FOREWORD

This wiring diagram manual has been prepared to provide information on the electrical system of the 2001 TOYOTA TACOMA.

Applicable models: VZN150,170,195 Series
RZN140,150,161,
RZN171,191,196 Series

For service specifications and repair procedures of the above models other than those listed in this manual, refer to the following manuals;

Manual Name		Pub. No.
▲2001 TOYOTA TACOMA Repair Manual	Volume 1	RM835U1
	Volume 2	RM835U2
▲2001 TOYOTA New Car Features		NCF191U

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.

TOYOTA MOTOR CORPORATION

NOTICE

When handling supplemental restraint system components (removal, installation or inspection, etc.), always follow the direction given in the repair manuals listed above to prevent accidents and supplemental restraint system malfunction.

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.
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.

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.)

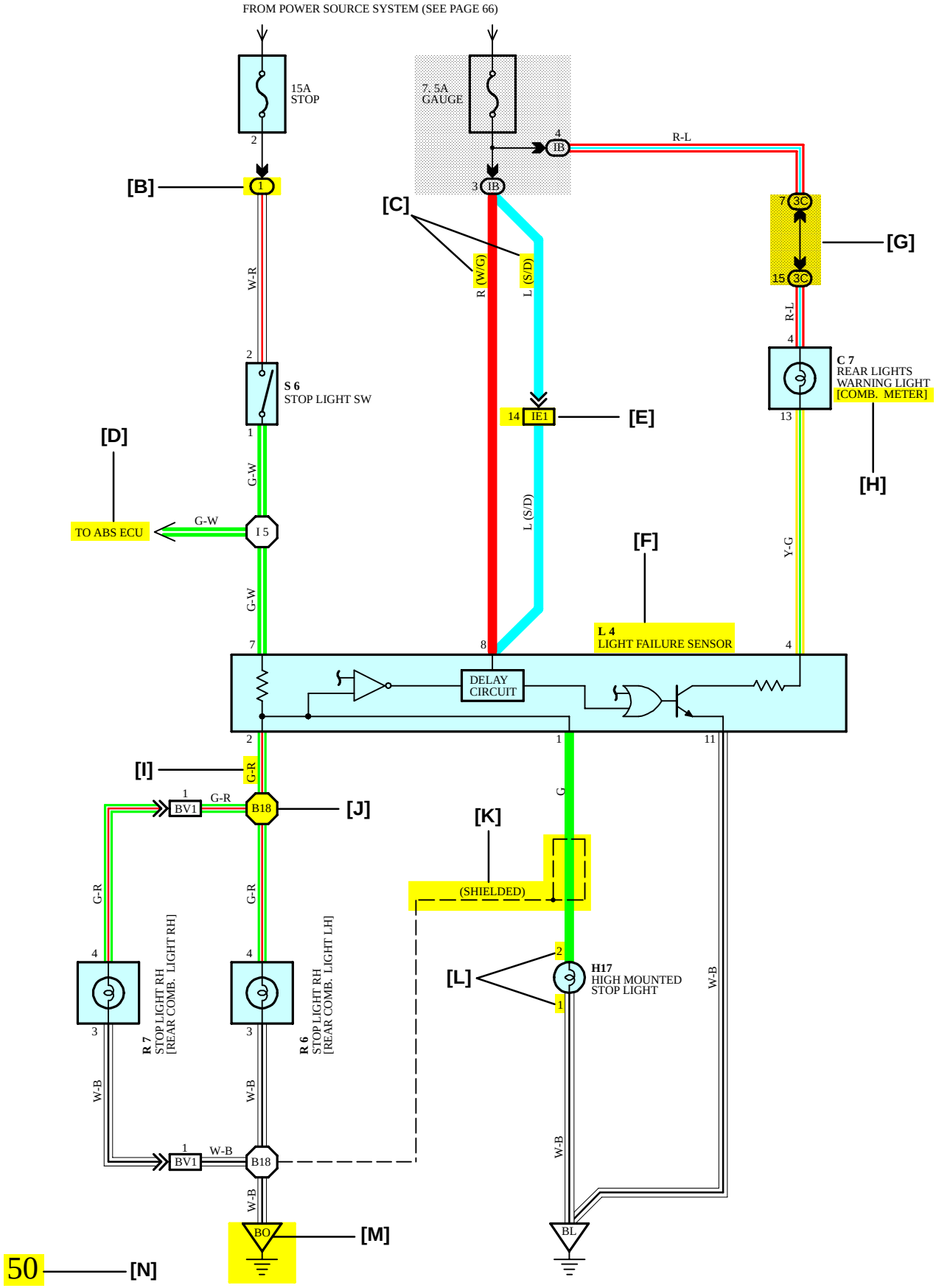
When troubleshooting any problem, first understand the operation of the circuit where the problem was detected (see System Circuit section), the power source supplying power to that circuit (see Power Source section), and the ground points (see Ground Point section). See the System Outline to understand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

[A]

STOP LIGHT

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



[A] : System Title

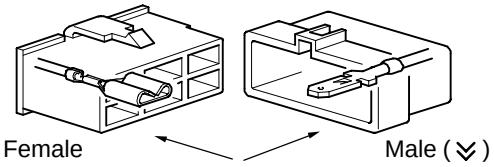
[B] : Indicates a Relay Block. No shading is used and only the Relay Block No. is shown to distinguish it from the J/B

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 wiring harness and wiring harness connector. The wiring harness with male terminal is shown with arrows (⩔).
Outside numerals are pin numbers.



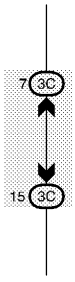
The first letter of the code for each wiring harness and wiring harness connector(s) indicates the component's location, e.g, "E" for the Engine Compartment, "I" for the Instrument Panel and Surrounding area, and "B" for the Body and Surrounding area.

When more than one code has the first and second letters in common, followed by numbers (e.g, IH1, IH2), this indicates the same type of wiring harness and wiring harness connector.

[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:



3C indicates that it is inside Junction Block No.3

[H] : When 2 parts both use one connector in common, the parts connector name used in the wire routing section is shown in square brackets [ ].

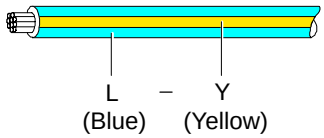
[I] : Indicates the wiring color.

Wire colors are indicated by an alphabetical code.

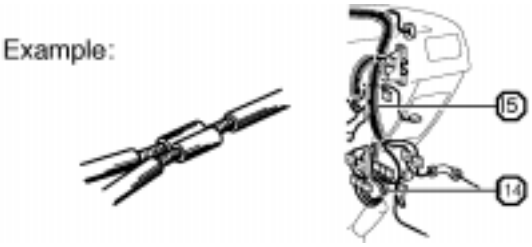
B	= Black	W	= White	BR	= Brown
L	= Blue	V	= Violet	SB	= Sky Blue
R	= Red	G	= Green	LG	= Light Green
P	= Pink	Y	= Yellow	GR	= Gray
O	= Orange				

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

Example: L - Y

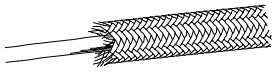


[J] : Indicates a wiring Splice Point (Codes are "E" for the Engine Room, "I" for the Instrument Panel, and "B" for the Body).



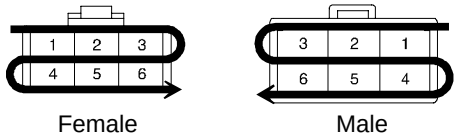
The Location of splice Point I 5 is indicated by the shaded section.

[K] : Indicates a shielded cable.



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

Example:



[M] : Indicates a ground point.

The first letter of the code for each ground point(s) indicates the component's location, e.g, "E" for the Engine Compartment, "I" for the Instrument Panel and Surrounding area, and "B" for the Body and Surrounding area.

[N] : Page No.

[O] **SYSTEM OUTLINE**

Current is applied at all times through the STOP fuse to TERMINAL 2 of the stop light 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 light 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] **SERVICE HINTS**

S6 STOP LIGHT SW

2-1 : Closed with the brake pedal depressed

L4 LIGHT FAILURE SENSOR

1, 2, 7-GROUND : Approx. **12** volts with the stop light SW on
4, 8-GROUND : Approx. **12** volts with the ignition SW at **ON** position
11-GROUND : Always continuity

[Q] **: PARTS LOCATION**

Code	See Page	Code	See Page	Code	See Page
C7	34	L4	36	R7	37
H17	36	R6	37	S6	35

[R] **: RELAY BLOCKS**

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

[S] **: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR**

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

[T] **: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	42	Floor Wire and Instrument Panel Wire (Left Kick Panel)
BV1	50	Luggage Room Wire and Floor Wire (Luggage Compartment Left)

[U] **: GROUND POINTS**

Code	See Page	Ground Points Location
BL	50	Under the Left Quarter Pillar
BO	50	Back Panel Center

[V] **: SPLICE POINTS**

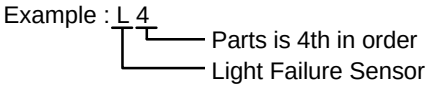
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I5	44	Cowl Wire	B18	50	Luggage Room Wire

[O] : Explains the system outline.

[P] : Indicates values or explains the function for reference during troubleshooting.

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

Example : Part ”L4” (Light Failure Sensor) is on page 36 of the manual.
∗ The letter in the code is from the first letter of the part, and the number indicates its order in parts starting with that letter.



[R] : 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.

[S] : 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.

[T] : 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 ”IE1” connects the floor 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.

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

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

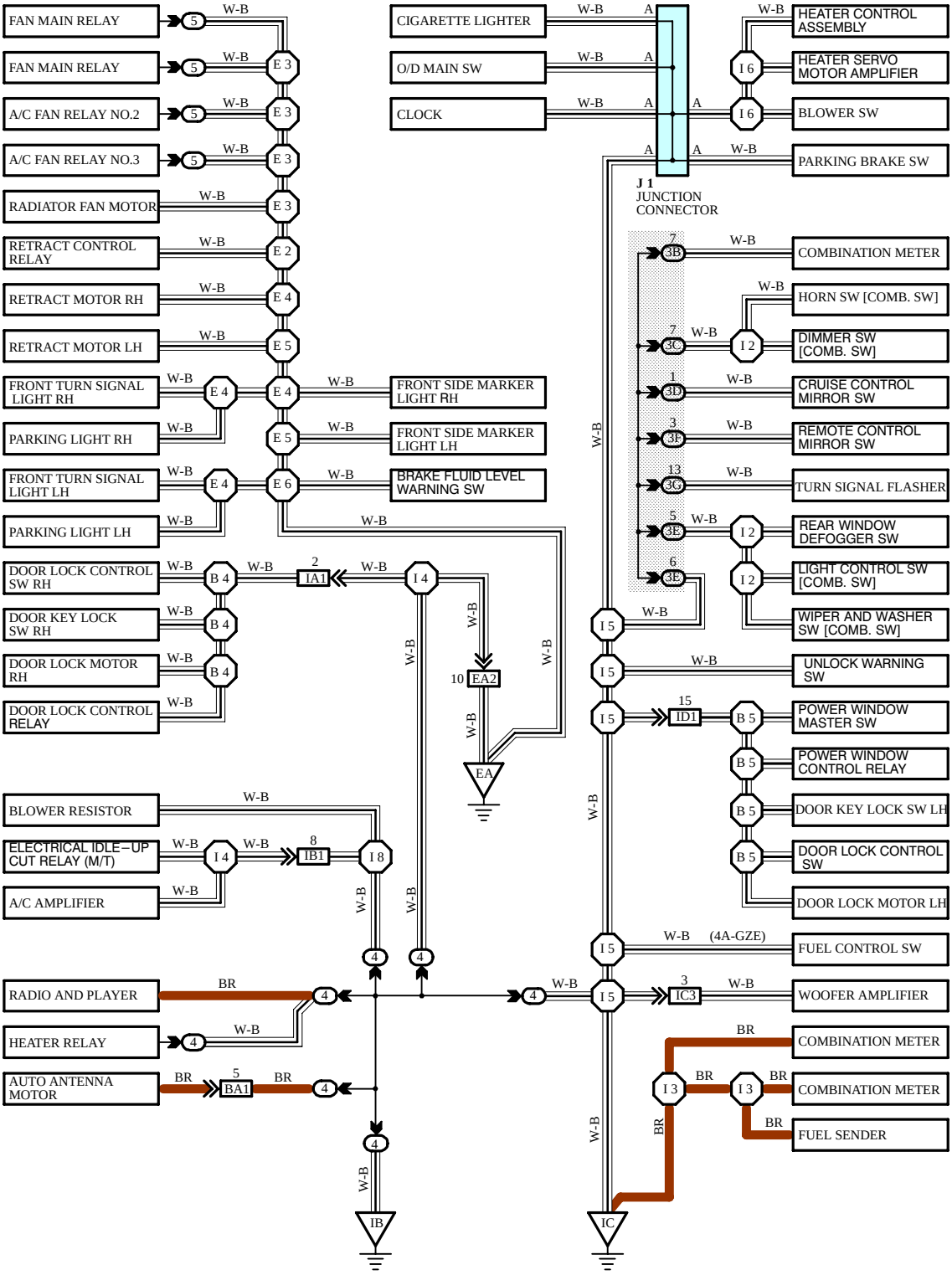
[V] : Indicates the reference page showing the position of the splice points on the vehicle.

Example : Splice point ”I5” is on the Cowl Wire Harness and is described on page 44 of this manual.

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 (EA , IB and IC shown below) can also be checked this way.

I GROUND POINT

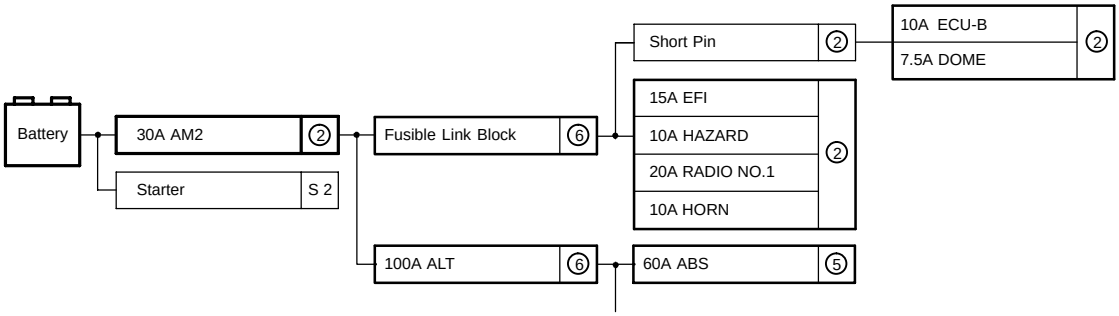


* The system shown here is an EXAMPLE ONLY. It is different to the actual circuit shown in the SYSTEM CIRCUITS SECTION.

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)

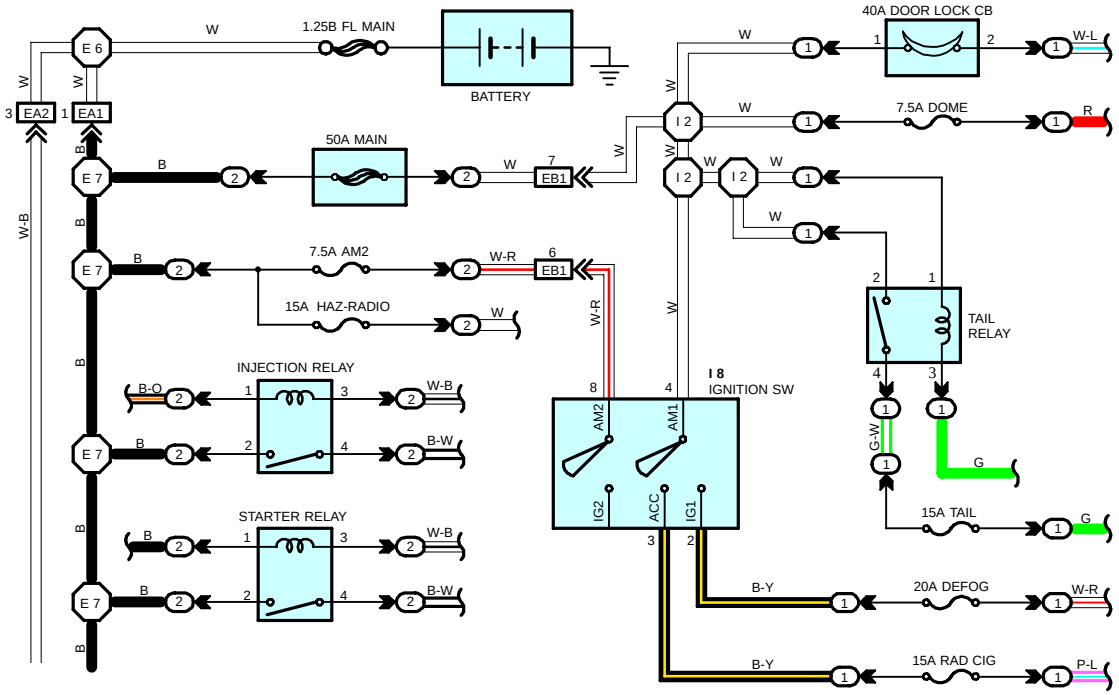
The chart below shows the route by which current flows from the battery to each electrical source (Fusible Link, Circuit Breaker, Fuse, etc.) and other parts.



Engine Room R/B (See Page 20)

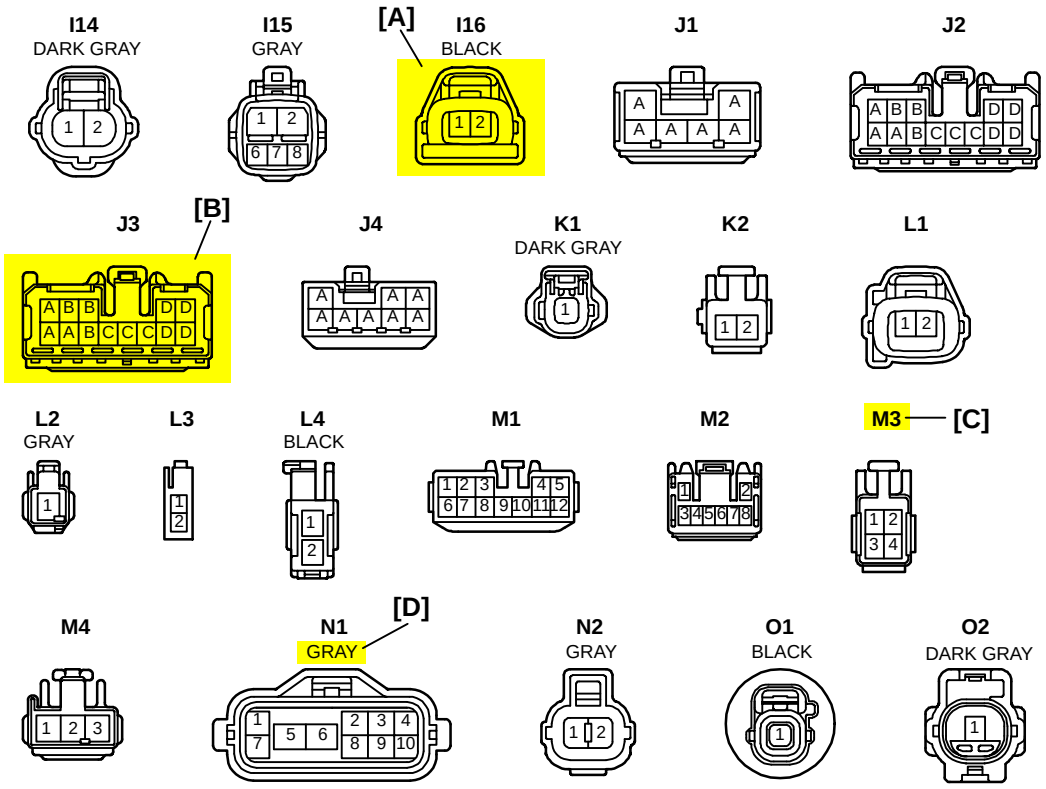
Fuse		System	Page
20A	STOP	ABS ABS and Traction Control Cruise Control Electronically Controlled Transmission and A/T Indicator Multiplex Communication System	194 187 180 166 210
10A	DOME	Cigarette Lighter and Clock Combination Meter Headlight Interior Light Key Reminder and Seat Belt Warning Light Auto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

POWER SOURCE



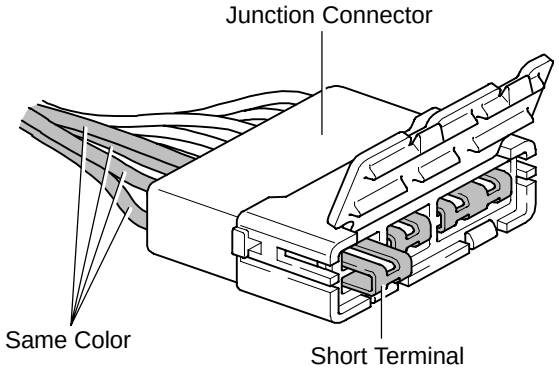
* The system shown here is an EXAMPLE ONLY. It is different to the actual circuit shown in the SYSTEM CIRCUITS SECTION.

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. (When installing the wire harnesses, the harnesses can be connected to any position within the short terminal grouping. Accordingly, in other vehicles, the same position in the short terminal may be connected to a wire harness from a different part.)
Wire harness sharing the same short terminal grouping have the same color.

[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.

L PART NUMBER OF CONNECTORS

Code	Part Name	Part Number
A 1	A/C Ambient Temp. Sensor	90980-11070
A 2	A/C Condenser Fan Motor	90980-11237
A 3	A/C Condenser Fan Relay	90980-10940
A 4	A/C Triple Pressure SW (A/C Dual and Single Pressure SW)	90980-10943
[A]	A/T Oil Temp. Sensor [B]	909 [C] 413
A 6	ABS Actuator	90980-11151
A 7	ABS Actuator	90980-11009
A 8	ABS Speed Sensor Front LH	90980-10941
A 9	ABS Speed Sensor Front RH	90980-11002
A10	Airbag Sensor Front LH	90980-11856
A11	Airbag Sensor Front RH	
A12		90980-11194
		90980-11

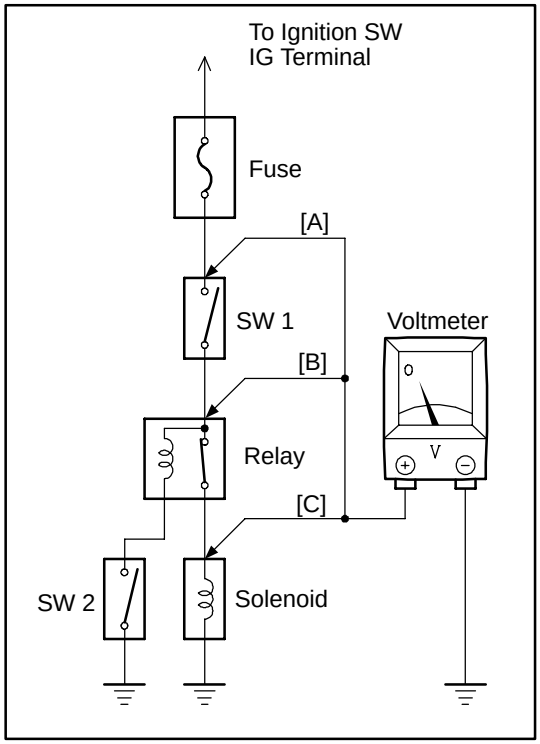
Code	Part Name	Part Number
D 4	Diode (Door Courtesy Light)	90980-11608
D 5	Diode (Key Off Operation)	90980-10962
D 6	Diode (Luggage Compartment Light)	90980-11608
D 7	Door Lock Control Relay	90980-10848
D 8	Door Courtesy Light LH	90980-11148
D 9	Door Courtesy Light RH	
D10	Door Courtesy SW LH	90980-11097
D11	Door Courtesy SW RH	
D12	Door Courtesy SW Front LH	90980-11156
D13	Door Courtesy SW Front RH	
D14	Door Courtesy SW Rear LH	
D15	Door Courtesy SW Rear RH	
D16	nd Unlock SW LH	90980-11170
	RH	

[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. In case of ordering a connector or terminal with wire, please confirm in advance if there is supply for it using “Parts Catalog News” (published by Parts Engineering Administration Dept.).

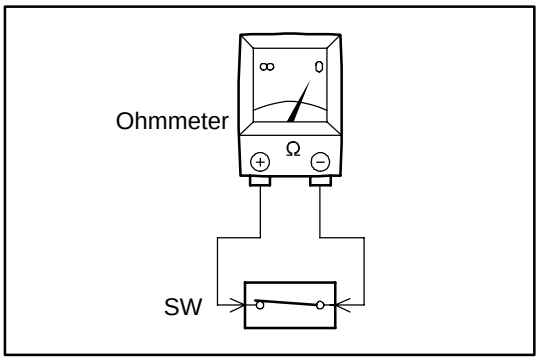


VOLTAGE CHECK

(a) 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)

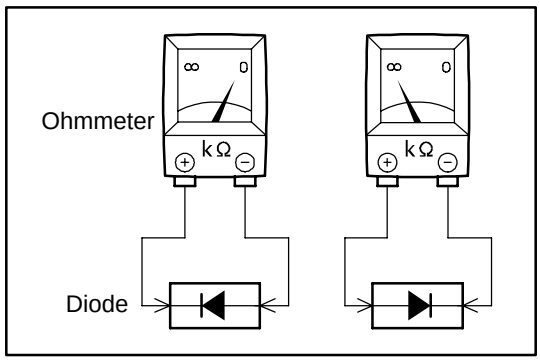
(b) Using a voltmeter, connect the negative lead to a good ground point or negative battery terminal, and the positive lead to the connector or component terminal.
This check can be done with a test light instead of a voltmeter.



CONTINUITY AND RESISTANCE CHECK

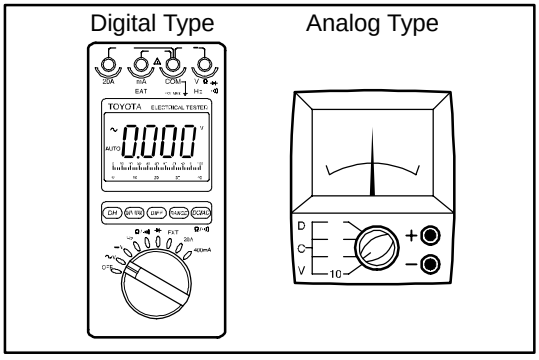
(a) Disconnect the battery terminal or wire so there is no voltage between the check points.

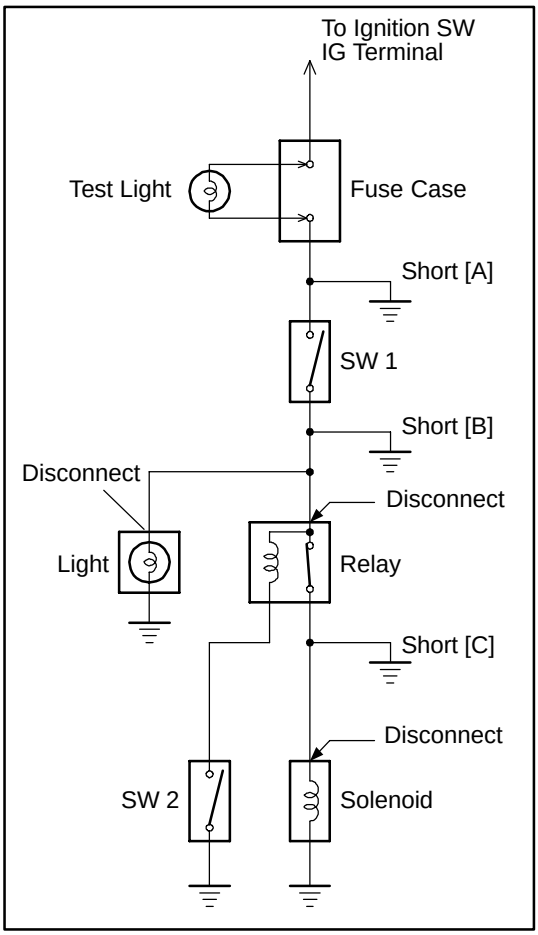
(b) Contact the two leads of an ohmmeter to each of the check points.



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.

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





FINDING A SHORT CIRCUIT

(a) Remove the blown fuse and disconnect all loads of the fuse.

(b) Connect a test light in place of the fuse.

(c) 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)

(d) 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.

(e) Find the exact location of the short by lightly shaking the problem wire along the body.

CAUTION:

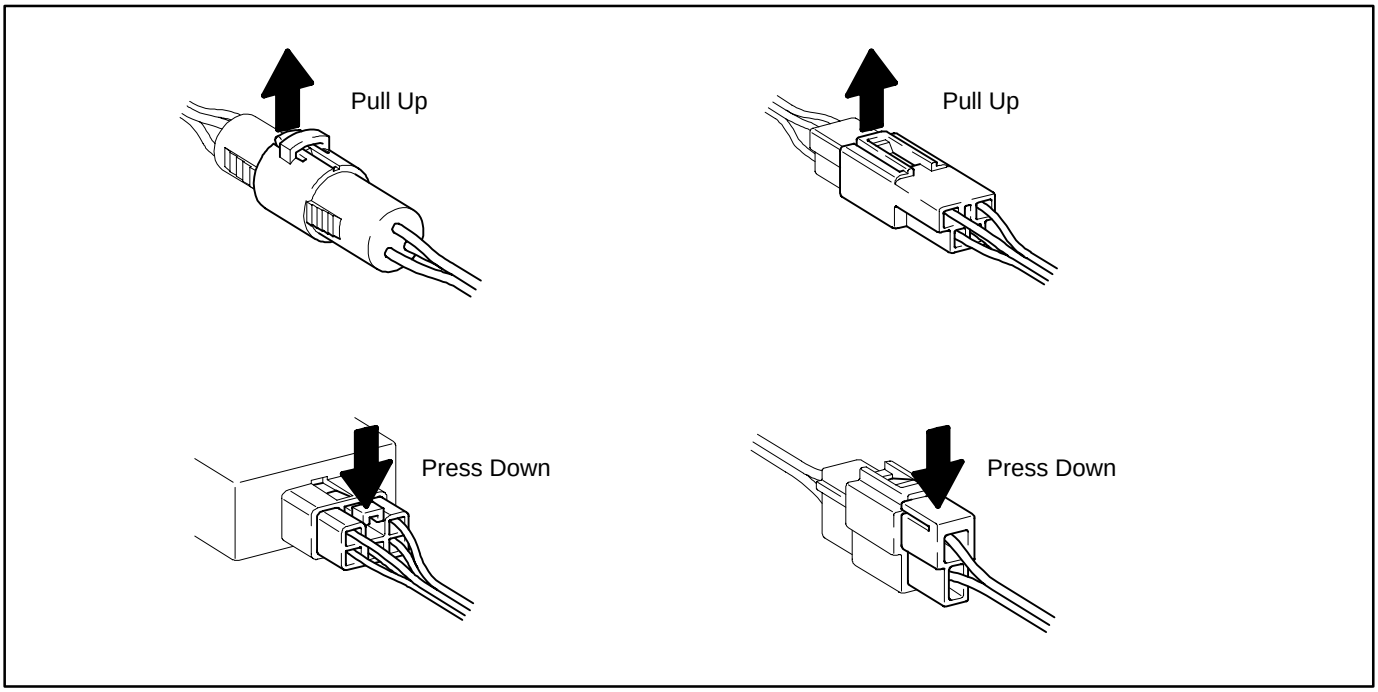
(a) Do not open the cover or the case of the ECU unless absolutely necessary. (If the IC terminals are touched, the IC may be destroyed by static electricity.)

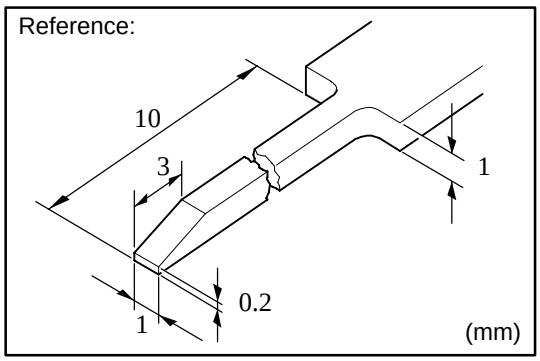
(b) When replacing the internal mechanism (ECU part) of the digital meter, be careful that no part of your body or clothing comes in contact with the terminals of leads from the IC, etc. of the replacement part (spare part).

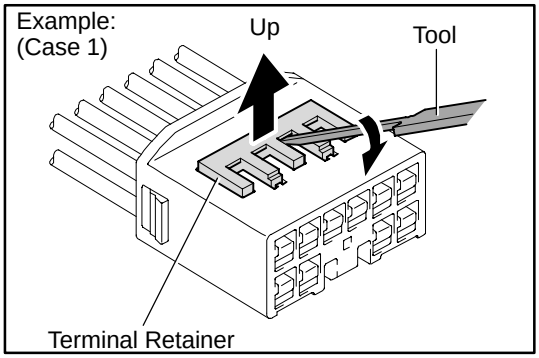
DISCONNECTION OF MALE AND FEMALE CONNECTORS

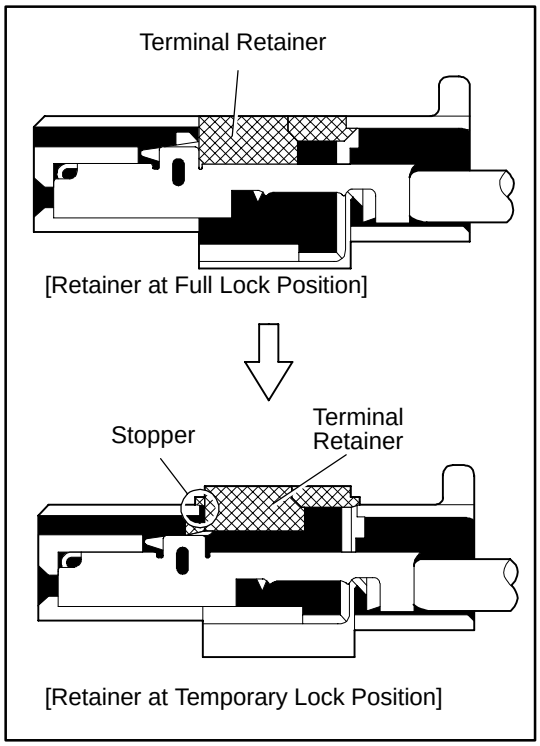
To pull apart the connectors, pull on the connector itself, not the wire harness.

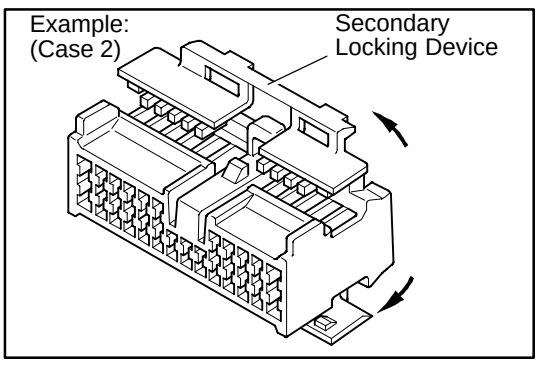
HINT : Check to see what kind of connector you are disconnecting before pulling apart.











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

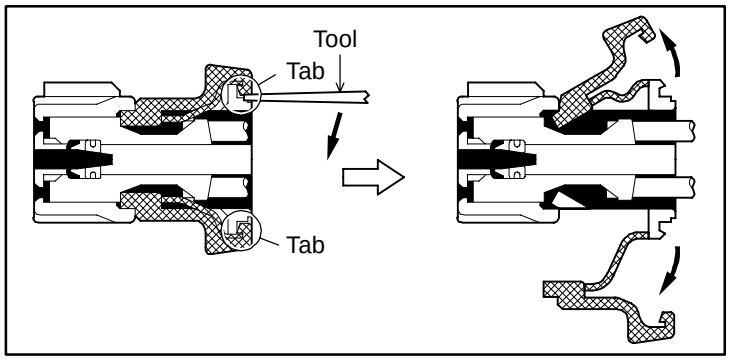
   HINT : The needle insertion position varies according to the connector's shape (number of terminals etc.), so check the position before inserting it.

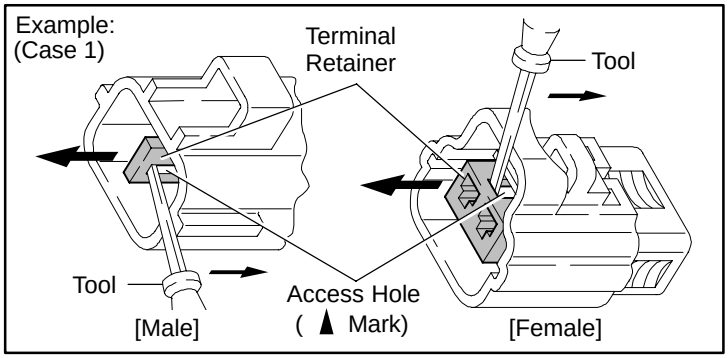
   "Case 1"

   Raise the terminal retainer up to the temporary lock position.

   "Case 2"

   Open the secondary locking device.



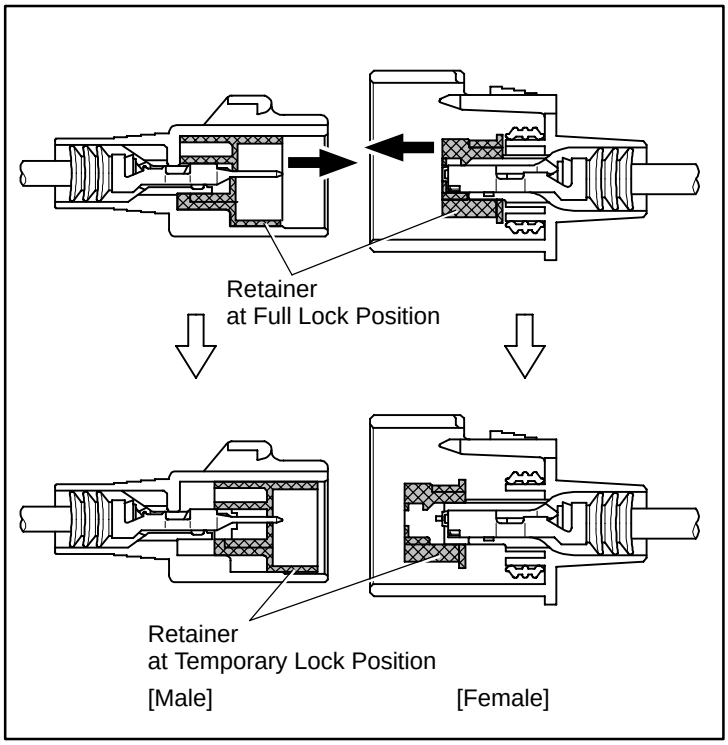


[B] For Waterproof Type Connector

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

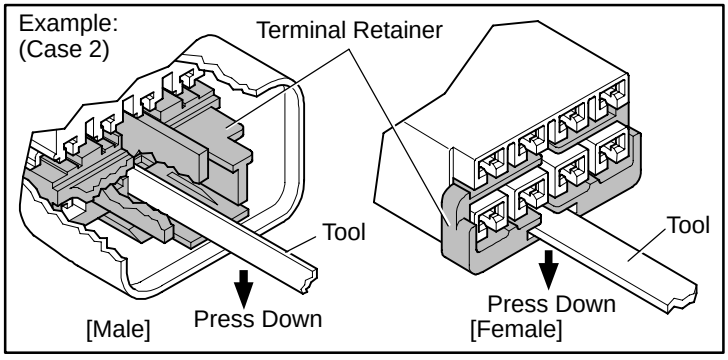


”Case 1”

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

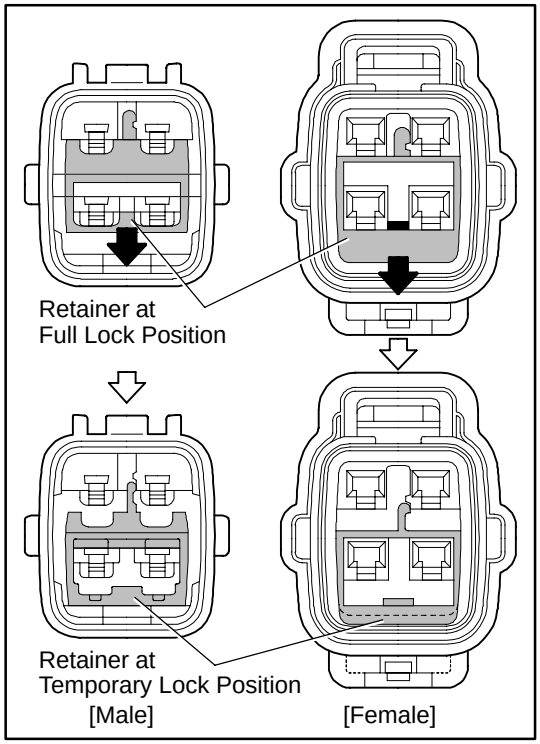
Insert the special tool into the terminal retainer access hole (▲Mark) and pull the terminal retainer up to the temporary lock position.

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

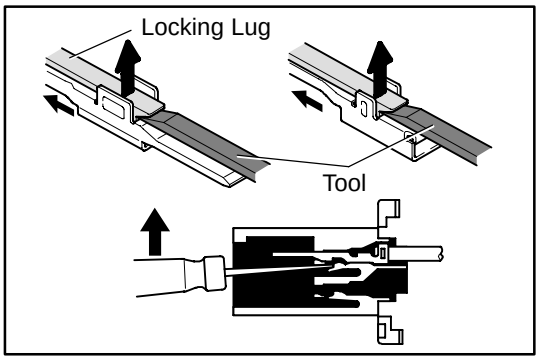


”Case 2”

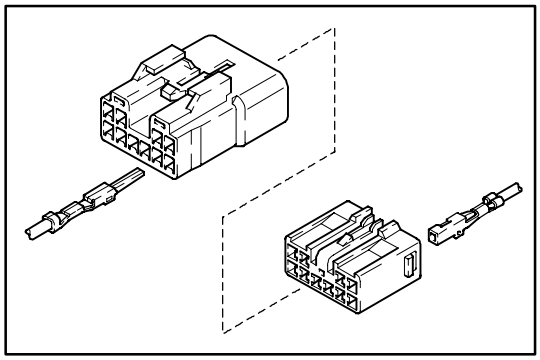
Type which cannot be pulled as far as Power Lock insert the tool straight into the access hole of terminal retainer as shown.



Push the terminal retainer down to the temporary lock position.



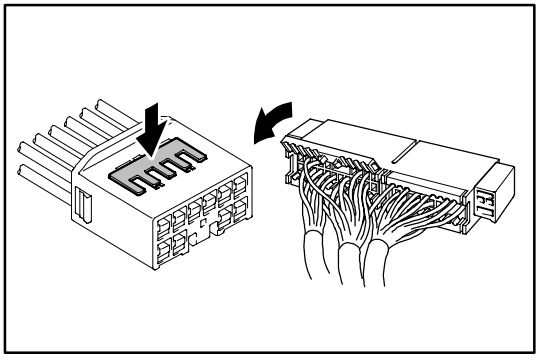
(c) Release the locking lug from terminal and pull the terminal out from rear.



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

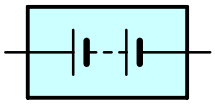
ABBREVIATIONS

The following abbreviations are used in this manual.

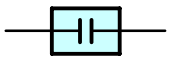
ABS	=	Anti-Lock Brake System
A/C	=	Air Conditioning
ADD	=	Automatic Disconnecting Differential
A/T	=	Automatic Transmission
COMB.	=	Combination
DIFF.	=	Differential
ECU	=	Electronic Control Unit
EGR	=	Exhaust Gas Recirculation
ESA	=	Electronic Spark Advance
EVAP	=	Evaporative Emission
INT	=	Intermittent
J/B	=	Junction Block
LH	=	Left-Hand
M/T	=	Manual Transmission
O/D	=	Overdrive
R/B	=	Relay Block
RH	=	Right-Hand
SFI	=	Sequential Multiport Fuel Injection
SPEC.	=	Specification
SRS	=	Supplemental Restraint System
SW	=	Switch
TEMP.	=	Temperature
VSV	=	Vacuum Switching Valve
w/	=	With
w/o	=	Without
2WD	=	Two Wheel Drive
4WD	=	Four Wheel Drive

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

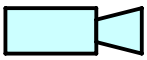
E GLOSSARY OF TERMS AND SYMBOLS



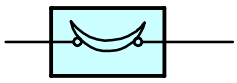
BATTERY
Stores chemical energy and converts it into electrical energy. Provides DC current for the auto's various electrical circuits.



CAPACITOR (Condenser)
A small holding unit for temporary storage of electrical voltage.



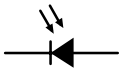
CIGARETTE LIGHTER
An electric resistance heating element.



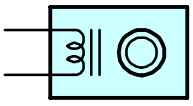
CIRCUIT BREAKER
Basically a reusable fuse, a circuit breaker will heat and open if too much current flows through it. Some units automatically reset when cool, others must be manually reset.

DIODE
A semiconductor which allows current flow in only one direction.

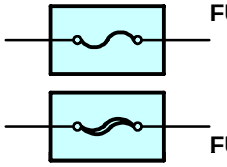
DIODE, ZENER
A diode which allows current flow in one direction but blocks reverse flow only up to a specific voltage. Above that potential, it passes the excess voltage. This acts as a simple voltage regulator.



PHOTODIODE
The photodiode is a semiconductor which controls the current flow according to the amount of light.



DISTRIBUTOR, IIA
Channels high-voltage current from the ignition coil to the individual spark plugs.



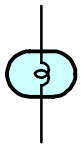
FUSE
A thin metal strip which burns through when too much current flows through it, thereby stopping current flow and protecting a circuit from damage.

(for Medium Current Fuse)

FUSIBLE LINK
A heavy-gauge wire placed in high amperage circuits which burns through on overloads, thereby protecting the circuit. The numbers indicate the crosssection surface area of the wires.

(for High Current Fuse or Fusible Link)

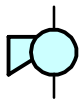
GROUND
The point at which wiring attaches to the Body, thereby providing a return path for an electrical circuit; without a ground, current cannot flow.



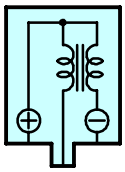
1. SINGLE FILAMENT

2. DOUBLE FILAMENT

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



HORN
An electric device which sounds a loud audible signal.



IGNITION COIL
Converts low-voltage DC current into high-voltage ignition current for firing the spark plugs.

LIGHT
Current flow through a filament causes the filament to heat up and emit light.

LED (LIGHT EMITTING DIODE)
Upon current flow, these diodes emit light without producing the heat of a comparable light.

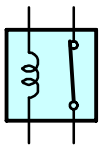
METER, ANALOG
Current flow activates a magnetic coil which causes a needle to move, thereby providing a relative display against a background calibration.

METER, DIGITAL
Current flow activates one or many LED's, LCD's, or fluorescent displays, which provide a relative or digital display.

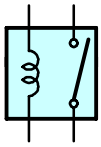
MOTOR
A power unit which converts electrical energy into mechanical energy, especially rotary motion.

RELAY

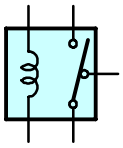
Basically, an electrically operated switch which may be normally closed (1) or open (2). Current flow through a small coil creates a magnetic field which either opens or closes an attached switch.



1. NORMALLY CLOSED

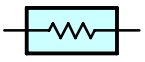


2. NORMALLY OPEN



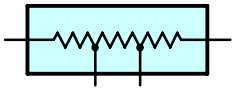
RELAY, DOUBLE THROW

A relay which passes current through one set of contacts or the other.



RESISTOR

An electrical component with a fixed resistance, placed in a circuit to reduce voltage to a specific value.



RESISTOR, TAPPED

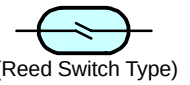
A resistor which supplies two or more different non adjustable resistance values.

RESISTOR, VARIABLE or RHEOSTAT

A controllable resistor with a variable rate of resistance.
Also called a potentiometer or rheostat.

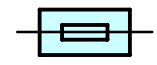
SENSOR (Thermistor)

A resistor which varies its resistance with temperature.



SENSOR, SPEED

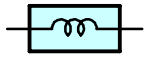
Uses magnetic impulses to open and close a switch to create a signal for activation of other components.



(Reed Switch Type)

SHORT PIN

Used to provide an unbroken connection within a junction block.



SOLENOID

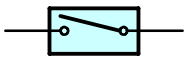
An electromagnetic coil which forms a magnetic field when current flows, to move a plunger, etc.

SPEAKER

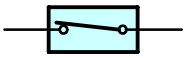
An electromechanical device which creates sound waves from current flow.

SWITCH, MANUAL

Opens and closes circuits, thereby stopping (1) or allowing (2) current flow.



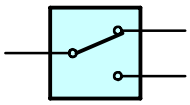
1. NORMALLY OPEN



2. NORMALLY CLOSED

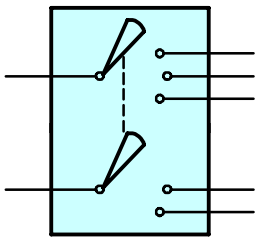
SWITCH, DOUBLE THROW

A switch which continuously passes current through one set of contacts or the other.



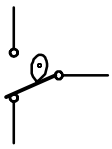
SWITCH, IGNITION

A key operated switch with several positions which allows various circuits, particularly the primary ignition circuit, to become operational.



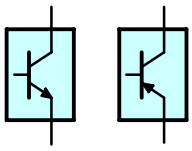
SWITCH, WIPER PARK

Automatically returns wipers to the stop position when the wiper switch is turned off.



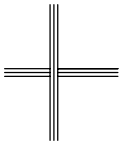
TRANSISTOR

A solidstate device typically used as an electronic relay; stops or passes current depending on the voltage applied at ”base”.

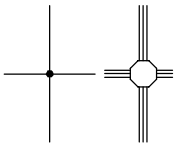


WIRES

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.



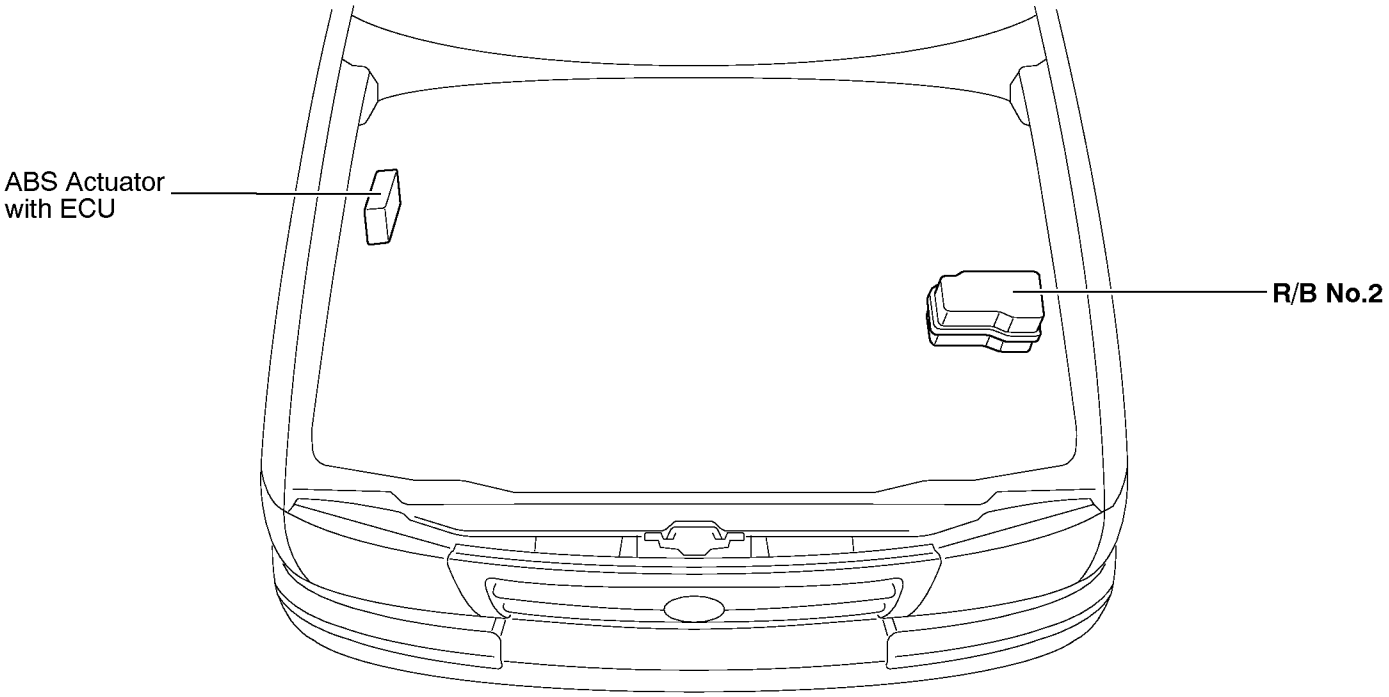
(1) NOT CONNECTED



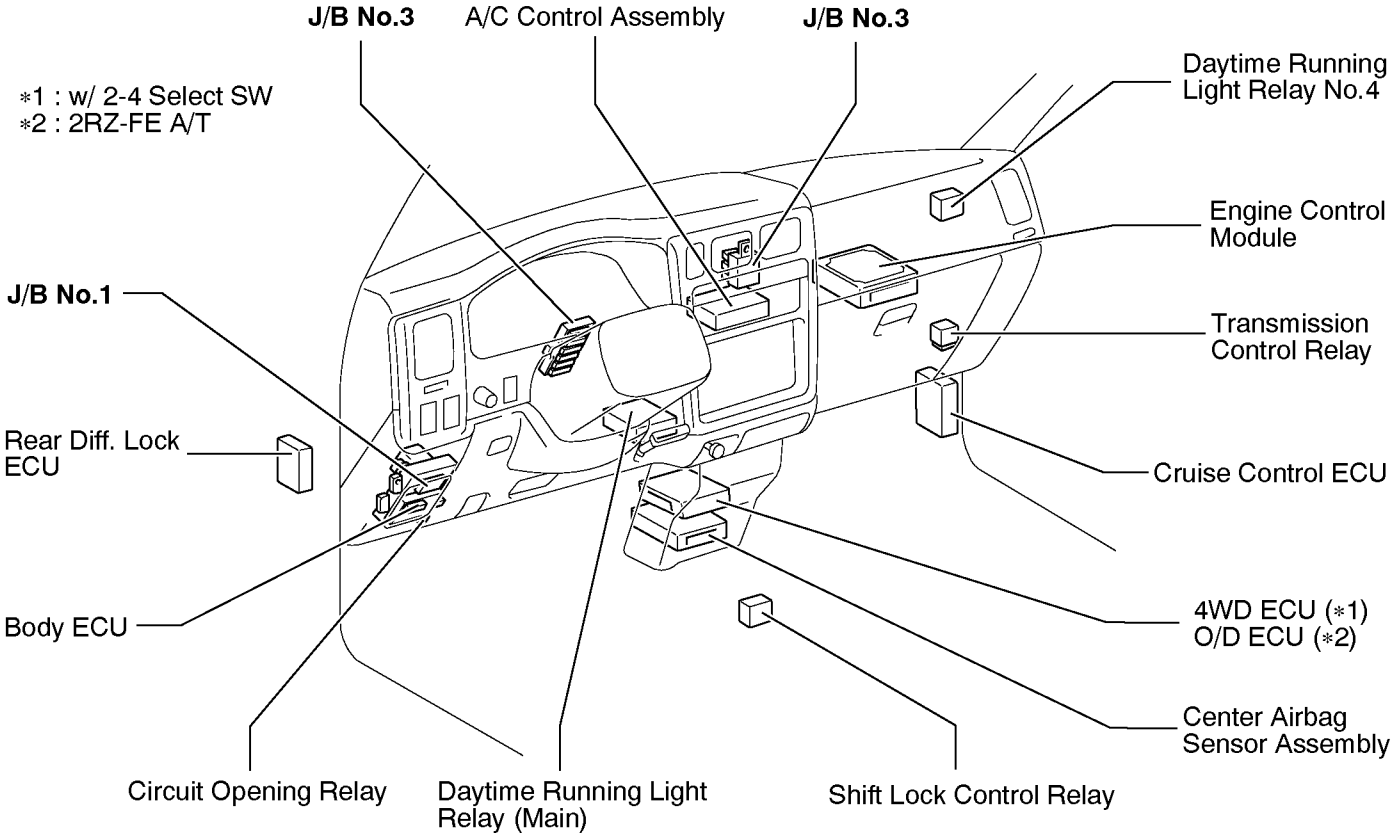
(2) SPLICED

F RELAY LOCATIONS

[Engine Compartment]

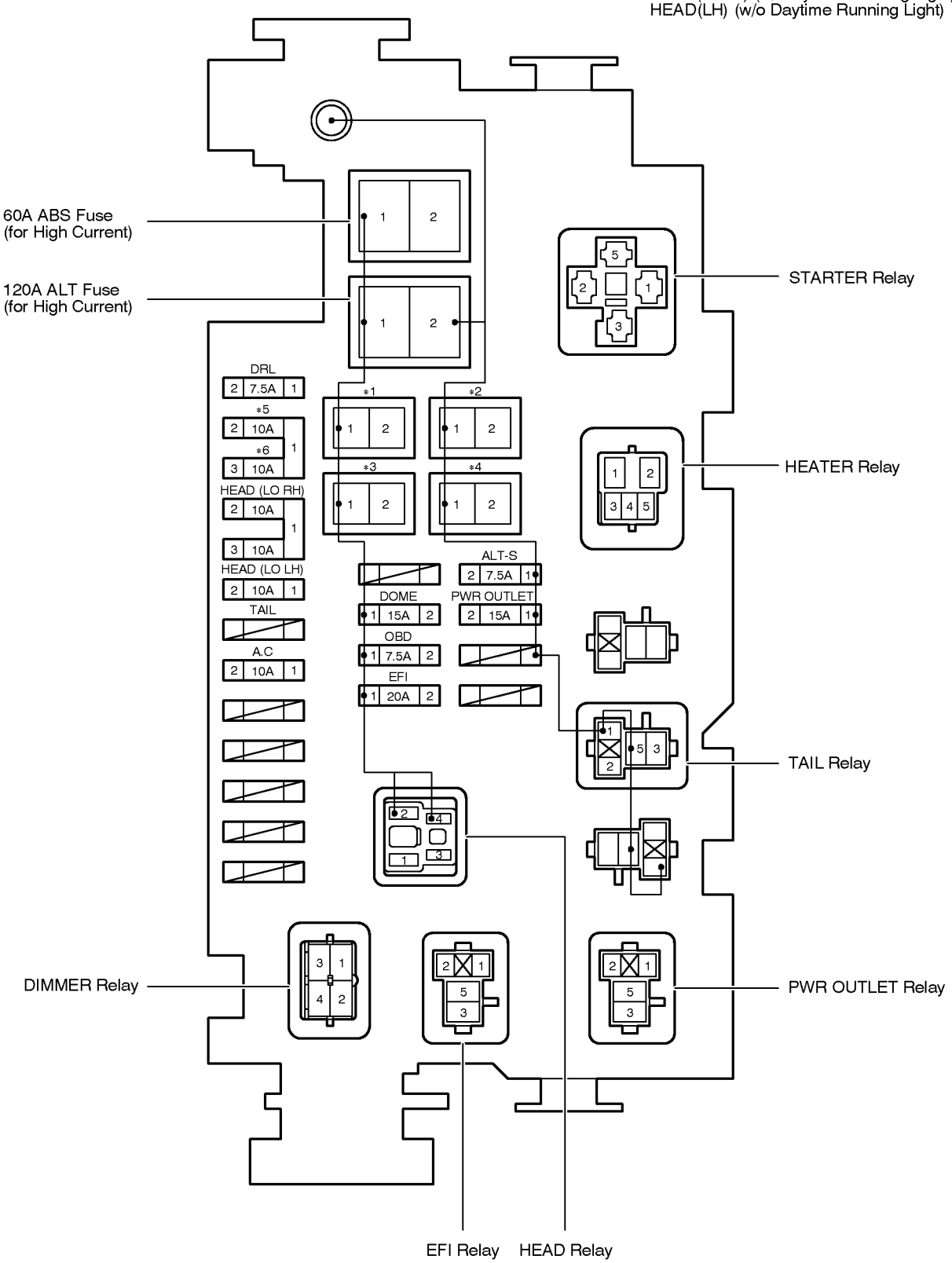


[Instrument Panel]



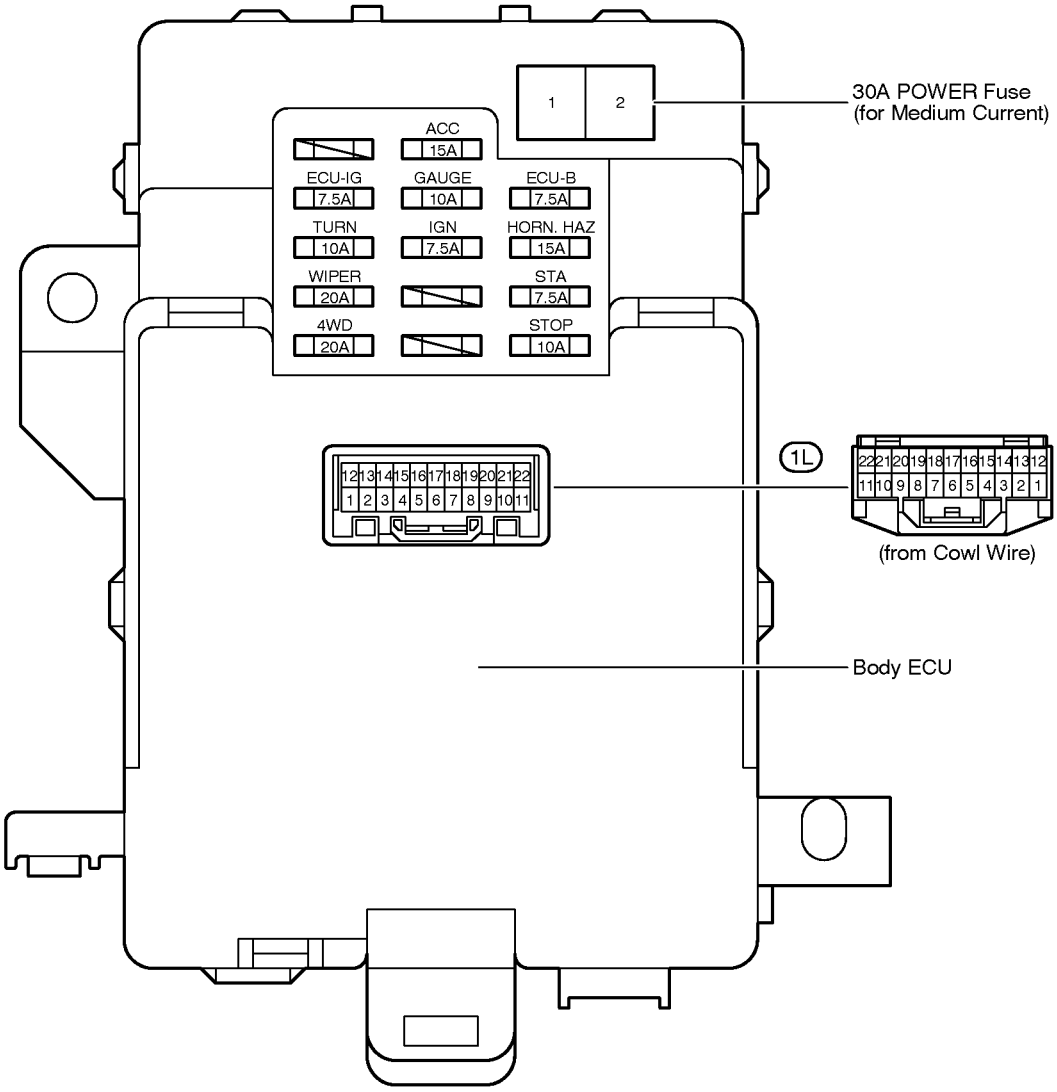
② : R/B No.2	Engine Compartment Left (See Page 20)

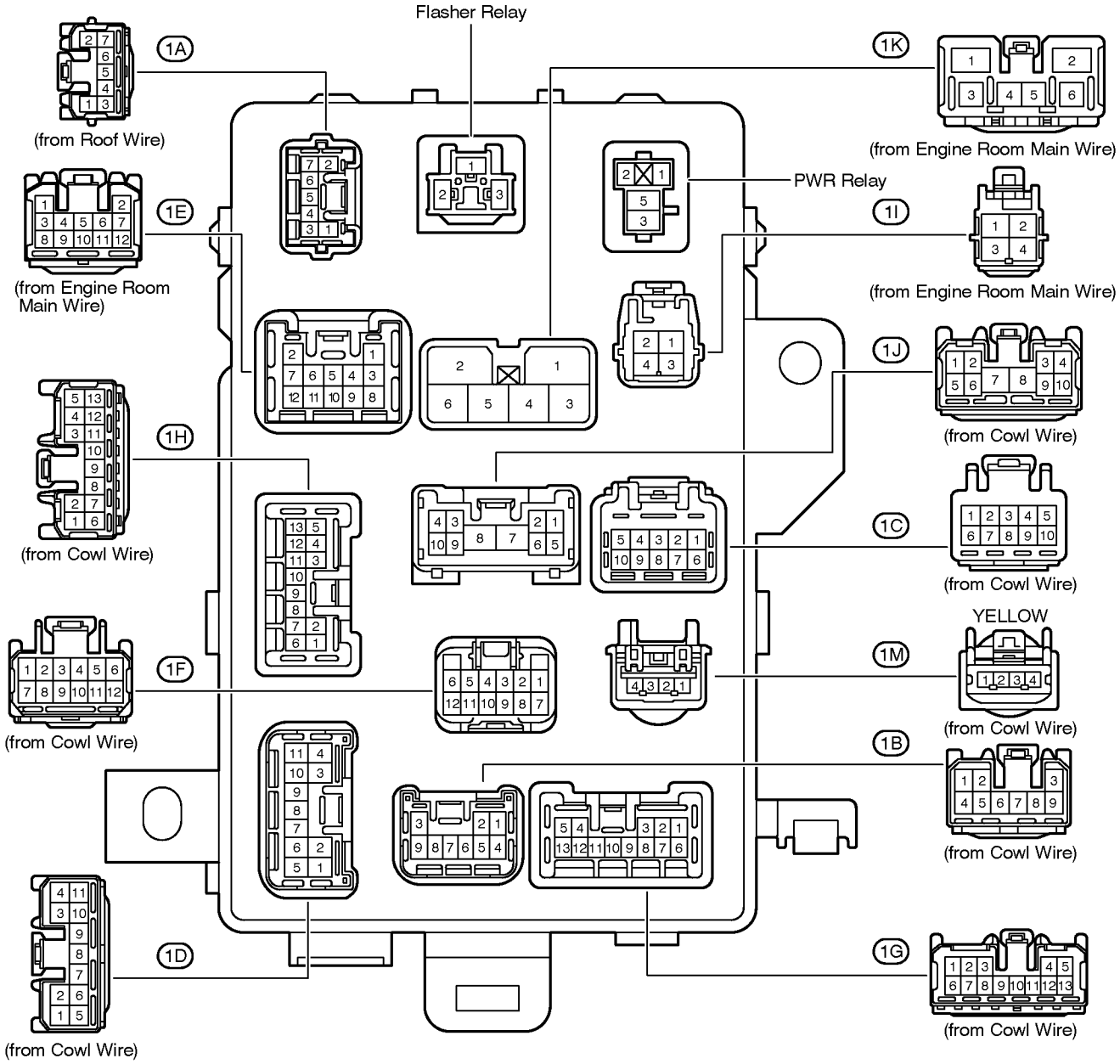
∗1 : 50A J/B Fuse (for Medium Current)
∗2 : 50A HEATER Fuse (for Medium Current)
∗3 : 30A AM2 Fuse (for Medium Current)
∗4 : 40A AM1 Fuse (for Medium Current)
∗5 : HEAD(HI RH) (w/ Daytime Running Light) or HEAD(RH) (w/o Daytime Running Light)
∗6 : HEAD(HI LH) (w/ Daytime Running Light) or HEAD(LH) (w/o Daytime Running Light)



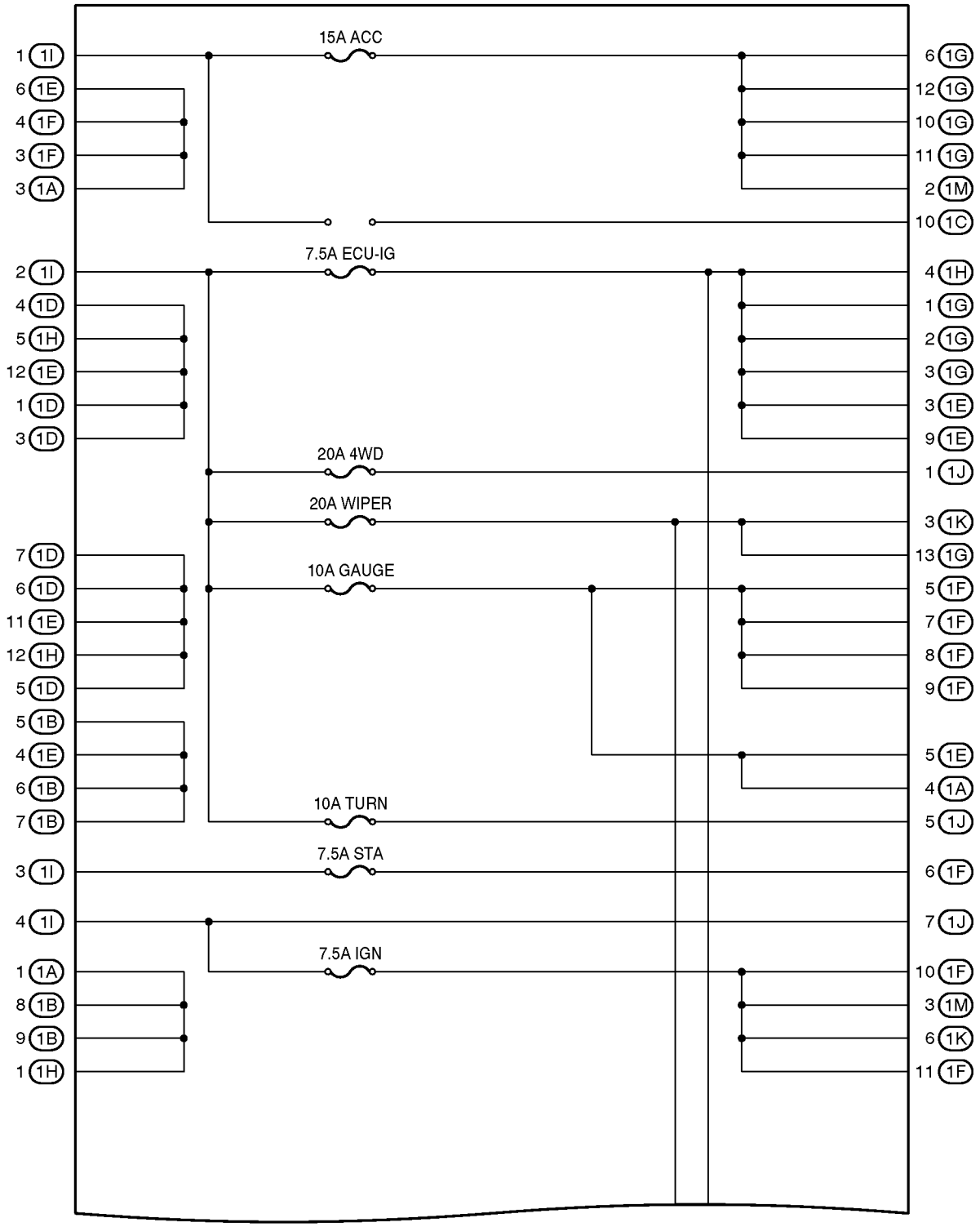
F RELAY LOCATIONS

: J/B No.1	Lower Finish Panel (See Page 20)

