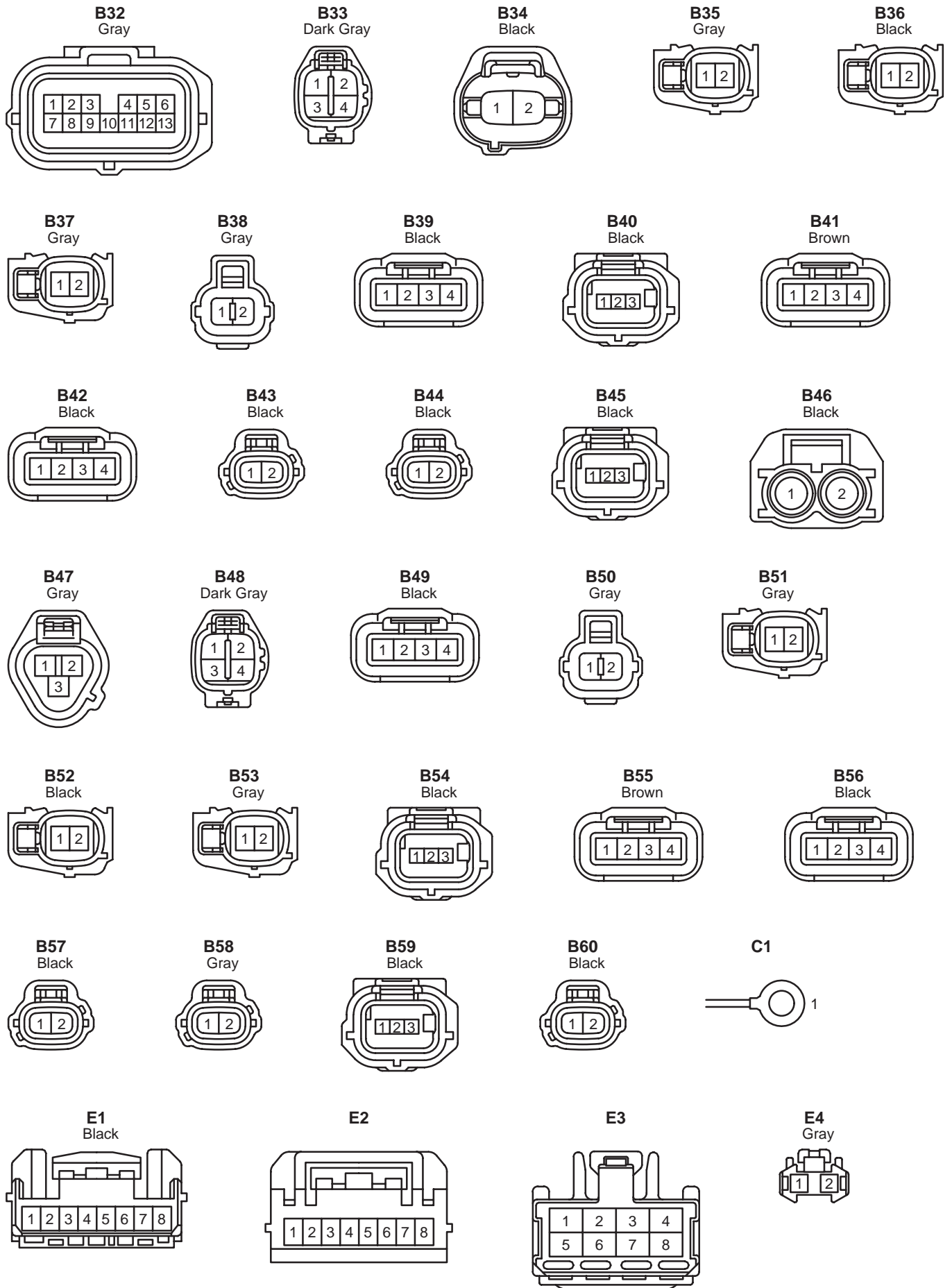
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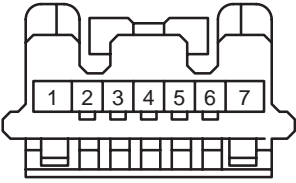
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K CONNECTOR LIST



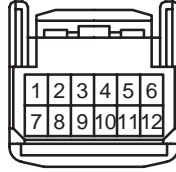
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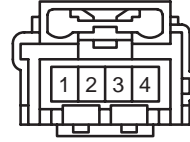
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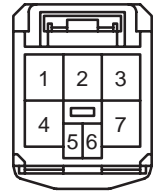
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E8
Yellow



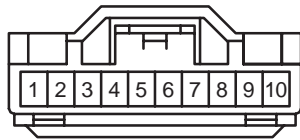
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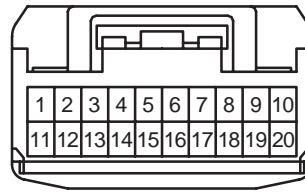
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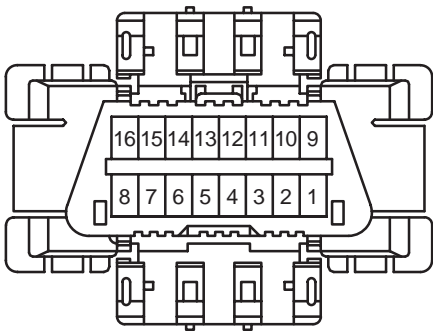
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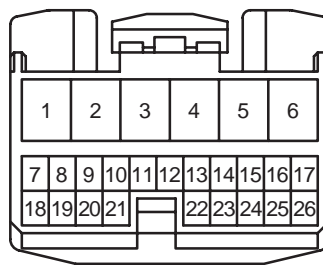
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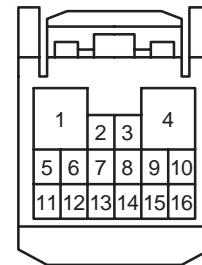
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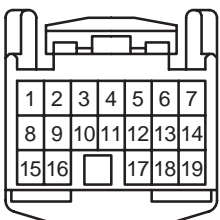
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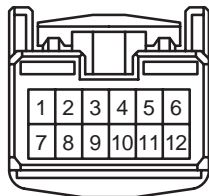
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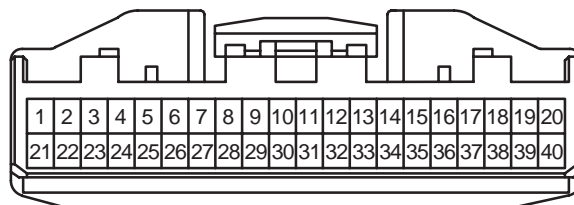
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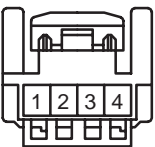
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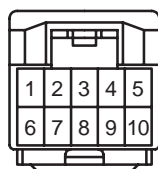
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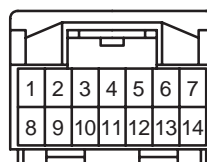
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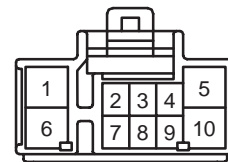
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E23

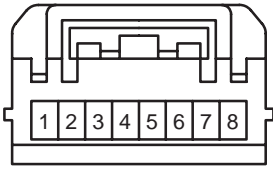


E24
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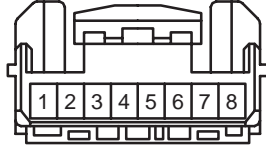


K CONNECTOR LIST

E25
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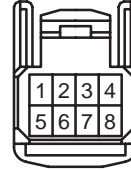
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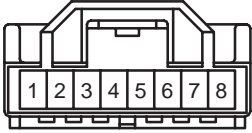
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E28



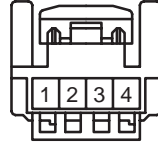
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E30



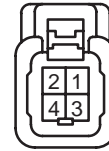
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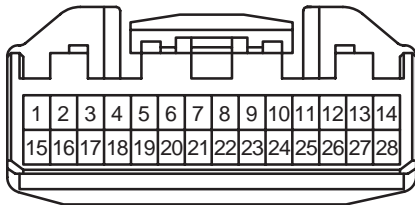
E33



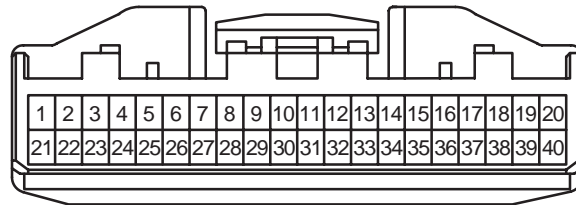
E35
Gray



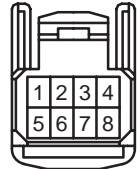
E36



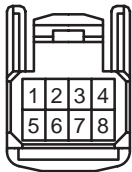
E37



E39



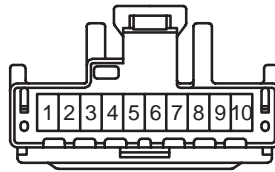
E40



E41
Black



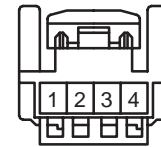
E42



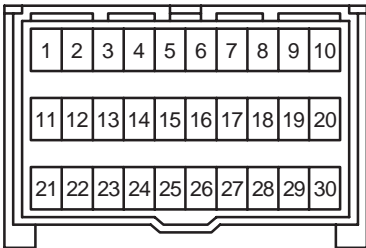
E43



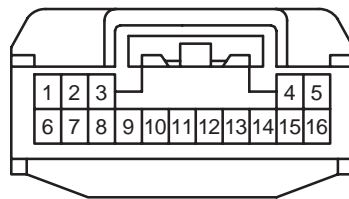
E44
Gray



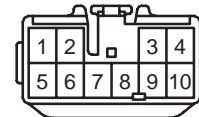
E45
Yellow



E46



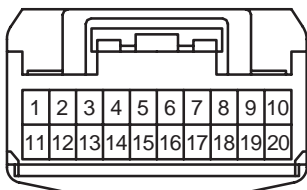
E47



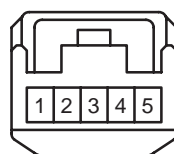
E48



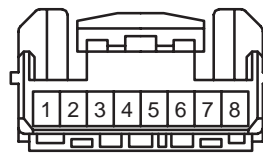
E49



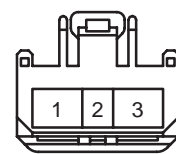
E50
Black

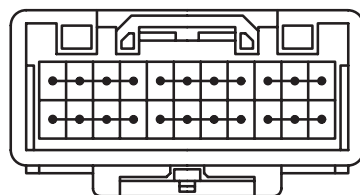
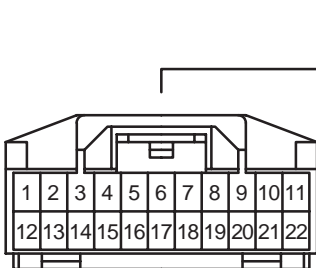
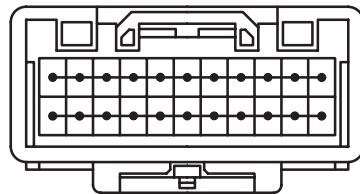
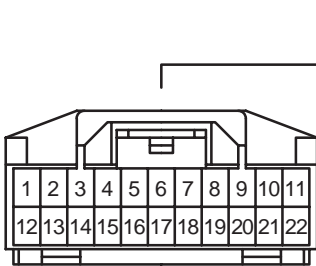
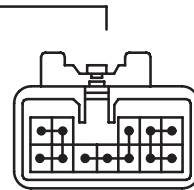
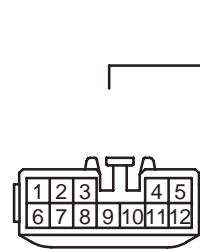
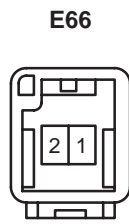
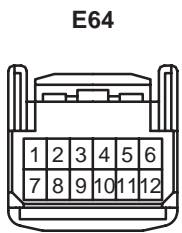
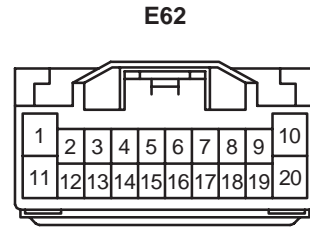
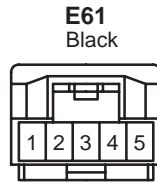
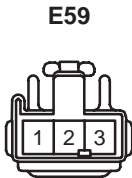
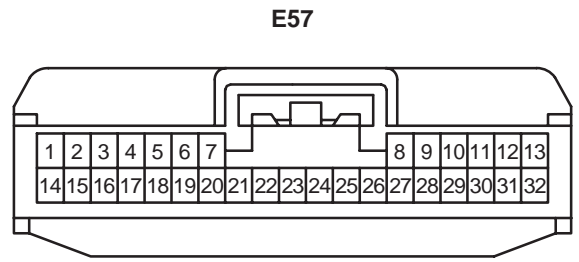
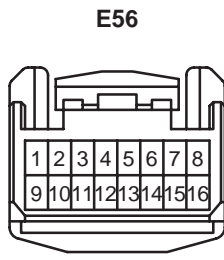
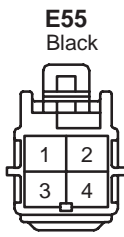
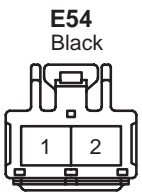


E51
Black

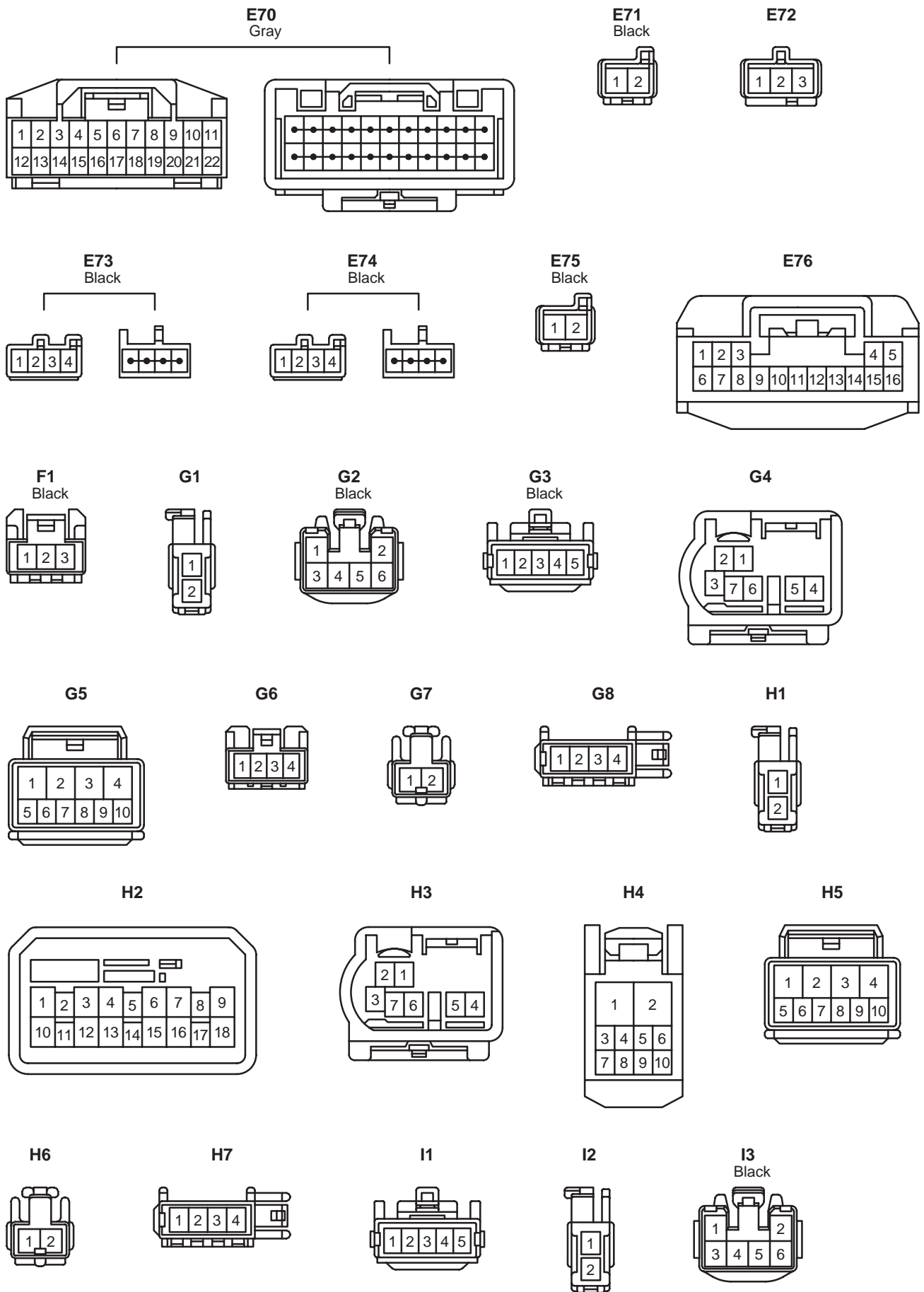


E53
Black

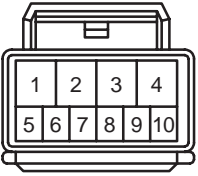




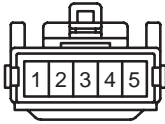
K CONNECTOR LIST



I4



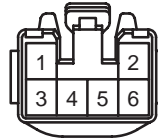
J1



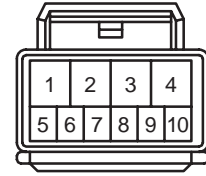
J2



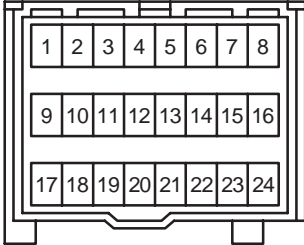
J3
Black



J4



K1
Yellow



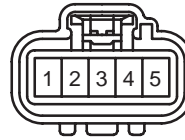
K3
Black



K4



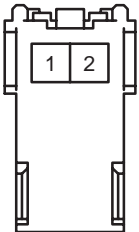
K6
Black



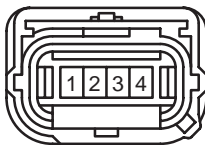
K7



K8
Yellow



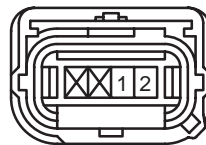
K9
Yellow



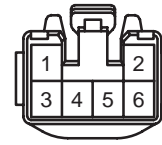
K10



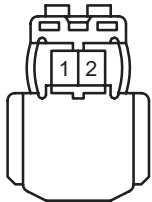
K11
Yellow



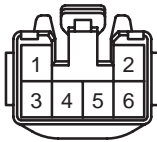
K12
Gray



K13
Black



K14
Gray



K15



K16
Black



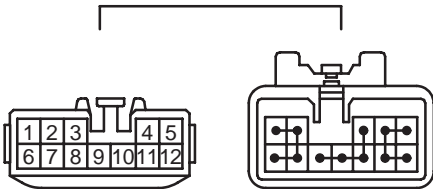
K17



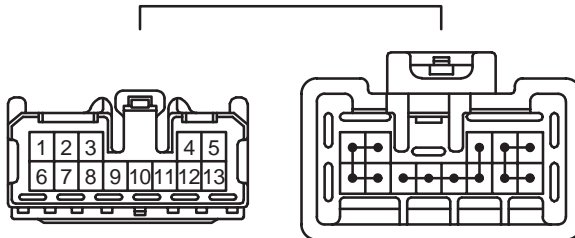
K18



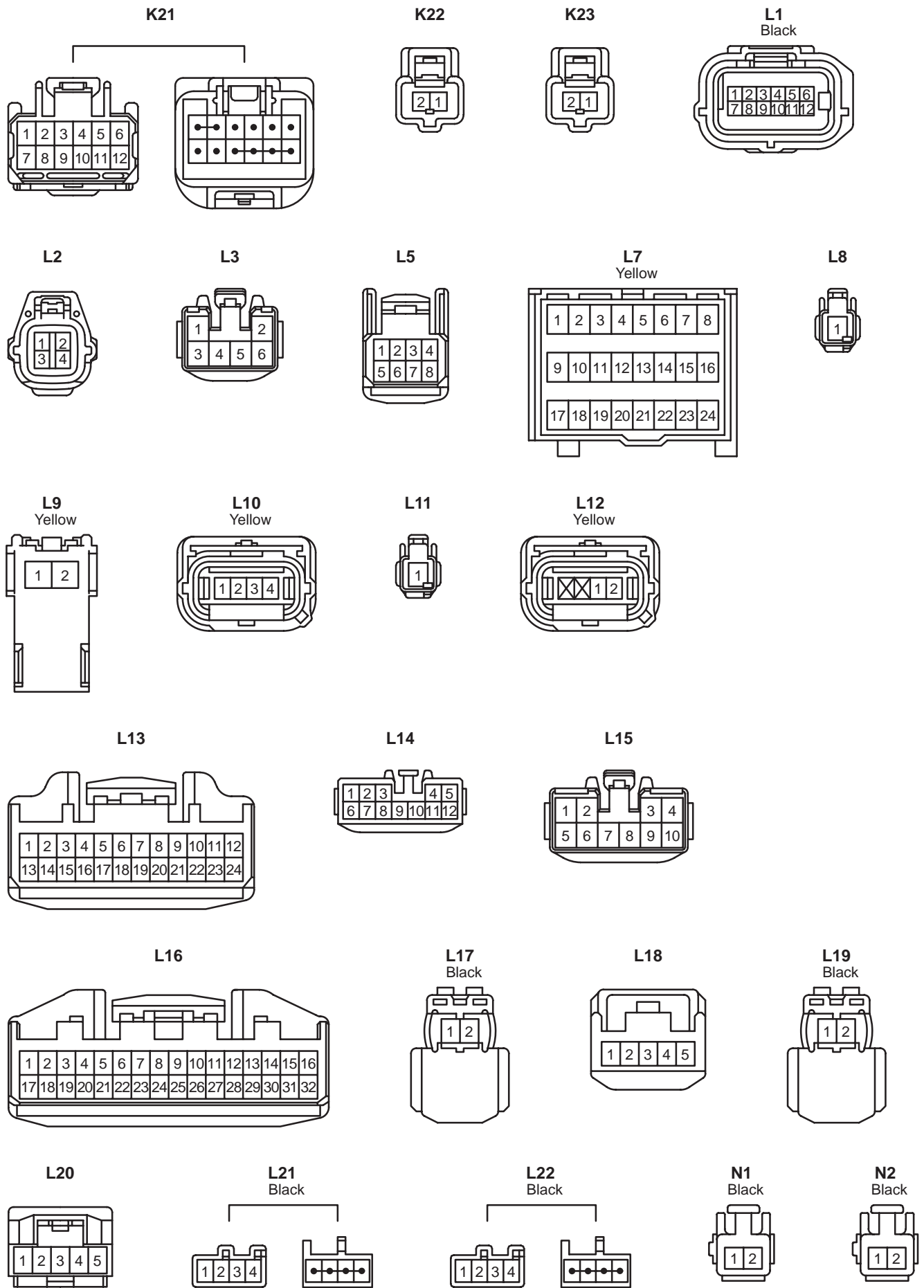
K19
Black

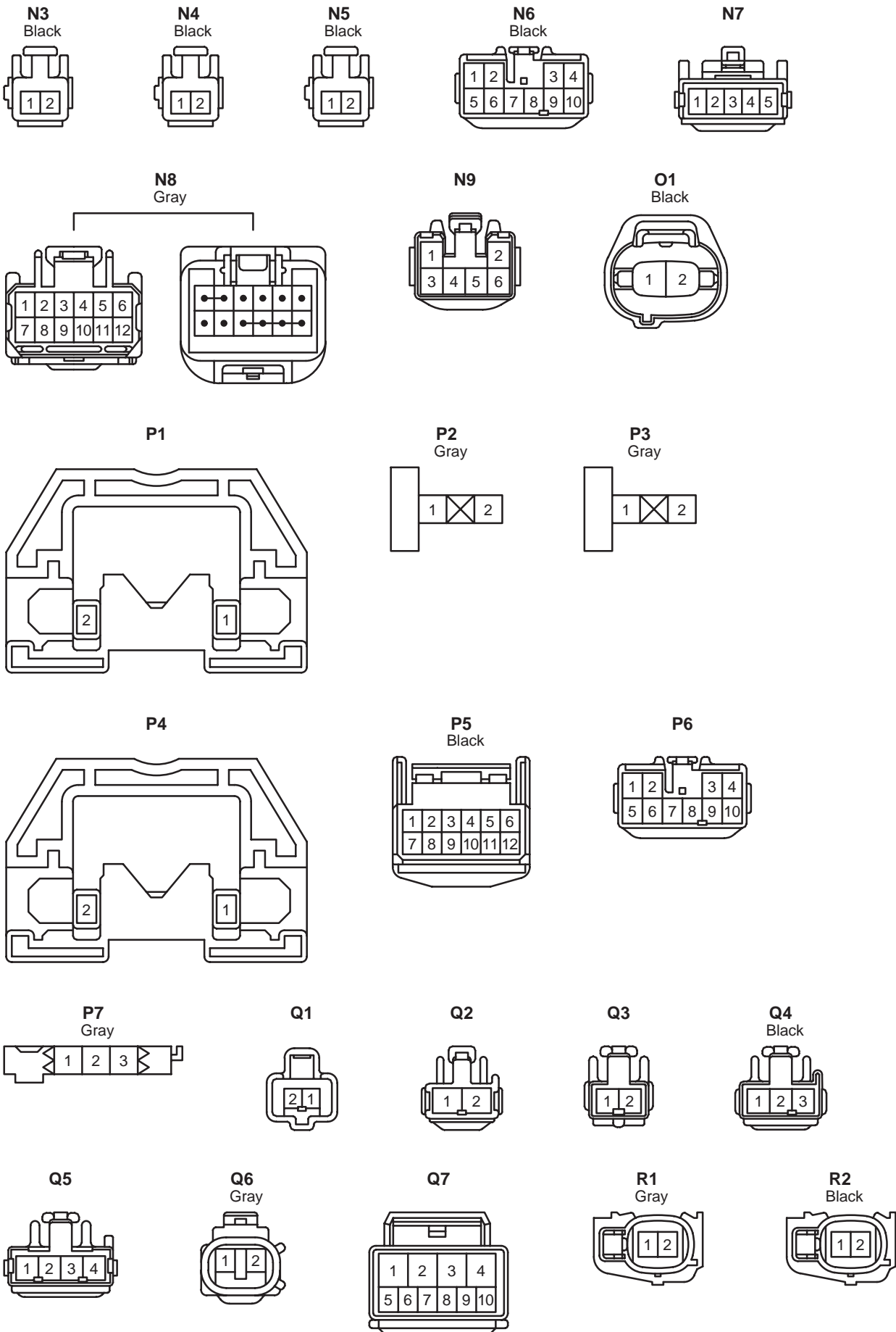


K20



K CONNECTOR LIST





K CONNECTOR LIST

S1



S2



S3
Black



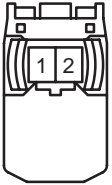
V1
Black



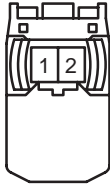
W1
Black



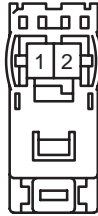
X1



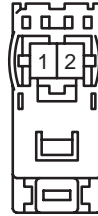
Y1



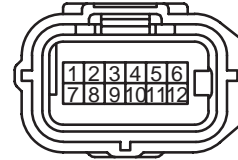
Z1
Orange



Z2
Black



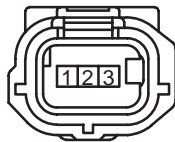
a1
Gray



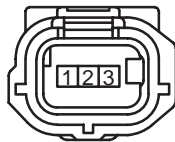
a2
Black



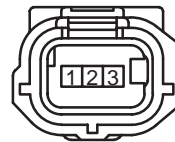
a3
Black



a4
Black



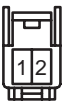
a5
Black



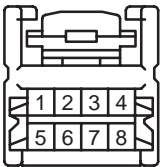
b1



b2



c1



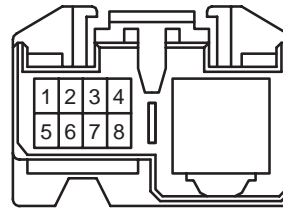
d1
Black



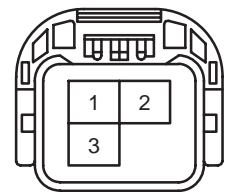
e1



e2

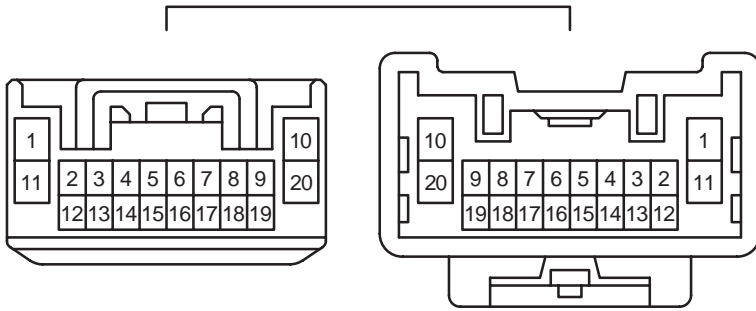


e3

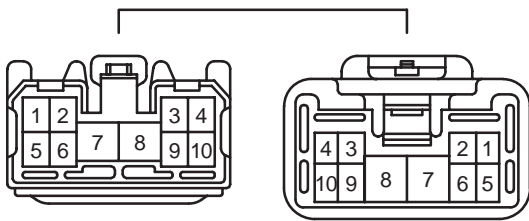


K CONNECTOR LIST

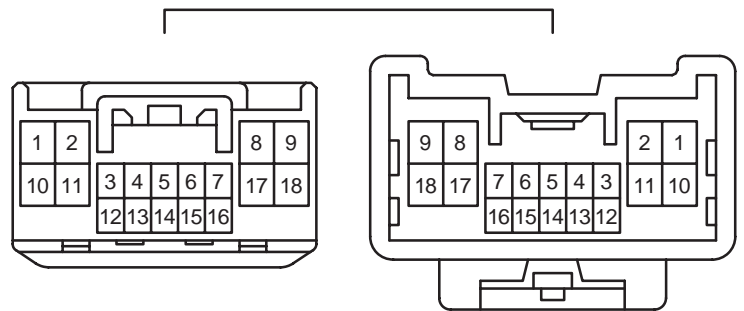
AE1



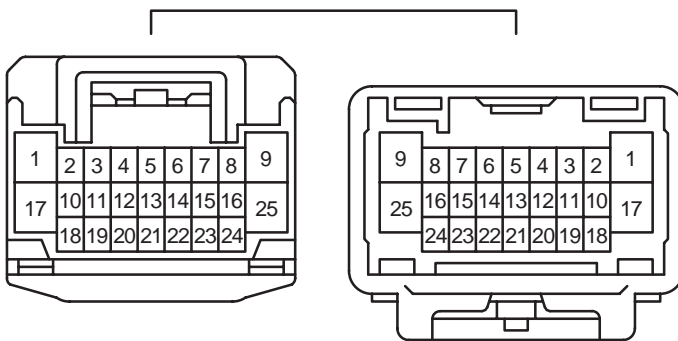
AE2



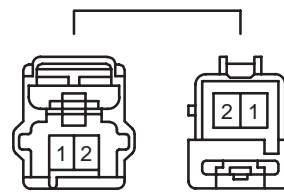
AE3 Black



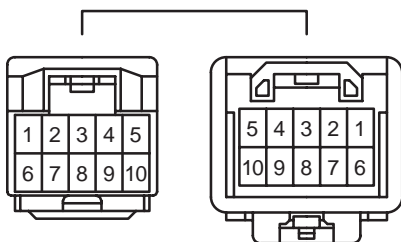
AE4 Gray



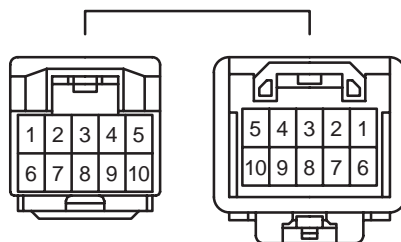
AE5 Yellow



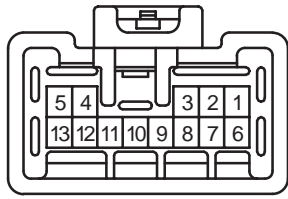
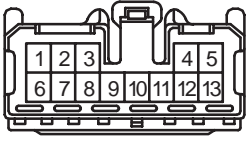
AE6



AE7



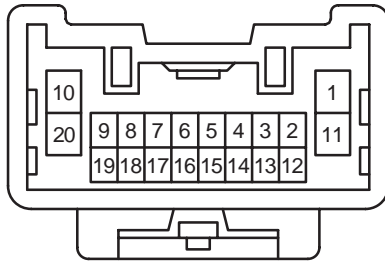
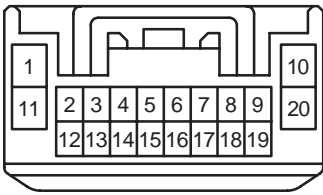
AE8



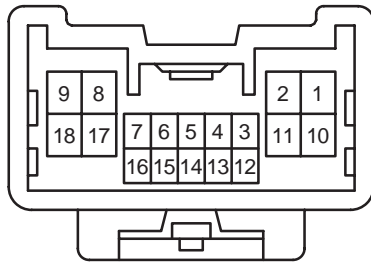
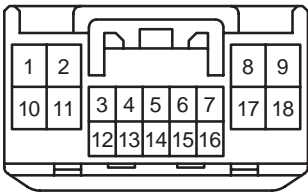
AE9 Yellow



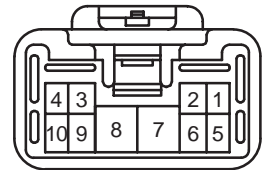
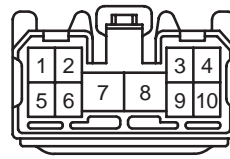
AE10



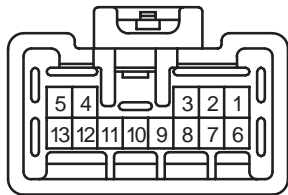
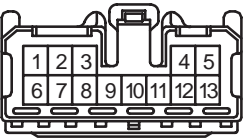
AK1



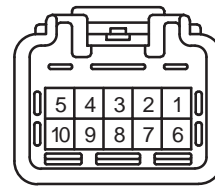
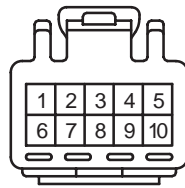
BA1



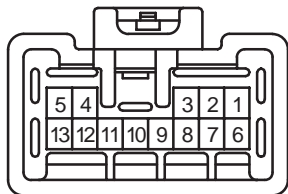
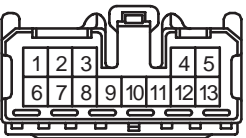
BA2 Gray



BA3



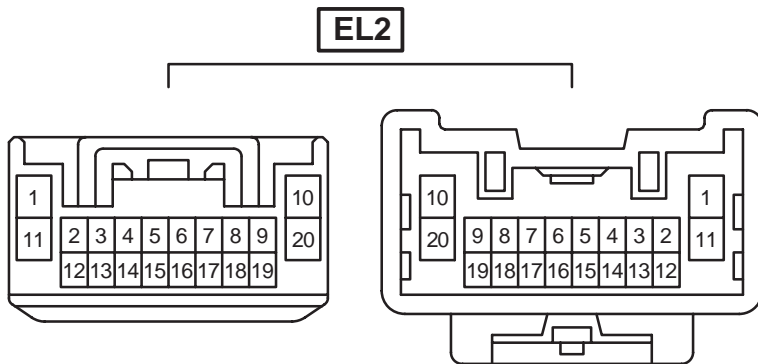
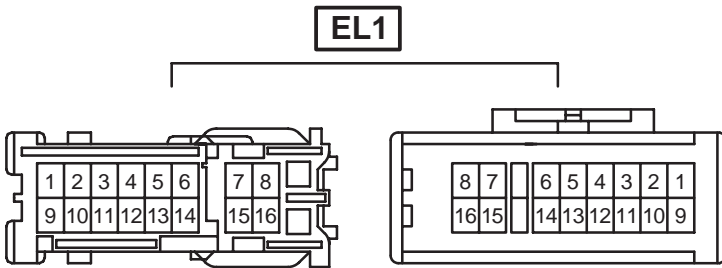
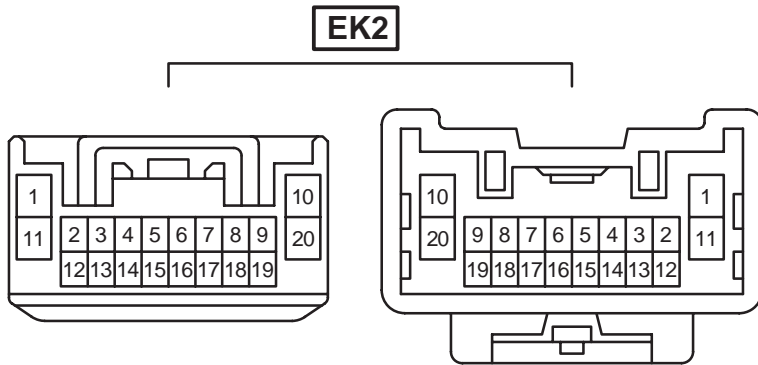
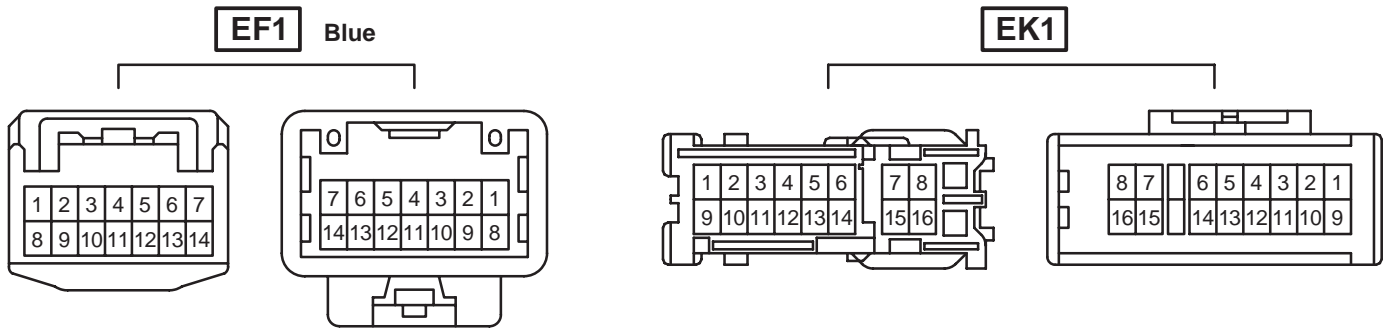
BA4 Gray



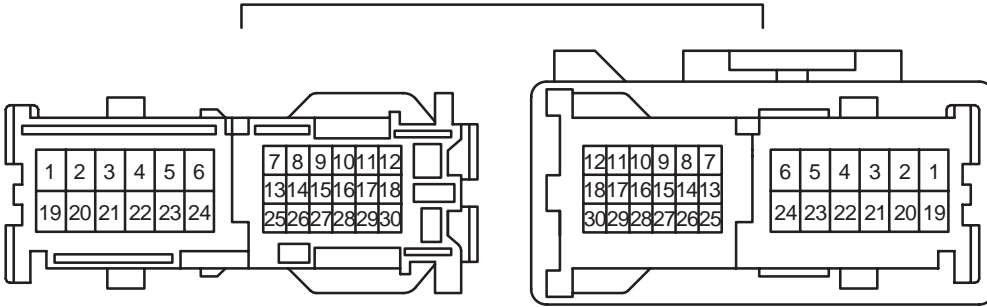
BR1 Gray



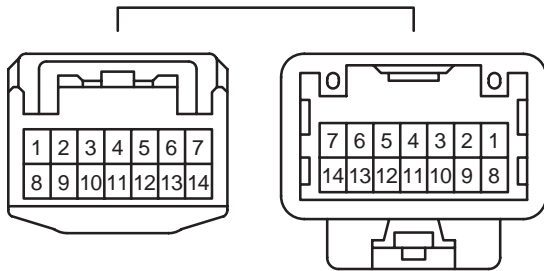
K CONNECTOR LIST



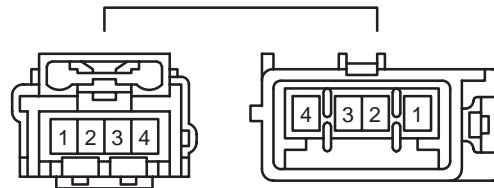
EL3



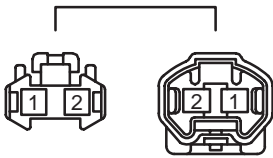
EL4



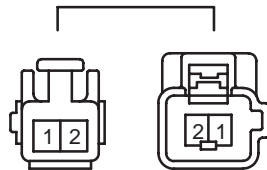
EZ1 Yellow



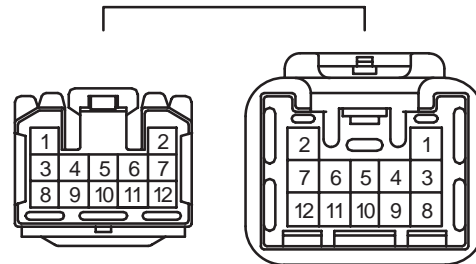
Eb1



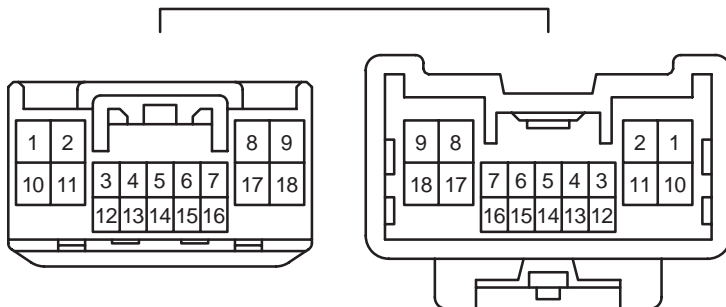
Ed1 Black



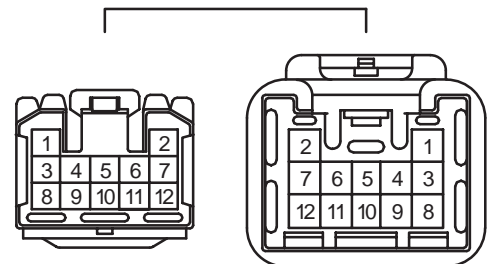
GE1



GE2

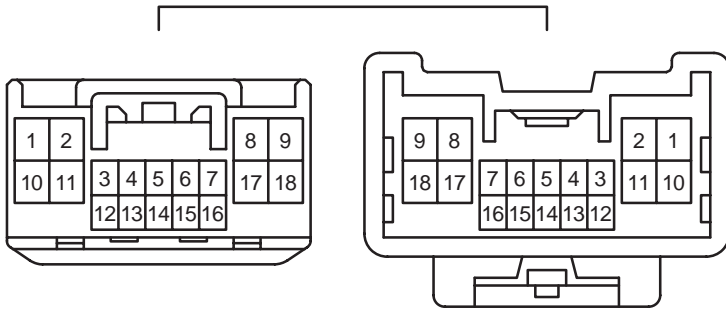


HE1

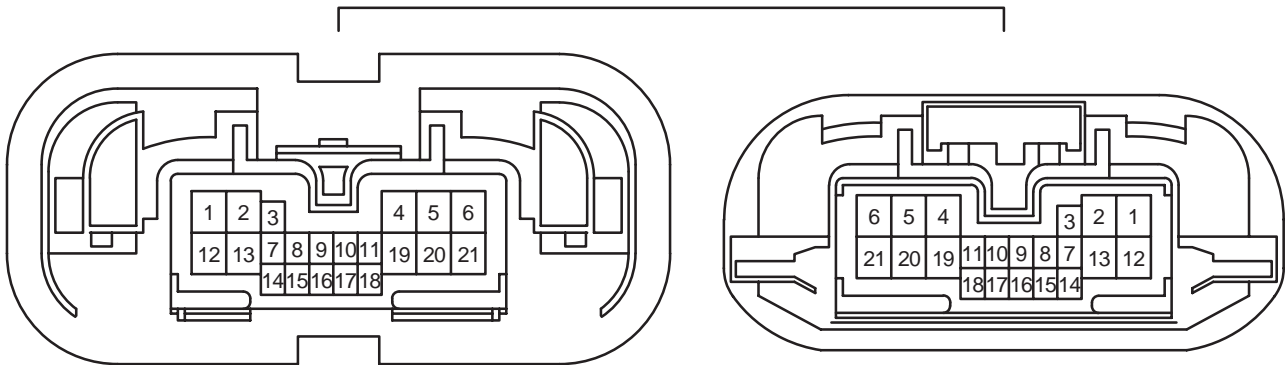


K CONNECTOR LIST

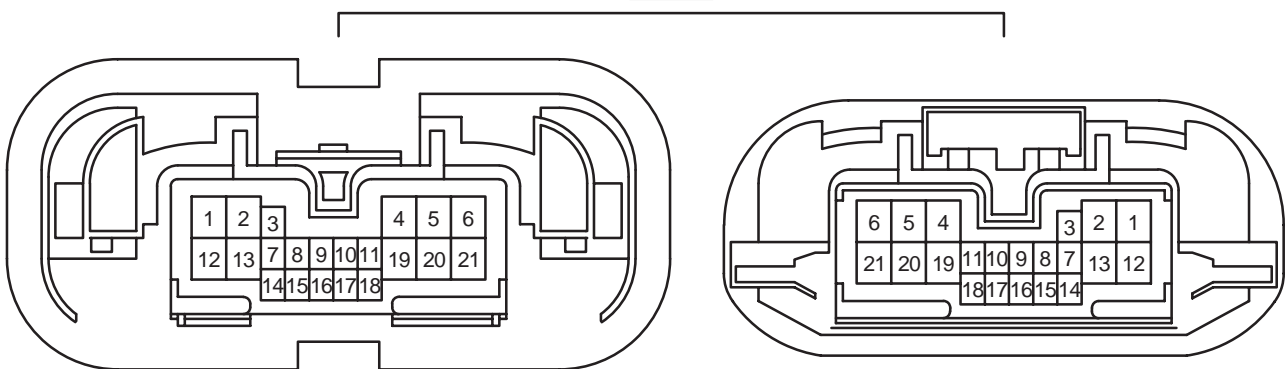
HE2



IL1

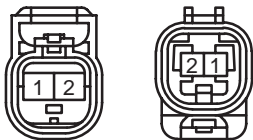


JK1



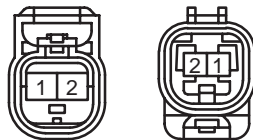
KX1

Yellow

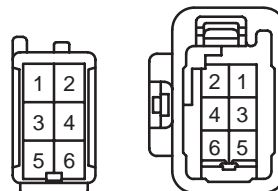


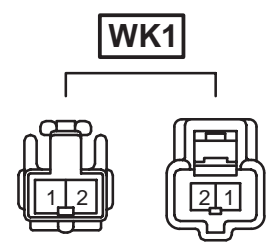
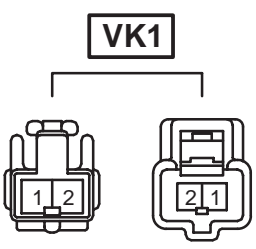
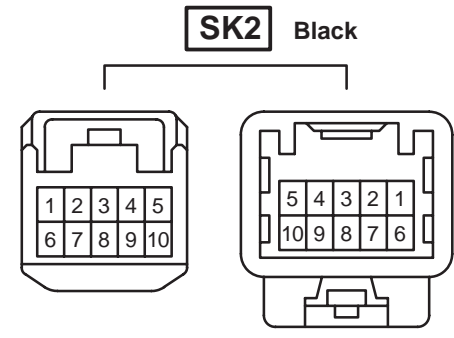
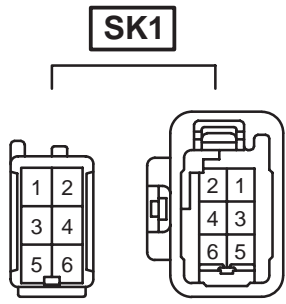
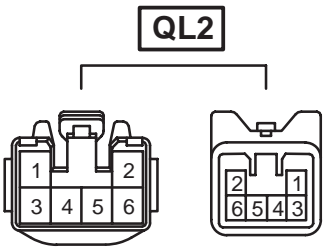
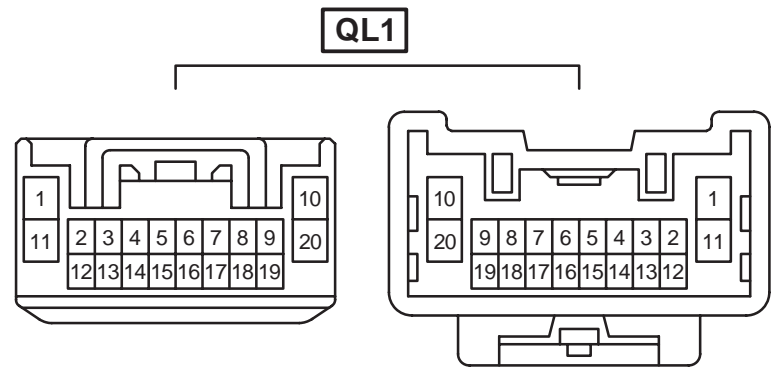
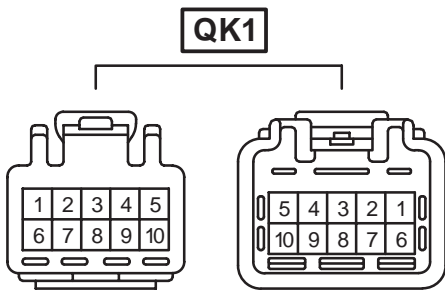
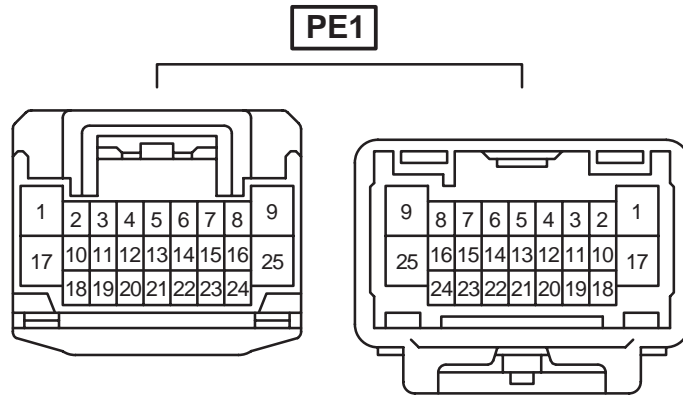
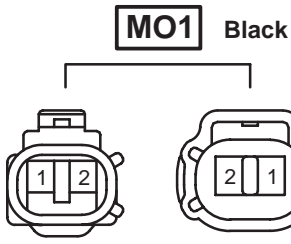
LY1

Yellow



MK1





L PART NUMBER OF CONNECTORS

Code	Part Name	Part Number	Code	Part Name	Part Number
A1	Power Steering ECU	90980-12653	B3	Throttle Body Assembly	90980-11858
A2	Brake Pedal Load Sensing SW	90980-10860	B4	Engine Coolant Temp. Sensor	90980-10735
A3	Stop Lamp SW	90980-11118	B5	Engine Oil Pressure SW	90980-11363
A4	Accelerator Position Sensor	90980-12303	B6	Camshaft Position Sensor	90980-10947
A5	Trailer Socket	90980-10871	B7	Air Fuel Ratio Sensor (Bank 1 Sensor 1)	90980-11178
A6	Windshield Wiper Motor	90980-11599	B8	Noise Filter (Ignition)	90980-10843
A7	Front Wiper Deicer	90980-11132	B9	Ignition Coil (No.4)	90980-11885
A8	Brake Fluid Level Warning SW	90980-11207	B10	Ignition Coil (No.3)	
A9	Engine Control Module	90980-12461	B11	Ignition Coil (No.2)	
A10	Wireless Door Lock Buzzer	90980-11142	B12	Ignition Coil (No.1)	
A11	Fog Light (Front LH)	82824-60460	B13	Fuel Injector (No.4)	90980-11875
A12	Side Marker Lamp (Front LH)	90980-10942	B14	Fuel Injector (No.3)	
	Turn Signal Lamp (Front LH)		B15	Fuel Injector (No.2)	
A13	Headlamp (LH Low)	90980-11096	B16	Fuel Injector (No.1)	
A14	Headlamp (LH High)	90980-11095	B17	Camshaft Timing Oil Control Valve	90980-11162
A15	Airbag Sensor (Front LH)	90980-12490	B18	Knock Control Sensor (Bank 1)	90980-11875
A16	Horn (Low)	90980-10619	B19	Heated Oxygen Sensor (Bank 2 Sensor 2)	90980-11028
A17	Ambient Temp. Sensor	90980-11070	B20	Generator (2AZ-FE)	90980-09213
A18	Horn (High)	90980-10619		Generator (2GR-FE)	90980-09983
A19	Skid Control ECU with Actuator	90980-12297	B21	Generator	90980-11964
A20	Fuel Pump Resistor	90980-11003	B22	Crankshaft Position Sensor	90980-10947
A21	A/C Pressure Sensor	90980-10845	B23	A/C Compressor	90980-11156
A22	Headlamp (RH High)	90980-11095	B24	Transmission Revolution Sensor (Counter Gear)	
A23	Headlamp (RH Low)	90980-11096		B25	
A24	Side Marker Lamp (Front RH)	90980-10942	B26	Park/Neutral Position SW	90980-12362
	Turn Signal Lamp (Front RH)		B27	Electronically Controlled Transmission Solenoid	90980-11658
A25	Rear Washer Motor	90980-11051	B28	Transmission Revolution Sensor (Turbine)	90980-11156
A26	Washer Level Warning SW	90980-11068	B29	Battery Current Sensor	90980-12495
A27	Front Washer Motor	90980-11019	B30	Engine Control Module (2AZ-FE)	90980-12398
A28	Fog Light (Front RH)	82824-60460		Engine Control Module (2GR-FE)	90980-12396
A29	Airbag Sensor (Front RH)	90980-12490	B31	VSV (Air Intake Control)	90980-11156
A30	Cooling Fan ECU	90980-12058	B32	Electronically Controlled Transmission Solenoid	90980-12326
A31	Cooling Fan ECU (RH)	90980-10841		B33	Air Fuel Ratio Sensor (Bank 2 Sensor 1)
A32	Cooling Fan ECU (LH)		B34	VSV (Purge)	90980-11156
A33	Radiator Fan Motor	90980-10928	B35	Fuel Injector (No.6)	90980-11875
A34	A/C Condenser Fan Motor		B36	Fuel Injector (No.4)	
A35	Junction Connector	90980-11542	B37	Fuel Injector (No.2)	
A36	Junction Connector	90980-11915	B38	Noise Filter (Ignition LH)	90980-10843
A37	Junction Connector		B39	Ignition Coil (No.6)	90980-11885
A38	Junction Connector	90980-10803	B40	VVT Sensor (Bank 2 Exhaust Side)	90980-12353
A39	Junction Connector		B41	Ignition Coil (No.4)	90980-11885
A40	Junction Connector		B42	Ignition Coil (No.2)	
A41	Speed Sensor (Front LH)		90980-12627		
A42	Speed Sensor (Front RH)				
B1	Mass Air Flow Meter	90980-12292			
B2	VSV (Purge)	90980-11156			

Note: Not all of the above part numbers of the connector are established for the supply.

Code	Part Name	Part Number	Code	Part Name	Part Number
B43	Camshaft Timing Oil Control Valve (LH Exhaust Side)	90980-11162	E27	Front Console Illumination	90980-11918
B44	Camshaft Timing Oil Control Valve (LH Intake Side)		E28	Front Wiper Deicer SW	90980-12551
B45	VVT Sensor (Bank 2 Intake Side)	90980-12353	E29	Seat Heater SW	90980-11989
B46	Crankshaft Position Sensor	90980-12611	E30	Power Outlet Socket (Front)	90980-12498
B47	A/C Compressor	90980-11016	E31	Downhill Assist Control SW	82824-21030
B48	Air Fuel Ratio Sensor (Bank 1 Sensor 1)	90980-11178	E33	A/C Thermistor	90980-11918
B49	Ignition Coil (No.5)	90980-11885	E35	Heated Oxygen Sensor (Bank 1 Sensor 2)	90980-10794
B50	Noise Filter (Ignition RH)	90980-10843	E36	A/C Amplifier	90980-12555
B51	Fuel Injector (No.5)	90980-11875	E37	A/C Amplifier	90980-12557
B52	Fuel Injector (No.3)		E39	Shift Lock Control ECU	90980-12551
B53	Fuel Injector (No.1)		E40	Transmission Control SW	
B54	VVT Sensor (Bank 1 Exhaust Side)	90980-12353	E41	Parking Brake SW	90980-10871
B55	Ignition Coil (No.3)	90980-11885	E42	Outer Mirror SW	90980-11657
B56	Ignition Coil (No.1)		E43	Power Outlet Socket (Front)	90980-12498
B57	Camshaft Timing Oil Control Valve (RH Exhaust Side)	90980-11162	E44	Stereo Jack Adapter	82824-21030
B58	VSV (ACIS)		E45	Airbag Sensor Assembly Center	90980-12391
B59	VVT Sensor (Bank 1 Intake Side)	90980-12353	E46	Transponder Key ECU	90980-12423
B60	Camshaft Timing Oil Control Valve (RH Intake Side)	90980-11162	E47	Radio Receiver Assembly	90980-10997
C1	Starter	90980-09506	E48	Radio Receiver Assembly	90980-10996
E1	Main SW	90980-12558	E49	Radio Receiver Assembly	90980-12460
E2	Light Control Rheostat	90980-12550	E50	4WD Control SW	90980-12366
E3	Ignition SW	90980-11615	E51	Auto LSD SW	90980-12558
E4	Ignition Key Cylinder Lamp	90980-11148	E53	Blower Motor	90980-11667
E5	Transponder Key Amplifier	90980-12092	E54	Blower Motor	90980-11579
E6	Unlock Warning SW	90980-12063	E55	Blower Resistor	90980-11136
E7	Spiral Cable	90980-12552	E56	Tire Pressure Warning ECU	90980-12553
E8	Airbag Squib (Steering Wheel Pad)	90980-12160	E57	4WD Control ECU	90980-12422
E9	Windshield Wiper SW Assembly	90980-12358	E58	Option Connector (TVIP)	90980-10860
E10	Windshield Wiper SW Assembly	90980-12359	E59	Option Connector (Bus Buffer)	90980-10908
E11	Steering Sensor	90980-12162	E60	A/T Shift Lever Illumination	90980-12063
E12	Headlamp Dimmer SW Assembly	90980-12460	E61	Damper Servo Motor (Air Inlet)	90980-11909
E13	Data Link Connector 3	90980-11978	E62	Radio Receiver Assembly	90980-12038
E15	Main Body ECU	90980-12561	E64	Radio Receiver Assembly	90980-12552
E16	Main Body ECU	90980-12329	E65	Short Connector	90980-11918
E17	Main Body ECU	90980-12458	E66	Short Connector	90980-11917
E18	Power Steering ECU	90980-12614	E67	Junction Connector	90980-10803
E19	Combination Meter	90980-12557	E68	Junction Connector	90980-11915
E20	Hazard Warning Signal SW	82824-21030	E69	Junction Connector	
E21	A/C Room Temp. Sensor	90980-11918	E70	Junction Connector	
E22	Clock	90980-11923	E71	Diode (Rear Wiper)	90980-10962
E23	Integration Control and Panel Assembly	90980-11911	E72	Diode (Inverter)	90980-11071
E24	Integration Control and Panel Assembly	90980-10993	E73	Junction Connector	90980-11398
E25	Air Vent Mode Control SW	90980-12550	E74	Junction Connector	
E26	A/C SW	90980-12558	E75	Diode (Heater)	90980-10962
			E76	Radio Receiver Assembly	90980-12423
			F1	A/C Solar Sensor	90980-11987

L PART NUMBER OF CONNECTORS

Code	Part Name	Part Number	Code	Part Name	Part Number
G1	Speaker (Front Door RH)	90980-10935	L1	Occupant Classification ECU	90980-12356
G2	Power Window Regulator Motor (Front RH)	90980-10797	L2	Front Seat Inner Belt (Front Passenger's Side)	90980-10942
G3	Power Window SW (Front Passenger's Side)	90980-10789	L3	Seat Heater (RH)	90980-10797
G4	Outer Rear View Mirror (RH)	90980-12059	L5	Video Terminal	90980-12551
G5	Door Lock Assembly (Front Passenger's Side)	90980-12226	L7	Airbag Sensor Assembly Center	90980-12390
G6	Door Lock Control SW (Front Passenger's Side)	90980-11950	L8	Door Courtesy SW (Front RH)	90980-10871
G7	Tweeter (Front RH)	90980-10860	L9	Pretensioner (RH)	90980-12253
G8	Tweeter (Front RH)	90980-12304	L10	Side Airbag Sensor (Front RH)	90980-12225
H1	Speaker (Front Door LH)	90980-10935	L11	Door Courtesy SW (Rear RH)	90980-10871
H2	Power Window SW (Driver's Side)	90980-12122	L12	Side Airbag Sensor (Rear RH)	90980-12352
H3	Outer Rear View Mirror (LH)	90980-12059	L13	Stereo Component Amplifier	90980-12554
H4	Power Window Regulator Motor (Front LH)	90980-12328	L14	Stereo Component Amplifier	90980-10803
H5	Door Lock Assembly (Driver's Side)	90980-12226	L15	Stereo Component Amplifier	90980-10801
H6	Tweeter (Front LH)	90980-10860	L16	Rear Seat Entertainment Display	90980-12556
H7	Tweeter (Front LH)	90980-12304	L17	Curtain Shield Airbag Squib (RH)	90980-12575
I1	Power Window SW (Rear RH)	90980-10789	L18	Door Control Receiver	90980-12366
I2	Speaker (Rear RH)	90980-10935	L19	Curtain Shield Airbag Squib (RH)	90980-12575
I3	Power Window Regulator Motor (Rear RH)	90980-10797	L20	Tire Pressure Warning Antenna and Receiver	90980-11909
I4	Door Lock Assembly (Rear RH)	90980-12226	L21	Junction Connector	90980-11398
J1	Power Window SW (Rear LH)	90980-10789	L22	Junction Connector	
J2	Speaker (Rear LH)	90980-10935	N1	Power Seat Motor (Driver's Seat Slide Control)	90980-10825
J3	Power Window Regulator Motor (Rear LH)	90980-10797	N2	Power Seat Motor (Driver's Seat Lifter Control)	
J4	Door Lock Assembly (Rear LH)	90980-12226	N3	Power Seat Motor (Driver's Seat Front Vertical Control)	
K1	Airbag Sensor Assembly Center	90980-12392	N4	Power Seat Motor (Driver's Seat Reclining Control)	
K3	Power Outlet Socket (115V)	90980-10601	N5	Power Seat Motor (Driver's Seat Lumbar Support Control)	
K4	Front Seat Inner Belt (Driver's Side)	90980-10942	N6	Power Seat SW (Driver's Seat)	90980-10997
K6	Yaw Rate Sensor	90980-11904	N7	Power Seat SW (Lumbar Support)	90980-10789
K7	Door Courtesy SW (Front LH)	90980-10871	N8	Junction Connector	90980-11661
K8	Pretensioner (LH)	90980-12253	N9	Seat Heater (LH)	90980-10797
K9	Side Airbag Sensor (Front LH)	90980-12225	O1	4WD Linear Solenoid	90980-11156
K10	Door Courtesy SW (Rear LH)	90980-10871	P1	Vanity Lamp SW (RH)	90980-12322
K11	Side Airbag Sensor (Rear LH)	90980-12352	P2	Vanity Lamp (RH)	-
K12	Rear Combination Lamp (RH)	90980-10797	P3	Vanity Lamp (LH)	
K13	Curtain Shield Airbag Squib (LH)	90980-12575	P4	Vanity Lamp SW (LH)	90980-12322
K14	Rear Combination Lamp (LH)	90980-10797	P5	Overhead J/B	90980-12559
K15	Voltage Inverter	90980-10799	P6	Sliding Roof Control ECU	90980-10997
K16	Diode (Room Lamp)	90980-10962	P7	Room Lamp (Front)	-
K17	Power Outlet Socket (Rear)	90980-12498	Q1	Center Stop Lamp	90980-11060
K18	Door Courtesy SW (Back Door)	90980-10871	Q2	Rear Window Defogger	90980-10916
K19	Junction Connector	90980-10803	Q3	Room Lamp (Rear)	90980-10860
K20	Junction Connector	90980-11542	Q4	Rear Wiper Motor	90980-11296
K21	Junction Connector	90980-11661			
K22	Speed Sensor (Rear LH)	90980-10859			
K23	Speed Sensor (Rear RH)				

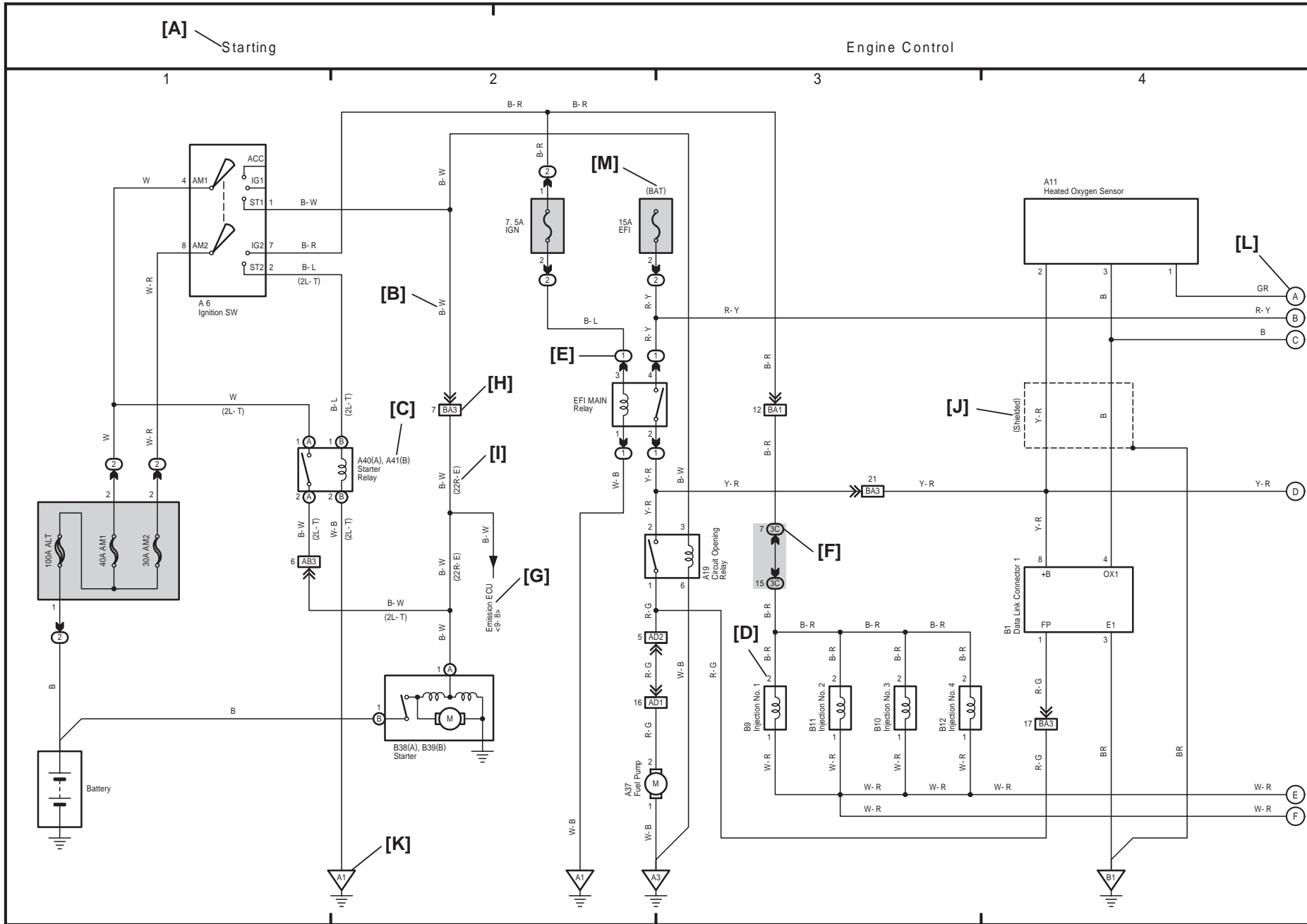
Note: Not all of the above part numbers of the connector are established for the supply.

Code	Part Name	Part Number	Code	Part Name	Part Number
Q5	Speaker (Woofer)	90980-11013	a2	Occupant Classification Sensor (Front LH)	90980-12353
Q6	License Plate Lamp	90980-11003	a3	Occupant Classification Sensor (Rear LH)	
Q7	Back Door Lock Assembly	90980-12226	a4	Occupant Classification Sensor (Front RH)	
R1	Knock Control Sensor (Bank 2)	90980-11875	a5	Occupant Classification Sensor (Rear RH)	
R2	Knock Control Sensor (Bank 1)		b1	Foot Lamp (Front LH)	90980-11918
S1	Fuel Suction Pump	90980-11077	b2	Foot Lamp (Front RH)	
S2	Fuel Sender Gage	90980-11140	c1	A/C Amplifier	90980-12264
S3	Canister Pump Module	90980-12380		A/C Blower Assembly	
V1	Speed Sensor (Rear RH)	90980-12416	d1	Key Interlock Solenoid	90980-12063
W1	Speed Sensor (Rear LH)		e1	Power Steering ECU	82824-42160
X1	Side Airbag Squib (LH)	90980-12452		Power Steering Torque Sensor	
Y1	Side Airbag Squib (RH)		e2	Power Steering ECU	82824-42170
Z1	Airbag Squib (Front Passenger's Airbag Assembly)	Rotation Angle Sensor			
Z2	Airbag Squib (Front Passenger's Airbag Assembly)	90980-12219	e3	Power Steering ECU	82824-42240
a1	Occupant Classification ECU	90980-12357		Power Steering Motor	

HOW TO READ THIS SECTION

* The system shown here is an EXAMPLE ONLY. It is different to the actual circuit shown in the wiring diagram section.