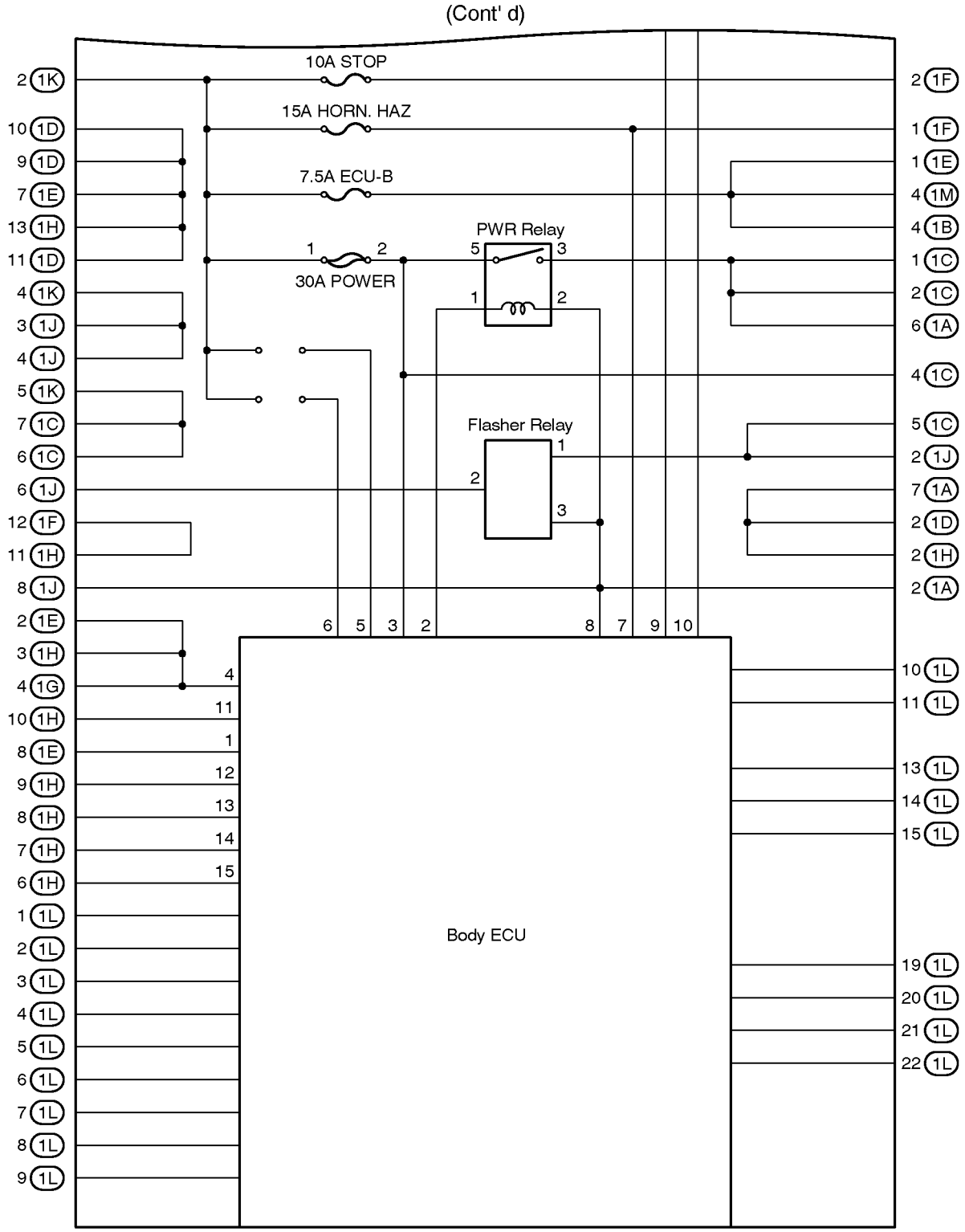



Flasher Relay
1A
(from Roof Wire)
1K
(from Engine Room Main Wire)
PWR Relay
1E
(from Engine Room Main Wire)
1I
(from Engine Room Main Wire)
1J
(from Cowl Wire)
1H
(from Cowl Wire)
1C
(from Cowl Wire)
YELLOW
1M
(from Cowl Wire)
1F
(from Cowl Wire)
1B
(from Cowl Wire)
1D
(from Cowl Wire)
1G
(from Cowl Wire)

[J/B No.1 Inner Circuit]

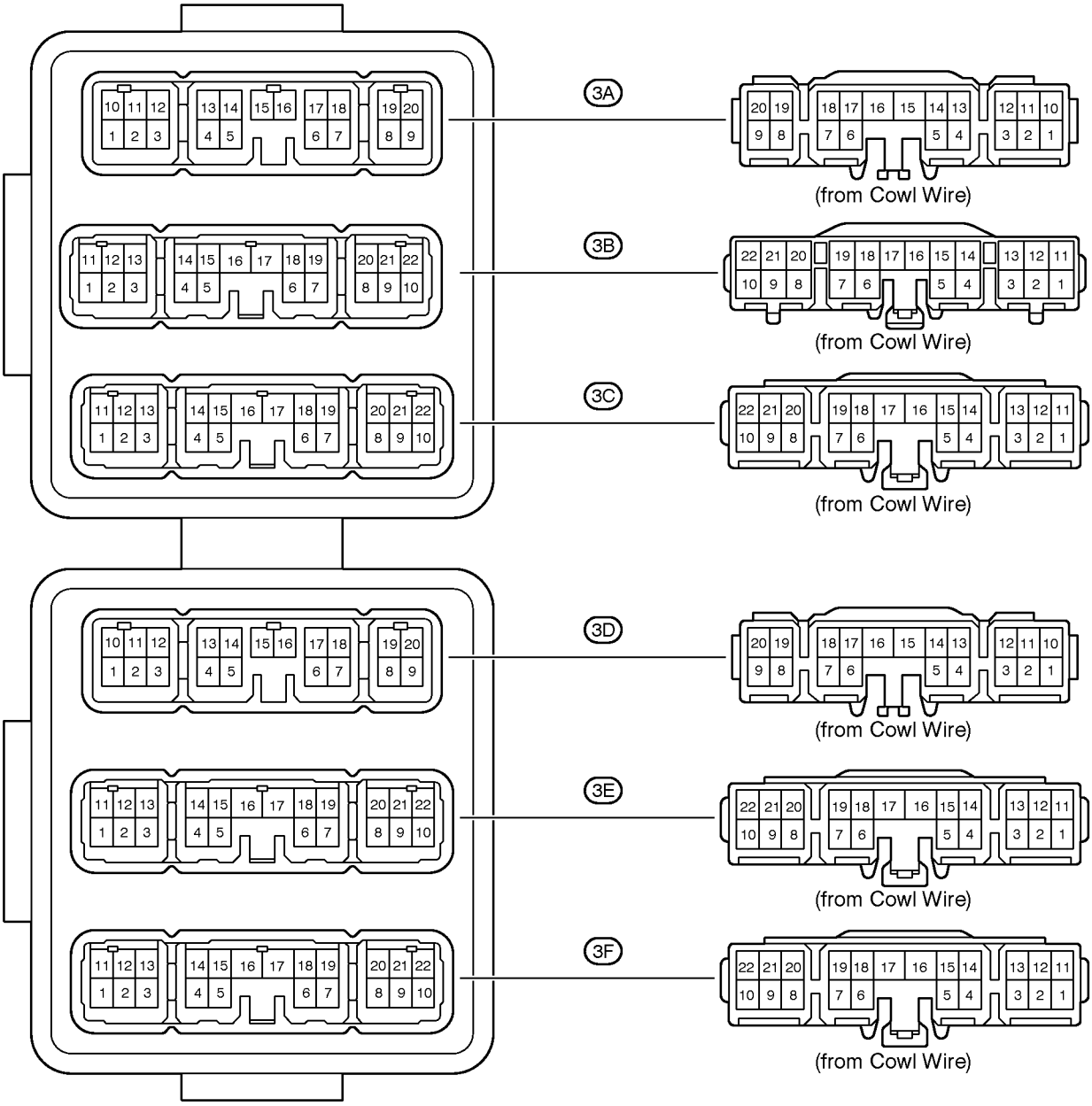


(Cont. next page)

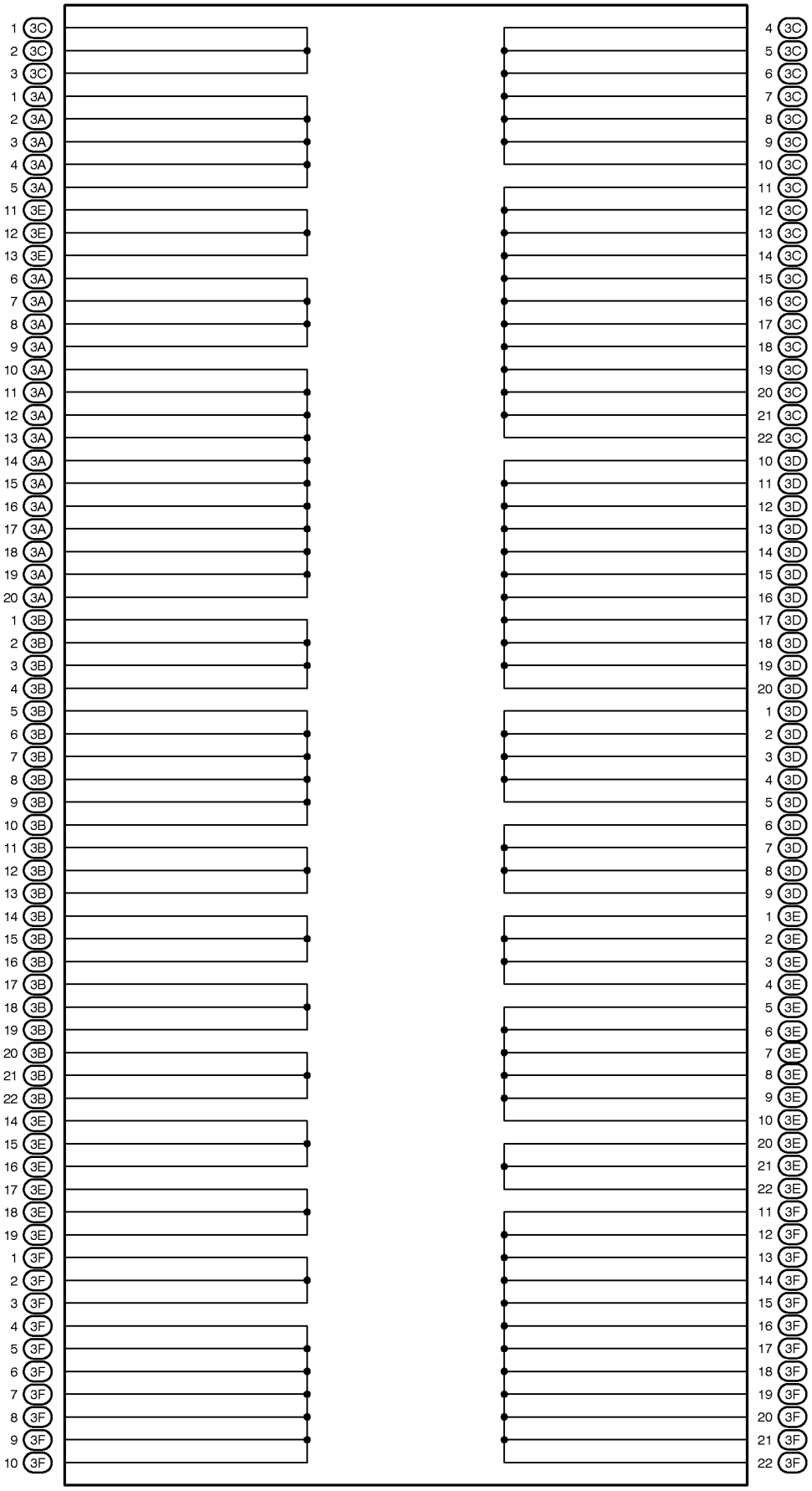

(Cont' d)
10A STOP
15A HORN. HAZ
7.5A ECU-B
30A POWER
PWR Relay
Flasher Relay
Body ECU
2 1K
10 1D
9 1D
7 1E
13 1H
11 1D
4 1K
3 1J
4 1J
5 1K
7 1C
6 1C
6 1J
12 1F
11 1H
8 1J
2 1E
3 1H
4 1G
10 1H
8 1E
9 1H
8 1H
7 1H
6 1H
1 1L
2 1L
3 1L
4 1L
5 1L
6 1L
7 1L
8 1L
9 1L
2 1F
1 1F
1 1E
4 1M
4 1B
1 1C
2 1C
6 1A
4 1C
5 1C
2 1J
7 1A
2 1D
2 1H
2 1A
10 1L
11 1L
13 1L
14 1L
15 1L
19 1L
20 1L
21 1L
22 1L

F RELAY LOCATIONS

: J/B No.3	Behind the Instrument Panel Left (See Page 20)

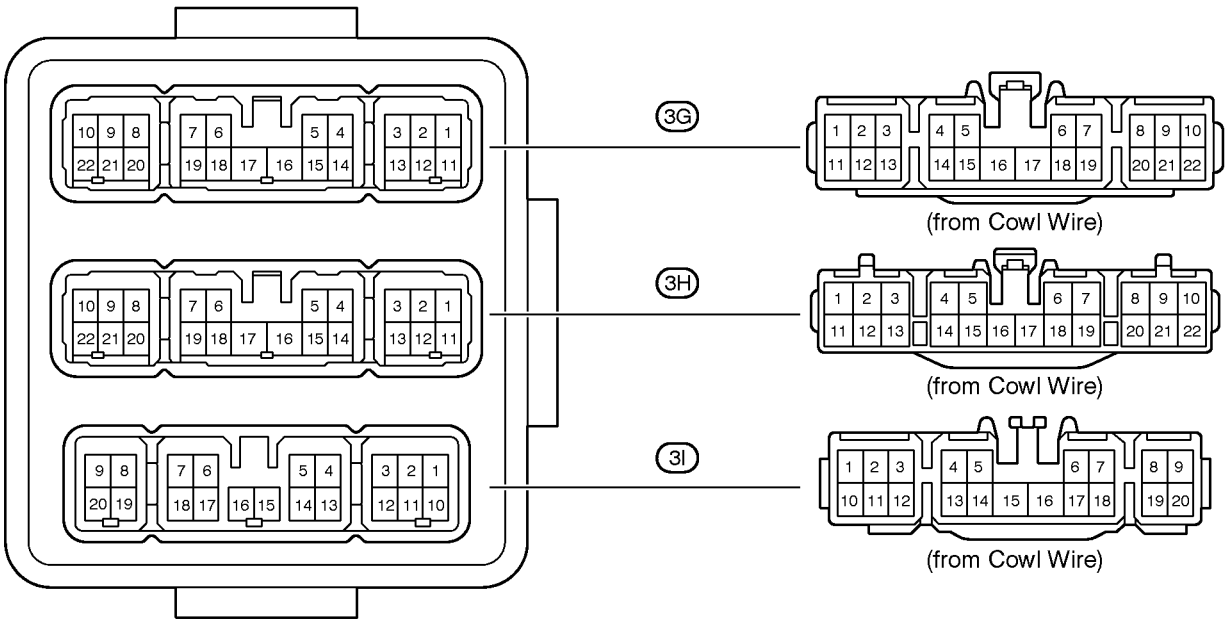


[J/B No.3 Inner Circuit]

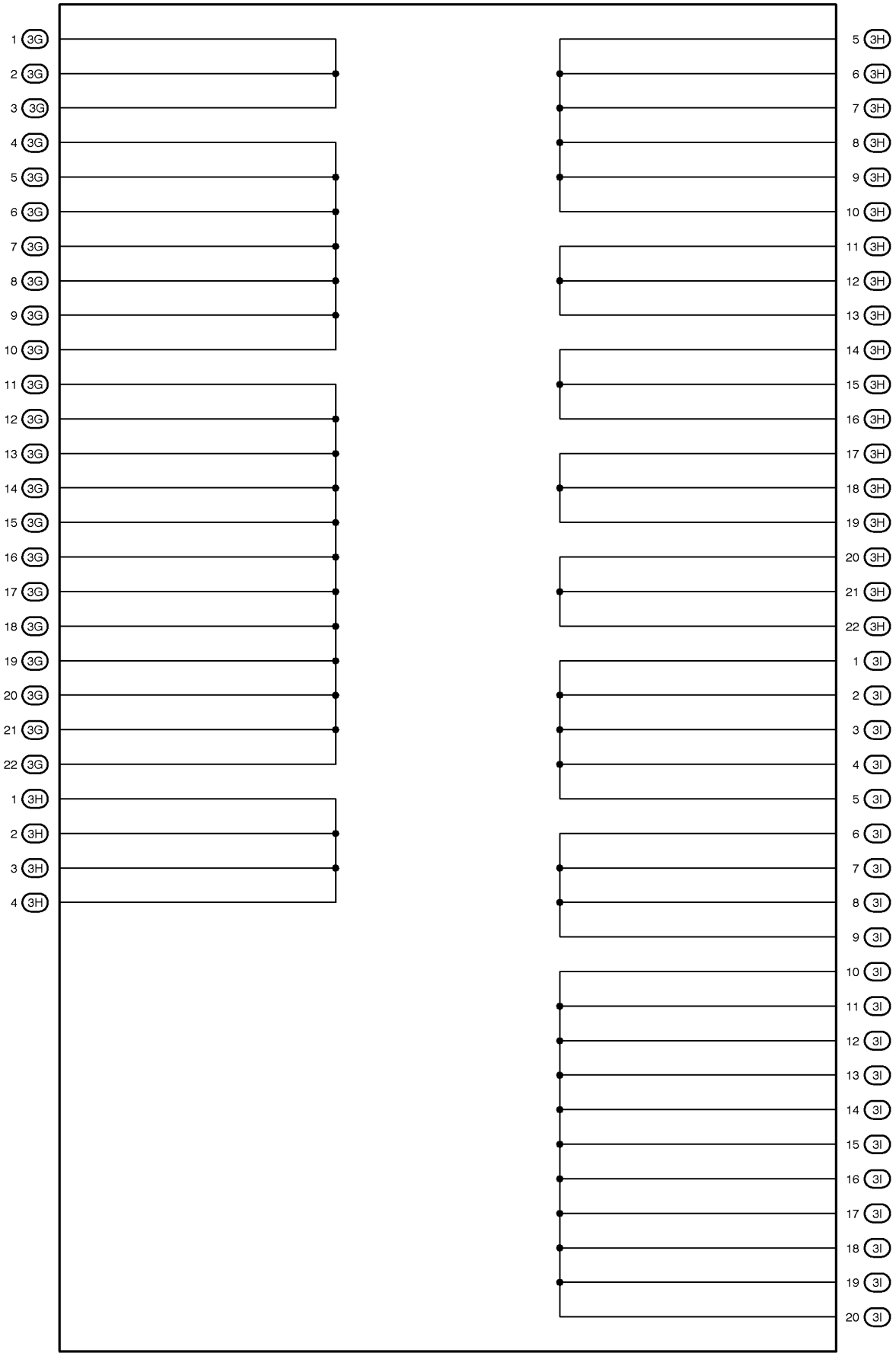


F RELAY LOCATIONS

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

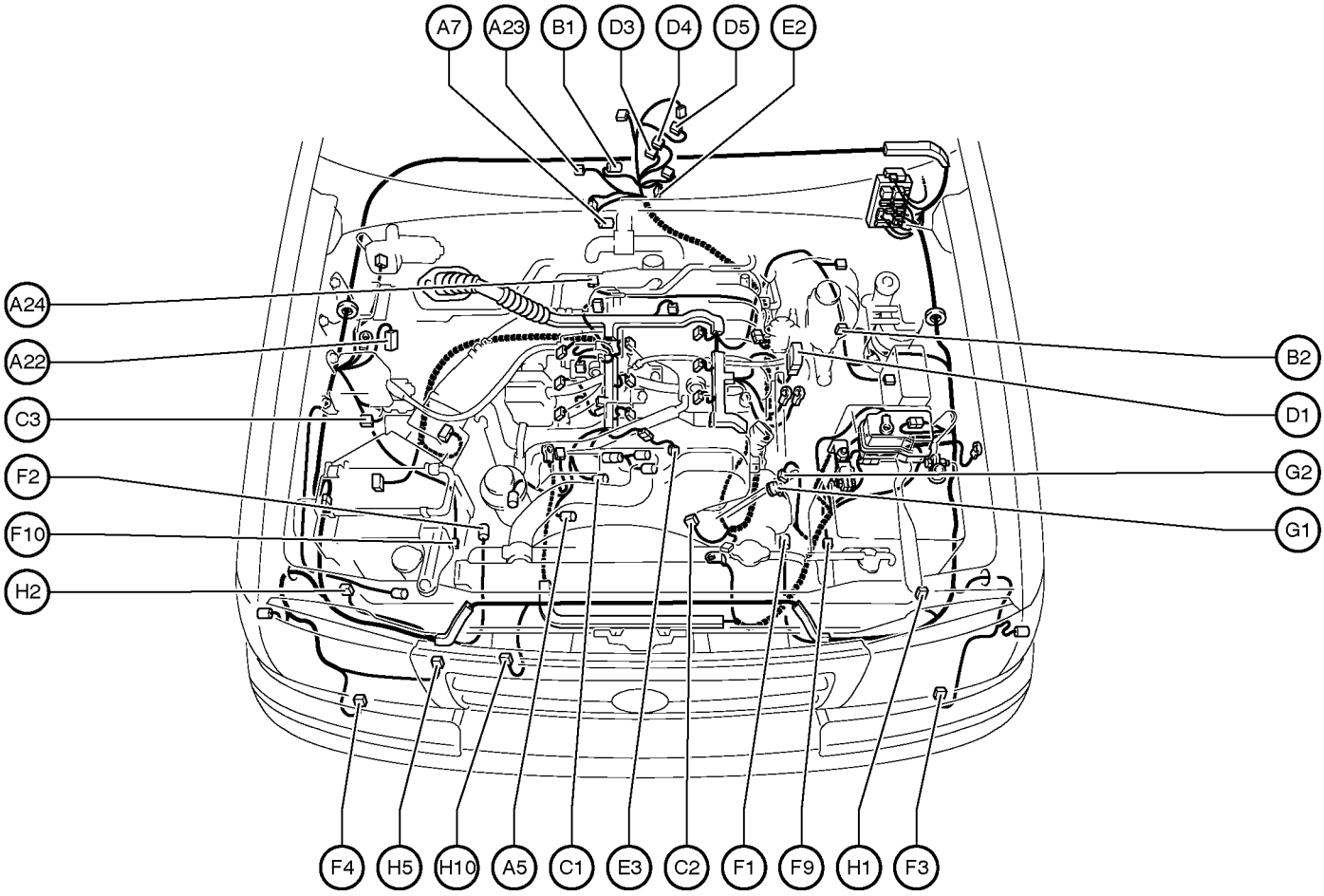


[J/B No.3 Inner Circuit]



Position of Parts in Engine Compartment

[5VZ-FE]



A 5 A/C Magnetic Clutch
A 7 A/T Oil Temp. Sensor
A22 ABS Actuator with ECU
A23 Air Fuel Ratio Sensor (Bank 1 Sensor 1)
A24 ADD Actuator

B 1 Back-Up Light SW
B 2 Brake Fluid Level Warning SW

C 1 Camshaft Position Sensor
C 2 Crankshaft Position Sensor
C 3 Cruise Control Actuator

D 1 Data Link Connector 1
D 3 Detection SW (Transfer L4 Position)
D 4 Detection SW (Transfer Neutral Position)
D 5 Detection SW (Transfer 4WD Position)

E 2 Electronically Controlled Transmission Solenoid
E 3 Engine Coolant Temp. Sensor

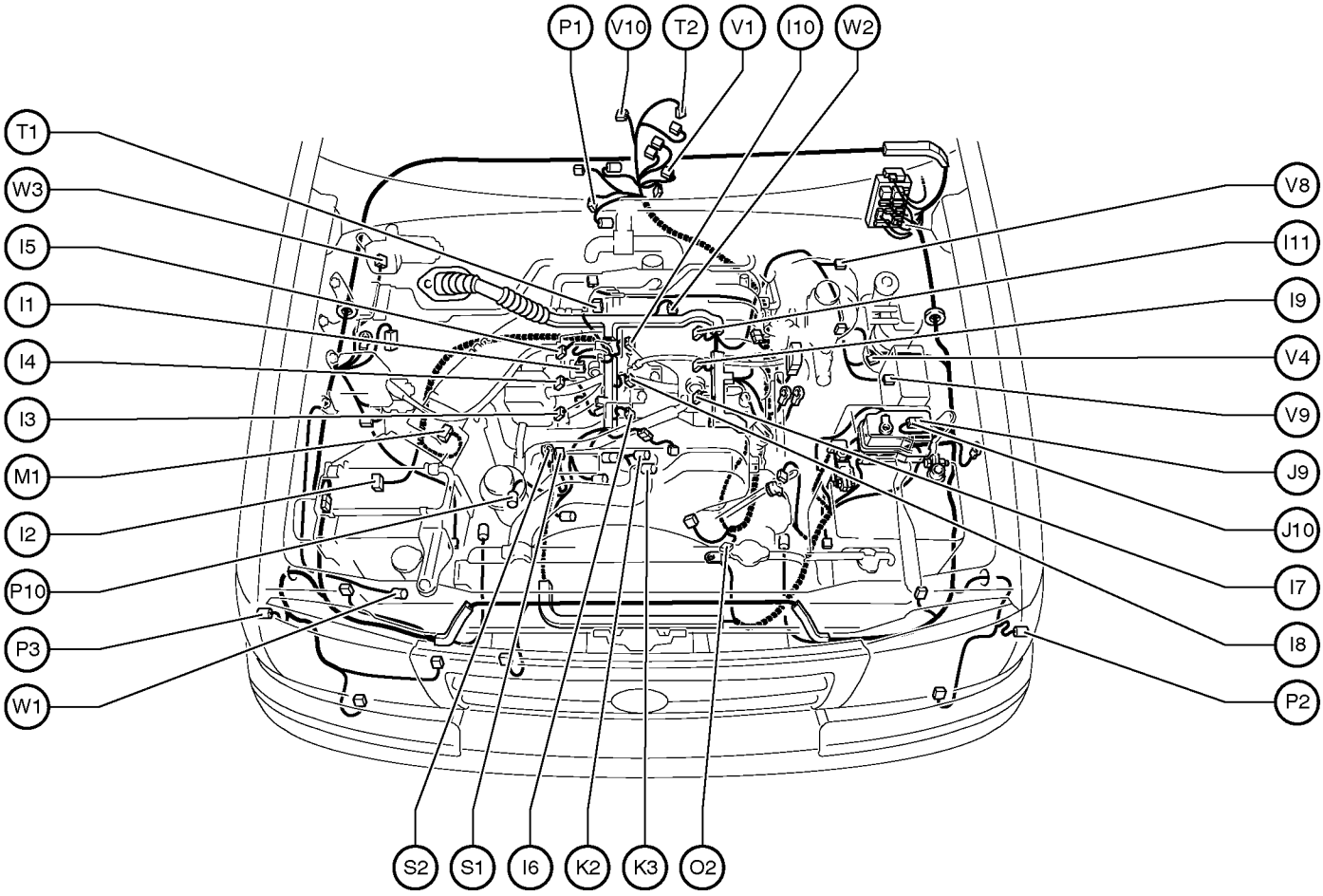
F 1 Front ABS Speed Sensor LH
F 2 Front ABS Speed Sensor RH
F 3 Front Turn Signal Light LH
F 4 Front Turn Signal Light RH
F 9 Front Airbag Sensor LH
F10 Front Airbag Sensor RH

G 1 Generator
G 2 Generator

H 1 Headlight LH
H 2 Headlight RH
H 5 Horn (Low)
H10 Horn (High)

Position of Parts in Engine Compartment

[5VZ-FE]



I 1 Idle Air Control Valve
I 2 Igniter
I 3 Ignition Coil No.1
I 4 Ignition Coil No.2
I 5 Ignition Coil No.3
I 6 Injector No.1
I 7 Injector No.2
I 8 Injector No.3
I 9 Injector No.4
I 10 Injector No.5
I 11 Injector No.6

J 9 Junction Connector
J 10 Junction Connector

K 2 Knock Sensor 1
K 3 Knock Sensor 2

M 1 Mass Air Flow Meter

O 2 Oil Pressure SW

P 1 Park/Neutral Position SW
P 2 Parking Light LH
P 3 Parking Light RH
P 10 Power Steering Oil Pressure SW

S 1 Starter
S 2 Starter

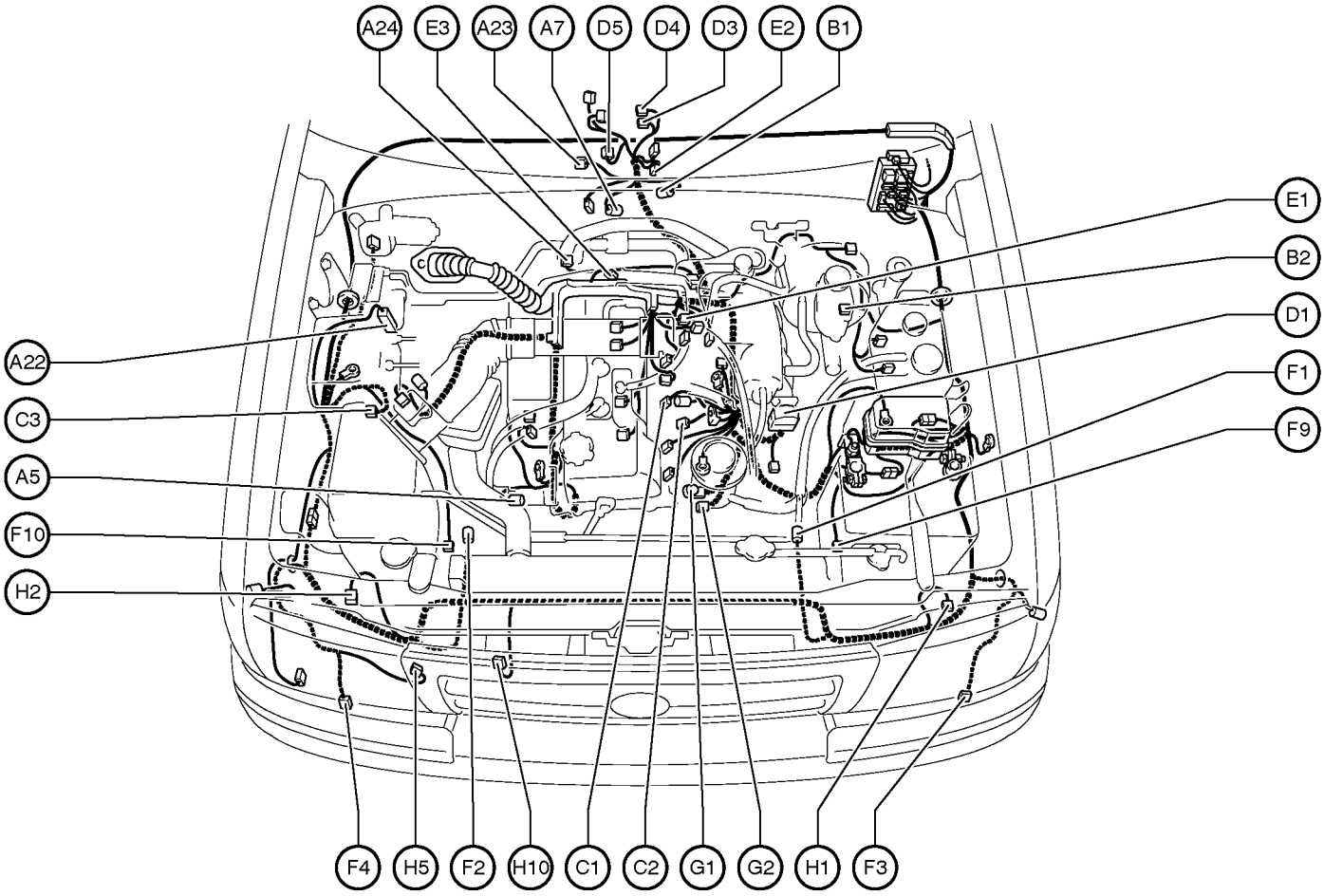
T 1 Throttle Position Sensor
T 2 2-4 Select Motor

V 1 Vehicle Speed Sensor (Electronically Controlled Transmission)
V 4 VSV (EVAP)
V 8 Vapor Pressure Sensor
V 9 VSV (Vapor Pressure Sensor)
V 10 Vehicle Speed Sensor

W 1 Washer Motor and Washer Level Sensor (Cold Area Spec.) or Washer Motor (Except Cold Area Spec.)
W 2 Water Temp. Sender
W 3 Wiper Motor

Position of Parts in Engine Compartment

[3RZ-FE, 2RZ-FE]



A 5 A/C Magnetic Clutch
A 7 A/T Oil Temp. Sensor
A22 ABS Actuator with ECU
A23 Air Fuel Ratio Sensor (Bank 1 Sensor 1)
A24 ADD Actuator

B 1 Back-Up Light SW
B 2 Brake Fluid Level Warning SW

C 1 Camshaft Position Sensor
C 2 Crankshaft Position Sensor
C 3 Cruise Control Actuator

D 1 Data Link Connector 1
D 3 Detection SW (Transfer L4 Position)
D 4 Detection SW (Transfer Neutral Position)
D 5 Detection SW (Transfer 4WD Position)

E 1 EGR Gas Temp. Sensor
E 2 Electronically Controlled Transmission Solenoid
E 3 Engine Coolant Temp. Sensor

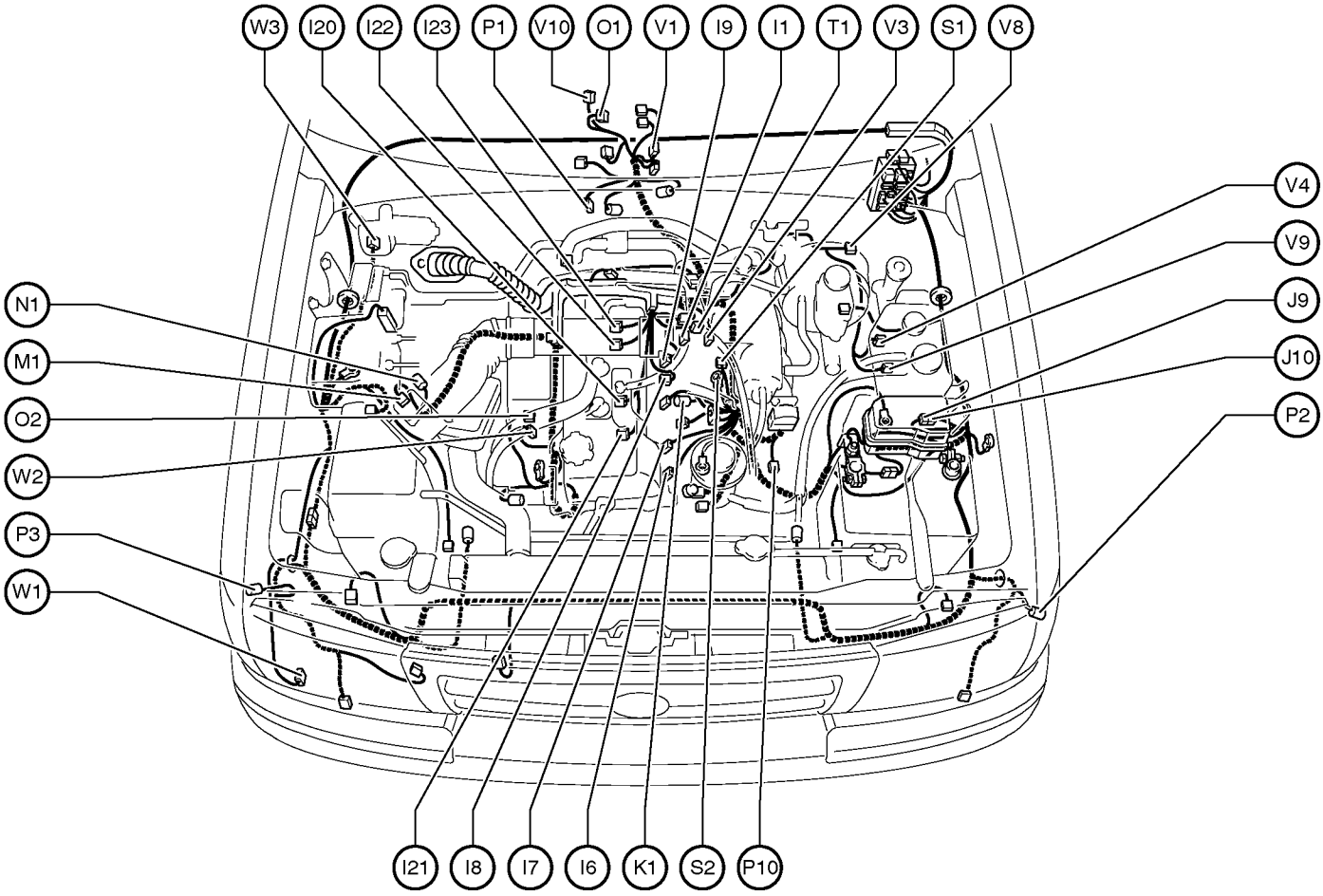
F 1 Front ABS Speed Sensor LH
F 2 Front ABS Speed Sensor RH
F 3 Front Turn Signal Light LH
F 4 Front Turn Signal Light RH
F 9 Front Airbag Sensor LH
F10 Front Airbag Sensor RH

G 1 Generator
G 2 Generator

H 1 Headlight LH
H 2 Headlight RH
H 5 Horn (Low)
H10 Horn (High)

Position of Parts in Engine Compartment

[3RZ-FE, 2RZ-FE]



I 1 Idle Air Control Valve
I 6 Injector No.1
I 7 Injector No.2
I 8 Injector No.3
I 9 Injector No.4
I 20 Ignition Coil and Igniter No.1
I 21 Ignition Coil and Igniter No.2
I 22 Ignition Coil and Igniter No.3
I 23 Ignition Coil and Igniter No.4

J 9 Junction Connector
J 10 Junction Connector

K 1 Knock Sensor

M 1 Mass Air Flow Meter

N 1 Noise Filter (Ignition System)

O 1 O/D Solenoid
O 2 Oil Pressure SW

P 1 Park/Neutral Position SW
P 2 Parking Light LH
P 3 Parking Light RH
P 10 Power Steering Oil Pressure SW

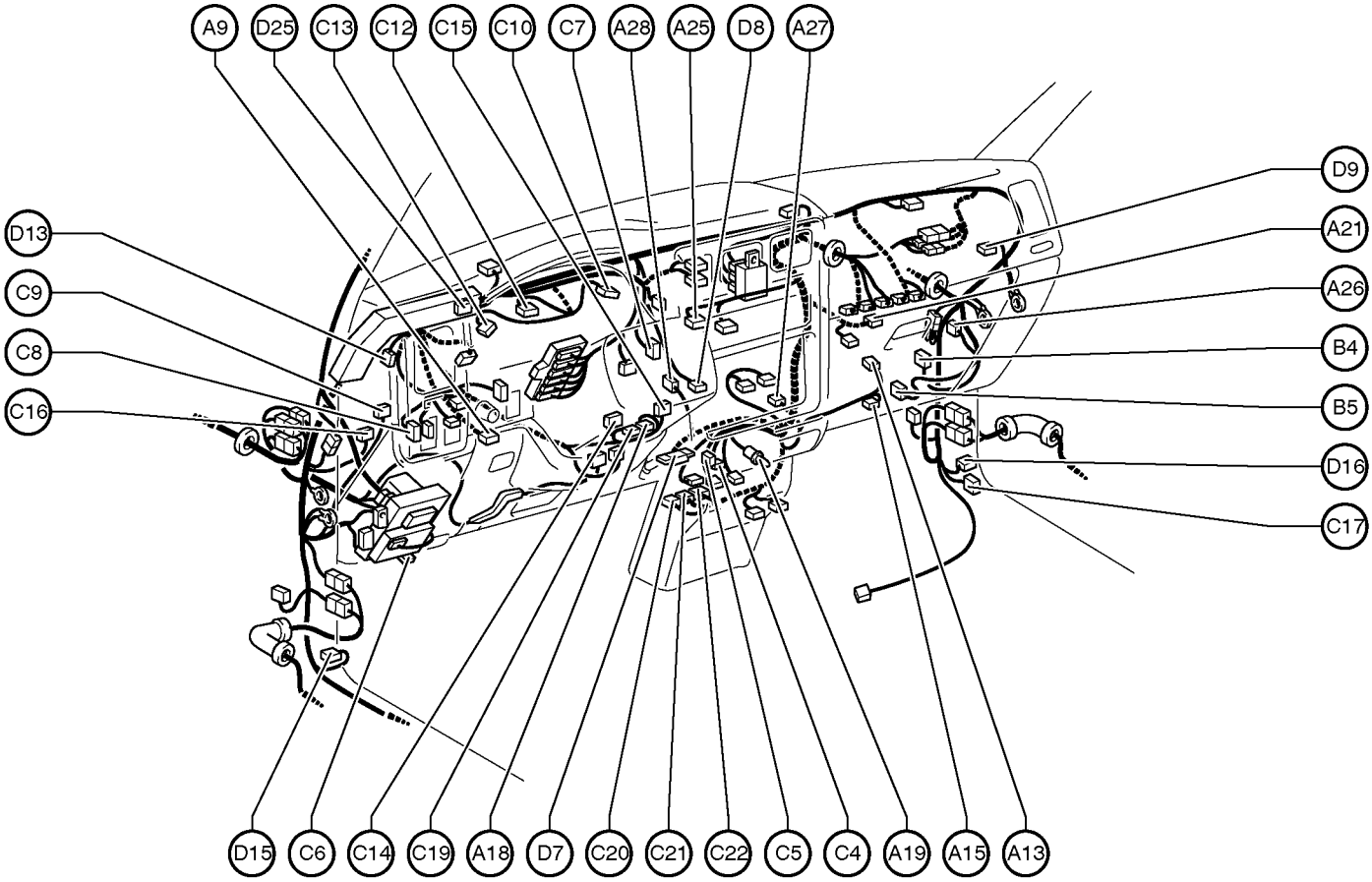
S 1 Starter
S 2 Starter

T 1 Throttle Position Sensor

V 1 Vehicle Speed Sensor (Electronically Controlled Transmission)
V 3 VSV (EGR)
V 4 VSV (EVAP)
V 8 Vapor Pressure Sensor
V 9 VSV (Vapor Pressure Sensor)
V 10 Vehicle Speed Sensor

W 1 Washer Motor and Washer Level Sensor (Cold Area Spec.) or Washer Motor (Except Cold Area Spec.)
W 2 Water Temp. Sender
W 3 Wiper Motor

Position of Parts in Instrument Panel



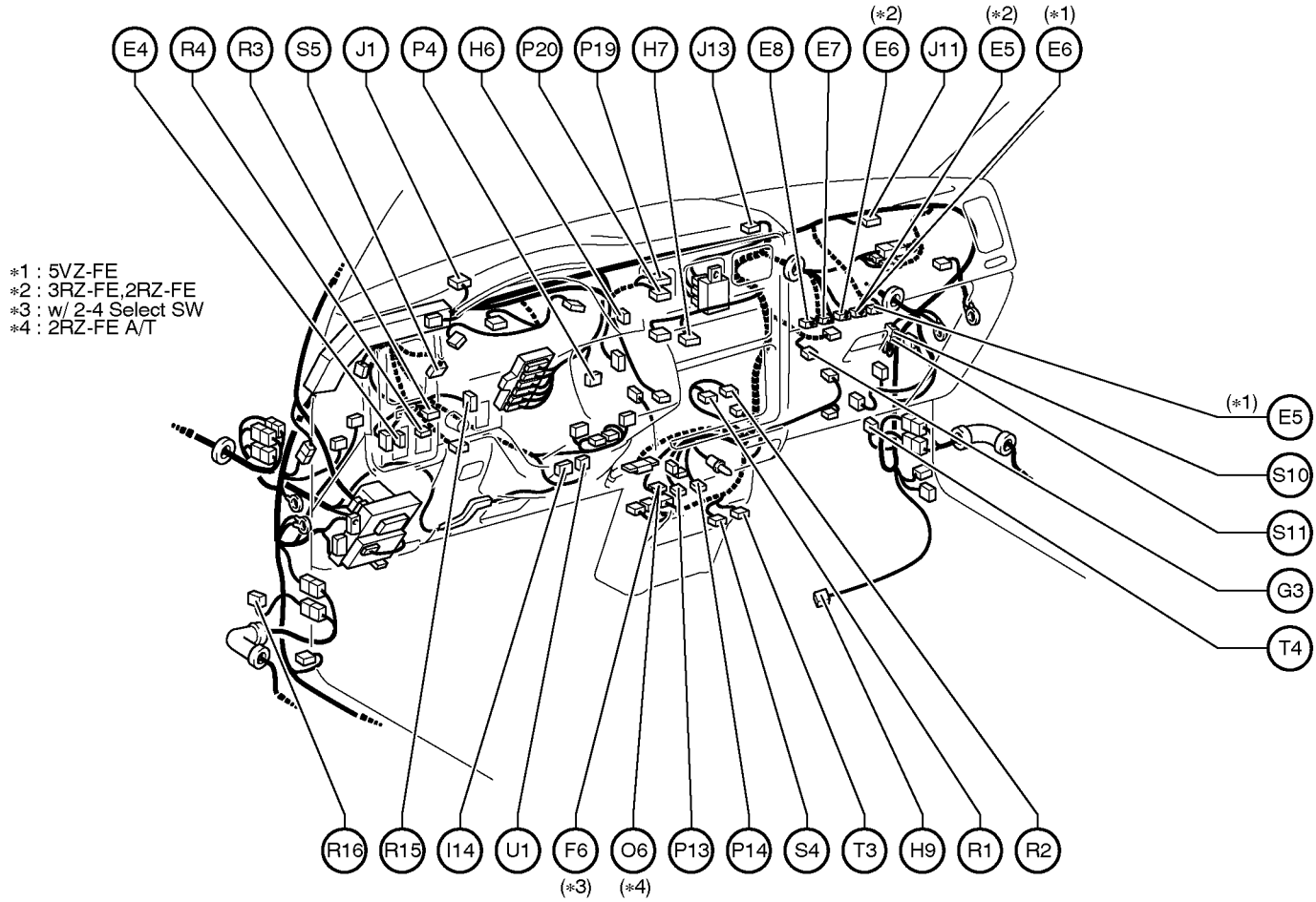
A 9 ABS Deceleration Sensor
A13 A/C Dual Pressure SW
A15 A/C Thermistor
A18 Airbag Squib (Steering Wheel Pad)
A19 Ashtray Illumination
A21 Airbag Squib (Front Passenger Airbag Assembly)
A25 A/C Control Assembly
A26 Air Inlet Control Servo Motor
A27 Air Mix Control Servo Motor
A28 Air Vent Mode Control Servo Motor

B 4 Blower Motor
B 5 Blower Resistor

C 4 Cigarette Lighter
C 5 Cigarette Lighter Illumination
C 6 Circuit Opening Relay
C 7 Clock
C 8 Clutch Start Cancel SW
C 9 Clutch Start SW
C10 Combination Meter
C12 Combination Meter
C13 Combination Meter
C14 Combination SW
C15 Combination SW
C16 Cruise Control Clutch SW
C17 Cruise Control ECU
C19 Combination SW
C20 Center Airbag Sensor Assembly
C21 Center Airbag Sensor Assembly
C22 Center Airbag Sensor Assembly

D 7 Data Link Connector 3
D 8 Daytime Running Light Relay (Main)
D 9 Daytime Running Light Relay No.4
D13 Diode (Daytime Running Light System)
D15 Door Courtesy SW Front LH
D16 Door Courtesy SW Front RH
D25 Diode (A/T)

Position of Parts in Instrument Panel



E 4 Electronically Controlled Transmission Pattern Select SW
E 5 Engine Control Module
E 6 Engine Control Module
E 7 Engine Control Module
E 8 Engine Control Module

F 6 4WD ECU

G 3 Glove Box Light

H 6 Hazard SW
H 7 Heater Blower SW
H 9 Heated Oxygen Sensor (Bank 1 Sensor 2)

I 14 Ignition SW

J 1 Junction Connector
J 11 Junction Connector
J 13 Junction Connector

O 6 O/D ECU

P 4 Parking Brake SW
P 13 Power Outlet
P 14 Power Outlet
P 19 Passenger Airbag Manual On/Off Indicator
P 20 Passenger Airbag Manual On/Off SW

R 1 Radio and Player
R 2 Radio and Player
R 3 Rheostat
R 4 Rheostat
R 15 Rear Diff. Lock SW
R 16 Rear Diff. Lock ECU

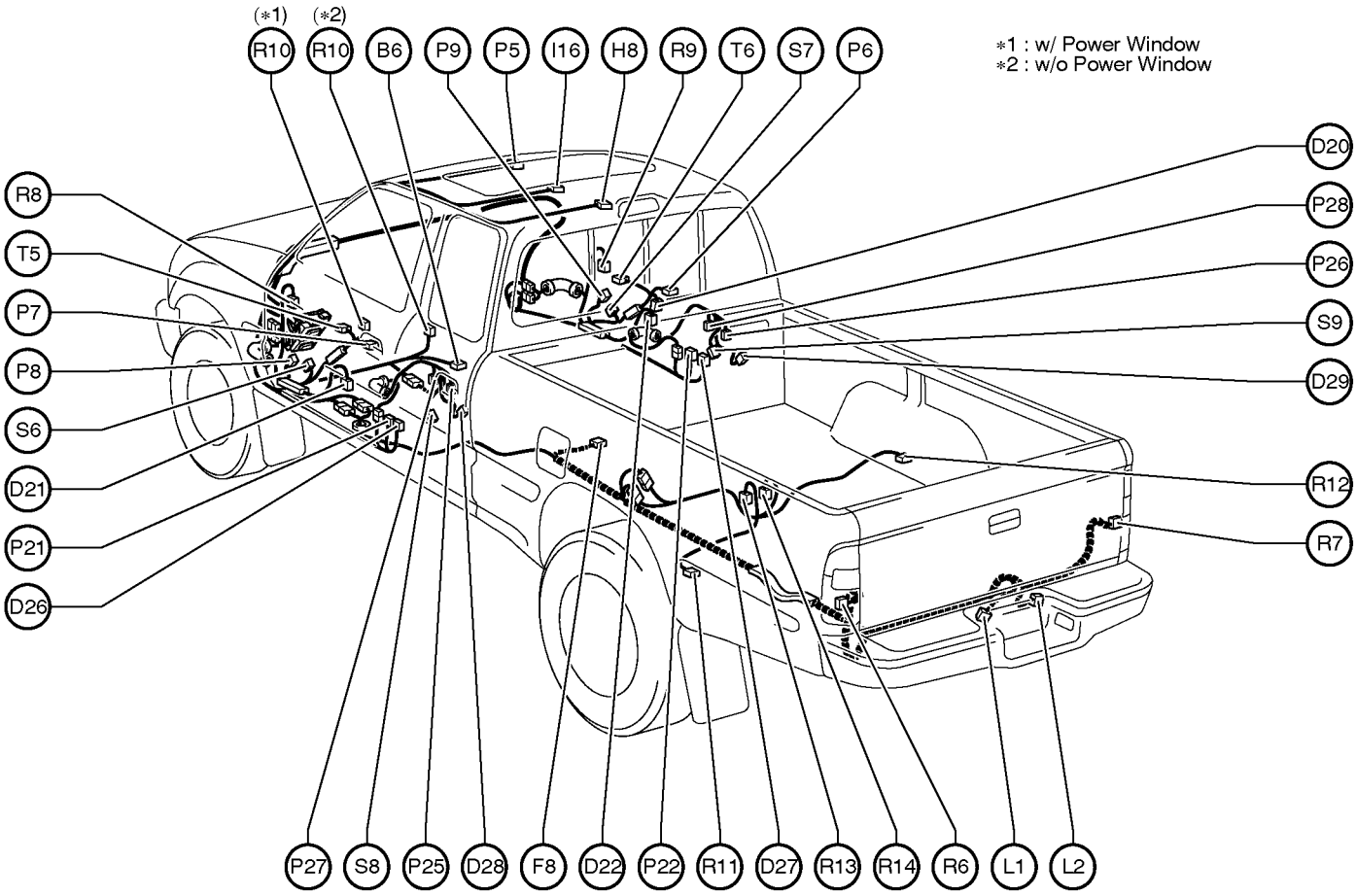
S 4 Shift Lock Control Relay and O/D Main SW
S 5 Stop Light SW
S 10 Short Connector (ADD)
S 11 Short Connector (ADD)

T 3 2-4 Select SW
T 4 Transmission Control Relay

U 1 Unlock Warning SW and Key Interlock Solenoid

Position of Parts in Body

[Double Cab]



B 6 Buckle SW LH

D20 Door Lock Control SW RH
D21 Door Lock Motor, Door Unlock Detection SW and Door Key Lock and Unlock SW Front LH
D22 Door Lock Motor, Door Unlock Detection SW and Door Key Lock and Unlock SW Front RH
D26 Door Courtesy SW Rear LH
D27 Door Courtesy SW Rear RH
D28 Door Lock Motor Rear LH
D29 Door Lock Motor Rear RH

F 8 Fuel Pump and Sender

H 8 High Mounted Stop Light

I 16 Interior Light

L 1 License Plate Light LH
L 2 License Plate Light RH

P 5 Personal Light
P 6 Power Window Control SW Front RH
P 7 Power Window Master SW and Door Lock Control SW LH
P 8 Power Window Motor Front LH
P 9 Power Window Motor Front RH
P21 Pretensioner LH
P22 Pretensioner RH
P25 Power Window Control SW Rear LH
P26 Power Window Control SW Rear RH
P27 Power Window Motor Rear LH
P28 Power Window Motor Rear RH

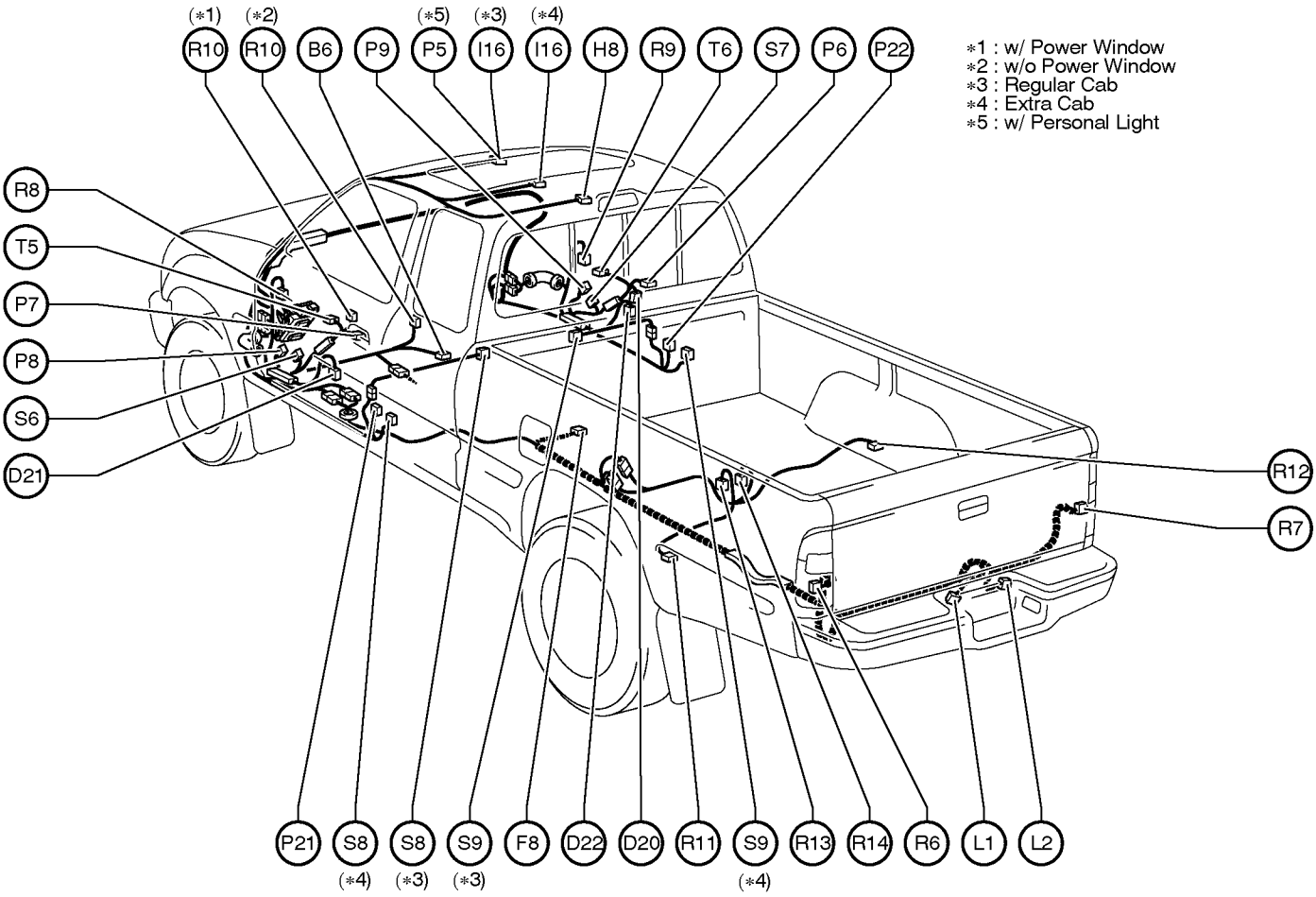
R 6 Rear Combination Light LH
R 7 Rear Combination Light RH
R 8 Remote Control Mirror LH
R 9 Remote Control Mirror RH
R10 Remote Control Mirror SW
R11 Rear ABS Speed Sensor LH
R12 Rear ABS Speed Sensor RH
R13 Rear Diff. Lock Detection SW
R14 Rear Diff. Lock Motor

S 6 Speaker (Front Door LH)
S 7 Speaker (Front Door RH)
S 8 Speaker (Rear LH)
S 9 Speaker (Rear RH)

T 5 Tweeter LH
T 6 Tweeter RH

Position of Parts in Body

[Except Double Cab]



B 6 Buckle SW LH

D20 Door Lock Control SW RH
D21 Door Lock Motor, Door Unlock Detection SW and Door Key Lock and Unlock SW Front LH
D22 Door Lock Motor, Door Unlock Detection SW and Door Key Lock and Unlock SW Front RH

F 8 Fuel Pump and Sender

H 8 High Mounted Stop Light

I 16 Interior Light

L 1 License Plate Light LH
L 2 License Plate Light RH

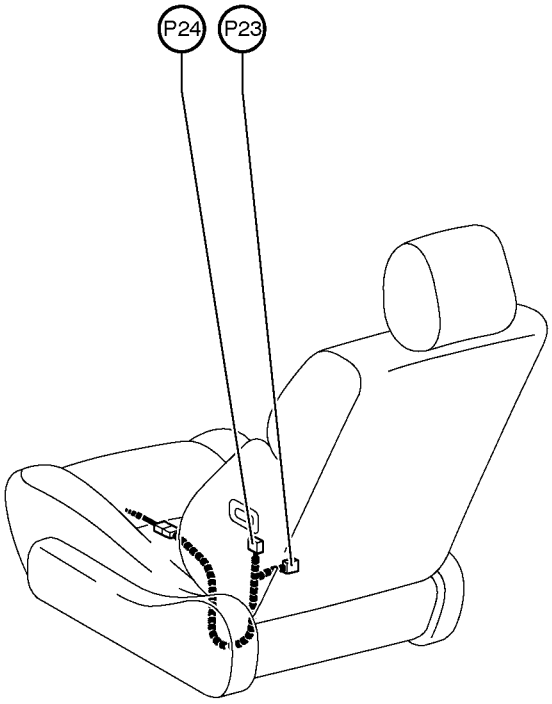
P 5 Personal Light
P 6 Power Window Control SW Front RH
P 7 Power Window Master SW and Door Lock Control SW LH
P 8 Power Window Motor Front LH
P 9 Power Window Motor Front RH
P21 Pretensioner LH
P22 Pretensioner RH

R 6 Rear Combination Light LH
R 7 Rear Combination Light RH
R 8 Remote Control Mirror LH
R 9 Remote Control Mirror RH
R10 Remote Control Mirror SW
R11 Rear ABS Speed Sensor LH
R12 Rear ABS Speed Sensor RH
R13 Rear Diff. Lock Detection SW
R14 Rear Diff. Lock Motor

S 6 Speaker (Front Door LH)
S 7 Speaker (Front Door RH)
S 8 Speaker (Rear LH)
S 9 Speaker (Rear RH)

T 5 Tweeter LH
T 6 Tweeter RH

Position of Parts in Seat

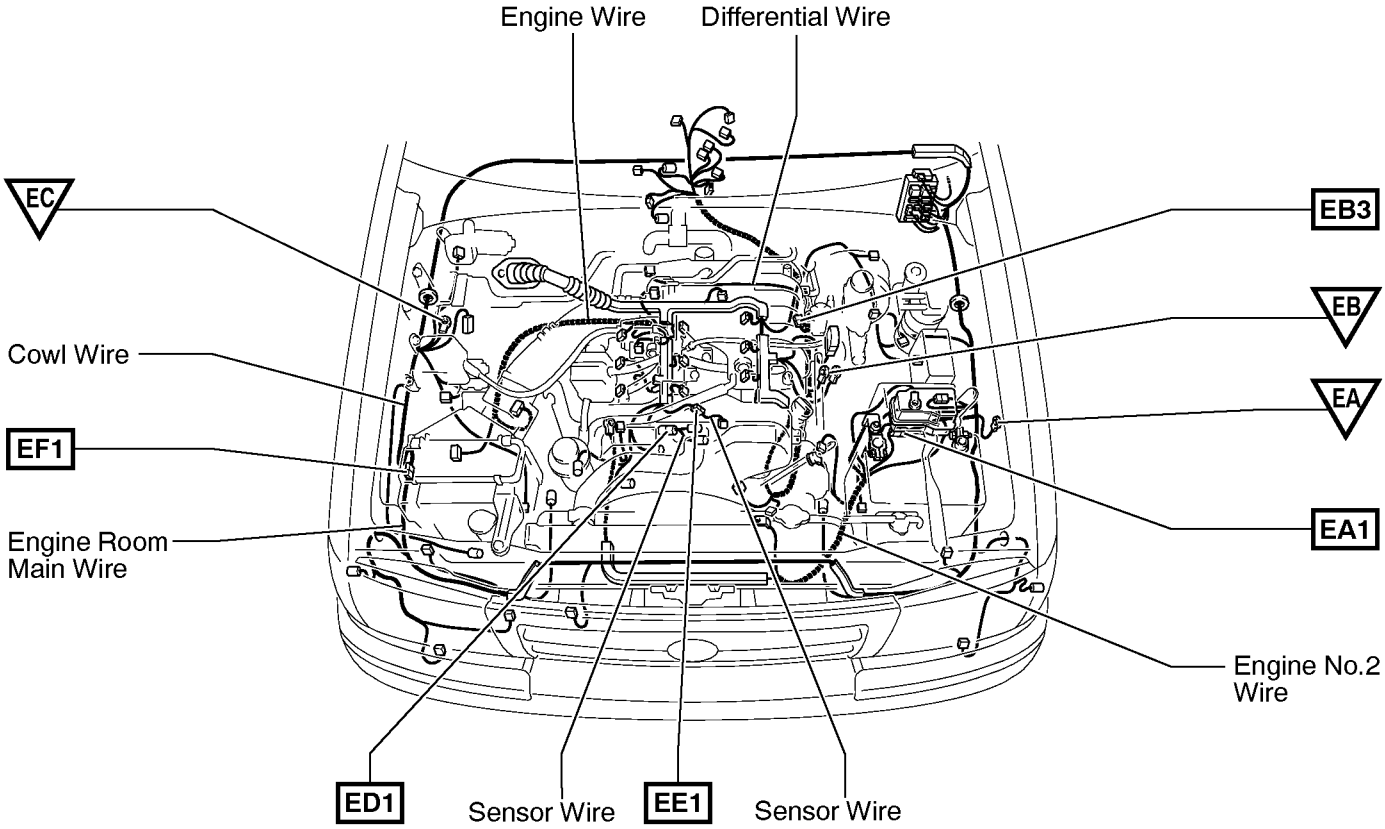


P23 Power Seat Motor (Lumbar Support)
P24 Power Seat SW (Lumbar Support)

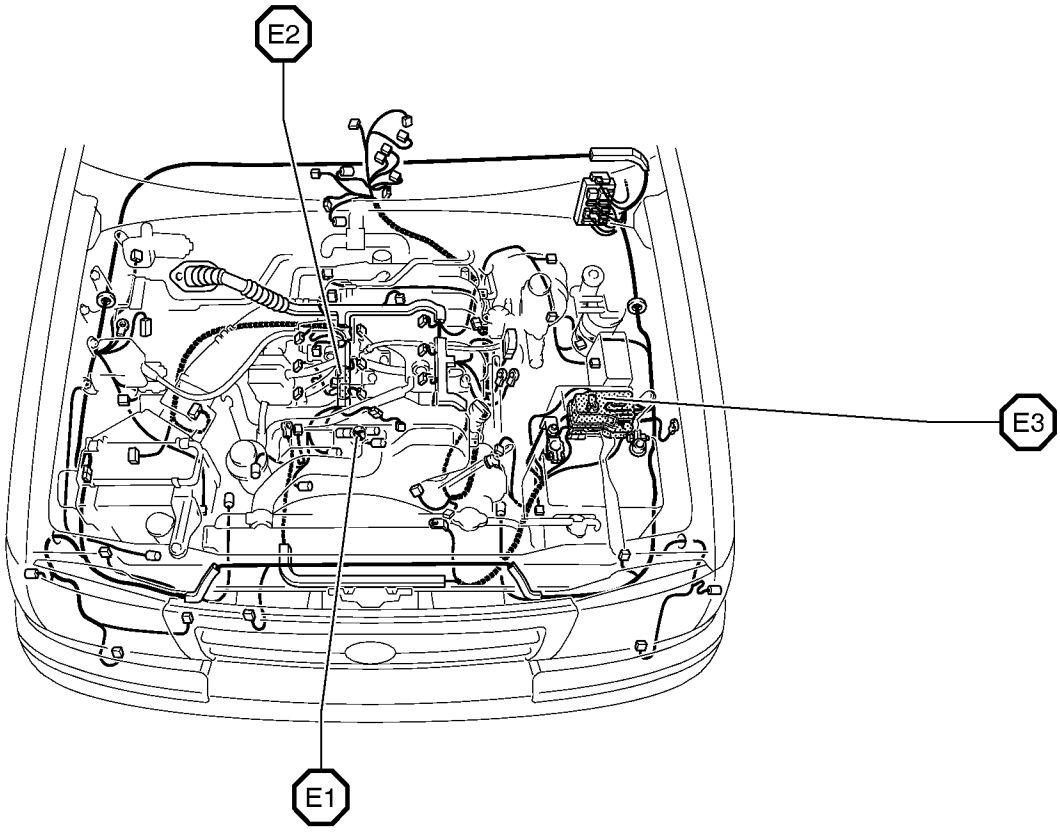
▭ : Location of Connector Joining Wire Harness and Wire Harness

▽ : Location of Ground Points

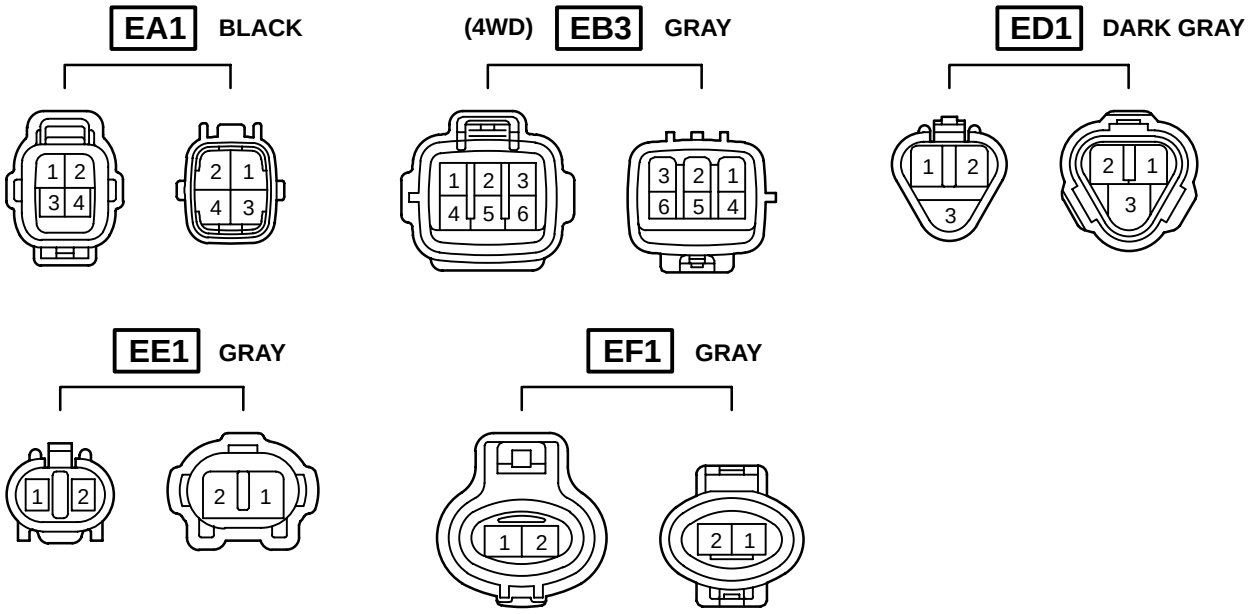
[5VZ-FE]