RAV4 (EM03T0U)



[A] : System Title

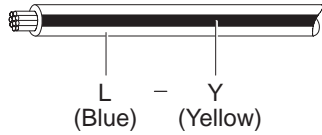
[B] : Indicates the wiring color.

Wire colors are indicated by an alphabetical code.

- B = Black W = White BR = Brown
- L = Blue V = Violet SB = Sky Blue
- R = Red G = Green LG = Light Green
- P = Pink Y = Yellow GR = Gray
- O = Orange

The first letter indicates the basic wire color and the second letter indicates the color of the stripe.

Example: L – Y

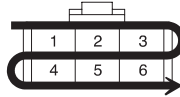


[C] : The position of the parts is the same as shown in the wiring diagram and wire routing.

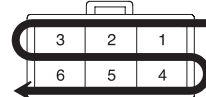
[D] : Indicates the pin number of the connector. The numbering system is different for female and male connectors.

Example: Numbered in other from upper left to lower right

Numbered in other from upper right to lower left



Female



Male

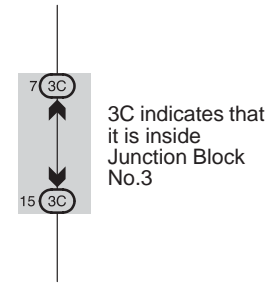
The numbering system for the overall wiring diagram is the same as above

[E] : Indicates a Relay Block. No shading is used and only the Relay Block No. is shown to distinguish it from the J/B.

Example:  Indicates Relay Block No.1

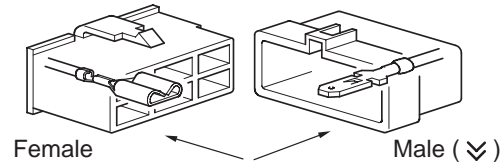
[F] : Junction Block (The number in the circle is the J/B No. and the connector code is shown beside it). Junction Blocks are shaded to clearly separate them from other parts.

Example:



[G] : Indicates related system.

[H] : Indicates the wiring harness and wiring harness connector. The wiring harness with male terminal is shown with arrows (↘). Outside numerals are pin numbers.



[I] : () is used to indicate different wiring and connector, etc. when the vehicle model, engine type, or specification is different.

[J] : Indicates a shielded cable.



[K] : Indicates a ground point.

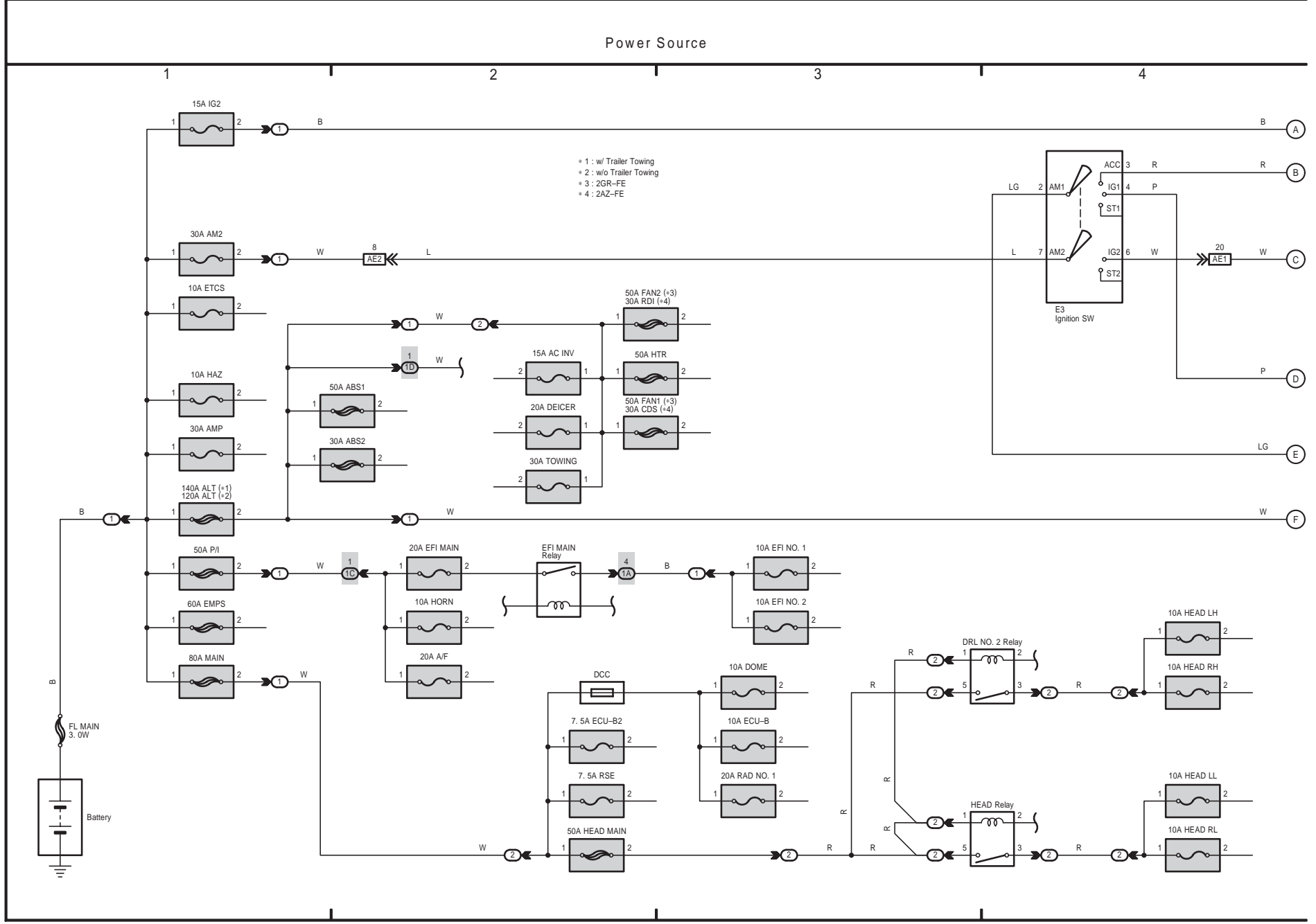
[L] : The same code occurring on the next page indicates that the wire harness is continuous.

[M] : Indicates the ignition key position(s) when the power is supplied to the fuse(s).

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		VSC	20-1
		4WD	23-1

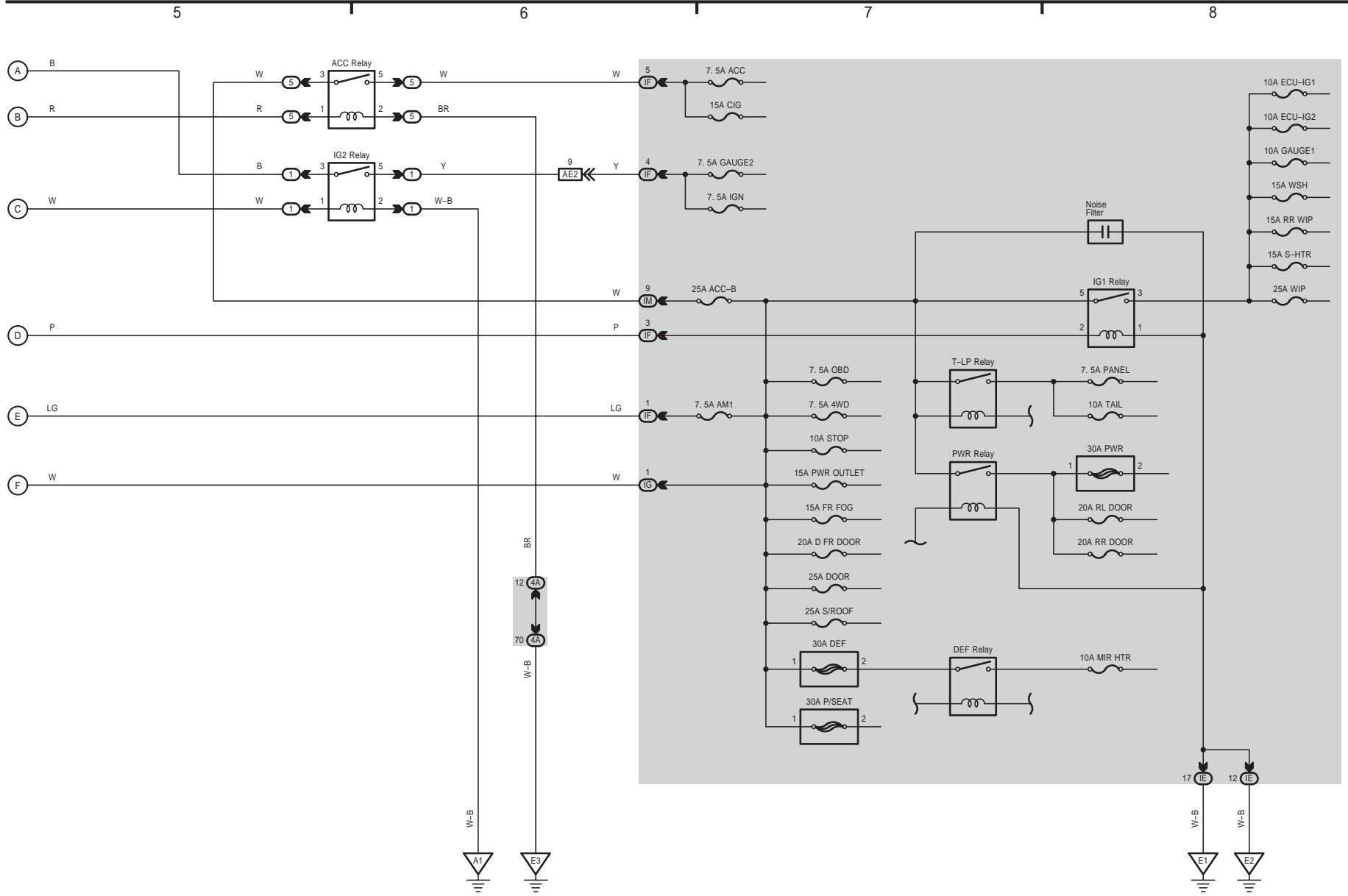
RAV4 (EM03T0U)



- * 1 : w/ Trailer Towing
- * 2 : w/o Trailer Towing
- * 3 : 2GR-FE
- * 4 : 2AZ-FE

1 RAV4 (Cont' d)

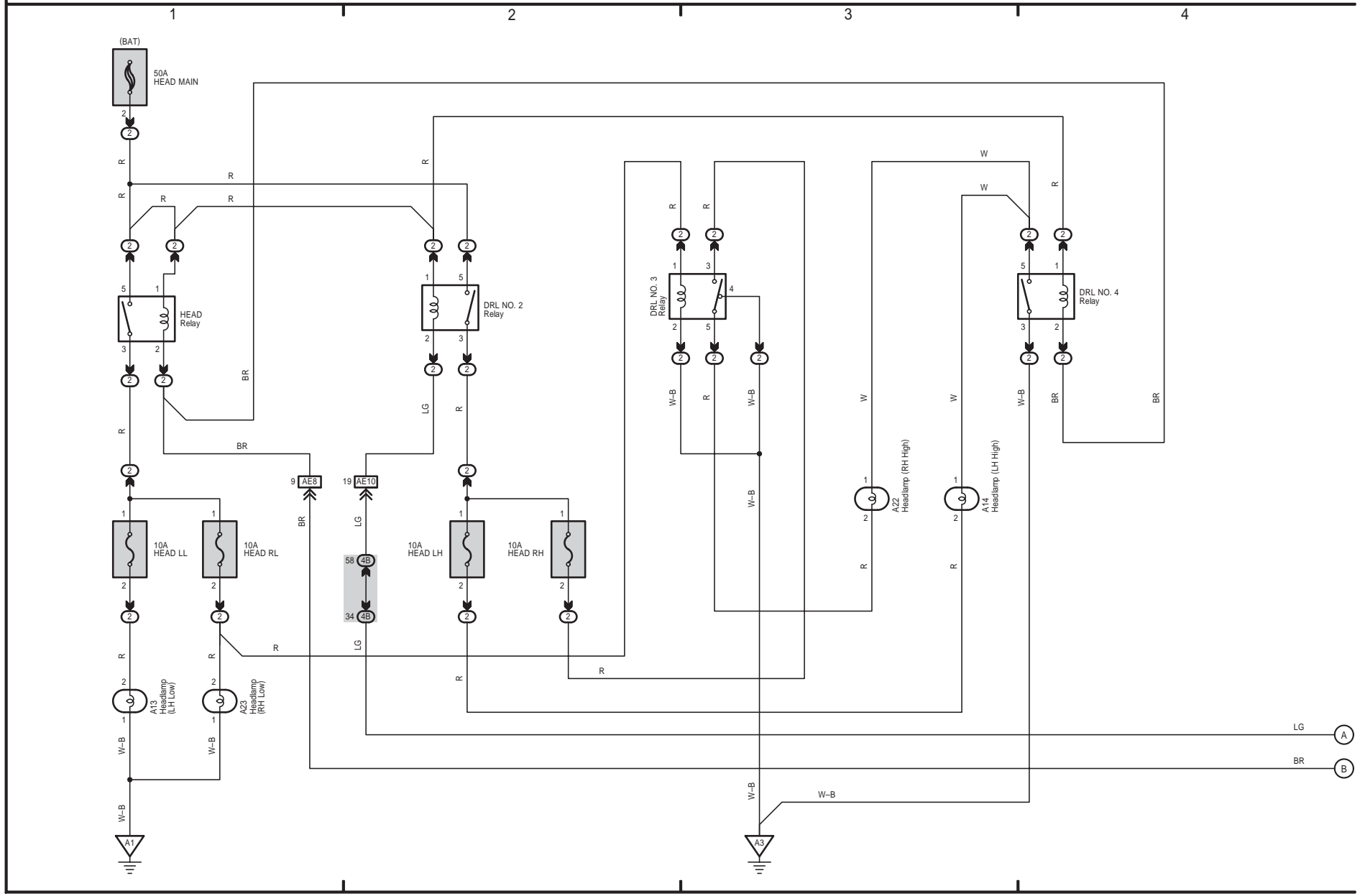
Power Source



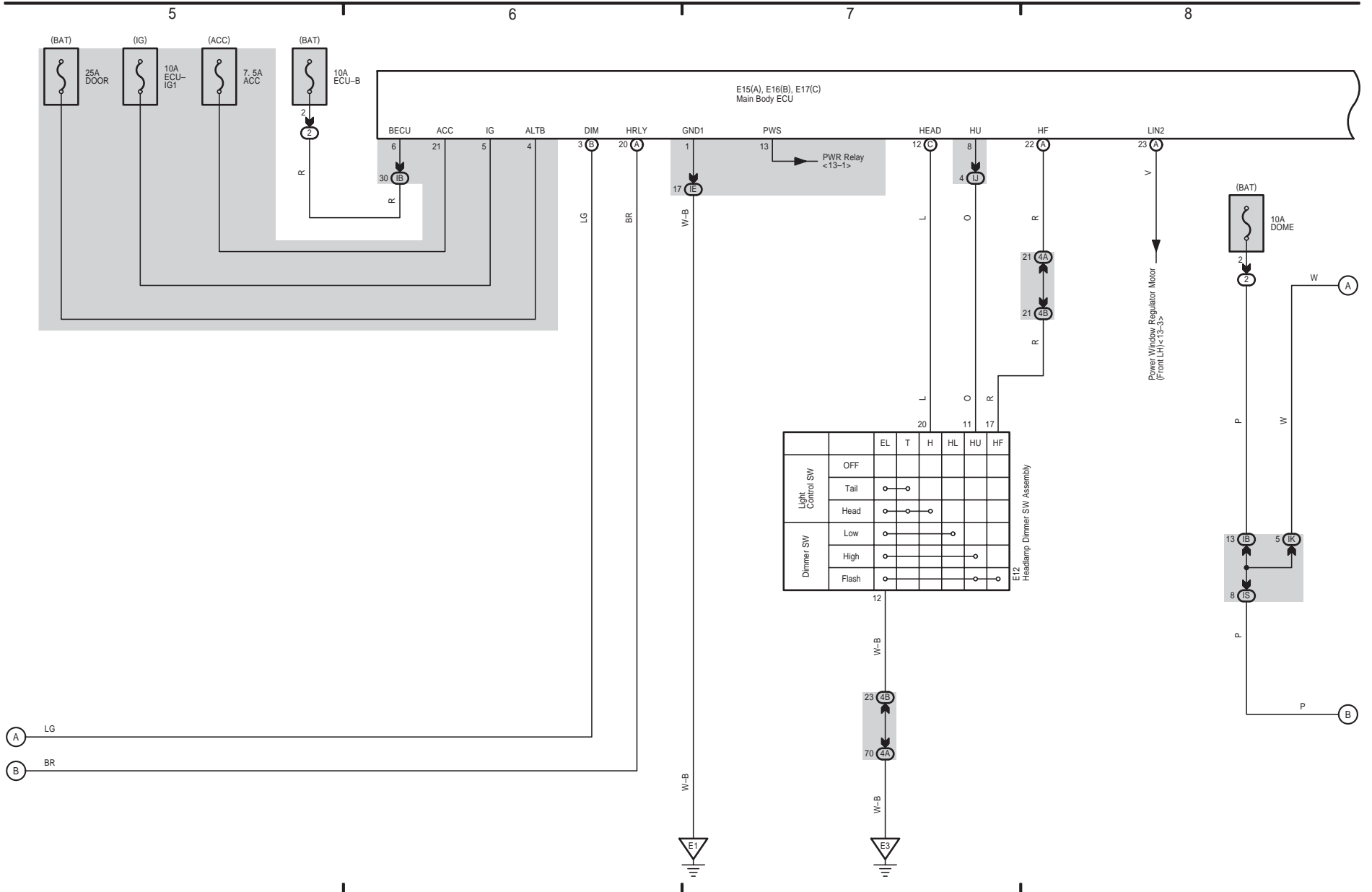
RAV4 (EM03T0U)



Multiplex Communication System (CAN)



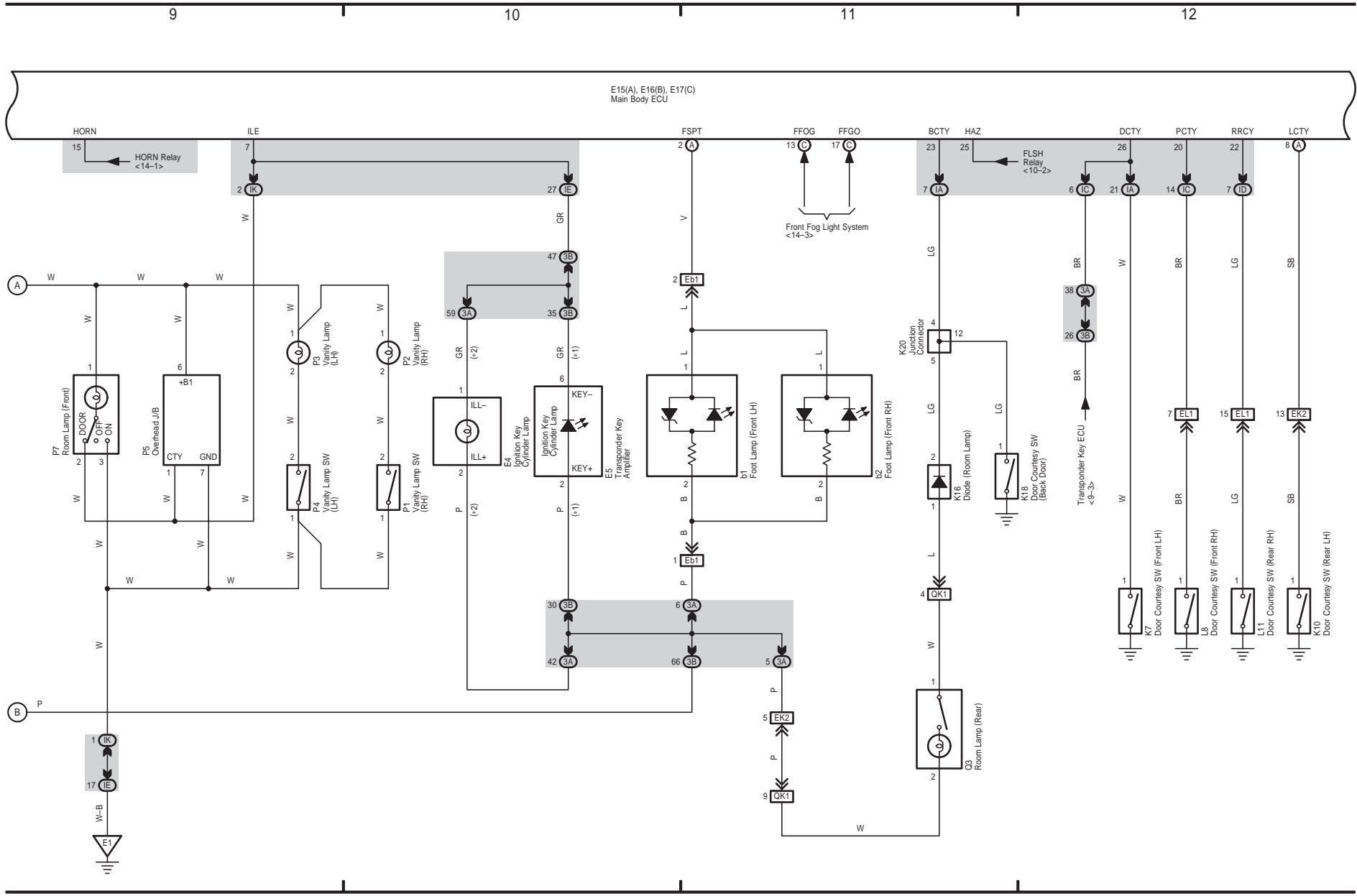
Multiplex Communication System (CAN)



RAV4 (EM03T0U)

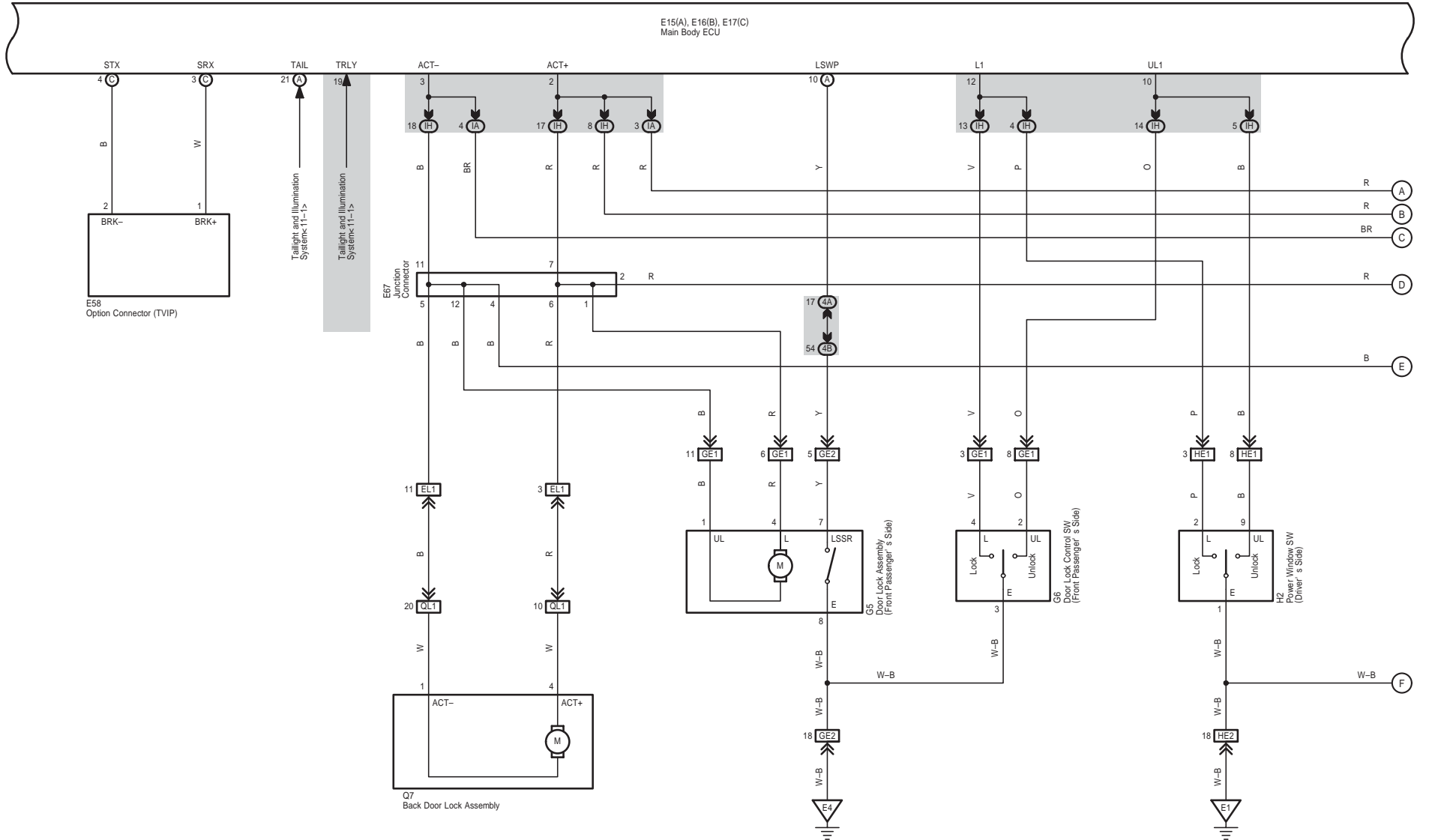
Multiplex Communication System (CAN)

* 1 : w/ Engine Immobiliser System
* 2 : w/o Engine Immobiliser System



Multiplex Communication System (CAN)

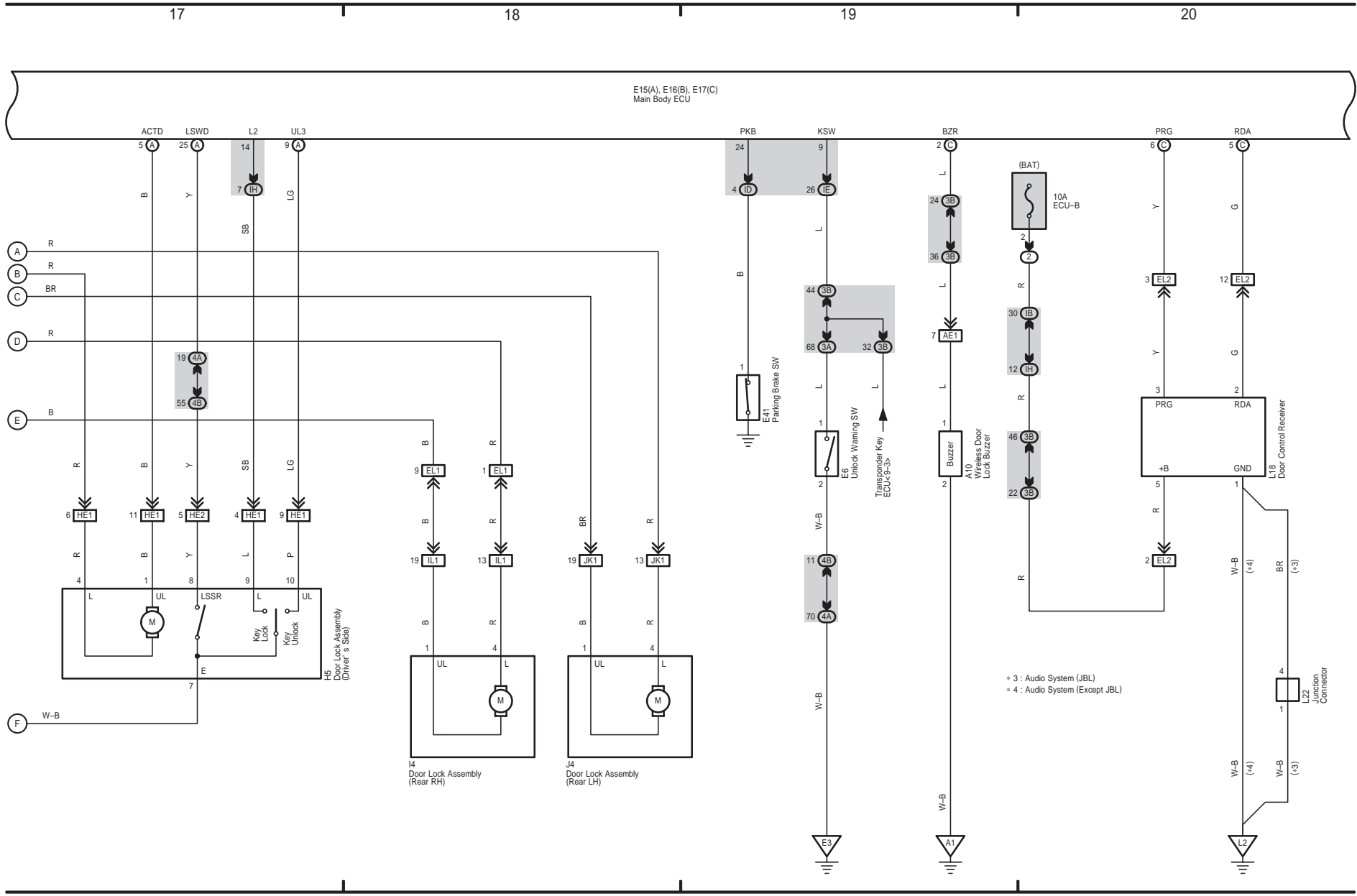
13 14 15 16



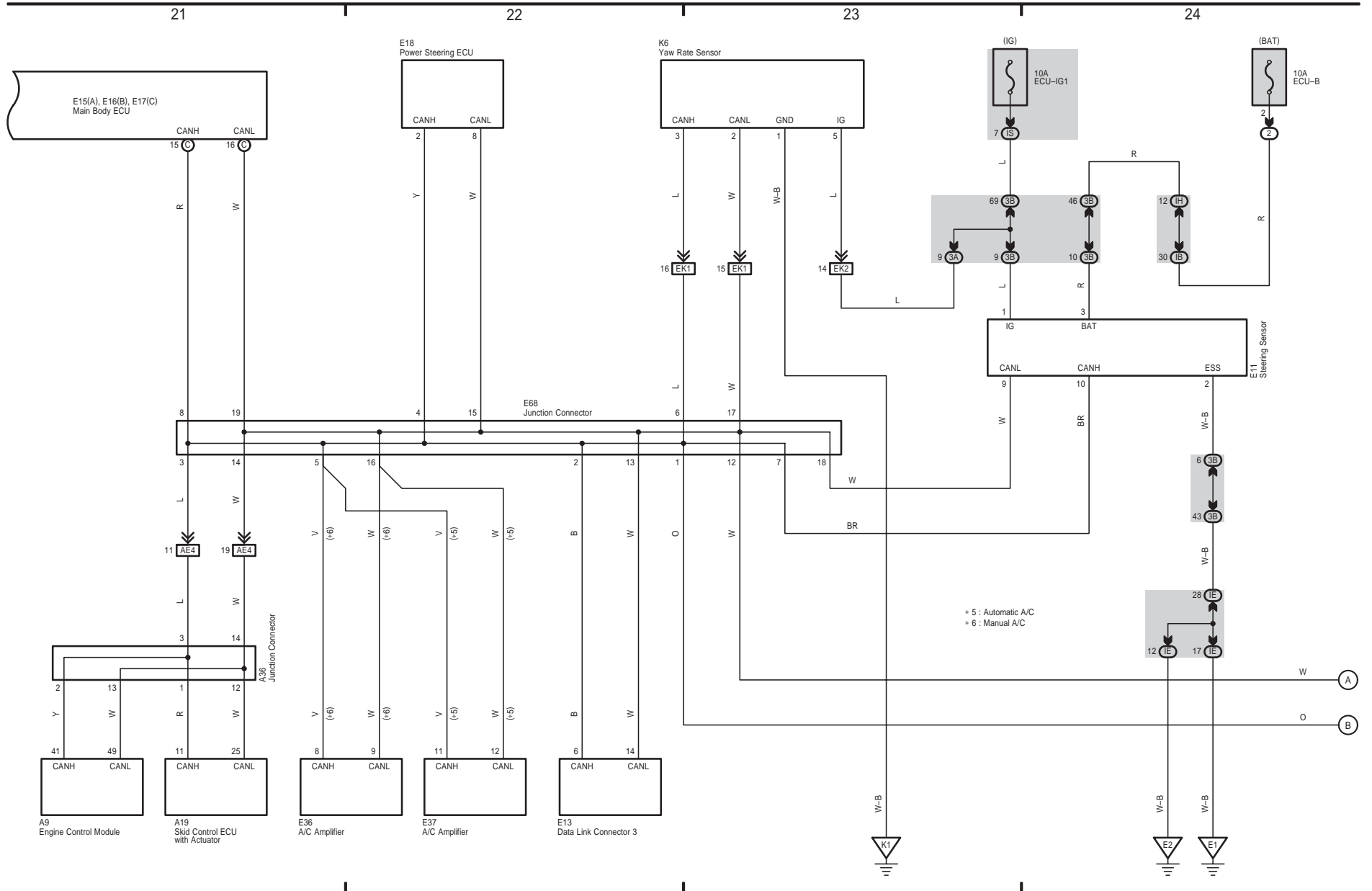
RAV4 (EM03T0U)



Multiplex Communication System (CAN)



Multiplex Communication System (CAN)

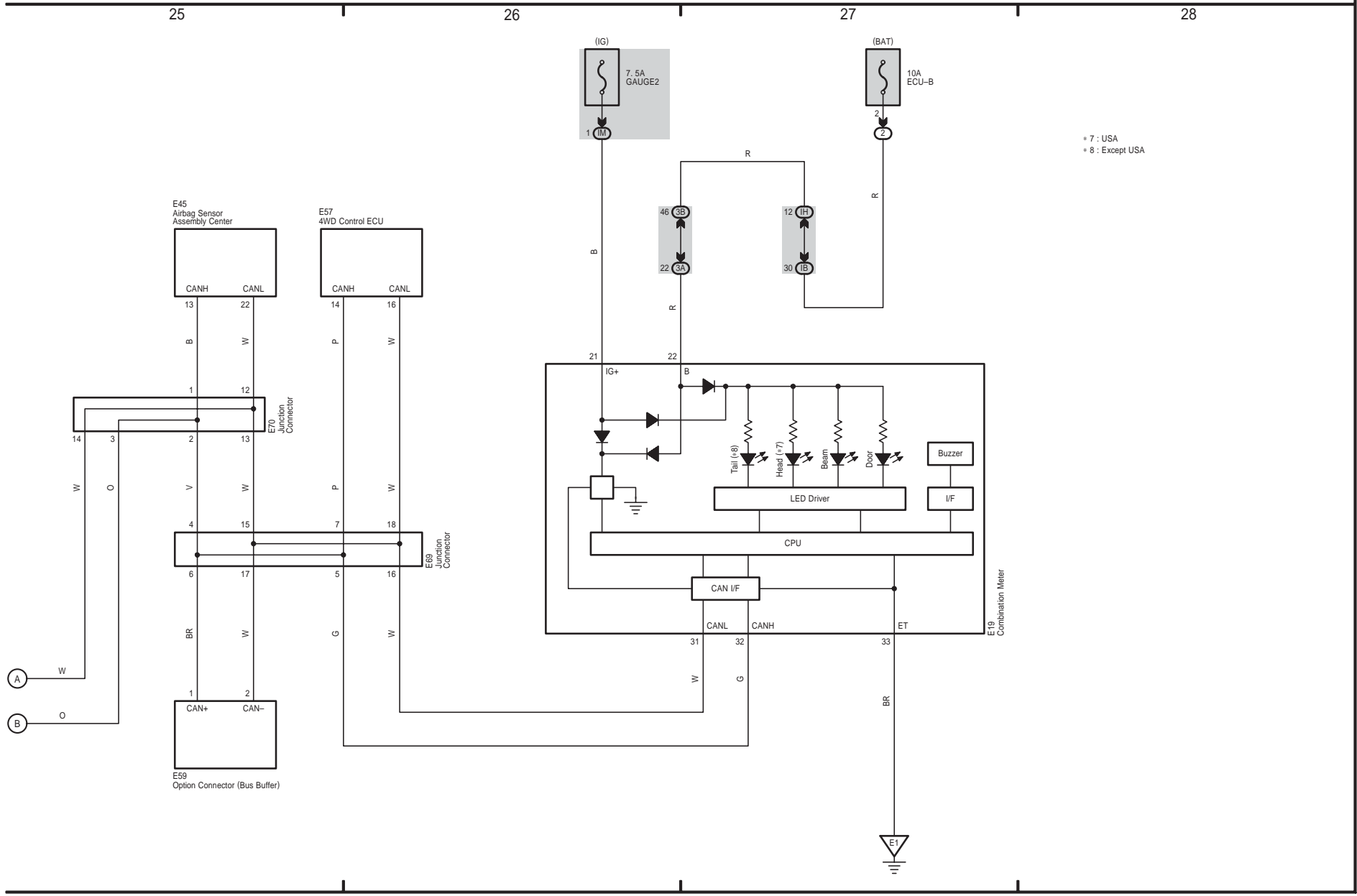


RAV4 (EM03T0U)



2 RAV4 (Cont' d)

Multiplex Communication System (CAN)



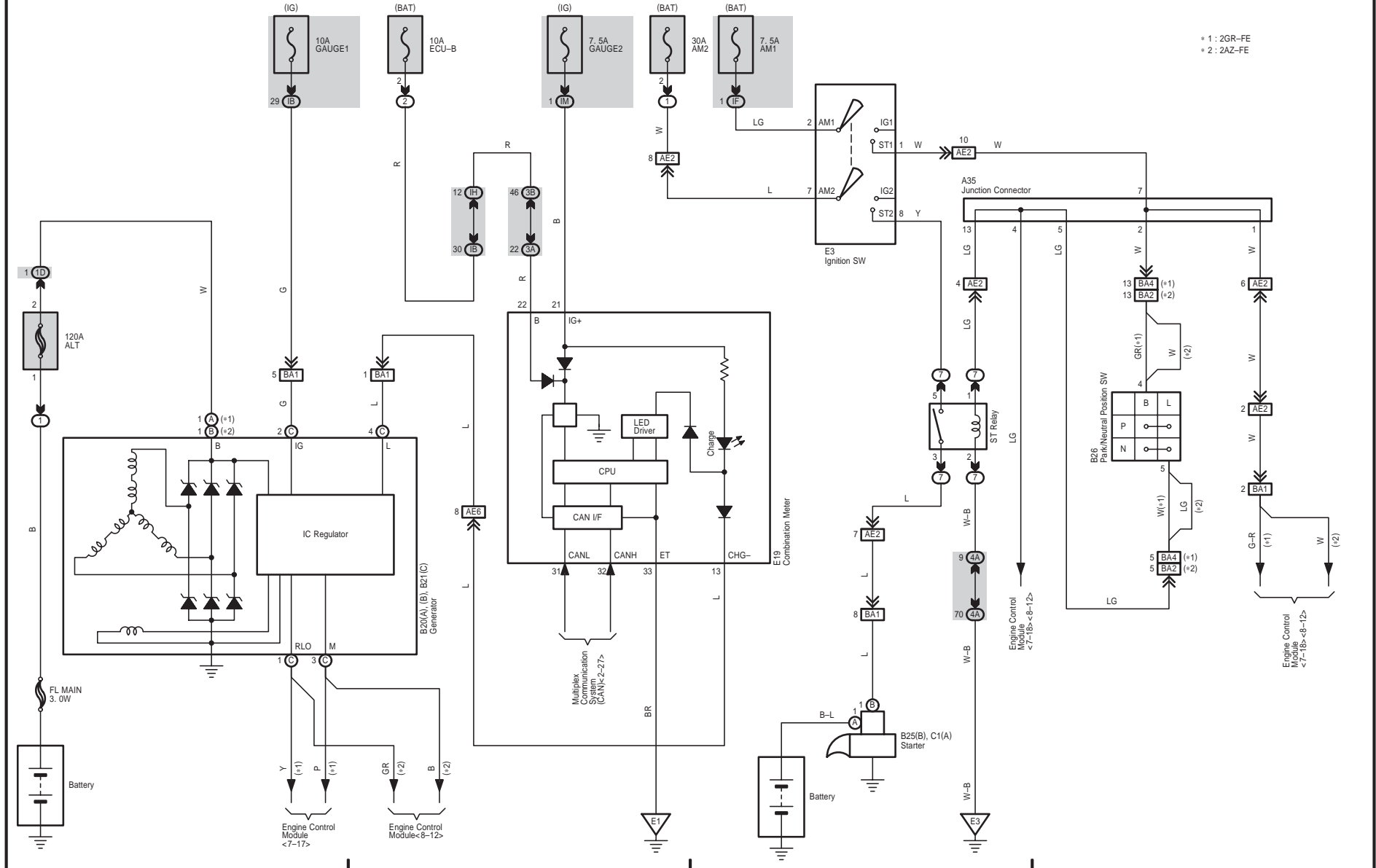
Charging (w/o Trailer Towing)

Starting

1 2 3 4

* 1 : 2GR-FE
* 2 : 2AZ-FE

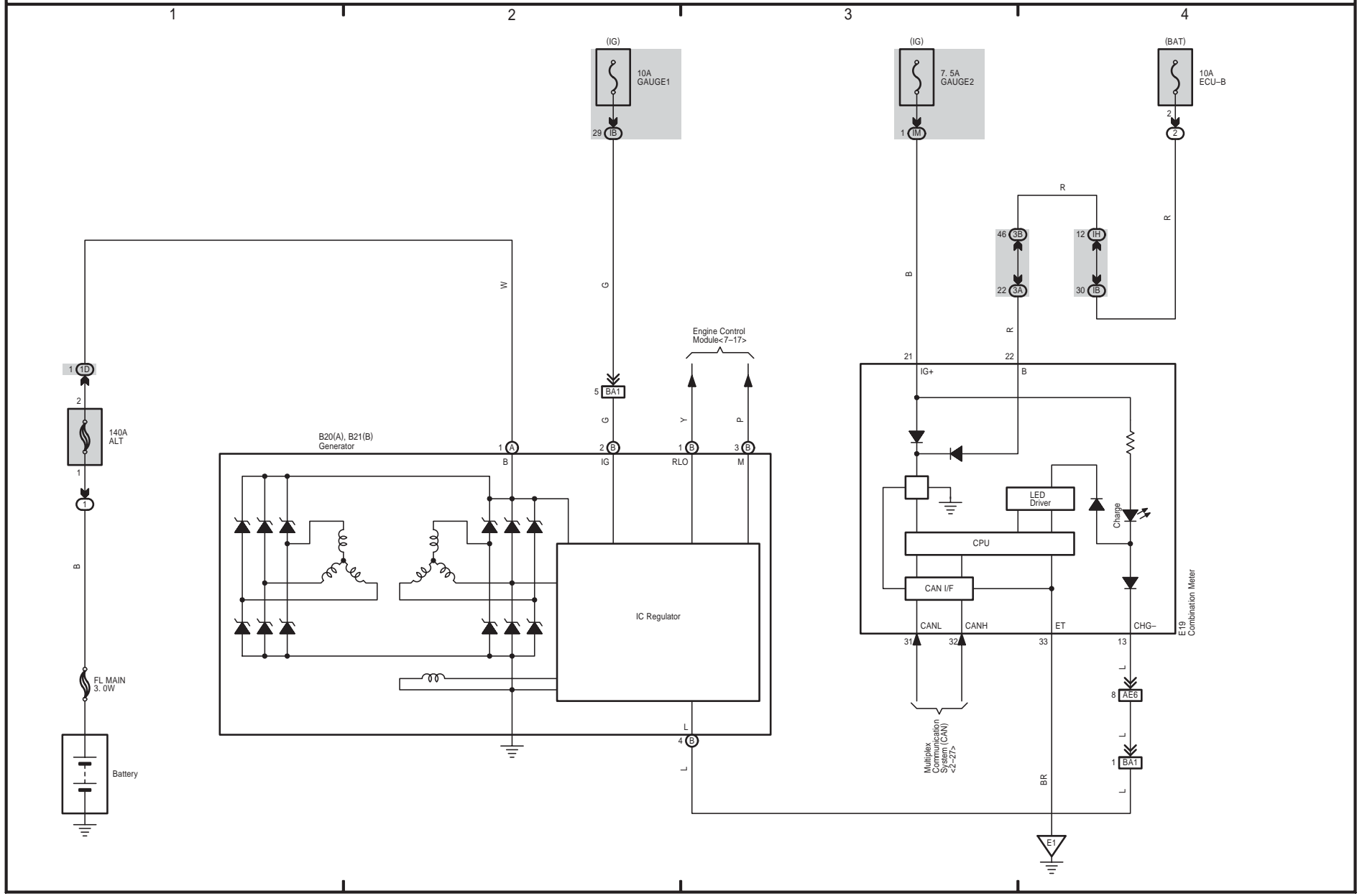
RAV4 (EM03T0U)



4 RAV4

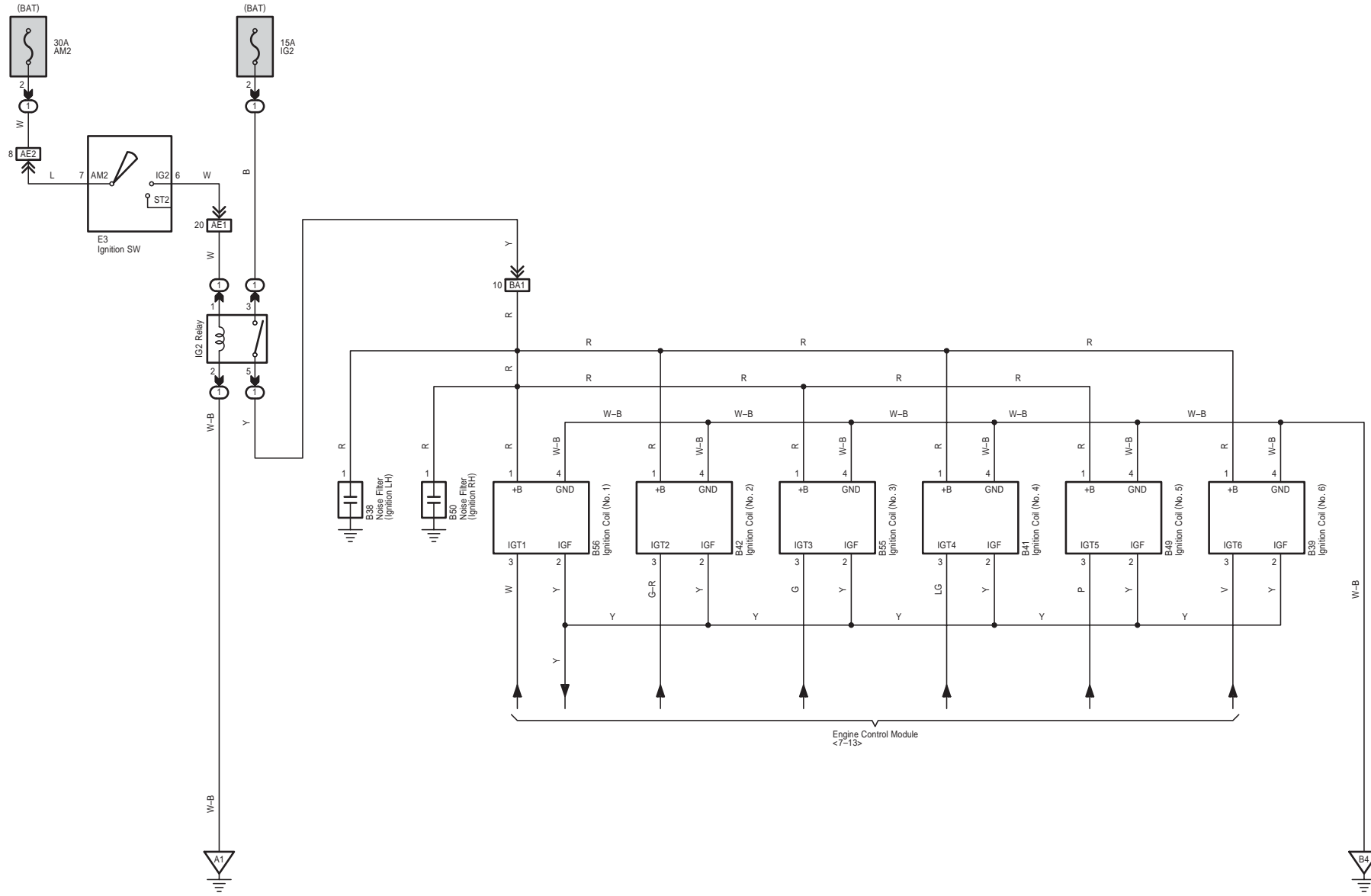
M OVERALL ELECTRICAL WIRING DIAGRAM

Charging (w/ Trailer Towing)



Ignition (2GR-FE)

1 2 3 4

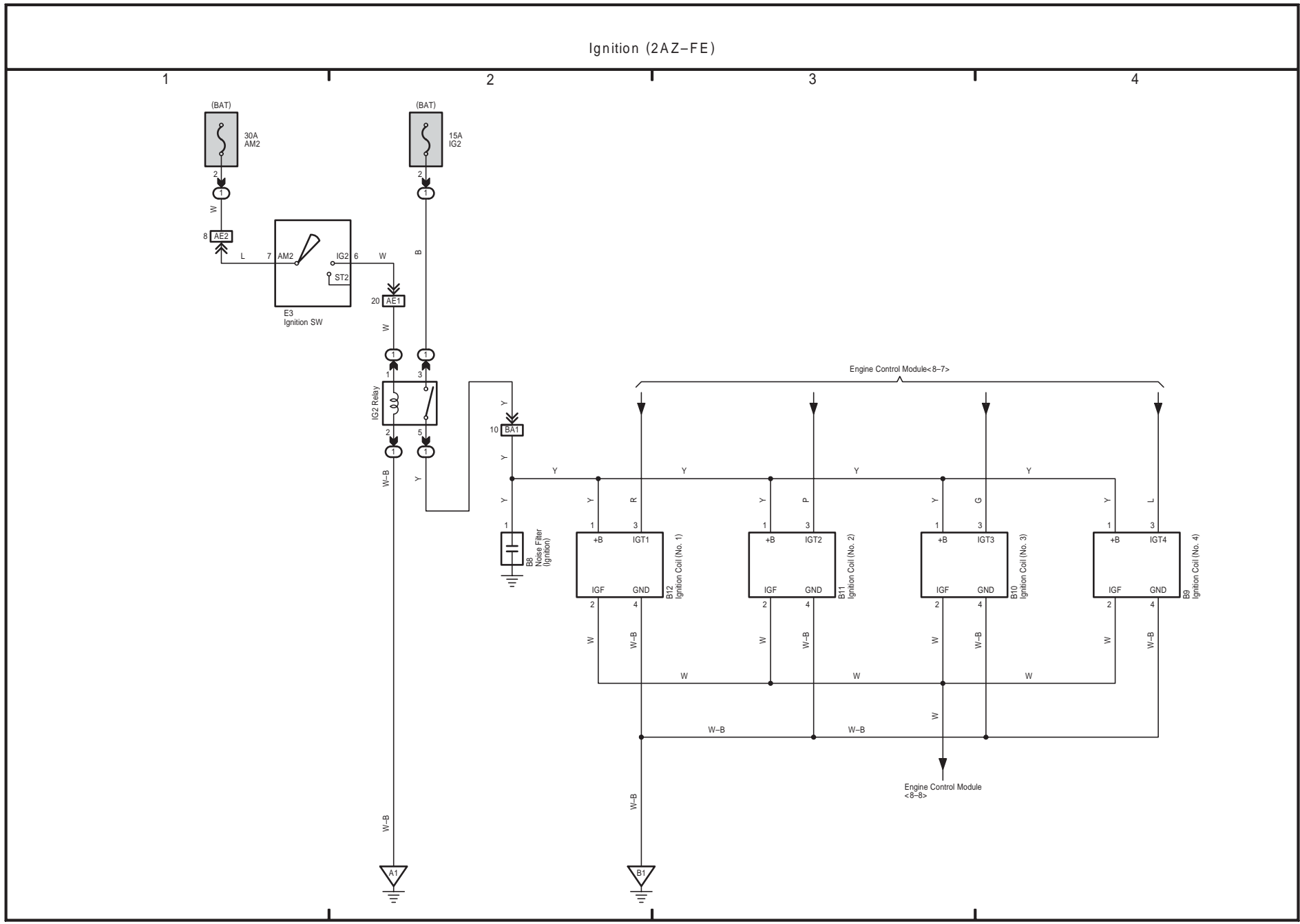


RAV4 (EM03TOU)

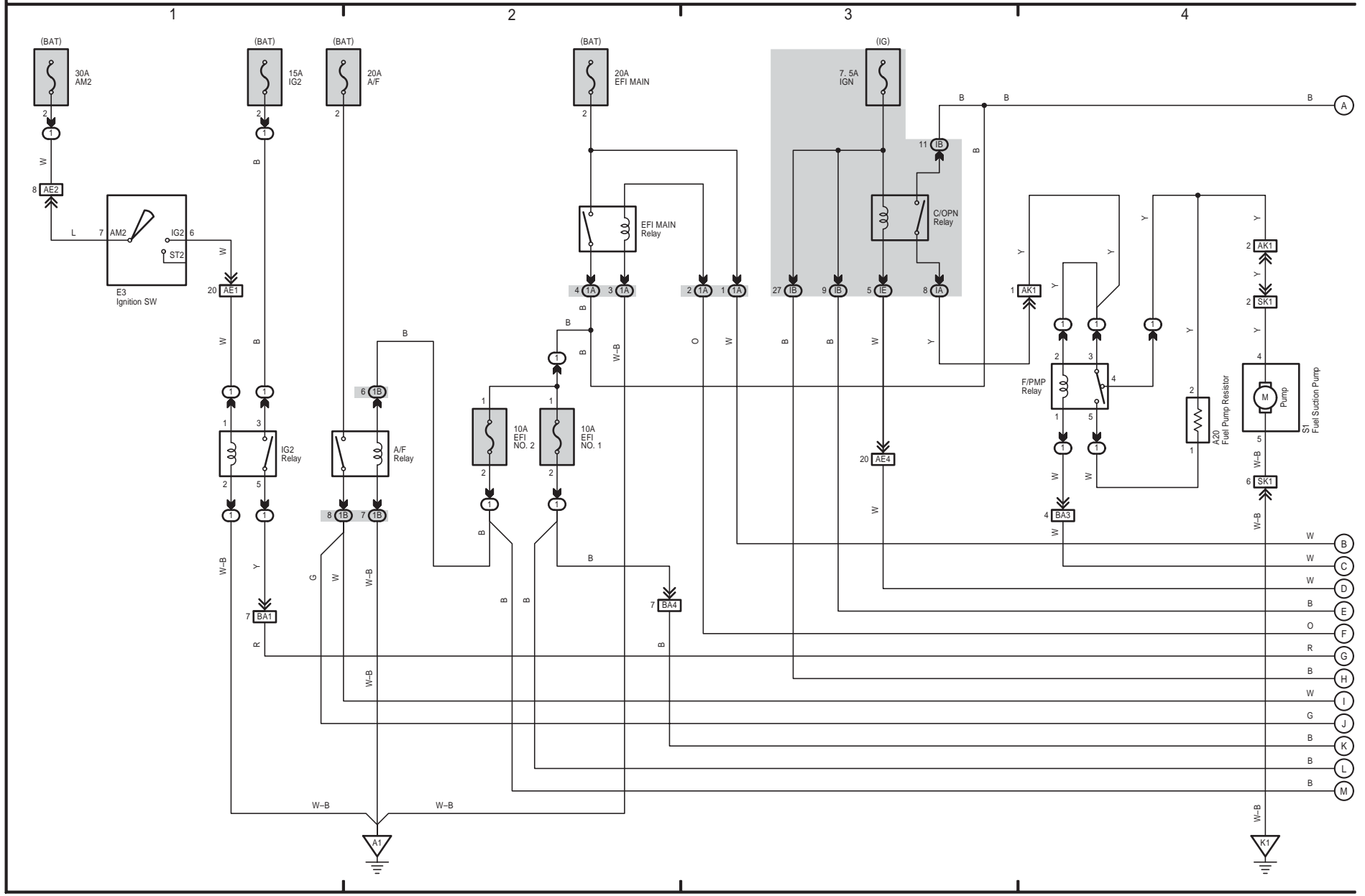


6 RAV4

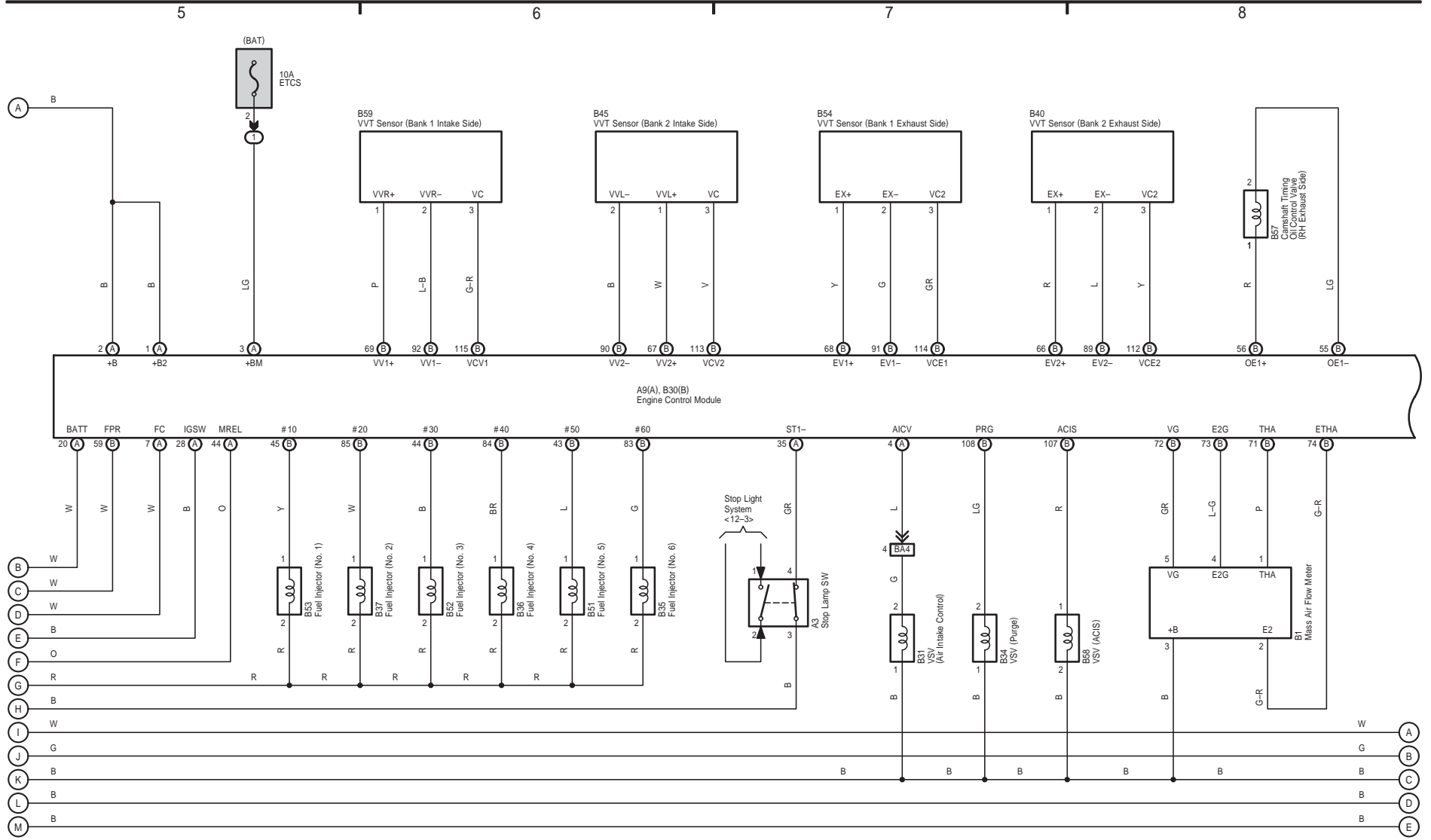
M OVERALL ELECTRICAL WIRING DIAGRAM



Engine Control (2GR-FE)



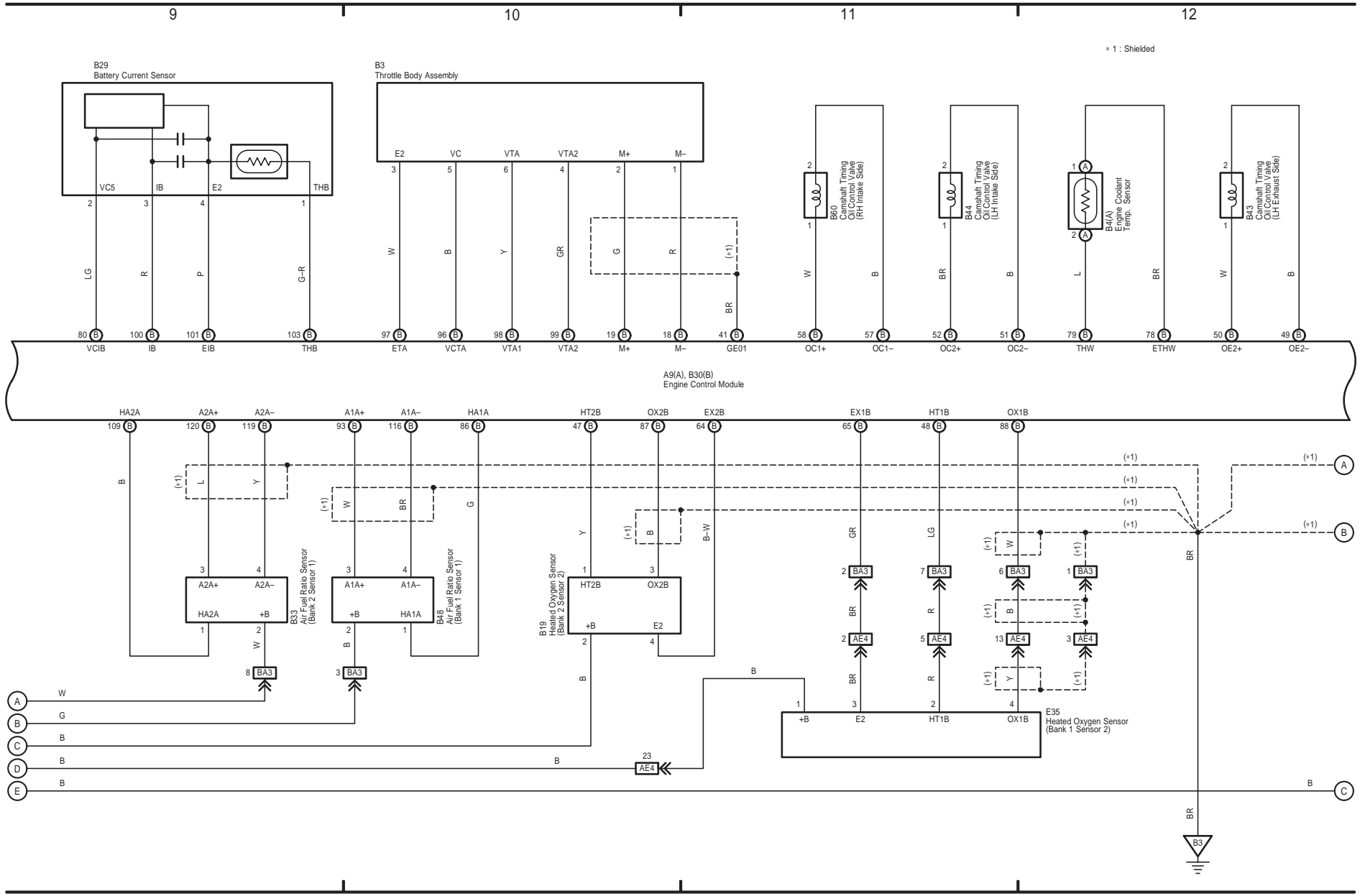
Engine Control (2GR-FE)



RAV4 (EM03T0U)

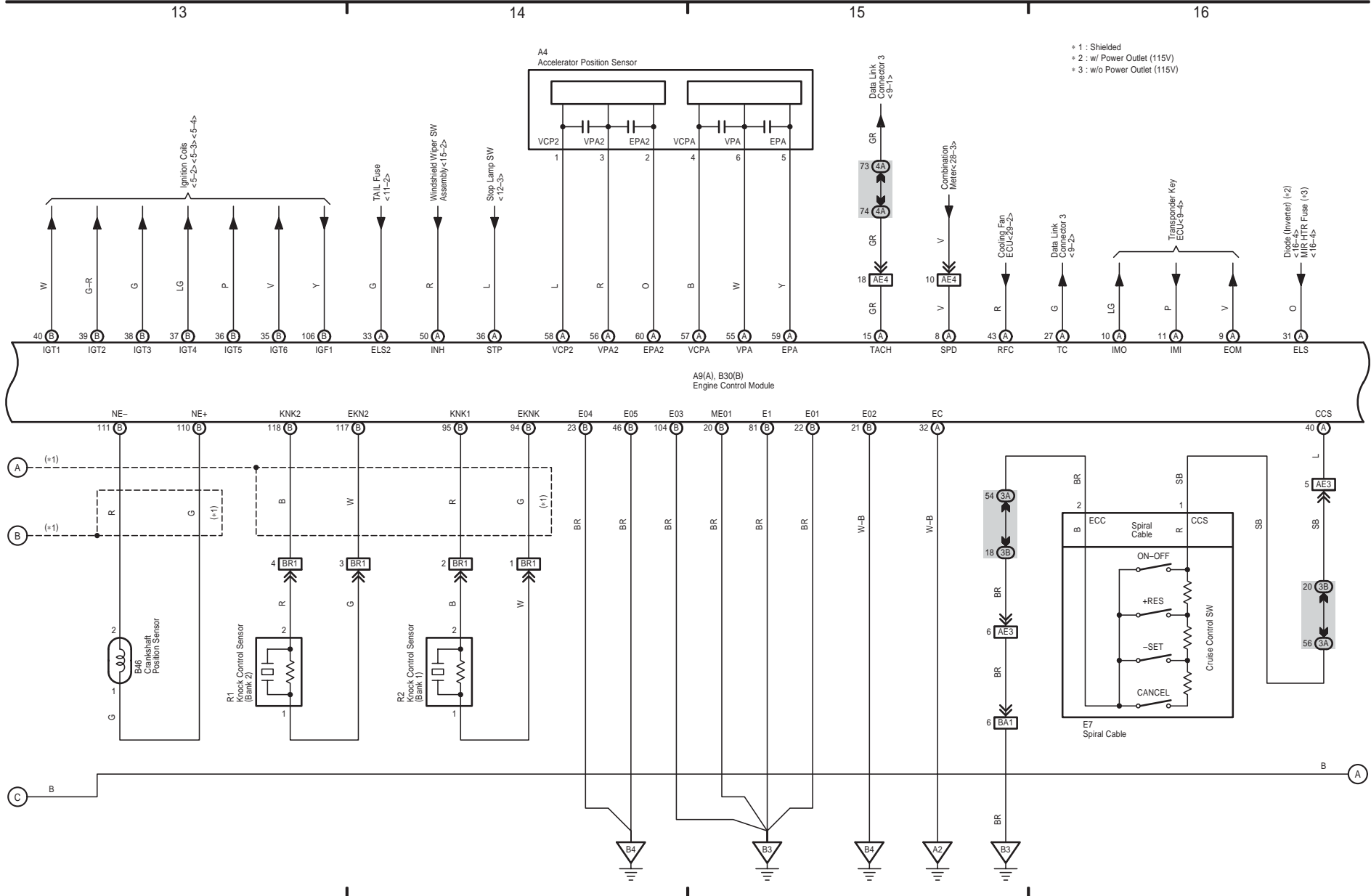


Engine Control (2GR-FE)



Engine Control (2GR-FE)

Cruise Control (2GR-FE)