⬡ : Location of Splice Points



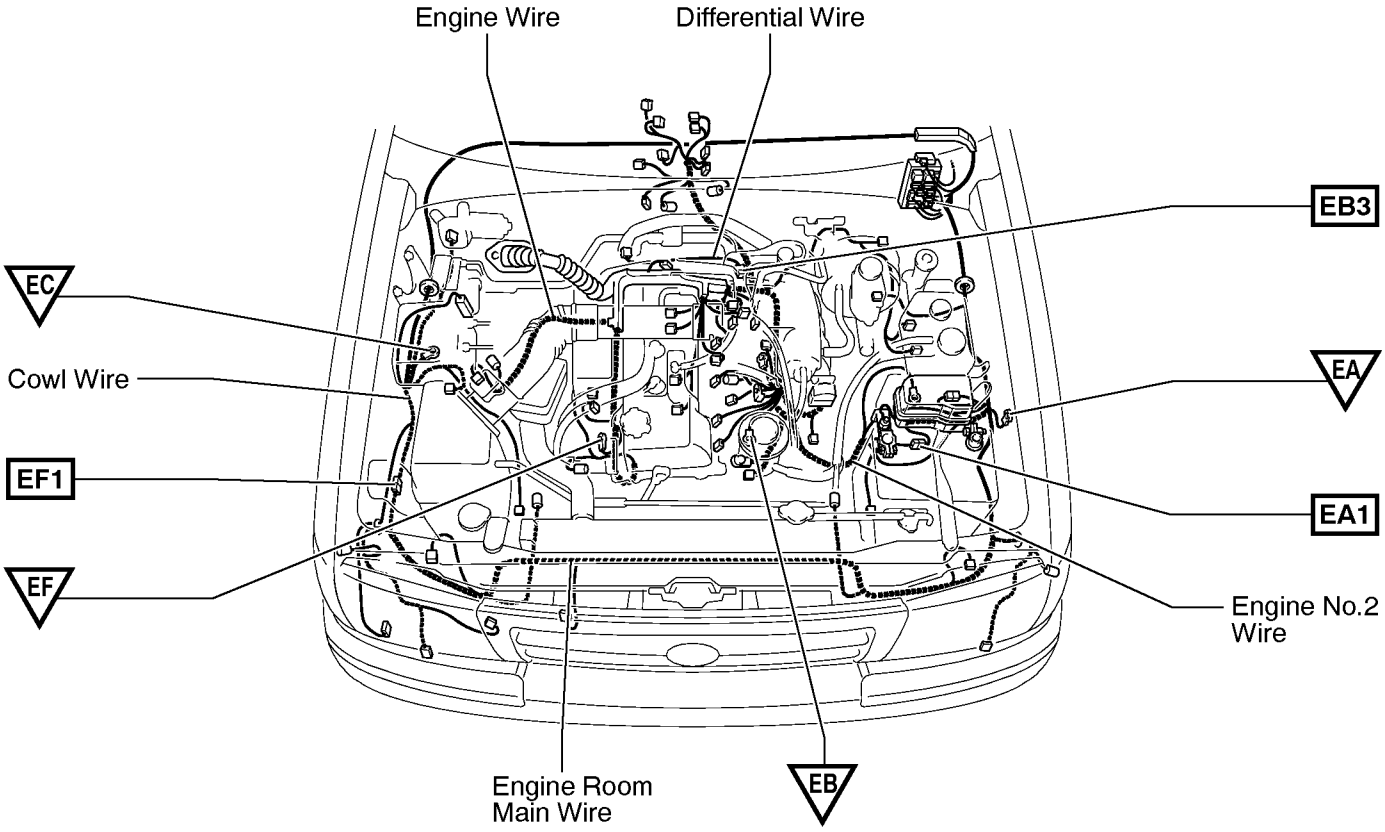
Connector Joining Wire Harness and Wire Harness



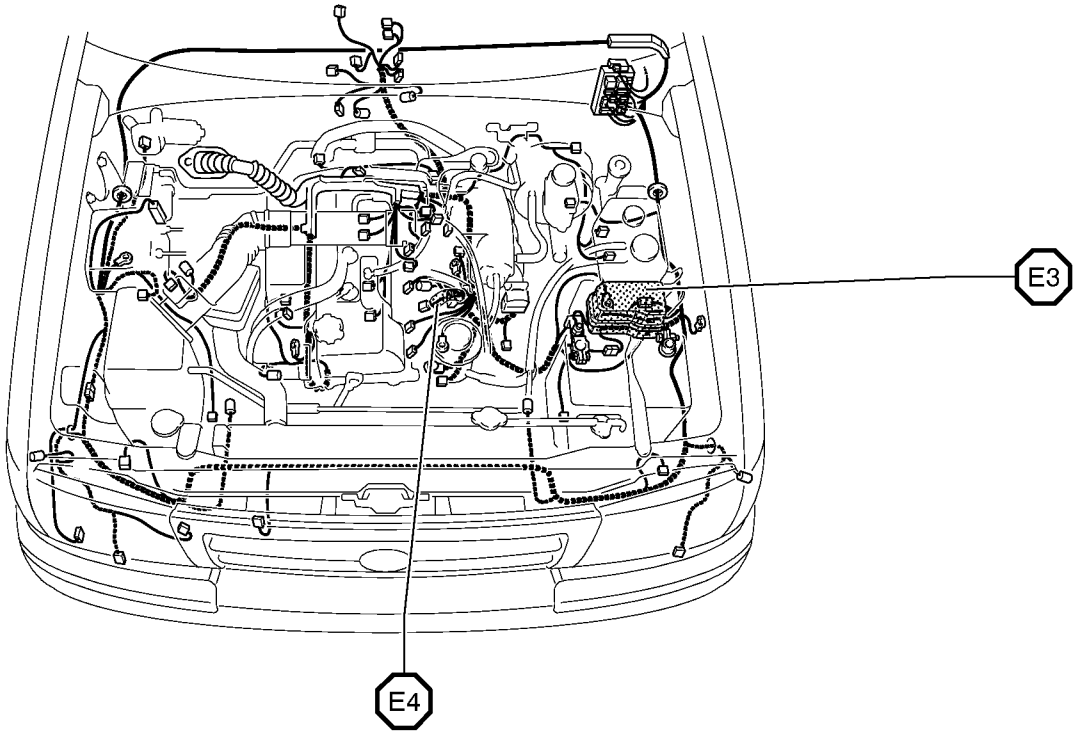
Code	Joining Wire Harness and Wire Harness (Connector Location)
EA1	Engine Room Main Wire and Engine No.2 Wire (Near the Battery)
EB3	Engine Wire and Differential Wire (Front Differential Upper Side)
ED1	Sensor Wire and Engine Wire (Over the Cylinder Head)
EE1	Engine Wire and Sensor Wire (Over the Cylinder Head)
EF1	Cowl Wire and Engine Room Main Wire (Front Right Fender)

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

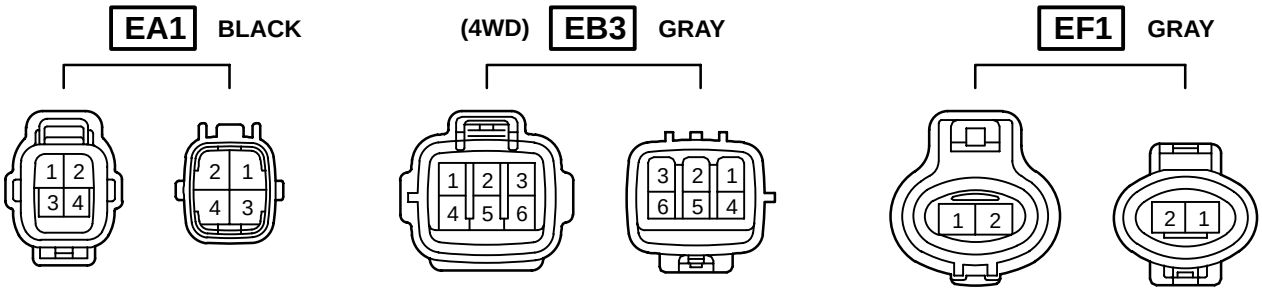
[3RZ-FE, 2RZ-FE]



: Location of Splice Points



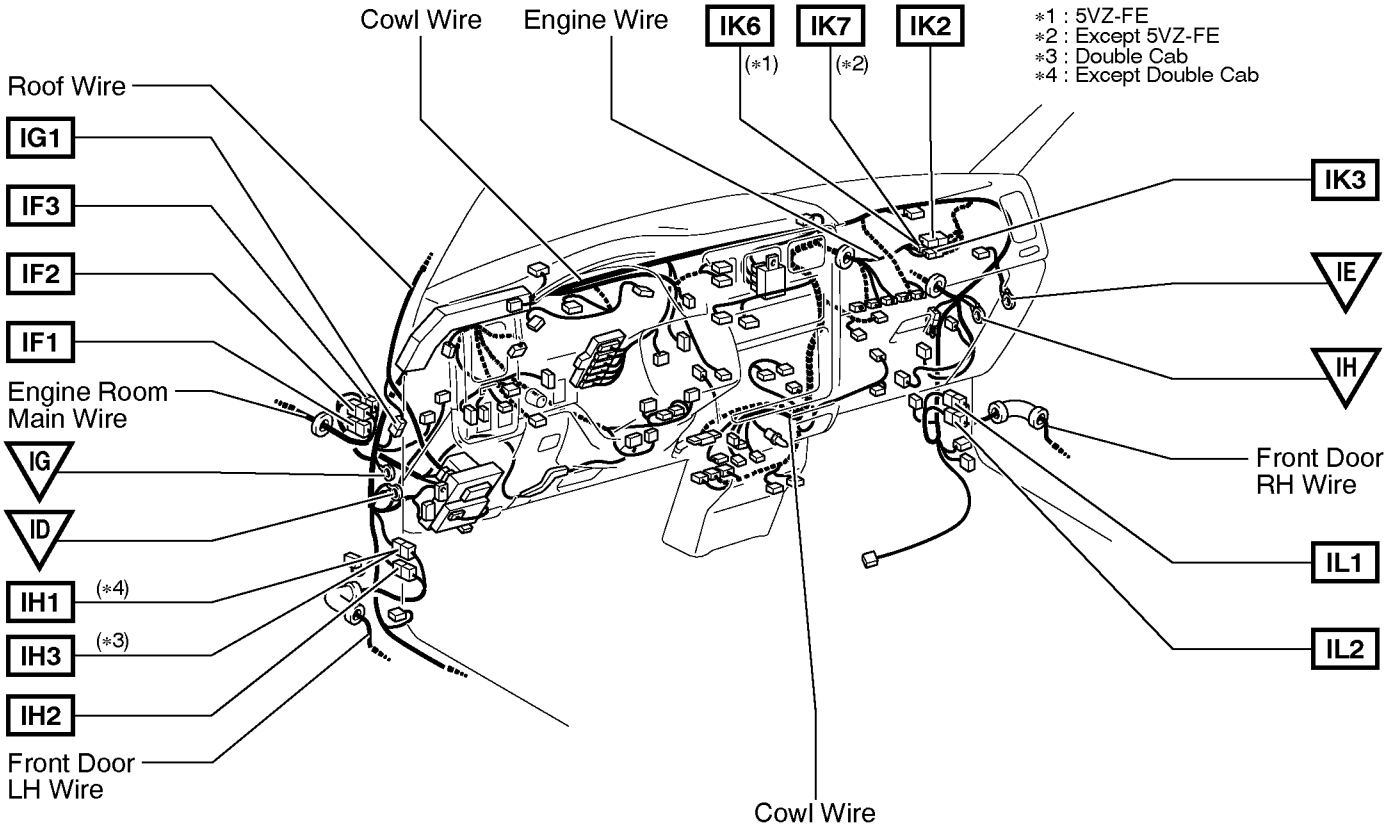
Connector Joining Wire Harness and Wire Harness



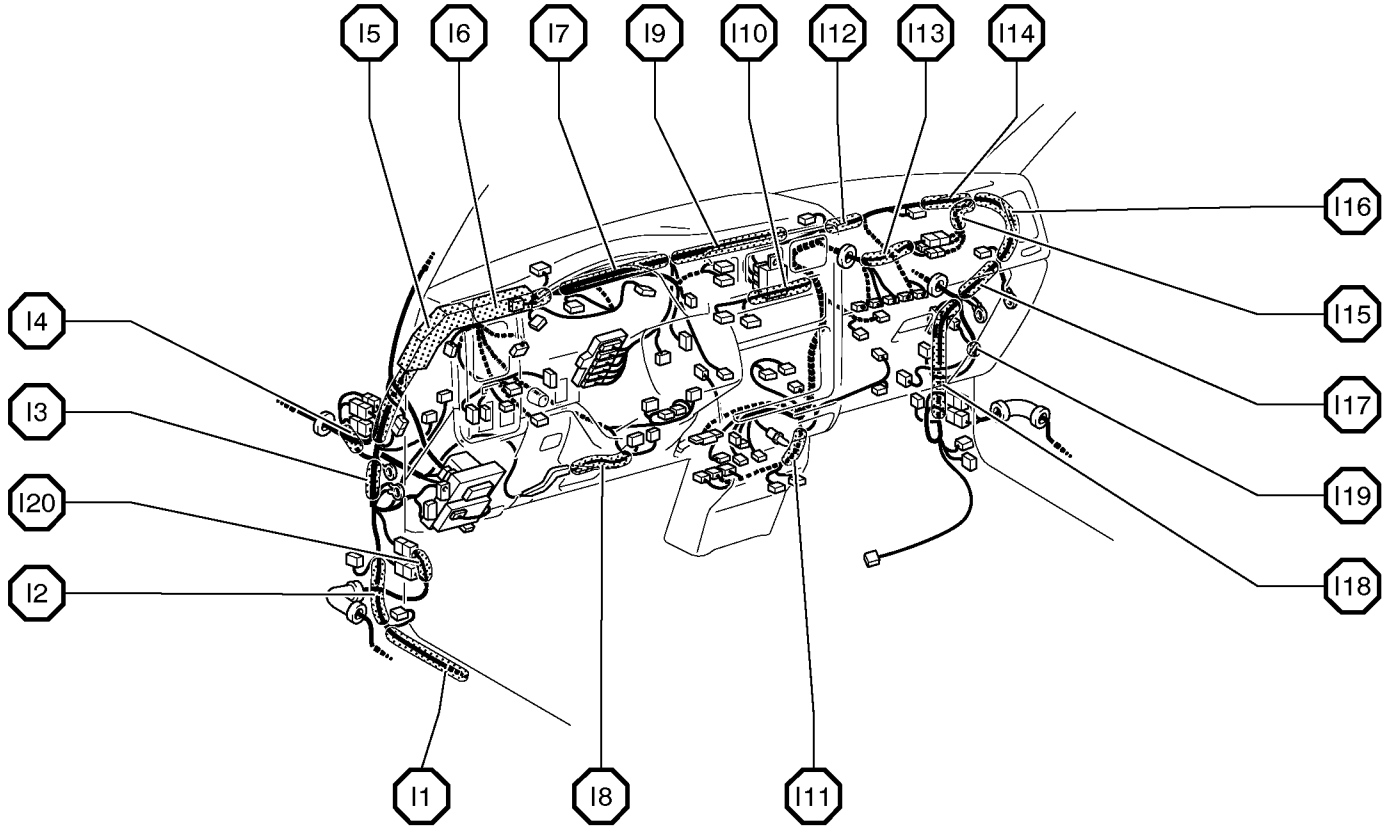
Code	Joining Wire Harness and Wire Harness (Connector Location)
EA1	Engine Room Main Wire and Engine No.2 Wire (Near the Battery)
EB3	Engine Wire and Differential Wire (Front Differential Upper Side)
EF1	Cowl Wire and Engine Room Main Wire (Front Right Fender)

▭ : Location of Connector Joining Wire Harness and Wire Harness

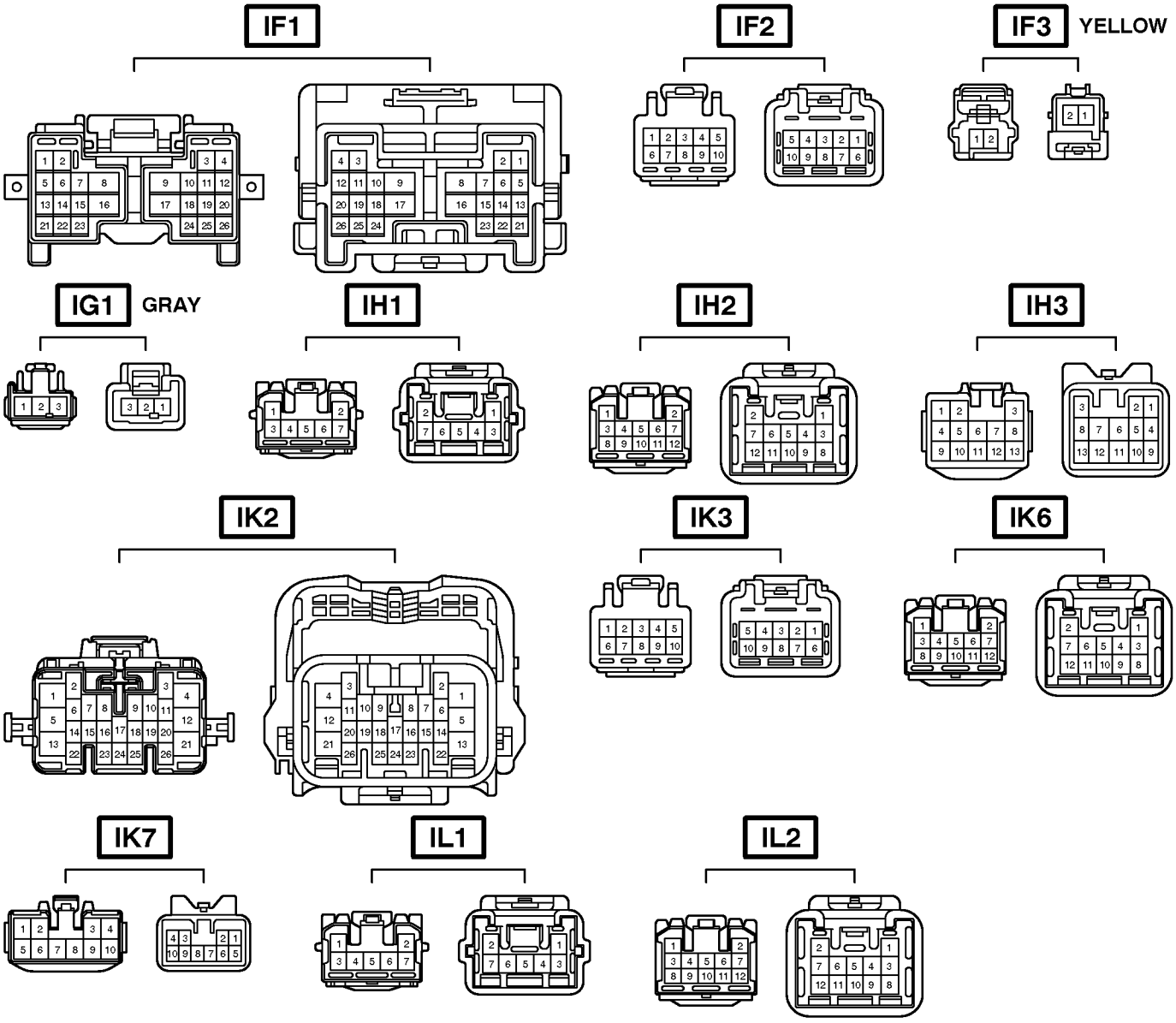
▽ : Location of Ground Points



○ : Location of Splice Points



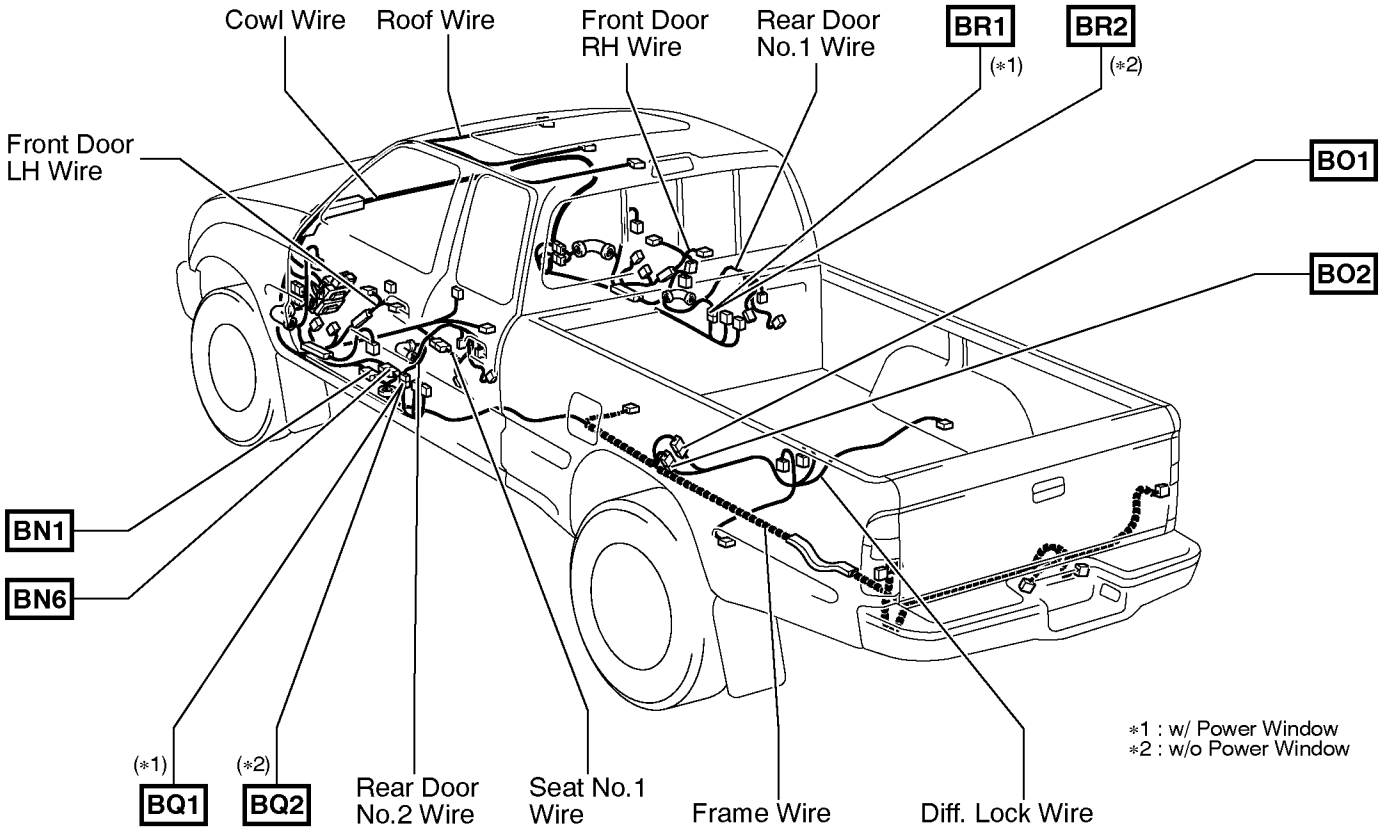
Connector Joining Wire Harness and Wire Harness



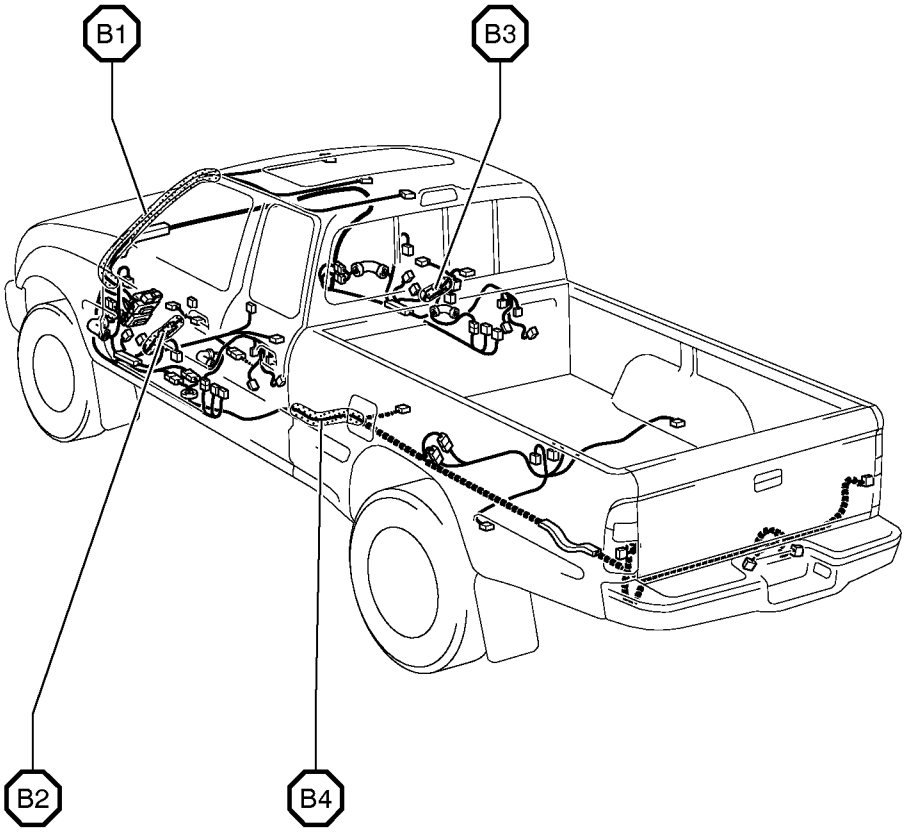
Code	Joining Wire Harness and Wire Harness (Connector Location)
IF1	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IF2	
IF3	
IG1	Cowl Wire and Roof Wire (Left Kick Panel)
IH1	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IH2	
IH3	
IK2	Engine Wire and Cowl Wire (Above the Glove Box)
IK3	
IK6	
IK7	
IL1	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IL2	

▭ : Location of Connector Joining Wire Harness and Wire Harness

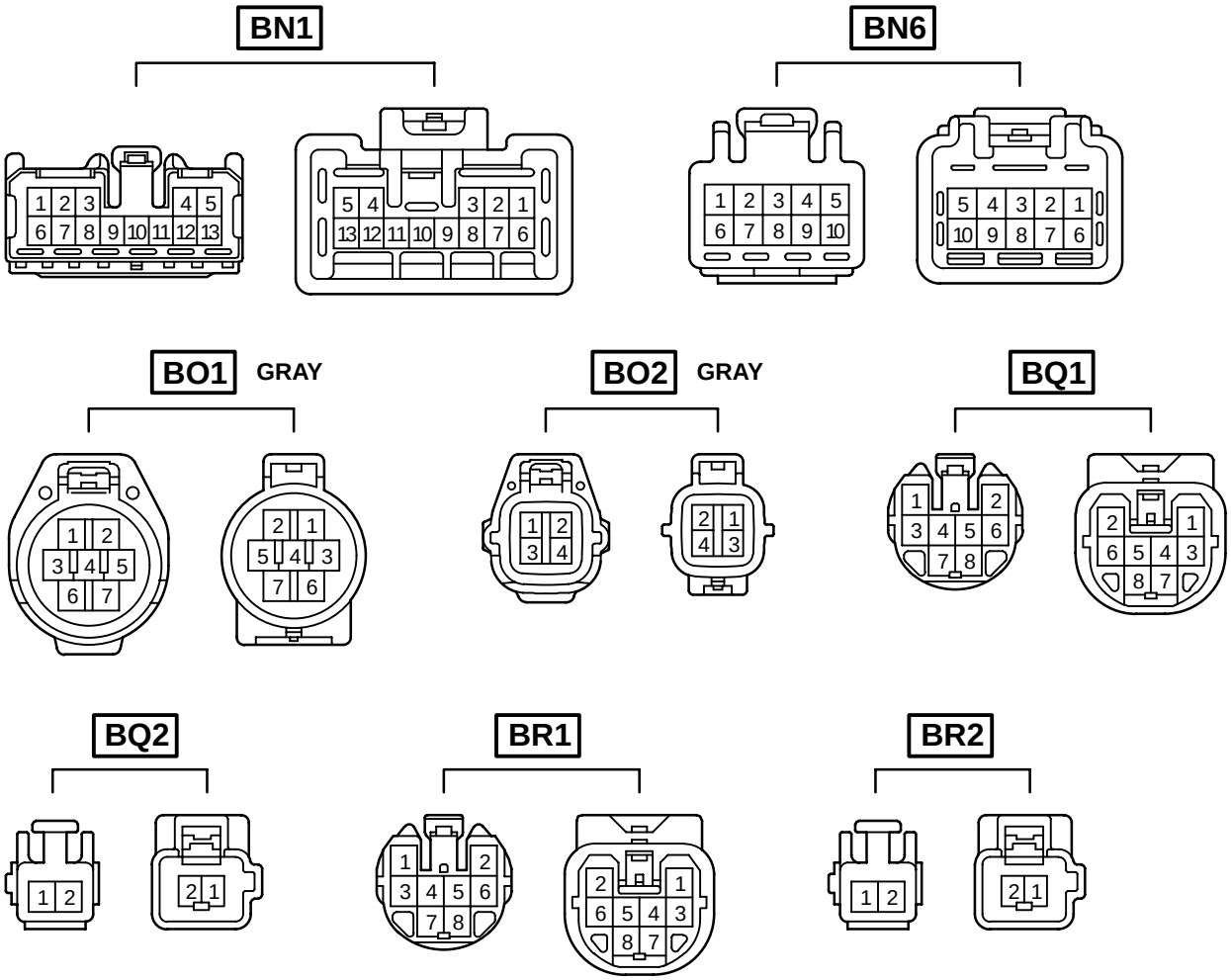
[Double Cab]



◯ : Location of Splice Points



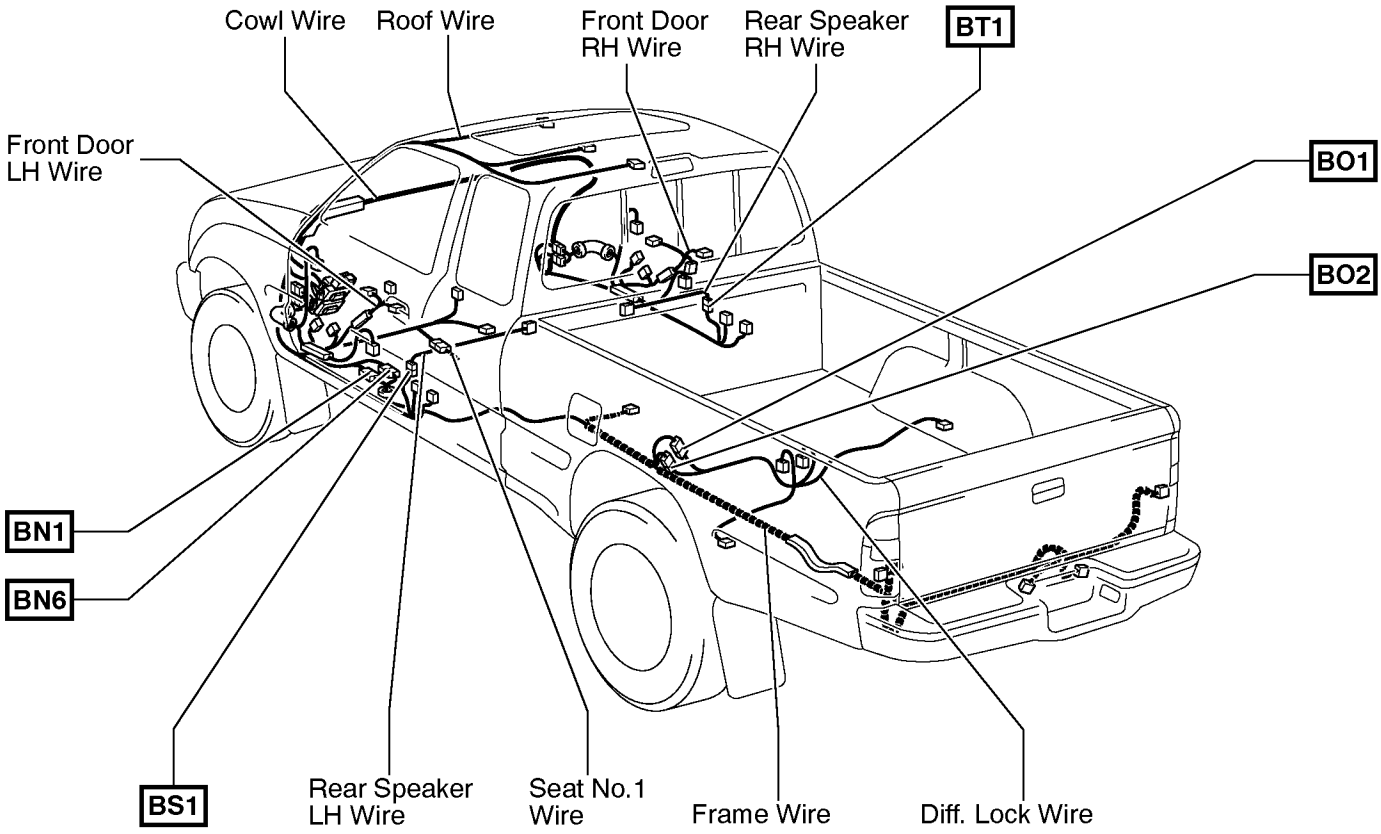
Connector Joining Wire Harness and Wire Harness



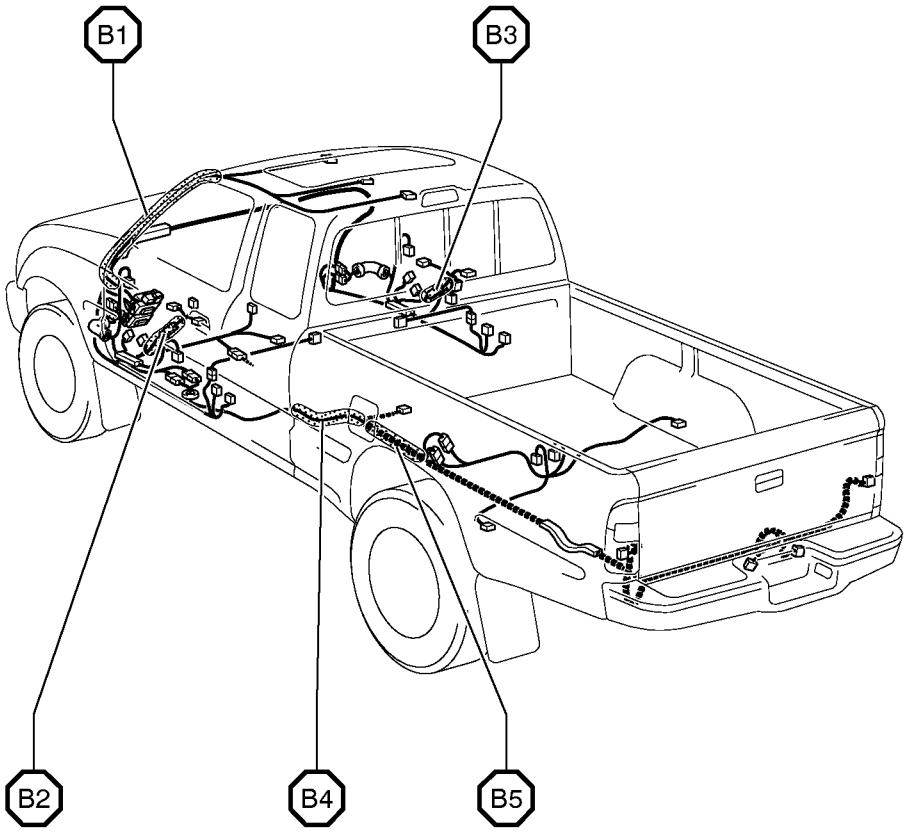
Code	Joining Wire Harness and Wire Harness (Connector Location)
BN1	Frame Wire and Cowl Wire (Under the Driver's Seat)
BN6	
BO1	Frame Wire and Diff. Lock Wire (Rear Side Member LH)
BO2	
BQ1	Rear Door No.2 Wire and Cowl Wire (Under the Left Center Pillar)
BQ2	
BR1	Rear Door No.1 Wire and Cowl Wire (Under the Right Center Pillar)
BR2	

▭ : Location of Connector Joining Wire Harness and Wire Harness

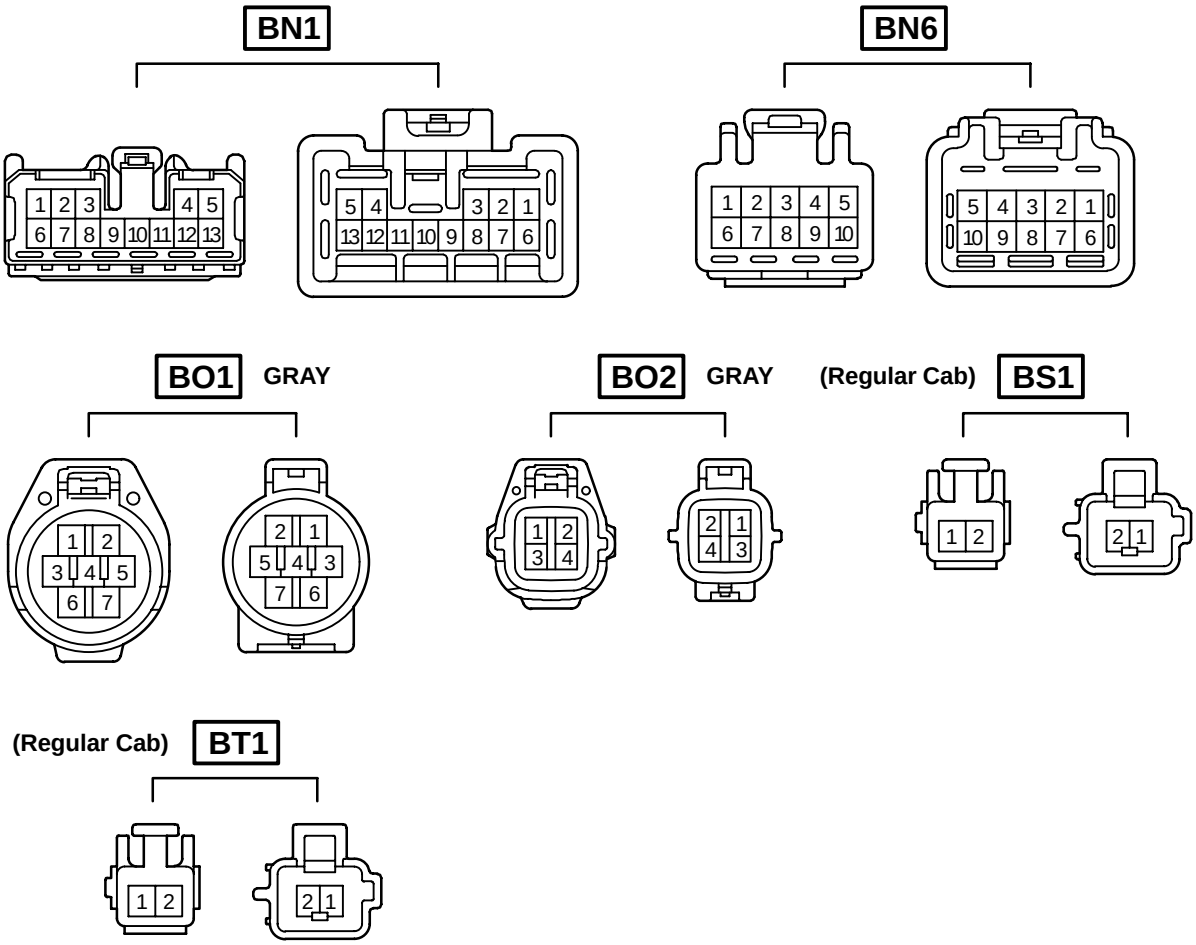
[Except Double Cab]



⬡ : Location of Splice Points

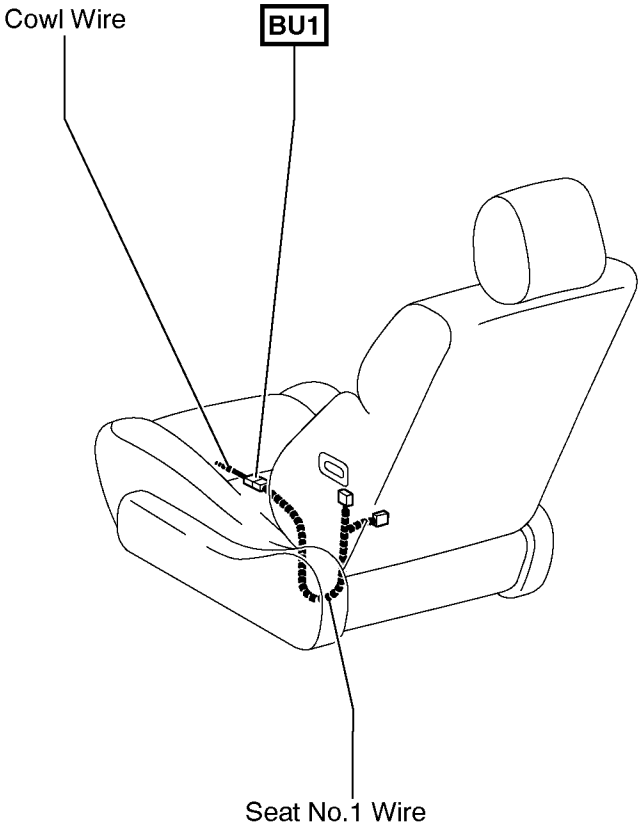


Connector Joining Wire Harness and Wire Harness

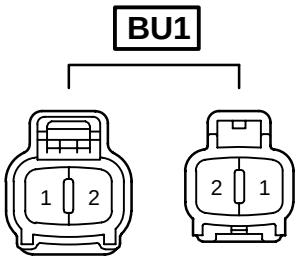


Code	Joining Wire Harness and Wire Harness (Connector Location)
BN1	Frame Wire and Cowl Wire (Under the Driver's Seat)
BN6	
BO1	Frame Wire and Diff. Lock Wire (Rear Side Member LH)
BO2	
BS1	Rear Speaker LH Wire and Cowl Wire (Under the Left Center Pillar)
BT1	Rear Speaker RH Wire and Cowl Wire (Under the Right Center Pillar)

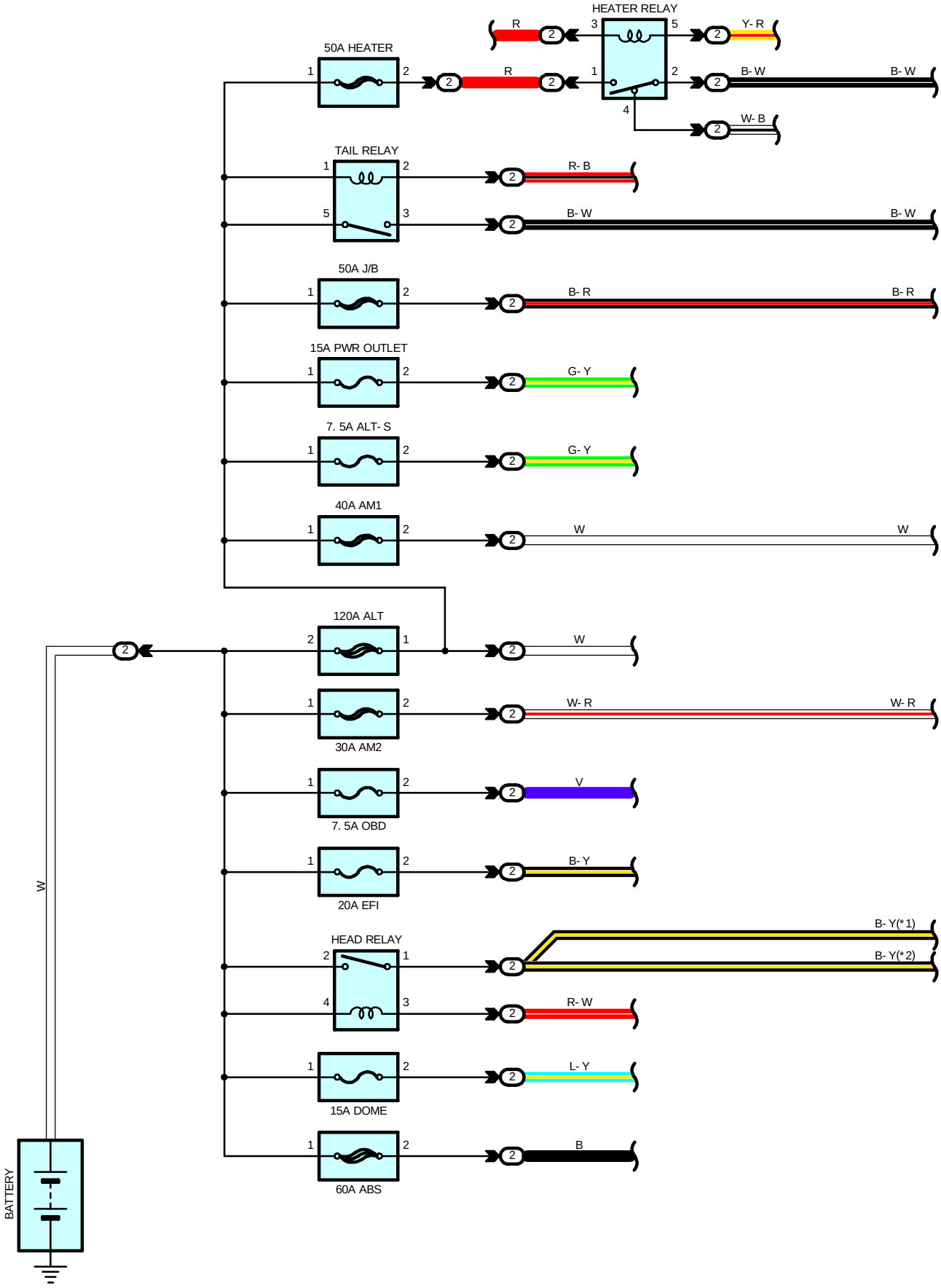
▭ : Location of Connector Joining Wire Harness and Wire Harness

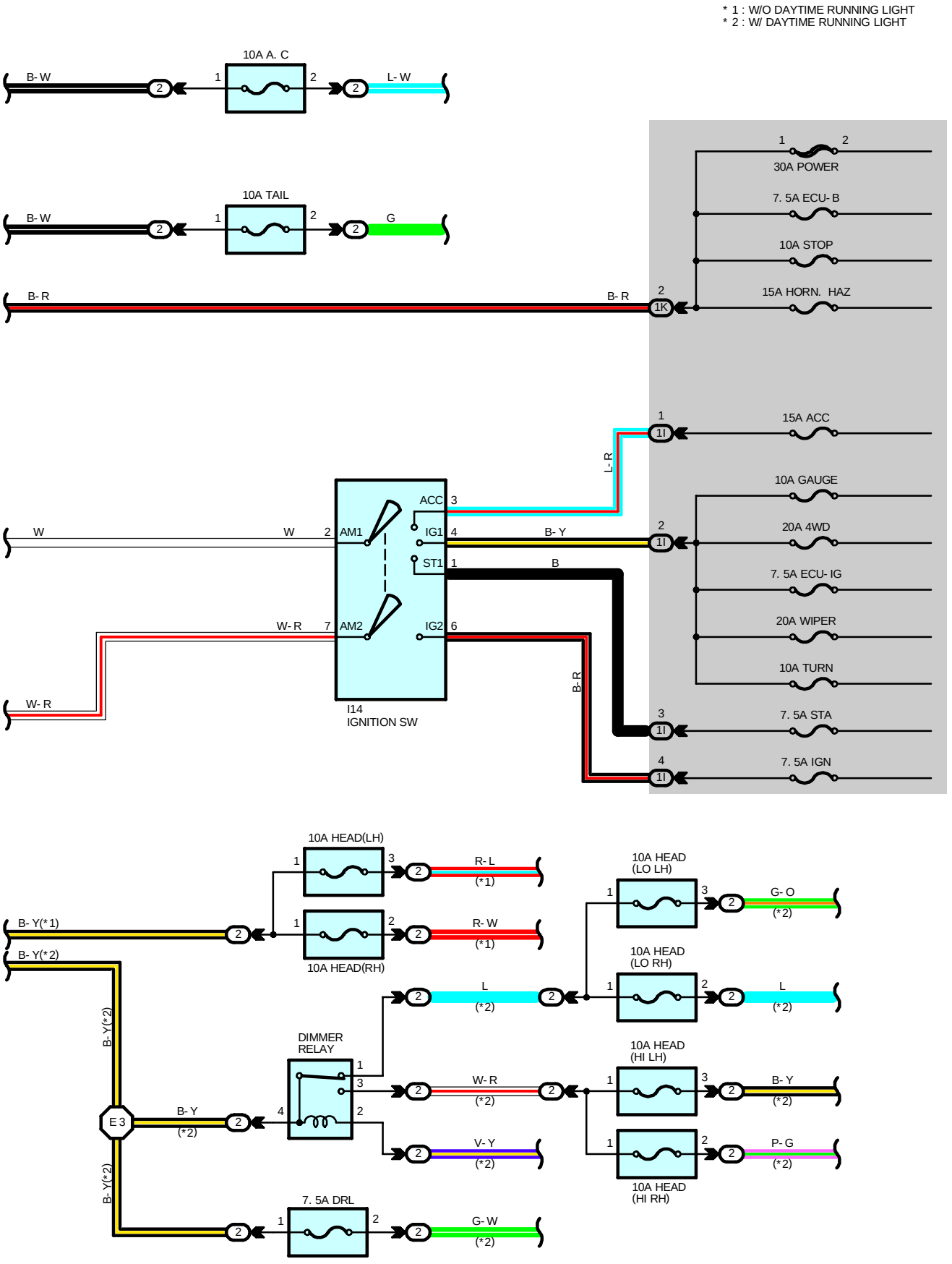


Connector Joining Wire Harness and Wire Harness



Code	Joining Wire Harness and Wire Harness (Connector Location)
BU1	Cowl Wire and Seat No.1 Wire (Under the Driver's Seat)


HEATER RELAY
R
Y- R
50A HEATER
R
B- W
B- W
W- B
TAIL RELAY
R- B
B- W
B- W
50A J/B
B- R
B- R
15A PWR OUTLET
G- Y
7. 5A ALT- S
G- Y
40A AM1
W
W
120A ALT
W
W- R
W- R
30A AM2
V
7. 5A OBD
B- Y
20A EFI
B- Y(*1)
B- Y(*2)
HEAD RELAY
R- W
L- Y
15A DOME
B
60A ABS
W
BATTERY


* 1 : W/O DAYTIME RUNNING LIGHT
* 2 : W/ DAYTIME RUNNING LIGHT
10A A. C
B- W
L- W
10A TAIL
G
B- R
30A POWER
7. 5A ECU- B
10A STOP
15A HORN. HAZ
15A ACC
L- R
10A GAUGE
20A 4WD
7. 5A ECU- IG
20A WIPER
10A TURN
7. 5A STA
7. 5A IGN
W
W- R
ACC
IG1
ST1
AM1
AM2
IG2
B- Y
B
B- R
I14
IGNITION SW
10A HEAD(LH)
10A HEAD(RH)
R- L
R- W
B- Y(*1)
B- Y(*2)
L
(*2)
10A HEAD
(LO LH)
10A HEAD
(LO RH)
G- O
DIMMER
RELAY
E 3
W- R
V- Y
10A HEAD
(HI LH)
10A HEAD
(HI RH)
P- G
7. 5A DRL
G- W

POWER SOURCE

SERVICE HINTS

HEATER RELAY

1-2 : Closed with ignition SW on and heater blower SW on

HEAD RELAY

2-1 : Closed with light control SW at **HEAD** position or dimmer SW at **FLASH** position
Closed with engine running and parking brake lever released (w/ daytime running light)

I14 IGNITION SW

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

TAIL RELAY

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

DIMMER RELAY

4-3 : Closed with HEAD relay on and dimmer SW at **HIGH** or **FLASH** position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
I14	35				

: RELAY BLOCKS

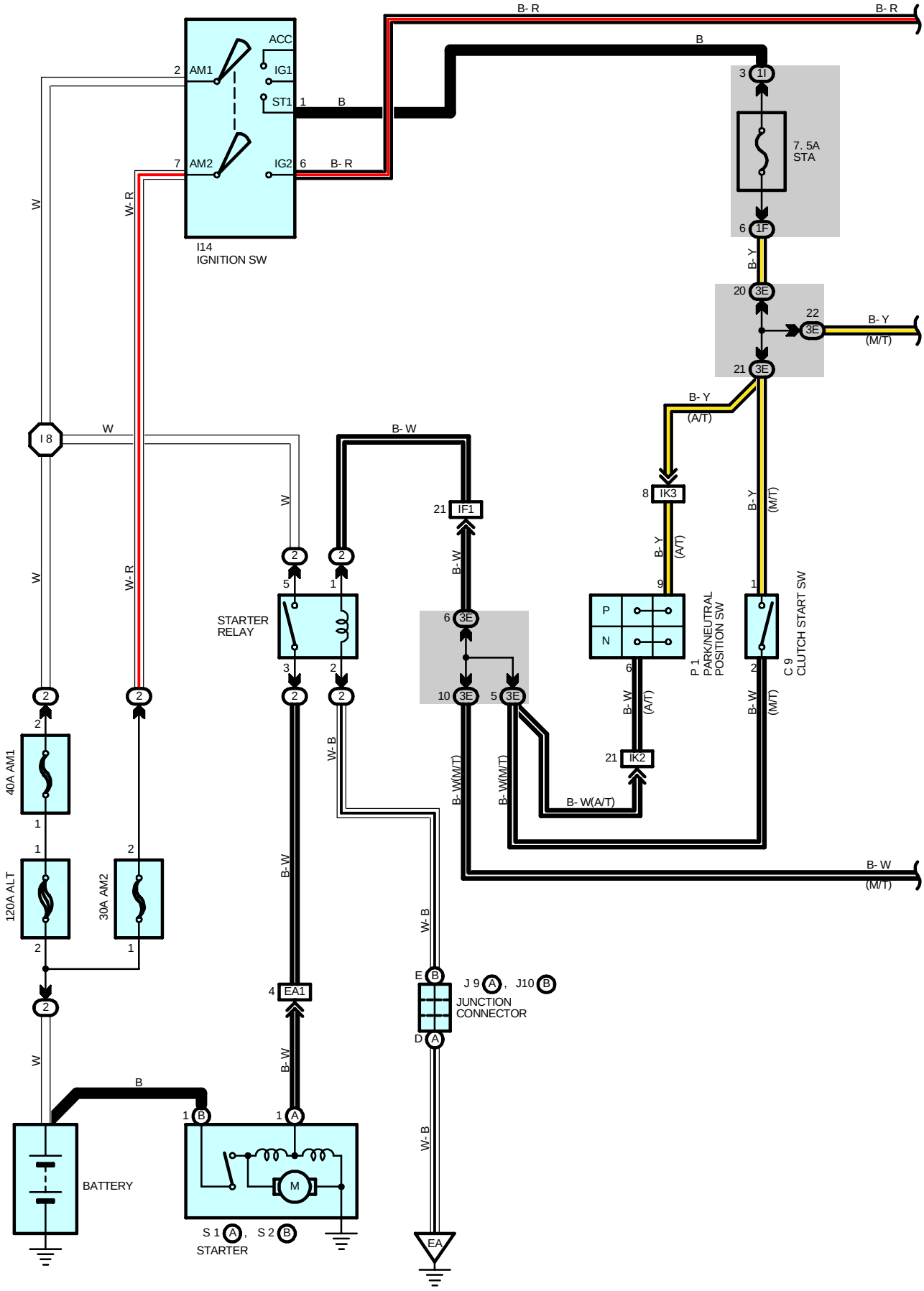
Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

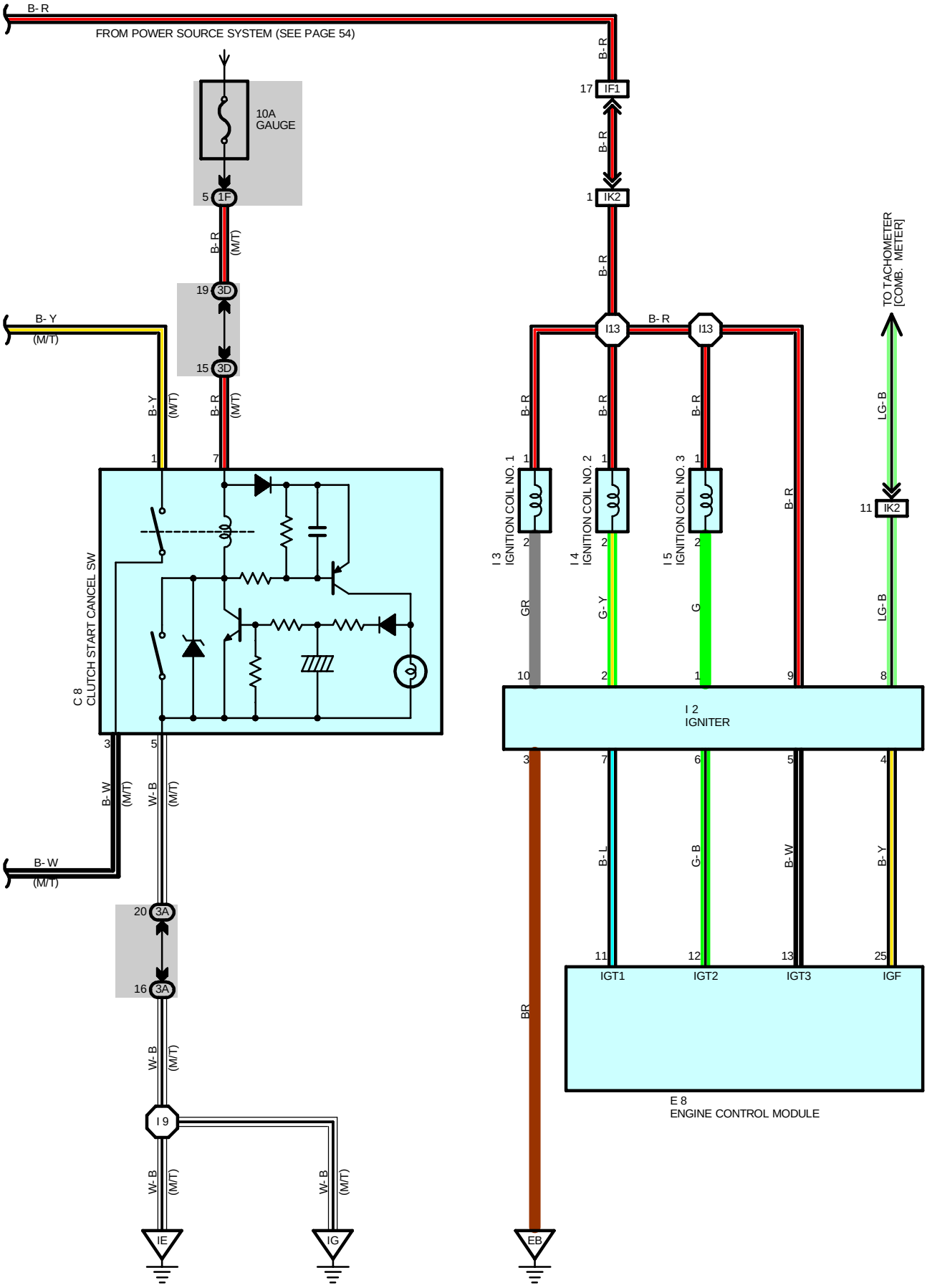
: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1I	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1K		

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E3	40 (5VZ-FE)	Engine Room Main Wire	E3	42 (3RZ-FE, 2RZ-FE)	Engine Room Main Wire


B- R
B- R
B
ACC
2 AM1
IG1
ST1 1 B
7 AM2
IG2 6 B- R
I14
IGNITION SW
3 1I
7. 5A
STA
6 1F
B- Y
20 3E
22 3E
B- Y
(M/T)
21 3E
B- Y
(A/T)
W
W- R
I 8
B- W
21 IF1
8 IK3
B- Y
(A/T)
B- Y
(M/T)
9
1
P
N
6
2
P 1
PARK/NEUTRAL
POSITION SW
C 9
CLUTCH START SW
STARTER
RELAY
5
1
3
2
6 3E
10 3E
5 3E
B- W
(A/T)
B- W
(M/T)
21 IK2
B- W(M/T)
B- W(A/T)
B- W
(M/T)
W- B
40A AM1
120A ALT
30A AM2
B- W
W- B
4 EA1
E B
J 9 A , J10 B
JUNCTION
CONNECTOR
D A
B
1 B
1 A
BATTERY
M
S 1 A , S 2 B
STARTER
EA


B- R
FROM POWER SOURCE SYSTEM (SEE PAGE 54)
10A
GAUGE
5 1F
B- R (M/T)
19 3D
15 3D
B- Y (M/T)
B- R (M/T)
1
7
C 8
CLUTCH START CANCEL SW
3
5
B- W (M/T)
W- B (M/T)
B- W (M/T)
20 3A
16 3A
W- B (M/T)
I 9
W- B (M/T)
W- B (M/T)
IE
IG
B- R
17 IF1
B- R
1 IK2
B- R
I13
B- R
I13
B- R
B- R
B- R
I 3
IGNITION COIL NO. 1
I 4
IGNITION COIL NO. 2
I 5
IGNITION COIL NO. 3
1
2
GR
G- Y
G
10
2
1
9
I 2
IGNITER
3
7
6
5
4
B- L
G- B
B- W
B- Y
BR
11
12
13
25
IGT1
IGT2
IGT3
IGF
E 8
ENGINE CONTROL MODULE
EB
B- R
TO TACHOMETER
[COMB. METER]
LG- B
11 IK2
LG- B
8

STARTING AND IGNITION (5VZ-FE)

SERVICE HINTS

S1 (A), S2 (B) STARTER

Points closed with Park/Neutral position SW at **P** or **N** position and ignition SW at **ST** position (A/T)
Points closed with clutch start SW or clutch start cancel SW on and ignition SW at **ST** position (M/T)

I14 IGNITION SW

7-6 : Closed with ignition SW at **ON** or **ST** position
2-1 : Closed with ignition SW at **ST** position

P1 PARK/NEUTRAL POSITION SW (A/T)

9-6 : Closed with A/T shift lever in **P** or **N** position

STARTER RELAY

5-3 : Closed with Park/Neutral position SW at **P** or **N** position and ignition SW at **ST** position (A/T)
5-3 : Closed with clutch start SW or clutch start cancel SW on and ignition SW at **ST** position (M/T)

C8 CLUTCH START CANCEL SW (M/T)

1-3 : Closed with ignition SW on and cancel SW on

C9 CLUTCH START SW (M/T)

1-2 : Closed with clutch pedal fully depressed

: PARTS LOCATION

Code	See Page	Code		See Page	Code		See Page
C8	34	I4		31 (5VZ-FE)	P1		31 (5VZ-FE)
C9	34	I5		31 (5VZ-FE)	S1	A	31 (5VZ-FE)
E8	35	I14		35	S2	B	31 (5VZ-FE)
I2	31 (5VZ-FE)	J9	A	31 (5VZ-FE)			
I3	31 (5VZ-FE)	J10	B	31 (5VZ-FE)			

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1I	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		
3E		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

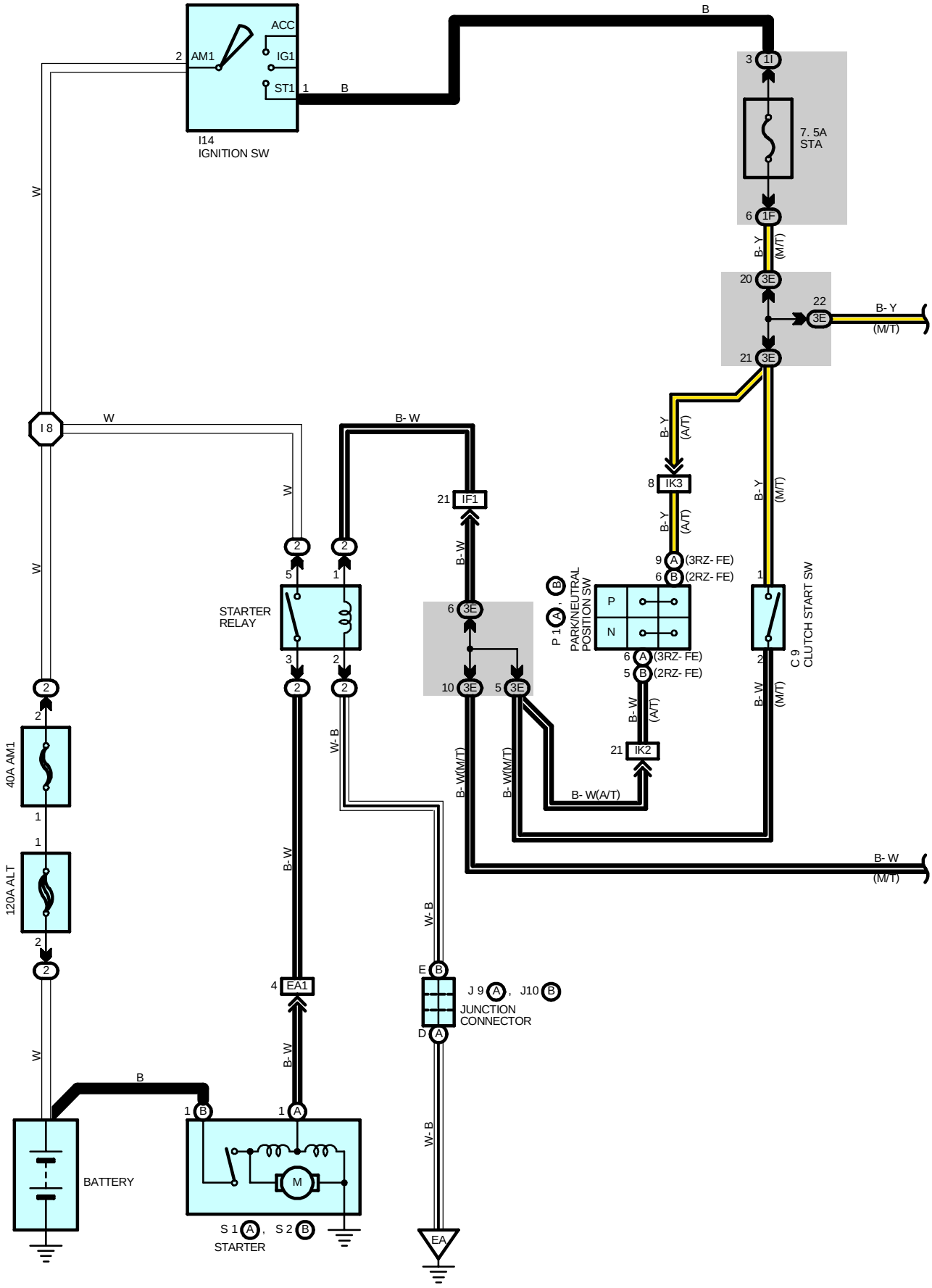
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	40 (5VZ-FE)	Engine Room Main Wire and Engine No.2 Wire (Near the Battery)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		

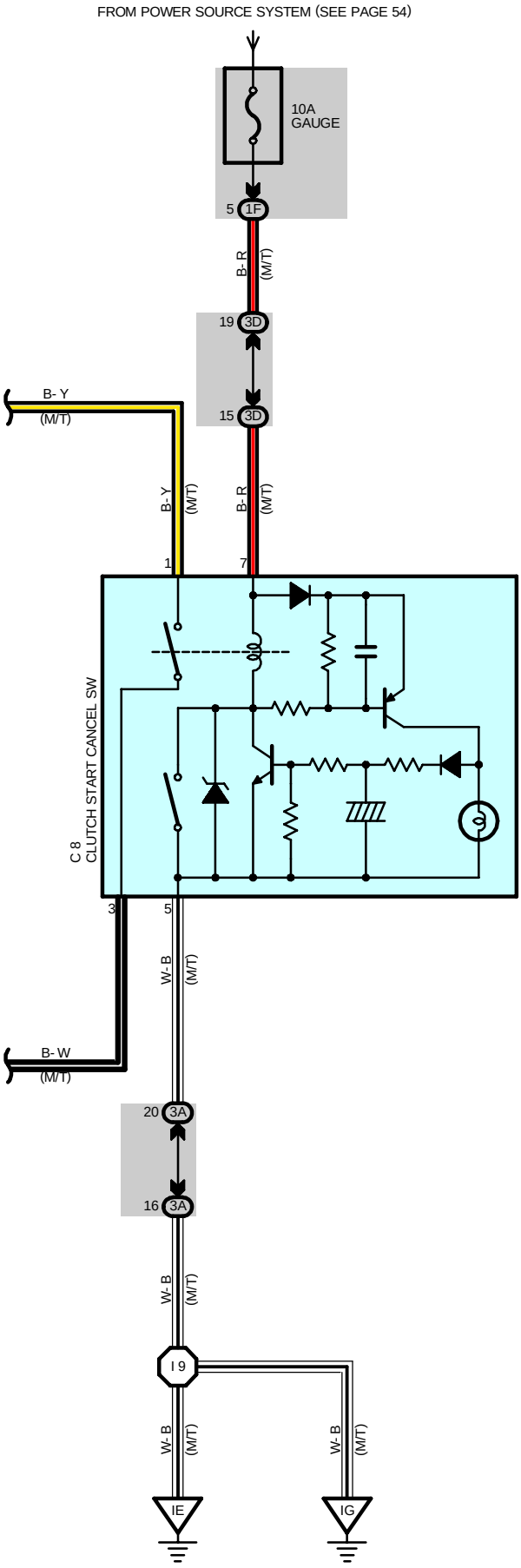
: GROUND POINTS

Code	See Page	Ground Points Location
EA	40 (5VZ-FE)	Front Left Fender
EB	40 (5VZ-FE)	Near the Throttle Body
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I8	44	Engine Room Main Wire	I13	44	Engine Wire
I9	44	Cowl Wire			


ACC
AM1
IG1
ST1
I14
IGNITION SW
B
W
7. 5A
STA
1I
1F
B- Y
(M/T)
3E
B- Y
(A/T)
IK3
(3RZ- FE)
(2RZ- FE)
PARK/NEUTRAL
POSITION SW
P
N
CLUTCH START SW
C 9
I 8
B- W
IF1
STARTER
RELAY
40A AM1
120A ALT
B- W(M/T)
B- W(A/T)
IK2
W- B
EA1
JUNCTION
CONNECTOR
J 9 , J10
BATTERY
M
S 1 , S 2
STARTER
EA


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
10A
GAUGE
5
1F
B- R
(M/T)
19
3D
15
3D
B- Y
(M/T)
B- Y
(M/T)
B- R
(M/T)
1
7
C 8
CLUTCH START CANCEL SW
3
5
W- B
(M/T)
B- W
(M/T)
20
3A
16
3A
W- B
(M/T)
I 9
W- B
(M/T)
W- B
(M/T)
IE
IG

STARTING (3RZ-FE, 2RZ-FE)

SERVICE HINTS

S1 (A), S2 (B) STARTER

Points closed with Park/Neutral position SW at **P** or **N** position and ignition SW at **ST** position (A/T)
Points closed with clutch start SW or clutch start cancel SW on and ignition SW at **ST** position (M/T)

I14 IGNITION SW

2-1 : Closed with ignition SW at **ST** position

P1 (A), (B) PARK/NEUTRAL POSITION SW (A/T)

(A) 9-(A) 6, (B) 6-(B) 5 : Closed with A/T shift lever in **P** or **N** position

STARTER RELAY

5-3 : Closed with Park/Neutral position SW at **P** or **N** position and ignition SW at **ST** position (A/T)
5-3 : Closed with clutch start SW or clutch start cancel SW on and ignition SW at **ST** position (M/T)

C8 CLUTCH START CANCEL SW (M/T)

1-3 : Closed with ignition SW on and cancel SW on

C9 CLUTCH START SW (M/T)

1-2 : Closed with clutch pedal fully depressed

: PARTS LOCATION

Code	See Page	Code		See Page	Code		See Page
C8	34	J9	A	33 (3RZ-FE, 2RZ-FE)	P1	B	33 (2RZ-FE)
C9	34	J10	B	33 (3RZ-FE, 2RZ-FE)	S1	A	33 (3RZ-FE, 2RZ-FE)
I14	35	P1	A	33 (3RZ-FE)	S2	B	33 (3RZ-FE, 2RZ-FE)

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1I	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		
3E		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

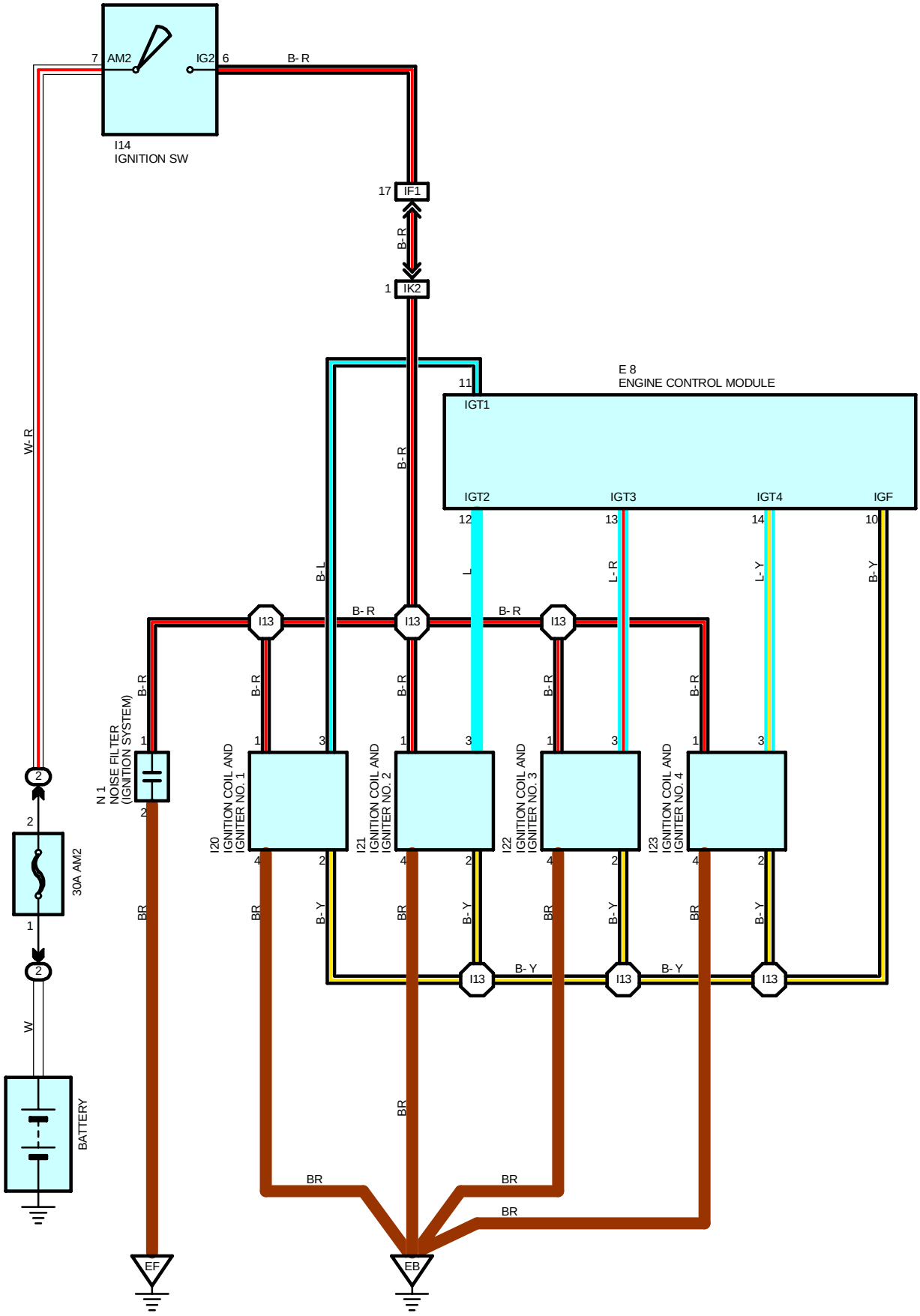
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	42 (3RZ-FE, 2RZ-FE)	Engine Room Main Wire and Engine No.2 Wire (Near the Battery)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		

: GROUND POINTS

Code	See Page	Ground Points Location
EA	42 (3RZ-FE, 2RZ-FE)	Front Left Fender
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I8	44	Engine Room Main Wire	I9	44	Cowl Wire


I14
IGNITION SW
7 AM2
IG2 6
B- R
17 IF1
1 IK2
E 8
ENGINE CONTROL MODULE
11 IGT1
IGT2 12
IGT3 13
IGT4 14
IGF 10
W- R
B- L
L
L- R
L- Y
B- Y
I13
N 1
NOISE FILTER
(IGNITION SYSTEM)
I20
IGNITION COIL AND
IGNITER NO. 1
I21
IGNITION COIL AND
IGNITER NO. 2
I22
IGNITION COIL AND
IGNITER NO. 3
I23
IGNITION COIL AND
IGNITER NO. 4
30A AM2
W
BATTERY
BR
EF
EB

SERVICE HINTS

I14 IGNITION SW

7-6 : Closed with ignition SW at **ON** or **ST** position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
E8	35	I21	33 (3RZ-FE, 2RZ-FE)	N1	33 (3RZ-FE, 2RZ-FE)
I14	35	I22	33 (3RZ-FE, 2RZ-FE)		
I20	33 (3RZ-FE, 2RZ-FE)	I23	33 (3RZ-FE, 2RZ-FE)		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)

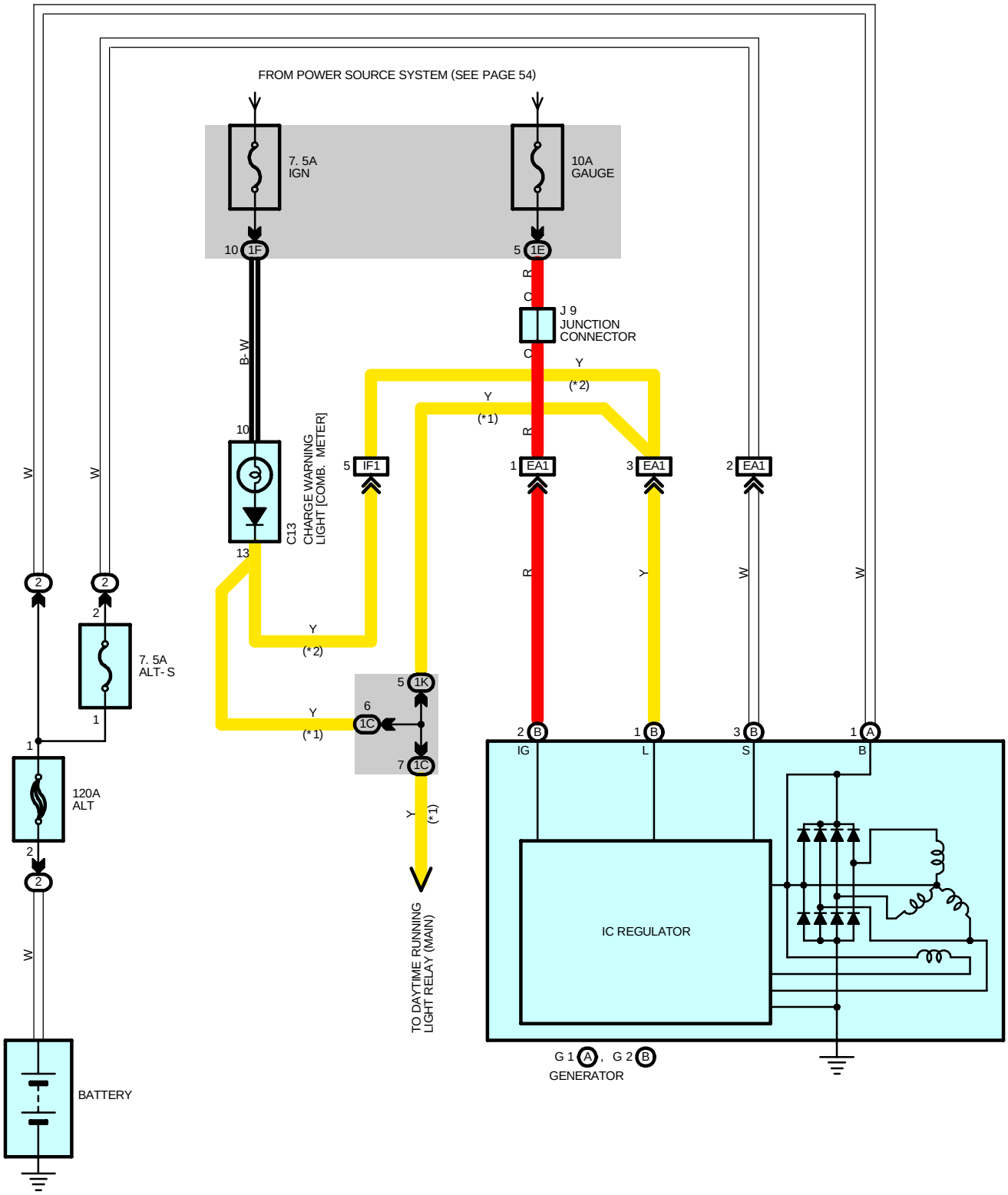
: GROUND POINTS

Code	See Page	Ground Points Location
EB	42 (3RZ-FE, 2RZ-FE)	Under the Data Link Connector 1
EF	42 (3RZ-FE, 2RZ-FE)	Ignition Coil Braket

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I13	44	Engine Wire			

* 1 : W/ DAYTIME RUNNING LIGHT
* 2 : W/O DAYTIME RUNNING LIGHT



SERVICE HINTS

G2 (B) GENERATOR

(B) 3-GROUND : **13.9**- **15.1** volts with engine running at **2000** rpm and **25**˚C (**77**˚F)
13.5- **14.3** volts with engine running at **2000** rpm and **115**˚C (**239**˚F)

(B) 1-GROUND : **0**- **4** volts with ignition SW at **ON** position and engine not running

: PARTS LOCATION

Code		See Page	Code		See Page	Code	See Page
C13		34	G2	B	30 (5VZ-FE)	J9	33 (3RZ-FE, 2RZ-FE)
G1	A	30 (5VZ-FE)			32 (3RZ-FE, 2RZ-FE)		
		32 (3RZ-FE, 2RZ-FE)	J9		31 (5VZ-FE)		

: RELAY BLOCKS

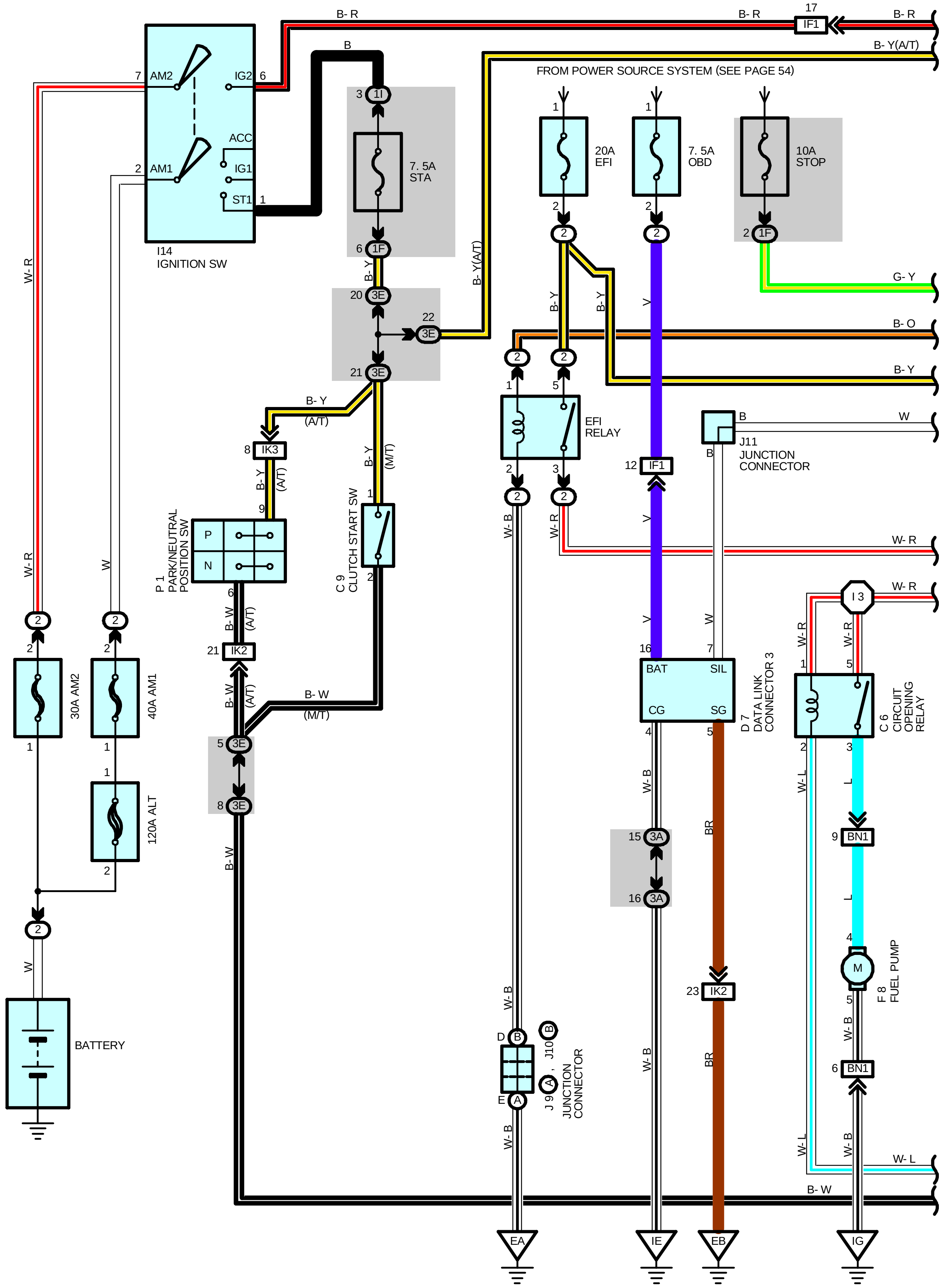
Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

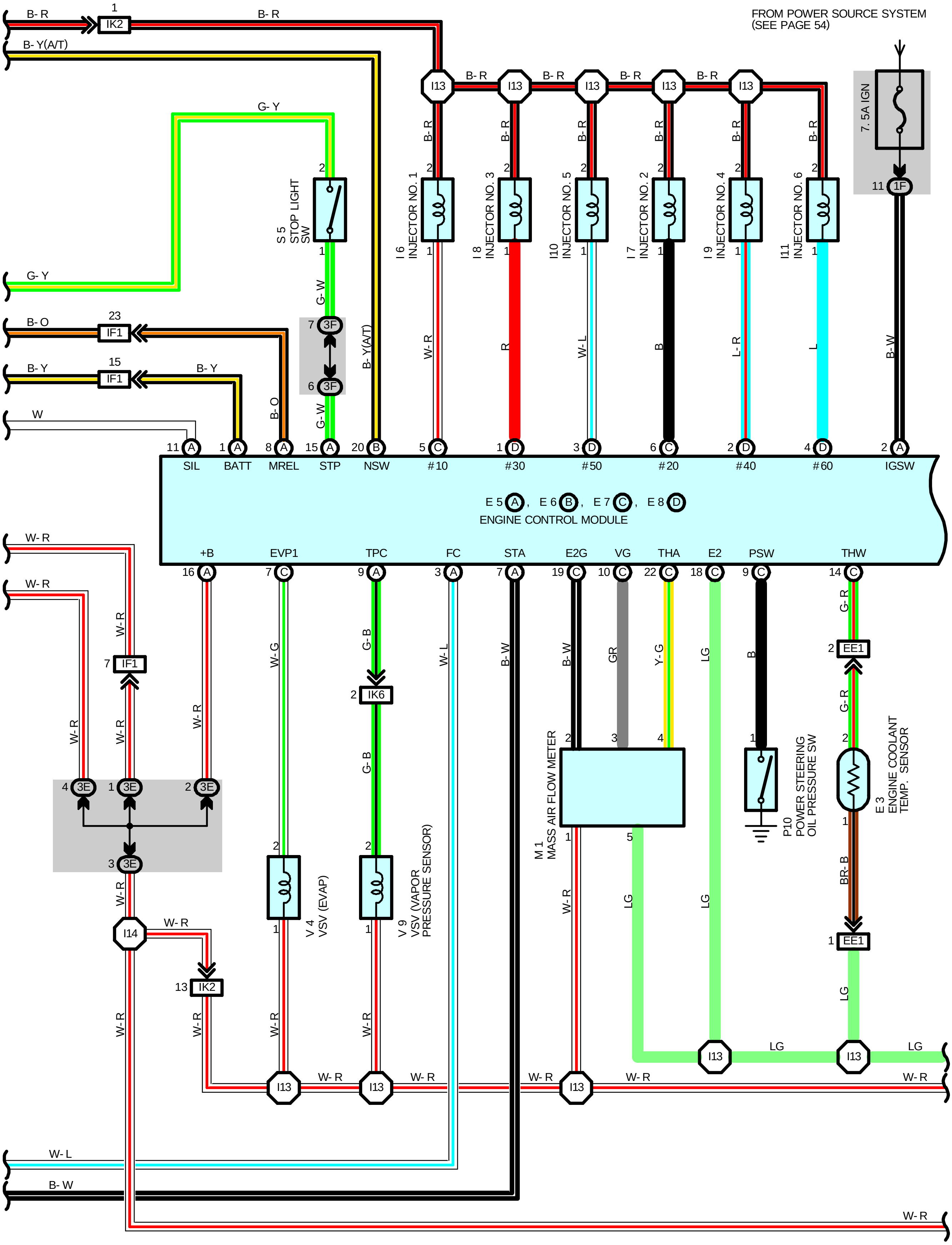
Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1K	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

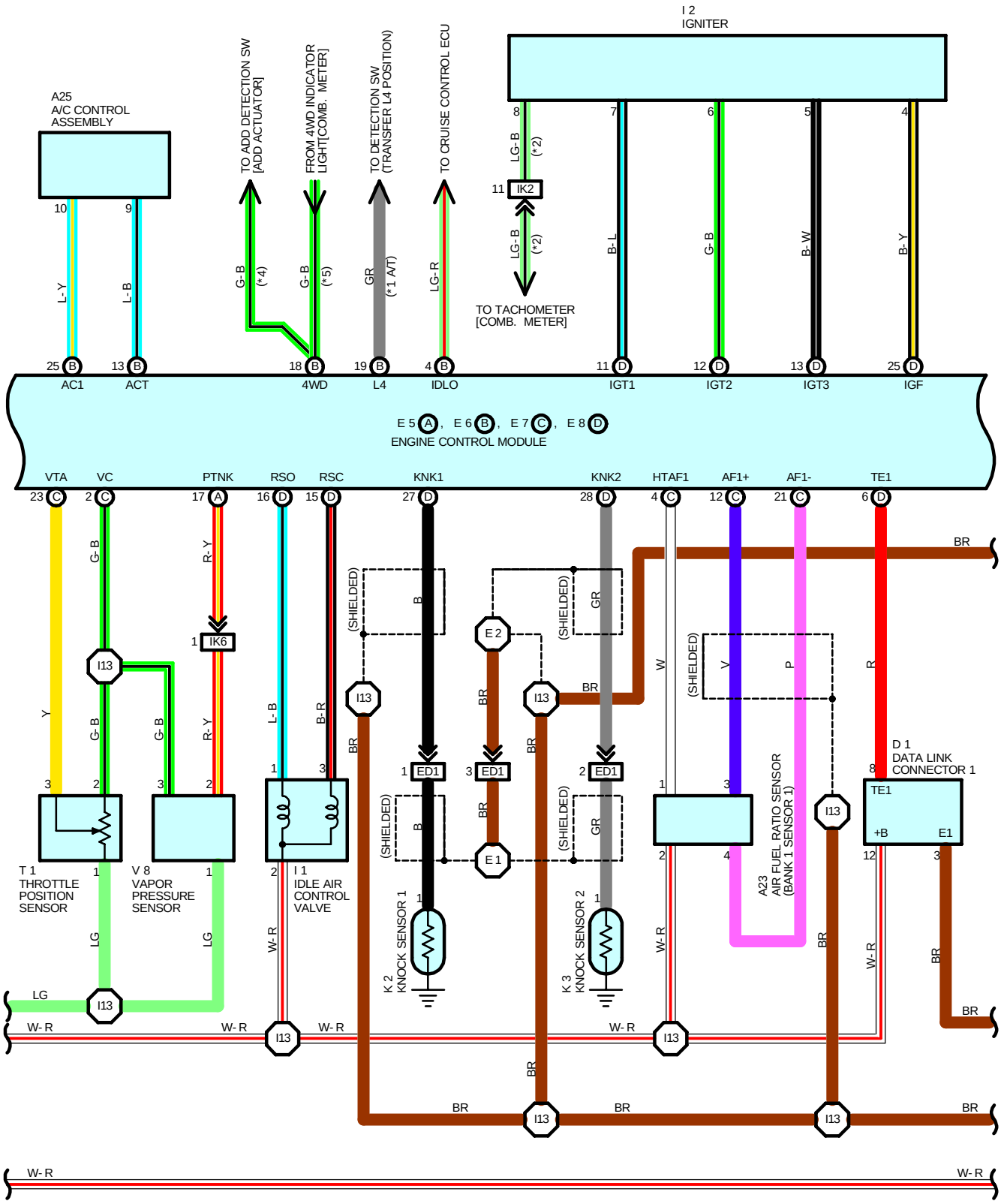
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	40 (5VZ-FE)	Engine Room Main Wire and Engine No.2 Wire (Near the Battery)
	42 (3RZ-FE,2RZ-FE)	
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)

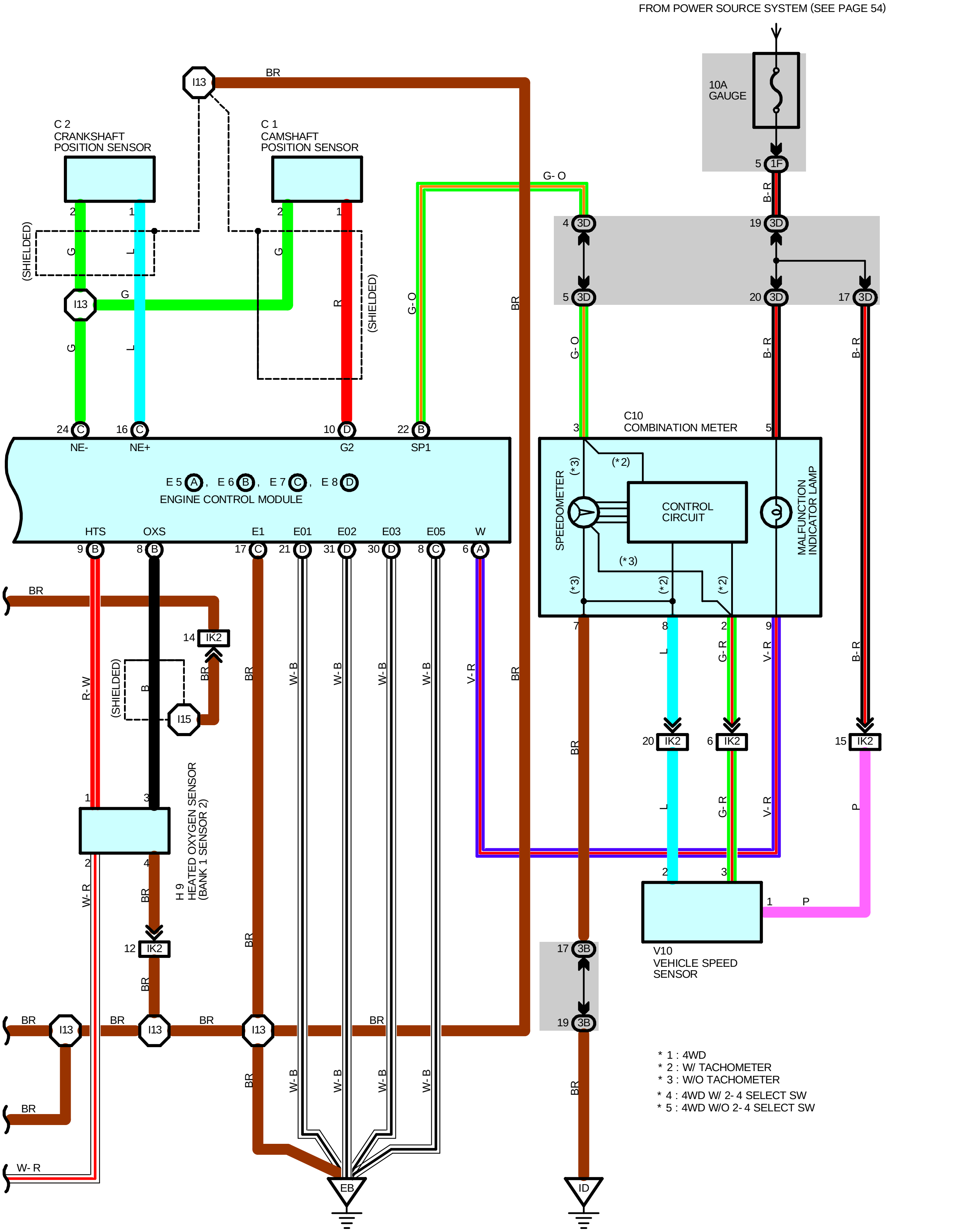


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
I14
IGNITION SW
AM2
IG2
ACC
AM1
IG1
ST1
7. 5A
STA
20A
EFI
7. 5A
OBD
10A
STOP
EFI
RELAY
J11
JUNCTION
CONNECTOR
P 1
PARK/NEUTRAL
POSITION SW
C 9
CLUTCH START SW
30A AM2
40A AM1
120A ALT
BATTERY
D 7
DATA LINK
CONNECTOR 3
BAT
SIL
CG
SG
C 6
CIRCUIT
OPENING
RELAY
F 8
FUEL PUMP
J 9 A , J10 B
JUNCTION
CONNECTOR
B- R
B- Y(A/T)
G- Y
B- O
B- Y
W
W- R
W- L
B- W
(A/T)
(M/T)
EA
IE
EB
IG



FROM POWER SOURCE SYSTEM
(SEE PAGE 54)
7. 5A IGN
S 5
STOP LIGHT SW
I 6 INJECTOR NO. 1
I 8 INJECTOR NO. 3
I 10 INJECTOR NO. 5
I 7 INJECTOR NO. 2
I 9 INJECTOR NO. 4
I 11 INJECTOR NO. 6
SIL
BATT
MREL
STP
NSW
#10
#30
#50
#20
#40
#60
IGSW
E 5 A, E 6 B, E 7 C, E 8 D
ENGINE CONTROL MODULE
+B
EVP1
TPC
FC
STA
E2G
VG
THA
E2
PSW
THW
M 1
MASS AIR FLOW METER
P10
POWER STEERING OIL PRESSURE SW
E 3
ENGINE COOLANT TEMP. SENSOR
V 4
VSV (EVAP)
V 9
VSV (VAPOR PRESSURE SENSOR)


I 2
IGNITER
A25
A/C CONTROL
ASSEMBLY
TO ADD DETECTION SW
[ADD ACTUATOR]
FROM 4WD INDICATOR
LIGHT[COMB. METER]
TO DETECTION SW
(TRANSFER L4 POSITION)
TO CRUISE CONTROL ECU
TO TACHOMETER
[COMB. METER]
AC1
ACT
4WD
L4
IDLO
IGT1
IGT2
IGT3
IGF
E5 A, E6 B, E7 C, E8 D
ENGINE CONTROL MODULE
VTA
VC
PTNK
RSO
RSC
KNK1
KNK2
HTAF1
AF1+
AF1-
TE1
T1
THROTTLE
POSITION
SENSOR
V8
VAPOR
PRESSURE
SENSOR
I1
IDLE AIR
CONTROL
VALVE
K2
KNOCK SENSOR 1
K3
KNOCK SENSOR 2
A23
AIR FUEL RATIO SENSOR
(BANK 1 SENSOR 1)
D1
DATA LINK
CONNECTOR 1
+B
E1
(SHIELDED)



* 1 : 4WD
* 2 : W/ TACHOMETER
* 3 : W/O TACHOMETER
* 4 : 4WD W/ 2- 4 SELECT SW
* 5 : 4WD W/O 2- 4 SELECT SW

SYSTEM OUTLINE

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

1. INPUT SIGNAL

(1) Engine coolant temp. signal system

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

(2) Intake air temp. signal system

The intake air temp. sensor is installed inside 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) Heated oxygen sensor signal system

The oxygen density in the exhaust emissions is detected and input as a control signal to TERMINAL OXS 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 the engine control module (HTS).

(4) RPM signal system

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 to TERMINAL NE+.

(5) Throttle signal system

The throttle position sensor detects the throttle valve opening angle, which is input as a control signal to TERMINAL VTA of the engine control module.

(6) Vehicle speed signal system

The vehicle speed sensor detects the vehicle speed and inputs a control signal to TERMINAL SP1 of the engine control module via the combination meter.

(7) A/C SW signal system

The operating voltage of the A/C magnetic clutch is detected and input in the form of a control signal to TERMINAL AC1 of the engine control module.

(8) Battery signal system

Voltage is constantly applied to TERMINAL BATT of the engine control module. When the ignition SW is turned to on, voltage for engine control module operation is applied via the EFI relay to TERMINAL +B of the engine control module.

(9) Intake air volume signal system

Intake air volume is detected by the mass air flow meter and a signal is input into TERMINAL VG of the engine control module as a control signal.

(10) Stop light SW signal system

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

(11) Starter signal system

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

(12) Engine knock signal system

Engine knocking is detected by the knock sensor 1 and 2 and the signals are input to TERMINALS KNK1 and KNK2 of the engine control module.

(13) 4WD signal system

Whether or not the vehicle is operating in 4WD mode is determined, and a control signal is input to TERMINAL 4WD of the engine control module.

(14) Air fuel ratio signal system

The air fuel ratio is detected and input as a control signal into TERMINAL AF1+ of the engine control module.

2. CONTROL SYSTEM

* SFI system
  The SFI system monitors the engine conditions through the signals (Input signals (1 to 13)) input from each sensor to the engine control module. Based on this data and the program memorized in the engine control module, the most appropriate fuel injection timing is decided and current is output to TERMINALS #10, #20, #30, #40, #50 and #60 of the engine control module, causing the injectors to operate (to inject fuel). It is this system which, through the work of the engine control module, finely controls fuel injection in response to driving conditions.
* Electronic Spark Advance system
  The ESA system monitors the engine conditions using the signals (input signals (1, 4, 5 to 7, 9, 11, 12)) input to the engine control module from each sensor. Based on this data and the program memorized in the engine control module, the most appropriate ignition timing is decided and current is output to TERMINALS IGT1,IGT2 and IGT3 of the engine control module. This output controls the igniter to produce the most appropriate ignition timing for the driving conditions.
* Heated oxygen sensor heater control system
  The heated oxygen sensor heater control system turns the heater to on when the intake air volume is low (Temp. of exhaust emissions low), and warms up the heated oxygen sensor to improve detection performance of the sensor. The engine control module evaluates the signals (Input signals (1, 4, 8, 9, 11)) from each sensor, current is output to TERMINAL HTS and controls the heater.

3. DIAGNOSIS SYSTEM

With the diagnosis system, when there is a malfunction in the ECU signal system, the malfunctioning system is recorded in the memory. The malfunctioning system can then be found by reading the display (Code) of the malfunction indicator lamp.

4. FAIL-SAFE SYSTEM

When a malfunction occurs 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.

SERVICE HINTS

EFI RELAY

5-3 : Closed with ignition SW at **ON** or **ST** position

C6 CIRCUIT OPENING RELAY

5-3 : Closed with starter running or ignition SW at **ON** or **ST** position

I6, I7, I8, I9, I10, I11 INJECTOR

1-2 : **13.4**- **14.2** Ω

T1 THROTTLE POSITION SENSOR

2-1 : **4**- **9** kΩ

E3 ENGINE COOLANT TEMP. SENSOR

1-2 : **10**- **20** kΩ (**-20** ˚C, **-4** ˚F)
4- **7** kΩ (**0**˚C, **32**˚F)
2- **3** kΩ (**20**˚C, **68**˚F)
0.9- **1.3** kΩ (**40**˚C, **104**˚F)
0.4- **0.7** kΩ (**60**˚C, **140**˚F)
0.2- **0.4** kΩ (**80**˚C, **176**˚F)

E5 (A), E6 (B), E7 (C), E8 (D) ENGINE CONTROL MODULE

Voltage at engine control module wiring connectors
+B-E1 : **9**- **14** volts (Ignition SW on)
BATT-E1 : **9**- **14** volts (Always)
VC-E2 : **4.5**- **5.5** volts (Ignition SW on)
VTA-E2 : **0.3**- **0.8** volts (Ignition SW on and throttle valve fully closed)
3.2- **4.9** volts (Ignition SW on and throttle valve fully open)
STA-E1 : **6** volts or more (Ignition SW at **ST** position)
W-E1 : **9**- **14** volts (No trouble and engine running)
THA-E2 : **0.5**- **3.4** volts (Ignition SW on and intake air temp. **20**˚C, **68**˚F)
THW-E2 : **0.2**- **1.0** volts (Ignition SW on and coolant temp. **80**˚C, **176**˚F)
SP1-E1 : Pulse generation with vehicle moving
STP-E1 : **7.5**- **14** volts (Stop light SW on)
IGT1, IGT2, IGT3-E1 : Pulse generation (Cranking or idling)
#10, #20, #30, #40, #50, #60-E1 : **9**- **14** volts (Ignition SW on)

RESISTANCE AT ECU WIRING CONNECTOR

(Disconnect wiring connector)
VTA-E2 : **3.3**- **10** kΩ (Throttle valve fully open)
0.2- **0.8** kΩ (Throttle valve fully closed)
THA-E2 : **2**- **3** kΩ (Intake air temp. **20**˚C, **68**˚F)
THW-E2 : **0.2**- **0.4** KΩ (Coolant temp. **80**˚C, **178**˚F)
+B-E1 : **0.2**- **0.4** kΩ
NE+ -E1 : **140**- **180** Ω

○ : PARTS LOCATION

Code		See Page	Code		See Page	Code	See Page
A23		30 (5VZ-FE)	F8		36 (Double Cab)	J11	35
A25		34			37 (Except Double Cab)	K2	31 (5VZ-FE)
C1		30 (5VZ-FE)	H9		35	K3	31 (5VZ-FE)
C2		30 (5VZ-FE)	I1		31 (5VZ-FE)	M1	31 (5VZ-FE)
C6		34	I2		31 (5VZ-FE)	P1	31 (5VZ-FE)
C9		34	I6		31 (5VZ-FE)	P10	31 (5VZ-FE)
C10		34	I7		31 (5VZ-FE)	S5	35
D1		30 (5VZ-FE)	I8		31 (5VZ-FE)	T1	31 (5VZ-FE)
D7		34	I9		31 (5VZ-FE)	V4	31 (5VZ-FE)
E3		30 (5VZ-FE)	I10		31 (5VZ-FE)	V8	31 (5VZ-FE)
E5	A	35	I11		31 (5VZ-FE)	V9	31 (5VZ-FE)
E6	B	35	I14		35	V10	31 (5VZ-FE)
E7	C	35	J9	A	31 (5VZ-FE)		
E8	D	35	J10	B	31 (5VZ-FE)		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1I	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3B		
3D		
3E		
3F		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

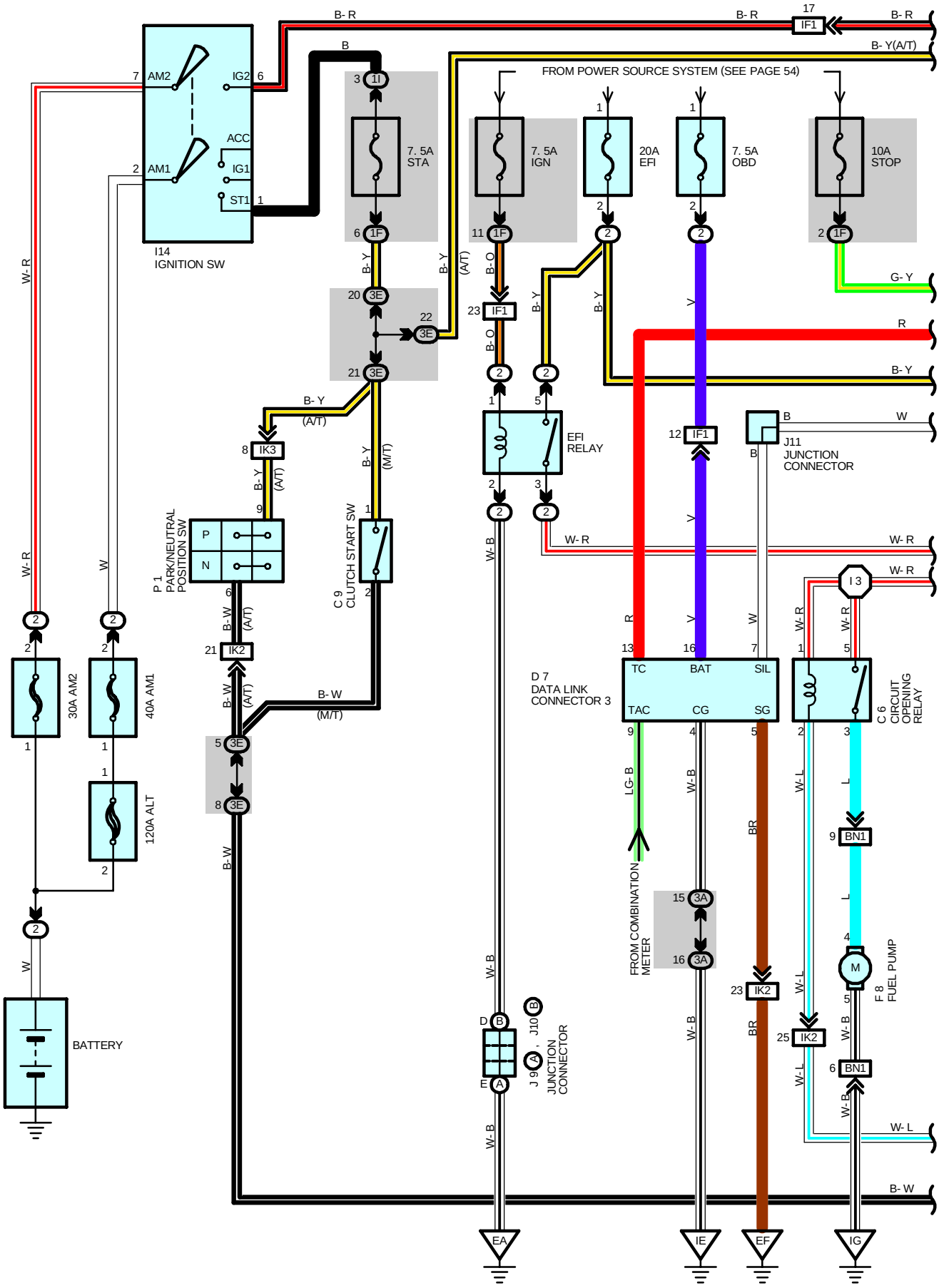
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
ED1	40 (5VZ-FE)	Sensor Wire and Engine Wire (Over the Cylinder Head)
EE1	40 (5VZ-FE)	Engine Wire and Sensor Wire (Over the Cylinder Head)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		
IK6		
BN1	46 (Double Cab) 48 (Except Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)

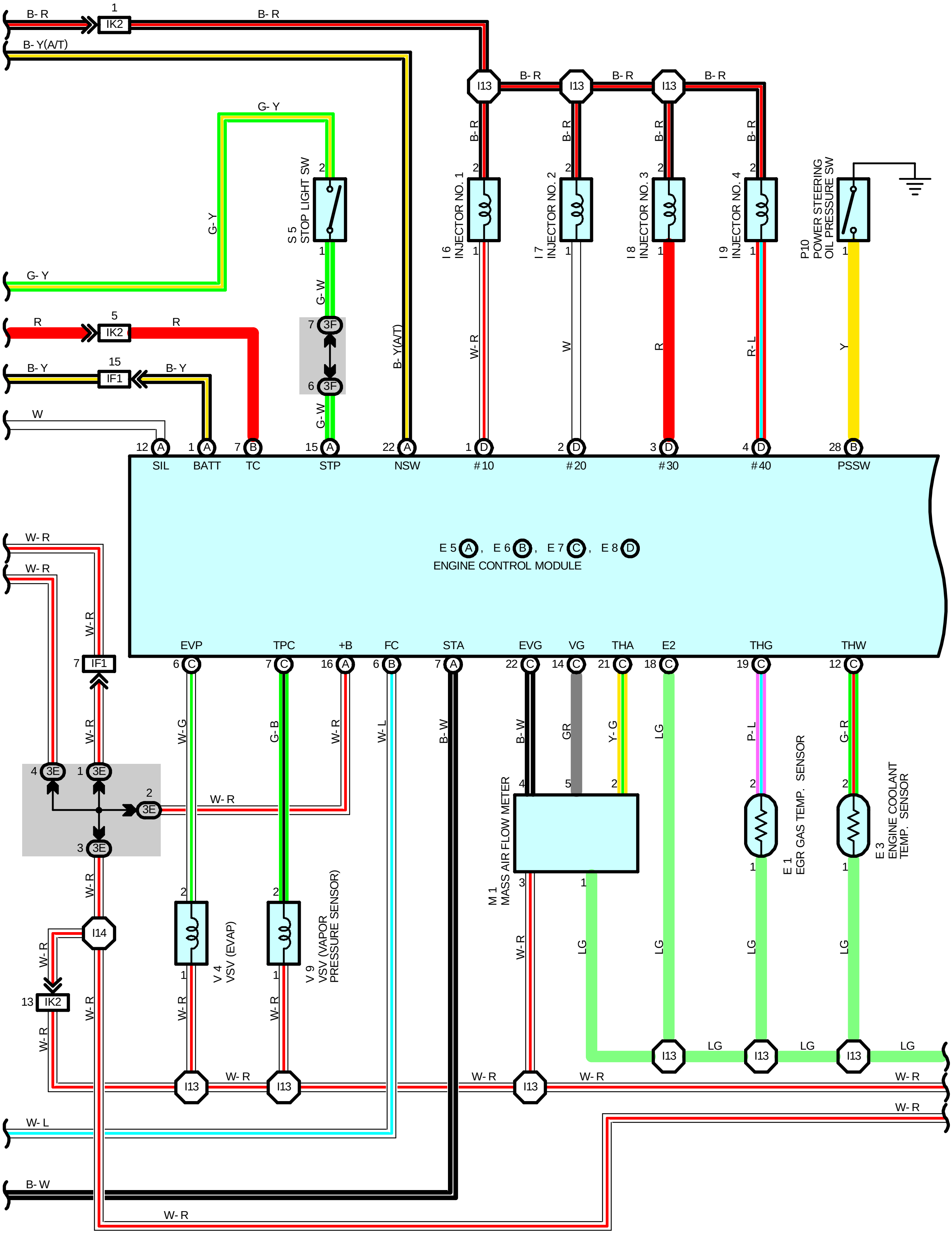
: GROUND POINTS

Code	See Page	Ground Points Location
EA	40 (5VZ-FE)	Front Left Fender
EB	40 (5VZ-FE)	Near the Throttle Body
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

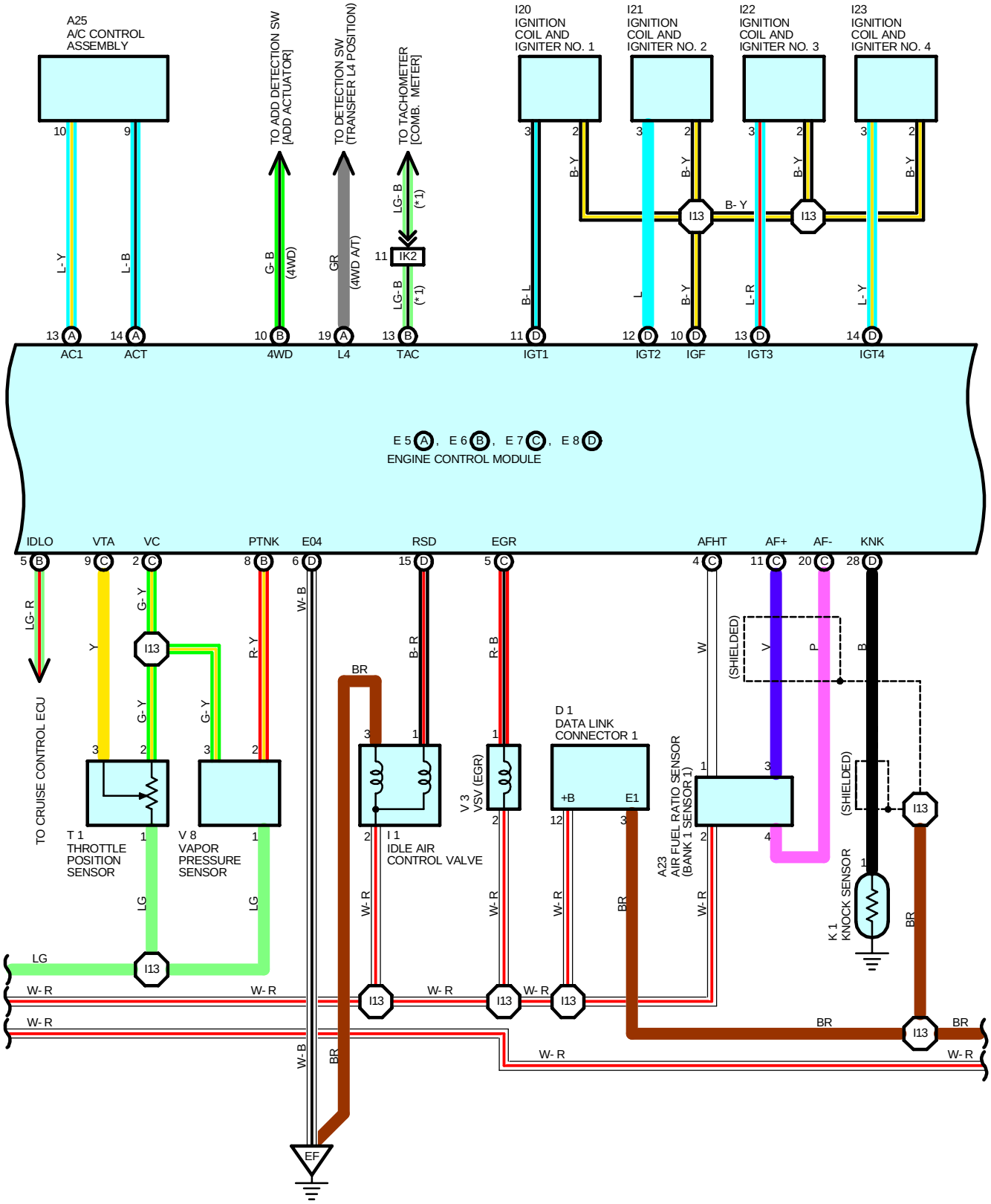
: SPLICE POINTS

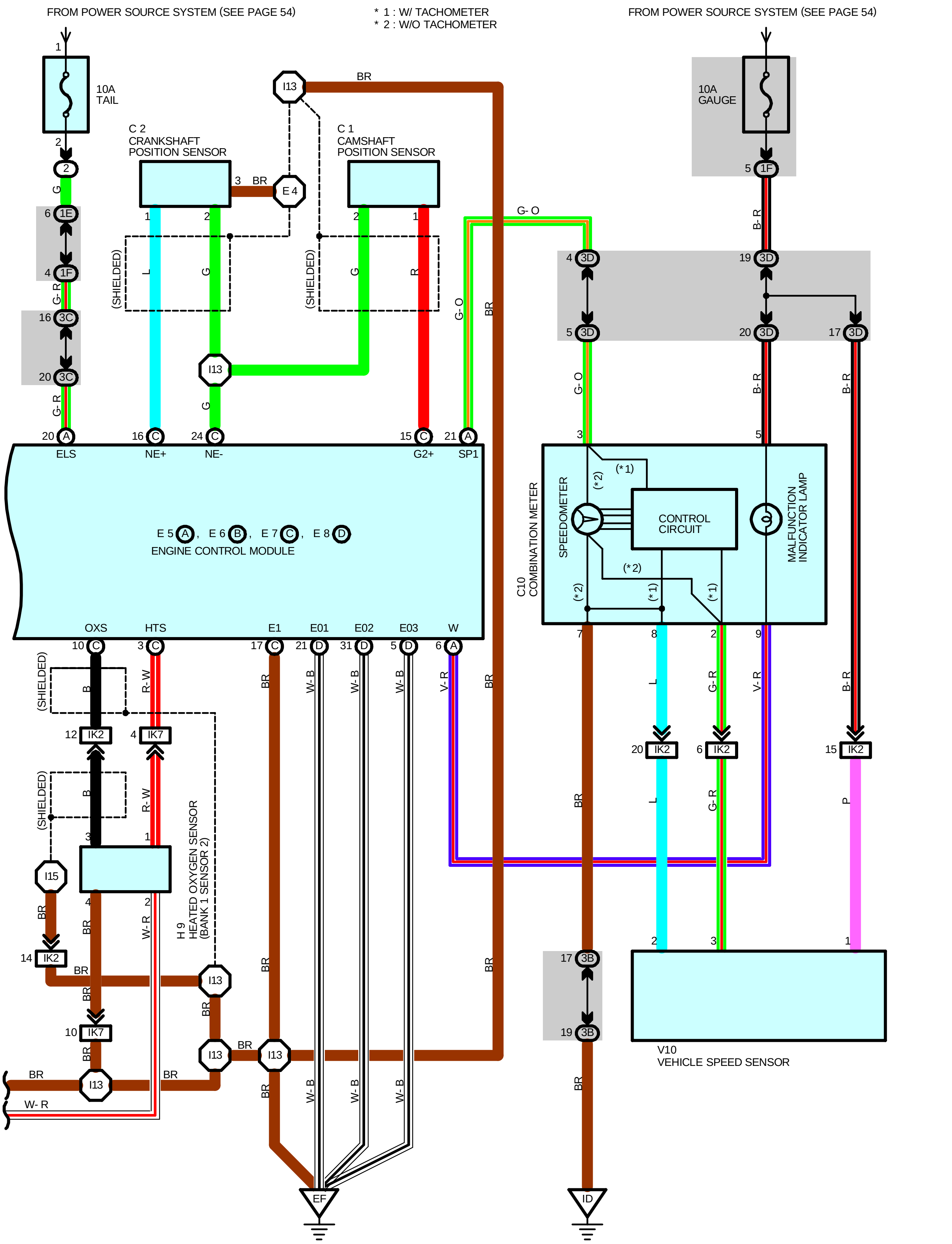
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E1	40 (5VZ-FE)	Sensor Wire	I13	44	Engine Wire
E2	40 (5VZ-FE)	Engine Wire	I14	44	Cowl Wire
I3	44	Cowl Wire	I15		


I14
IGNITION SW
AM2
AM1
IG2
ACC
IG1
ST1
7. 5A
STA
7. 5A
IGN
20A
EFI
7. 5A
OBD
10A
STOP
FROM POWER SOURCE SYSTEM (SEE PAGE 54)
EFI
RELAY
J11
JUNCTION
CONNECTOR
P 1
PARK/NEUTRAL
POSITION SW
C 9
CLUTCH START SW
D 7
DATA LINK
CONNECTOR 3
TC
BAT
SIL
TAC
CG
SG
C 6
CIRCUIT
OPENING
RELAY
I 3
30A AM2
40A AM1
120A ALT
BATTERY
FROM COMBINATION
METER
F 8
FUEL PUMP
J 9 , J10
JUNCTION
CONNECTOR
EA
IE
EF
IG
B- R
B- Y(A/T)
G- Y
R
B- Y
W
W- R
B- Y
(A/T)
B- Y
(M/T)
B- W
(A/T)
B- W
(M/T)
W- B
LG- B
BR
W- L
L



B- R
IK2
B- Y(A/T)
G- Y
S 5 STOP LIGHT SW
R
B- Y
IF1
W
3F
G- W
I13
I 6 INJECTOR NO. 1
I 7 INJECTOR NO. 2
I 8 INJECTOR NO. 3
I 9 INJECTOR NO. 4
P10 POWER STEERING OIL PRESSURE SW
W- R
R- L
SIL
BATT
TC
STP
NSW
#10
#20
#30
#40
PSSW
E 5 A, E 6 B, E 7 C, E 8 D
ENGINE CONTROL MODULE
EVP
TPC
+B
FC
STA
EVG
VG
THA
E2
THG
THW
3E
I14
V 4 VSV (EVAP)
V 9 VSV (VAPOR PRESSURE SENSOR)
M 1 MASS AIR FLOW METER
E 1 EGR GAS TEMP. SENSOR
E 3 ENGINE COOLANT TEMP. SENSOR
W- G
G- B
W- L
B- W
GR
Y- G
LG
P- L
G- R


A25
A/C CONTROL
ASSEMBLY
TO ADD DETECTION SW
[ADD ACTUATOR]
TO DETECTION SW
(TRANSFER L4 POSITION)
TO TACHOMETER
[COMB. METER]
I20
IGNITION
COIL AND
IGNITER NO. 1
I21
IGNITION
COIL AND
IGNITER NO. 2
I22
IGNITION
COIL AND
IGNITER NO. 3
I23
IGNITION
COIL AND
IGNITER NO. 4
L- Y
L- B
G- B
(4WD)
GR
(4WD A/T)
LG- B
(*1)
IK2
B- L
L
B- Y
L- R
AC1
ACT
4WD
L4
TAC
IGT1
IGT2
IGF
IGT3
IGT4
I13
E5 A, E6 B, E7 C, E8 D
ENGINE CONTROL MODULE
IDLO
VTA
VC
PTNK
E04
RSD
EGR
AFHT
AF+
AF-
KNK
LG- R
Y
G- Y
R- Y
W- B
B- R
R- B
W
V
P
B
(SHIELDED)
TO CRUISE CONTROL ECU
T 1
THROTTLE
POSITION
SENSOR
V 8
VAPOR
PRESSURE
SENSOR
I 1
IDLE AIR
CONTROL VALVE
V 3
VSV (EGR)
D 1
DATA LINK
CONNECTOR 1
+B
E1
A23
AIR FUEL RATIO SENSOR
(BANK 1 SENSOR 1)
K 1
KNOCK SENSOR
LG
W- R
BR
EF


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
* 1 : W/ TACHOMETER
* 2 : W/O TACHOMETER
FROM POWER SOURCE SYSTEM (SEE PAGE 54)
10A
TAIL
10A
GAUGE
C 2
CRANKSHAFT
POSITION SENSOR
C 1
CAMSHAFT
POSITION SENSOR
(SHIELDED)
(SHIELDED)
ELS
NE+
NE-
G2+
SP1
E 5 A , E 6 B , E 7 C , E 8 D
ENGINE CONTROL MODULE
OXS
HTS
E1
E01
E02
E03
W
C10
COMBINATION METER
SPEEDOMETER
CONTROL
CIRCUIT
MALFUNCTION
INDICATOR LAMP
(*1)
(*2)
H 9
HEATED OXYGEN SENSOR
(BANK 1 SENSOR 2)
V10
VEHICLE SPEED SENSOR
EF
ID

SYSTEM OUTLINE

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

1. INPUT SIGNAL

(1) Engine coolant temp. signal system

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

(2) Intake air temp. signal system

The intake air temp. sensor is installed inside 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) Heated oxygen sensor signal system

The oxygen density in exhaust emissions is detected and input as a control signal to TERMINAL OXS 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 the engine control module (HTS).

(4) RPM signal system

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 to TERMINAL NE+.

(5) Throttle signal system

The throttle position sensor detects the throttle valve opening angle, which is input as a control signal to TERMINAL VTA of the engine control module.

(6) Vehicle speed signal system

The vehicle speed sensor detects the vehicle speed and inputs a control signal to TERMINAL SP1 of the engine control module via the combination meter.

(7) A/C SW signal system

The operating voltage of the A/C magnetic clutch is detected and input in the form of a control signal to TERMINAL AC1 of the engine control module.

(8) Battery signal system

Voltage is constantly applied to TERMINAL BATT of the engine control module. When the ignition SW is turned to on, voltage for engine control module operation is applied via the EFI relay to TERMINAL +B of the engine control module.

(9) Intake air volume signal system

Intake air volume is detected by the mass air flow meter and a signal is input into TERMINAL VG of the engine control module as a control signal.

(10) Stop light SW signal system

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

(11) Starter signal system

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

(12) Engine knock signal system

Engine knocking is detected by the knock sensor and input as a control signal to TERMINAL KNK of the engine control module.

(13) 4WD signal system

Whether or not the vehicle is operating in 4WD mode is determined, and a control signal is input to TERMINAL 4WD of the engine control module.

(14) Air fuel ratio signal system

The air fuel ratio is detected and input as a control signal into TERMINAL AF+ of the engine control module.

2. CONTROL SYSTEM

* SFI system
  The SFI system monitors the engine conditions through the signals (Input signals (1 to 13)) input from each sensor to the engine control module. Based on this data and the program memorized in the engine control module, the most appropriate fuel injection timing is decided and current is output to TERMINALS #10, #20, #30 and #40 of the engine control module, causing the injectors to operate (to inject fuel). It is this system which, through the work of the engine control module, finely controls fuel injection in response to driving conditions.
* Electronic spark advance system
  The ESA system monitors the engine conditions using the signals (input signals (1, 4, 5 to 7, 9, 11, 12)) input to the engine control module from each sensor. Based on this data and the program memorized in the engine control module, the most appropriate ignition timing is decided and current is output to TERMINALS IGT1, IGT2, IGT3 and IGT4 of the engine control module. This output controls the igniter to produce the most appropriate ignition timing for the driving conditions.
* Heated oxygen sensor heater control system
  The heated oxygen sensor heater control system turns the heater to on when the intake air volume is low (Temp. of exhaust emissions low), and warms up the heated oxygen sensor to improve detection performance of the sensor. The engine control module evaluates the signals (Input signals (1, 4, 8, 9, 11)) from each sensor, current is output to TERMINAL HTS and controls the heater.

3. DIAGNOSIS SYSTEM

With the diagnosis system, when there is a malfunction in the ECU signal system, the malfunctioning system is recorded in the memory. The malfunctioning system can then be found by reading the display (Code) of the malfunction indicator lamp.

4. FAIL-SAFE SYSTEM

When a malfunction occurs 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.

SERVICE HINTS

EFI RELAY

5-3 : Closed with ignition SW at **ON** or **ST** position

C6 CIRCUIT OPENING RELAY

5-3 : Closed with starter running or ignition SW at **ON** or **ST** position

I6, I7, I8, I9 INJECTOR

1-2 : **13.4**- **14.2** Ω

T1 THROTTLE POSITION SENSOR

2-1 : **4**- **9** kΩ

E3 ENGINE COOLANT TEMP. SENSOR

1-2 : **10**- **20** kΩ (**-20** ˚C, **-4** ˚F)
4- **7** kΩ (**0**˚C, **32**˚F)
2- **3** kΩ (**20**˚C, **68**˚F)
0.9- **1.3** kΩ (**40**˚C, **104**˚F)
0.4- **0.7** kΩ (**60**˚C, **140**˚F)
0.2- **0.4** kΩ (**80**˚C, **176**˚F)

E5 (A), E6 (B), E7 (C), E8 (D) ENGINE CONTROL MODULE

Voltage at engine control module wiring connectors
+B-E1 : **9**- **14** volts (Ignition SW on)
BATT-E1 : **9**- **14** volts (Always)
VC-E2 : **4.5**- **5.5** volts (Ignition SW on)
VTA-E2 : **0.3**- **0.8** volts (Ignition SW on and throttle valve fully closed)
3.2- **4.9** volts (Ignition SW on and throttle valve fully open)
STA-E1 : **6** volts or more (Ignition SW at **ST** position)
W-E1 : **9**- **14** volts (No trouble and engine running)
THA-E2 : **0.5**- **3.4** volts (Ignition SW on and intake air temp. **20**˚C, **68**˚F)
THW-E2 : **0.2**- **1.0** volts (Ignition SW on and coolant temp. **80**˚C, **176**˚F)
SP1-E1 : Pulse generation with vehicle moving
STP-E1 : **7.5**- **14** Volts (Stop light SW on)

RESISTANCE AT ECU WIRING CONNECTOR

(Disconnect wiring connector)
VTA-E2 : **3.3**- **10** kΩ (Throttle valve fully open)
0.2- **0.8** kΩ (Throttle valve fully closed)
THA-E2 : **2**- **3** kΩ (Intake air temp. **20**˚C, **68**˚F)
THW-E2 : **0.2**- **0.4** kΩ (Coolant temp. **80**˚C, **178**˚F)
+B-E1 : **0.2**- **0.4** kΩ
NE+-E1 : **140**- **180** Ω

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A23	32 (3RZ-FE)	E8 D	35	J9 A	33 (3RZ-FE)
A25	34	F8	36 (Double Cab)	J10 B	33 (3RZ-FE)
C1	32 (3RZ-FE)		37 (Except Double Cab)	J11	35
C2	32 (3RZ-FE)	H9	35	K1	33 (3RZ-FE)
C6	34	I1	33 (3RZ-FE)	M1	33 (3RZ-FE)
C9	34	I6	33 (3RZ-FE)	P1	33 (3RZ-FE)
C10	34	I7	33 (3RZ-FE)	P10	33 (3RZ-FE)
D1	32 (3RZ-FE)	I8	33 (3RZ-FE)	S5	35
D7	34	I9	33 (3RZ-FE)	T1	33 (3RZ-FE)
E1	32 (3RZ-FE)	I14	35	V3	33 (3RZ-FE)
E3	32 (3RZ-FE)	I20	33 (3RZ-FE)	V4	33 (3RZ-FE)
E5 A	35	I21	33 (3RZ-FE)	V8	33 (3RZ-FE)
E6 B	35	I22	33 (3RZ-FE)	V9	33 (3RZ-FE)
E7 C	35	I23	33 (3RZ-FE)	V10	33 (3RZ-FE)

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1I	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3B		
3C		
3D		
3E		
3F		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

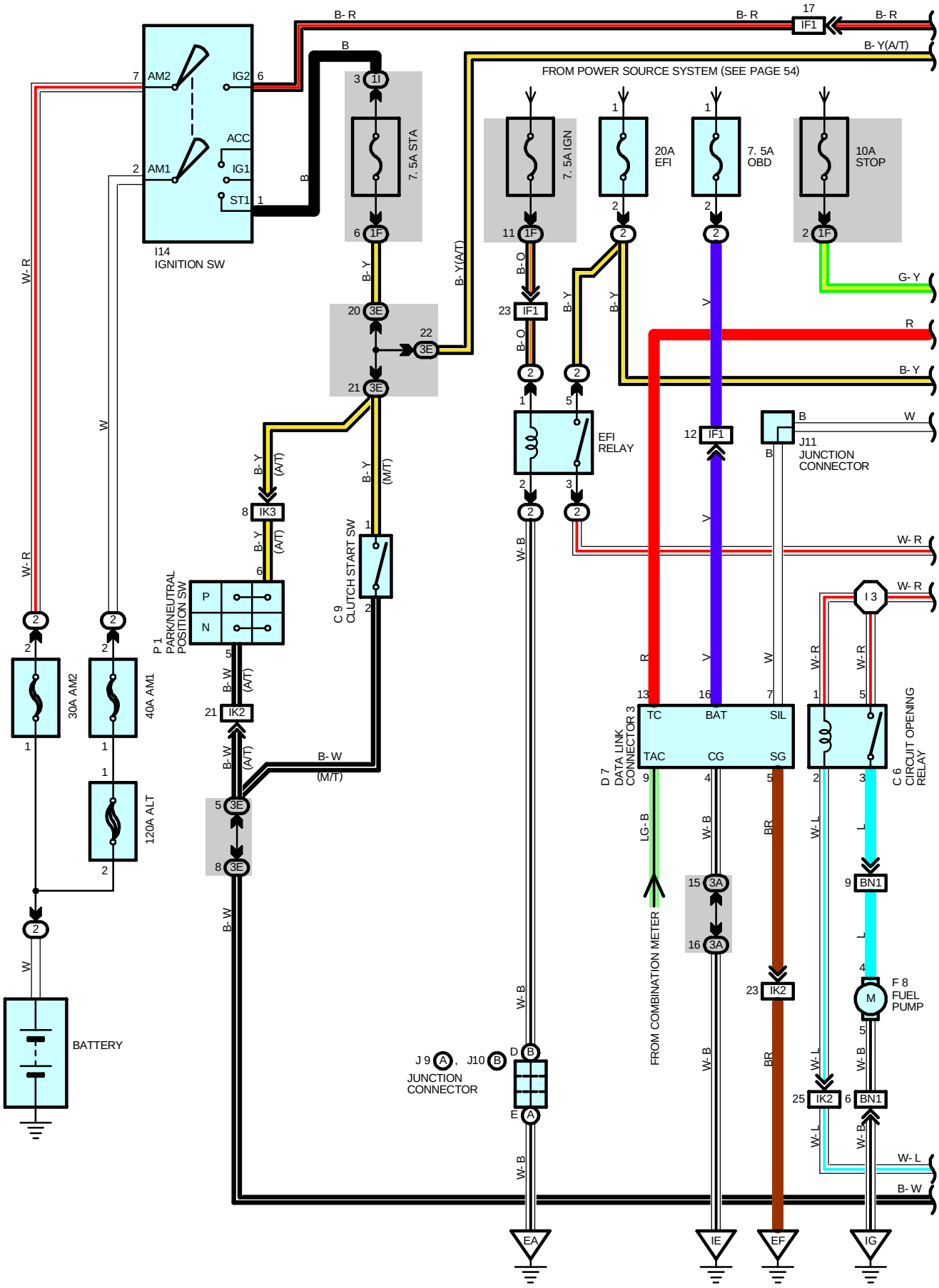
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		
IK7		
BN1	46 (Double Cab) 48 (Except Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)

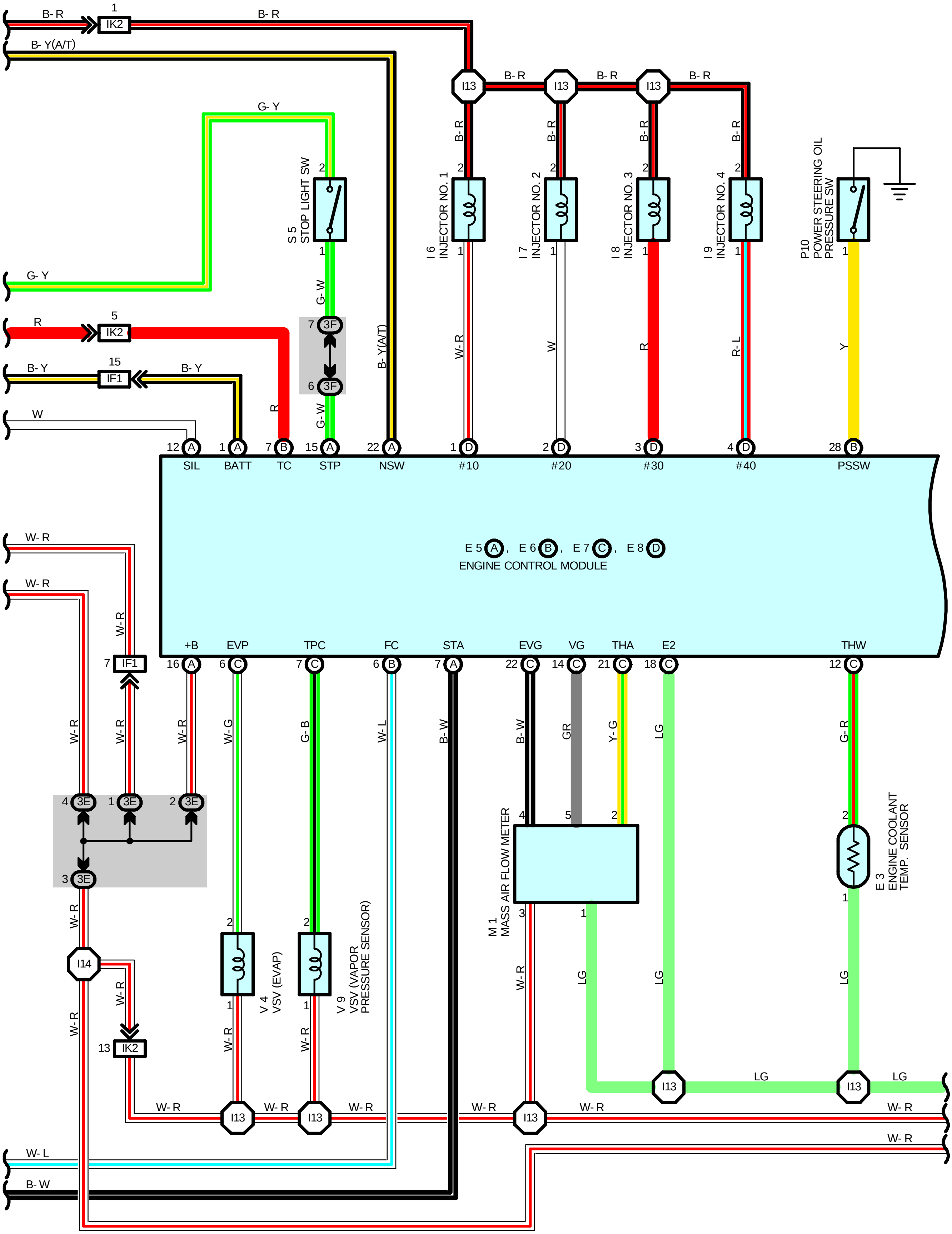
: GROUND POINTS

Code	See Page	Ground Points Location
EA	42 (3RZ-FE)	Front Left Fender
EF	42 (3RZ-FE)	Ignition Coil Braket
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

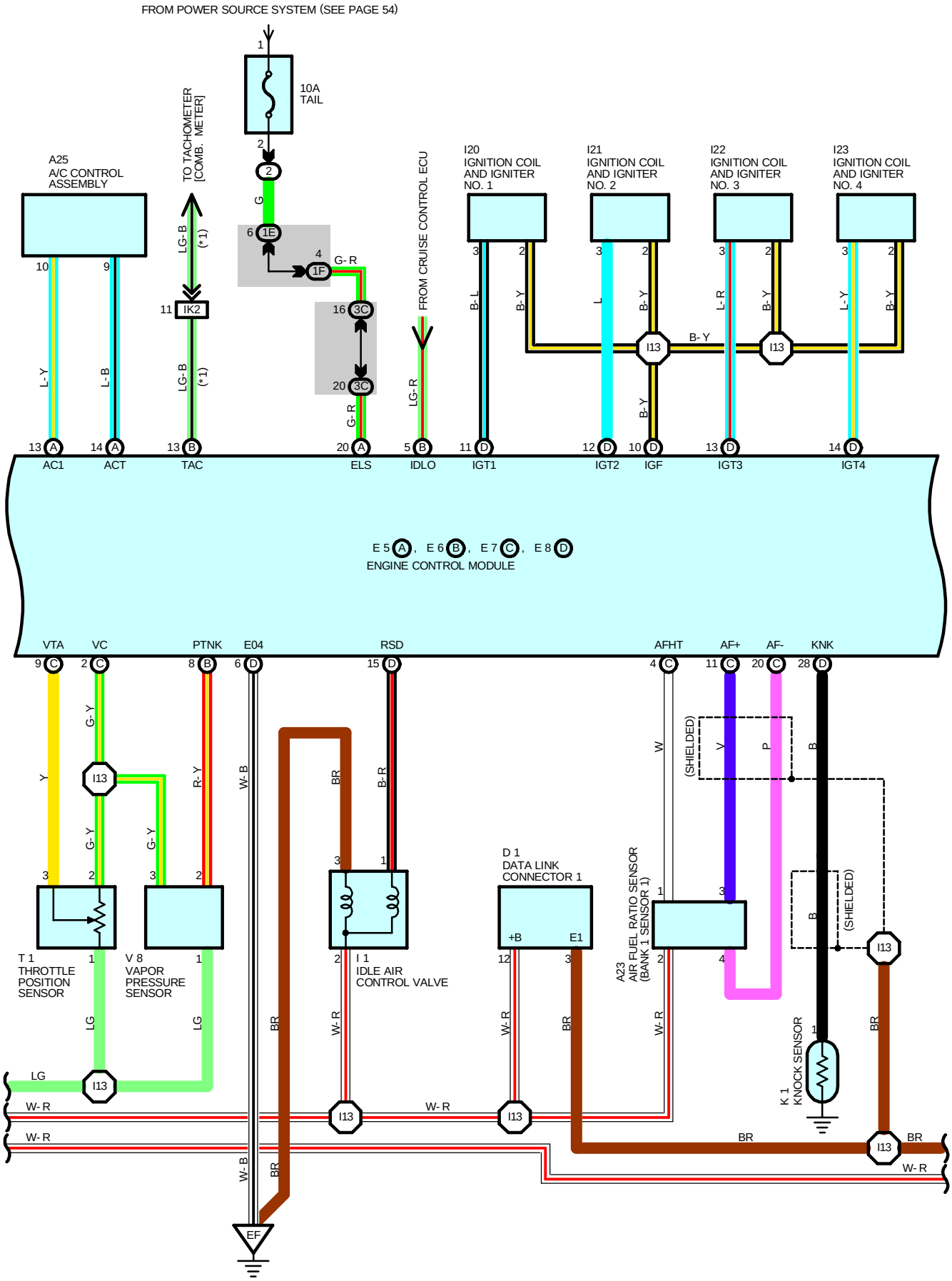
: SPLICE POINTS

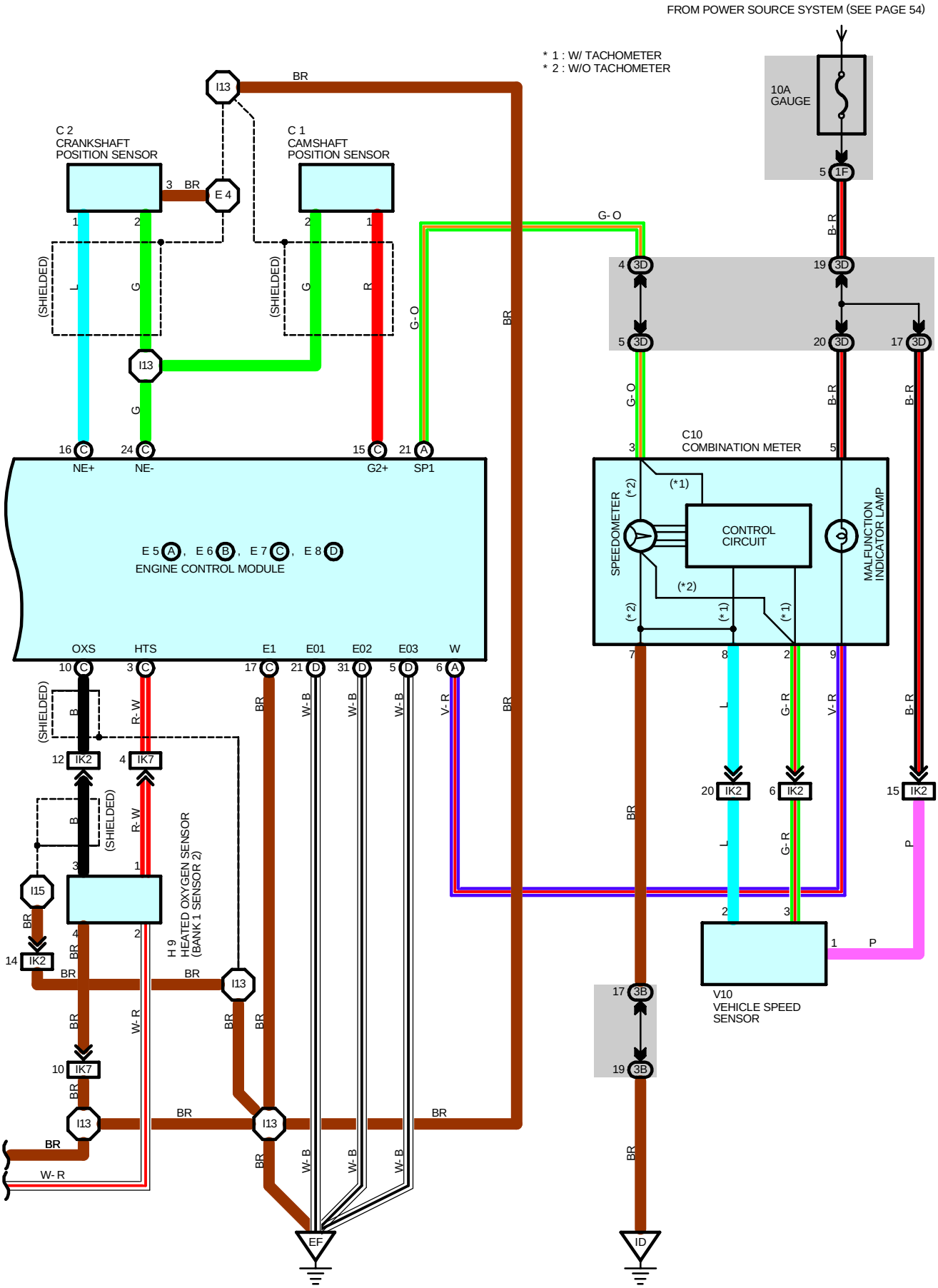
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E4	42 (3RZ-FE)	Engine Wire	I14	44	Cowl Wire
I3	44	Cowl Wire	I15		
I13	44	Engine Wire			


I14
IGNITION SW
AM2
AM1
IG2
ACC
IG1
ST1
FROM POWER SOURCE SYSTEM (SEE PAGE 54)
7. 5A STA
7. 5A IGN
20A EFI
7. 5A OBD
10A STOP
EFI RELAY
J11 JUNCTION CONNECTOR
P 1 PARK/NEUTRAL POSITION SW
C 9 CLUTCH START SW
30A AM2
40A AM1
120A ALT
BATTERY
D 7 DATA LINK CONNECTOR 3
TC
BAT
SIL
TAC
CG
SG
C 6 CIRCUIT OPENING RELAY
FROM COMBINATION METER
F 8 FUEL PUMP
J 9 , J10 JUNCTION CONNECTOR
EA
IE
EF
IG



B-R
IK2
B-Y(A/T)
G-Y
S5 STOP LIGHT SW
R
B-Y
IF1
W
3F
G-W
I13
I6 INJECTOR NO. 1
I7 INJECTOR NO. 2
I8 INJECTOR NO. 3
I9 INJECTOR NO. 4
P10 POWER STEERING OIL PRESSURE SW
W-R
R-L
Y
SIL
BATT
TC
STP
NSW
#10
#20
#30
#40
PSSW
E5 A, E6 B, E7 C, E8 D
ENGINE CONTROL MODULE
+B
EVP
TPC
FC
STA
EVG
VG
THA
E2
THW
3E
W-G
G-B
W-L
B-W
GR
Y-G
LG
G-R
M1 MASS AIR FLOW METER
E3 ENGINE COOLANT TEMP. SENSOR
I14
V4 VSV (EVAP)
V9 VSV (VAPOR PRESSURE SENSOR)


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
10A TAIL
TO TACHOMETER [COMB. METER]
FROM CRUISE CONTROL ECU
A25 A/C CONTROL ASSEMBLY
I20 IGNITION COIL AND IGNITER NO. 1
I21 IGNITION COIL AND IGNITER NO. 2
I22 IGNITION COIL AND IGNITER NO. 3
I23 IGNITION COIL AND IGNITER NO. 4
AC1
ACT
TAC
ELS
IDLO
IGT1
IGT2
IGF
IGT3
IGT4
E5 A, E6 B, E7 C, E8 D
ENGINE CONTROL MODULE
VTA
VC
PTNK
E04
RSD
AFHT
AF+
AF-
KNK
T 1 THROTTLE POSITION SENSOR
V 8 VAPOR PRESSURE SENSOR
I 1 IDLE AIR CONTROL VALVE
D 1 DATA LINK CONNECTOR 1
A23 AIR FUEL RATIO SENSOR (BANK 1 SENSOR 1)
K 1 KNOCK SENSOR
(SHIELDED)
EF


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
* 1 : W/ TACHOMETER
* 2 : W/O TACHOMETER
10A
GAUGE
C 2
CRANKSHAFT
POSITION SENSOR
C 1
CAMSHAFT
POSITION SENSOR
(SHIELDED)
NE+
NE-
G2+
SP1
E5 A , E6 B , E7 C , E8 D
ENGINE CONTROL MODULE
C10
COMBINATION METER
SPEEDOMETER
CONTROL
CIRCUIT
MALFUNCTION
INDICATOR LAMP
OXS
HTS
E1
E01
E02
E03
W
H9
HEATED OXYGEN SENSOR
(BANK 1 SENSOR 2)
V10
VEHICLE SPEED
SENSOR
EF
ID
BR
G-O
R-W
W-B
V-R
G-R
B-R
W-R
L
P
B
G
R

SYSTEM OUTLINE

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

1. INPUT SIGNAL

(1) Engine coolant temp. signal system

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

(2) Intake air temp. signal system

The intake air temp. sensor is installed inside 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) Heated oxygen sensor signal system

The oxygen density in the exhaust emissions is detected and input as a control signal to TERMINAL OXS 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 the engine control module (HTS).