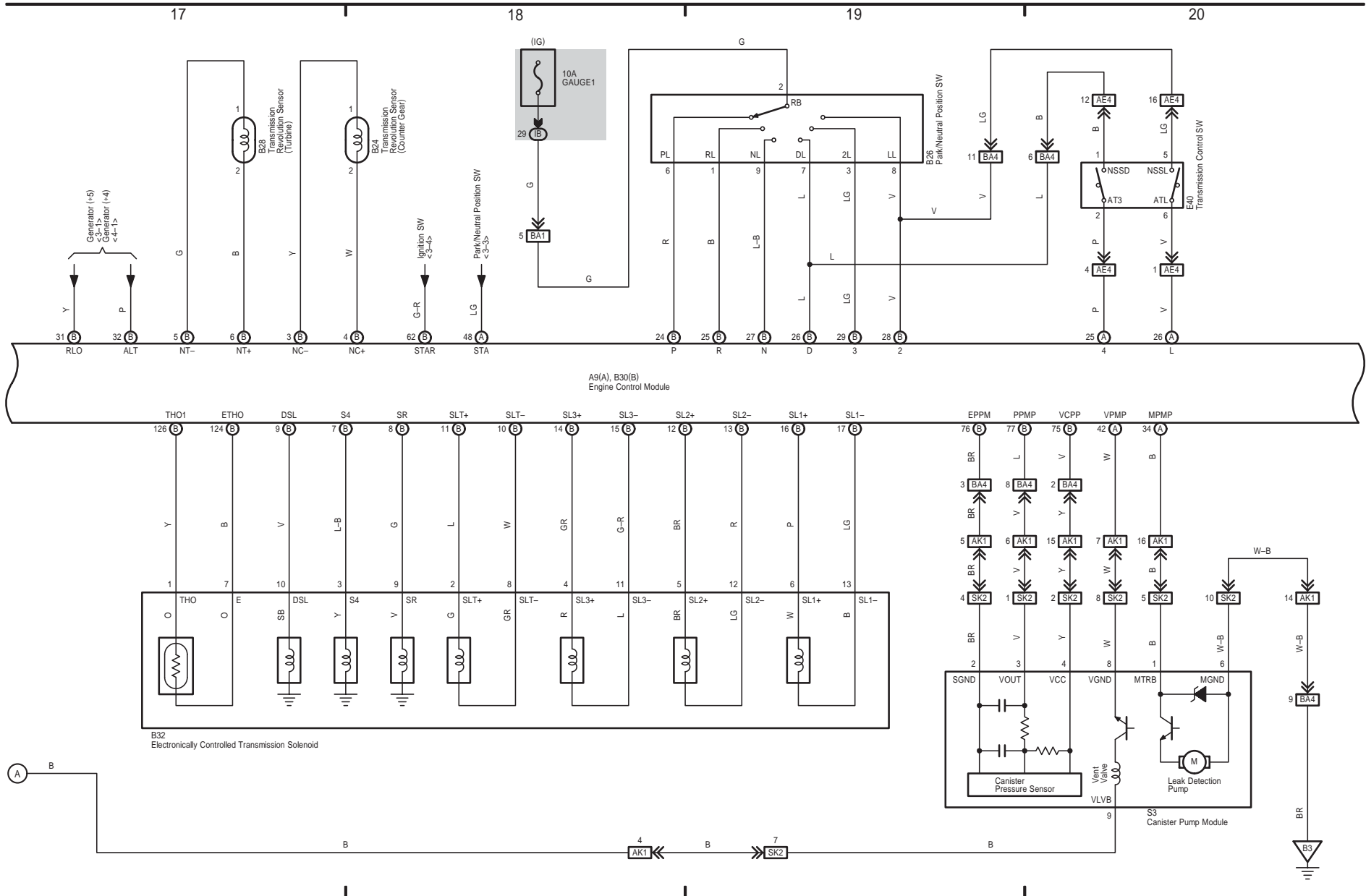


RAV4 (EM03T0U)



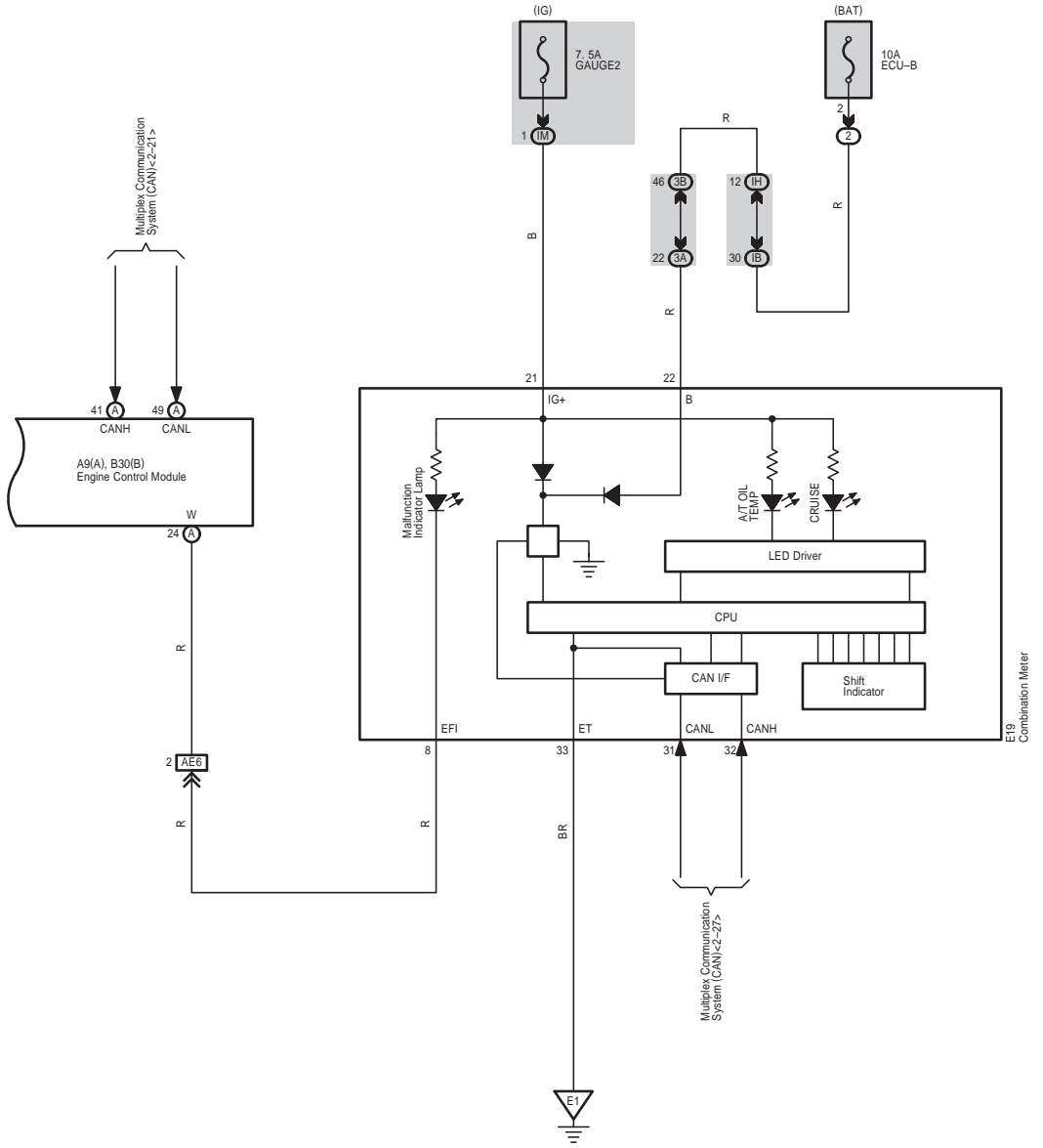
Electronically Controlled Transmission and A/T Indicator (2GR-FE)

* 4 : w/ Trailer Towing
5 : w/o Trailer Towing



Electronically Controlled Transmission and A/T Indicator (2GR-FE)

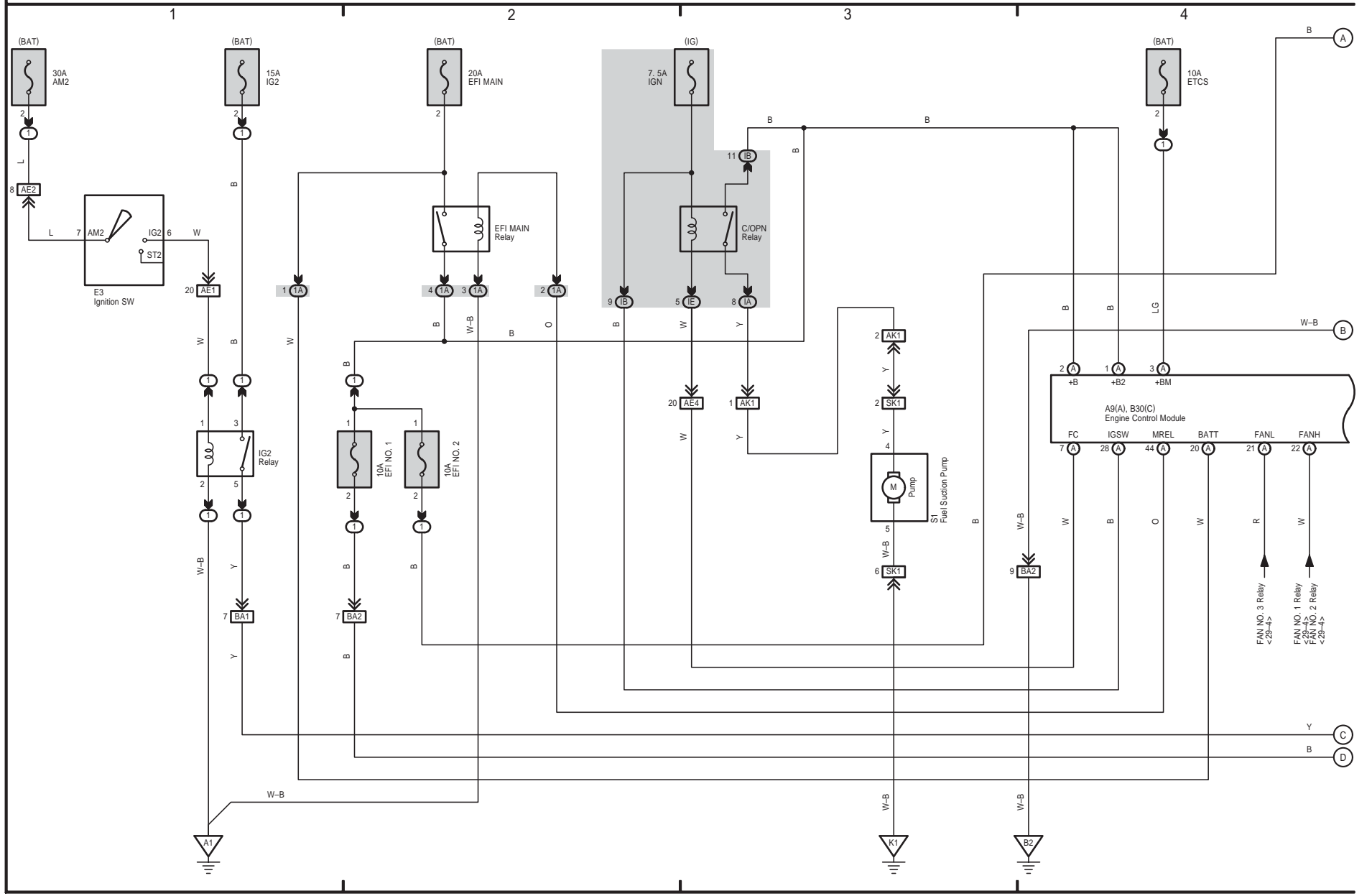
21 22 23 24



RAV4 (EM03T0U)

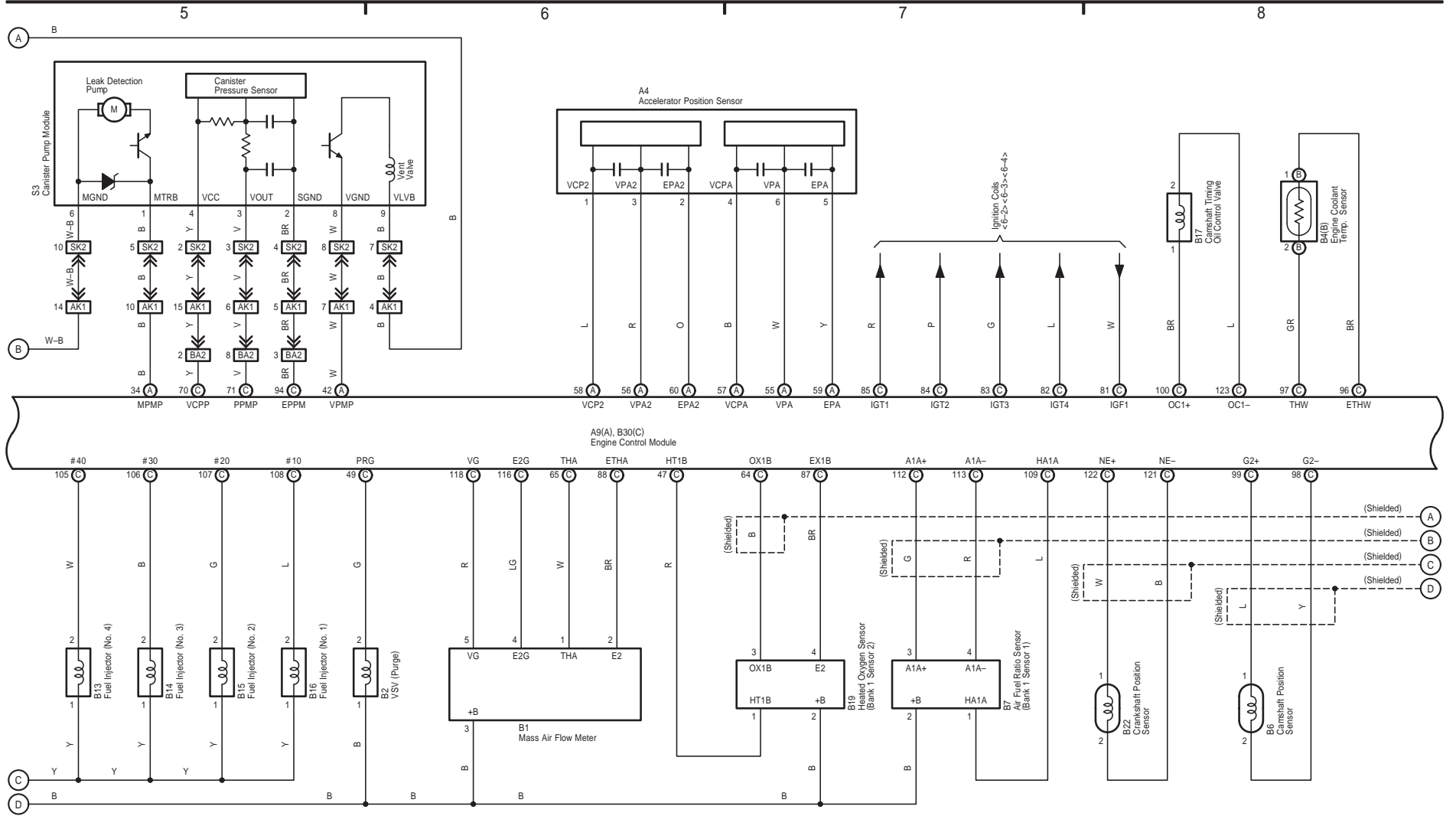


Engine Control (2AZ-FE)



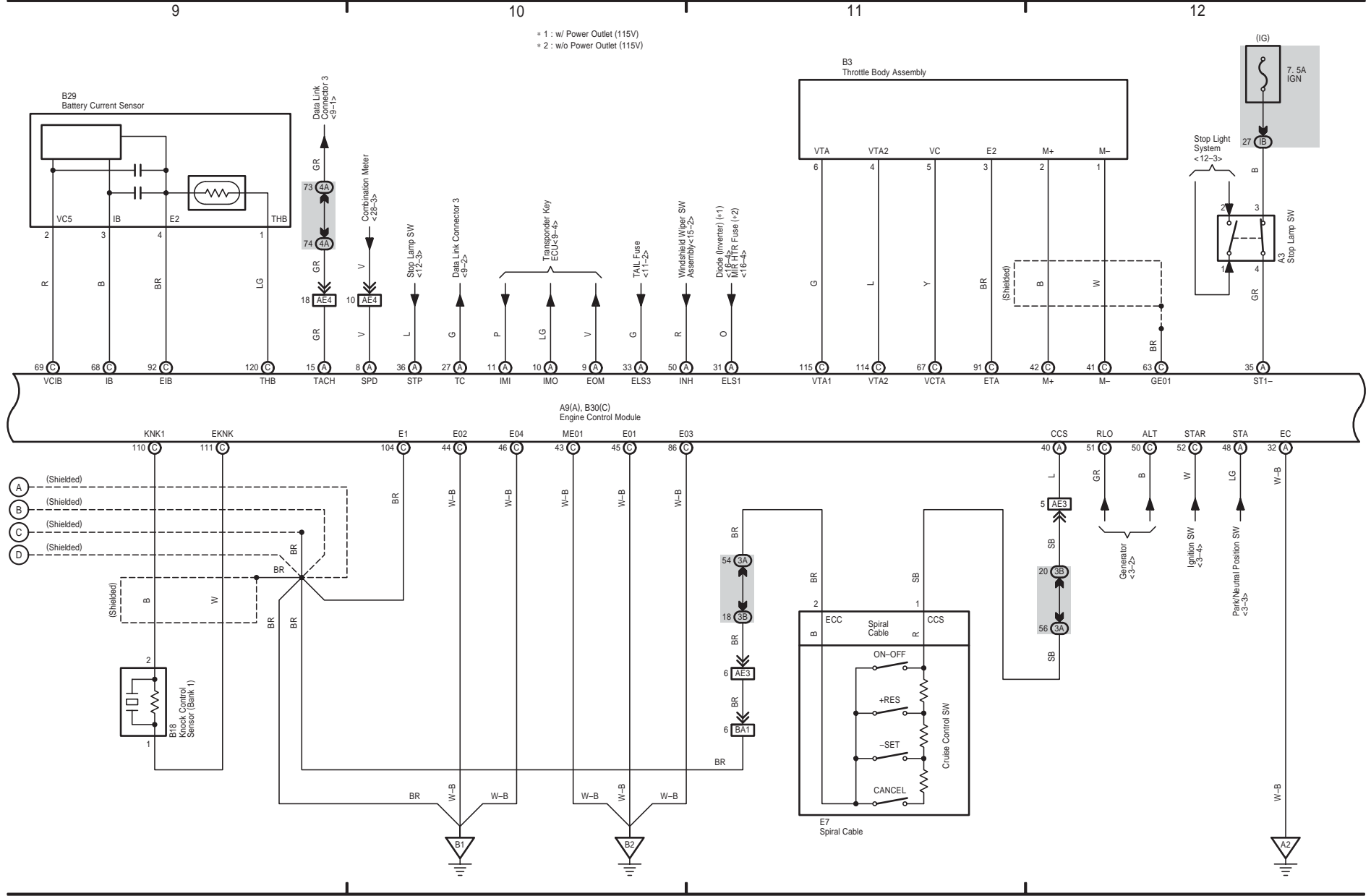
Engine Control (2AZ-FE)

RAV4 (EM03T0U)



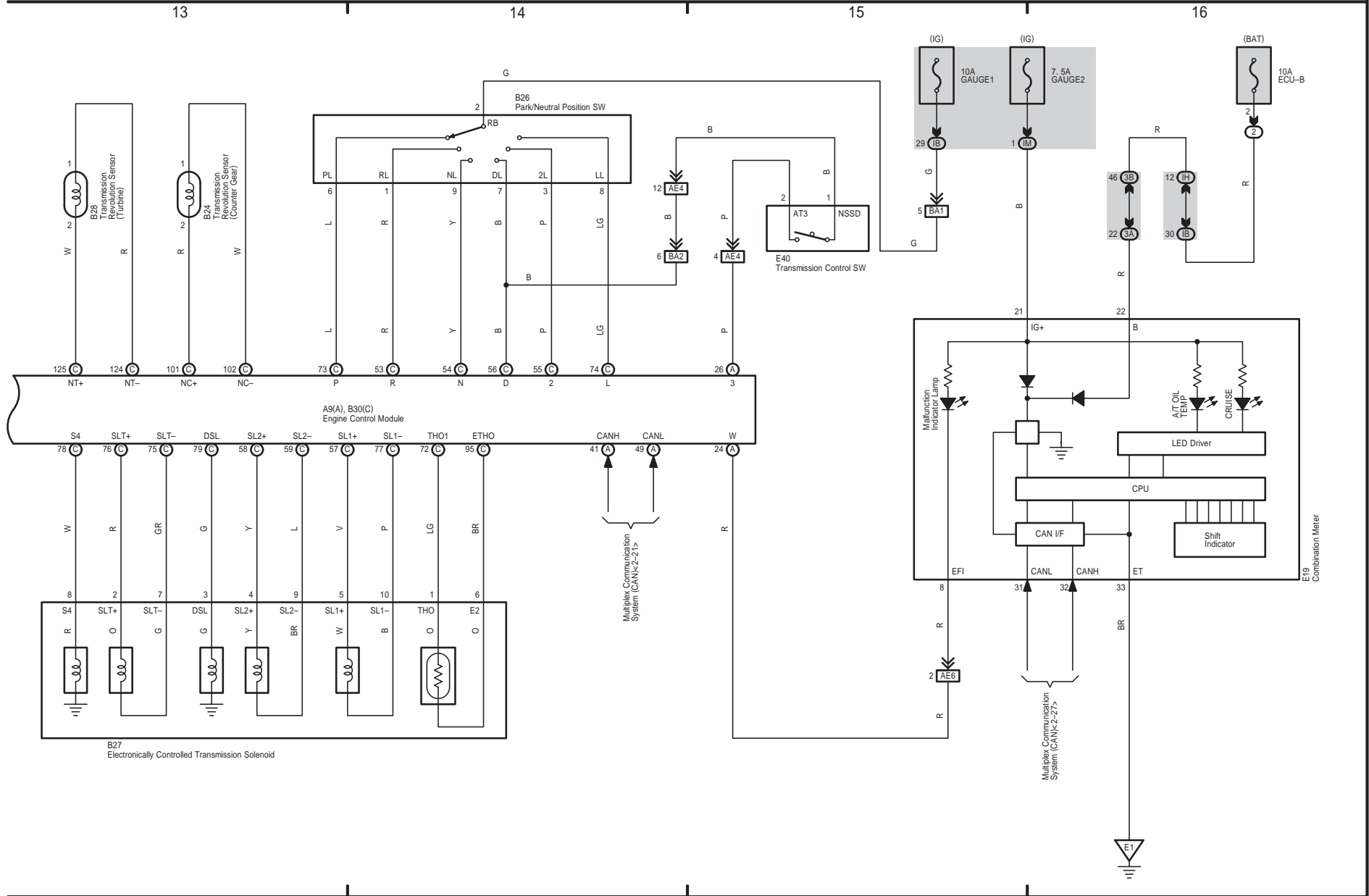
Engine Control (2AZ-FE)

Cruise Control (2AZ-FE)

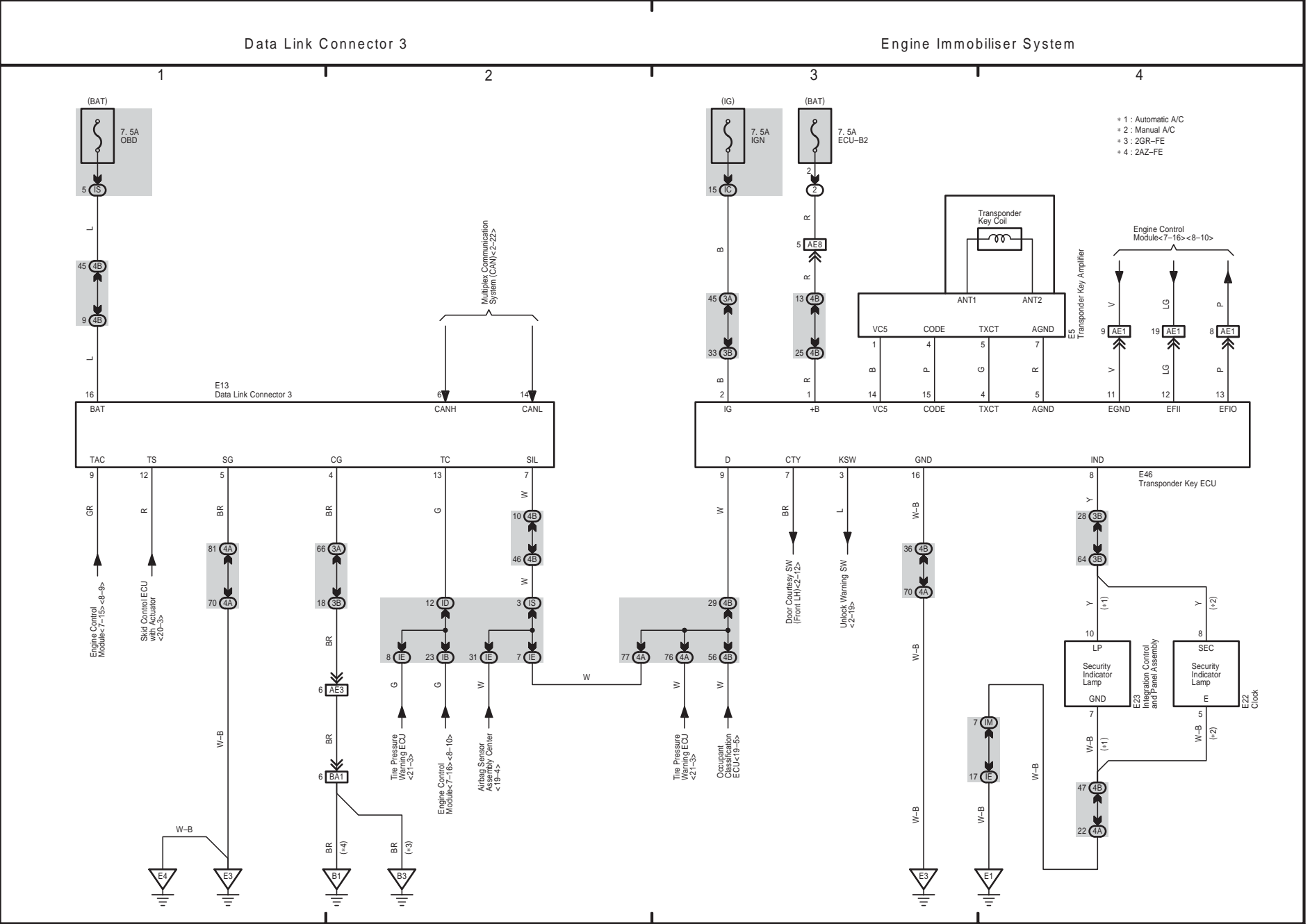


Electronically Controlled Transmission and A/T Indicator (2AZ-FE)

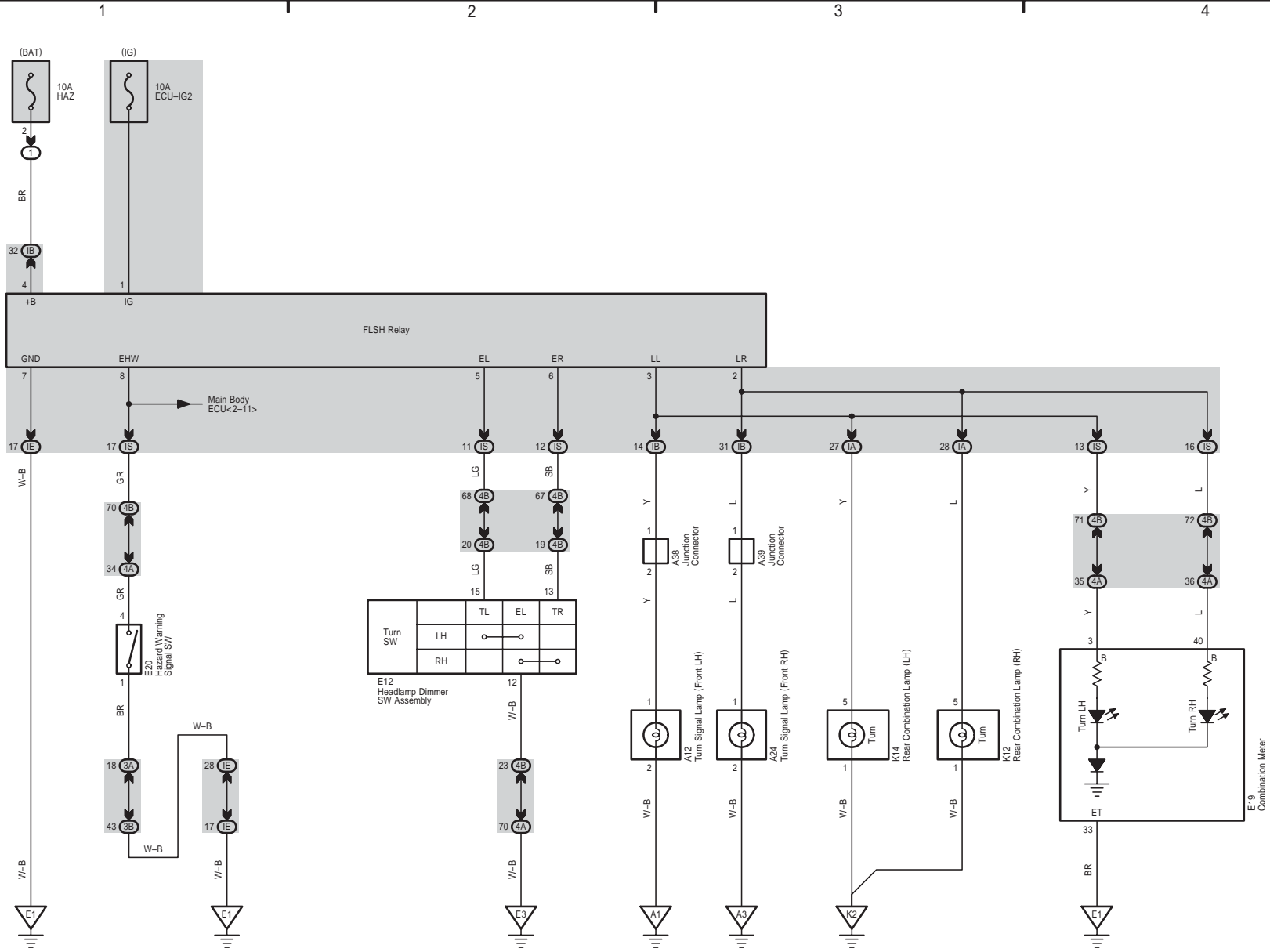
RAV4 (EM03T0U)