(4) RPM signal system

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 to TERMINAL NE-.

(5) Throttle signal system

The throttle position sensor detects the throttle valve opening angle, which is input as a control signal to TERMINAL VTA of the engine control module.

(6) Vehicle speed signal system

The vehicle speed sensor detects the vehicle speed and inputs a control signal to TERMINAL SP1 of the engine control module via the combination meter.

(7) A/C SW signal system

The operating voltage of the A/C magnetic clutch is detected and input in the form of a control signal to TERMINAL AC1 of the engine control module.

(8) Battery signal system

Voltage is constantly applied to TERMINAL BATT of the engine control module. When the ignition SW is turned to on, voltage for engine control module operation is applied via the EFI relay to TERMINAL +B of the engine control module.

(9) Intake air volume signal system

Intake air volume is detected by the mass air flow meter and a signal is input into TERMINAL VG of the engine control module as a control signal.

(10) Stop light SW signal system

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

(11) Starter signal system

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

(12) Engine knock signal system

Engine knocking is detected by the knock sensor and input as a control signal to TERMINAL KNK of the engine control module.

(13) Air fuel ratio signal system

The air fuel ratio is detected and input as a control signal into TERMINAL AF+ of the engine control module.

2. CONTROL SYSTEM

* SFI system
  The SFI system monitors the engine conditions through the signals (Input signals (1 to 12)) input from each sensor to the engine control module. Based on this data and the program memorized in the engine control module, the most appropriate fuel injection timing is decided and current is output to TERMINALS #10, #20, #30 and #40 of the engine control module, causing the injectors to operate (to inject fuel). It is this system which, through the work of the engine control module, finely controls fuel injection in response to driving conditions.
* Electronic spark advance system
  The ESA system monitors the engine conditions using the signals (input signals (1, 4, 5 to 7, 9, 11, 12)) input to the engine control module from each sensor. Based on this data and the program memorized in the engine control module, the most appropriate ignition timing is decided and current is output to TERMINALS IGT1, IGT2, IGT3 and IGT4 of the engine control module. This output controls the igniter to produce the most appropriate ignition timing for the driving conditions.
* Heated oxygen sensor heater control system
  The heated oxygen sensor heater control system turns the heater to on when the intake air volume is low (Temp. of exhaust emissions low), and warms up the heated oxygen sensor to improve detection performance of the sensor. The engine control module evaluates the signals (Input signals (1, 4, 8, 9, 11)) from each sensor, current is output to TERMINAL HTS and controls the heater.

3. DIAGNOSIS SYSTEM

With the diagnosis system, when there is a malfunction in the ECU signal system, the malfunctioning system is recorded in the memory. The malfunctioning system can then be found by reading the display (Code) of the malfunction indicator lamp.

4. FAIL-SAFE SYSTEM

When a malfunction occurs 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.

SERVICE HINTS

EFI RELAY

5-3 : Closed with ignition SW at **ON** or **ST** position

C6 CIRCUIT OPENING RELAY

5-3 : Closed with starter running or ignition SW at **ON** or **ST** position

I6, I7, I8, I9 INJECTOR

1-2 : **13.4**- **14.2** Ω

T1 THROTTLE POSITION SENSOR

2-1 : **4**- **9** kΩ

E3 ENGINE COOLANT TEMP. SENSOR

1-2 : **10**- **20** kΩ (**-20** ˚C, **-4** ˚F)
4- **7** kΩ (**0**˚C, **32**˚F)
2- **3** kΩ (**20**˚C, **68**˚F)
0.9- **1.3** kΩ (**40**˚C, **104**˚F)
0.4- **0.7** kΩ (**60**˚C, **140**˚F)
0.2- **0.4** kΩ (**80**˚C, **176**˚F)

E5 (A), E6 (B), E7 (C), E8 (D) ENGINE CONTROL MODULE

Voltage at engine control module wiring connectors
+B-E1 : **9**- **14** volts (Ignition SW on)
BATT-E1 : **9**- **14** volts (Always)
VC-E2 : **4.5**- **5.5** volts (Ignition SW on)
VTA-E2 **0.3**- **0.8** volts (Ignition SW on and throttle valve fully closed)
3.2- **4.9** volts (Ignition SW on and throttle valve fully open)
STA-E1 : **6** volts or more (Ignition SW at **ST** position)
W-E1 : **9**- **14** volts (No trouble and engine running)
THA-E2 : **0.5**- **3.4** volts (Ignition SW on and intake air temp. **20**˚C, **68**˚F)
THW-E2 : **0.2**- **1.0** volts (Ignition SW on and coolant temp. **80**˚C,**176**˚F)
SP1-E1 : Plus generation with vehicle moving
STP-E1 : **7.5**- **14** volts (Stop light SW on)
IGT1, IGT2-E1 : Plus generator (Cranking or idling)
#10, #20, #30, #40-E1 : **9**- **14** volts (Ignition SW on)

RESISTANCE AT ECU WIRING CONNECTOR

(Disconnect wiring connector)
VTA-E2 : **3.3**- **10** kΩ (Throttle valve fully open)
0.2- **0.8** kΩ (Throttle valve fully closed)
THA-E2 : **2**- **3** kΩ (Intake air temp. **20**˚C, **68**˚F)
THW-E2 : **0.2**- **0.4** kΩ (Coolant temp. **80**˚C, **178**˚F)
+B-E1 : **0.2**- **0.4** kΩ
NE+-E1 : **140**- **180** Ω

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A23	32 (2RZ-FE)	E8 D	35	J9 A	33 (2RZ-FE)
A25	34	F8	37 (Except Double Cab)	J10 B	33 (2RZ-FE)
C1	32 (2RZ-FE)	H9	35	J11	35
C2	32 (2RZ-FE)	I1	33 (2RZ-FE)	K1	33 (2RZ-FE)
C6	34	I6	33 (2RZ-FE)	M1	33 (2RZ-FE)
C9	34	I7	33 (2RZ-FE)	P1	33 (2RZ-FE)
C10	34	I8	33 (2RZ-FE)	P10	33 (2RZ-FE)
D1	32 (2RZ-FE)	I9	33 (2RZ-FE)	S5	35
D7	34	I14	35	T1	33 (2RZ-FE)
E3	32 (2RZ-FE)	I20	33 (2RZ-FE)	V4	33 (2RZ-FE)
E5 A	35	I21	33 (2RZ-FE)	V8	33 (2RZ-FE)
E6 B	35	I22	33 (2RZ-FE)	V9	33 (2RZ-FE)
E7 C	35	I23	33 (2RZ-FE)	V10	33 (2RZ-FE)

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1I	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3B		
3C		
3D		
3E		
3F		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		
IK7		
BN1	48 (Except Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)

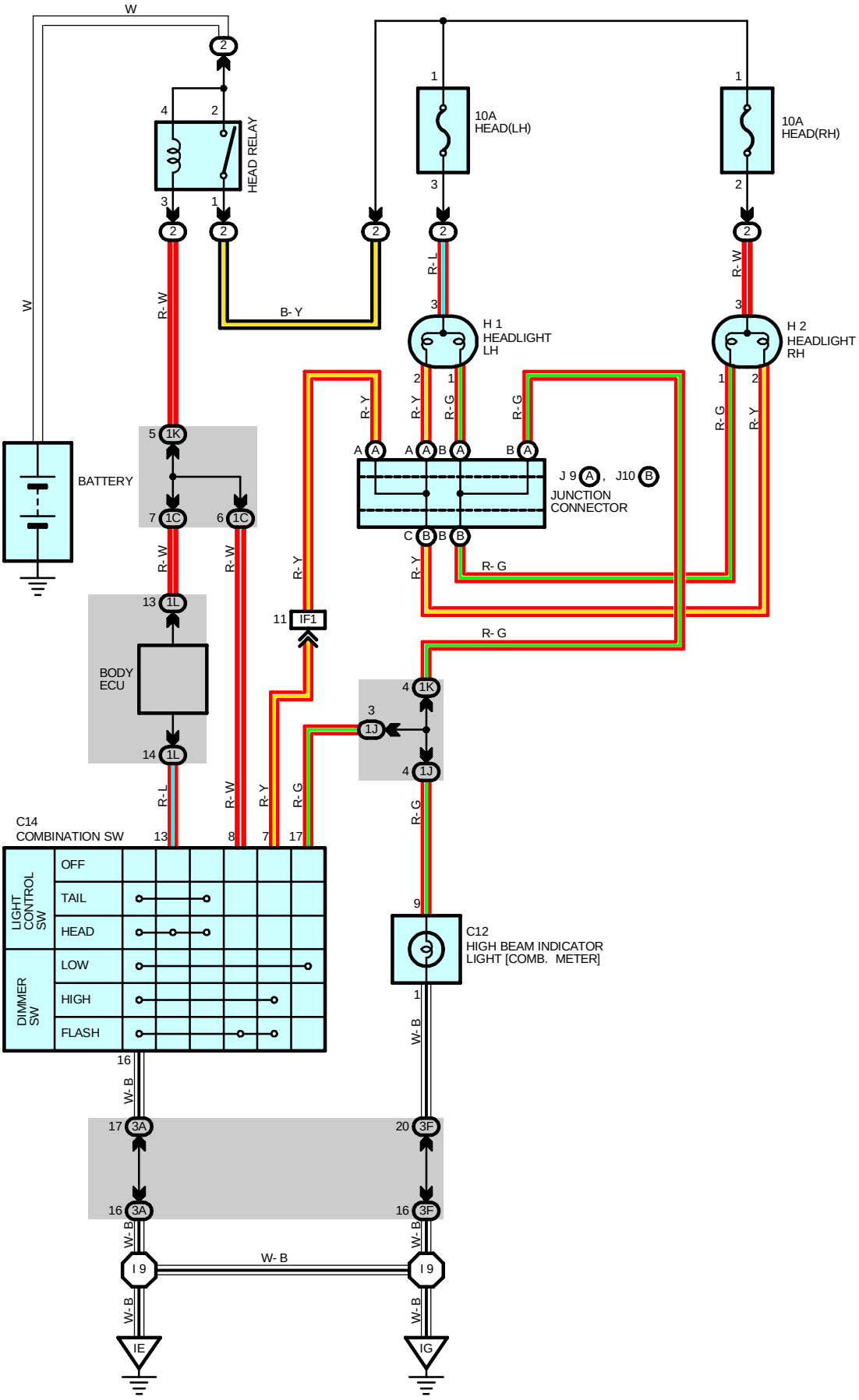
: GROUND POINTS

Code	See Page	Ground Points Location
EA	42 (2RZ-FE)	Front Left Fender
EF	42 (2RZ-FE)	Ignition Coil Braket
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E4	42 (2RZ-FE)	Engine Wire	I14	44	Cowl Wire
I3	44	Cowl Wire	I15		
I13	44	Engine Wire			

HEADLIGHT (w/o DAYTIME RUNNING LIGHT)



SERVICE HINTS

HEAD RELAY

2-1 : Closed with light control SW at **HEAD** position or dimmer SW at **FLASH** position

: PARTS LOCATION

Code	See Page	Code		See Page	Code		See Page
C12	34	H2		30 (5VZ-FE)	J10	B	31 (5VZ-FE)
C14	34			32 (3RZ-FE, 2RZ-FE)			33 (3RZ-FE, 2RZ-FE)
H1	30 (5VZ-FE)	J9	A	31 (5VZ-FE)			
	32 (3RZ-FE, 2RZ-FE)			33 (3RZ-FE, 2RZ-FE)			

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1J		
1K	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1L	22	Cowl Wire and J/B No.1 (Lower Finish Panel)
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3F		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)

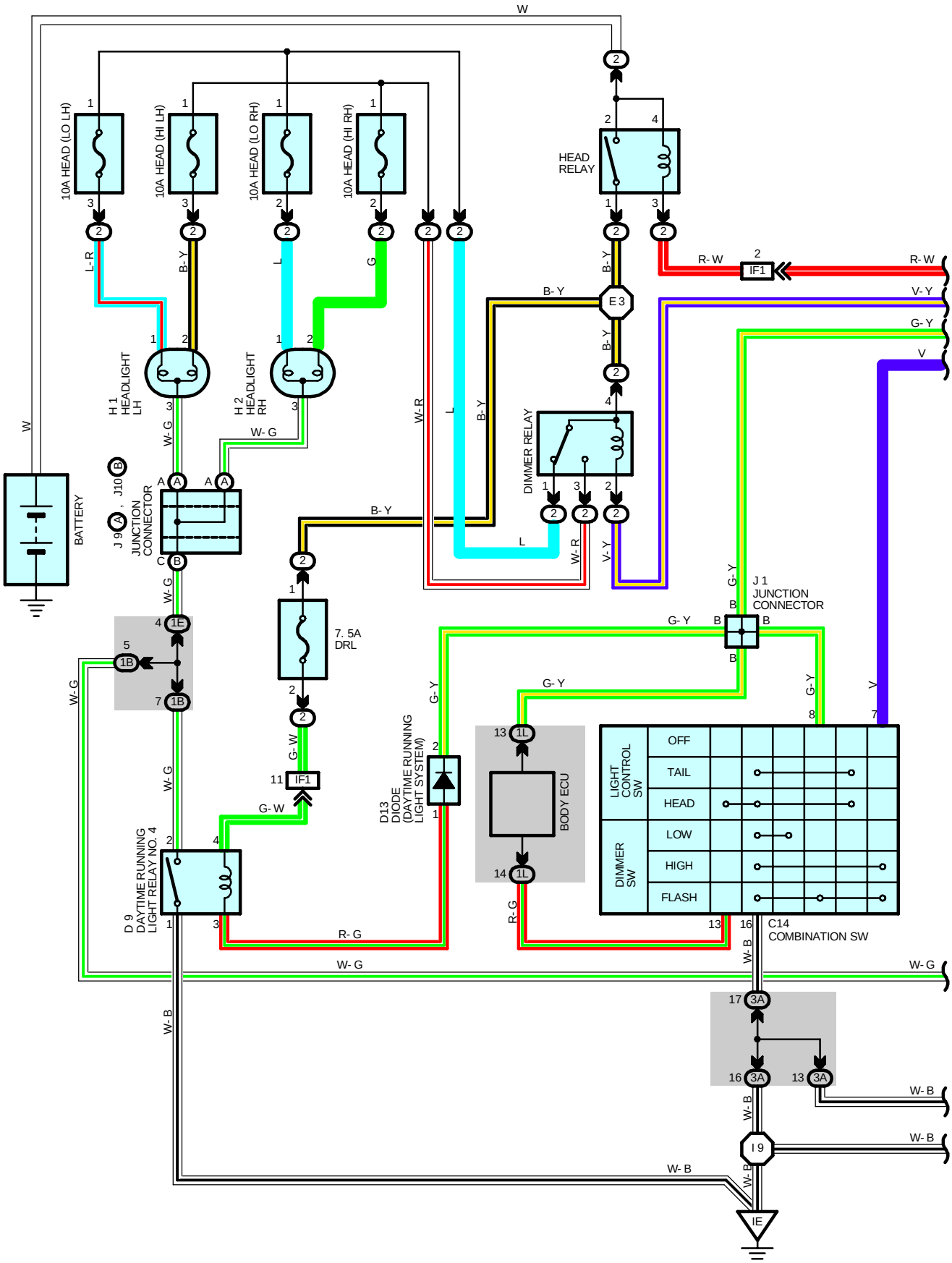
: GROUND POINTS

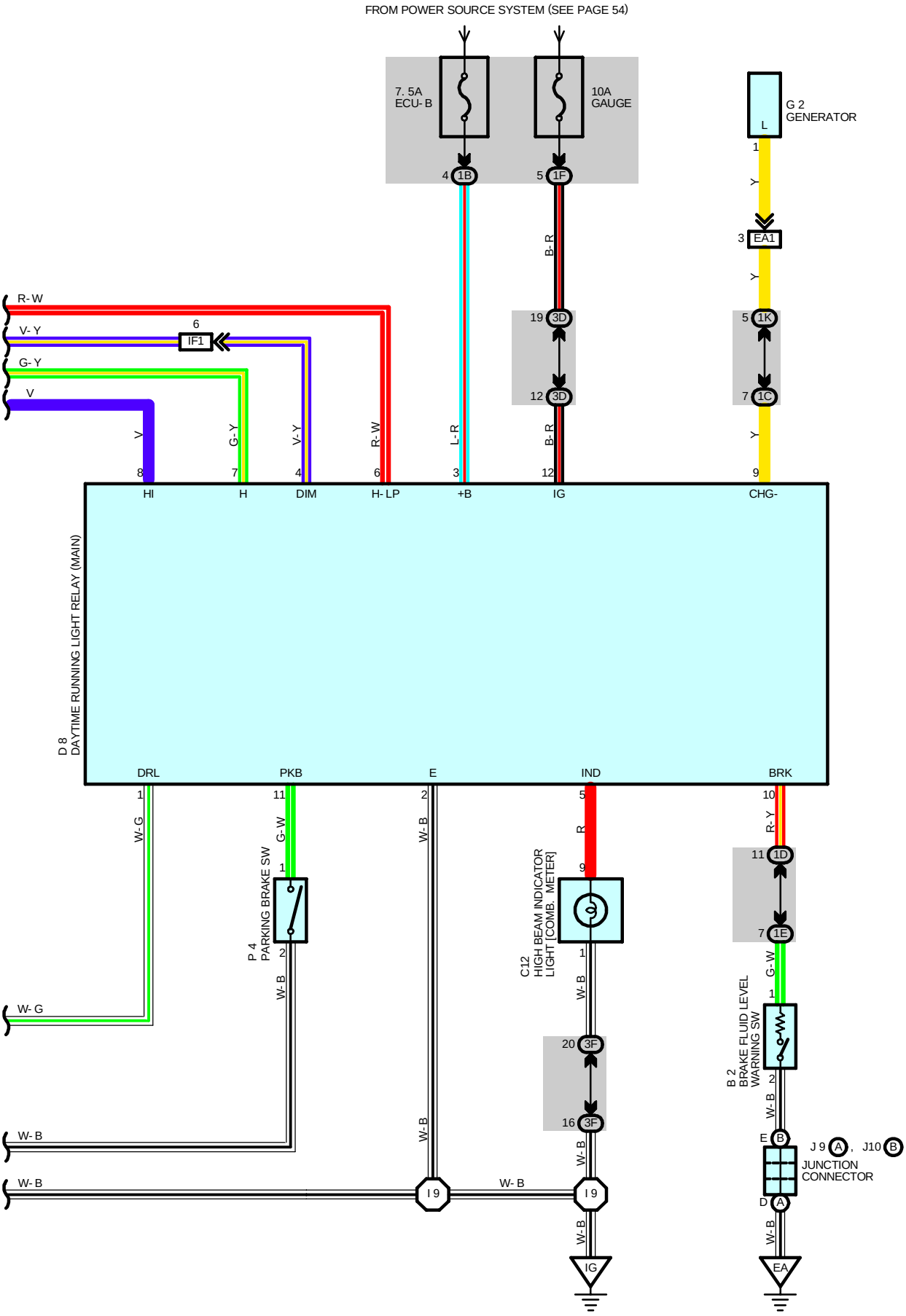
Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire			

HEADLIGHT (w/ DAYTIME RUNNING LIGHT)




FROM POWER SOURCE SYSTEM (SEE PAGE 54)
7. 5A
ECU- B
10A
GAUGE
G 2
GENERATOR
L
1
Y
3 EA1
Y
5 1K
7 1C
Y
9
4 1B
5 1F
B- R
19 3D
12 3D
B- R
12
L- R
3
R- W
6
V- Y
6
IF1
G- Y
V
V
8
G- Y
7
V- Y
4
R- W
6
HI
H
DIM
H- LP
+B
IG
CHG-
D 8
DAYTIME RUNNING LIGHT RELAY (MAIN)
DRL
PKB
E
IND
BRK
1
W- G
11
G- W
1
2
W- B
2
W- B
5
R
9
1
W- B
20 3F
16 3F
W- B
10
R- Y
11 1D
7 1E
G- W
1
2
W- B
E B
D A
W- B
P 4
PARKING BRAKE SW
C12
HIGH BEAM INDICATOR
LIGHT [COMB. METER]
B 2
BRAKE FLUID LEVEL
WARNING SW
J 9 A , J10 B
JUNCTION
CONNECTOR
W- G
W- B
W- B
I 9
W- B
I 9
IG
EA

HEADLIGHT (w/ DAYTIME RUNNING LIGHT)

SYSTEM OUTLINE

1. DAYTIME RUNNING LIGHT OPERATION

When the engine is started, voltage generated at TERMINAL L of the generator is applied to TERMINAL 9 of the daytime running light relay (Main).

If the parking brake lever is pulled up (The parking brake SW on) at this time, the relay is not activated, so the daytime running light system does not operate. If the parking brake lever is then released (The parking brake SW off), a signal is input to TERMINAL 11 of the relay. This activates the relay, so current flows from battery to the HEAD relay (Point side) to TERMINAL 4 of the DIMMER relay to TERMINAL 1 to HEAD (LO LH), (LO RH) fuse to TERMINAL 1 of the headlights to TERMINAL 3 to TERMINAL 1 of the daytime running light relay (Main) to TERMINAL 2 to GROUND. This causes headlights to light up (Headlights light up dimmer than full brightness.).

Once the daytime running light system operates and headlights light up, headlights remain on even if the parking brake lever is pulled up (The parking brake SW on).

If the engine stalls and the ignition SW remains on, headlights remain lighted up even through current is no longer output from TERMINAL L of the generator. If the ignition SW is then turned off, the headlights go off. If the engine is started with the parking brake lever released (The parking brake SW off), the daytime running light system operates and headlights light up when the engine starts.

2. HEADLIGHT OPERATION

When the light control SW is switched to HEAD position, current flows from the DRL fuse to TERMINAL 4 of the daytime running light relay No.4 to TERMINAL 3 to TERMINAL 1 of the diode to TERMINAL 2 to body ECU to TERMINAL 13 of the light control SW to TERMINAL 16 to GROUND, activating the daytime running light relay No.4. Current then flows from the HEAD (LO LH), (LO RH) fuse to TERMINAL 1 of the headlights to TERMINAL 3 to TERMINAL 2 of the daytime running light relay No.4 to TERMINAL 1 to GROUND, causing headlights to light up at normal intensity.

When the dimmer SW is switched to HIGH position, the signal from the dimmer SW is input to the daytime running light relay (Main). This activates the relay and current flows from TERMINAL 4 of the DIMMER relay to TERMINAL 2 to TERMINAL 4 of the daytime running light relay (Main), activating the DIMMER relay.

This causes current to flow from TERMINAL 4 of the DIMMER relay to TERMINAL 3 to HEAD (HI LH), (HI RH) fuse to TERMINAL 2 of the headlights to TERMINAL 3 to TERMINAL 2 of the daytime running light relay No.4 to TERMINAL 1 to GROUND, causing headlights to light up at high beam.

When the dimmer SW is switched to FLASH position, the daytime running light relay (Main) is activated and current flows from TERMINAL 4 of the DIMMER relay to TERMINAL 2. Current from the DRL fuse flows TERMINAL 4 of the daytime running light relay No.4 to TERMINAL 3 to TERMINAL 1 of the diode to TERMINAL 2 to TERMINAL 8 of the dimmer SW to TERMINAL 16 to GROUND, and also flows from the HEAD (HI LH), (HI RH) fuse to TERMINAL 2 of the headlights to TERMINAL 3 to TERMINAL 2 of the daytime running light relay No.4 to TERMINAL 1 to GROUND, causing the high beam to operate.

SERVICE HINTS

HEAD RELAY

2-1 : Closed with light control SW at **HEAD** position or dimmer SW at **FLASH** position
Closed with engine running and parking brake lever released

DIMMER RELAY

4-3 : Closed with HEAD relay on and dimmer SW at **HIGH** or **FLASH** position

: PARTS LOCATION

Code	See Page	Code	See Page	Code		See Page
B2	30 (5VZ-FE)	G2	30 (5VZ-FE)	J9	A	31 (5VZ-FE)
	32 (3RZ-FE, 2RZ-FE)		32 (3RZ-FE, 2RZ-FE)			33 (3RZ-FE, 2RZ-FE)
C12	34	H1	30 (5VZ-FE)	J10	B	31 (5VZ-FE)
C14	34		32 (3RZ-FE, 2RZ-FE)			33 (3RZ-FE, 2RZ-FE)
D8	34	H2	30 (5VZ-FE)	P4		35
D9	34		32 (3RZ-FE, 2RZ-FE)			
D13	34	J1	35			

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1C		
1D		
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1K	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1L	22	Cowl Wire and J/B No.1 (Lower Finish Panel)
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		
3F		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

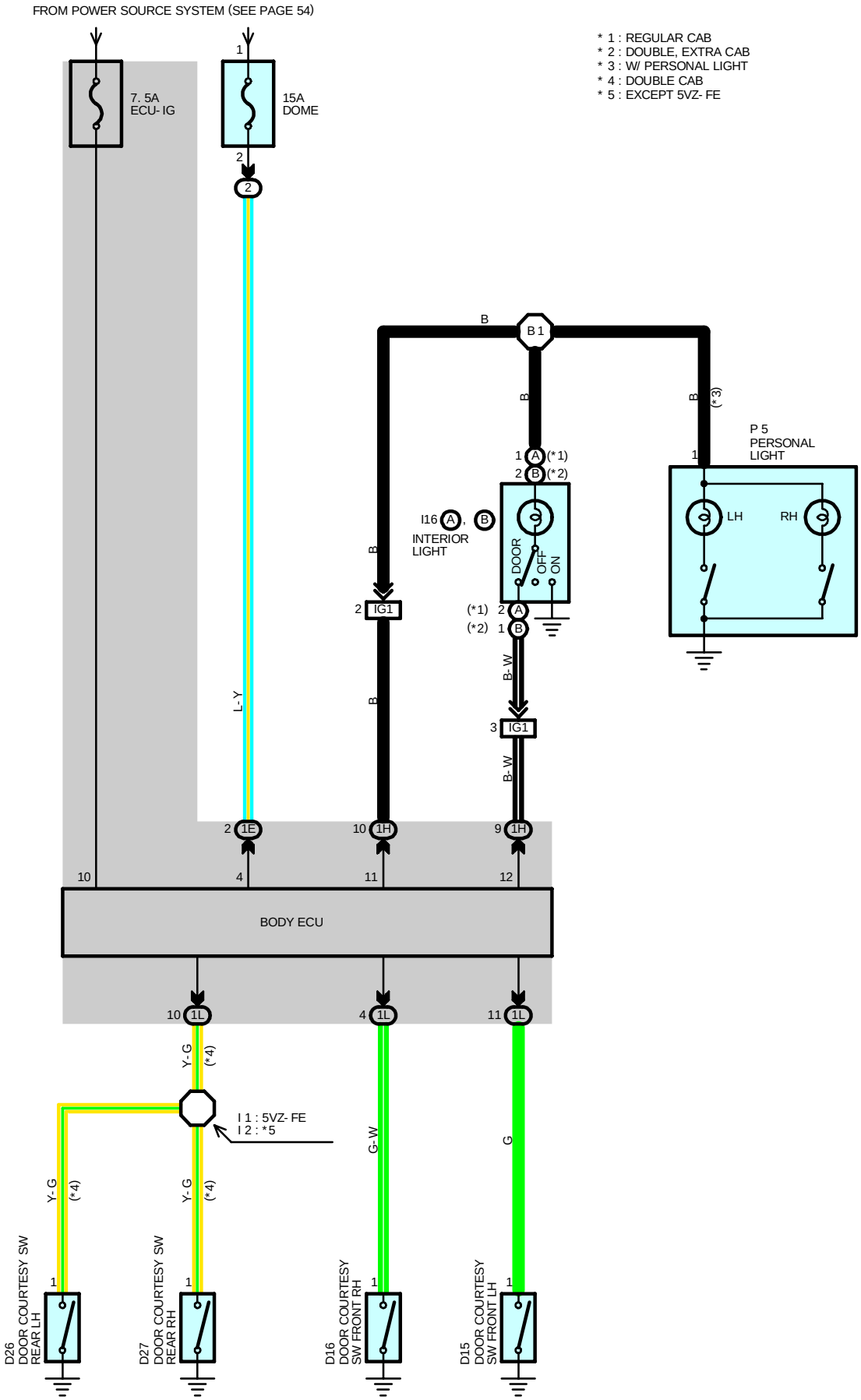
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	40 (5VZ-FE)	Engine Room Main Wire and Engine No.2 Wire (Near the Battery)
	42 (3RZ-FE, 2RZ-FE)	
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
EA	40 (5VZ-FE)	Front Left Fender
	42 (3RZ-FE, 2RZ-FE)	
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E3	40 (5VZ-FE)	Engine Room Main Wire	I9	44	Cowl Wire
	42 (3RZ-FE, 2RZ-FE)				


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
* 1 : REGULAR CAB
* 2 : DOUBLE, EXTRA CAB
* 3 : W/ PERSONAL LIGHT
* 4 : DOUBLE CAB
* 5 : EXCEPT 5VZ- FE
7. 5A
ECU- IG
15A
DOME
B
B 1
P 5
PERSONAL
LIGHT
LH
RH
I16
INTERIOR
LIGHT
DOOR
OFF
ON
IG1
L- Y
B- W
BODY ECU
1E
1H
1L
Y- G
G- W
G
I 1 : 5VZ- FE
I 2 : *5
D26
DOOR COURTESY SW
REAR LH
D27
DOOR COURTESY SW
REAR RH
D16
DOOR COURTESY
SW FRONT RH
D15
DOOR COURTESY
SW FRONT LH

SERVICE HINTS

D15, D16, D26, D27 DOOR COURTESY SW FRONT REAR LH, RH

1-GROUND : Closed with door open

: PARTS LOCATION

Code	See Page	Code		See Page	Code		See Page
D15	34	D27		36 (Double Cab)	I16	B	37 (Except Double Cab)
D16	34	I16	A	37 (Except Double Cab)	P5		36 (Double Cab)
D26	36 (Double Cab)		B	36 (Double Cab)			37 (Except Double Cab)

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1H	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1L	22	

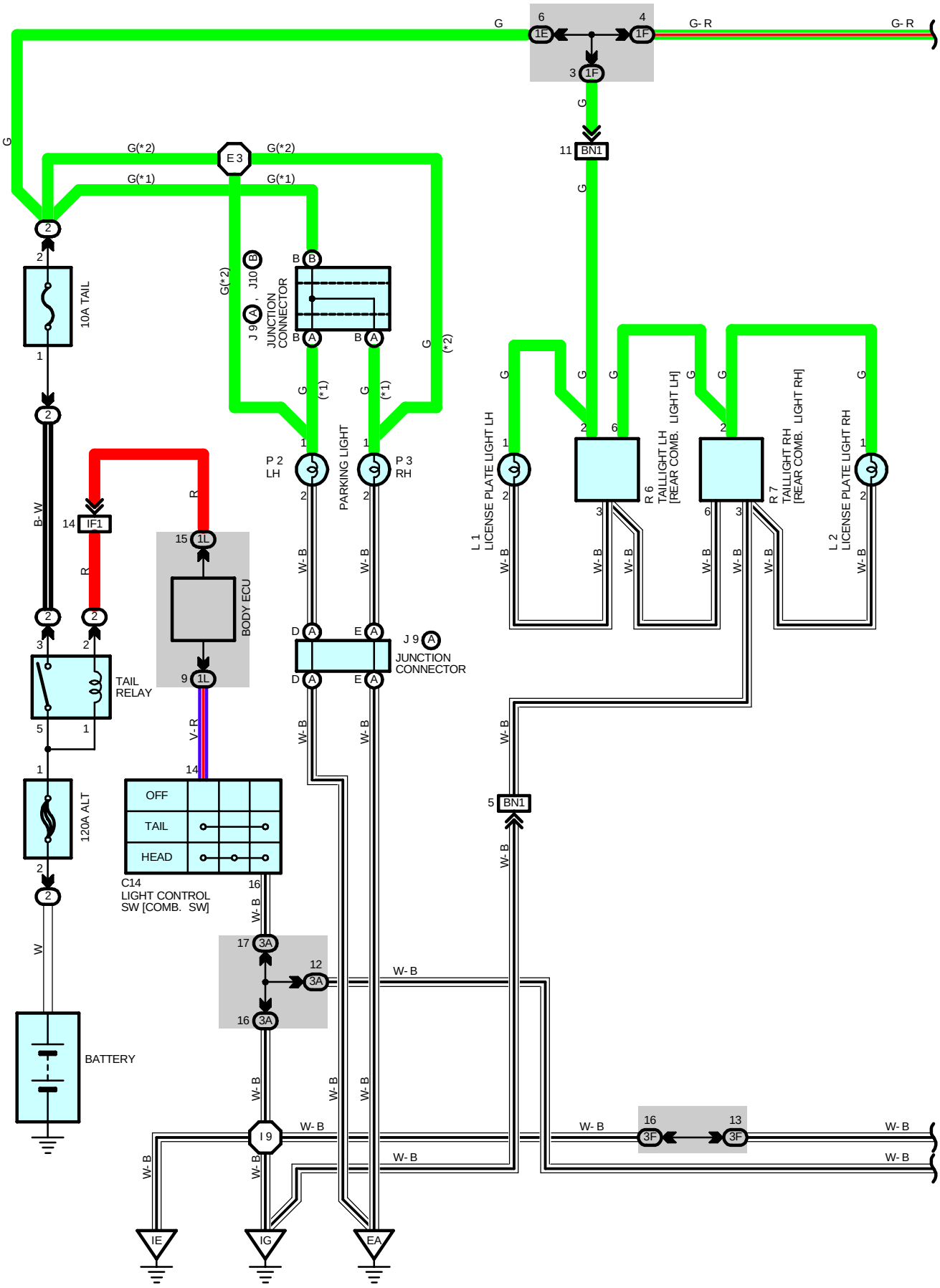
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

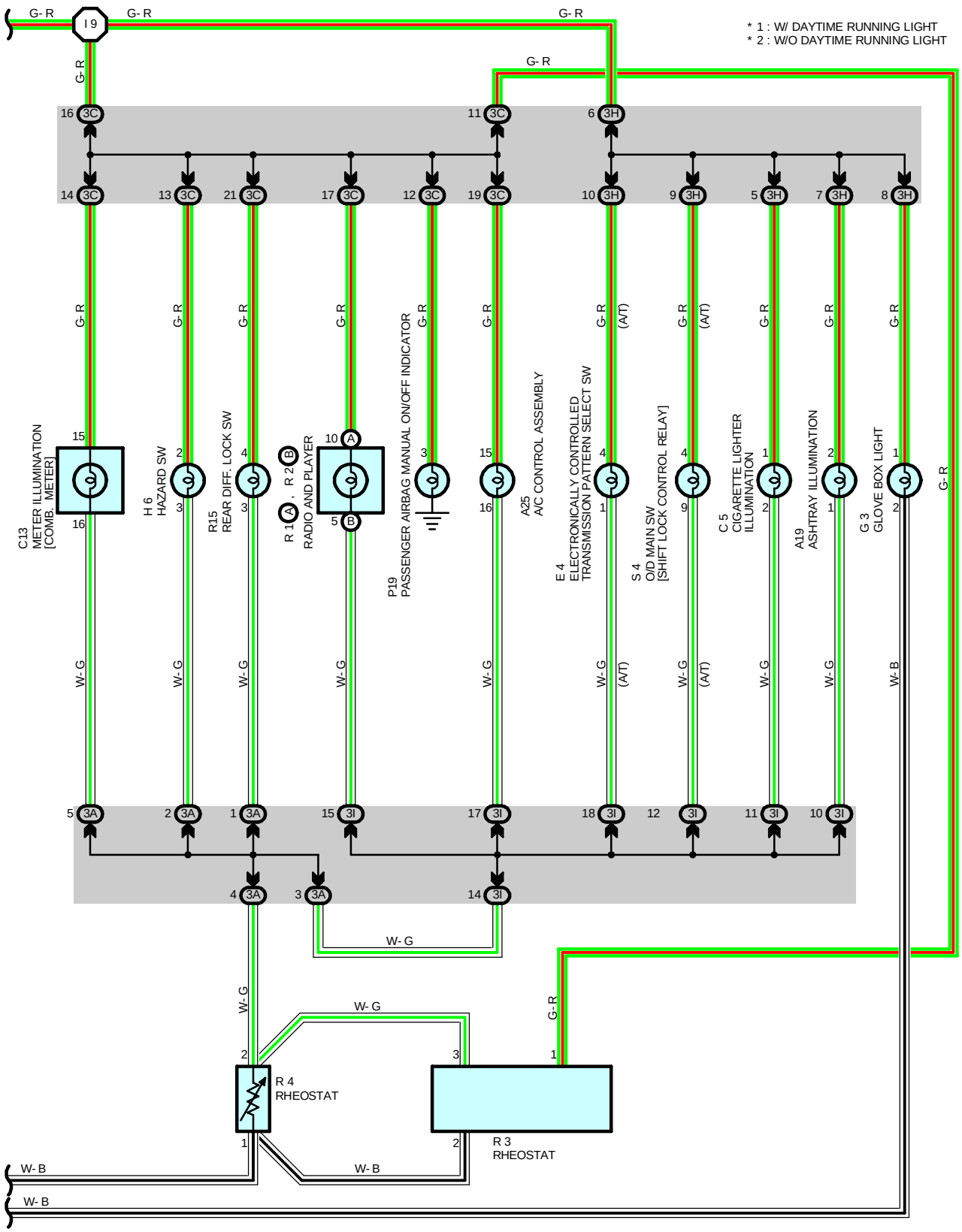
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IG1	44	Cowl Wire and Roof Wire (Left Kick Panel)

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I1	44	Cowl Wire	B1	46 (Double Cab)	Roof Wire
I2				48 (Except Double Cab)	

TAILLIGHT AND ILLUMINATION




* 1 : W/ DAYTIME RUNNING LIGHT
* 2 : W/O DAYTIME RUNNING LIGHT
I 9
C13 METER ILLUMINATION [COMB. METER]
H 6 HAZARD SW
R15 REAR DIFF. LOCK SW
R 1 , R 2 RADIO AND PLAYER
P19 PASSENGER AIRBAG MANUAL ON/OFF INDICATOR
A25 A/C CONTROL ASSEMBLY
E 4 ELECTRONICALLY CONTROLLED TRANSMISSION PATTERN SELECT SW
S 4 O/D MAIN SW [SHIFT LOCK CONTROL RELAY]
C 5 CIGARETTE LIGHTER ILLUMINATION
A19 ASHTRAY ILLUMINATION
G 3 GLOVE BOX LIGHT
R 4 RHEOSTAT
R 3 RHEOSTAT
G- R
W- G
W- B
(A/T)

TAILLIGHT AND ILLUMINATION

SERVICE HINTS

C14 LIGHT CONTROL SW [COMB. SW]

14-16 : Closed with light control SW at **TAIL** or **HEAD** position

TAIL RELAY

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

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A19	34	J10 B	33 (3RZ-FE, 2RZ-FE)	R2 B	35
A25	34	L1	36 (Double Cab)	R3	35
C5	34		37 (Except Double Cab)	R4	35
C13	34	L2	36 (Double Cab)	R6	36 (Double Cab)
C14	34		37 (Except Double Cab)		37 (Except Double Cab)
E4	35	P2	31 (5VZ-FE)	R7	36 (Double Cab)
G3	35		33 (3RZ-FE, 2RZ-FE)		37 (Except Double Cab)
H6	35	P3	31 (5VZ-FE)	R15	35
J9 A	31 (5VZ-FE)		33 (3RZ-FE, 2RZ-FE)	S4	35
	33 (3RZ-FE, 2RZ-FE)	P19	35		
J10 B	31 (5VZ-FE)	R1 A	35		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1L	22	
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3C		
3F		
3H	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)
3I		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
BN1	46 (Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	48 (Except Double Cab)	

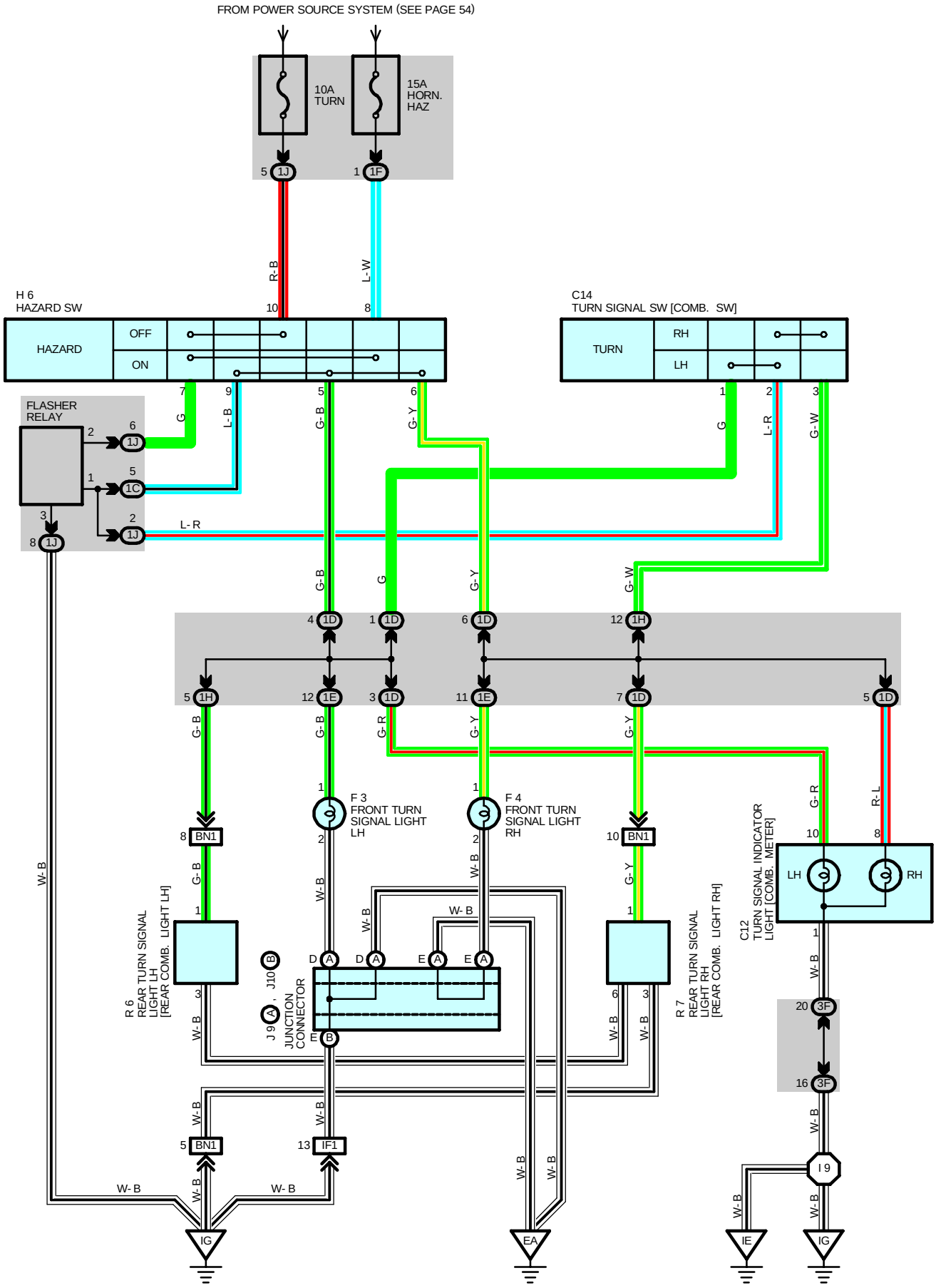
: GROUND POINTS

Code	See Page	Ground Points Location
EA	40 (5VZ-FE)	Front Left Fender
	42 (3RZ-FE, 2RZ-FE)	
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E3	40 (5VZ-FE)	Engine Room Main Wire	I9	44	Cowl Wire
	42 (3RZ-FE, 2RZ-FE)				

TURN SIGNAL AND HAZARD WARNING LIGHT



SERVICE HINTS

FLASHER RELAY

2-GROUND : Approx. **12** volts with ignition SW on or hazard SW on

1-GROUND : Changes from **12** to **0** volts with ignition SW on and turn signal SW left or right, or with hazard SW on

: PARTS LOCATION

Code	See Page	Code		See Page	Code		See Page
C12	34	F4		32 (3RZ-FE, 2RZ-FE)	J10	B	33 (3RZ-FE, 2RZ-FE)
C14	34	H6		35	R6		36 (Double Cab)
F3	30 (5VZ-FE)	J9	A	31 (5VZ-FE)			37 (Except Double Cab)
	32 (3RZ-FE, 2RZ-FE)			33 (3RZ-FE, 2RZ-FE)	R7		36 (Double Cab)
F4	30 (5VZ-FE)	J10	B	31 (5VZ-FE)			37 (Except Double Cab)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1D		
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1H		
1J		
3F	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
BN1	46 (Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	48 (Except Double Cab)	

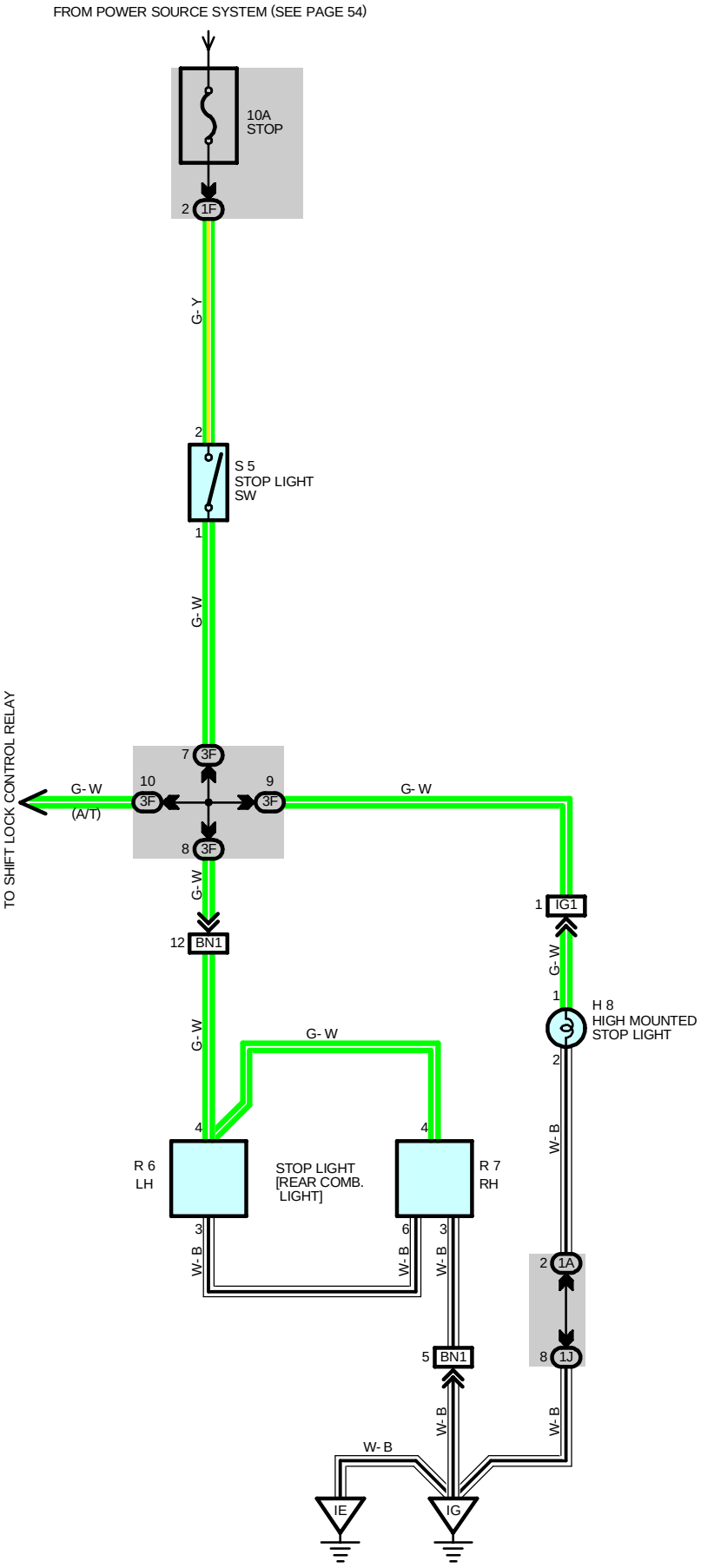
: GROUND POINTS

Code	See Page	Ground Points Location
EA	40 (5VZ-FE)	Front Left Fender
	42 (3RZ-FE, 2RZ-FE)	
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire			

STOP LIGHT


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
10A
STOP
2 1F
G- Y
2
S 5
STOP LIGHT
SW
1
G- W
TO SHIFT LOCK CONTROL RELAY
7 3F
10 3F
G- W
(A/T)
9 3F
G- W
8 3F
G- W
12 BN1
1 IG1
G- W
1
H 8
HIGH MOUNTED
STOP LIGHT
2
G- W
4
4
R 6
LH
STOP LIGHT
[REAR COMB.
LIGHT]
R 7
RH
W- B
3
6
3
W- B
W- B
W- B
2 1A
5 BN1
8 1J
W- B
W- B
W- B
IE
IG

SERVICE HINTS

S5 STOP LIGHT SW

2-1 : Closed with brake pedal depressed

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
H8	36 (Double Cab)	R6	37 (Except Double Cab)	S5	35
	37 (Except Double Cab)	R7	36 (Double Cab)		
R6	36 (Double Cab)		37 (Except Double Cab)		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	23	Roof Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1J		
3F	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)

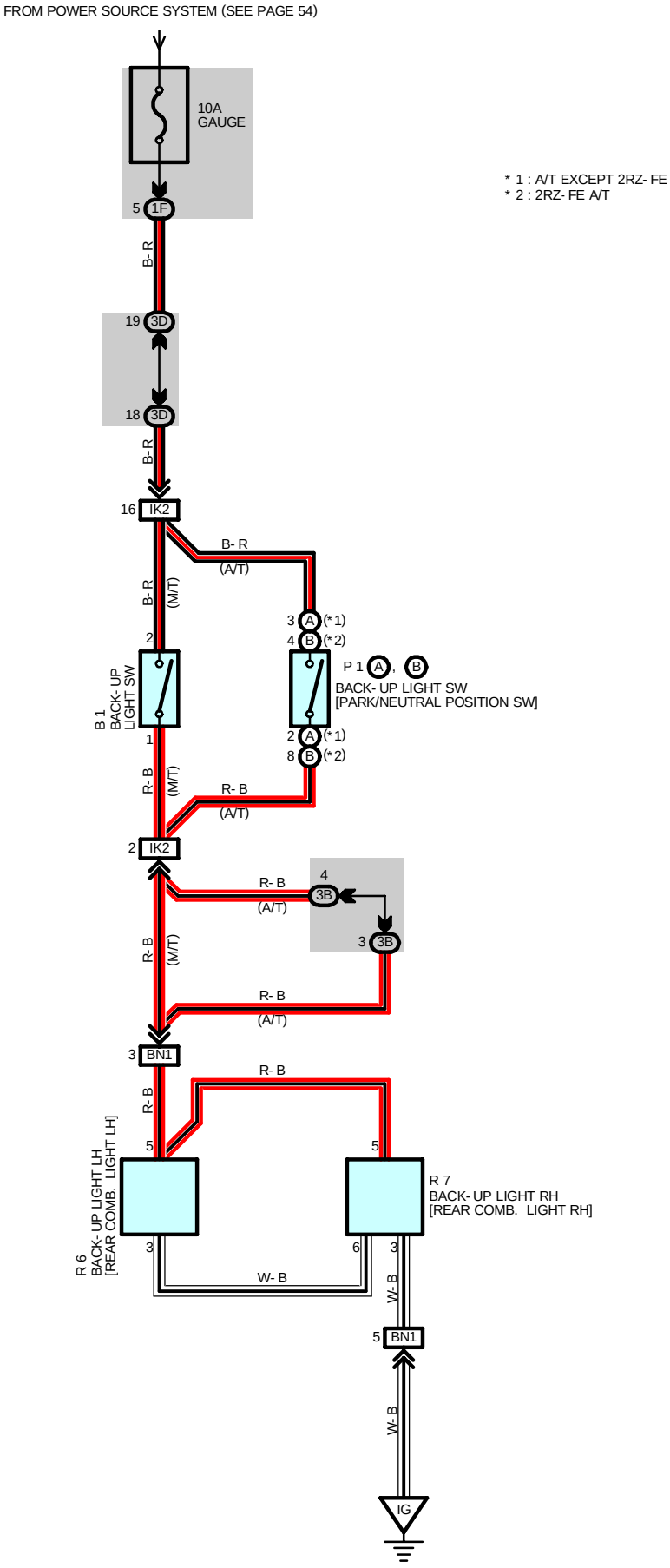
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IG1	44	Cowl Wire and Roof Wire (Left Kick Panel)
BN1	46 (Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	48 (Except Double Cab)	

: GROUND POINTS

Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

BACK-UP LIGHT



SERVICE HINTS

P1 (A), (B) BACK-UP LIGHT SW [PARK/NEUTRAL POSITION SW] (A/T)

(A) 3-(A) 2, (B) 4-(B) 8 : Closed with shift lever in **R** position

B1 BACK-UP LIGHT SW (M/T)

2-1 : Closed with shift lever in **R** position

: PARTS LOCATION

Code		See Page	Code		See Page	Code	See Page
B1		30 (5VZ-FE)	P1	A	33 (3RZ-FE)	R6	37 (Except Double Cab)
		32 (3RZ-FE, 2RZ-FE)		B	33 (2RZ-FE)	R7	36 (Double Cab)
P1	A	31 (5VZ-FE)	R6		36 (Double Cab)		37 (Except Double Cab)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
3B	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		

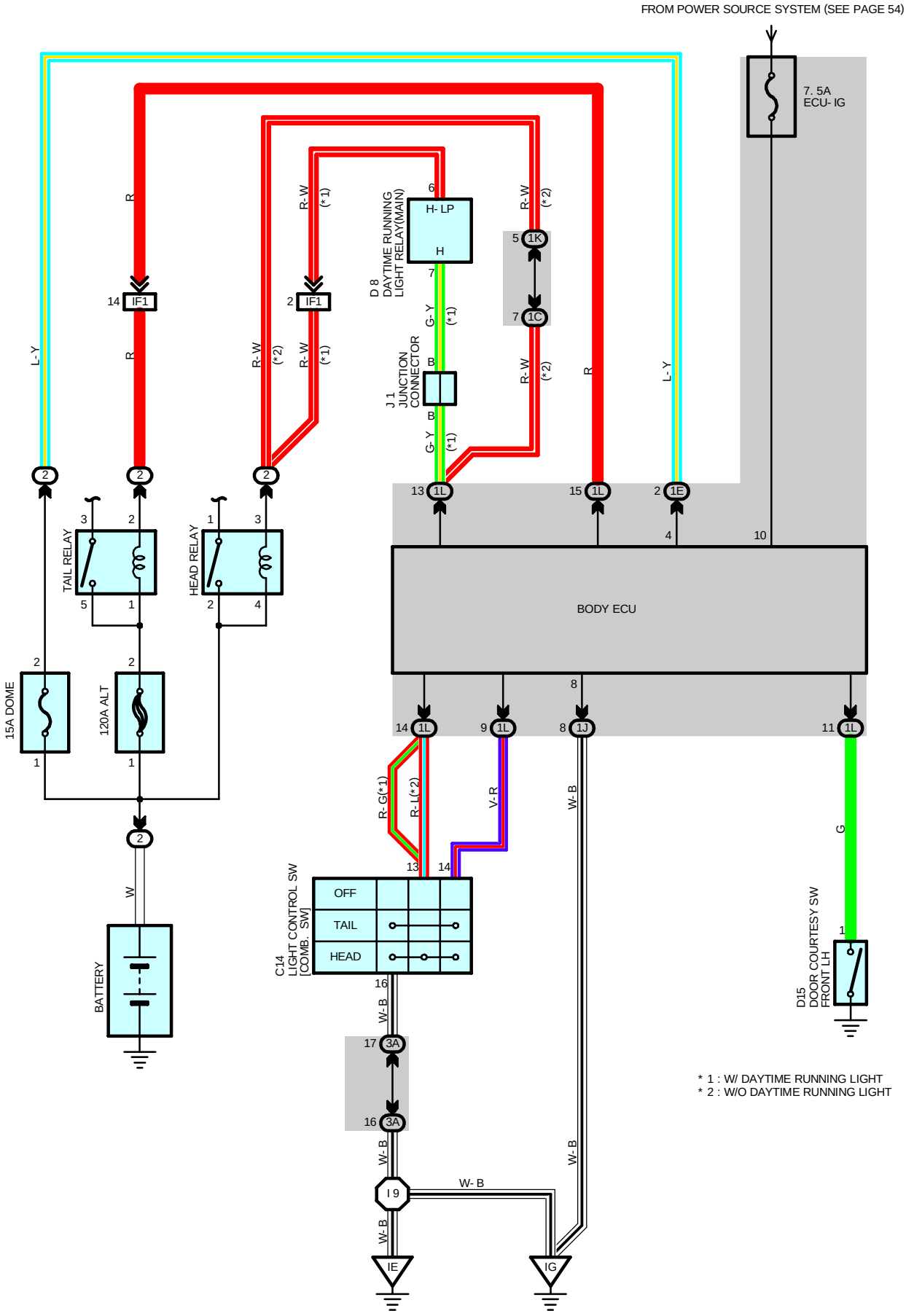
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
BN1	46 (Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	48 (Except Double Cab)	

: GROUND POINTS

Code	See Page	Ground Points Location
IG	44	Around the Left Edge of the Reinforcement

LIGHT AUTO TURN OFF



SYSTEM OUTLINE

The light auto turn off system automatically turns the taillight or headlight off according to the door open or close on the driver's side, and prevent failing to turn off the lights.
If the ignition switch is turned to OFF from ON with the headlight or taillight is on, the signal is input in the body ECU. If the driver's seat door is opened at that time, the signal from the door courtesy SW front LH is sent to the body ECU. The signal turns the headlight or taillight off by the body ECU.

SERVICE HINTS

BODY ECU

10-GROUND : Approx. **12** volts with ignition SW at **ON** or **ST** position
4-GROUND : Always approx. **12** volts
8-GROUND : Always continuity

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C14	34	D15	34		
D8	34	J1	35		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1J	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1K	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1L	22	Cowl Wire and J/B No.1 (Lower Finish Panel)
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)

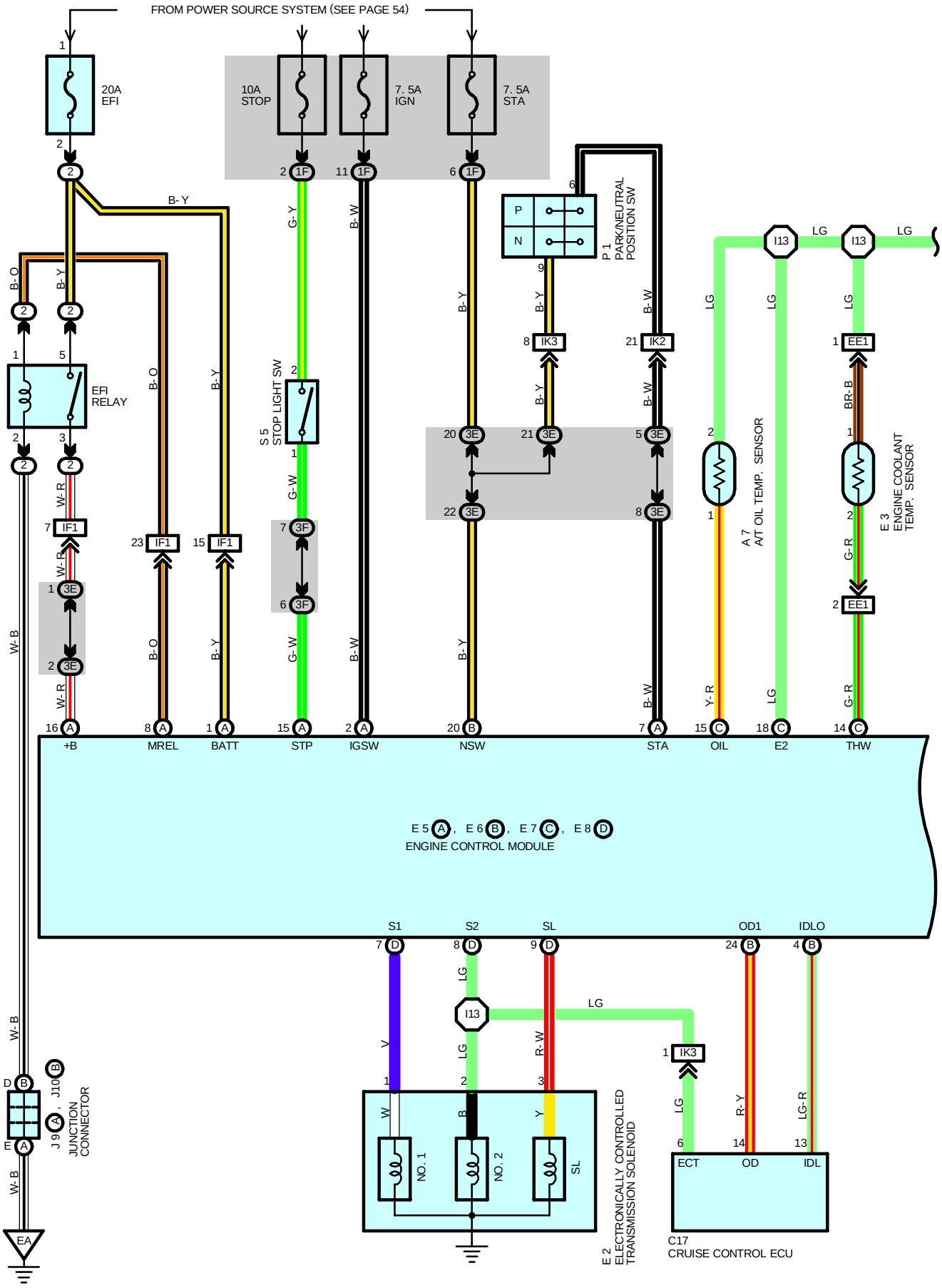
: GROUND POINTS

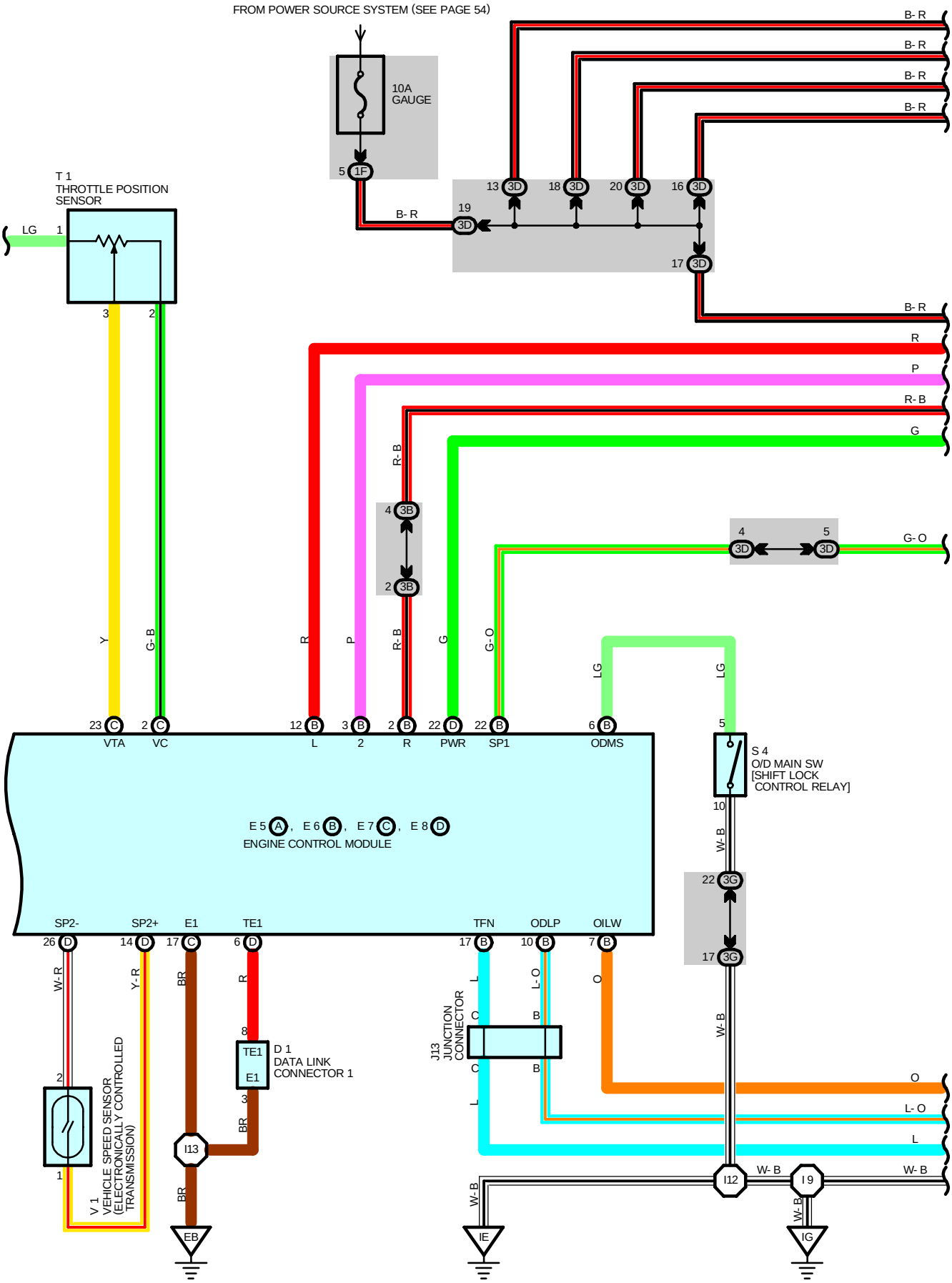
Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

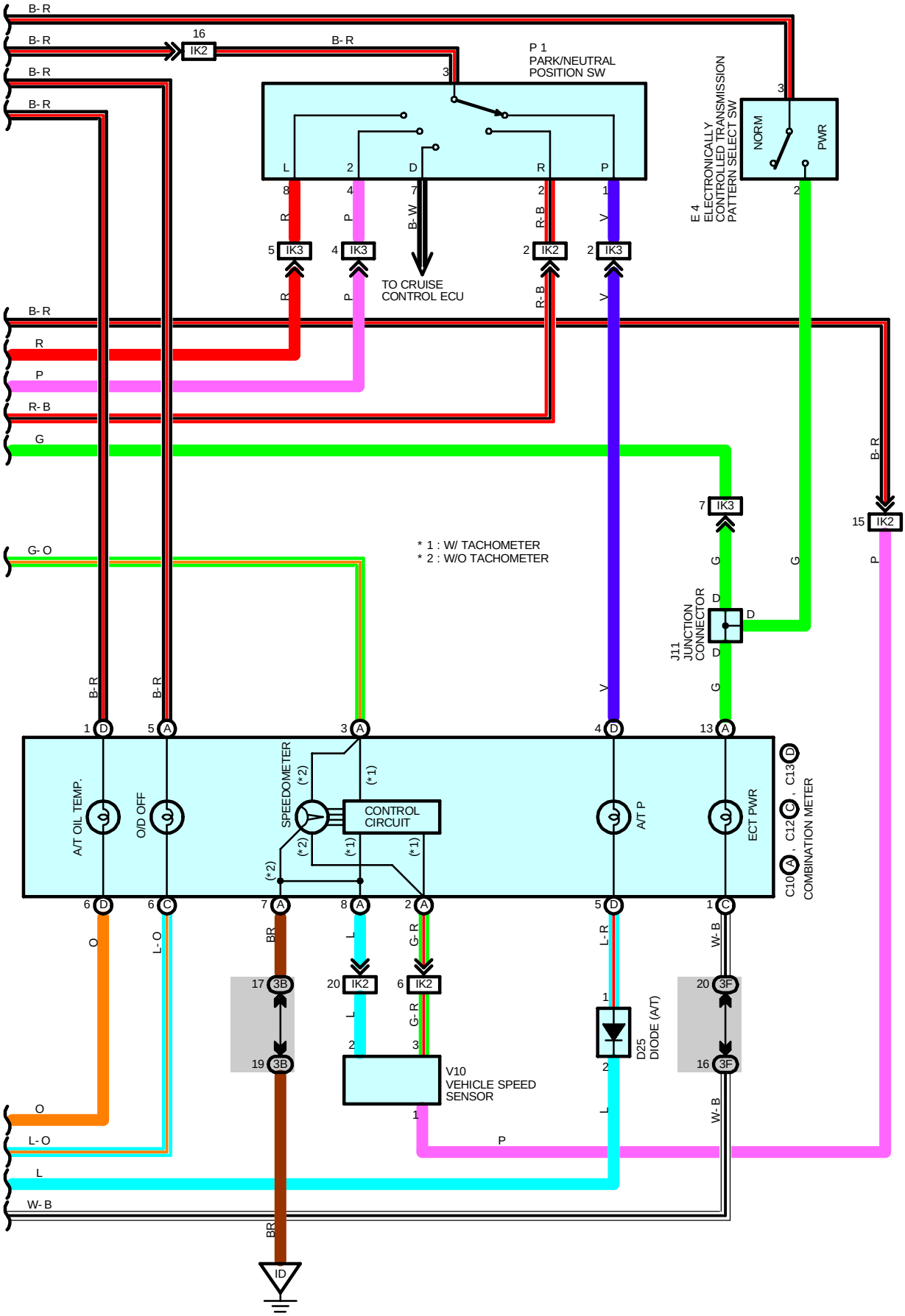
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire			

ELECTRONICALLY CONTROLLED TRANSMISSION (5VZ-FE)




FROM POWER SOURCE SYSTEM (SEE PAGE 54)
10A
GAUGE
T 1
THROTTLE POSITION
SENSOR
LG
B- R
R
P
R- B
G
G- O
LG
Y
G- B
VTA
VC
L
2
R
PWR
SP1
ODMS
S 4
O/D MAIN SW
[SHIFT LOCK
CONTROL RELAY]
E 5 A , E 6 B , E 7 C , E 8 D
ENGINE CONTROL MODULE
SP2-
SP2+
E1
TE1
TFN
ODLP
OILW
W- R
Y- R
BR
W- B
L
L- O
O
J13
JUNCTION
CONNECTOR
D 1
DATA LINK
CONNECTOR 1
V 1
VEHICLE SPEED SENSOR
(ELECTRONICALLY CONTROLLED
TRANSMISSION)
I13
I12
I 9
EB
IE
IG

ELECTRONICALLY CONTROLLED TRANSMISSION (5VZ-FE)



SYSTEM OUTLINE

Previous automatic transmissions have selected each gear shift using mechanically controlled throttle hydraulic pressure, governor hydraulic pressure and lock-up hydraulic pressure. The electronically controlled transmission, however, electrically controls the governor pressure and lock-up sensor through the solenoid valve. Control of the solenoid valve by the engine control module based on the input signals from each sensor makes smooth driving possible by shift selection for each gear which is most appropriate to the driving conditions at that time.

1. GEAR SHIFT OPERATION

During driving, the engine control module selects the shift for each gear which is most appropriate to the driving conditions, based on input signals from the engine coolant temp. sensor to TERMINAL THW of the engine control module and also the input signals to TERMINAL SP2+ of the engine control module from the vehicle speed sensor devoted to the electronically controlled transmission. Current is then output to the electronically controlled transmission solenoid. When shifting to 1st speed, current flows from TERMINAL S1 of the engine control module to TERMINAL 1 of the electronically controlled transmission solenoid to GROUND, and continuity to the No.1 solenoid causes the shift.

For 2nd speed, current flows from TERMINAL S1 of the engine control module to TERMINAL 1 of the electronically controlled transmission solenoid to GROUND, and from TERMINAL S2 of the engine control module to TERMINAL 2 of the electronically controlled transmission solenoid to GROUND. And continuity to solenoid No.1 and No.2 causes the shift.

For 3rd speed, there is no continuity to No.1 solenoid, only to No.2 causing the shift. Shifting into 4th speed (Overdrive) takes place when there is no continuity to either No.1 or No.2 solenoid.

2. LOCK-UP OPERATION

When the engine control module judges from each signal that lock-up operation conditions have been met, current flows from TERMINAL SL of the engine control module to TERMINAL 3 of the electronically controlled transmission solenoid to GROUND, causing continuity to the lock-up solenoid and causing lock-up operation.

3. STOP LIGHT SW CIRCUIT

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

4. OVERDRIVE CIRCUIT

* O/D main SW on
  When the O/D main SW is turned on, a signal is input to TERMINAL ODMS of the engine control module and engine control module operation causes gear shift when the conditions for overdrive are met.
* O/D main SW off
  When the O/D main SW is turned off, a signal is input into TERMINAL ODMS of the engine control module, and turns on the O/D off indicator light. This activates the ECU, and the transmission system is controlled not to shift to overdrive.

5. A/T OIL TEMP. WARNING

When the A/T oil temp. sensor affixed to the transmission case detects that the fluid temp. is 150˚C (302˚F) or more, the engine control module operates and the current flowing through the GAUGE fuse flows to the A/T oil temp. warning light to TERMINAL OILW of the engine control module to GROUND, so that the warning light lights up, informing that the oil temp. is high. When the oil temp. drops to 120˚C (248˚F) or less, the engine control module stops operating and the warning light goes out.

ELECTRONICALLY CONTROLLED TRANSMISSION (5VZ-FE)

SERVICE HINTS

E2 ELECTRONICALLY CONTROLLED TRANSMISSION SOLENOID

1, 2, 3-GROUND : Approx. **13** Ω

P1 PARK/NEUTRAL POSITION SW

3-GROUND : Approx. **12** volts with ignition SW ON position

S5 STOP LIGHT SW

1-2 : Closed with brake pedal depressed

E5 (A), E6 (B), E7 (C), E8 (D) ENGINE CONTROL MODULE

S1-E1 : **9**-**14** volts
S2,SL-E1 : **0**-**1.5** volts
STP-E1 : **7.5**- **14** volts with brake pedal depressed
: **0**- **1.5** volts with brake pedal released
THW-E2 : **0.2**- **1.0** volts with coolant temp. **80**˚C (**176**˚F)
OIL-E2 : **4**- **5** volts with fluid temp. **20**˚C (**68**˚F)
VTA-E2 : **0.3**- **0.8** volts with throttle valve fully closed
: **3.2**- **4.9** volts with throttle valve fully open
VC-E2 : **4.5**- **5.5** volts
OD1-E1 : **4.5**- **5.5** volts
SP1-E1 : Pulse generation with vehicle moving
2-E1 : **10**- **14** volts with shift lever at **2** position
: **0**- **2** volts with shift lever at except **2** position
L-E1 : **10**- **14** volts with shift lever at **L** position
: **0**- **2** volts with shift lever at except **L** position
OILW-E1 : **0.1**- **4.9** volts
+B-E1 : **9**- **14** volts
BATT-E1 : **9**- **14** volts

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A7	30 (5VZ-FE)	E3	30 (5VZ-FE)	J11	35
C10 A	34	E4	35	J13	35
C12 C	34	E5 A	35	P1	31 (5VZ-FE)
C13 D	34	E6 B	35	S4	35
C17	34	E7 C	35	S5	35
D1	30 (5VZ-FE)	E8 D	35	T1	31 (5VZ-FE)
D25	34	J9 A	31 (5VZ-FE)	V1	31 (5VZ-FE)
E2	30 (5VZ-FE)	J10 B	31 (5VZ-FE)	V10	31 (5VZ-FE)

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
3B	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		
3E		
3F		
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EE1	40 (5VZ-FE)	Engine Wire and Sensor Wire (Over the Cylinder Head)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		

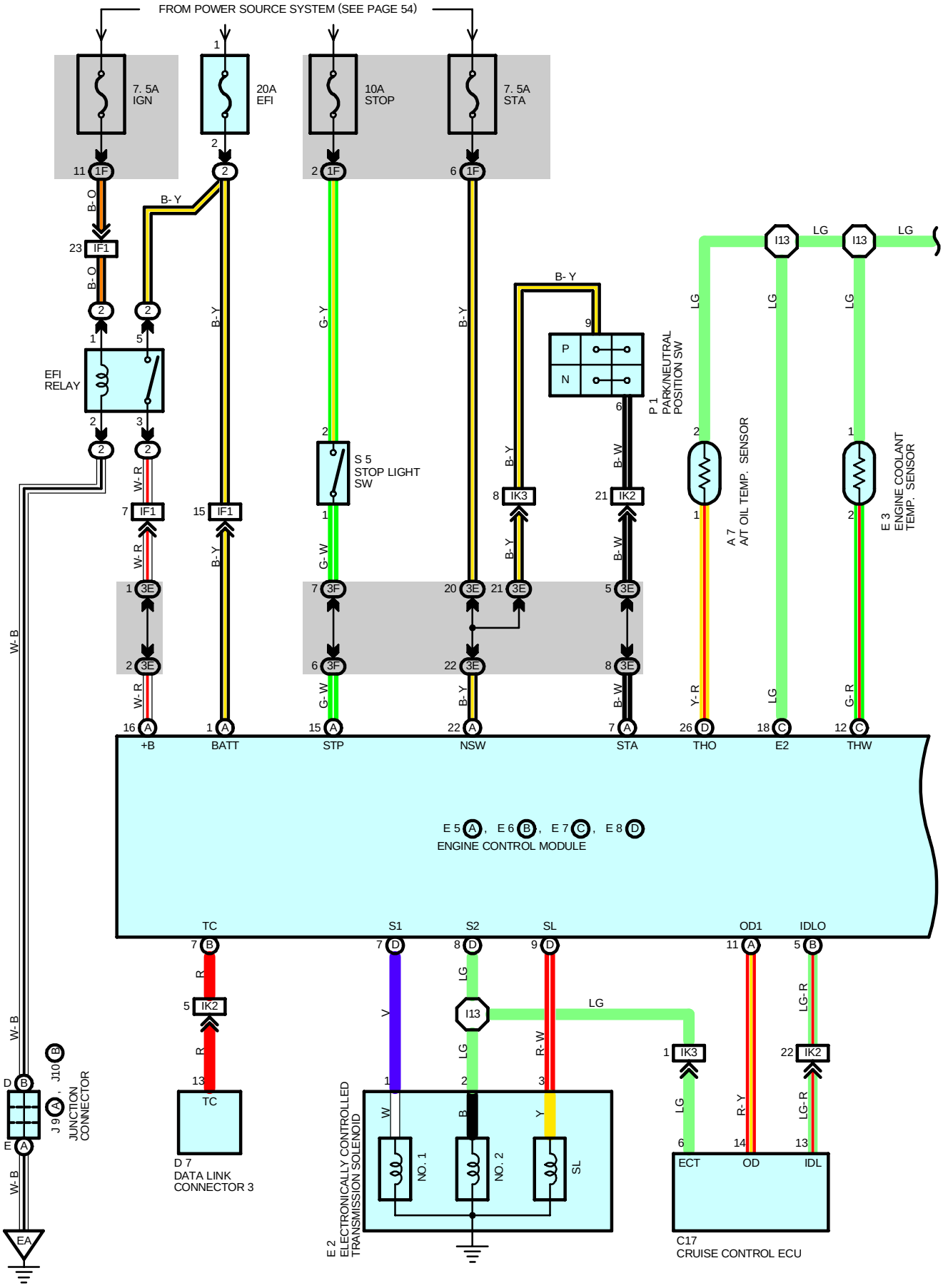
: GROUND POINTS

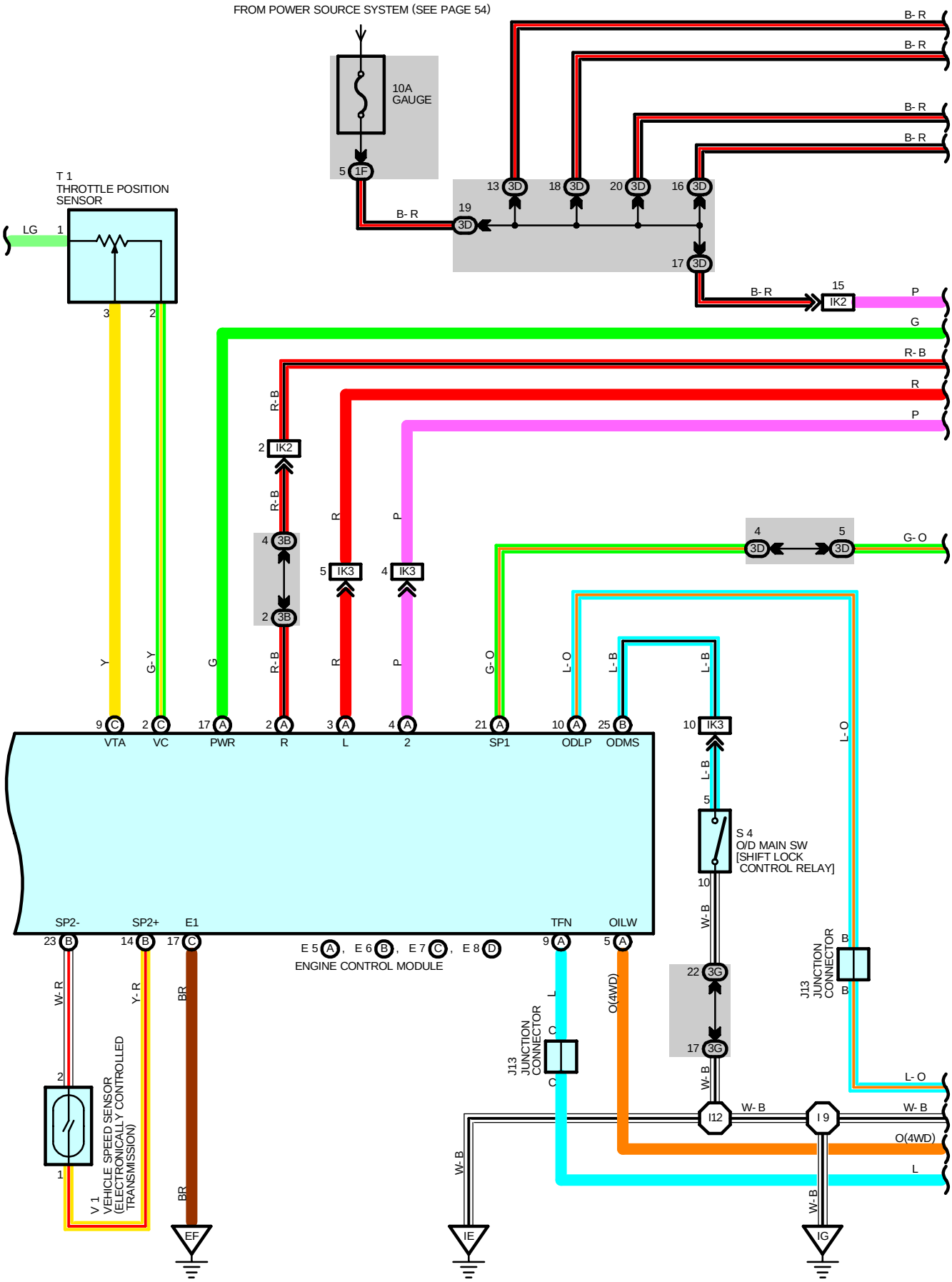
Code	See Page	Ground Points Location
EA	40 (5VZ-FE)	Front Left Fender
EB	40 (5VZ-FE)	Near the Throttle Body
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

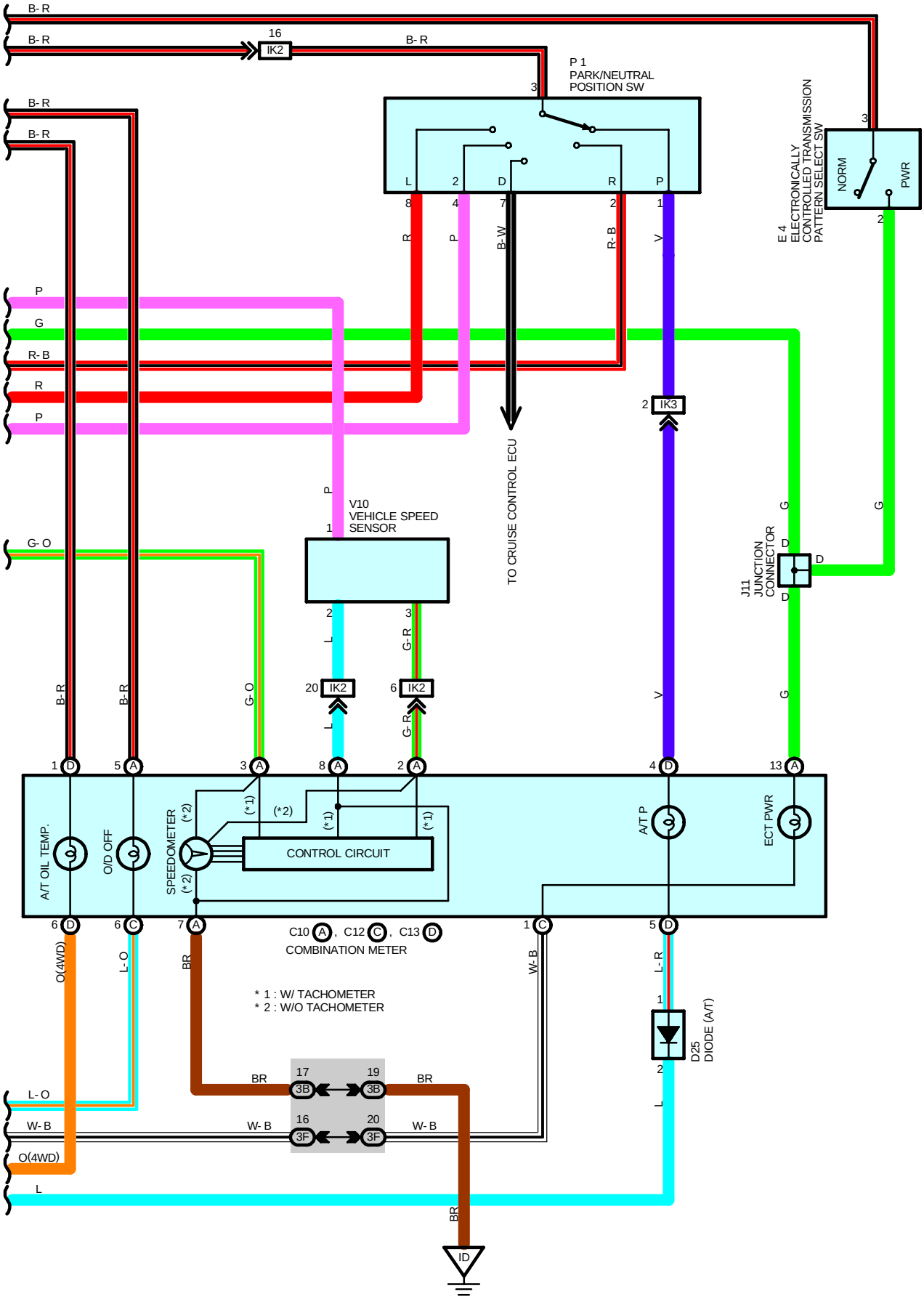
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I13	44	Engine Wire
I12					

ELECTRONICALLY CONTROLLED TRANSMISSION (3RZ-FE)




FROM POWER SOURCE SYSTEM (SEE PAGE 54)
10A
GAUGE
B- R
T 1
THROTTLE POSITION
SENSOR
LG
P
G
R- B
R
G- O
Y
G- Y
L- O
L- B
W- B
VTA
VC
PWR
SP1
ODLP
ODMS
S 4
O/D MAIN SW
[SHIFT LOCK
CONTROL RELAY]
SP2-
SP2+
E1
TFN
OILW
E5 A, E6 B, E7 C, E8 D
ENGINE CONTROL MODULE
W- R
Y- R
BR
O(4WD)
L
J13
JUNCTION
CONNECTOR
J13
JUNCTION
CONNECTOR
V 1
VEHICLE SPEED SENSOR
(ELECTRONICALLY CONTROLLED
TRANSMISSION)
EF
IE
IG

ELECTRONICALLY CONTROLLED TRANSMISSION (3RZ-FE)



SYSTEM OUTLINE

Previous automatic transmissions have selected each gear shift using mechanically controlled throttle hydraulic pressure, governor hydraulic pressure and lock-up hydraulic pressure. The electronically controlled transmission, however, electrically controls the governor pressure and lock-up pressure through the solenoid valve. Control of the solenoid valve by the engine control module based on the input signals from each sensor makes smooth driving possible by shift selection for each gear which is most appropriate to the driving conditions at that time.

1. GEAR SHIFT OPERATION

During driving, the engine control module selects the shift for each gear which is most appropriate to the driving conditions, based on input signals from the engine coolant temp. sensor to TERMINAL THW of the engine control module, and also the input signals to TERMINAL SP2+ of the engine control module from the vehicle speed sensor devoted to the electronically controlled transmission. Current is then output to the electronically controlled transmission solenoid. When shifting to 1st speed, current flows from TERMINAL S1 of the engine control module to TERMINAL 1 of the electronically controlled transmission solenoid to GROUND, and continuity to the No.1 solenoid causes the shift.

For 2nd speed, current flows from TERMINAL S1 of the engine control module to TERMINAL 1 of the electronically controlled transmission solenoid to GROUND, and from TERMINAL S2 of the engine control module to TERMINAL 2 of the electronically controlled transmission solenoid to GROUND, and continuity to solenoid No.1 and No.2 causes the shift.

For 3rd speed, there is no continuity to No.1 solenoid, only to No.2 causing the shift. Shifting into 4th speed (Overdrive) takes place when there is no continuity to either No.1 or No.2 solenoid.

2. LOCK-UP OPERATION

When the engine control module judges from each signal that lock-up operation conditions have been met, current flows from TERMINAL SL of the engine control module to TERMINAL 3 of the electronically controlled transmission solenoid to GROUND, causing continuity to the lock-up solenoid and causing lock-up operation.

3. STOP LIGHT SW CIRCUIT

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

4. OVERDRIVE CIRCUIT

- O/D main SW on
  When the O/D main SW is turned on, a signal is input to TERMINAL ODMS of the engine control module and engine control module operation causes gear shift when the conditions for overdrive are met.
- O/D main SW off
  When the O/D main SW is turned off, a signal is input into TERMINAL ODMS of the engine control module, and turns on the O/D off indicator light. This activates the ECU, and the transmission system is controlled not to shift to overdrive.

ELECTRONICALLY CONTROLLED TRANSMISSION (3RZ-FE)

SERVICE HINTS

E2 ELECTRONICALLY CONTROLLED TRANSMISSION SOLENOID

1, 2, 3-GROUND : Approx. **13** Ω

P1 PARK/NEUTRAL POSITION SW

3-GROUND : Approx. **12** volts with ignition SW **ON** position

S5 STOP LIGHT SW

2-1 : Closed with brake pedal depressed

E5 (A), E6 (B), E7 (C), E8 (D) ENGINE CONTROL MODULE

S1-E1 : **9**- **14** volts
S2, SL-E1 : **0**- **1.5** volts
STP-E1 : **7.5**- **14** volts with brake pedal depressed
: **0**- **1.5** volts with brake pedal released
THW-E2 : **0.2**- **1.0** volts with coolant temp. **80**˚C (**176**˚F)
THO-E2 : **4**- **5** volts with fluid temp. **20**˚C (**68**˚F)
VTA-E2 : **0.3**- **0.8** volts with throttle valve fully closed
: **3.2**- **4.9** volts with throttle valve fully open
VC-E2 : **4.5**- **5.5** volts
OD1-E1 : **4.5**- **5.5** volts
SP1-E1 : Pulse generation with vehicle moving
2-E1 : **10**- **14** volts with shift lever at **2** position
: **0**- **2** volts with shift lever at except **2** position
L-E1 : **10**- **14** volts with shift lever at **L** position
: **0**- **2** volts with shift lever at except **L** position
R-E1 : **10**- **4** volts with shift lever at **R** position
0- **2** volts with shift lever at except **R** position
PWR-E1 : **7.5**- **14** volts with pattern select SW **PWR** position
0- **1.5** volts with pattern select SW **NORM** position
+B-E1 : **9**- **14** volts
BATT-E1 : **9**- **14** volts

: PARTS LOCATION

Code		See Page	Code		See Page	Code	See Page
A7		32 (3RZ-FE)	E3		32 (3RZ-FE)	J11	35
C10	A	34	E4		35	J13	35
C12	C	34	E5	A	35	P1	33 (3RZ-FE)
C13	D	34	E6	B	35	S4	35
C17		34	E7	C	35	S5	35
D7		34	E8	D	35	T1	33 (3RZ-FE)
D25		34	J9	A	33 (3RZ-FE)	V1	33 (3RZ-FE)
E2		32 (3RZ-FE)	J10	B	33 (3RZ-FE)	V10	33 (3RZ-FE)

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
3B	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		
3E		
3F		
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

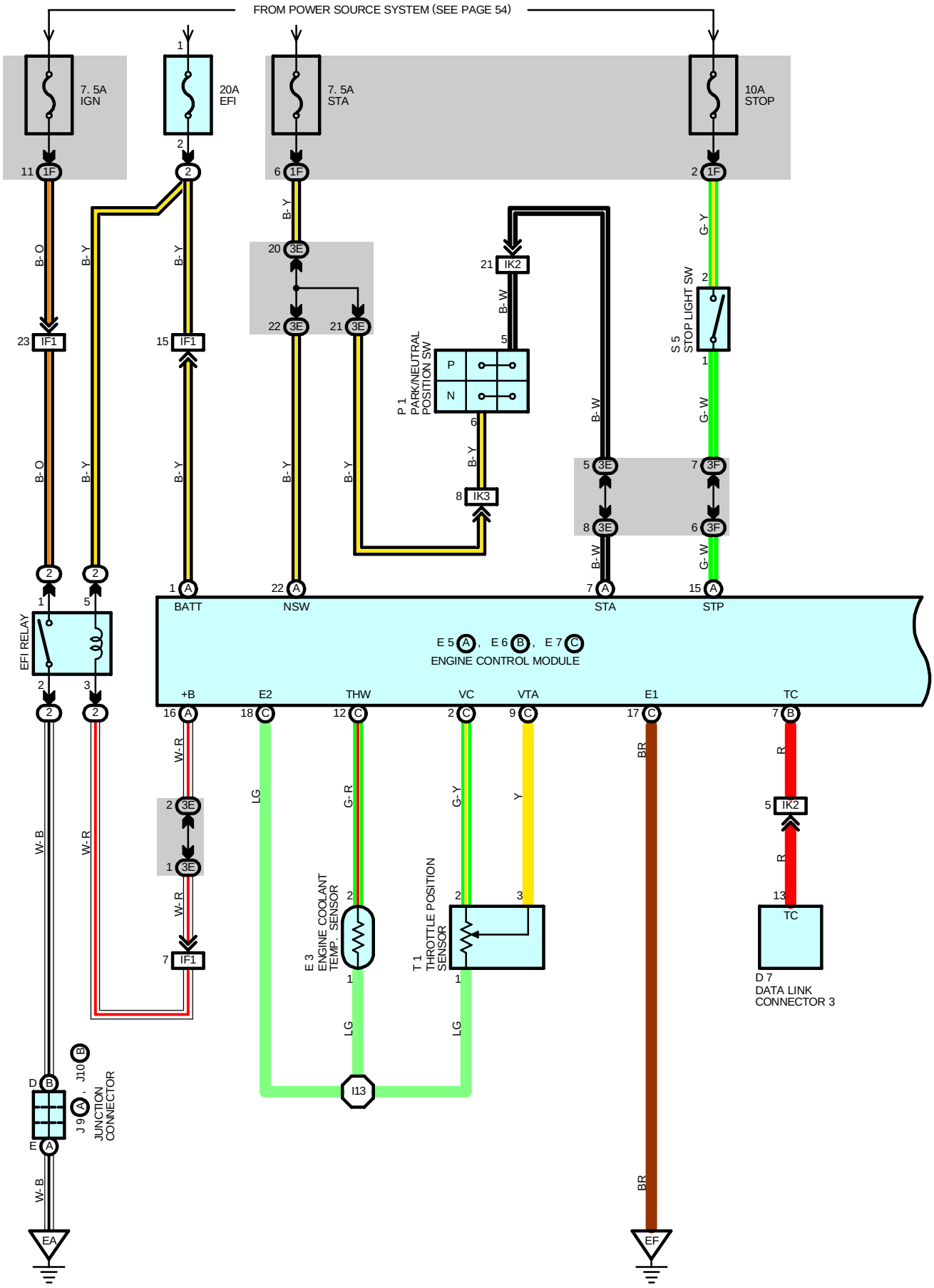
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		

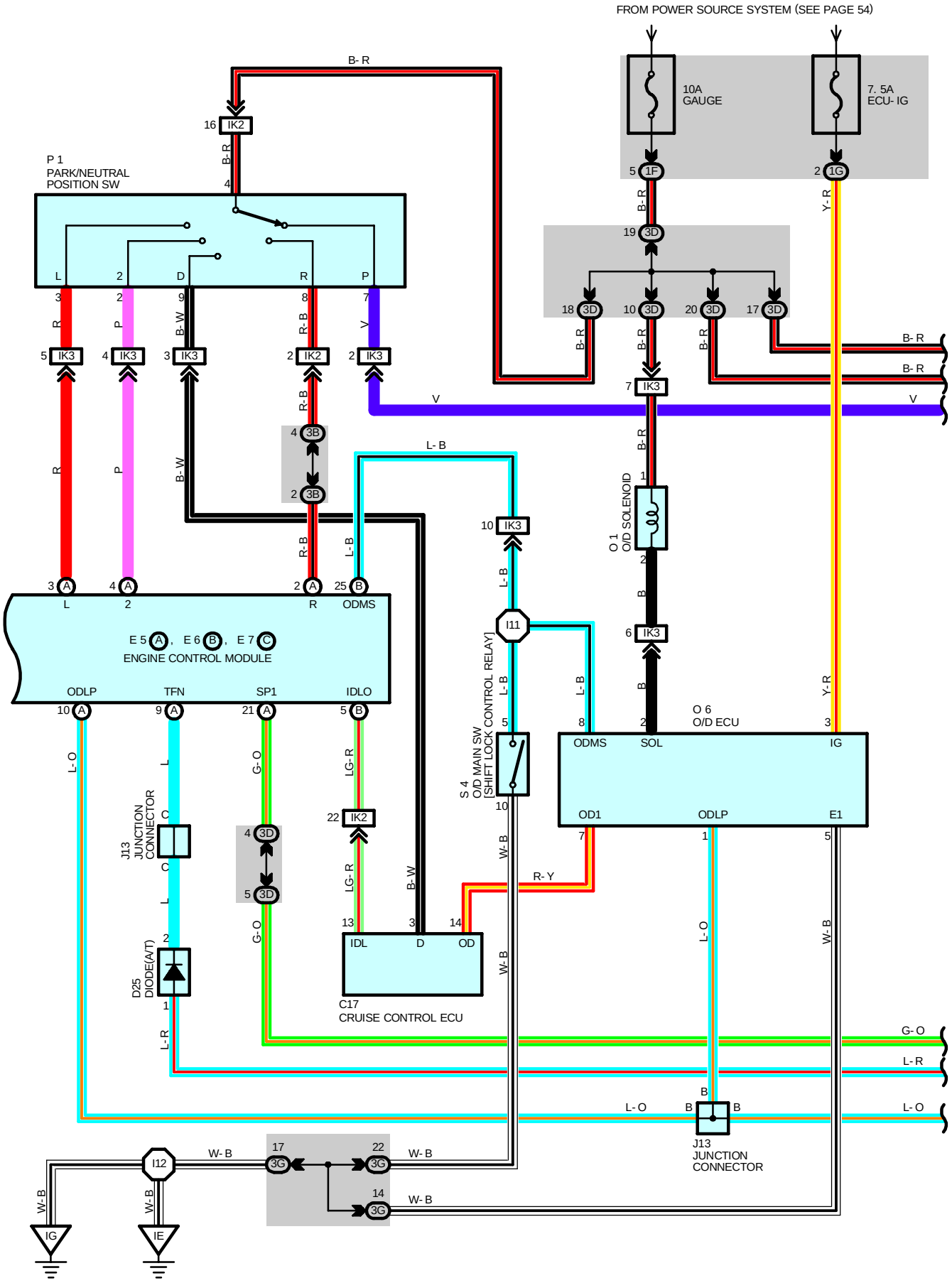
: GROUND POINTS

Code	See Page	Ground Points Location
EA	42 (3RZ-FE)	Front Left Fender
EF	42 (3RZ-FE)	Ignition Coil Braket
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

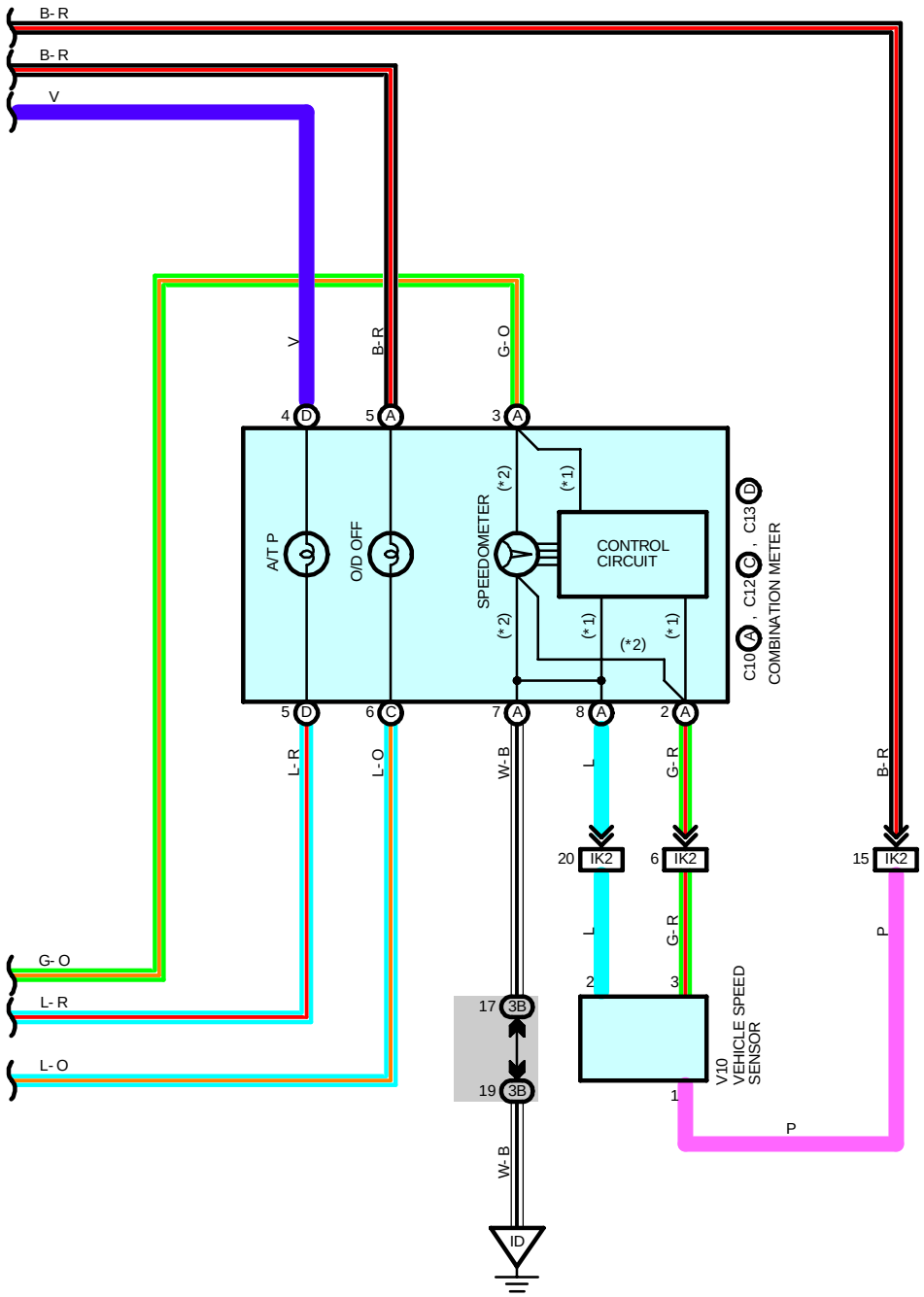
: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I13	44	Engine Wire
I12					


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
7. 5A IGN
20A EFI
7. 5A STA
10A STOP
B-O
B-Y
G-Y
G-W
B-W
W-B
W-R
R
BR
LG
G-R
Y
S 5 STOP LIGHT SW
P 1 PARK/NEUTRAL POSITION SW
EFI RELAY
BATT
NSW
STA
STP
E 5 A , E 6 B , E 7 C
ENGINE CONTROL MODULE
+B
E2
THW
VC
VTA
E1
TC
E 3 ENGINE COOLANT TEMP. SENSOR
T 1 THROTTLE POSITION SENSOR
D 7 DATA LINK CONNECTOR 3
J 9 , J10 JUNCTION CONNECTOR
I13
EA
EF


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
10A GAUGE
7. 5A ECU- IG
P 1 PARK/NEUTRAL POSITION SW
L
2
D
R
P
E 5 A , E 6 B , E 7 C
ENGINE CONTROL MODULE
ODLP
TFN
SP1
IDLO
ODMS
O 1 O/D SOLENOID
O 6 O/D ECU
SOL
IG
OD1
E1
S 4 O/D MAIN SW [SHIFT LOCK CONTROL RELAY]
J13 JUNCTION CONNECTOR
D25 DIODE(A/T)
C17 CRUISE CONTROL ECU
IDL
D
OD
J13 JUNCTION CONNECTOR
IG
IE
B- R
R
P
B- W
R- B
V
L- B
L- O
L
G- O
LG- R
W- B
R- Y
L- R
Y- R

* 1 : W/ TACHOMETER
* 2 : W/O TACHOMETER



SERVICE HINTS

O6 O/D ECU

3-GROUND : Approx. **12** volts with ignition SW at **ON** position

5-GROUND : Always continuity

: PARTS LOCATION

Code		See Page	Code		See Page	Code	See Page
C10	A	34	E5	A	35	O6	35
C12	C	34	E6	B	35	P1	33 (2RZ-FE)
C13	D	34	E7	C	35	S4	35
C17		34	J9	A	33 (2RZ-FE)	S5	35
D7		34	J10	B	33 (2RZ-FE)	T1	33 (2RZ-FE)
D25		34	J13		35	V10	33 (2RZ-FE)
E3		32 (2RZ-FE)	O1		33 (2RZ-FE)		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1G		
3B	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		
3E		
3F		
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

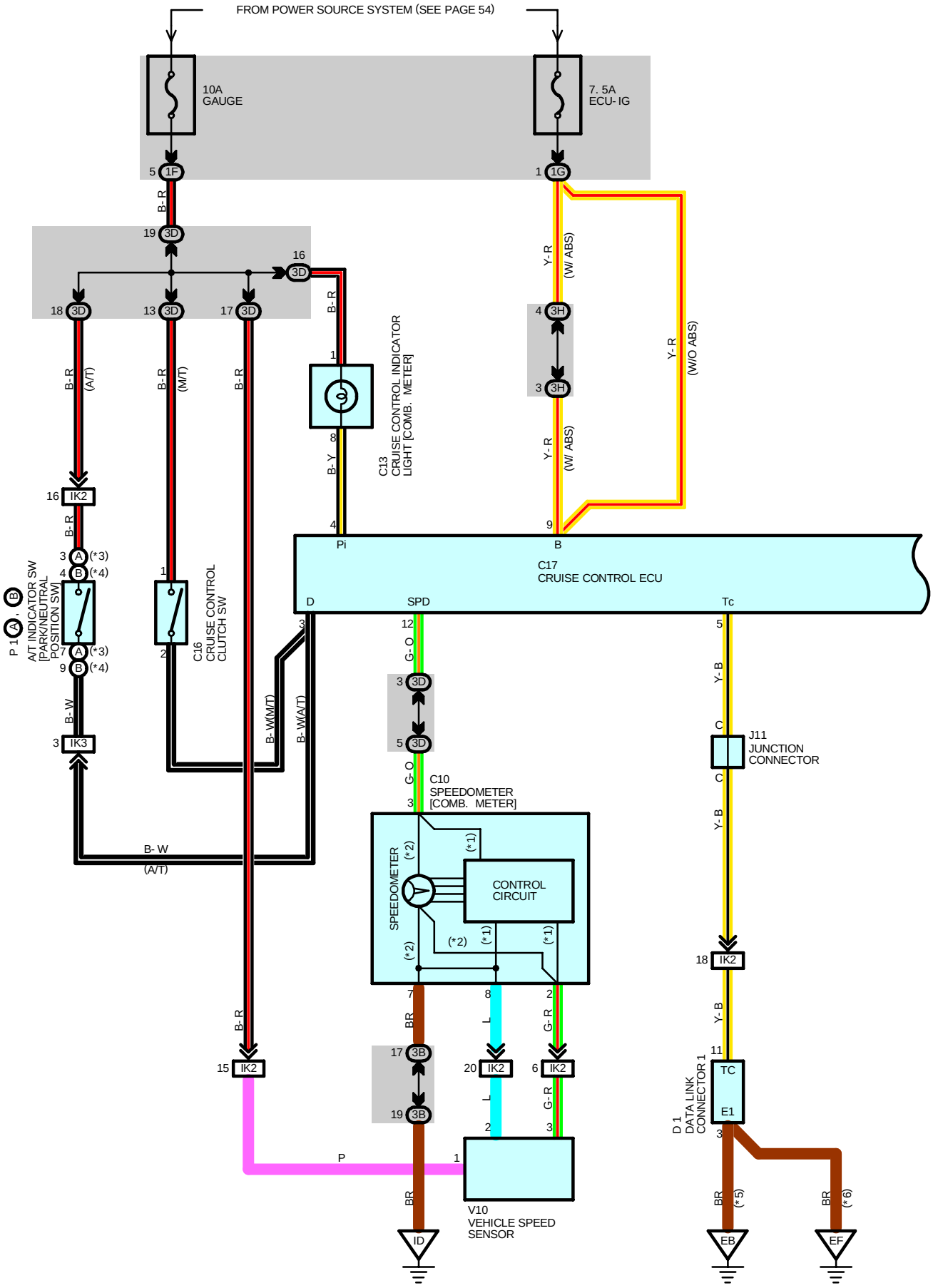
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		

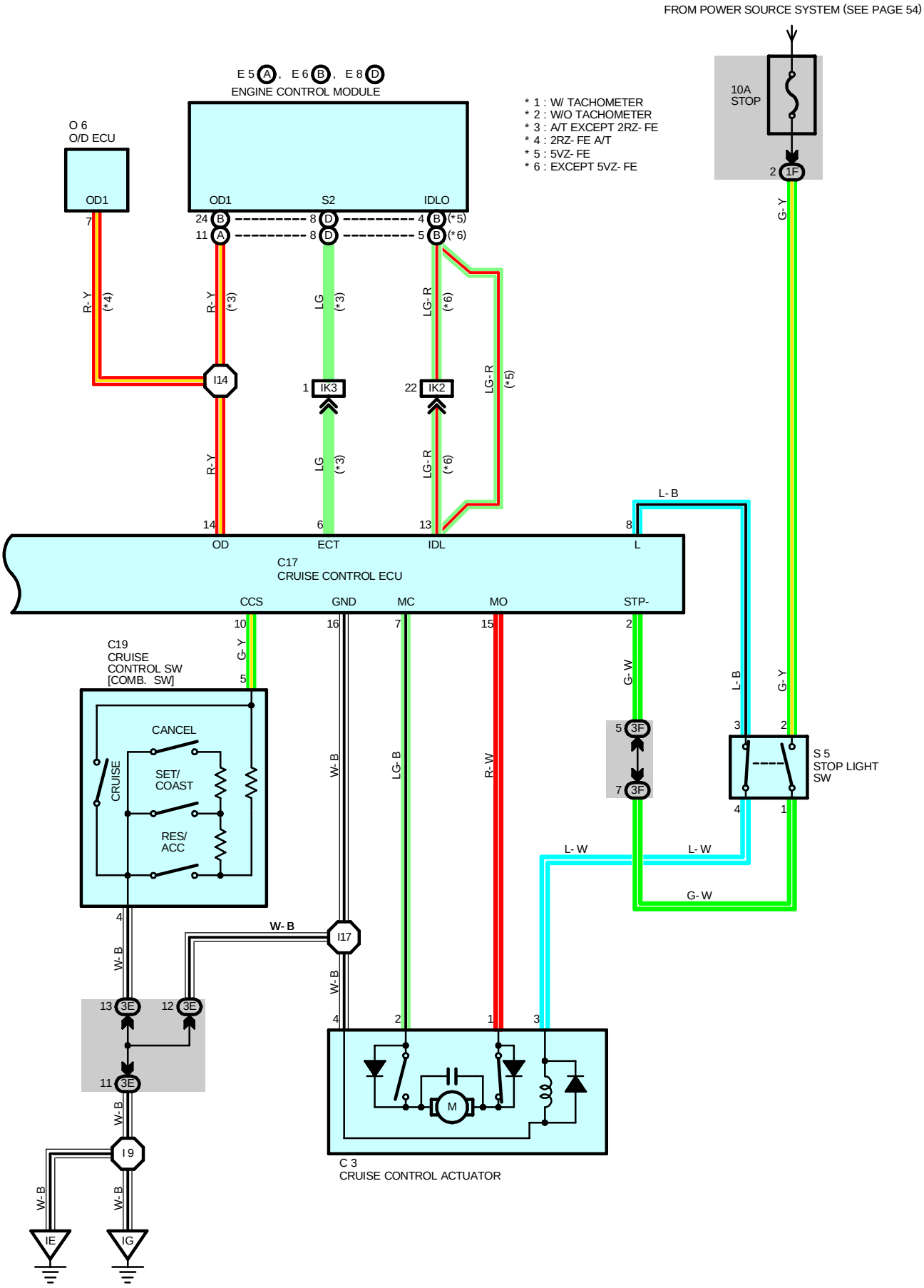
: GROUND POINTS

Code	See Page	Ground Points Location
EA	42 (2RZ-FE)	Front Left Fender
EF	42 (2RZ-FE)	Ignition Coil Braket
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I11	44	Cowl Wire	I13	44	Engine Wire
I12					


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
10A
GAUGE
7. 5A
ECU- IG
5 1F
1 1G
B- R
19 3D
16 3D
18 3D
13 3D
17 3D
B- R (A/T)
B- R (M/T)
B- R
B- R
1
8
B- Y
C13
CRUISE CONTROL INDICATOR LIGHT [COMB. METER]
Y- R (W/ ABS)
4 3H
3 3H
Y- R (W/ ABS)
Y- R (W/O ABS)
16 IK2
B- R
3 A (*3)
4 B (*4)
P 1 A B
A/T INDICATOR SW [PARK/NEUTRAL POSITION SW]
7 A (*3)
9 B (*4)
B- W
3 IK3
1
2
C16
CRUISE CONTROL CLUTCH SW
4
9
Pi
B
C17
CRUISE CONTROL ECU
D
SPD
Tc
3
B- W(M/T)
B- W(A/T)
B- W
(A/T)
12
G- O
3 3D
5 3D
G- O
C10
SPEEDOMETER
[COMB. METER]
3
SPEEDOMETER
(*2)
(*1)
CONTROL CIRCUIT
(*2)
(*1)
(*1)
(*2)
7
8
2
BR
L
G- R
B- R
15 IK2
17 3B
19 3B
20 IK2
6 IK2
L
G- R
2
3
P
1
BR
ID
V10
VEHICLE SPEED SENSOR
5
Y- B
C
J11
JUNCTION CONNECTOR
C
Y- B
18 IK2
Y- B
11
D 1
DATA LINK CONNECTOR 1
TC
E1
3
BR
(*5)
BR
(*6)
EB
EF


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
10A
STOP
2 1F
G-Y
E5 A, E6 B, E8 D
ENGINE CONTROL MODULE
* 1 : W/ TACHOMETER
* 2 : W/O TACHOMETER
* 3 : A/T EXCEPT 2RZ-FE
* 4 : 2RZ-FE A/T
* 5 : 5VZ-FE
* 6 : EXCEPT 5VZ-FE
O 6
O/D ECU
OD1
7
OD1
S2
IDLO
24 B
11 A
8 D
8 D
4 B (*5)
5 B (*6)
R-Y (*4)
R-Y (*3)
LG (*3)
LG-R (*6)
LG-R (*5)
I14
1 IK3
22 IK2
R-Y
LG (*3)
LG-R (*6)
14
6
13
8
L-B
OD
ECT
IDL
L
C17
CRUISE CONTROL ECU
CCS
GND
MC
MO
STP-
10
16
7
15
2
G-Y
5
G-W
L-B
G-Y
C19
CRUISE
CONTROL SW
[COMB. SW]
CANCEL
SET/
COAST
RES/
ACC
CRUISE
W-B
LG-B
R-W
5 3F
7 3F
3
2
S 5
STOP LIGHT
SW
4
1
L-W
L-W
G-W
4
W-B
W-B
I17
13 3E
12 3E
11 3E
4
2
1
3
M
W-B
I 9
W-B
W-B
IE
IG
C 3
CRUISE CONTROL ACTUATOR

SYSTEM OUTLINE

With the ignition SW turned to on, current flows from GAUGE fuse to TERMINAL 1 of the cruise control indicator light and from ECU-IG fuse to TERMINAL B of the cruise control ECU. When the ignition SW is on and the cruise control SW is turned on, a signal is input from TERMINAL 5 of the cruise control SW to TERMINAL CCS of the cruise control ECU. As a result, the cruise control ECU functions and the current to TERMINAL B of the cruise control ECU flows to TERMINAL GND to GROUND, and the cruise control system is ready for operation.
At the same time, the current from the GAUGE fuse flows to TERMINAL 1 of the cruise control indicator light to TERMINAL 8 to TERMINAL Pi of the cruise control ECU to TERMINAL GND to GROUND, causing the cruise control indicator light to light up, indicating that the cruise control is ready for operation.

1. SET OPERATION

When the cruise control main SW is turned on and the set SW is pushed with the vehicle speed within the set limit (Approx. 40 km/h, 25 mph to 200 km/h, 124 mph), a signal is input to TERMINAL CCS of the cruise control ECU and the vehicle speed at the time the set SW is released is memorized in the ECU as the set speed.

2. SET SPEED CONTROL

During cruise control driving, the ECU compares the set speed memorized in the ECU with the actual vehicle speed input into TERMINAL SPD of the cruise control ECU from the speedometer, and controls the cruise control actuator to maintain the set speed.
When the actual vehicle speed is lower than the set speed, the ECU causes the current to the cruise control actuator to flow from TERMINAL MO of the cruise control ECU to TERMINAL 1 of the cruise control actuator to TERMINAL 2 to TERMINAL MC of the cruise control ECU. As a result, the motor in the cruise control actuator is rotated to open the throttle valve and the throttle cable is pulled to increase the vehicle speed.
When the actual vehicle speed is higher than the set speed, the current to the cruise control actuator flows from TERMINAL MC of the ECU to TERMINAL 2 of the cruise control actuator to TERMINAL 1 to TERMINAL MO of the cruise control ECU. This causes the motor in the cruise control actuator to rotate to close the throttle valve and return the throttle cable to decrease the vehicle speed.

3. COAST CONTROL

During cruise control driving, while the coast SW is on, the cruise control actuator returns the throttle cable to close the throttle valve and decrease the driving speed. The vehicle speed when the coast SW is turned off is memorized and the vehicle continues at the new set speed.

4. ACCEL CONTROL

During cruise control driving, while the accel SW is turned on, the cruise control actuator pulls the throttle cable to open the throttle valve and increase the driving speed.
The vehicle speed when the accel SW is turned off is memorized and the vehicle continues at the new set speed.

5. RESUME CONTROL

Unless the vehicle speed falls below the minimum speed limit (Approx. 45 km/h, 25 mph) after canceling the set speed by the cancel SW, pushing the resume SW will cause the vehicle to resume the vehicle speed set before cancellation.

6. MANUAL CANCEL MECHANISM

If any of the following operations occurs during cruise control operation, the magnetic clutch of the actuator turns off and the motor rotates to close the throttle valve and the cruise control is released.

* Placing the shift lever in except D position (A/T) or cruise control clutch SW off (M/T). ”A Signal is not input to TERMINAL D of the ECU”
* Depressing the brake pedal (Stop light SW on). ”A Signal is input to TERMINAL STP- of the ECU”
* Pushing the cancel SW (Cancel SW on). ”A Signal is input to TERMINAL CCS of the ECU”

7. AUTO CANCEL FUNCTION

A) If any of the following operating conditions occurs during cruise control operation, the set speed is erased, the current flowing to the magnetic clutch is stopped and the cruise control is released (Cruise SW turns off).
When this occurs, the ignition SW must be turned off once before the main SW will turn on.

* Over current to transistor driving motor and/or magnetic clutch.
* Current to control the throttle valve in motor becomes always ON.
* Open circuit in magnetic clutch.
* Momentary interruption of vehicle speed signal
* Short circuit in cruise control SW.
* Motor does not operate despite the motor drive signal being output.

B) If any of the following conditions occurs during cruise control operation, the set speed is erased and the cruise control is released. (The power of magnetic clutch is cut off until the set SW is ON again.)

* When the vehicle speed falls below the minimum speed limit (approx. 40 km/h, 25 mph)
* When the vehicle speed falls more than 16 km/h (10 mph) below the set speed, E.G. on an upward slope.
* When power to the cruise control system is momentarily cut off.

C) If any of the following condition occurs during cruise control operation, the cruise control is released. But in this case, the set speed is not erased. If the vehicle speed is more than the minimum speed limit (Approx. 40 km/h, 25 mph), cruise control operation is possible using SET or RESUME on the control SW.

* Open circuit between TERMINAL L of the cruise control ECU and TERMINAL 3 of the stop light SW.

SERVICE HINTS

C17 CRUISE CONTROL ECU

16-GROUND : Always continuity
9-GROUND : Approx. **12** volts with ignition SW at **ON** position
12-GROUND : **4** pulse with **1** rotation of the rotor shaft
2-GROUND : Approx. **12** volts with brake pedal depressed (One of the cancel SW)

C19 CRUISE CONTROL SW [COMB. SW]

5-4 : Approx. **68** Ω with RESUME/ACCEL SW on
Approx. **198** Ω with SET/COAST SW on
Approx. **418** Ω with CANCEL SW on

C3 CRUISE CONTROL ACTUATOR

3-4 : Approx. **38.5** Ω

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C3	30 (5VZ-FE)	D1	30 (5VZ-FE)	P1 A	31 (5VZ-FE)
	32 (3RZ-FE, 2RZ-FE)		32 (3RZ-FE, 2RZ-FE)		33 (3RZ-FE)
C10	34	E5 A	35	P1 B	33 (2RZ-FE)
C13	34	E6 B	35	S5	35
C16	34	E8 D	35	V10	31 (5VZ-FE)
C17	34	J11	35		33 (3RZ-FE, 2RZ-FE)
C19	34	O6	35		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1G		
3B	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		
3E		
3F		
3H	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

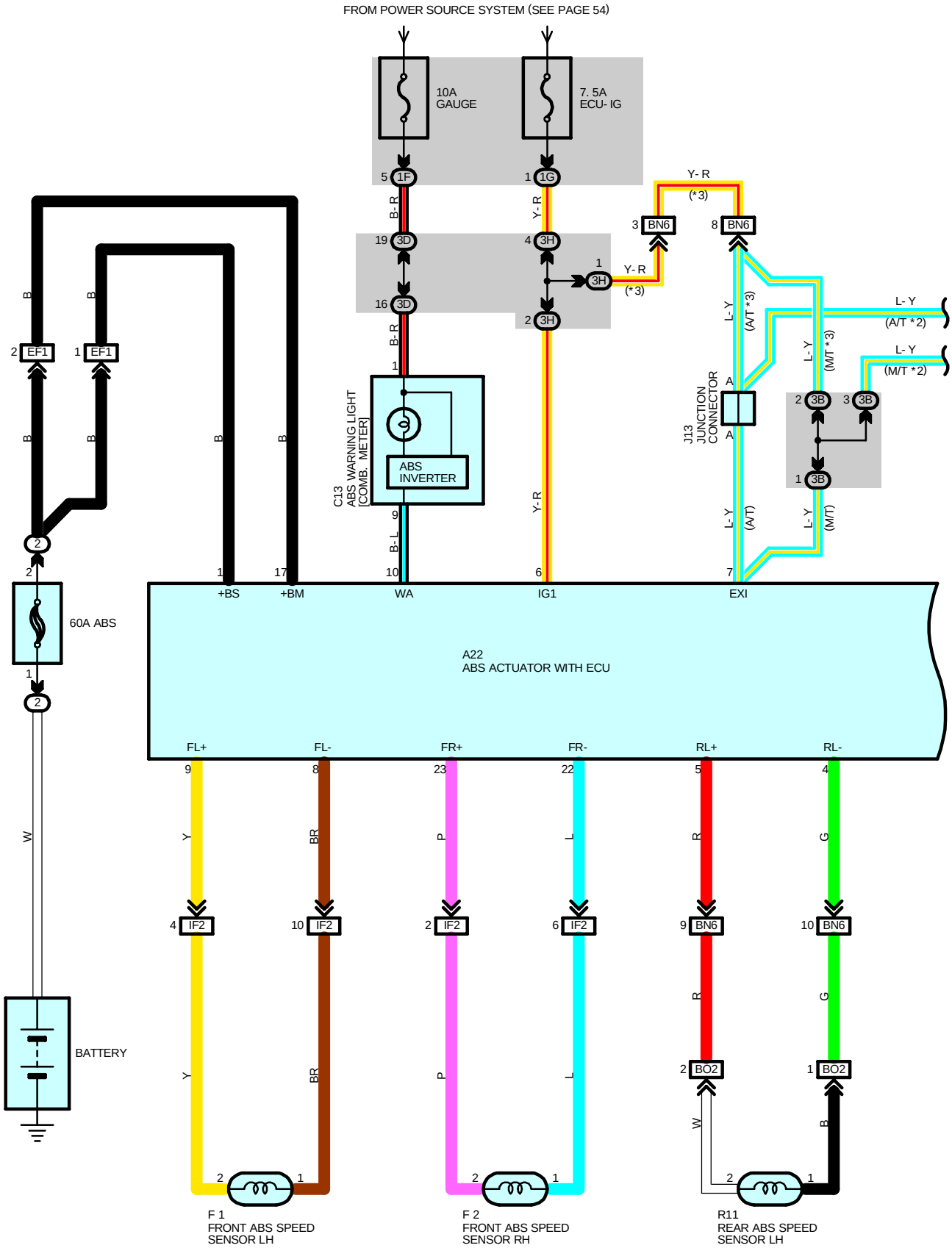
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		

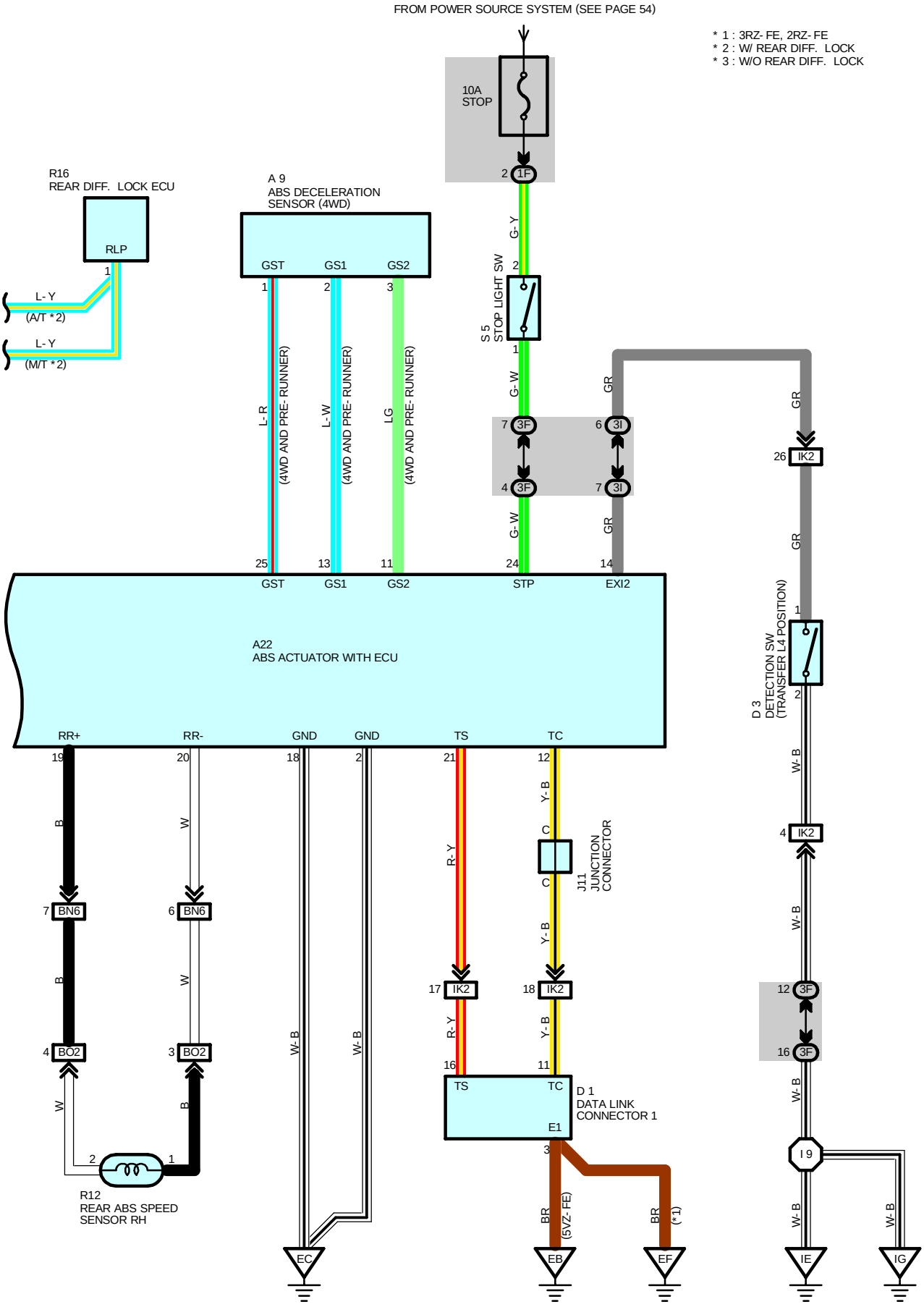
: GROUND POINTS

Code	See Page	Ground Points Location
EB	40 (5VZ-FE)	Near the Throttle Body
EF	42 (3RZ-FE, 2RZ-FE)	Ignition Coil Braket
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I17	44	Cowl Wire
I14					


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
10A GAUGE
7. 5A ECU- IG
5 1F
1 1G
B- R
Y- R
19 3D
4 3H
16 3D
2 3H
1 3H
Y- R (*3)
3 BN6
8 BN6
Y- R (*3)
L- Y (A/T *3)
L- Y (A/T *2)
L- Y (M/T *3)
L- Y (M/T *2)
J13 JUNCTION CONNECTOR
A
2 3B
3 3B
1 3B
C13 ABS WARNING LIGHT [COMB. METER]
ABS INVERTER
B- L
L- Y (A/T)
L- Y (M/T)
2 EF1
1 EF1
B
2
60A ABS
1
W
BATTERY
+BS
+BM
WA
IG1
EXI
A22
ABS ACTUATOR WITH ECU
FL+
FL-
FR+
FR-
RL+
RL-
9
8
23
22
5
4
Y
BR
P
L
R
G
4 IF2
10 IF2
2 IF2
6 IF2
9 BN6
10 BN6
2 BO2
1 BO2
W
B
F 1
FRONT ABS SPEED SENSOR LH
F 2
FRONT ABS SPEED SENSOR RH
R11
REAR ABS SPEED SENSOR LH


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
* 1 : 3RZ- FE, 2RZ- FE
* 2 : W/ REAR DIFF. LOCK
* 3 : W/O REAR DIFF. LOCK
10A
STOP
2 1F
G- Y
R16
REAR DIFF. LOCK ECU
RLP
1
L- Y
(A/T *2)
L- Y
(M/T *2)
A 9
ABS DECELERATION
SENSOR (4WD)
GST
GS1
GS2
1
2
3
L- R
(4WD AND PRE- RUNNER)
L- W
(4WD AND PRE- RUNNER)
LG
(4WD AND PRE- RUNNER)
S 5
STOP LIGHT SW
1
2
G- W
7 3F
4 3F
6 3I
7 3I
GR
GR
GR
26 IK2
GR
25
13
11
24
14
GST
GS1
GS2
STP
EXI2
A22
ABS ACTUATOR WITH ECU
D 3
DETECTION SW
(TRANSFER L4 POSITION)
1
2
W- B
4 IK2
W- B
RR+
RR-
GND
GND
TS
TC
19
20
18
2
21
12
B
W
Y- B
C
C
J11
JUNCTION
CONNECTOR
7 BN6
6 BN6
R- Y
Y- B
B
W
17 IK2
18 IK2
12 3F
16 3F
W- B
4 BO2
3 BO2
R- Y
Y- B
W- B
W- B
16
11
TS
TC
D 1
DATA LINK
CONNECTOR 1
E1
W
B
2
1
3
I 9
W- B
W- B
R12
REAR ABS SPEED
SENSOR RH
BR
(5VZ- FE)
BR
(*1)
EC
EB
EF
IE
IG

SYSTEM OUTLINE

This system controls the respective brake fluid pressures acting on the disc brake cylinders of the right front wheel, left front wheel, and rear wheels when the brakes are applied in a panic stop so that the wheels do not lock.
This results in improved directional stability and steerability during panic braking.