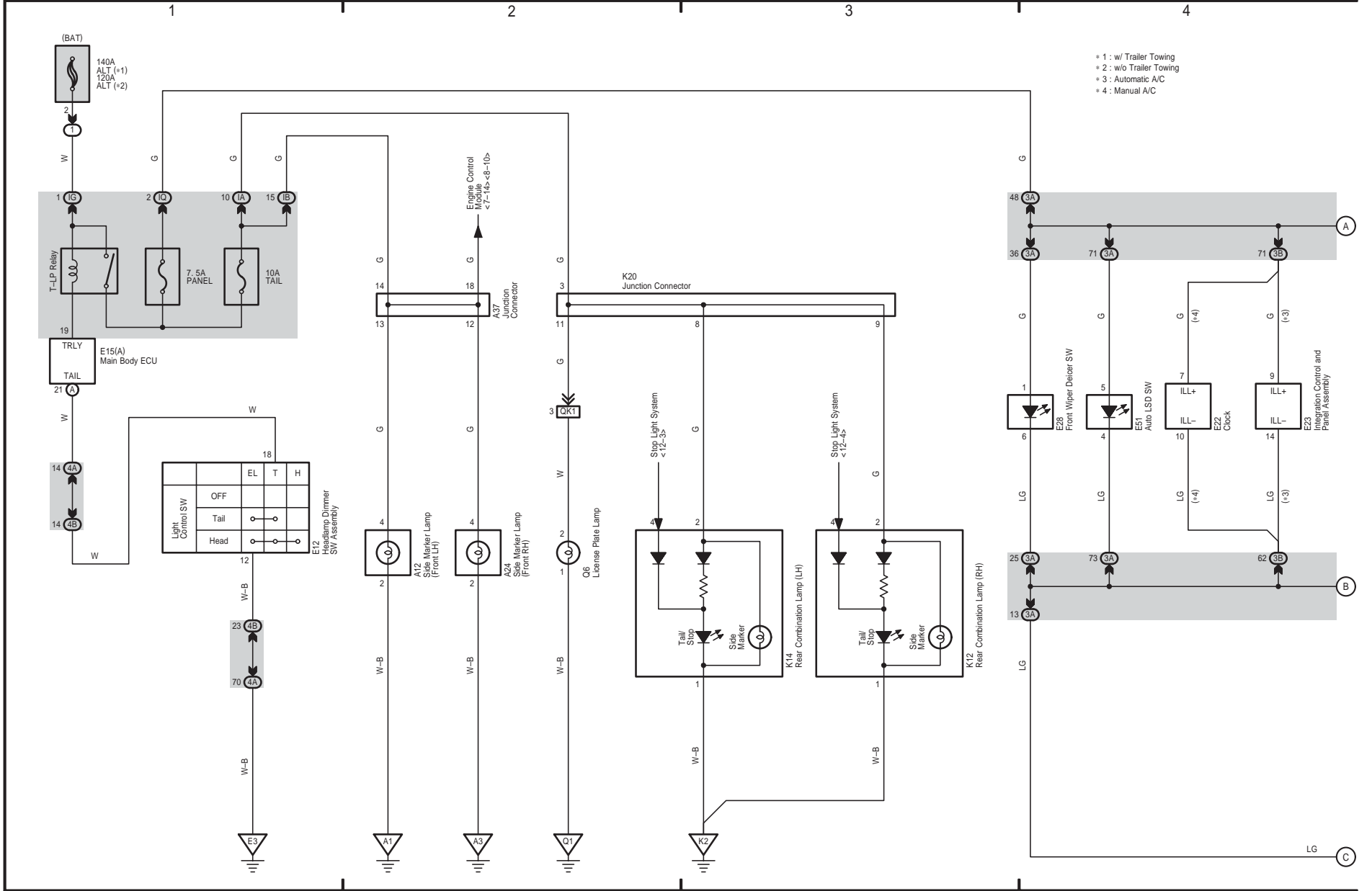
9 RAV4



Turn Signal and Hazard Warning Light



Taillight and Illumination

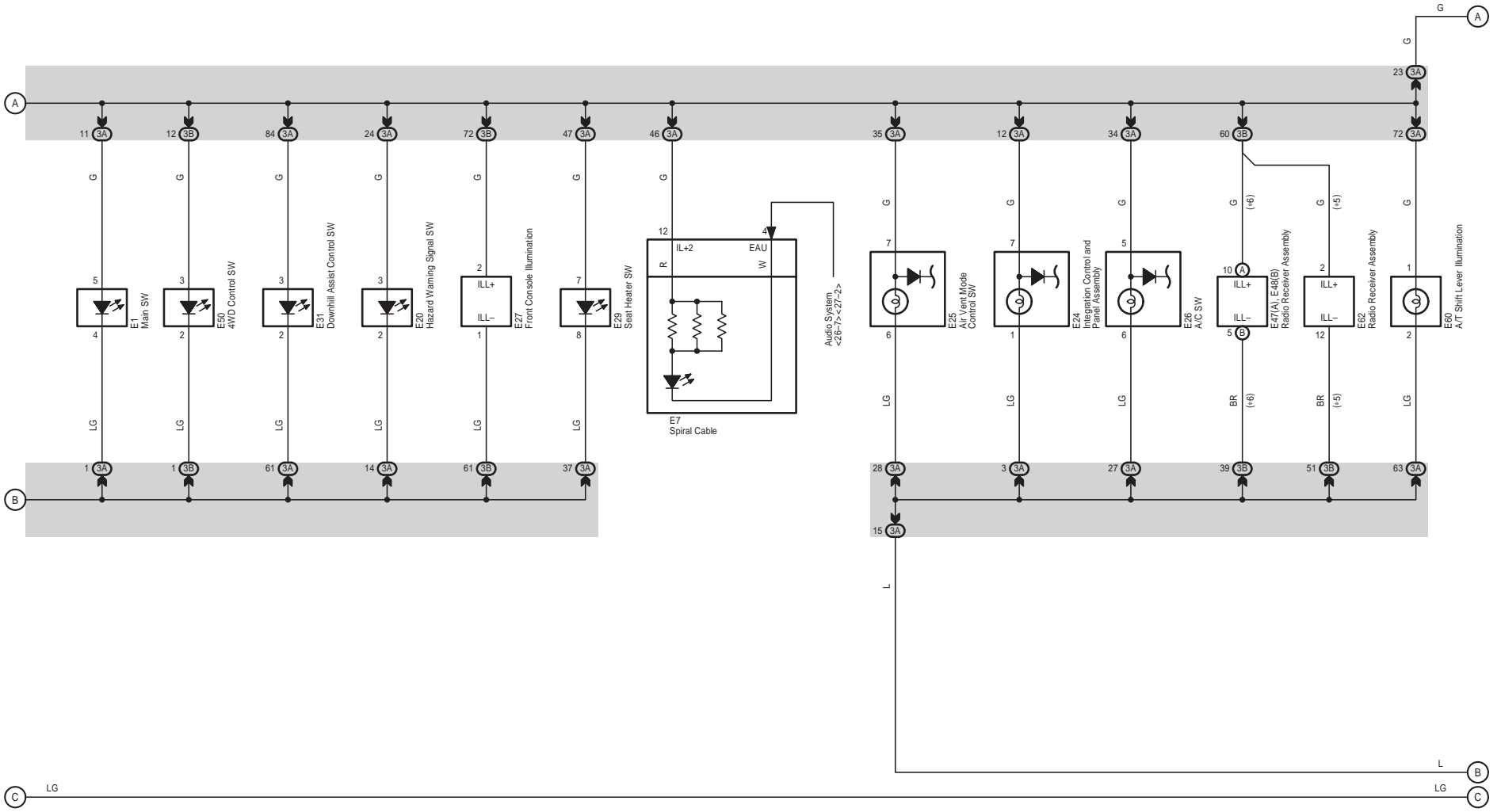


Taillight and Illumination

5 6 7 8

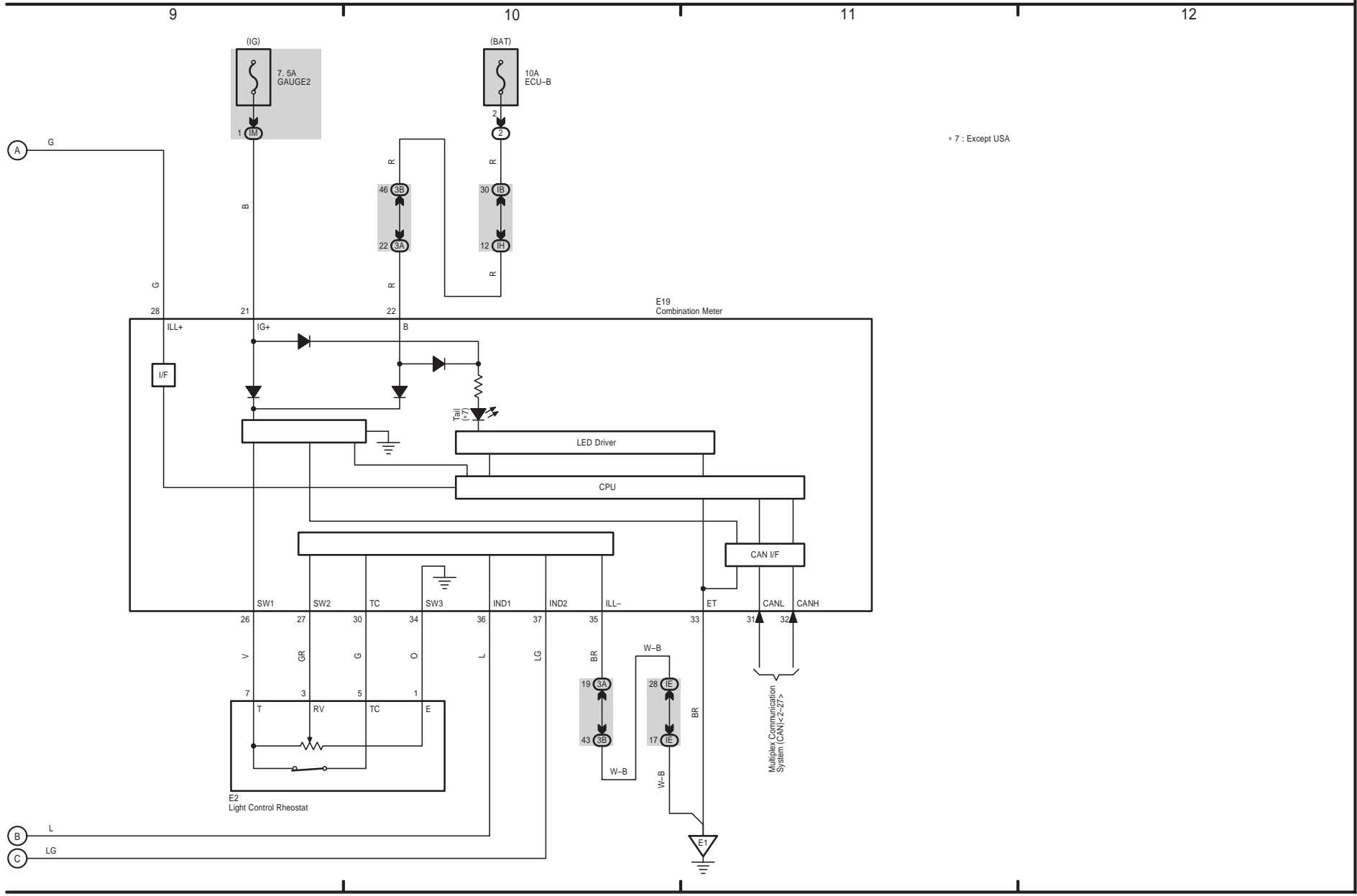
* 5 : Audio System (JBL)
* 6 : Audio System (Except JBL)

RAV4 (EM03T0U)



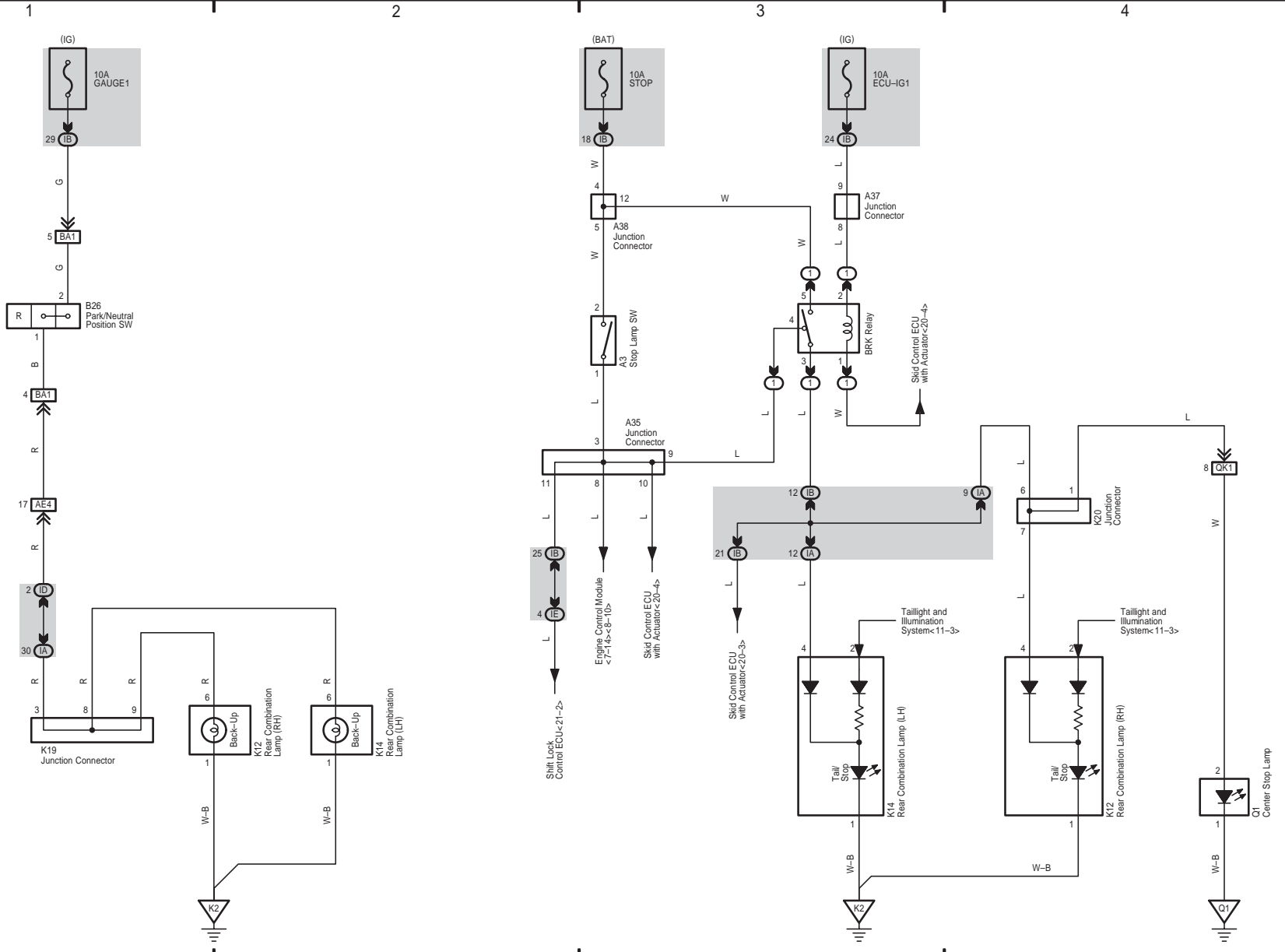
11 RAV4 (Cont' d)

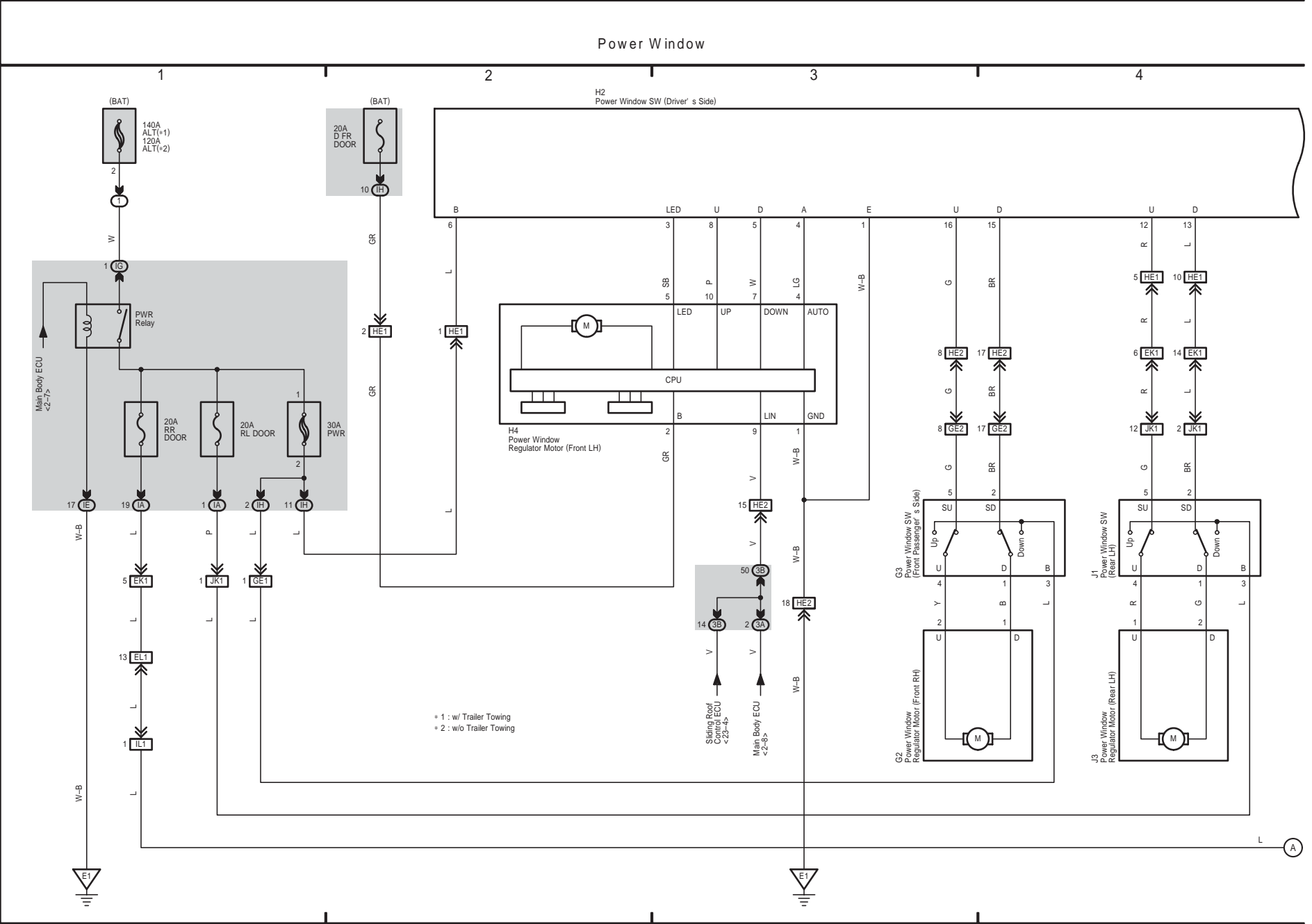
Taillight and Illumination



Back-Up Light

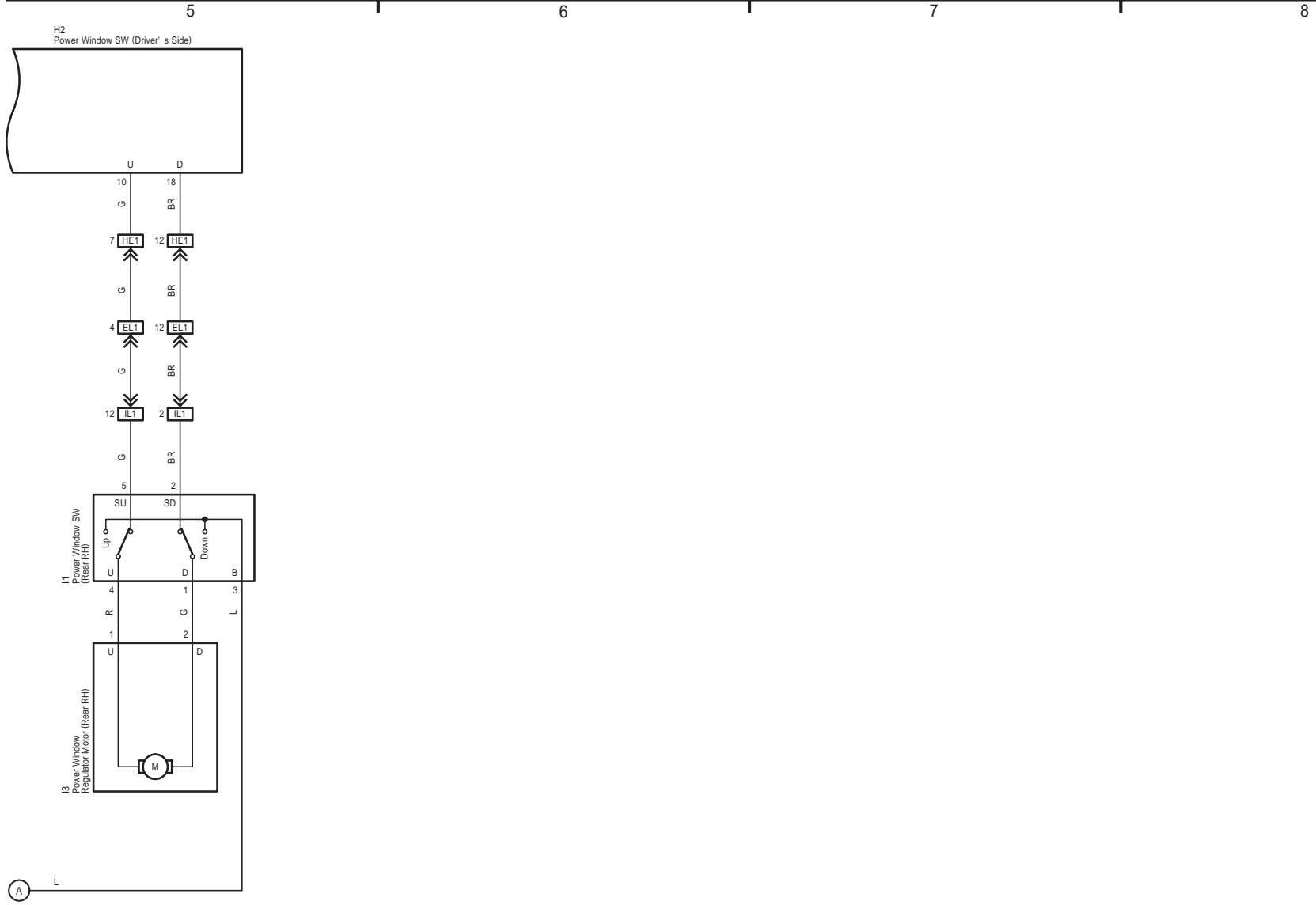
Stop Light





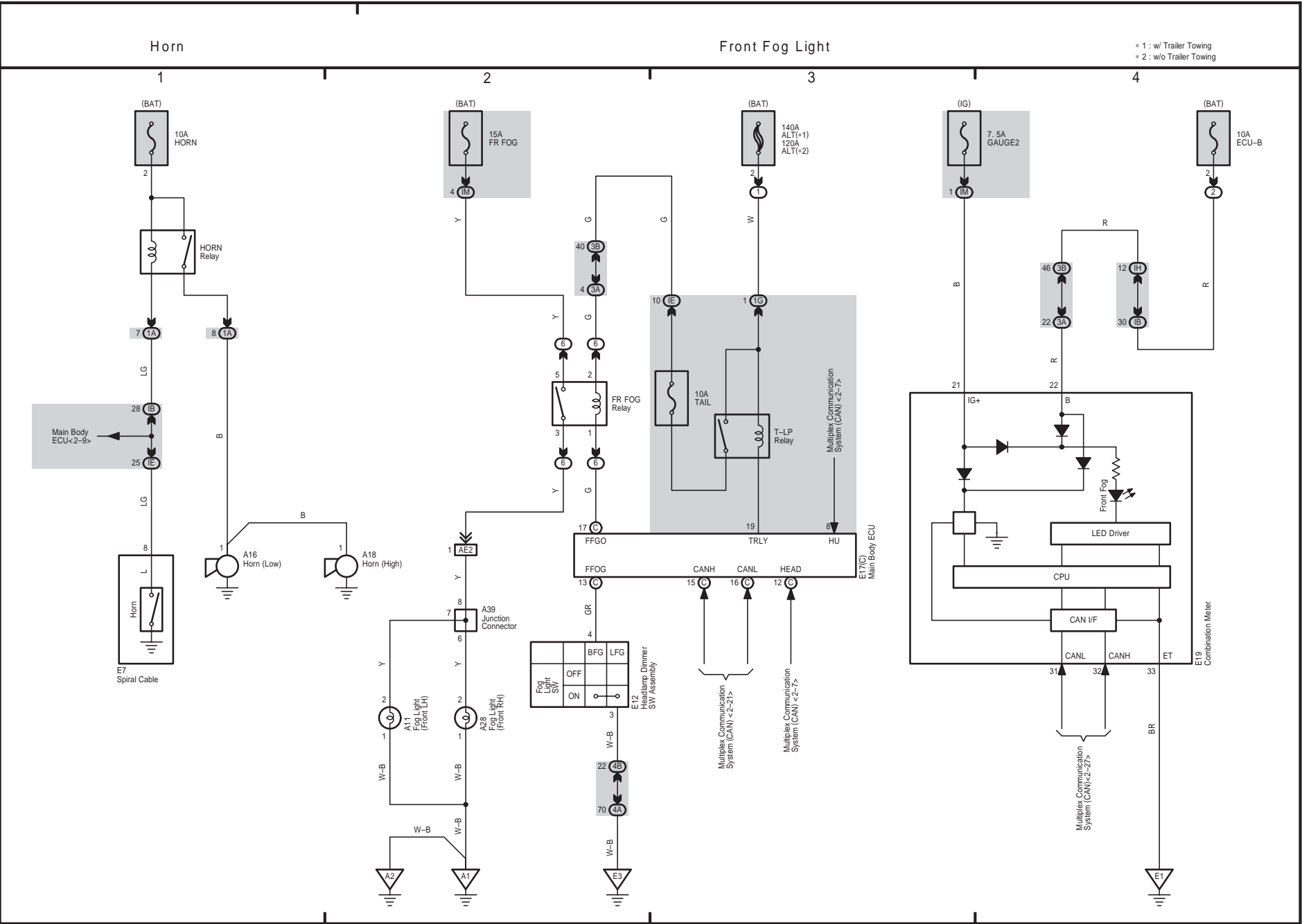
13 RAV4 (Cont' d)

Power Window



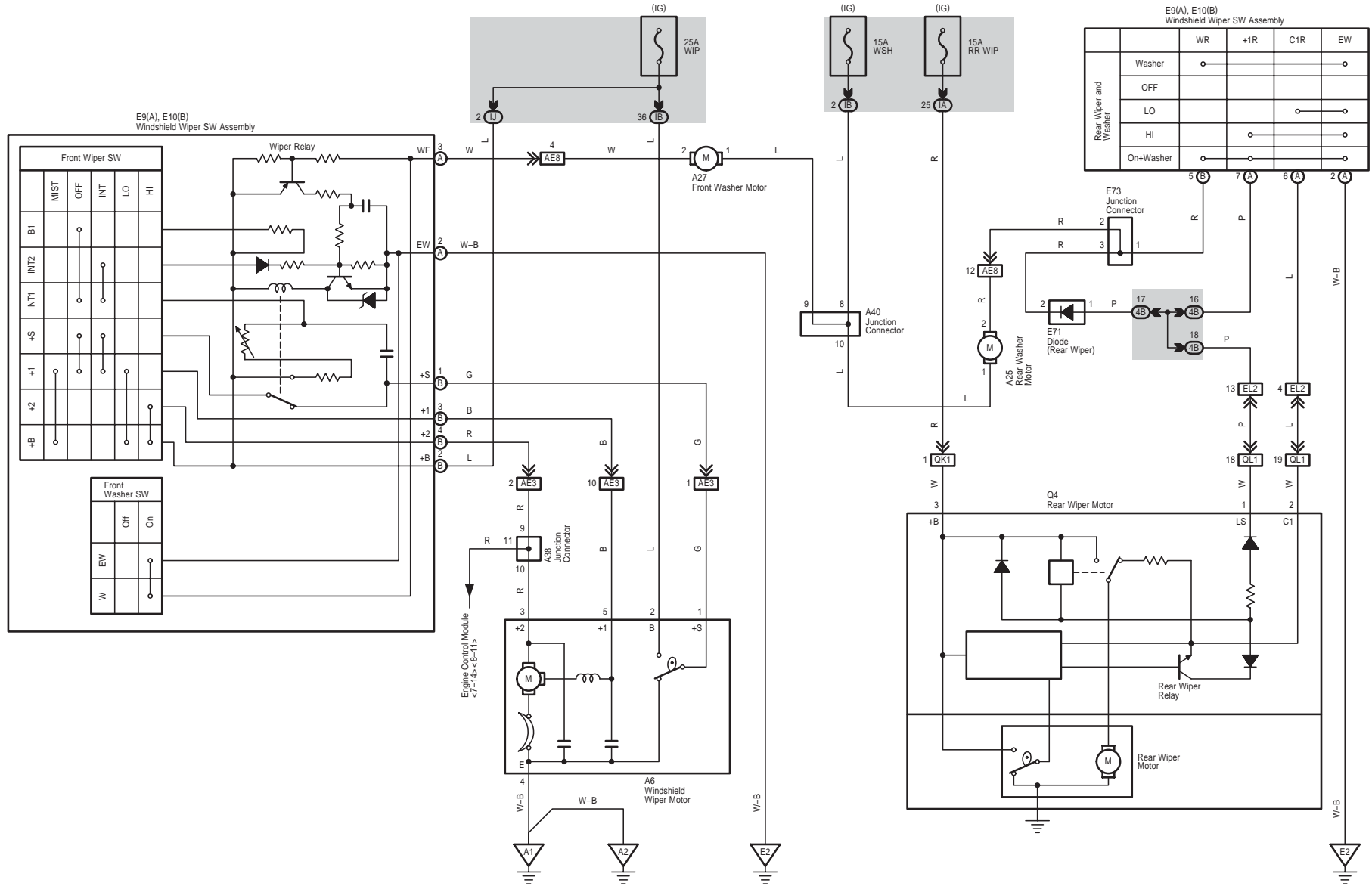
RAV4 (EM03T0U)

14 RAV4

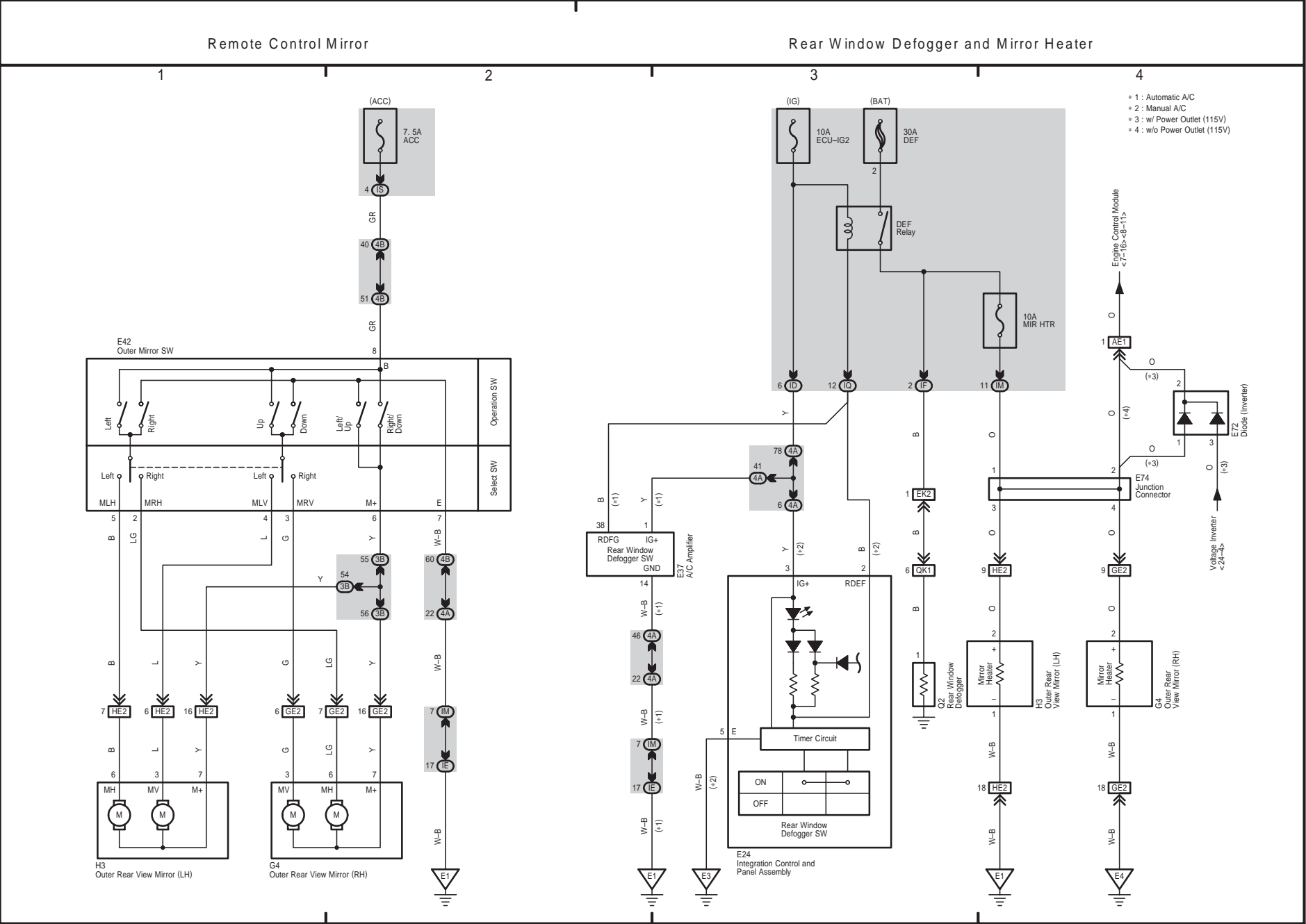


Front Wiper and Washer

Rear Wiper and Washer

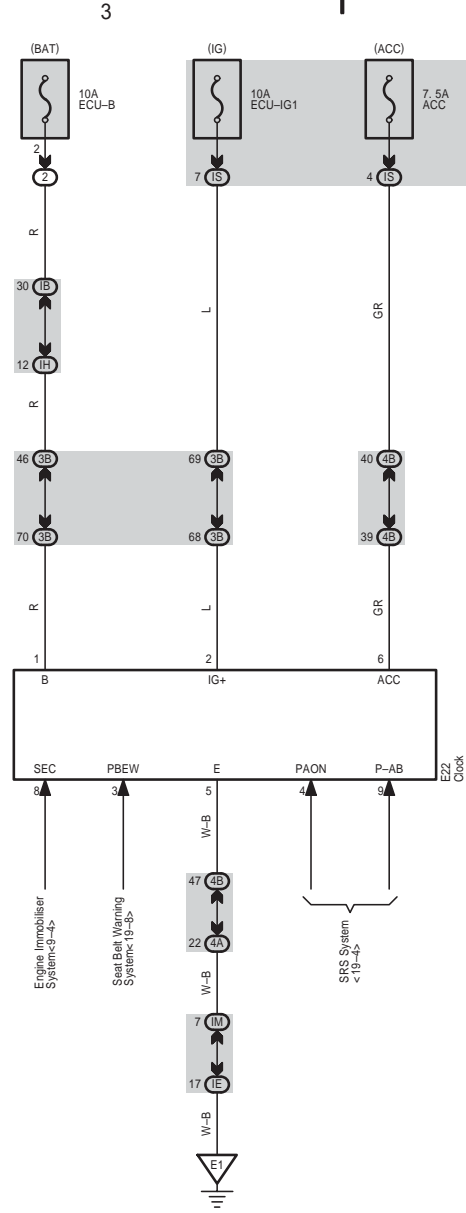
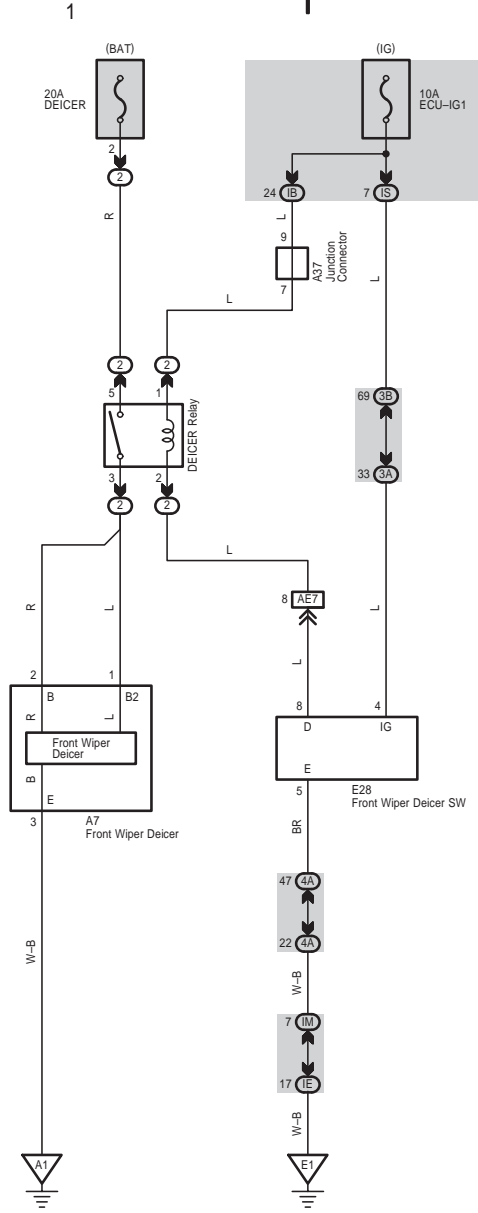


16 RAV4



Front Window Deicer

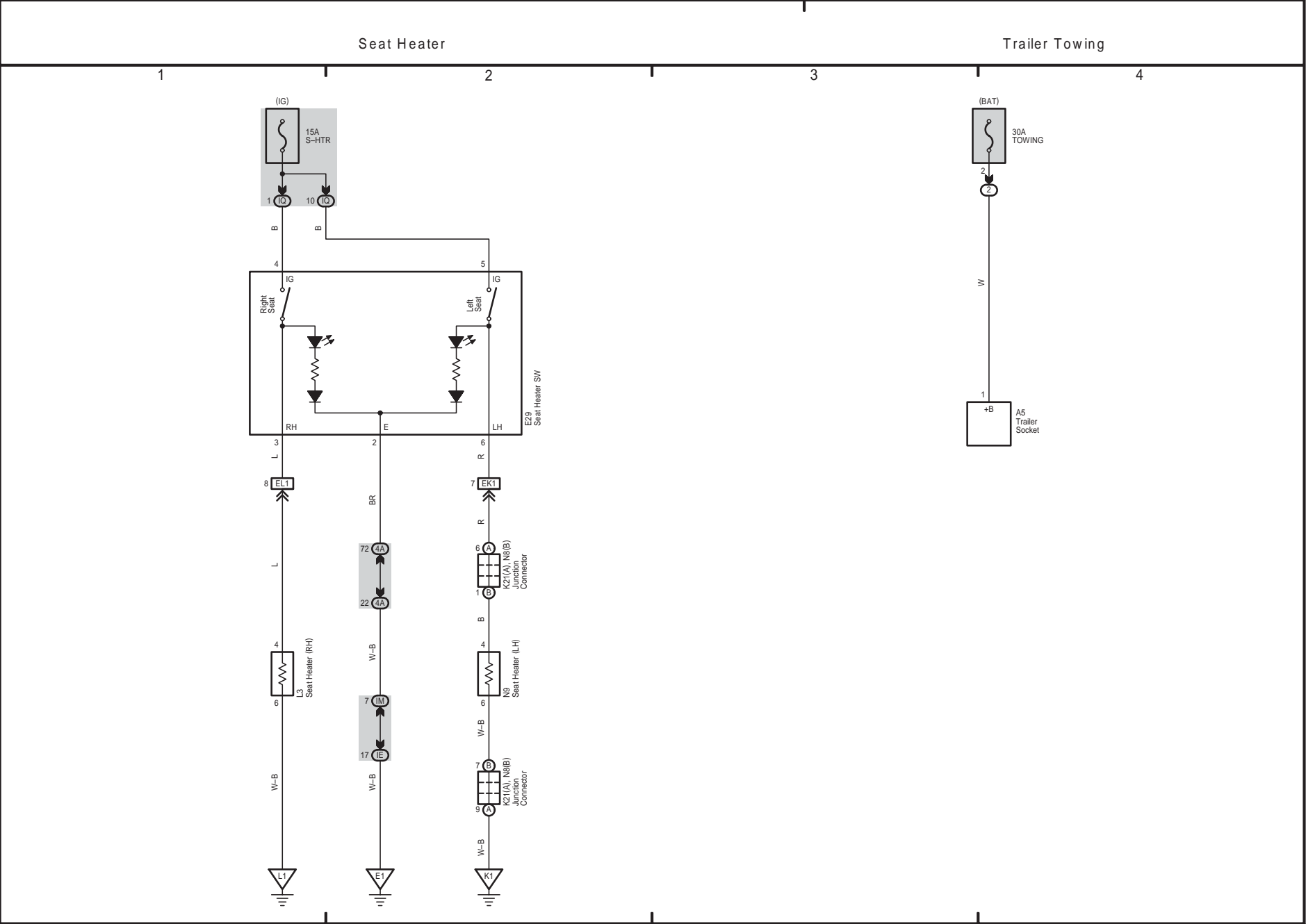
Clock (w/o Automatic Air Conditioning)