1. INPUT SIGNAL

(1) Speed sensor signal
The speed of the wheels is detected and input to TERMINALS FL+, FR+, RL+ and RR+ of the ABS actuator with ECU.

(2) Stop light SW signal
A signal is input to TERMINAL STP of the ABS actuator with ECU when the brake pedal is depressed.

(3) Deceleration sensor signal (4WD)
Longitudinal acceleration is detected and a signal is input to the ABS actuator with ECU.

2. SYSTEM OPERATION

During sudden braking, the ABS actuator with ECU which has signals input from each sensor lets the hydraulic pressure acting on each wheel cylinder escape to the reservoir.
The pump inside the ABS actuator with ECU is also operating at this time and it returns the brake fluid from the reservoir to the master cylinder, thus preventing locking of vehicle wheels.
If the ABS actuator with ECU judges that the hydraulic pressure acting on the wheel cylinder is insufficient, the current acting on the solenoid is controlled and the hydraulic pressure is increased.
Holding of the hydraulic pressure is also controlled by the ECU, by the same method as above, by repeated pressure reduction. Holding and increase are repeated to maintain vehicle stability and to improve steerability during sudden braking.

SERVICE HINTS

F1, F2 FRONT ABS SPEED SENSOR LH, RH
1-2 : **0.92**- **1.22** kΩ (**20**˚C, **68**˚F) (2WD)
1.40- **1.80** kΩ (**20**˚C, **68**˚F) (4WD)

R11, R12 REAR ABS SPEED SENSOR LH, RH
1-2 : **0.89**- **1.29** kΩ (**20**˚C, **68**˚F)

A22 ABS ACTUATOR WITH ECU
6-GROUND : **10**- **14** volts with ignition SW on
24-GROUND : **10**- **14** volts with stop light SW on (Brake pedal depressed)
2, 18-GROUND : Always continuity

S5 STOP LIGHT SW
2-1 : Closed with brake pedal depressed

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A9	34	D3	32 (3RZ-FE, 2RZ-FE)	R11	36 (Double Cab)
A22	30 (5VZ-FE)	F1	30 (5VZ-FE)		37 (Except Double Cab)
	32 (3RZ-FE, 2RZ-FE)		32 (3RZ-FE, 2RZ-FE)	R12	36 (Double Cab)
C13	34	F2	30 (5VZ-FE)		37 (Except Double Cab)
D1	30 (5VZ-FE)		32 (3RZ-FE, 2RZ-FE)	R16	35
	32 (3RZ-FE, 2RZ-FE)	J11	35	S5	35
D3	30 (5VZ-FE)	J13	35		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1G		
3B	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		
3F		
3H	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)
3I		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

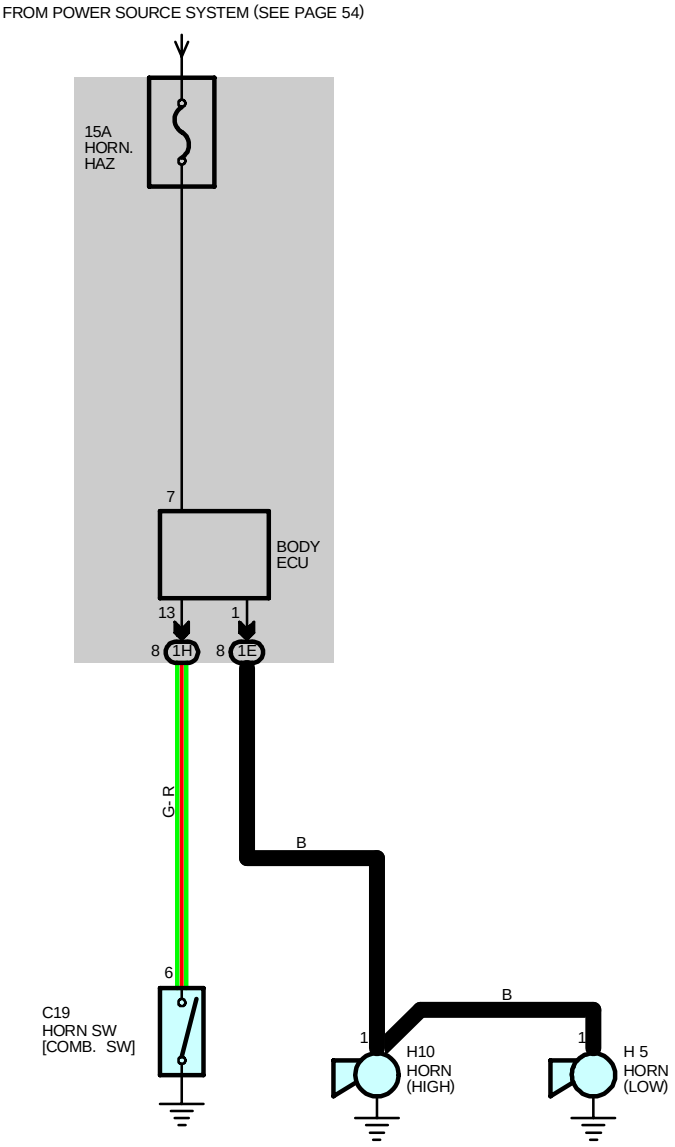
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EF1	40 (5VZ-FE)	Cowl Wire and Engine Room Main Wire (Front Right Fender)
	42 (3RZ-FE, 2RZ-FE)	
IF2	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
BN6	46 (Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	48 (Except Double Cab)	
BO2	46 (Double Cab)	Frame Wire and Diff. Lock Wire (Rear Side Member LH)
	48 (Except Double Cab)	

: GROUND POINTS

Code	See Page	Ground Points Location
EB	40 (5VZ-FE)	Near the Throttle Body
EC	40 (5VZ-FE)	Front Right Fender
	42 (3RZ-FE, 2RZ-FE)	
EF	42 (3RZ-FE, 2RZ-FE)	Ignition Coil Braket
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire			


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
15A
HORN.
HAZ
7
BODY
ECU
13
1
8
1H
8
1E
G-R
B
6
C19
HORN SW
[COMB. SW]
B
1
H10
HORN
(HIGH)
1
H 5
HORN
(LOW)

SERVICE HINTS

BODY ECU

13-GROUND : Continuity with horn SW on

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C19	34	H5	32 (3RZ-FE, 2RZ-FE)	H10	32 (3RZ-FE, 2RZ-FE)
H5	30 (5VZ-FE)	H10	30 (5VZ-FE)		

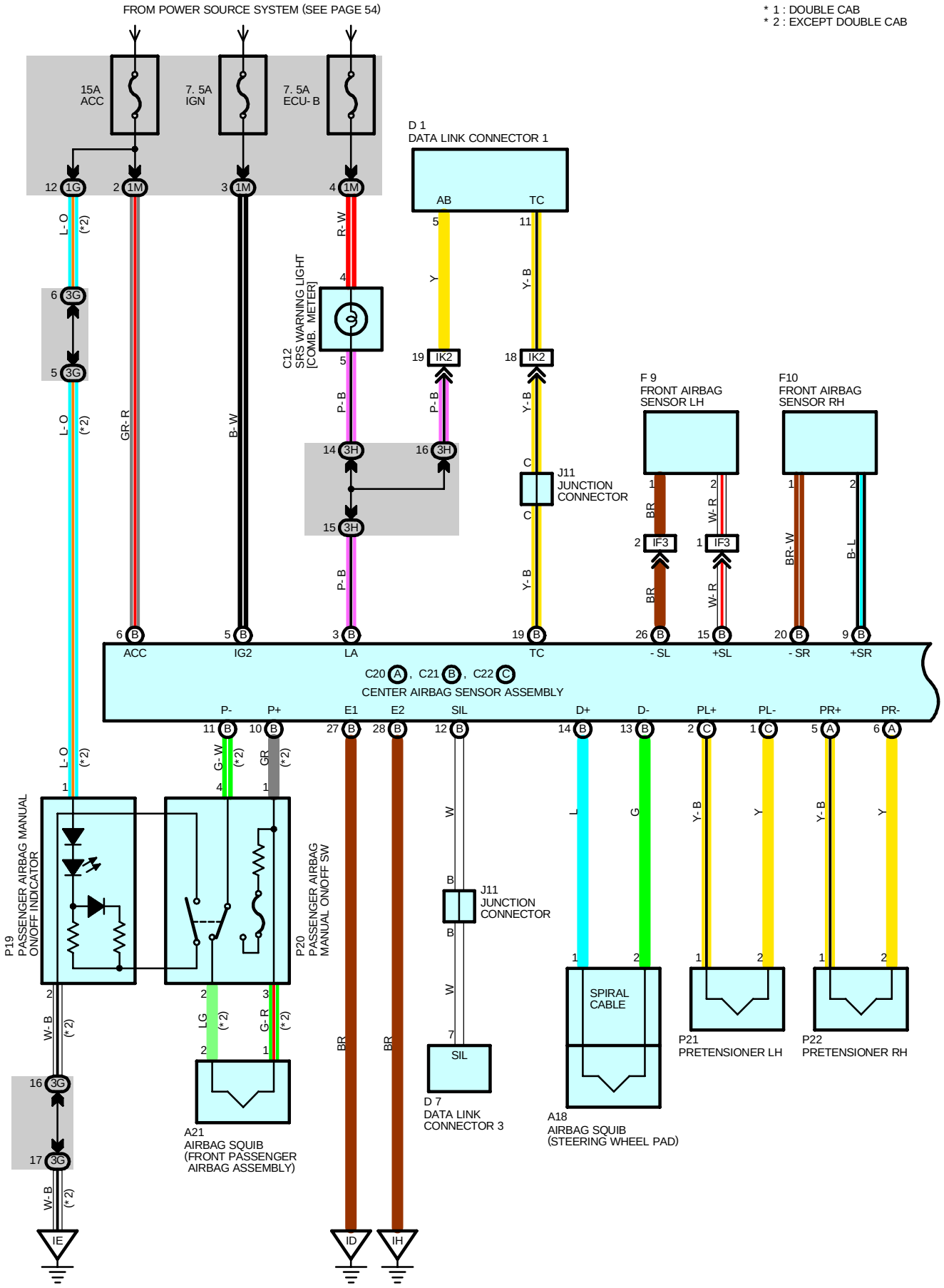
: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

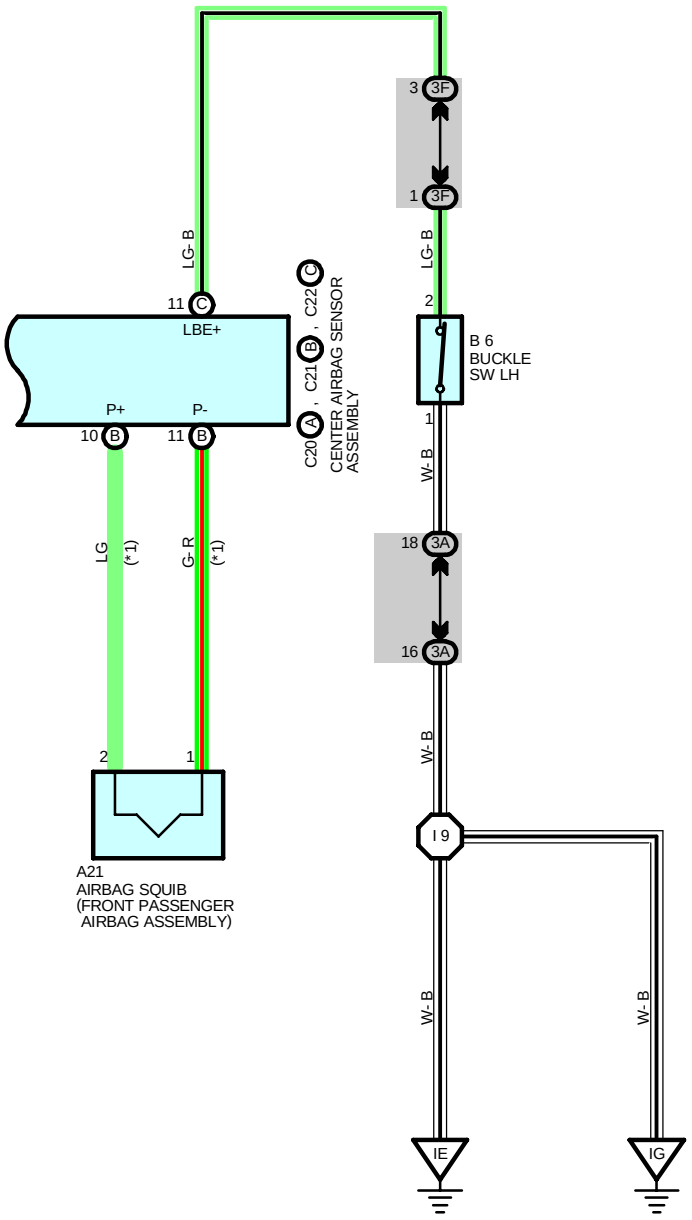
Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1H	23	Cowl Wire and J/B No.1 (Lower Finish Panel)

MEMO

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

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


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
* 1 : DOUBLE CAB
* 2 : EXCEPT DOUBLE CAB
15A ACC
7. 5A IGN
7. 5A ECU- B
D 1 DATA LINK CONNECTOR 1
AB
TC
C12 SRS WARNING LIGHT [COMB. METER]
J11 JUNCTION CONNECTOR
F 9 FRONT AIRBAG SENSOR LH
F10 FRONT AIRBAG SENSOR RH
ACC
IG2
LA
TC
- SL
+SL
- SR
+SR
C20 (A), C21 (B), C22 (C)
CENTER AIRBAG SENSOR ASSEMBLY
P-
P+
E1
E2
SIL
D+
D-
PL+
PL-
PR+
PR-
P19 PASSENGER AIRBAG MANUAL ON/OFF INDICATOR
P20 PASSENGER AIRBAG MANUAL ON/OFF SW
J11 JUNCTION CONNECTOR
SPIRAL CABLE
P21 PRETENSIONER LH
P22 PRETENSIONER RH
A21 AIRBAG SQUIB (FRONT PASSENGER AIRBAG ASSEMBLY)
D 7 DATA LINK CONNECTOR 3
A18 AIRBAG SQUIB (STEERING WHEEL PAD)
IE
ID
IH


3 3F
1 3F
LG- B
LG- B
11 C
LBE+
2
B 6
BUCKLE
SW LH
C20 , C21 , C22
CENTER AIRBAG SENSOR
ASSEMBLY
P+
P-
10 B
11 B
1
W- B
LG
(*1)
G- R
(*1)
18 3A
16 3A
2
1
W- B
I 9
A21
AIRBAG SQUIB
(FRONT PASSENGER
AIRBAG ASSEMBLY)
W- B
W- B
IE
IG

SYSTEM OUTLINE

The SRS is a driver protection device which has a supplemental role to the seat belts.
When the ignition SW is turned to ACC or ON, the current from the ACC fuse flows to TERMINAL (B) 6 of the center airbag sensor assembly. Only when the ignition SW on, the current from the IGN fuse flows to TERMINAL (B) 5 of the center airbag sensor assembly.
If an accident occurs while driving, deceleration caused by a frontal impact is detected (by sensor) and when the frontal impact exceeds a set level, the current from the ACC or IGN fuse flows to TERMINALS (B) 6 or (B) 5 of the center airbag sensor assembly. This current flows to TERMINAL (B) 14 to TERMINAL 1 of the airbag squib (Steering wheel pad) to TERMINAL 2 to TERMINAL (B) 13 of the center airbag sensor assembly, and also flows to TERMINAL (B) 10 of the center airbag sensor assembly to TERMINAL 2 of the airbag squib (Front passenger airbag assembly) to TERMINAL 1 of the center airbag assembly (Double cab) or TERMINAL (B) 10 of the center airbag sensor assembly to TERMINAL 1 of the passenger airbag manual on/off SW to TERMINAL 3 to TERMINAL 1 of the airbag squib (Front passenger airbag assembly) to TERMINAL 2 to TERMINAL 2 of the passenger airbag manual on/off SW to TERMINAL 4 to TERMINAL (B) 11 of the center airbag sensor assembly (Except double cab). Furthermore, the current flows to TERMINAL (B) 27 or (B) 28 to GROUND, causing the center airbag squibs to expand.
When the safing sensor built into the center airbag sensor assembly is on, airbag sensor is off and the current from the ACC or IGN fuse flows same as above-mentioned flowing, causing the airbag squibs to expand. When the safing sensor built into the center airbag sensor assembly is on, the airbag sensor on one of the above-mentioned circuits is activated so that current flows to the airbag squibs and causes them to operate.
The airbag stored inside the steering wheel pad is instantaneously expanded to soften the shock to the driver.
The airbag stored inside the passenger's instrument panel is instantaneously expanded to soften the shock to the passenger.

1. FRONT PASSENGER AIRBAG MANUAL ON/OFF OPERATION (EXCEPT DOUBLE CAB)

When the passenger airbag manual on/off SW is on, the current flowing from the ACC or IGN fuse to the airbag squib (Front passenger airbag assembly) is same as above, causing the airbag squib (Front passenger airbag assembly) to expand in an accident.
If the passenger airbag manual on/off SW is turned to off, the current flows from the ACC fuse to TERMINAL 1 of the passenger airbag manual on/off indicator to TERMINAL 2 to GROUND, lighting the indicator up. Then the current between TERMINAL (B) 11 of the airbag sensor assembly and the airbag squib (Front passenger airbag assembly) is cut off, so that it does not expand the airbag squib (Front passenger airbag assembly) in an accident.

○ : PARTS LOCATION

Code		See Page	Code	See Page	Code	See Page
A18		34	D1	30 (5VZ-FE)	P19	35
A21		34		32 (3RZ-FE, 2RZ-FE)	P20	35
B6		36 (Double Cab)	D7	34	P21	36 (Double Cab)
		37 (Except Double Cab)	F9	30 (5VZ-FE)		37 (Except Double Cab)
C12		34		32 (3RZ-FE, 2RZ-FE)	P22	36 (Double Cab)
C20	A	34	F10	30 (5VZ-FE)		37 (Except Double Cab)
C21	B	34		32 (3RZ-FE, 2RZ-FE)		
C22	C	34	J11	35		

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1M		
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3F		
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)
3H		

▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF3	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)

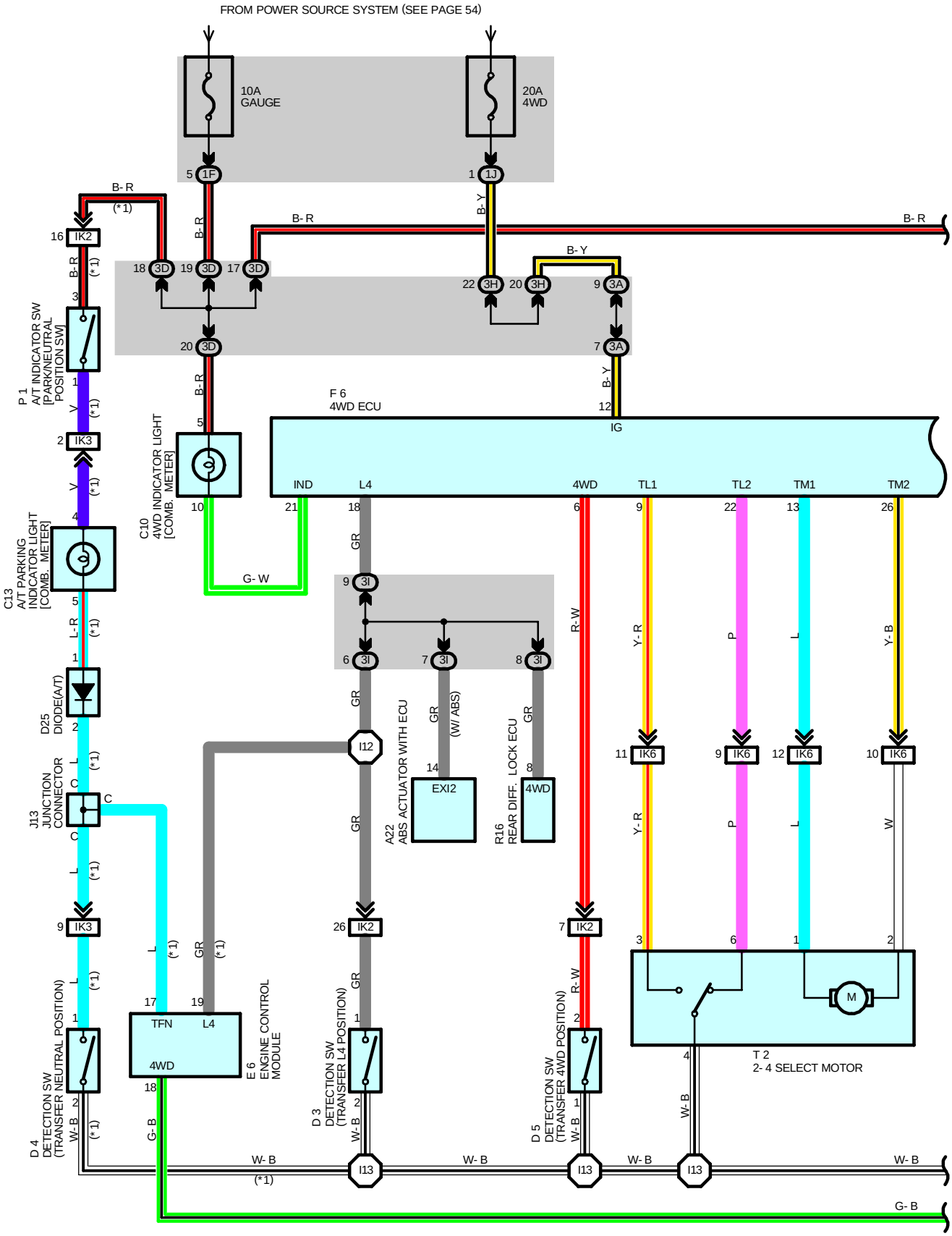
: GROUND POINTS

Code	See Page	Ground Points Location
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement
IH	44	Right Kick Panel

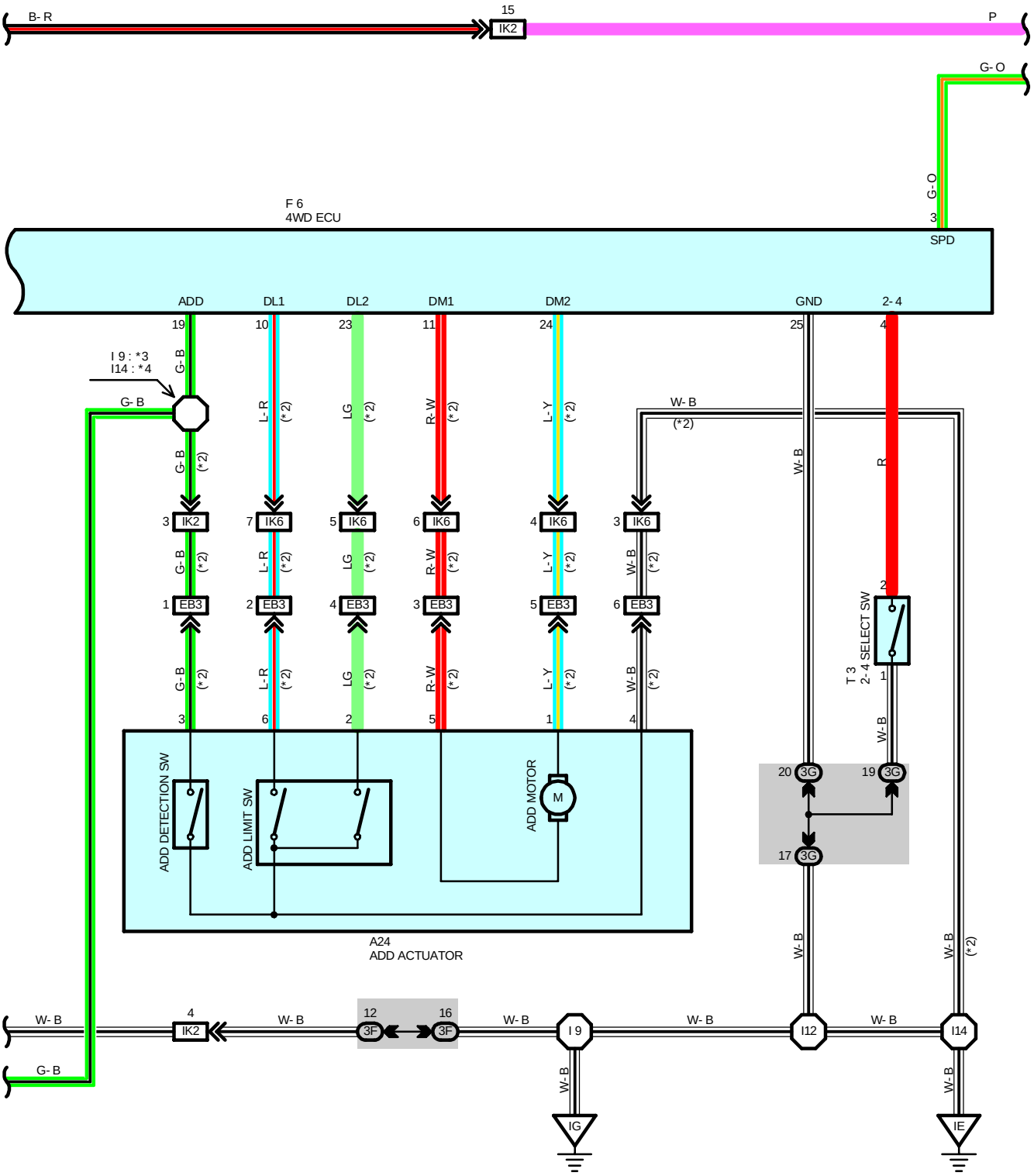
: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire			

4WD (w/ 2-4 SELECT SW)

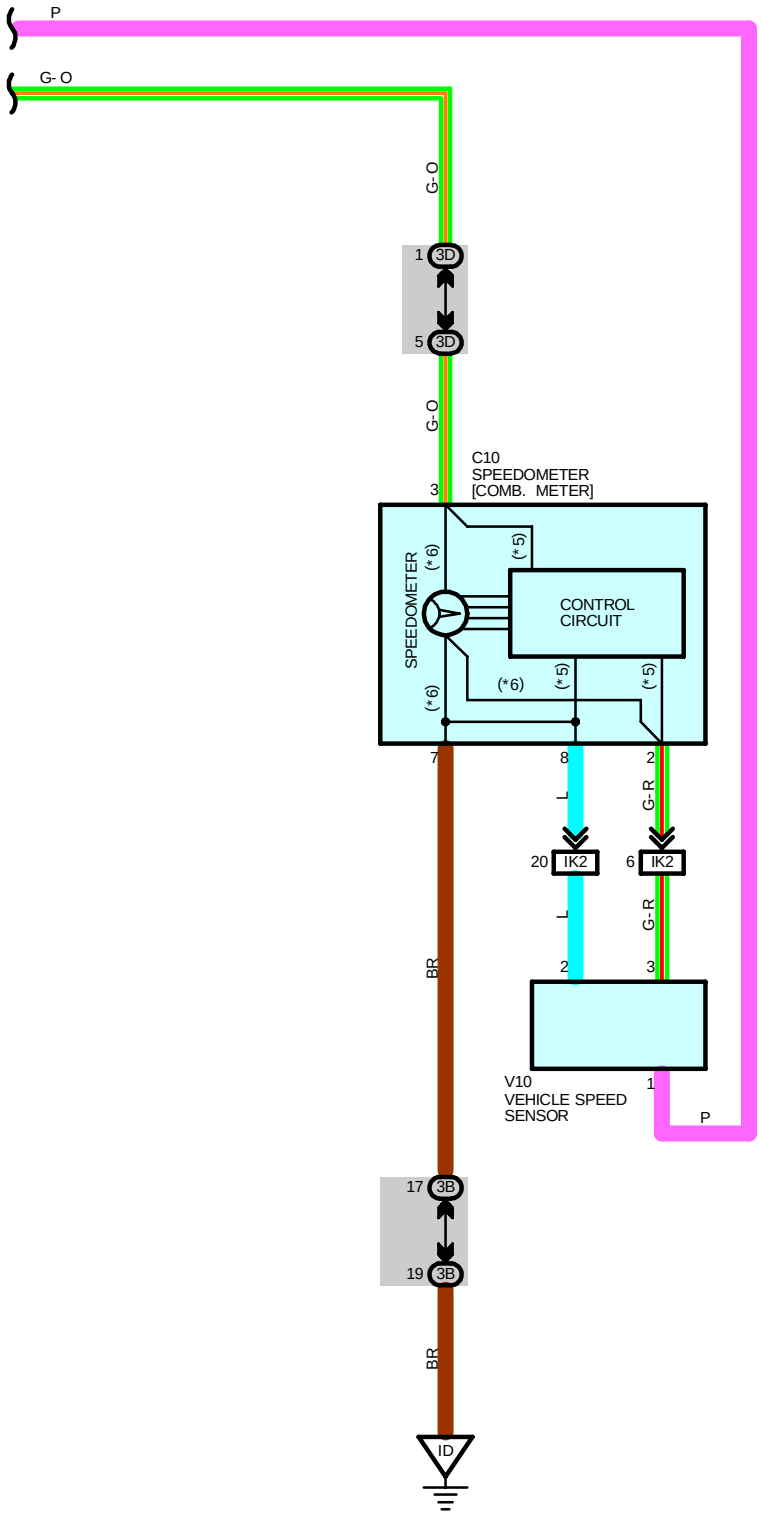


* 1 : A/T
* 2 : W/ ADD
* 3 : W/ DAYTIME RUNNING LIGHT
* 4 : W/O DAYTIME RUNNING LIGHT



4WD (w/ 2-4 SELECT SW)

* 5 : W/ TACHOMETER
* 6 : W/O TACHOMETER



SYSTEM OUTLINE

The 4WD ECU operates the 2-4 select motor in accordance with the conditions of the 2-4 select SW, the detection SW (Transfer 4WD position) and the detection SW (Transfer L4 position). It also controls the range over which shifting from H2 to H4 is possible based on the vehicle speed sensor. If the 2-4 select SW is pushed in while shifting is prohibited, it causes the 4WD indicator light to flash and sounds a warning buzzer to inform the driver. The warning buzzer is built into the ECU. The operation of the ECU is as follows.

2-4 SELECT SYSTEM

The 2-4 select system selects between 2WD and 4WD by means of a 2-4 select SW located in the transfer shift lever knob which provides good operability.

This system uses an ECU which drives the 2-4 select motor in accordance with signals from various sensors and accomplishes shifting between 2WD and 4WD. Shifting between H4 to L4 is accomplished by operating the transfer shift lever as before. This system also permits shifting between H2 and H4 without first shifting to H4. All models equipped with 2-4 select system are also equipped with the add, explained later.

(1) Shifting from H4 to H2

When the 2-4 select SW is turned off, a signal is input to the 2-4 select motor from the 4WD ECU, activating the 2-4 select motor so that the transfer changes to 2WD (H2 position).

At this time, the detection SW (Transfer 4WD position) and ADD indicator SW are off, so the 4WD indicator light goes off.

(2) Shifting from H2 to H4 (During normal driving)

When the 2-4 select SW is turned on, a signal is input to the 2-4 select motor from the 4WD ECU, activating the 2-4 select motor so that the transfer changes to 4WD (H4 position)

(3) Shifting from H2 to H4 (High speed driving)

The vehicle speed within below approx. 100 km/h, 62 mph, activating the 2-4 select motor so that the transfer changes to 4WD (H4 position)

The 4WD ECU stops the signal to the 2-4 select motor with the signal from the vehicle speed sensor. At the same time, it causes the 4WD indicator light to light up and the warning buzzer inside the 4WD ECU to sound.

(4) Shifting to L4

When the transfer shift lever is moved to L4 position, the transfer changes to LO position. This turns the detection SW (Transfer L4 position) on, so regardless of whether the 2-4 select SW is on or off, a signal is input to the 2-4 select motor from the 4WD ECU, activating the 2-4 select motor so that the transfer changes to 4WD (L4 position) in LO condition.

SERVICE HINTS

F6 4WD ECU

12-GROUND : Approx. **12** volts with ignition SW at **ON** position
25-GROUND : Always continuity
3-GROUND : **4** pulses with **1** rotation
4-GROUND : **2** volts or less with 2-4 select SW on
18-GROUND : **2** volts or less with detection SW (Transfer L4 position) on and transfer shift lever at **L4** position

T3 2-4 SELECT SW

1-2 : Closed with 2-4 select SW on

P1 A/T INDICATOR SW [PARK/NEUTRAL POSITION SW]

3-1 : Closed with A/T shift lever at **P** position

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A22	30 (5VZ-FE)	D5	30 (5VZ-FE)	R16	35
A24	30 (5VZ-FE)	D25	34	T2	31 (5VZ-FE)
C10	34	E6	35	T3	35
C13	34	F6	35	V10	31 (5VZ-FE)
D3	30 (5VZ-FE)	J13	35		
D4	30 (5VZ-FE)	P1	31 (5VZ-FE)		

4WD (w/ 2-4 SELECT SW)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1J		
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3B		
3D		
3F		
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)
3H		
3I		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB3	40 (5VZ-FE)	Engine Wire and Differential Wire (Front Differential Upper Side)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		
IK6		

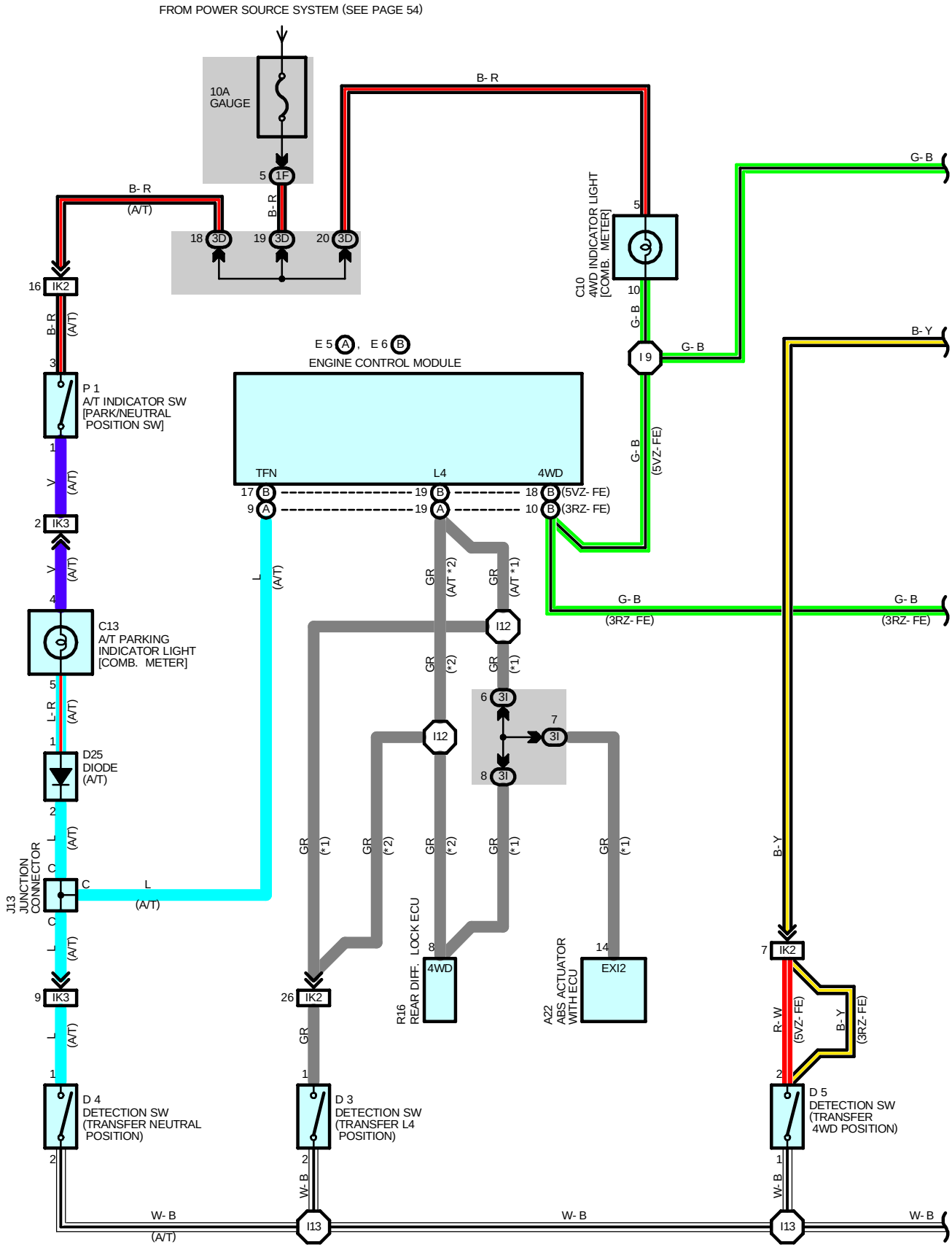
: GROUND POINTS

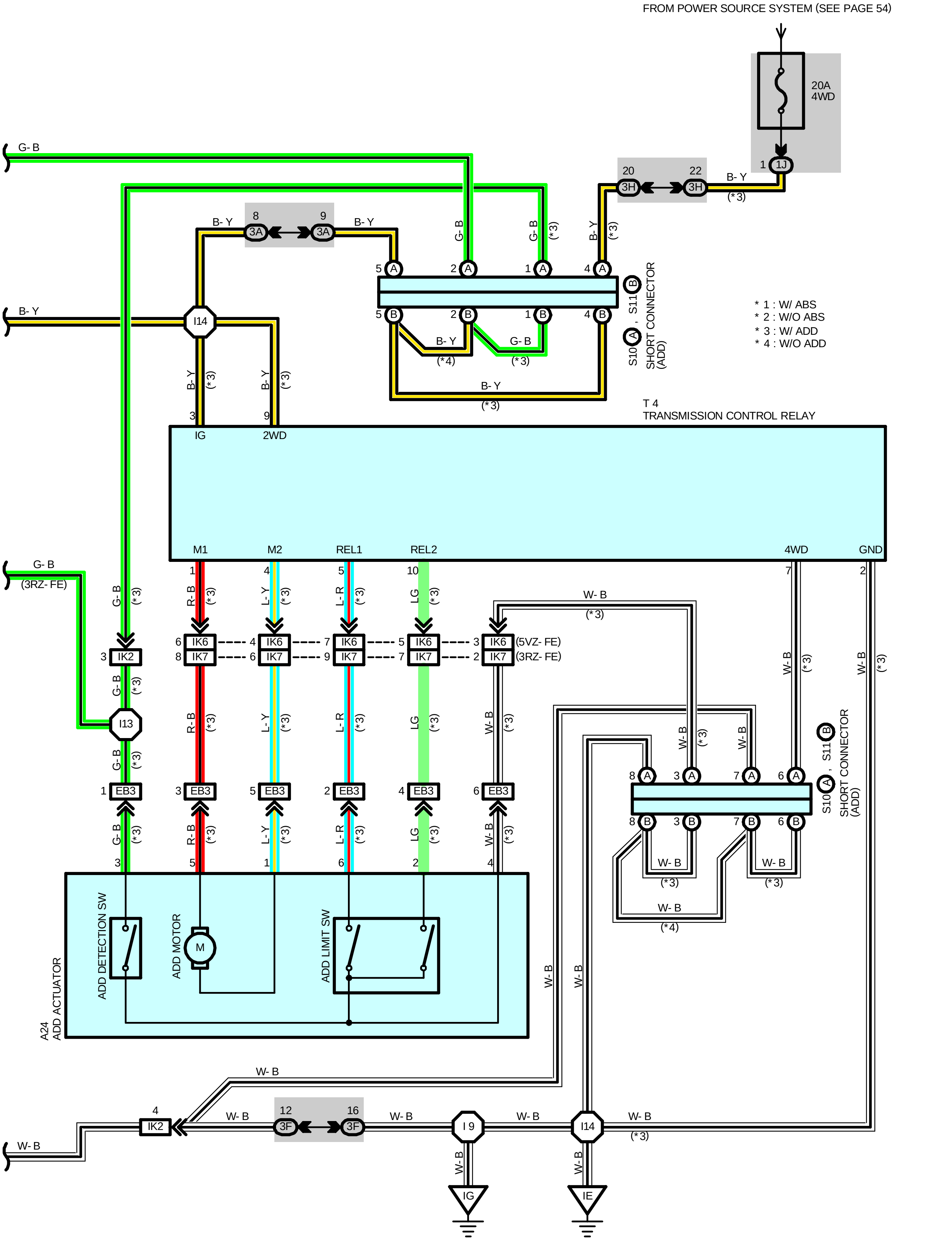
Code	See Page	Ground Points Location
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I13	44	Engine Wire
I12			I14	44	Cowl Wire

4WD (w/o 2-4 SELECT SW)





FROM POWER SOURCE SYSTEM (SEE PAGE 54)
20A
4WD
1 1J
B- Y
(*3)
20 3H
22 3H
8 3A
9 3A
B- Y
G- B
I14
G- B
B- Y
(*3)
5 A
2 A
1 A
4 A
5 B
2 B
1 B
4 B
S11 B , S10 A
SHORT CONNECTOR
(ADD)
* 1 : W/ ABS
* 2 : W/O ABS
* 3 : W/ ADD
* 4 : W/O ADD
(*4)
(*3)
T 4
TRANSMISSION CONTROL RELAY
IG
2WD
M1
M2
REL1
REL2
4WD
GND
(3RZ- FE)
R- B
L- Y
L- R
LG
W- B
IK2
IK6
IK7
(5VZ- FE)
(3RZ- FE)
I13
EB3
A24
ADD ACTUATOR
ADD DETECTION SW
ADD MOTOR
M
ADD LIMIT SW
IK2
3F
I 9
I14
IG
IE

4WD (w/o 2-4 SELECT SW)

SERVICE HINTS

P1 A/T INDICATOR SW [PARK/NEUTRAL POSITION SW]

3-1 : Closed with A/T shift position at **P** position

D4 DETECTION SW (TRANSFER NEUTRAL POSITION)

1-2 : Closed with transfer position at **N** position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A22	30 (5VZ-FE)	D4	30 (5VZ-FE)	P1	31 (5VZ-FE)
	32 (3RZ-FE)		32 (3RZ-FE)		33 (3RZ-FE)
A24	30 (5VZ-FE)	D5	30 (5VZ-FE)	R16	35
	32 (3RZ-FE)		32 (3RZ-FE)	S10 A	35
C10	34	D25	34	S11 B	35
C13	34	E5 A	35	T4	35
D3	30 (5VZ-FE)	E6 B	35		
	32 (3RZ-FE)	J13	35		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1J		
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		
3F		
3H	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)
3I		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB3	40 (5VZ-FE)	Engine Wire and Differential Wire (Front Differential Upper Side)
	42 (3RZ-FE)	
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		
IK6		
IK7		

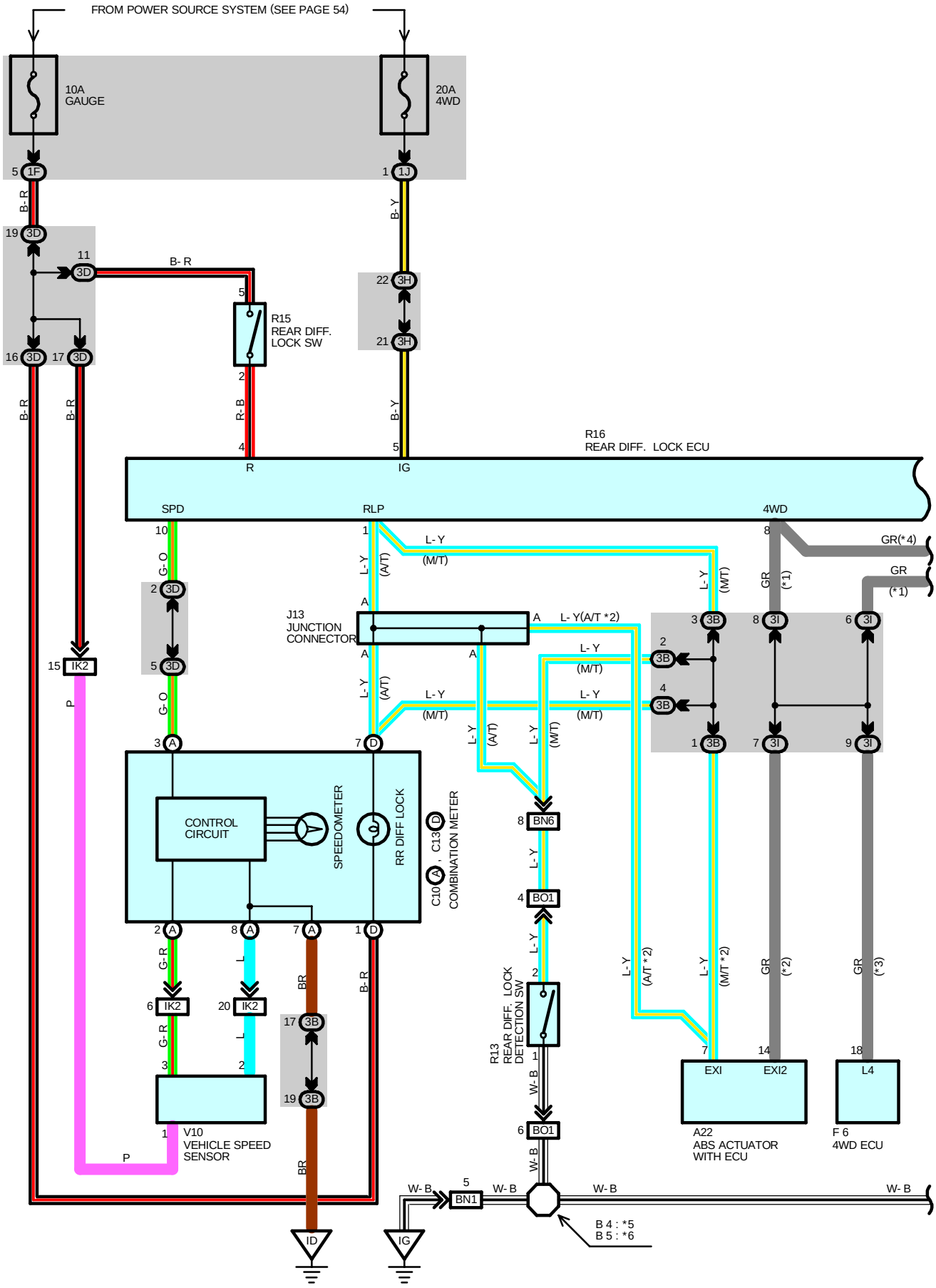
: GROUND POINTS

Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

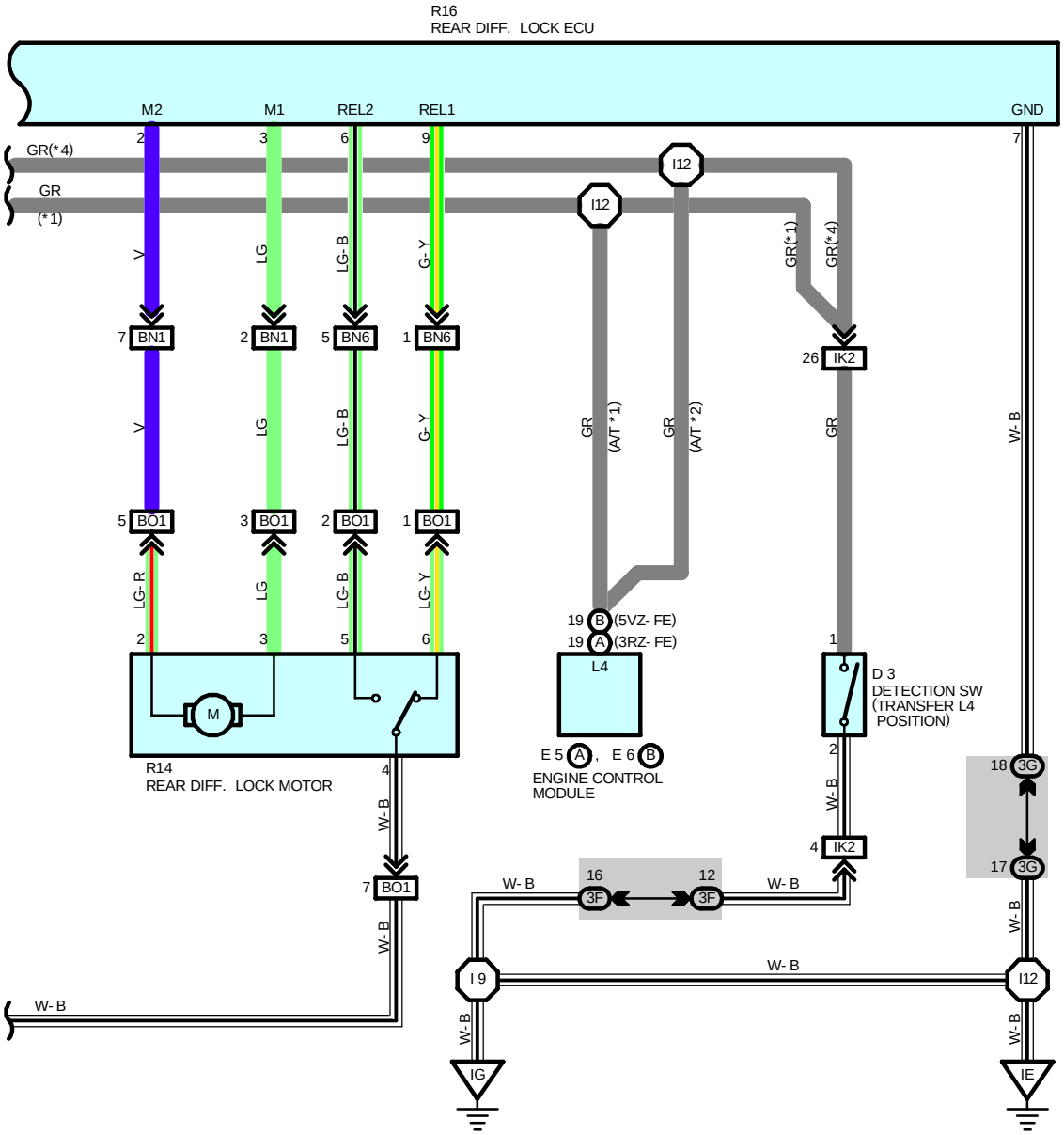
: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I13	44	Engine Wire
I12			I14	44	Cowl Wire

REAR DIFFERENTIAL LOCK



* 1 : W/ ABS OR 2- 4 SELECT SW
* 2 : W/ ABS
* 3 : W/ 2- 4 SELECT SW
* 4 : W/O ABS, W/O 2- 4 SELECT SW
* 5 : EXCEPT REGULAR CAB
* 6 : REGULAR CAB



REAR DIFFERENTIAL LOCK

SYSTEM OUTLINE

This system frees or locks the rear differential according to the position of the rear diff. lock SW. The differential will lock only when the rear diff. lock detection SW is on and the vehicle speed is at 8 km/h (5 mph) or less.
When the rear diff. lock SW is switched from OFF position to ON position, current flows to TERMINAL 4 of the rear diff. lock ECU. If the limit SW on the lock side inside the rear diff. lock motor is on at this time, until the limit SW is turned off, current flows from the 4WD fuse to TERMINAL 5 of the rear diff. lock ECU to TERMINAL 3 to TERMINAL 3 of the rear diff. lock motor to TERMINAL 2 to TERMINAL 2 of the rear diff. lock ECU to TERMINAL 7 to GROUND. This drives the rear diff. lock motor and locks the rear differential. When the rear differential locks, the rear diff. lock detection SW turns on, lighting up the rear diff. lock indicator light in the combination meter.
When the rear diff. lock SW is switched from ON position to OFF position, the current to TERMINAL 4 of the rear diff. lock ECU is cut off. If the limit SW on the free side inside the rear diff. lock motor is on, until the limit SW is turned off, current flows from the 4WD fuse to TERMINAL 5 of the rear diff. lock ECU to TERMINAL 2 to TERMINAL 2 of the rear diff. lock motor to TERMINAL 3 to TERMINAL 3 of the rear diff. lock ECU to TERMINAL 7 to GROUND. This drives the rear diff. lock motor and frees the rear differential. When the rear differential is free, the rear diff. lock detection SW and the rear diff. lock indicator light in the combination meter are turned off.
The rear diff. lock indicator light flashes when:

* The rear diff. lock SW is switched to ON position during differential lock prohibition conditions (Vehicle speed above 8 km/h (5 mph)).
* The rear diff. lock detection SW is turned off during operation of the rear diff. lock motor.

SERVICE HINTS

R15 REAR DIFF. LOCK SW

5-2 : Closed with the diff. lock SW at **ON** position

R16 REAR DIFF. LOCK ECU

(Disconnected wiring connector from ECU)
7-GROUND : Always continuity
10-GROUND : Pulse generation with vehicle moving
5-GROUND : **9**- **14** volts with the ignition SW on
1-GROUND : About **0** volts with the rear diff. lock indicator light on
: **9**- **14** volts with the rear diff. lock indicator light off

R14 REAR DIFF. LOCK MOTOR

2-3 : **0.3**- **100** Ω

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A22	30 (5VZ-FE)	E5 A	35	R14	36 (Double Cab)
	32 (3RZ-FE)	E6 B	35		37 (Except Double Cab)
C10 A	34	F6	35	R15	35
C13 D	34	J13	35	R16	35
D3	30 (5VZ-FE)	R13	36 (Double Cab)	V10	31 (5VZ-FE)
	32 (3RZ-FE)		37 (Except Double Cab)		33 (3RZ-FE)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1J		
3B	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		
3F		
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)
3H		
3I		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
BN1	46 (Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	48 (Except Double Cab)	
BN6	46 (Double Cab)	
	48 (Except Double Cab)	
BO1	46 (Double Cab)	Frame Wire and Diff. Lock Wire (Rear Side Member LH)
	48 (Except Double Cab)	

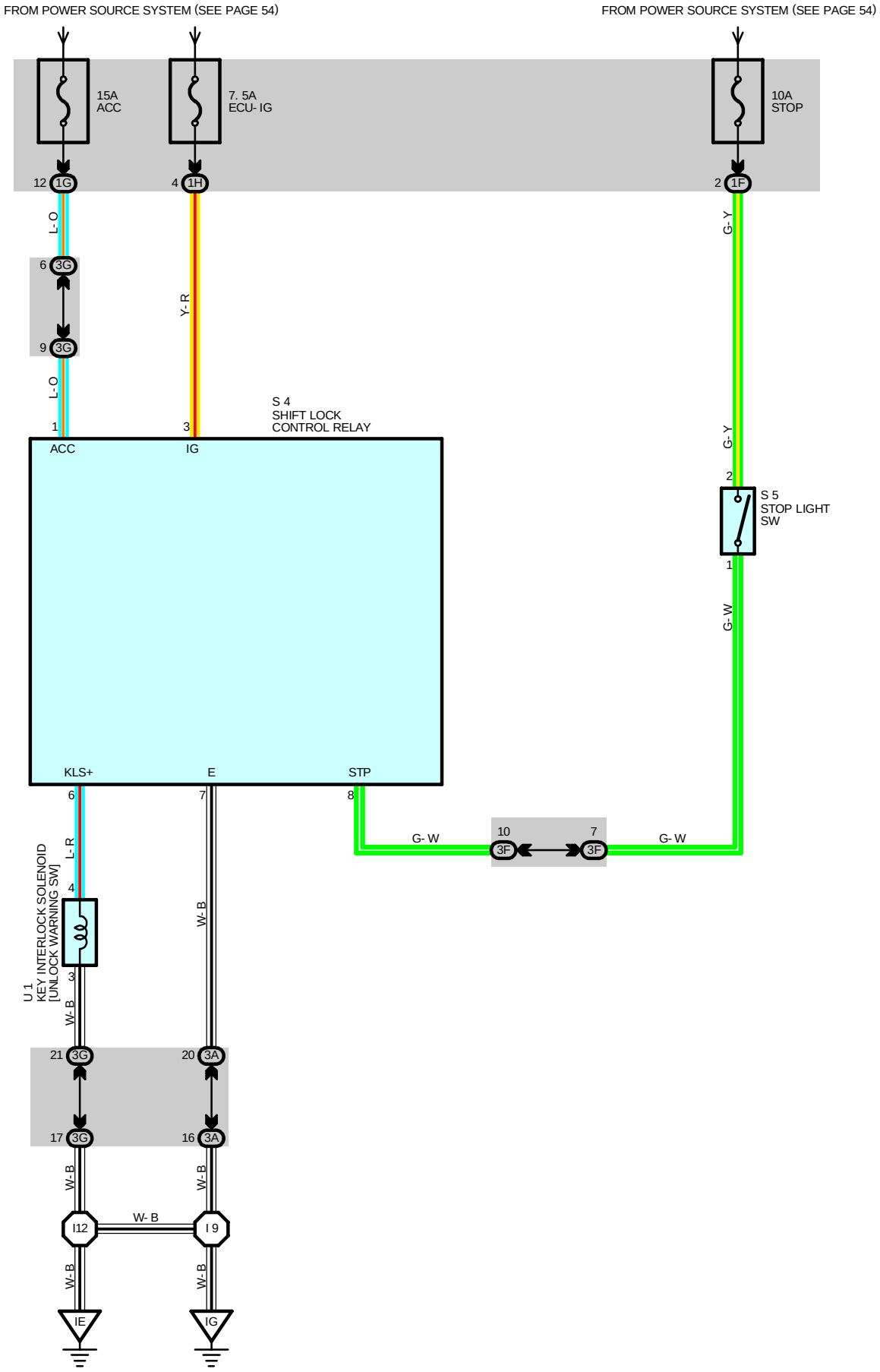
: GROUND POINTS

Code	See Page	Ground Points Location
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	B4	48 (Except Double Cab)	Frame Wire
I12			B5		
B4	46 (Double Cab)	Frame Wire			

SHIFT LOCK


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
FROM POWER SOURCE SYSTEM (SEE PAGE 54)
15A
ACC
7. 5A
ECU- IG
10A
STOP
12 1G
4 1H
2 1F
L- O
Y- R
G- Y
6 3G
9 3G
L- O
1
3
S 4
SHIFT LOCK
CONTROL RELAY
ACC
IG
G- Y
2
S 5
STOP LIGHT
SW
1
G- W
KLS+
E
STP
6
7
8
G- W
10 3F
7 3F
G- W
L- R
4
U 1
KEY INTERLOCK SOLENOID
[UNLOCK WARNING SW]
3
W- B
W- B
21 3G
20 3A
17 3G
16 3A
W- B
W- B
W- B
I12
I 9
W- B
W- B
IE
IG

SERVICE HINTS

S4 SHIFT LOCK CONTROL RELAY

1-GROUND : Approx. **12** volts with the ignition SW at **ACC** or **ON** position
3-GROUND : Approx. **12** volts with the ignition SW at **ON** position
7-GROUND : Always continuity
8-GROUND : Approx. **12** volts with the brake pedal depressed

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
S4	35	S5	35	U1	35

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1G		
1H		
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3F		
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

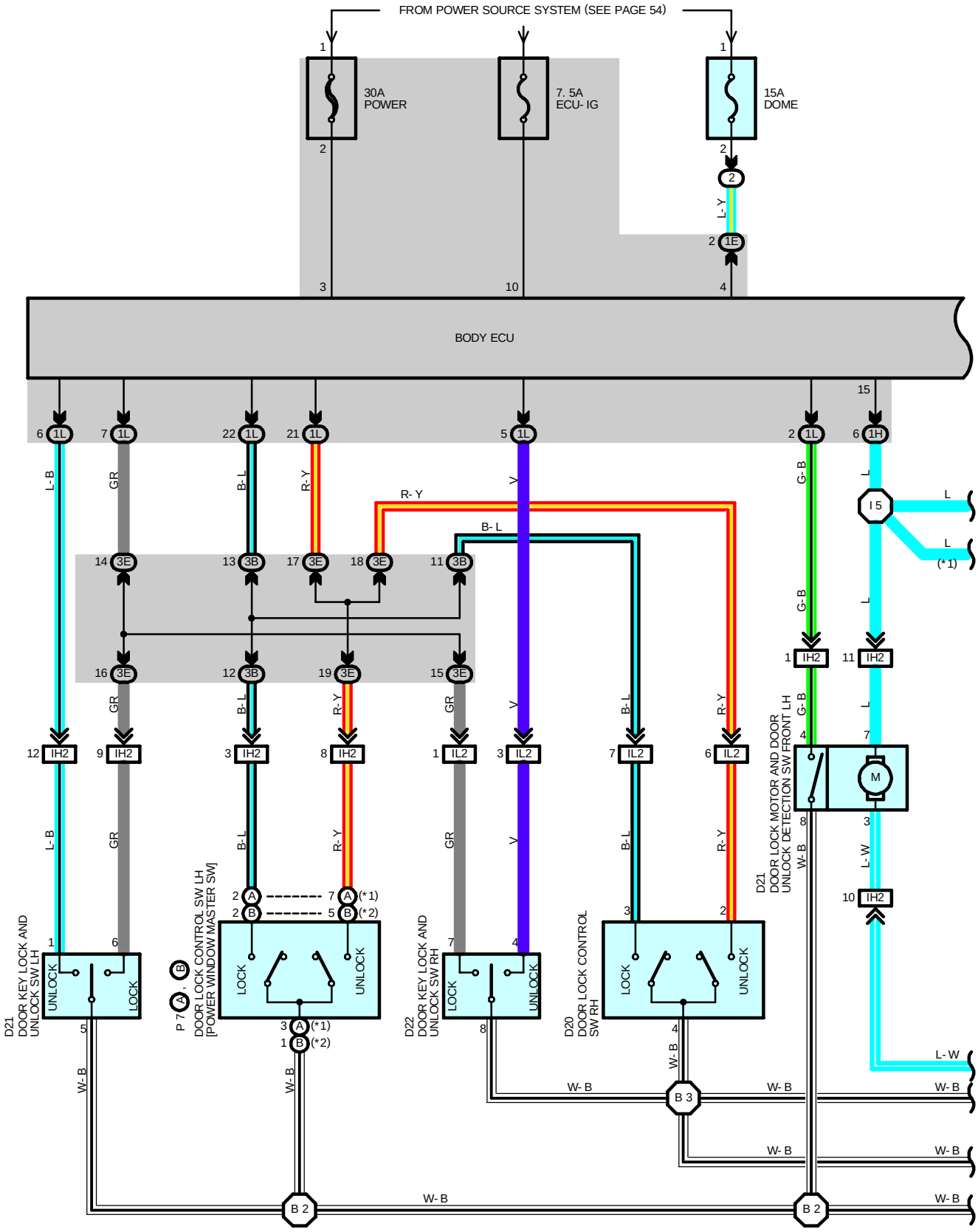
: GROUND POINTS

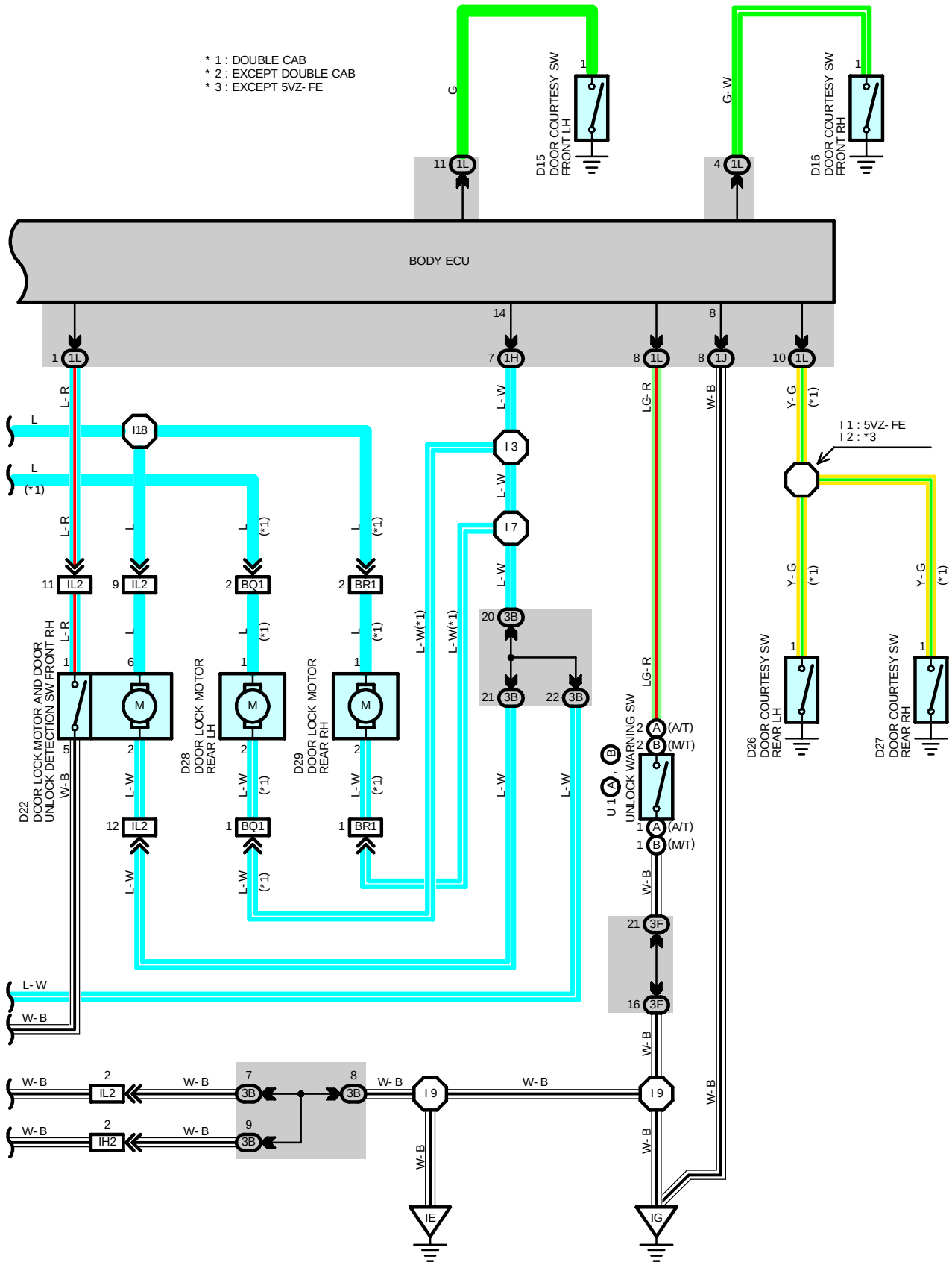
Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I12	44	Cowl Wire

DOOR LOCK CONTROL




* 1 : DOUBLE CAB
* 2 : EXCEPT DOUBLE CAB
* 3 : EXCEPT 5VZ- FE
BODY ECU
D15 DOOR COURTESY SW FRONT LH
D16 DOOR COURTESY SW FRONT RH
D22 DOOR LOCK MOTOR AND DOOR UNLOCK DETECTION SW FRONT RH
D28 DOOR LOCK MOTOR REAR LH
D29 DOOR LOCK MOTOR REAR RH
D26 DOOR COURTESY SW REAR LH
D27 DOOR COURTESY SW REAR RH
UNLOCK WARNING SW
I 1 : 5VZ- FE
I 2 : *3
G
G- W
L- R
L
L- W
W- B
LG- R
Y- G
IE
IG

DOOR LOCK CONTROL

SYSTEM OUTLINE

Current always flows to TERMINAL 3 of the body ECU through the POWER fuse.

1. MANUAL LOCK OPERATION

To push the door lock control SW or door key lock and unlock SW to LOCK position, a lock signal is input to the body ECU and causes the ECU to function. Current flows from TERMINAL 3 of the ECU to TERMINAL 14 to TERMINALS 3 (Front LH), 2 (Front RH, rear) of the door lock motors to TERMINALS 7 (Front LH), 6 (Front RH), 1 (Rear) to TERMINAL 15 of the ECU to TERMINAL 8 to GROUND and the door lock motor causes the door to lock.

2. MANUAL UNLOCK OPERATION

To push the door lock control SW or door key lock and unlock SW to UNLOCK position, an unlock signal is input to the body ECU and causes the ECU to function. Current flows from TERMINAL 3 of the ECU to TERMINAL 15 to TERMINALS 7 (Front LH), 6 (Front RH), 1 (Rear) of the door lock motors to TERMINALS 3 (Front LH), 2 (Front RH, rear) to TERMINAL 14 of the ECU to TERMINAL 8 to GROUND and the door lock motor causes the door to unlock.

3. IGNITION KEY REMINDER OPERATION

* Operating door lock knob (in door lock motor operation)
  With ignition key in cylinder (Unlock warning SW on), when any door is opened and locked using door lock knob (Door lock motor), all doors are locked once but each door is unlocked soon by the function of the body ECU. As a result, current flows from TERMINAL 3 of the ECU to TERMINAL 15 to TERMINALS 7 (Front LH), 6 (Front RH), 1 (Rear) of the door lock motors to TERMINALS 3 (LH), 2 (Front RH, rear) to TERMINAL 14 of the ECU to TERMINAL 8 to GROUND and causes all the doors to unlock.
* Operating door lock control SW or door key lock and unlock SW
  With ignition key in cylinder (Unlock warning SW on), when any door is opened and locked using the door lock control SW or door key lock and unlock SW, all doors are locked once but each door is unlocked by the function of the SW contained in motor, which inputs the signal to the body ECU. According to this input signal, current flows from TERMINAL 3 of the ECU to TERMINAL 15 to TERMINALS 7 (Front LH), 6 (Front RH), 1 (Rear) of the door lock motors to TERMINALS 3 (Front LH), 2 (Front RH, rear) to TERMINAL 14 of the ECU to TERMINAL 8 to GROUND and causes all the doors to unlock.

SERVICE HINTS

BODY ECU

8-GROUND : Always continuity.
3, 4-GROUND : Always approx. **12** volts
15-GROUND : Approx. **12** volts for **0.2** seconds with following operations.
* Door lock control SW unlocked.
* Door lock control SW locked with ignition key in cylinder and LH door open. (Ignition key reminder function)
* Door lock knob locked with ignition key in cylinder and LH door open. (Ignition key reminder function)
* Unlocking the LH, RH door cylinder with key.

14-GROUND : Approx. **12** volts for **0.2** seconds with following operations.
* Door lock control SW locked.
* Locking the LH, RH door cylinder with key.

D15, D16, D26, D27 DOOR COURTESY SW FRONT REAR LH, RH

1-GROUND : Closed with door open.

D21, D22 DOOR LOCK MOTOR, DOOR UNLOCK DETECTION SW AND DOOR KEY LOCK AND UNLOCK SW LH, RH

4-8 (LH), 1-5 (RH) : Closed with **UNLOCK** position.

U1 (A), (B) UNLOCK WARNING SW

(A) 1-(A) 2, (B) 1-(B) 2 : Closed with key in cylinder.