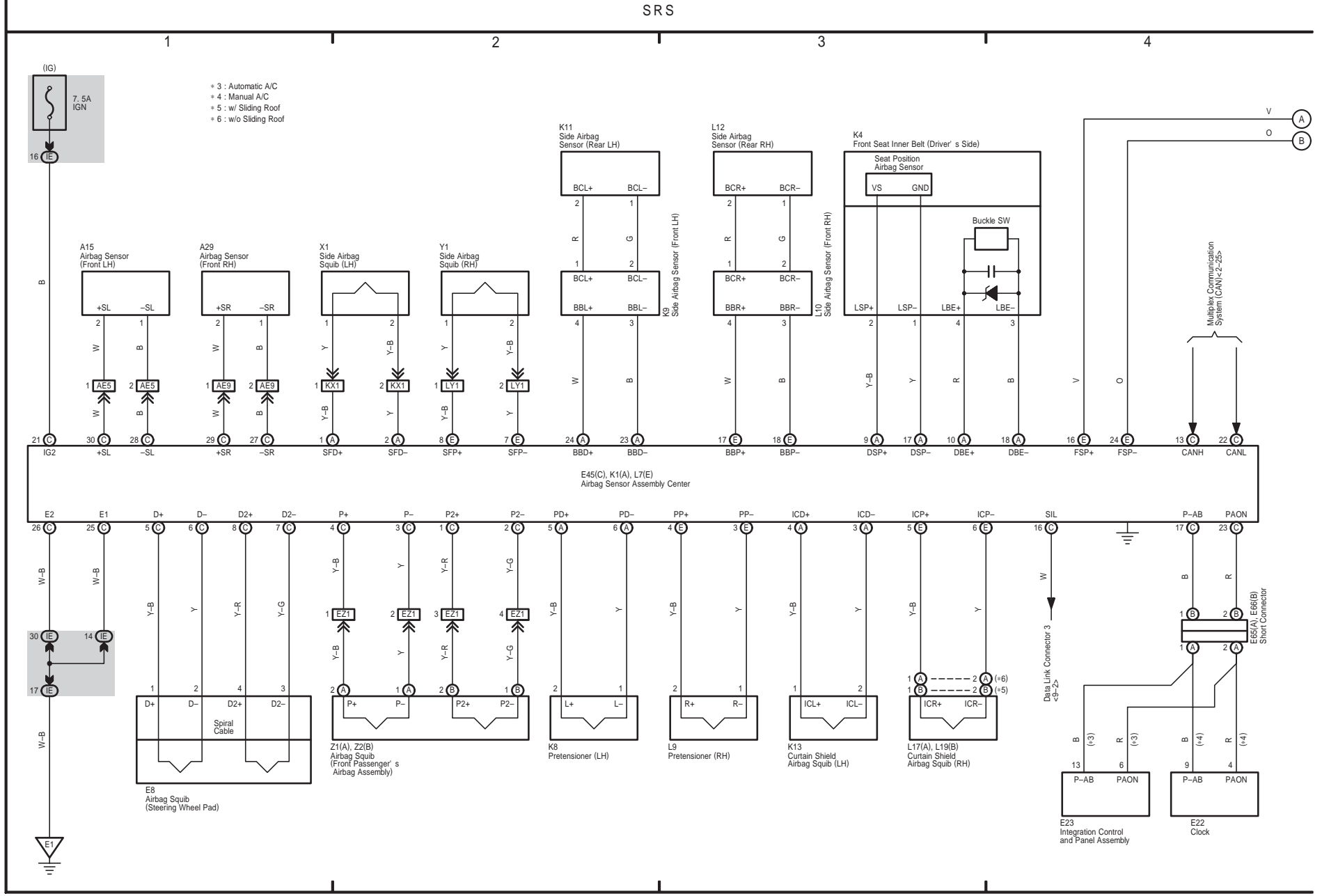
RAV4 (EM03T0U)



18 RAV4



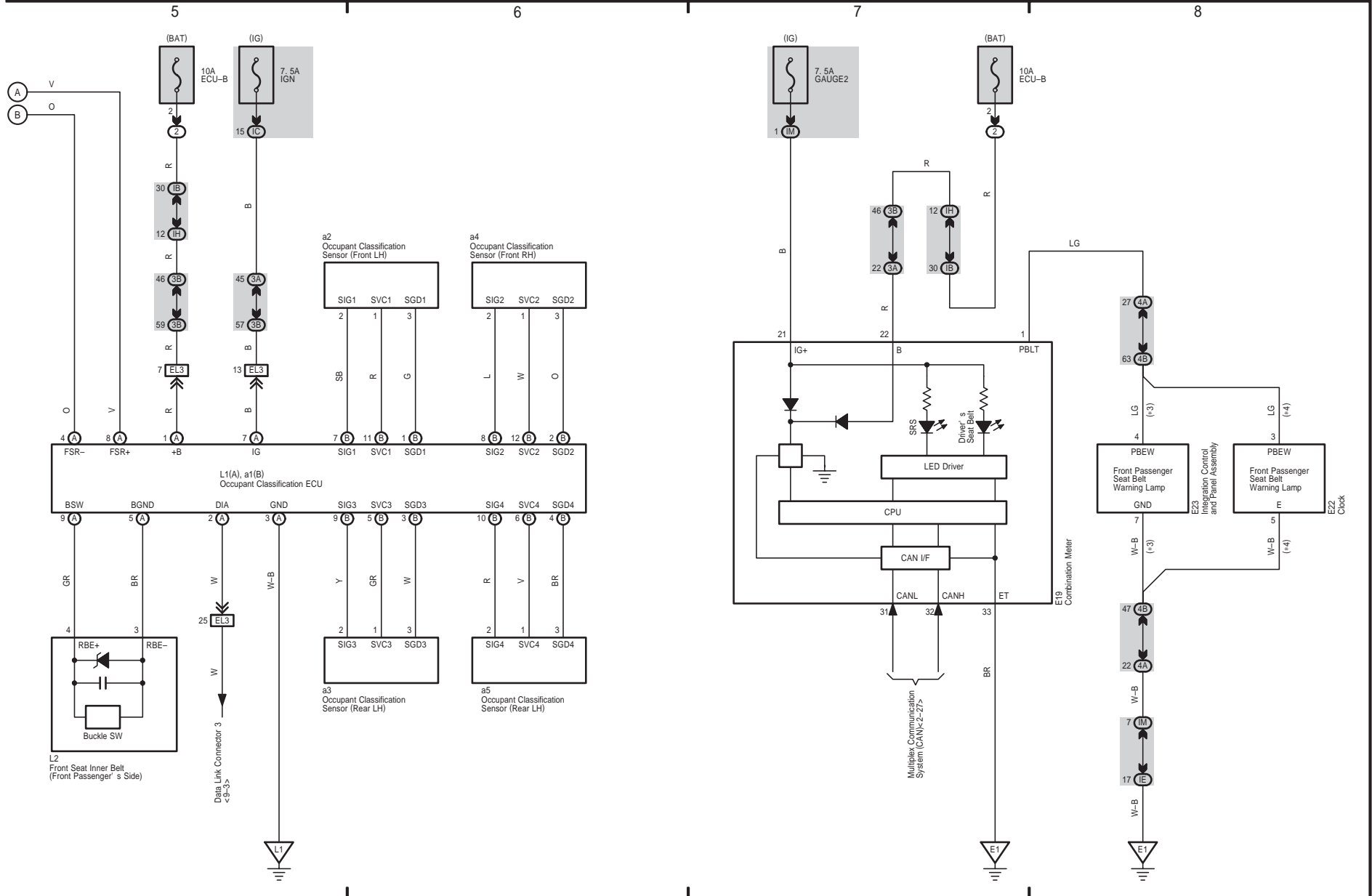
M OVERALL ELECTRICAL WIRING DIAGRAM



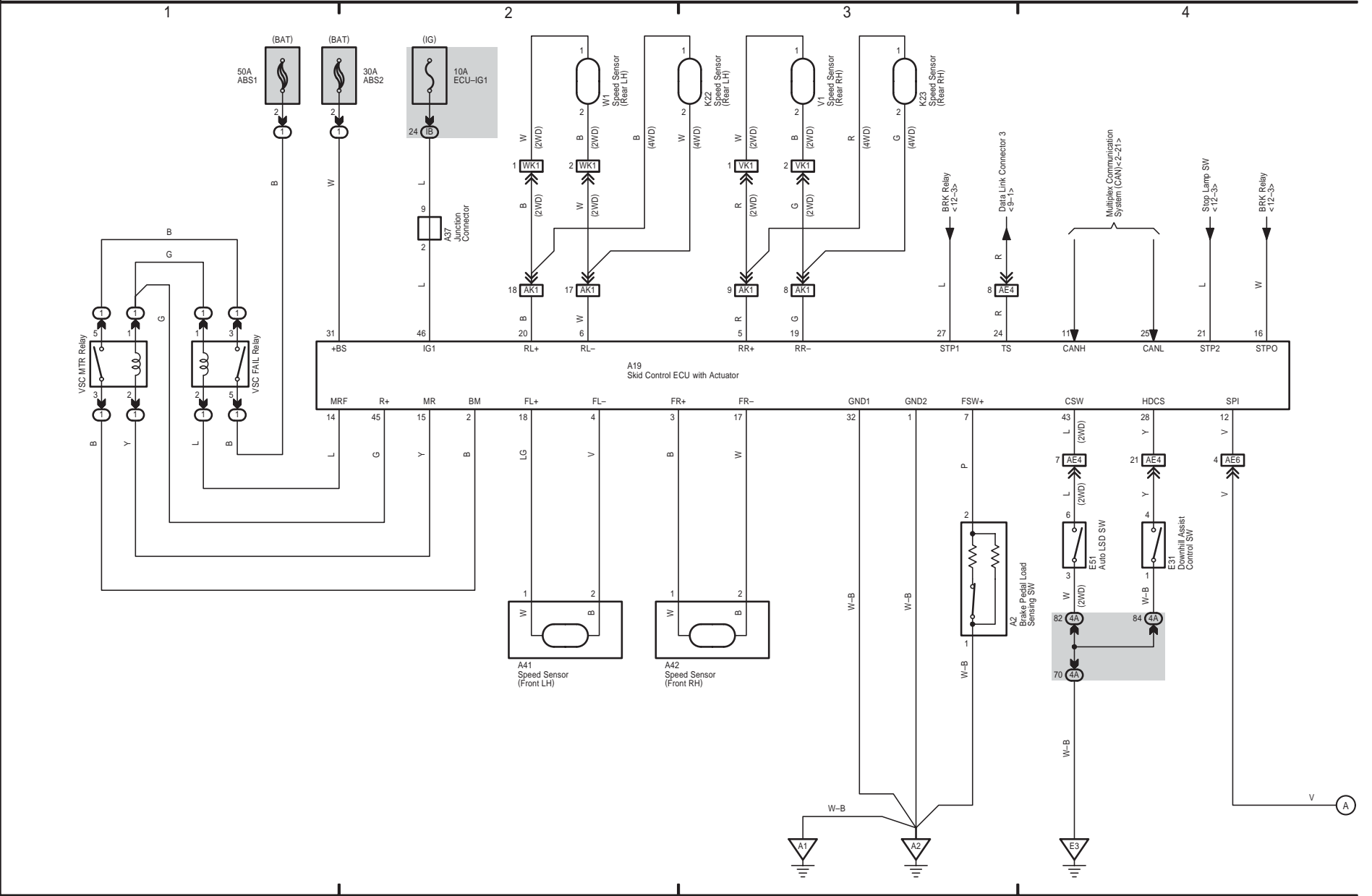
SRS

Seat Belt Warning

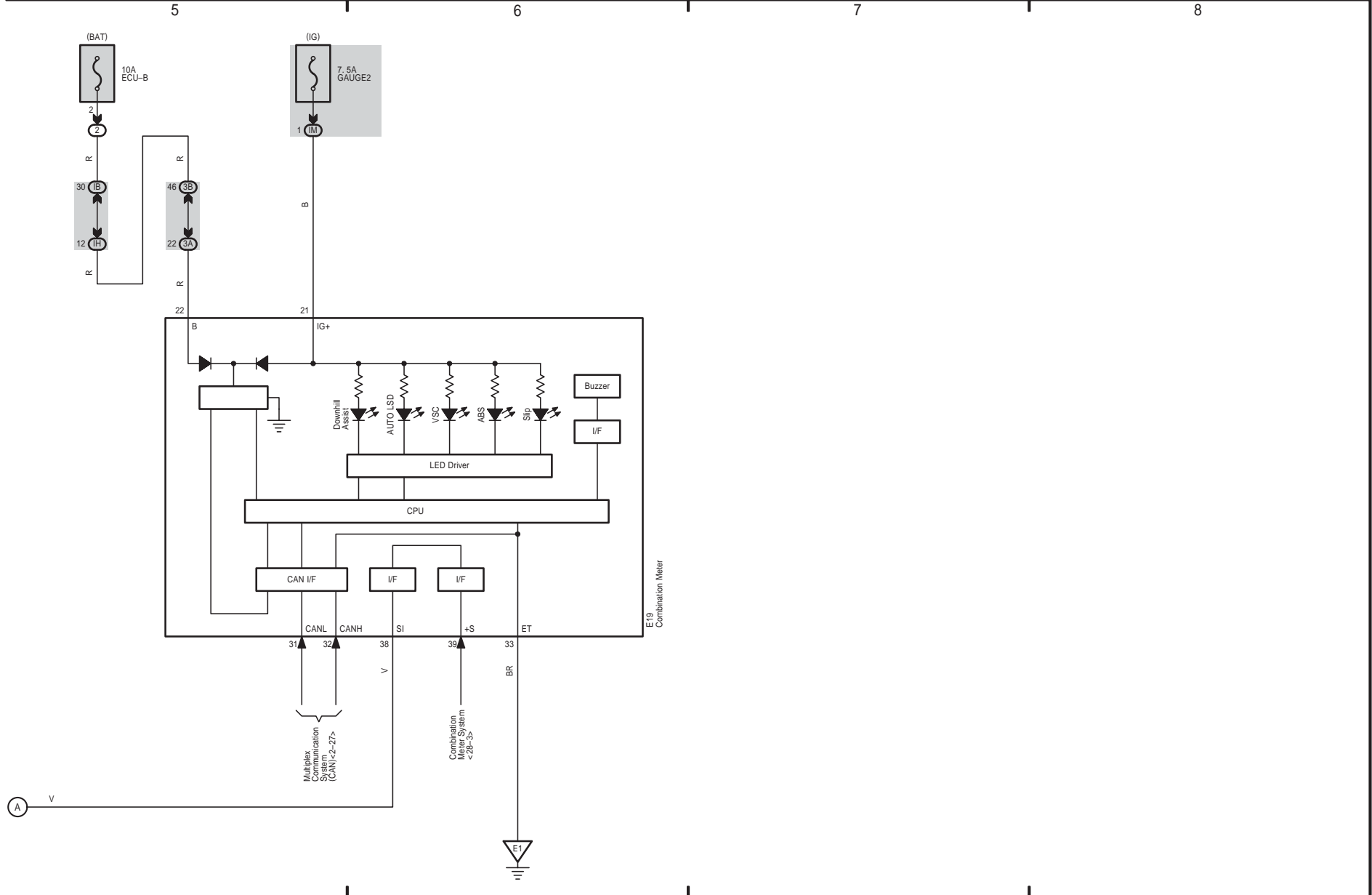
* 3 : Automatic A/C
 * 4 : Manual A/C



ABS, TRAC , VSC , Auto LSD, Downhill Assist Control and Hill-Start Assist Control



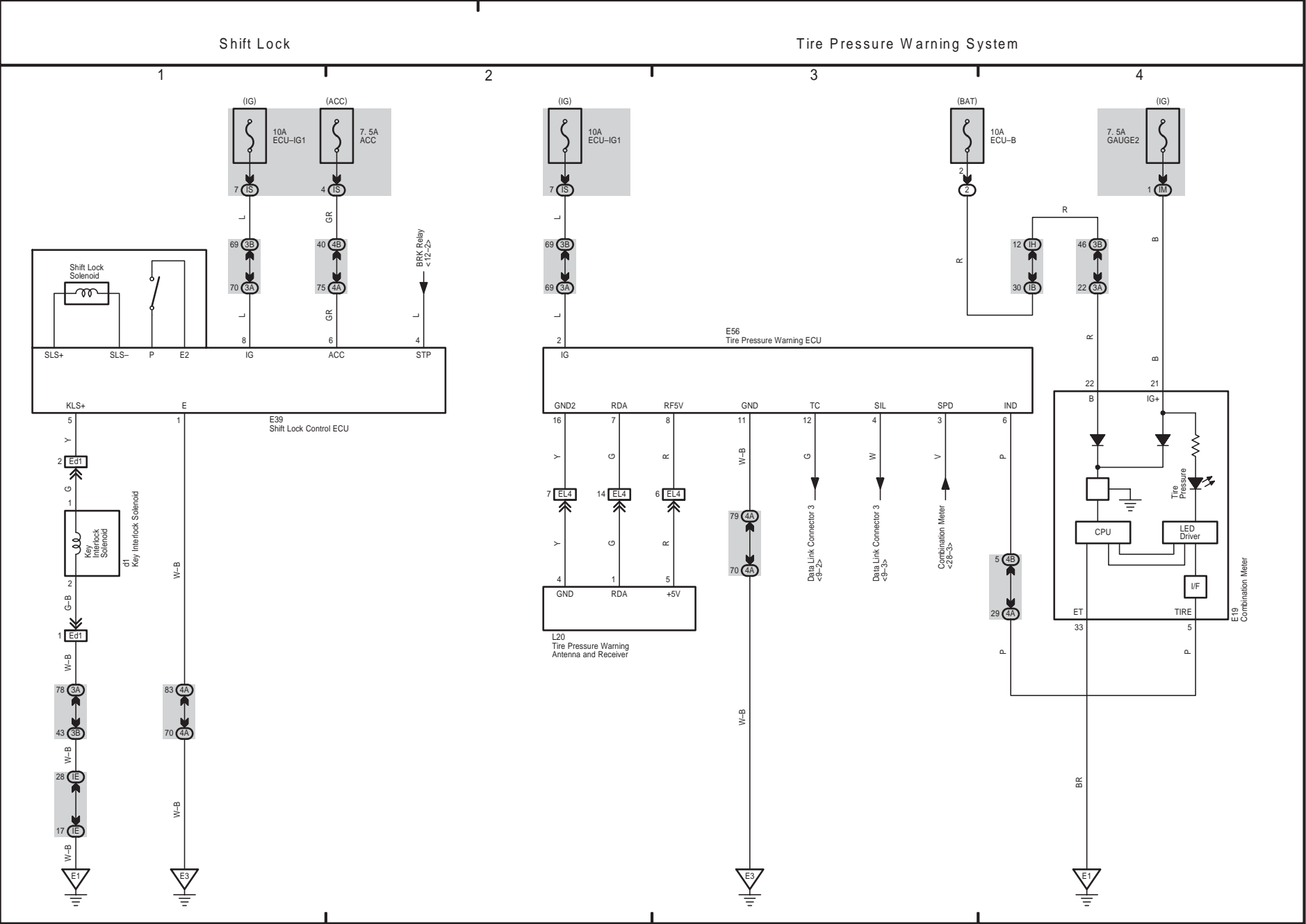
ABS, TRAC , VSC , Auto LSD, Downhill Assist Control and Hill-Start Assist Control

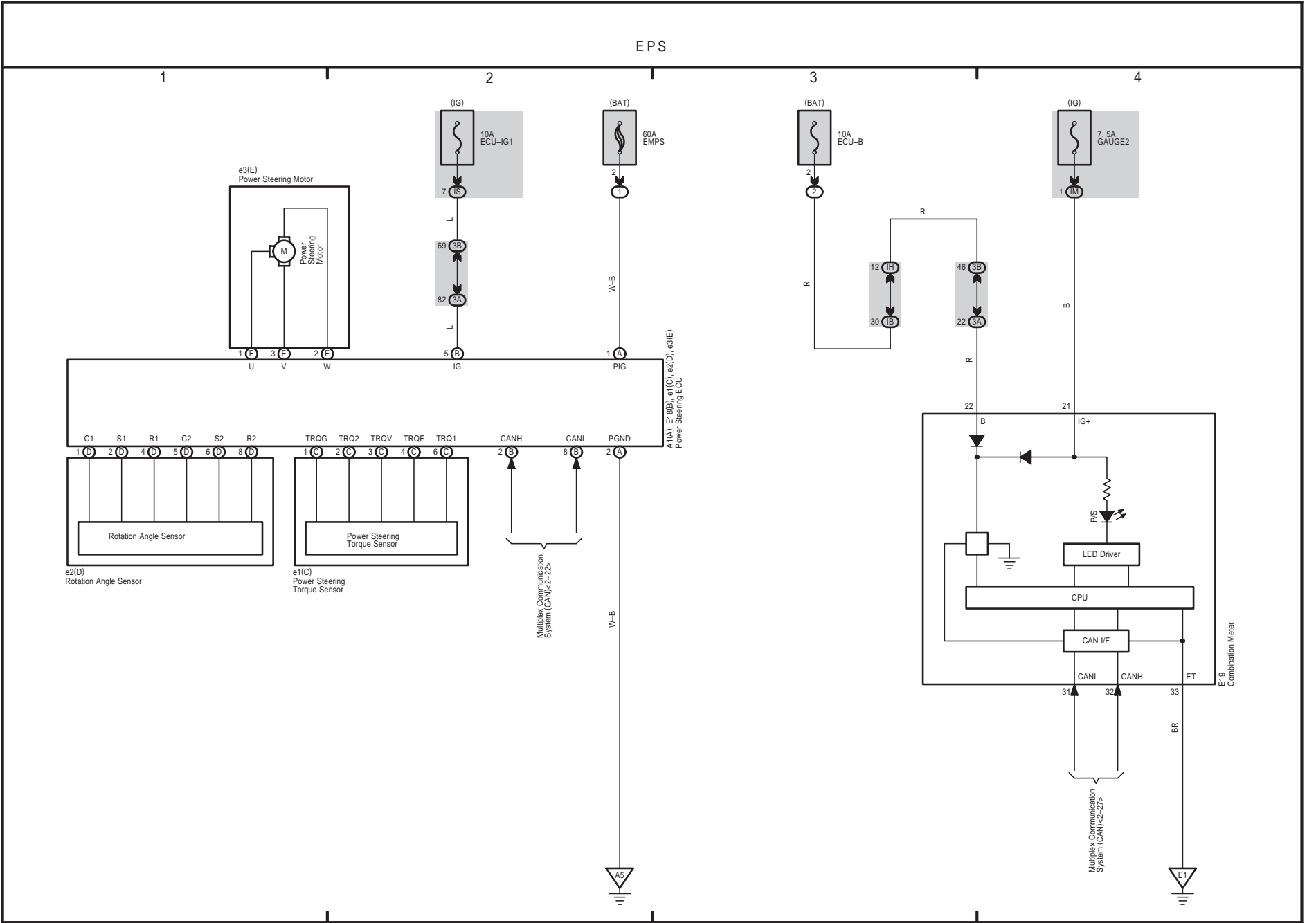


RAV4 (EM03T0U)

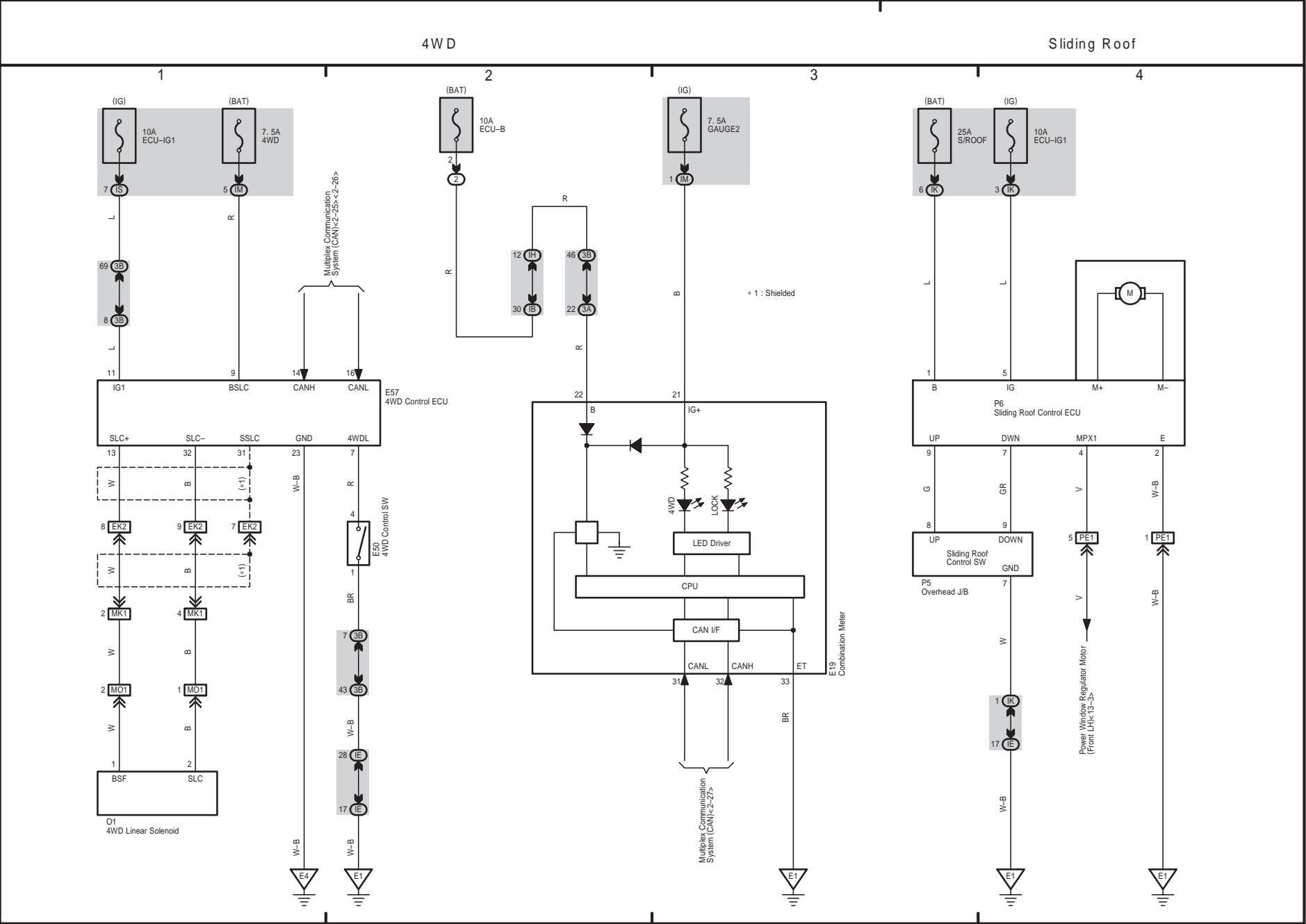


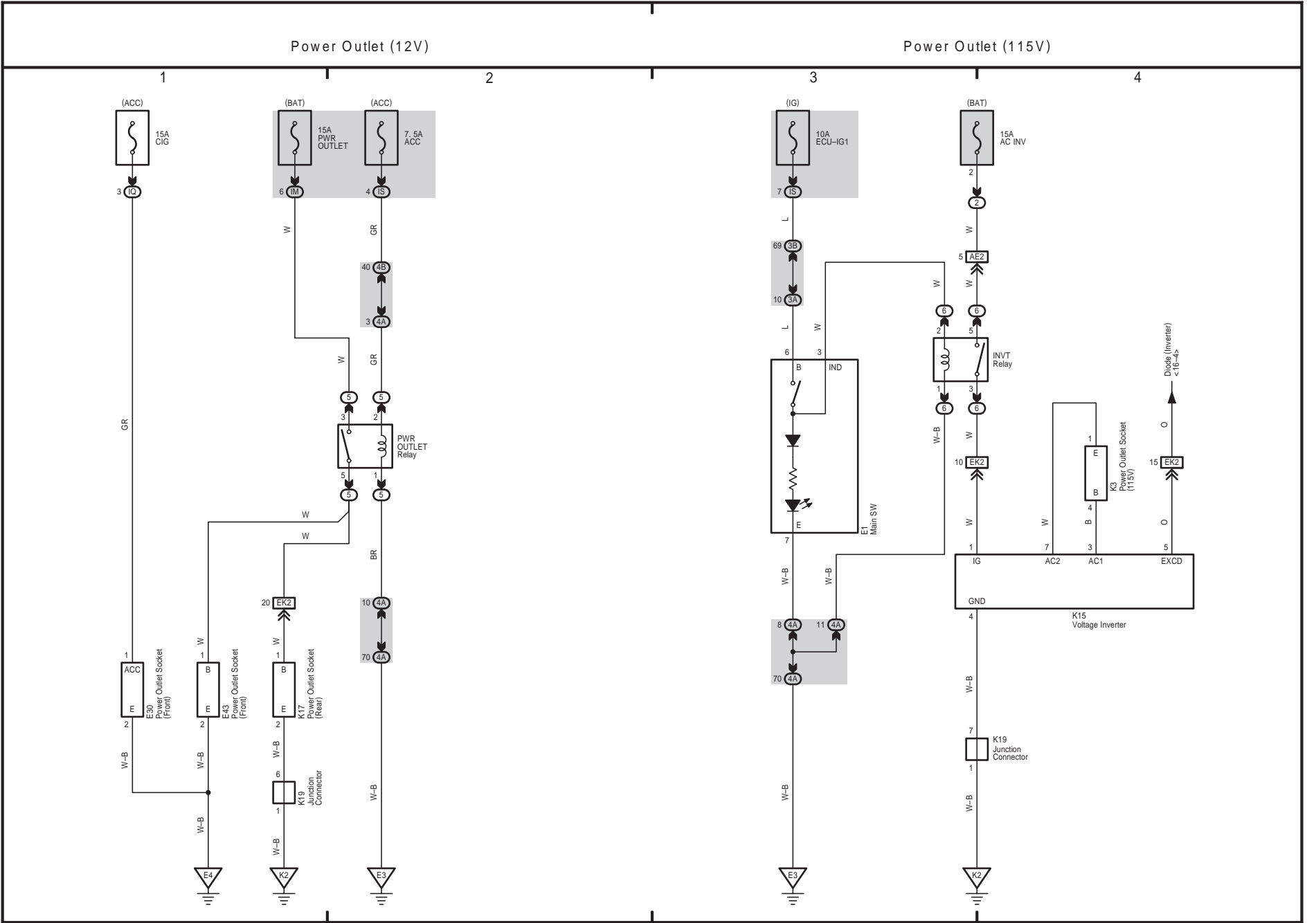
21 RAV4





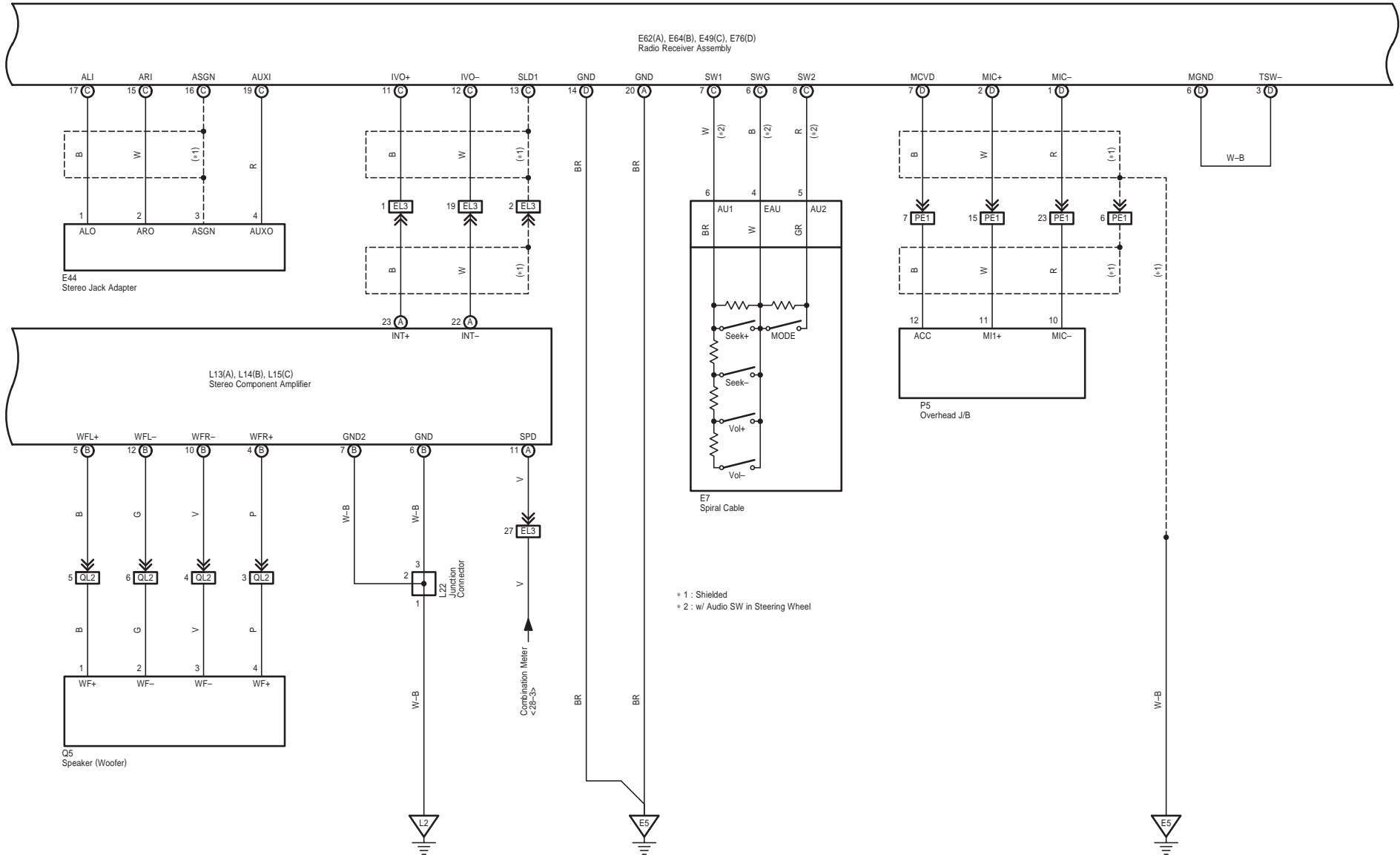
23 RAV4





Audio System (JBL)

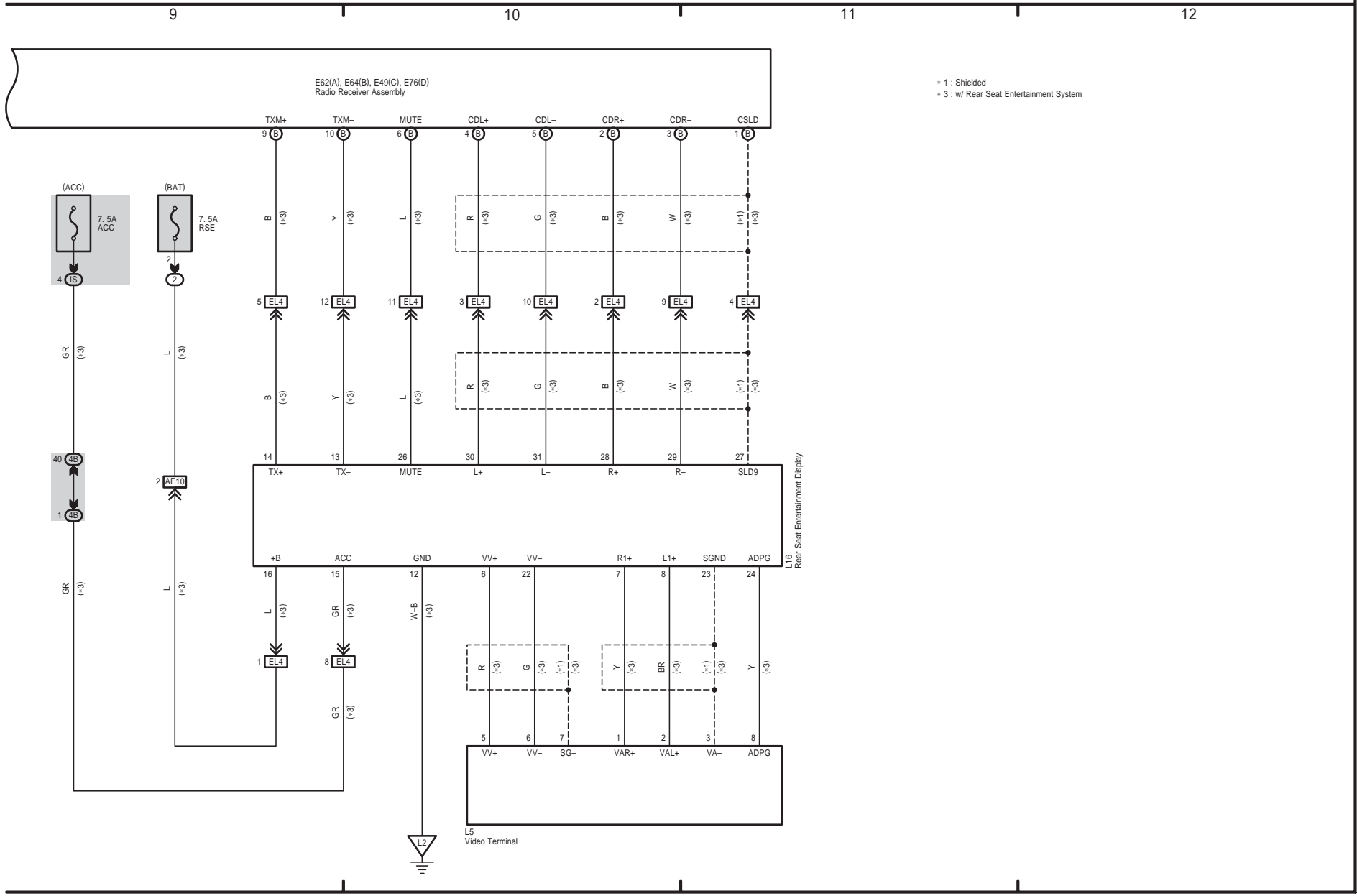
5 | 6 | 7 | 8



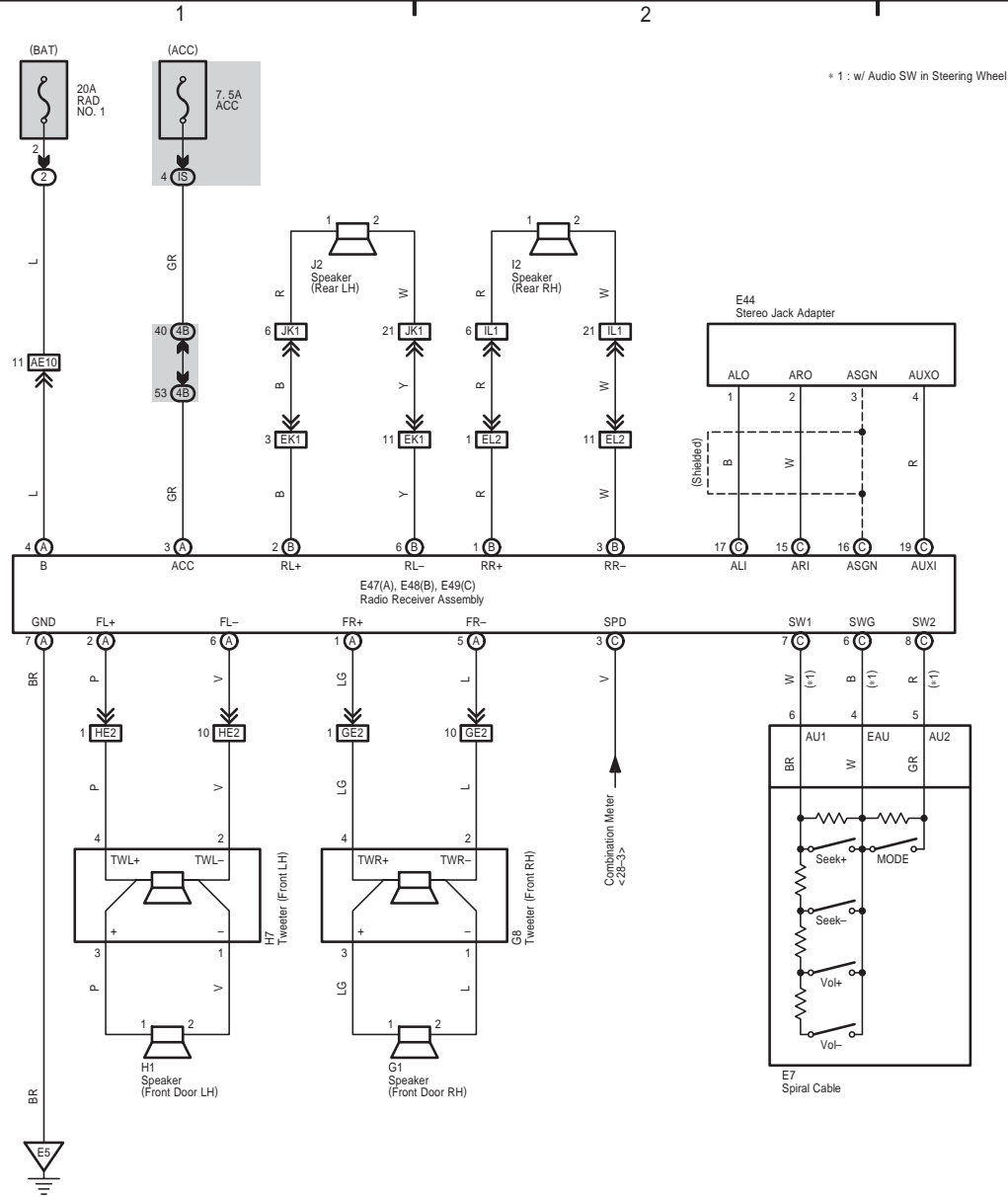
RAV4 (EM03TOU)

26 RAV4 (Cont' d)

Audio System (JBL)



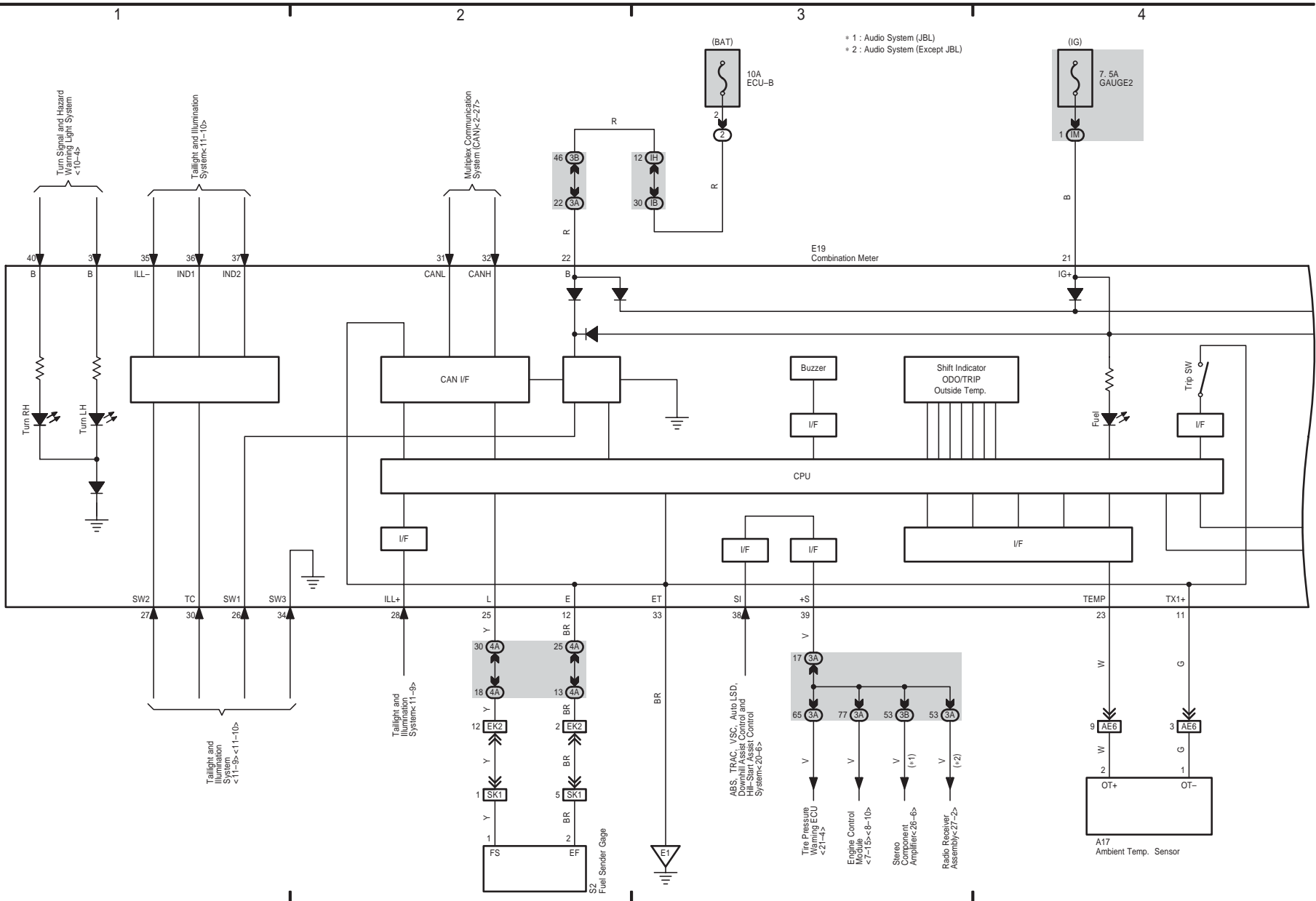
Audio System (Except JBL)



RAV4 (EM03T0U)



Combination Meter

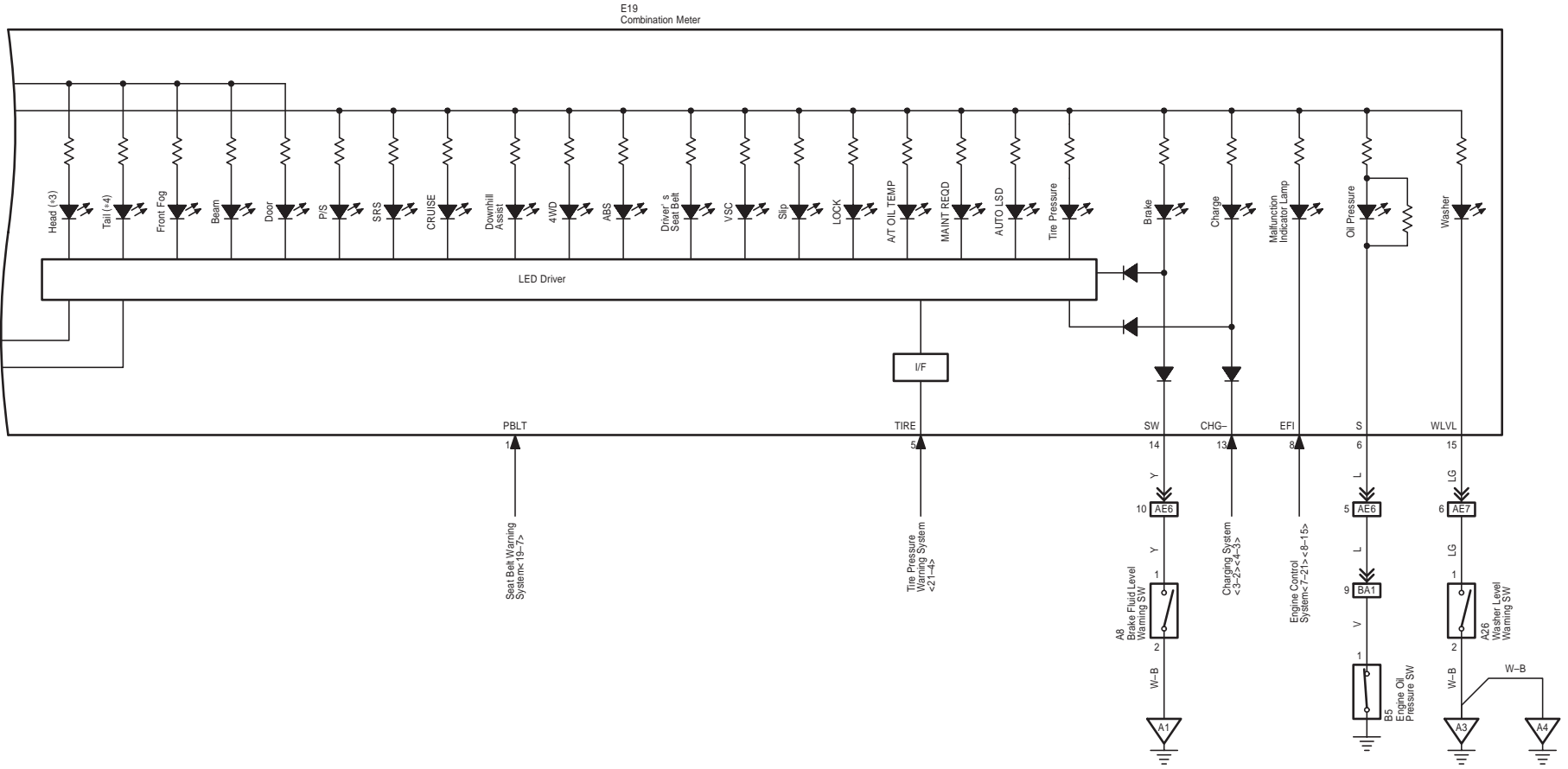


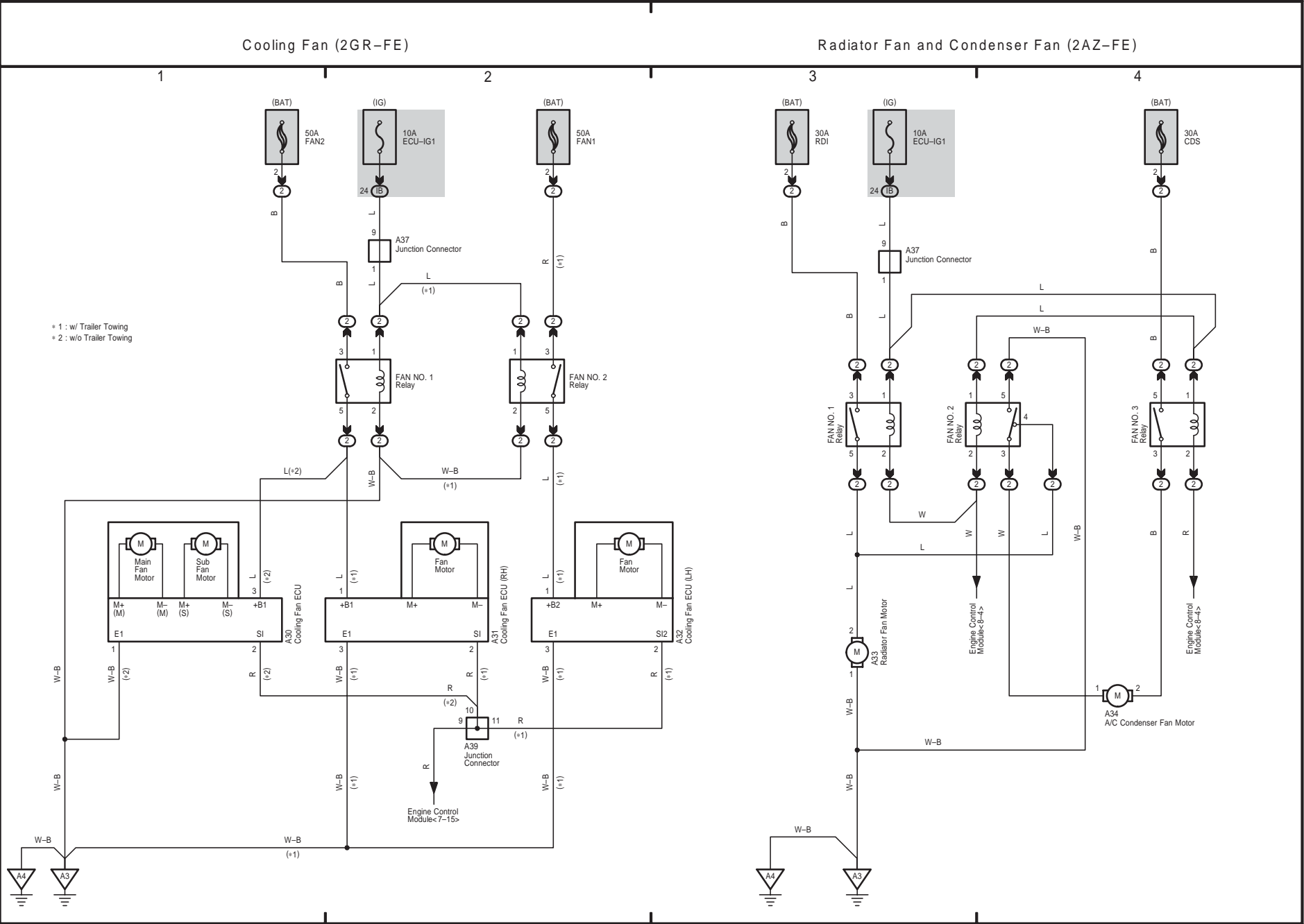
Combination Meter

5 6 7 8

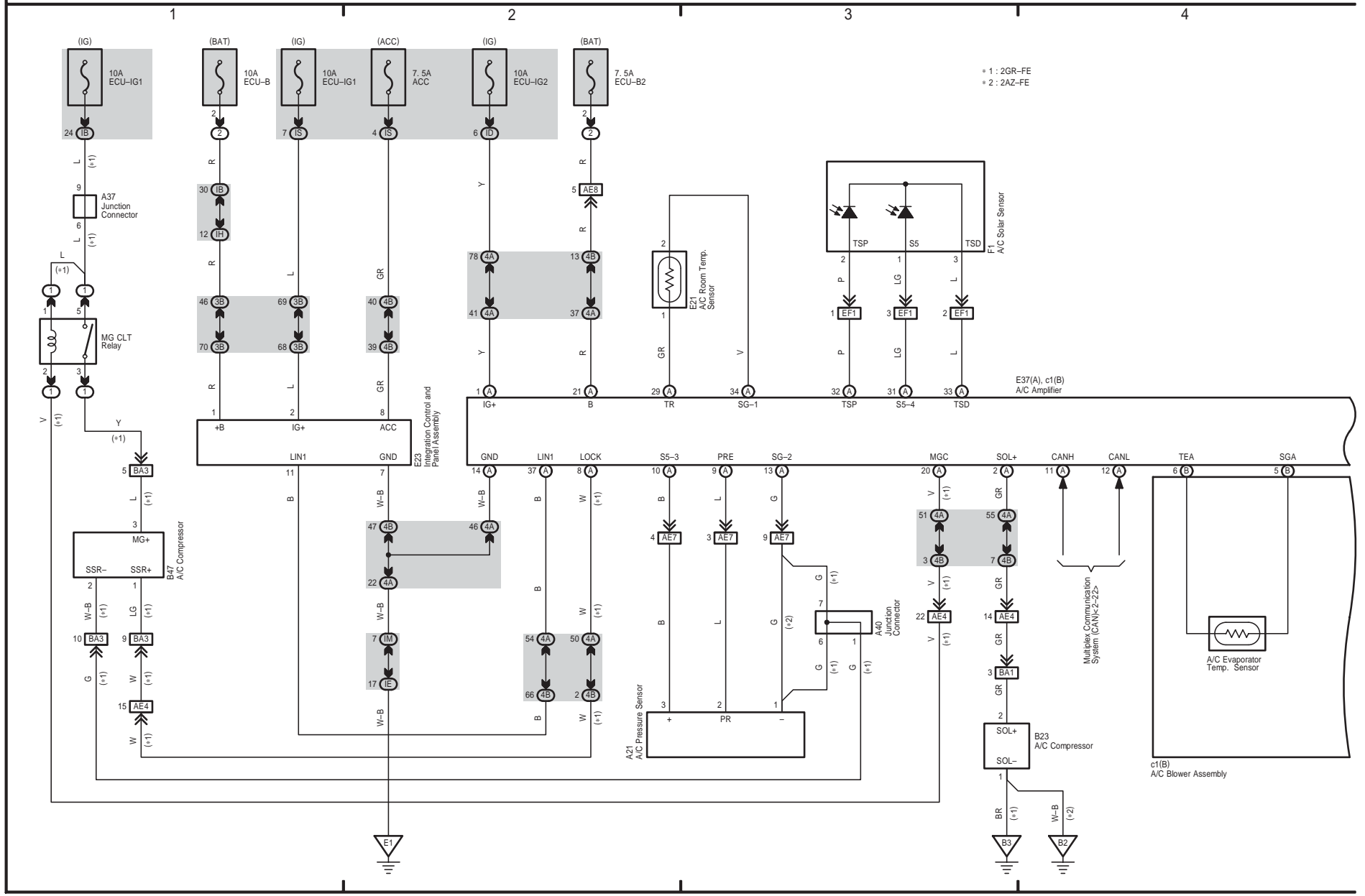
* 3 : USA
 * 4 : Except USA

RAV4 (EM03T0U)





Automatic Air Conditioning and Clock (w/ Automatic Air Conditioning)



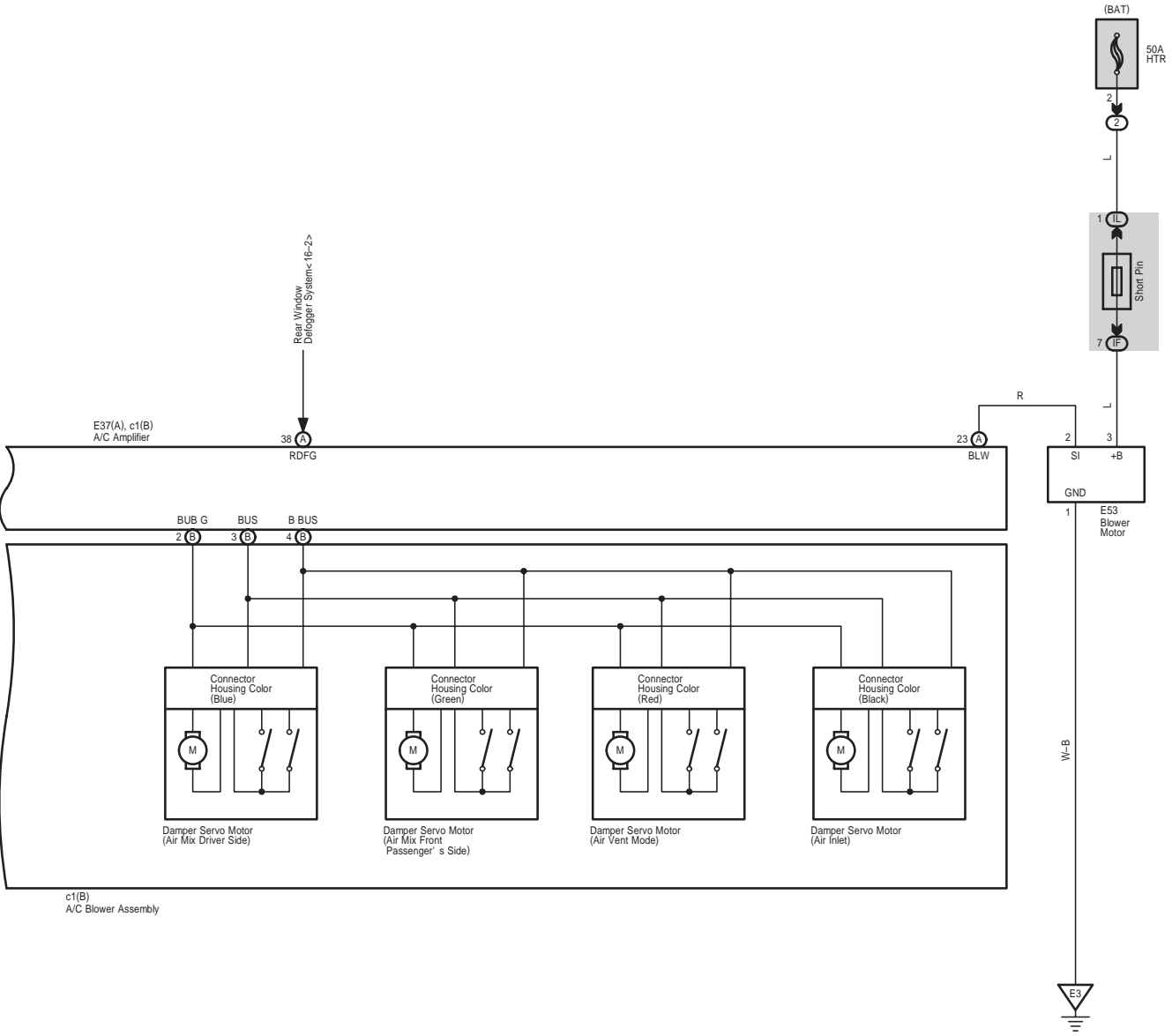
* 1 : 2GR-FE
* 2 : 2AZ-FE

Automatic Air Conditioning and Clock (w/ Automatic Air Conditioning)

5 6 7 8

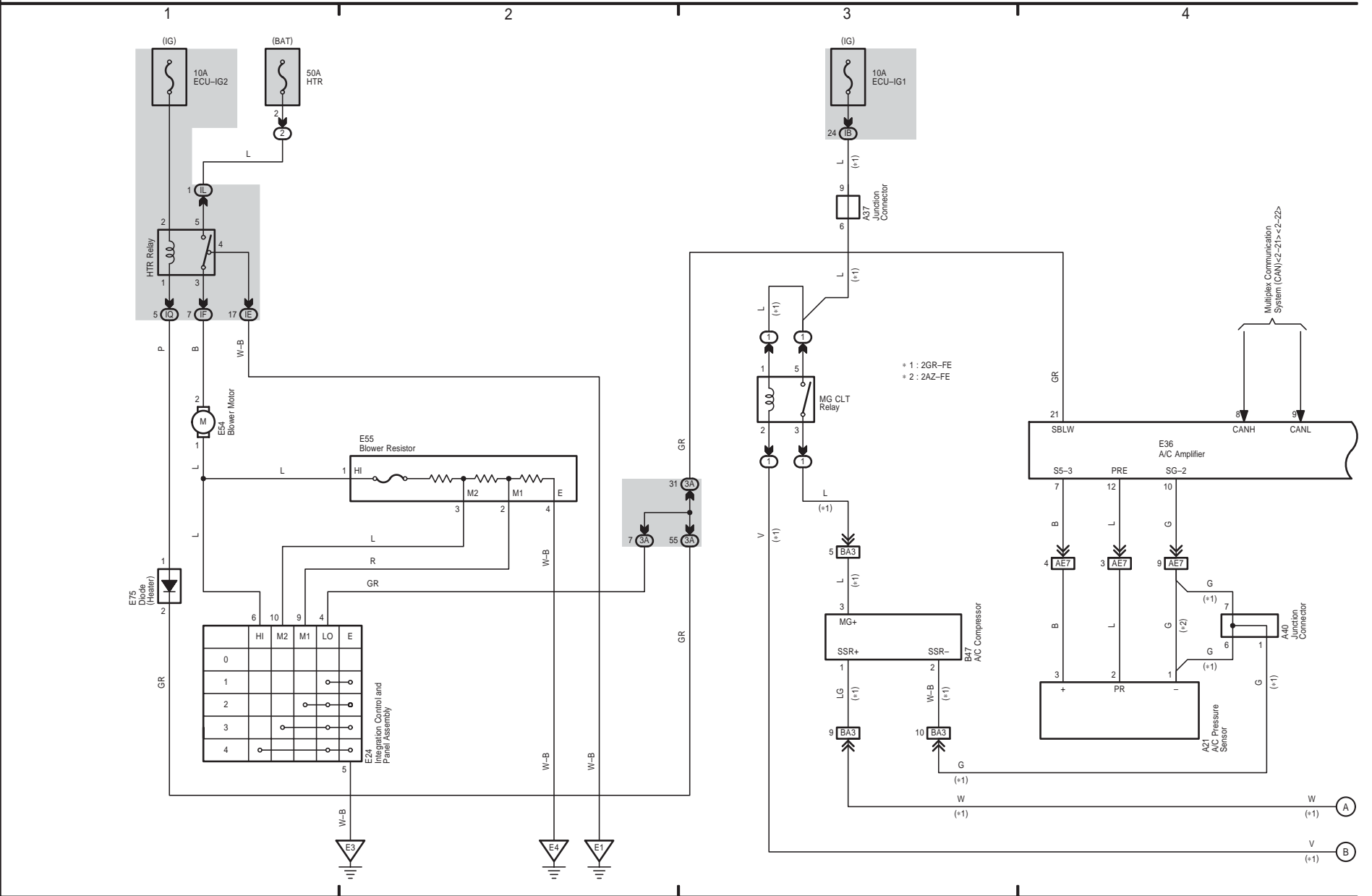
RAV4 (EM03T0U)

431



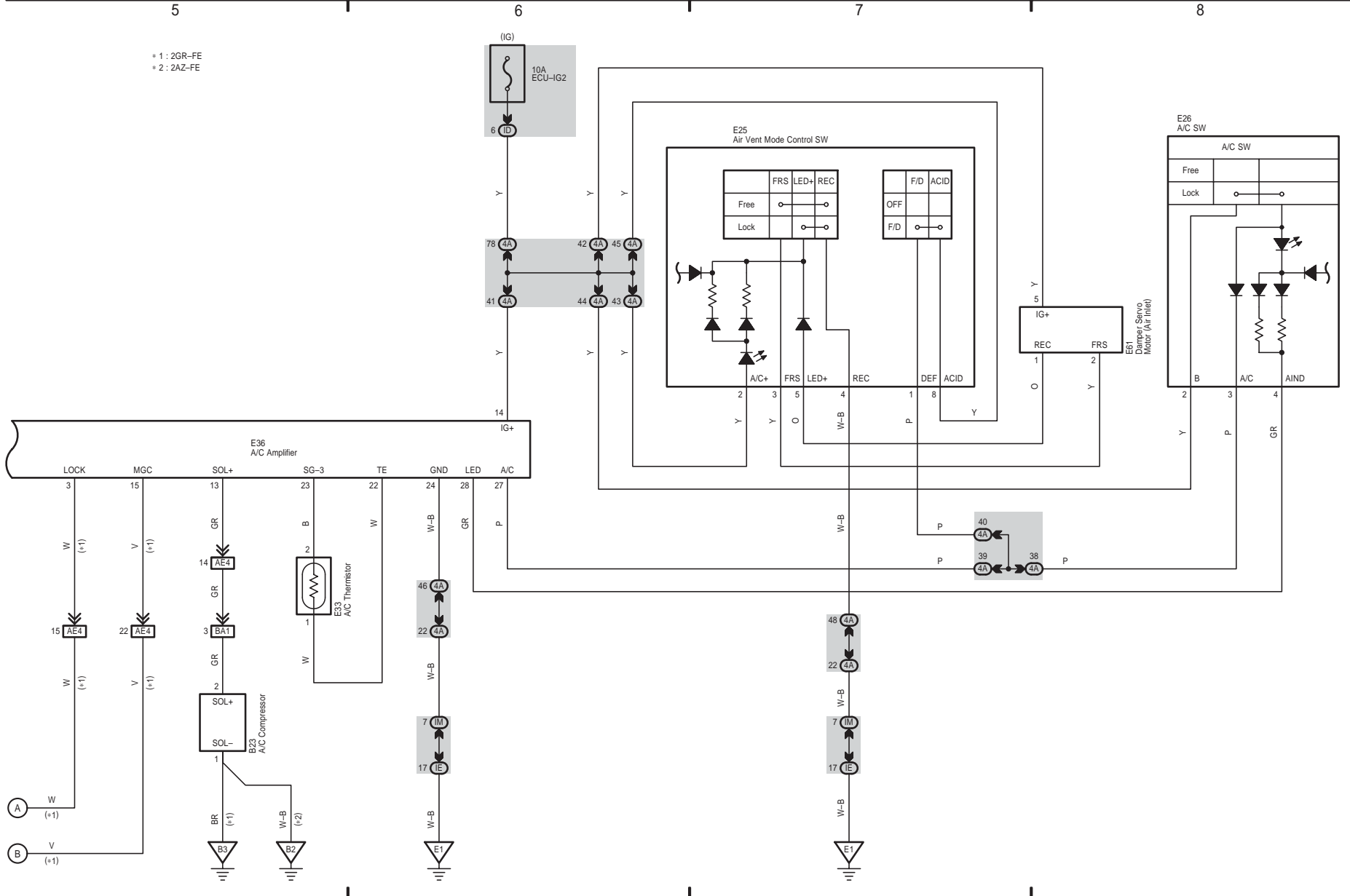
M

Manual Air Conditioning



Manual Air Conditioning

- * 1 : 2GR-FE
- * 2 : 2AZ-FE



RAV4 (EM03T0U)