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code		See Page
D15	34	D22	36 (Double Cab)	P7	A	36 (Double Cab)
D16	34		37 (Except Double Cab)		B	37 (Except Double Cab)
D20	36 (Double Cab)	D26	36 (Double Cab)	U1	A	35
	37 (Except Double Cab)	D27	36 (Double Cab)		B	35
D21	36 (Double Cab)	D28	36 (Double Cab)			
	37 (Except Double Cab)	D29	36 (Double Cab)			

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1H	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1J		
1L	22	
3B	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3E		
3F		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

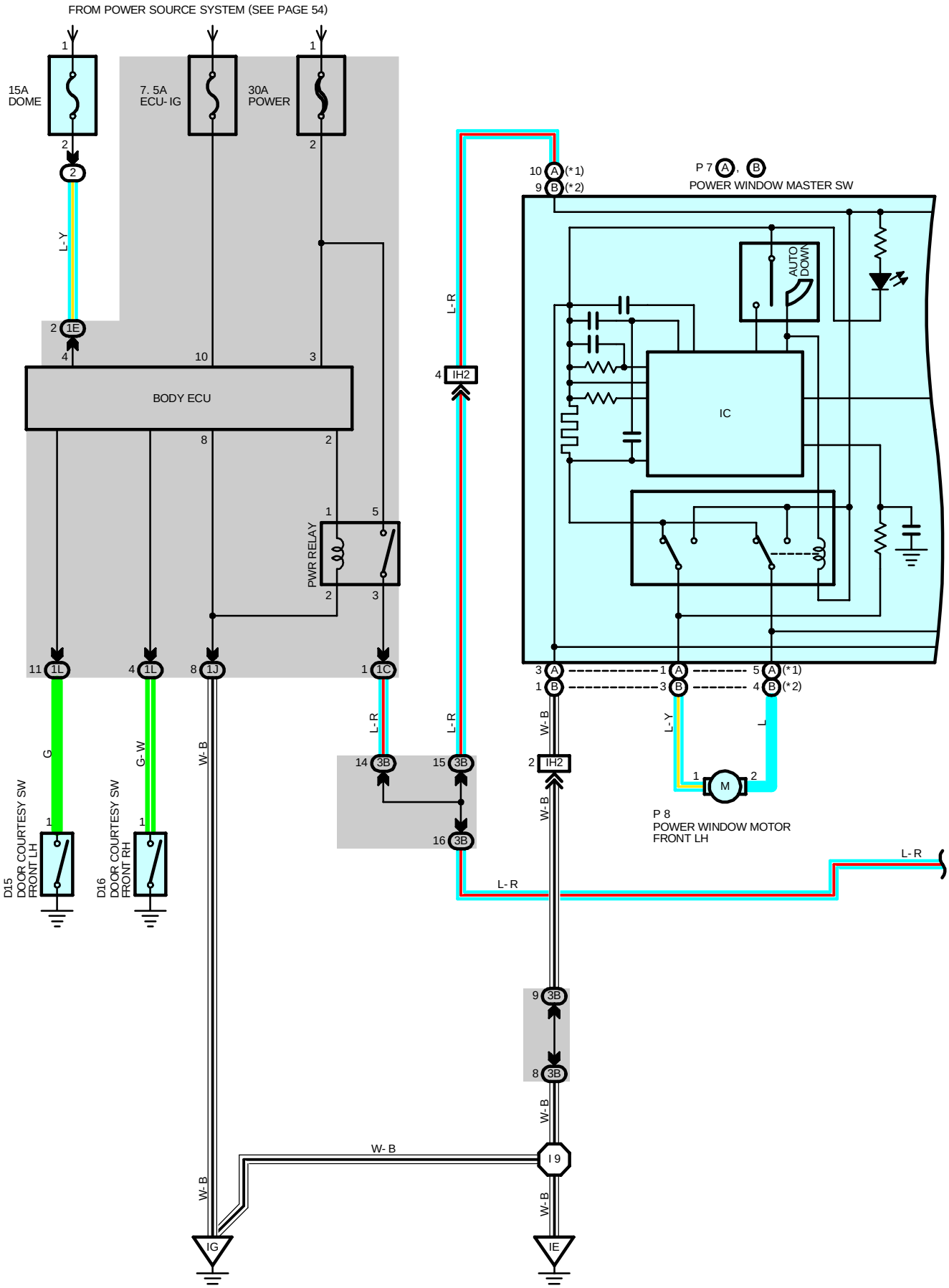
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IH2	44	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IL2	44	Front Door RH Wire and Cowl Wire (Right Kick Panel)
BQ1	46 (Double Cab)	Rear Door No.2 Wire and Cowl Wire (Under the Left Center Pillar)
BR1	46 (Double Cab)	Rear Door No.1 Wire and Cowl Wire (Under the Right Center Pillar)

: GROUND POINTS

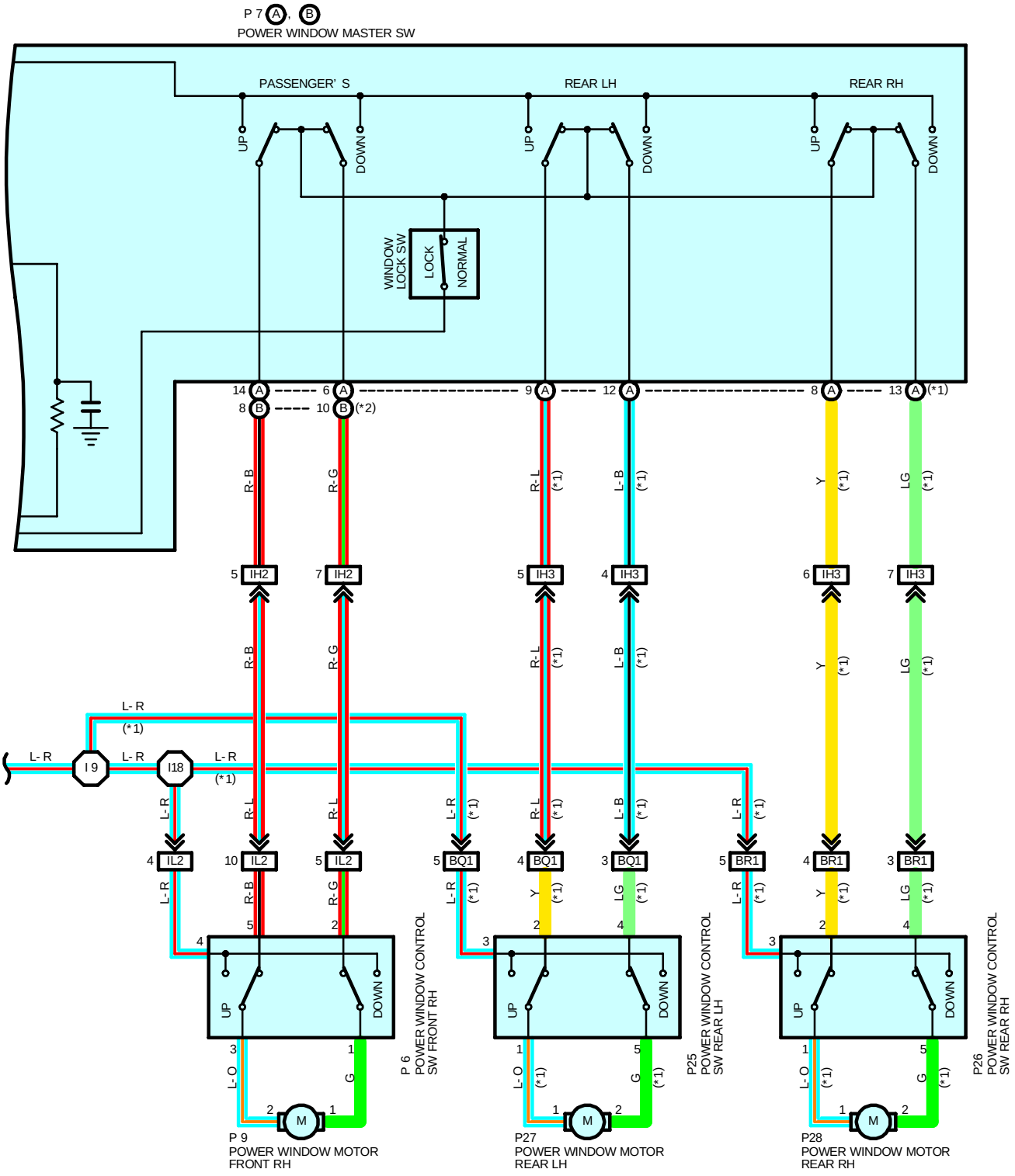
Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I1	44	Cowl Wire	I18	44	Cowl Wire
I2			B2	46 (Double Cab)	Front Door LH Wire
I3				48 (Except Double Cab)	
I5			B3	46 (Double Cab)	Front Door RH Wire
I7				48 (Except Double Cab)	
I9					


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
15A
DOME
7. 5A
ECU- IG
30A
POWER
BODY ECU
PWR RELAY
P 7
POWER WINDOW MASTER SW
AUTO
DOWN
IC
P 8
POWER WINDOW MOTOR
FRONT LH
D15
DOOR COURTESY SW
FRONT LH
D16
DOOR COURTESY SW
FRONT RH
L- Y
L- R
G
G- W
W- B
IG
IE

* 1 : DOUBLE CAB
* 2 : EXCEPT DOUBLE CAB



SYSTEM OUTLINE

With the ignition SW turned on, current flows through the ECU-IG fuse to TERMINAL 10 of the body ECU to TERMINAL 2 to TERMINAL 1 of the PWR relay to TERMINAL 2 to GROUND, activating the PWR relay, and the current flowing from TERMINAL 5 of the PWR relay flows to TERMINAL 3 to TERMINAL (A) 10 (Double cab), (B) 9 (Except double cab) of the power window master SW and TERMINAL 4 (Front RH), 3 (Rear) of the power window control SW.

1. MANUAL OPERATION (DRIVER'S WINDOW)

With the ignition SW turned on and with the power window master SW (Manual SW) in UP position, the current flowing to TERMINAL (A) 10 (Double cab), (B) 9 (Except double cab) of the power window master SW flows to TERMINAL (A) 1 (Double cab), (B) 3 (Except double cab) to TERMINAL 1 of the power window motor LH to TERMINAL 2 to TERMINAL (A) 5 (Double cab), (B) 4 (Except double cab) of the master SW to TERMINAL (A) 3 (Double cab), (B) 1 (Except double cab) to GROUND and causes the power window motor to rotate in the up direction. The window ascends only while the SW is being pushed.

In down operation, the current flowing from TERMINAL (A) 10 (Double cab), (B) 9 (Except double cab) of the power window master SW to TERMINAL (A) 5 (Double cab), (B) 4 (Except double cab) flows to TERMINAL 2 of the motor LH to TERMINAL 1 to TERMINAL (A) 1 (Double cab), (B) 3 (Except double cab) of the master SW to TERMINAL (A) 3 (Double cab), (B) 1 (Except double cab) to GROUND, flowing in the opposite direction to manual up operation, causing the motor to rotate in reverse and lowering the window.

2. AUTO DOWN OPERATION (DRIVER'S WINDOW)

With the ignition SW on and with the auto SW of the power window master SW in DOWN position, the current flowing to TERMINAL (A) 10 (Double cab), (B) 9 (Except double cab) of the master SW flows to TERMINAL (A) 5 (Double cab), (B) 4 (Except double cab) of the master SW to TERMINAL 2 of the power window motor LH to TERMINAL 1 to TERMINAL (A) 1 (Double cab), (B) 3 (Except double cab) of the master SW to TERMINAL (A) 3 (Double cab), (B) 1 (Except double cab) to GROUND, causing the motor to rotate towards the down side.

Then the solenoid in the master SW is activated and it locks the auto SW being pushed, causing the motor to continue to rotate in auto down operation.

When the window has completely descended, the current flowing between TERMINAL (A) 1 (Double cab), (B) 3 (Except double cab) of the master SW and TERMINAL (A) 3 (Double cab), (B) 1 (Except double cab) increases. As a result, the solenoid stops operating, the auto SW turns off and the flowing from TERMINAL (A) 10 (Double cab), (B) 9 (Except double cab) of the master SW to TERMINAL (A) 5 (Double cab), (B) 4 (Except double cab) is cut off, stopping the motor so that auto stop occurs.

3. STOPPING OF AUTO DOWN AT DRIVER'S WINDOW

When the manual SW (Driver's) is pushed to the up side during auto down operation, a ground circuit opens in the master SW and current does not flow from TERMINAL (A) 1 (Double cab), (B) 3 (Except double cab) of the master SW to TERMINAL (A) 3 (Double cab), (B) 1 (Except double cab), so the motor stops, causing auto down operation to stop. If the manual SW is pushed continuously, the motor rotates in the up direction in manual up operation.

4. MANUAL OPERATION BY POWER WINDOW CONTROL SW (FRONT RH WINDOW)

With the power window control SW front RH is pushed to the up side, the current flowing from TERMINAL 4 of the power window control SW front RH flows to TERMINAL 3 to TERMINAL 2 of the power window motor front RH to TERMINAL 1 to TERMINAL 1 of the power window control SW front RH to TERMINAL 2 to TERMINAL (A) 6 (Double cab), (B) 10 (Except double cab) of the master SW to TERMINAL (A) 3 (Double cab), (B) 1 (Except double cab) to GROUND. This causes the power window motor front RH to rotate in the up direction. Up operation is continuous only while the power window control SW RH is pushed to the up side. When the window descends, the current flowing to the motor flows in the opposite direction, from TERMINAL 1 to TERMINAL 2, and the motor rotates in revers.

When the window lock SW is pushed to the lock side, the ground circuit to the front RH window becomes open. As a result, even if Open/Close operation of the front RH window is tried, the current from TERMINAL (A) 3 (Double cab), (B) 1 (Except double cab) of the power window master SW is not grounded and the motor does not rotate, so the front RH window can not be operated and window lock occurs.

5. MANUAL OPERATION (REAR LH, RH WINDOW) [DOUBLE CAB]

With the power window control SW rear LH, RH pulled to the up side, the current flowing from TERMINAL 3 of the power window control SW flows to TERMINAL 1 to TERMINAL 1 of the power window motor to TERMINAL 2 to TERMINAL 5 of the power window control SW to TERMINAL 4 to TERMINAL (A) 12 (LH) or (A) 13 (RH) of the master SW to TERMINAL (A) 3 (Double cab), (B) 1 (Except double cab) to GROUND and causes the power window motor rear LH, RH to rotate in the up direction. The up operation continues only while the power window control SW is pulled to the up side. When the window descends, the current flowing to the motor flows in the opposite direction, from TERMINAL 1 to TERMINAL 2, and the motor rotates in reverse. When the window lock SW is pushed to the lock side, the ground circuit to the rear LH, RH window becomes open.

As a result, even if Open/Close operation of the rear LH, RH window is tried, the current from TERMINAL (A) 3 (Double cab), (B) 1 (Except double cab) of the power window master SW is not grounded and the motor does not rotate, so the rear LH, RH window can not be operated and window lock occurs.

6. KEY OFF POWER WINDOW OPERATION

With the ignition SW turned from on to off, the body ECU operates for about 45 seconds and current flows from TERMINAL 1 of the PWR relay to TERMINAL 2 to GROUND. For this period, current also flows TERMINAL 5 to TERMINAL 3. This current flows to TERMINAL (A) 10 (Double cab), (B) 9 (Except double cab) of the power window master SW and to TERMINAL 4 (Front RH), 3 (Rear) of the power window control SW. As a result, for about 45 seconds after the ignition SW is turned off, it is possible to raise and lower the power window by the functioning of the body ECU. Also, by opening the door (Door courtesy SW on) within about 45 seconds after turning the ignition SW to off, a signal is input to the dody ECU. As a result, the body ECU turns off, and up and down movement of the window stops.

SERVICE HINTS

D15, D16 DOOR COURTESY SW LH, RH

1-GROUND : Continuity with door open

BODY ECU

10-GROUND : Approx. **12** volts with ignition SW at **ON** position

3, 4-GROUND : Always approx. **12** volts

P7 POWER WINDOW MASTER SW

(A) 3, (B) 1-GROUND : Always continuity

(A) 10, (B) 9-GROUND : Approx. **12** volts with ignition SW on and stays at **12** volts for **45** seconds after the ignition SW is turned off, but if a door is opened in this **45** seconds period, voltage will drop to **0** volts

(A) 1, (B) 3-GROUND : Approx. **12** volts with ignition SW at **ON** position and master SW at **UP** position

(A) 5, (B) 4-GROUND : Approx. **12** volts with ignition SW at **ON** position and master SW at **DOWN** or **AUTO DOWN** position

WINDOW LOCK SW

Open with window lock SW at **LOCK** position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
D15	34	P7 B	37 (Except Double Cab)	P25	36 (Double Cab)
D16	34	P8	36 (Double Cab)	P26	36 (Double Cab)
P6	36 (Double Cab)		37 (Except Double Cab)	P27	36 (Double Cab)
	37 (Except Double Cab)	P9	36 (Double Cab)	P28	36 (Double Cab)
P7 A	36 (Double Cab)		37 (Except Double Cab)		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1J	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1L	22	
3B	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IH2	44	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IH3		
IL2	44	Front Door RH Wire and Cowl Wire (Right Kick Panel)
BQ1	46 (Double Cab)	Rear Door No.2 Wire and Cowl Wire (Under the Left Center Pillar)
BR1	46 (Double Cab)	Rear Door No.1 Wire and Cowl Wire (Under the Right Center Pillar)

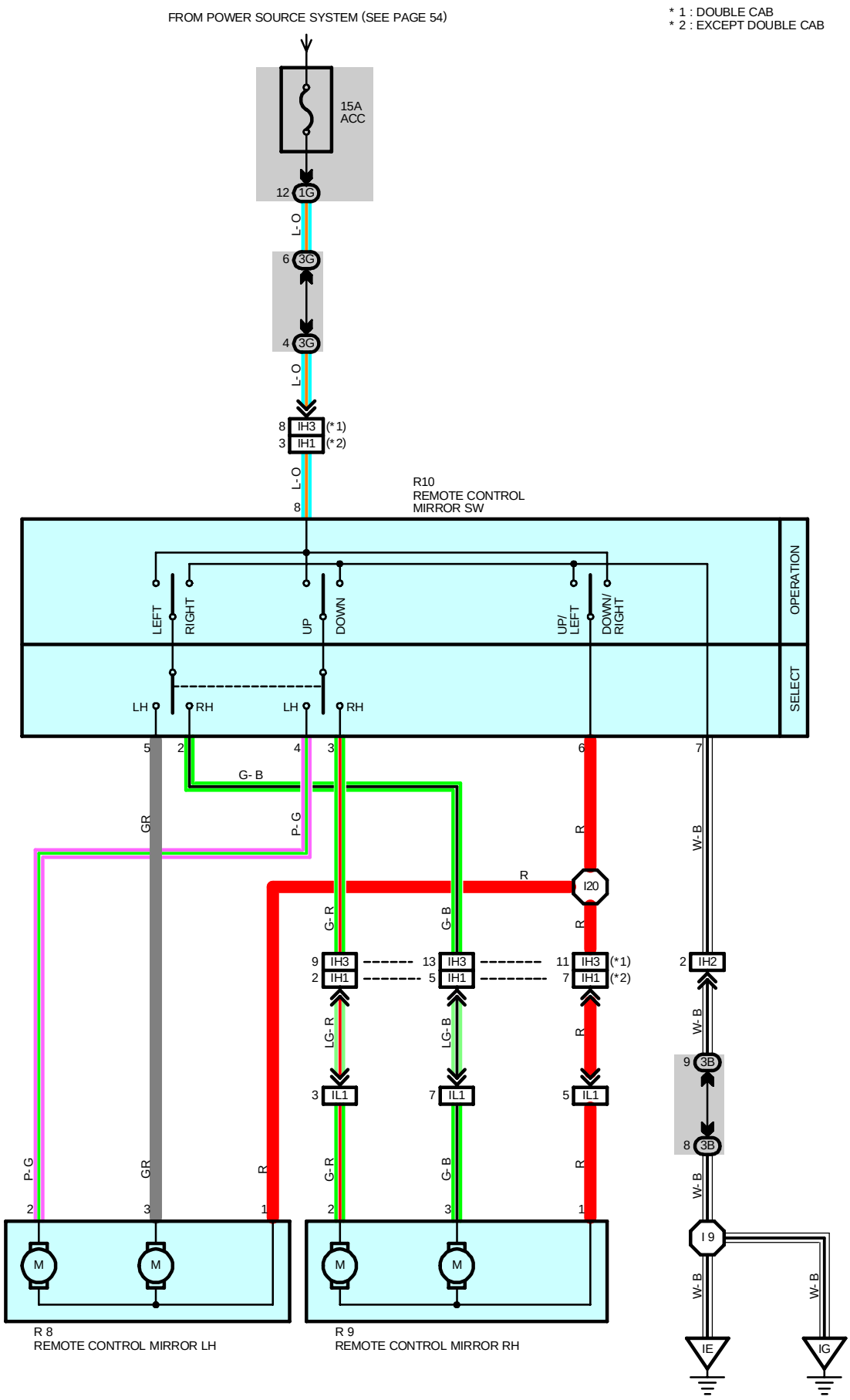
 **: GROUND POINTS**

Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

 **: SPLICE POINTS**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I18	44	Cowl Wire

REMOTE CONTROL MIRROR (w/ POWER WINDOW)



SERVICE HINTS

R10 REMOTE CONTROL MIRROR SW

8-GROUND : Approx. **12** volts with ignition SW at **ACC** or **ON** position
6-7 : Continuity with operation SW at **UP** or **LEFT** position
8-6 : Continuity with operation SW at **DOWN** or **RIGHT** position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
R8	36 (Double Cab)	R9	36 (Double Cab)	R10	36 (Double Cab)
	37 (Except Double Cab)		37 (Except Double Cab)		37 (Except Double Cab)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
3B	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IH1	44	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IH2		
IH3		
IL1	44	Front Door RH Wire and Cowl Wire (Right Kick Panel)

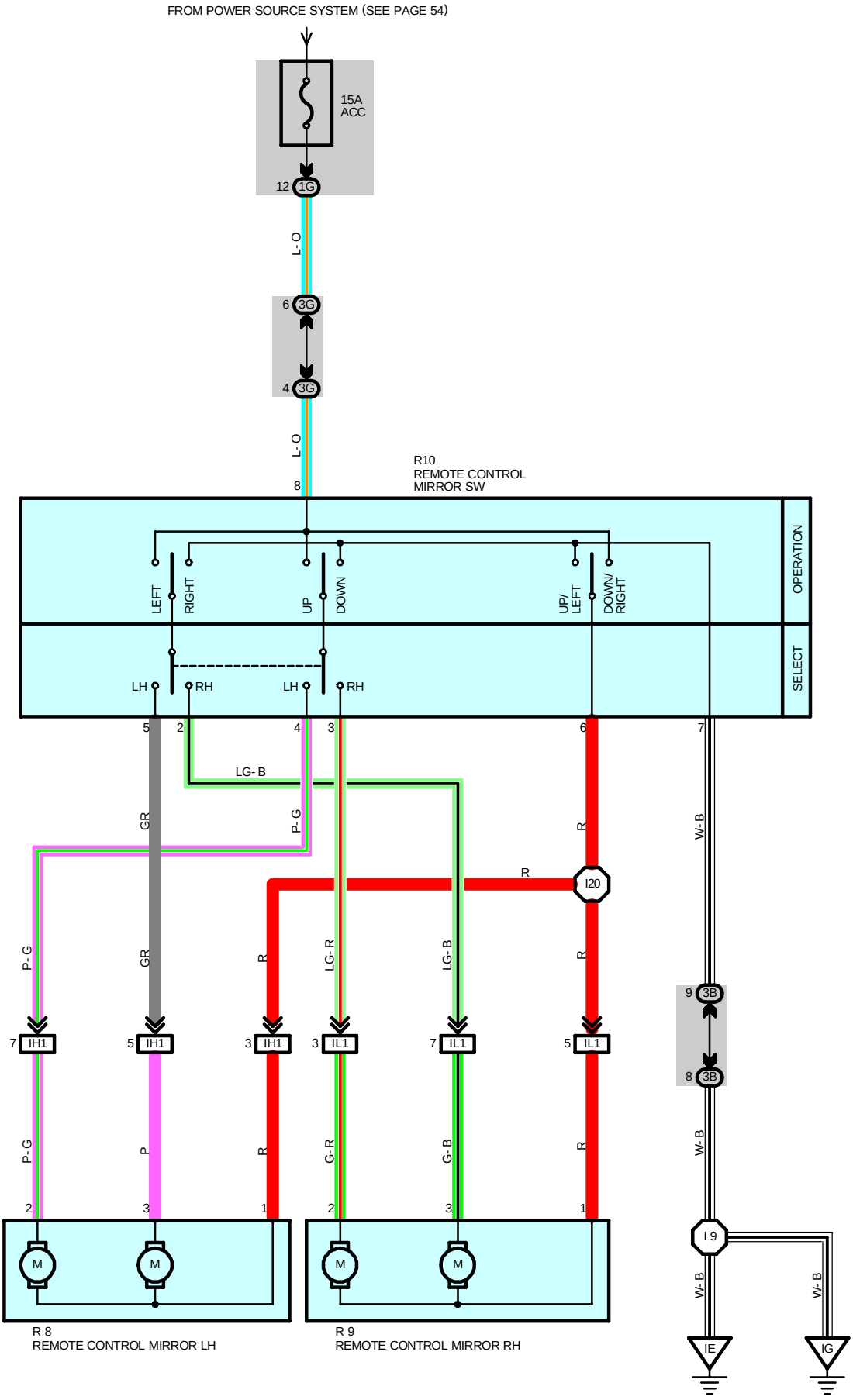
: GROUND POINTS

Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I20	44	Front Door LH Wire

REMOTE CONTROL MIRROR (w/o POWER WINDOW)



SERVICE HINTS

R10 REMOTE CONTROL MIRROR SW

8-GROUND : Approx. **12** volts with ignition SW at **ACC** or **ON** position
6-7 : Continuity with operation SW at **UP** or **LEFT** position
8-6 : Continuity with operation SW at **DOWN** or **RIGHT** position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
R8	36 (Double Cab)	R9	36 (Double Cab)	R10	36 (Double Cab)
	37 (Except Double Cab)		37 (Except Double Cab)		37 (Except Double Cab)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
3B	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IH1	44	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IL1	44	Front Door RH Wire and Cowl Wire (Right Kick Panel)

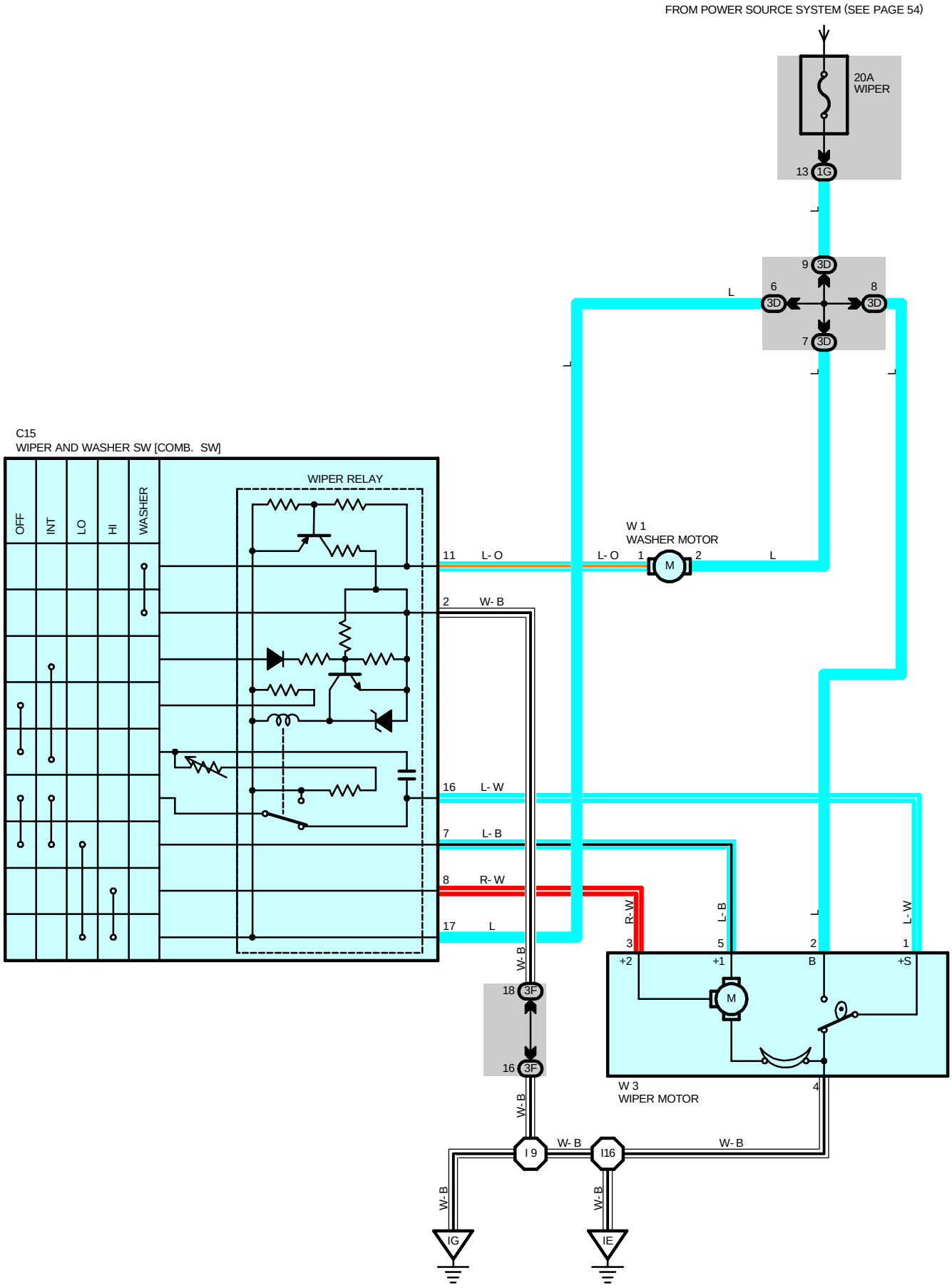
: GROUND POINTS

Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I20	44	Front Door LH Wire

WIPER AND WASHER (w/ INT TIME SW MECHANISM)



SYSTEM OUTLINE

With the ignition SW turned on, current flows to TERMINAL 17 of the wiper and washer SW, TERMINAL 2 of the washer motor and TERMINAL 2 of the wiper motor through the WIPER fuse.

1. LOW SPEED POSITION

With wiper SW turned to LOW position, current flows from TERMINAL 17 of the wiper and washer SW to TERMINAL 7 to TERMINAL 5 of the wiper motor to TERMINAL 4 to GROUND and causes the wiper motor to run at low speed.

2. HIGH SPEED POSITION

With wiper SW turned to HIGH position, current flows from TERMINAL 17 of the wiper and washer SW to TERMINAL 8 to TERMINAL 3 of the wiper motor to TERMINAL 4 to GROUND and causes the motor to run at high speed.

3. INT POSITION

With wiper SW turned to INT position, the relay operates and the current which is connected by relay function flows from TERMINAL 17 of the wiper and washer SW to TERMINAL 2 to GROUND. This flowing the intermittent circuit and current flows from TERMINAL 17 of the wiper and washer SW to TERMINAL 7 to TERMINAL 5 of the wiper motor to TERMINAL 4 to GROUND and the wiper functions.

The intermittent operation is controlled by charging and discharging of the condenser installed in the relay and the intermittent time is controlled by a time control SW to change the charging time of the condenser.

4. WASHER CONTINUOUS OPERATION

With the washer SW turned to on, current flows from TERMINAL 2 of the washer motor to TERMINAL 1 to TERMINAL 11 of the wiper and washer SW to TERMINAL 2 to GROUND and causes to the washer motor to run, and the window washer is jetted.

This causes current to flow to washer continuous operation circuit in TERMINAL 17 of the wiper and washer SW to TERMINAL 7 to TERMINAL 5 of the wiper motor to TERMINAL 4 to GROUND and the wiper functions.

SERVICE HINTS

C15 WIPER AND WASHER SW [COMB. SW]

2-GROUND : Always continuity
17-GROUND : Approx. **12** volts with ignition SW at **ON** position
7-GROUND : Approx. **12** volts with wiper and washer SW at **LOW** position
Approx. **12** volts every **3** to **12** seconds intermittently with wiper SW at **INT** position
16-GROUND : Approx. **12** volts with ignition SW on unless wiper motor at **STOP** position
8-GROUND : Approx. **12** volts with ignition SW on and wiper and washer SW at **HIGH** position
11-2 : Continuity with washer SW on

W3 WIPER MOTOR

1-2 : Closed unless wiper motor at **STOP** position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C15	34	W1	33 (3RZ-FE, 2RZ-FE)	W3	33 (3RZ-FE, 2RZ-FE)
W1	31 (5VZ-FE)	W3	31 (5VZ-FE)		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
3D	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3F		

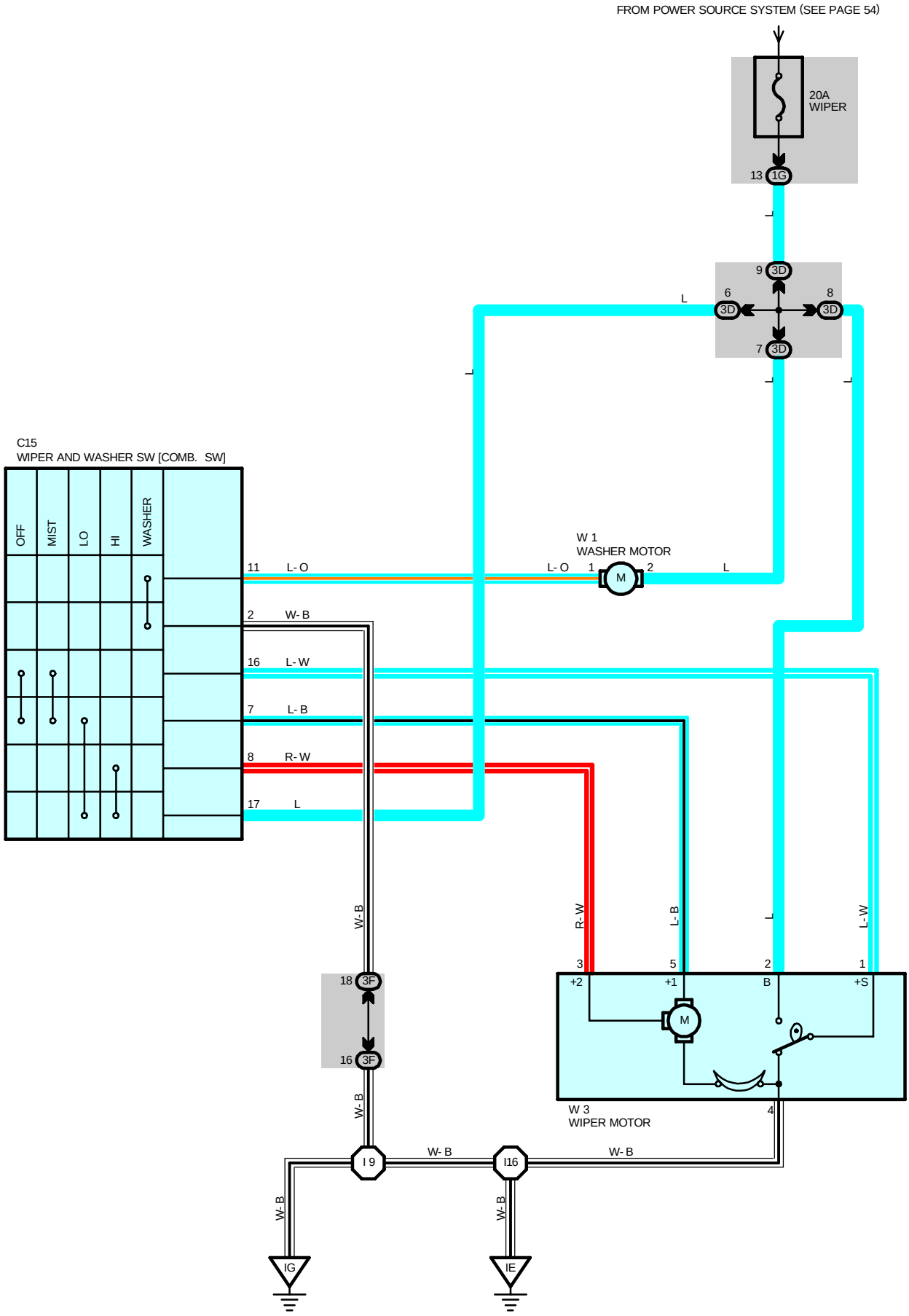
: GROUND POINTS

Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I16	44	Cowl Wire

WIPER AND WASHER (w/o INT TIME SW MECHANISM)



SYSTEM OUTLINE

With the ignition SW turned on, current flows to TERMINAL 17 of the wiper and washer SW, TERMINAL 2 of the washer motor and TERMINAL 2 of the wiper motor through the WIPER fuse.

1. LOW SPEED POSITION

With wiper SW turned to LOW position, current flows from TERMINAL 17 of the wiper and washer SW to TERMINAL 7 to TERMINAL 5 of the wiper motor to TERMINAL 4 to GROUND and causes the wiper motor to run at low speed.

2. HIGH SPEED POSITION

With wiper SW turned to HIGH position, current flows from TERMINAL 17 of the wiper and washer SW to TERMINAL 8 to TERMINAL 3 of the wiper motor to TERMINAL 4 to GROUND and causes the motor to run at high speed.

3. MIST POSITION

With the wiper SW turned to MIST position, current flows from TERMINAL 17 of the wiper and washer SW to TERMINAL 7 to TERMINAL 5 of the wiper motor to TERMINAL 4 to GROUND and causes the wiper motor to run at low speed.

4. WASHER CONTINUOUS OPERATION

With the washer SW turned to on, current flows from TERMINAL 2 of the washer motor to TERMINAL 1 to TERMINAL 11 of the wiper and washer SW to TERMINAL 2 to GROUND and causes to the washer motor to run, and the window washer is jetted.

SERVICE HINTS

C15 WIPER AND WASHER SW [COMB. SW]

2-GROUND : Always continuity
17-GROUND : Approx. **12** volts with ignition SW at **ON** position
7-GROUND : Approx. **12** volts with wiper and washer SW at **LOW** or **MIST** position
16-GROUND : Approx. **12** volts with ignition SW on unless wiper motor at **STOP** position
8-GROUND : Approx. **12** volts with ignition SW on and wiper and washer SW at **HIGH** position
11-2 : Continuity with washer SW on

W3 WIPER MOTOR

1-2 : Closed unless wiper motor at **STOP** position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C15	34	W1	33 (3RZ-FE, 2RZ-FE)	W3	33 (3RZ-FE, 2RZ-FE)
W1	31 (5VZ-FE)	W3	31 (5VZ-FE)		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
3D	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3F		

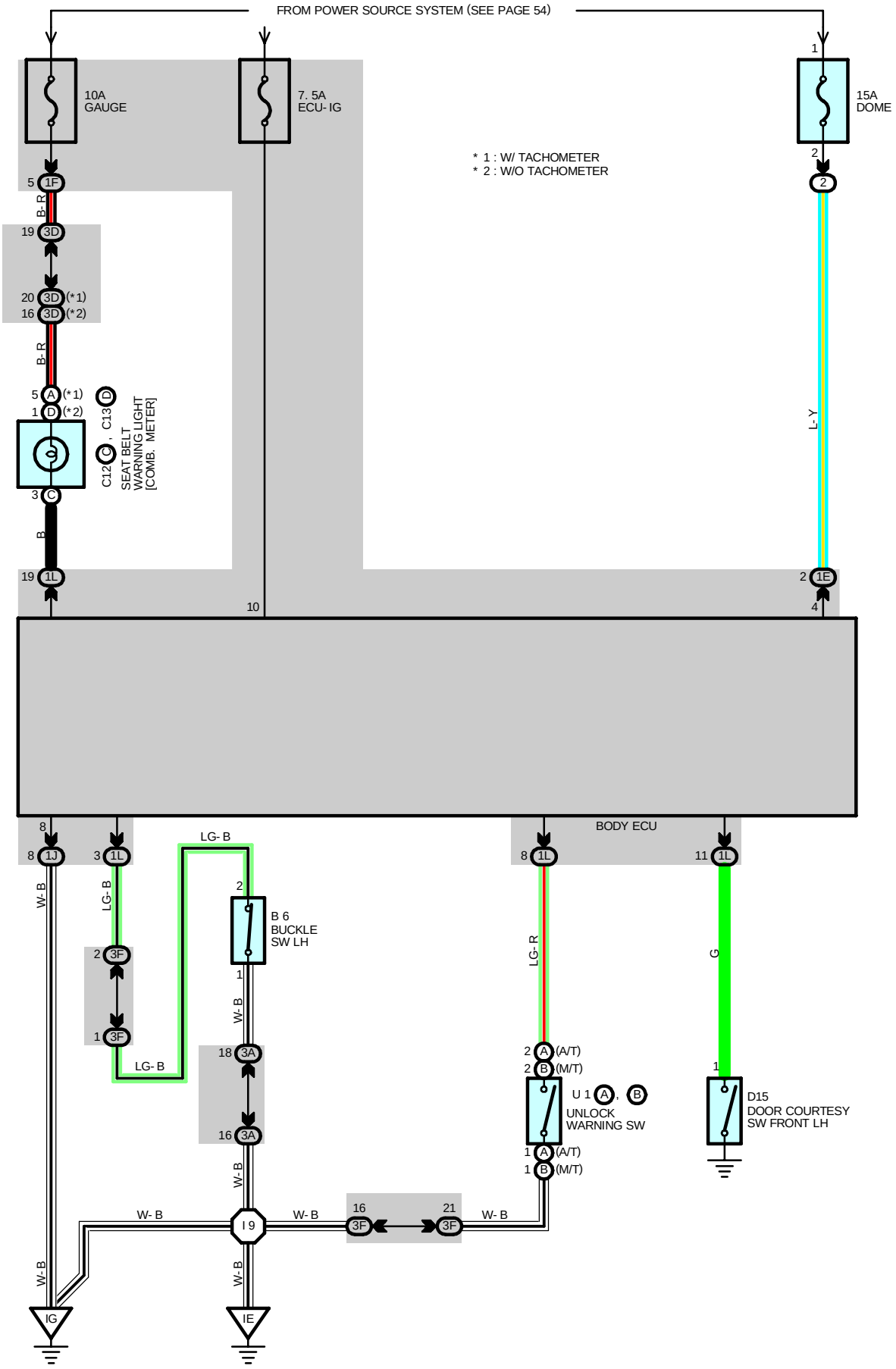
: GROUND POINTS

Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I16	44	Cowl Wire

KEY REMINDER AND SEAT BELT WARNING



SYSTEM OUTLINE

Current always flows to TERMINAL 4 of the body ECU through the DOME fuse.

1. SEAT BELT WARNING SYSTEM

When the ignition SW is turned on, current flows from the ECU-IG fuse to TERMINAL 10 of the body ECU. At the same time, current flows to the ECU from the GAUGE fuse through the seat belt warning light. This current activates the body ECU and, for approx. 4-8 seconds, the current flowing through the warning light flows from ECU to TERMINAL 8 to GROUND, causing the warning light to light up. At the same time as the warning light lights up, a buckle SW LH on signal is input to the body ECU, the current flowing from TERMINAL 4 of the body ECU flows to TERMINAL 8 to GROUND and the seat belt warning buzzer sounds for approx. 4-8 seconds. However, if the seat belt is put on (Buckle SW LH off) during this period (While the buzzer is sounding), a signal input to the body ECU stops and the current flowing from TERMINAL 4 of the body ECU to TERMINAL 8 to GROUND is cut, causing the buzzer to stop.

2. KEY REMINDER SYSTEM

With the ignition key inserted in the key cylinder (Unlock warning SW on), the ignition SW still off and front LH door open (Door courtesy SW on), a signal is input to the body ECU, the body ECU operates and current flows from TERMINAL 10 of the ECU to TERMINAL 8 to GROUND and the key reminder buzzer sounds.

SERVICE HINTS

B6 BUCKLE SW LH

1-2 : Open with driver's seat belt in use

D15 DOOR COURTESY SW FRONT LH

1-GROUND : Closed with LH door open

BODY ECU

10-GROUND : Approx. **12** volts with ignition SW on
4-GROUND : Always approx. **12** volts
8-GROUND : Always continuity

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
B6	36 (Double Cab)	C13 D	34	U1 B	35
	37 (Except Double Cab)	D15	34		
C12 C	34	U1 A	35		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1J		
1L	22	
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3D		
3F		

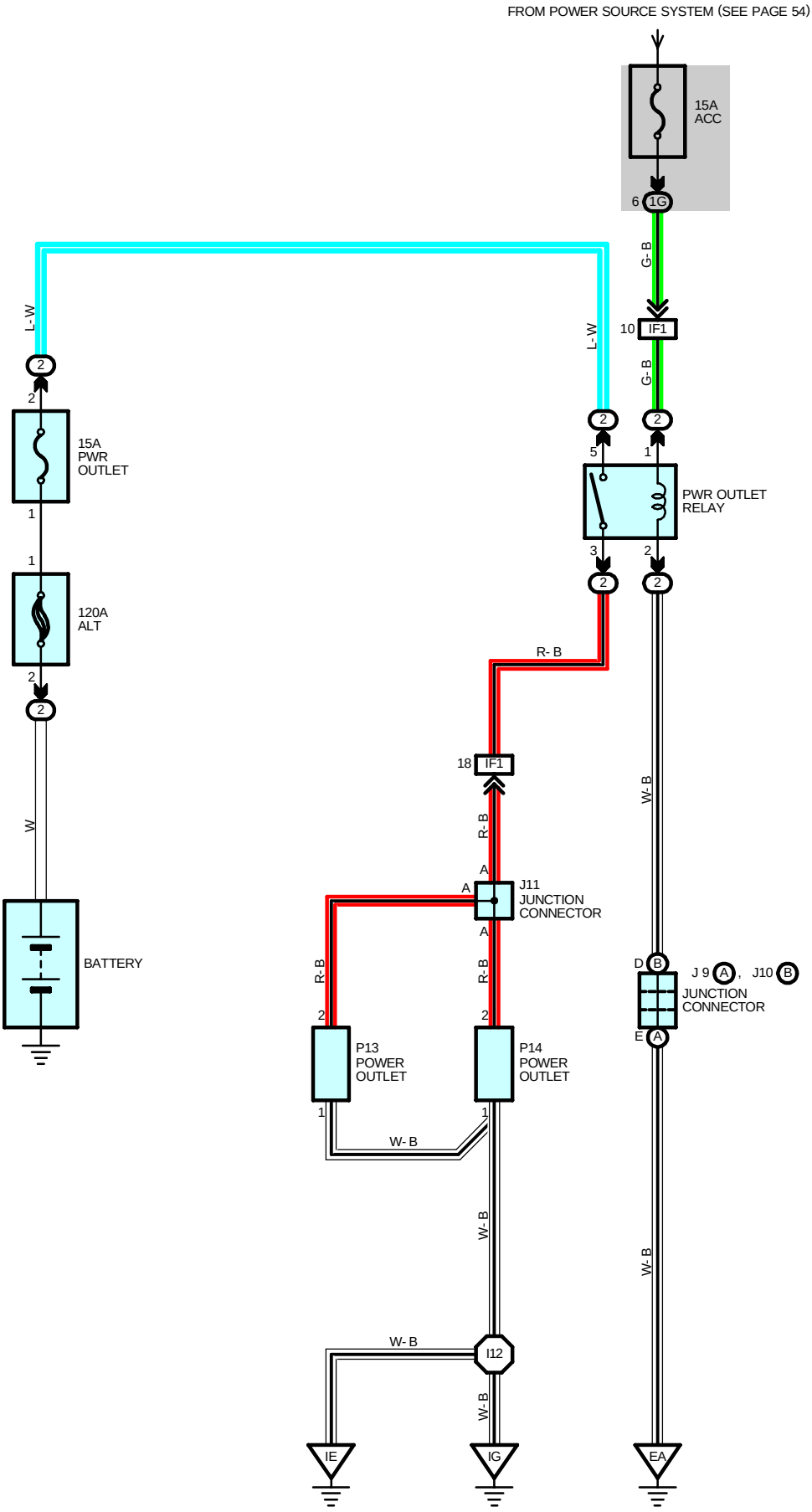
: GROUND POINTS

Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire			

POWER OUTLET



SERVICE HINTS

P13, P14 POWER OUTLET

2-GROUND : Approx. **12** volts with the ignition SW at **ACC** or **ON** position

1-GROUND : Always continuity

: PARTS LOCATION

Code		See Page	Code		See Page	Code	See Page
J9	A	31 (5VZ-FE)	J10	B	33 (3RZ-FE, 2RZ-FE)	P14	35
		33 (3RZ-FE, 2RZ-FE)	J11		35		
J10	B	31 (5VZ-FE)	P13		35		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	23	Cowl Wire and J/B No.1 (Lower Finish Panel)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)

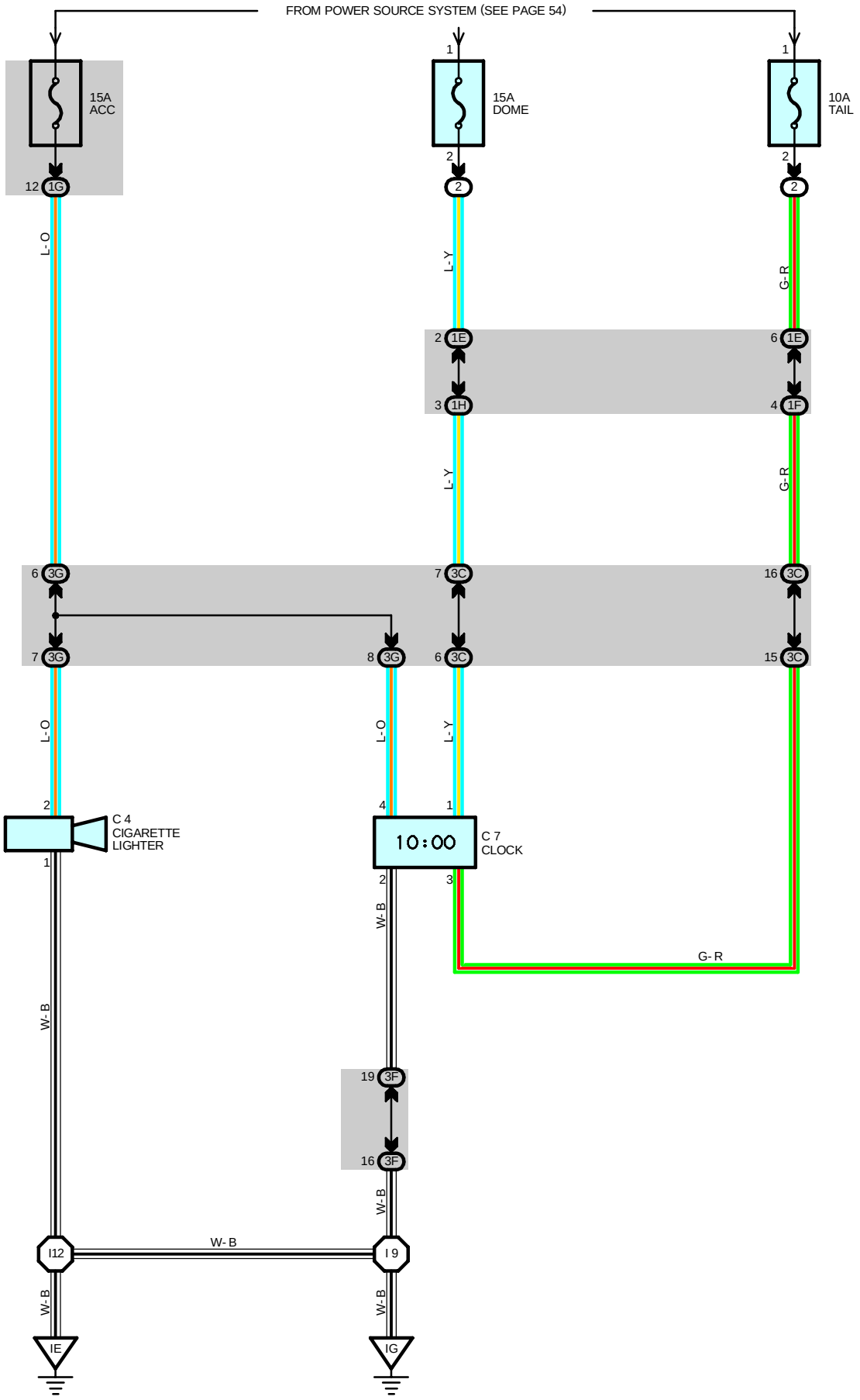
: GROUND POINTS

Code	See Page	Ground Points Location
EA	40 (5VZ-FE)	Front Left Fender
	42 (3RZ-FE, 2RZ-FE)	
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I12	44	Cowl Wire			

CIGARETTE LIGHTER AND CLOCK



SERVICE HINTS

C4 CIGARETTE LIGHTER

2-GROUND : Approx. **12** volts with ignition SW at **ON** and **ACC** position
1-GROUND : Always continuity

C7 CLOCK

1-GROUND : Always approx. **12** volts (Power for clock)
4-GROUND : Approx. **12** volts with ignition SW at **ON** or **ACC** position (Power for indication)
3-GROUND : Approx. **12** volts with light control SW at **TAIL** or **HEAD** position (Signal of indication)
2-GROUND : Always continuity

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C4	34	C7	34		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

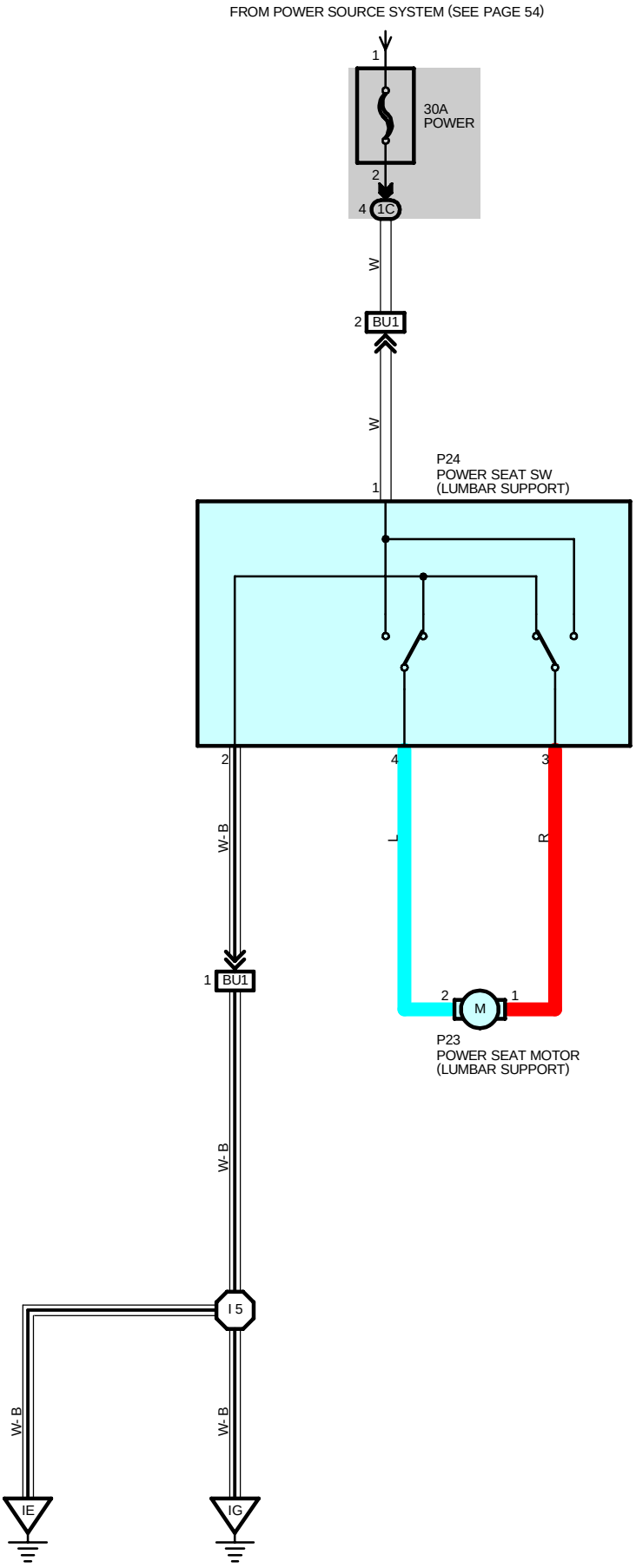
Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1G		
1H		
3C	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3F		
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

: GROUND POINTS

Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I12	44	Cowl Wire


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
1
30A
POWER
2
4
1C
W
2
BU1
W
P24
POWER SEAT SW
(LUMBAR SUPPORT)
1
2
4
3
W-B
L
R
1
BU1
2
M
1
P23
POWER SEAT MOTOR
(LUMBAR SUPPORT)
W-B
I 5
W-B
W-B
IE
IG

SERVICE HINTS

P24 POWER SEAT SW (LUMBAR SUPPORT)

1-GROUND : Always approx. **12** volts

2-GROUND : Always continuity

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
P23	38	P24	38		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	23	Cowl Wire and J/B No.1 (Lower Finish Panel)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

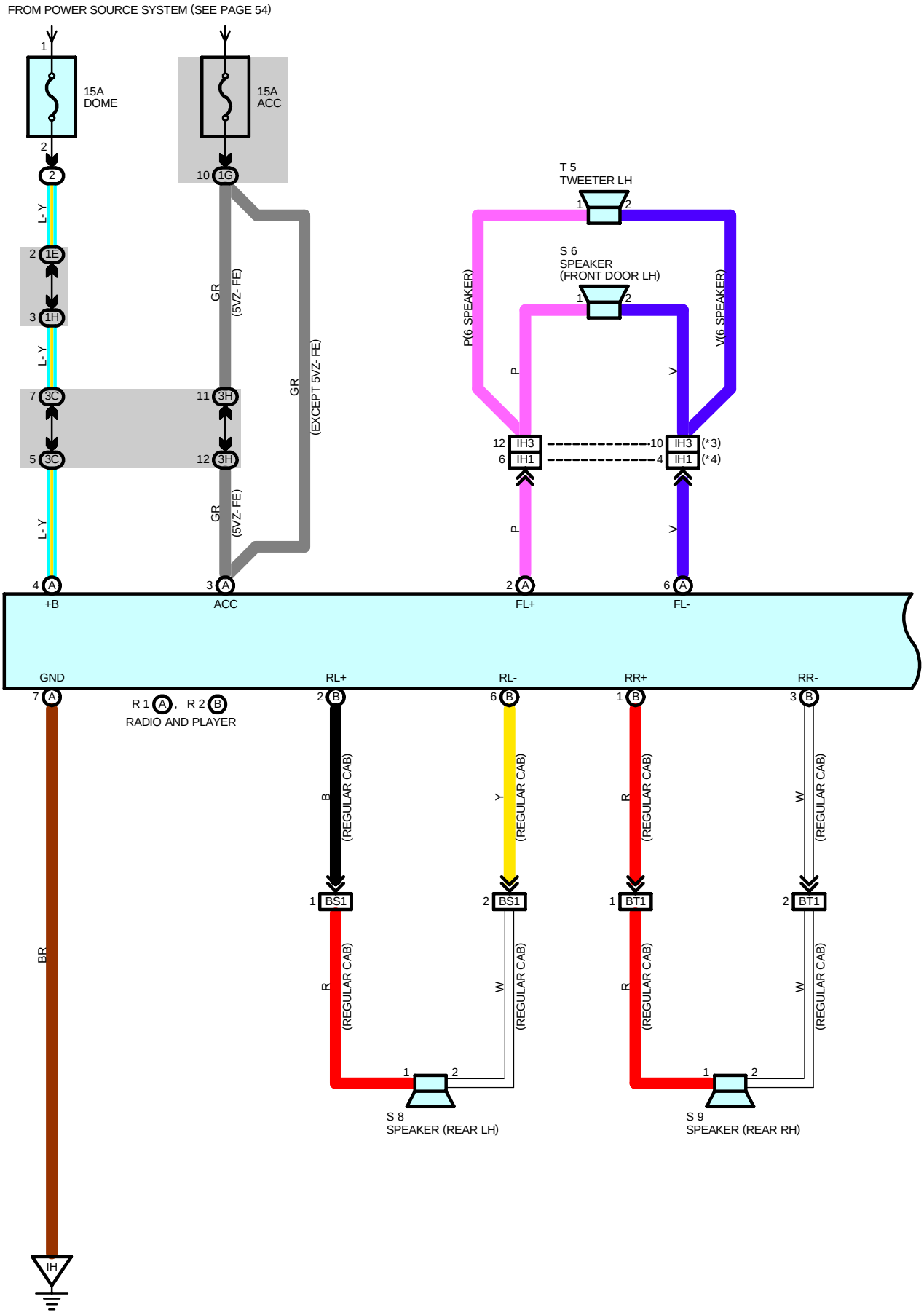
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BU1	50	Cowl Wire and Seat No.1 Wire (Under the Driver's Seat)

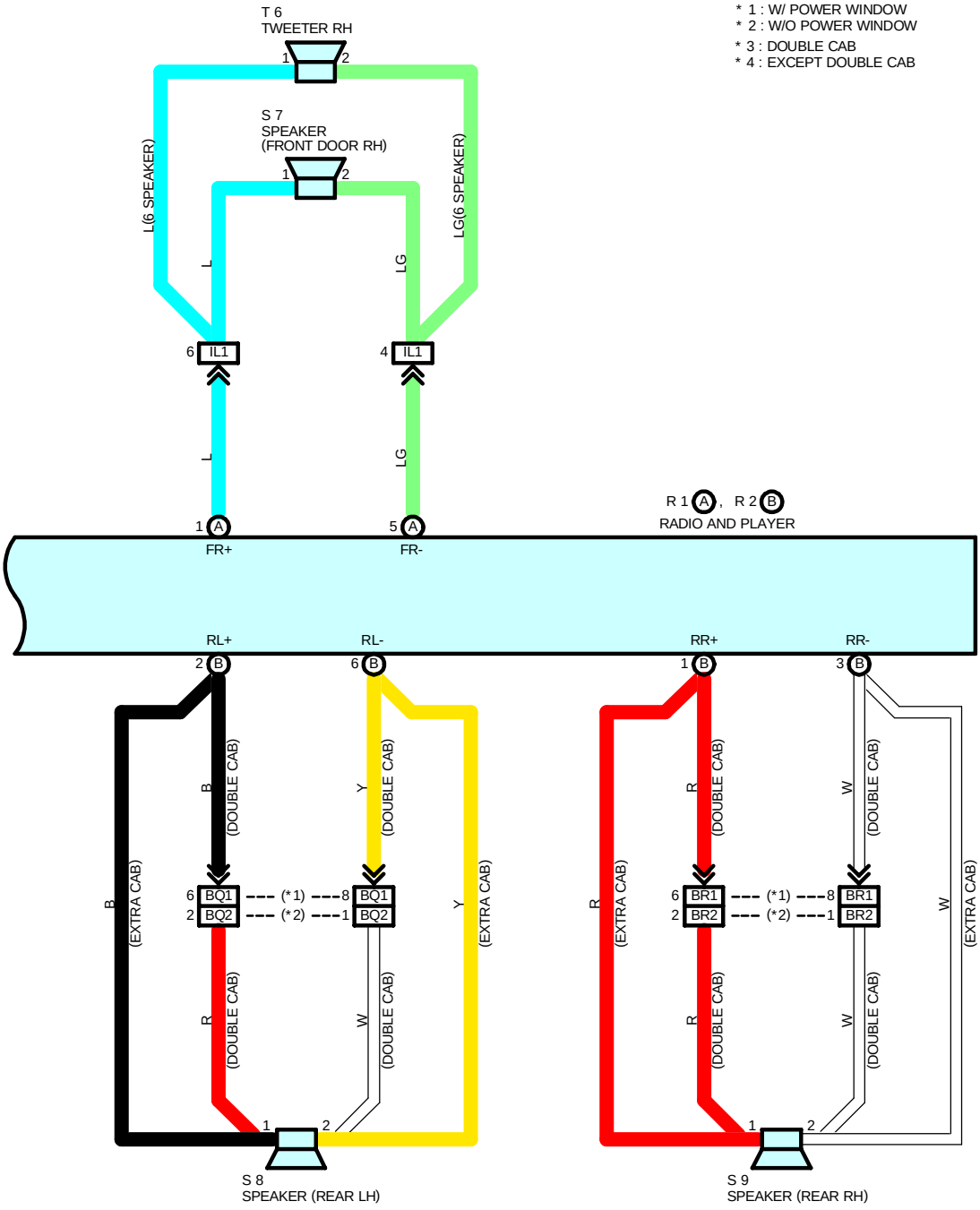
: GROUND POINTS

Code	See Page	Ground Points Location
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I5	44	Cowl Wire			


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
15A DOME
15A ACC
T 5 TWEETER LH
S 6 SPEAKER (FRONT DOOR LH)
P(6 SPEAKER)
V(6 SPEAKER)
L-Y
GR (5VZ-FE)
GR (EXCEPT 5VZ-FE)
P
V
IH3
IH1
(*3)
(*4)
+B
ACC
FL+
FL-
GND
R 1 A, R 2 B
RADIO AND PLAYER
RL+
RL-
RR+
RR-
B (REGULAR CAB)
Y (REGULAR CAB)
R (REGULAR CAB)
W (REGULAR CAB)
BS1
BT1
BR
IH
S 8 SPEAKER (REAR LH)
S 9 SPEAKER (REAR RH)


T 6
TWEETER RH
S 7
SPEAKER
(FRONT DOOR RH)
L(6 SPEAKER)
LG(6 SPEAKER)
L
LG
6 IL1
4 IL1
1 A
5 A
FR+
FR-
R 1 A , R 2 B
RADIO AND PLAYER
RL+
RL-
RR+
RR-
2 B
6 B
1 B
3 B
B (EXTRA CAB)
B (DOUBLE CAB)
Y (DOUBLE CAB)
Y (EXTRA CAB)
R (EXTRA CAB)
R (DOUBLE CAB)
W (DOUBLE CAB)
W (EXTRA CAB)
6 BQ1
2 BQ2
(*1)
(*2)
8 BQ1
1 BQ2
6 BR1
2 BR2
8 BR1
1 BR2
R (DOUBLE CAB)
W (DOUBLE CAB)
1
2
S 8
SPEAKER (REAR LH)
S 9
SPEAKER (REAR RH)
* 1 : W/ POWER WINDOW
* 2 : W/O POWER WINDOW
* 3 : DOUBLE CAB
* 4 : EXCEPT DOUBLE CAB

RADIO AND PLAYER

SERVICE HINTS

R1 (A) RADIO AND PLAYER

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

: PARTS LOCATION

Code		See Page	Code	See Page	Code	See Page
R1	A	35	S7	37 (Except Double Cab)	T5	36 (Double Cab)
R2	B	35	S8	36 (Double Cab)		37 (Except Double Cab)
S6		36 (Double Cab)		37 (Except Double Cab)	T6	36 (Double Cab)
		37 (Except Double Cab)	S9	36 (Double Cab)		37 (Except Double Cab)
S7		36 (Double Cab)		37 (Except Double Cab)		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1G	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1H		
3C	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3H	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

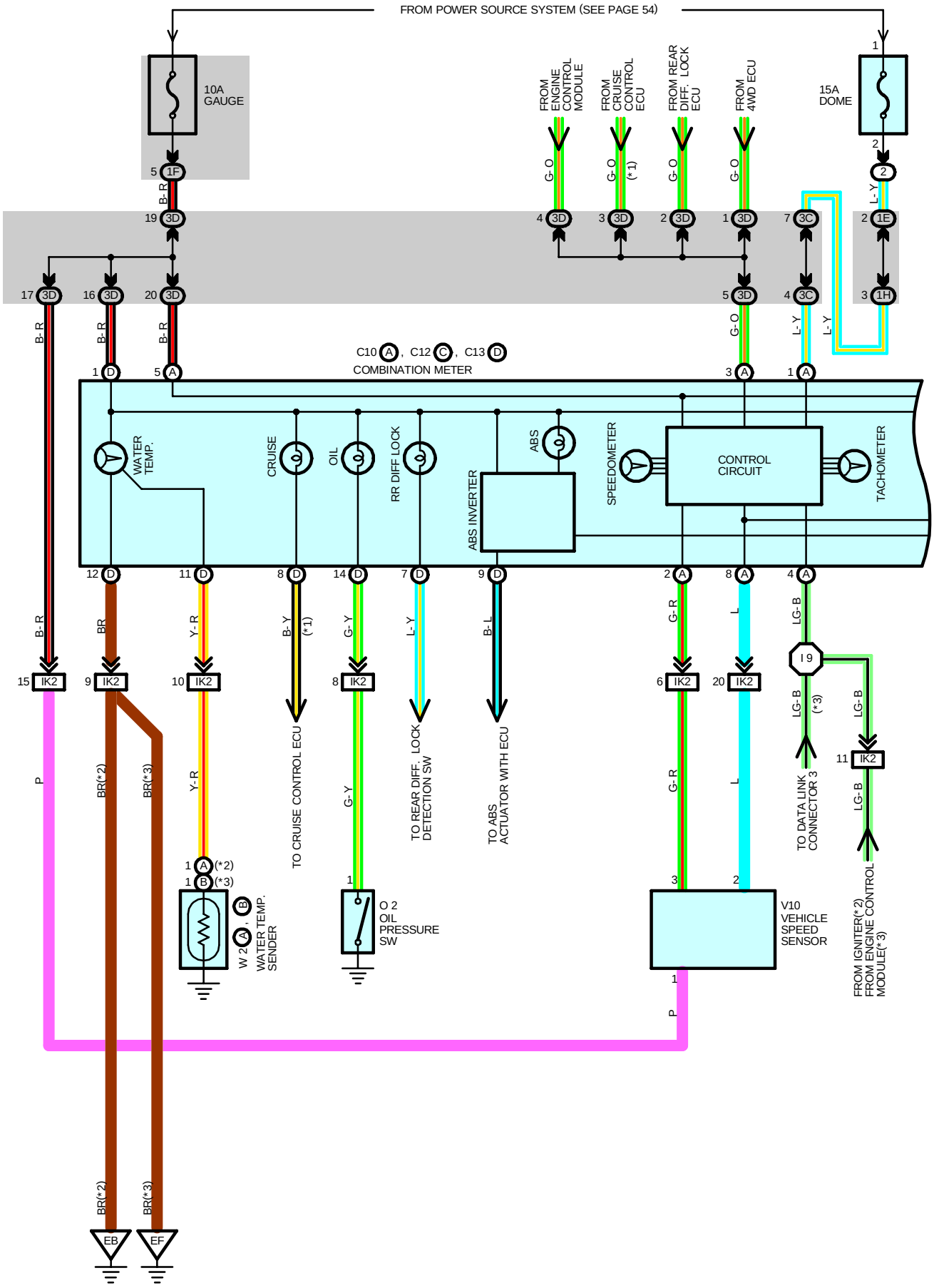
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IH1	44	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IH3		
IL1	44	Front Door RH Wire and Cowl Wire (Right Kick Panel)
BQ1	46 (Double Cab)	Rear Door No.2 Wire and Cowl Wire (Under the Left Center Pillar)
BQ2		
BR1	46 (Double Cab)	Rear Door No.1 Wire and Cowl Wire (Under the Right Center Pillar)
BR2		
BS1	48 (Except Double Cab)	Rear Speaker LH Wire and Cowl Wire (Under the Left Center Pillar)
BT1	48 (Except Double Cab)	Rear Speaker RH Wire and Cowl Wire (Under the Right Center Pillar)

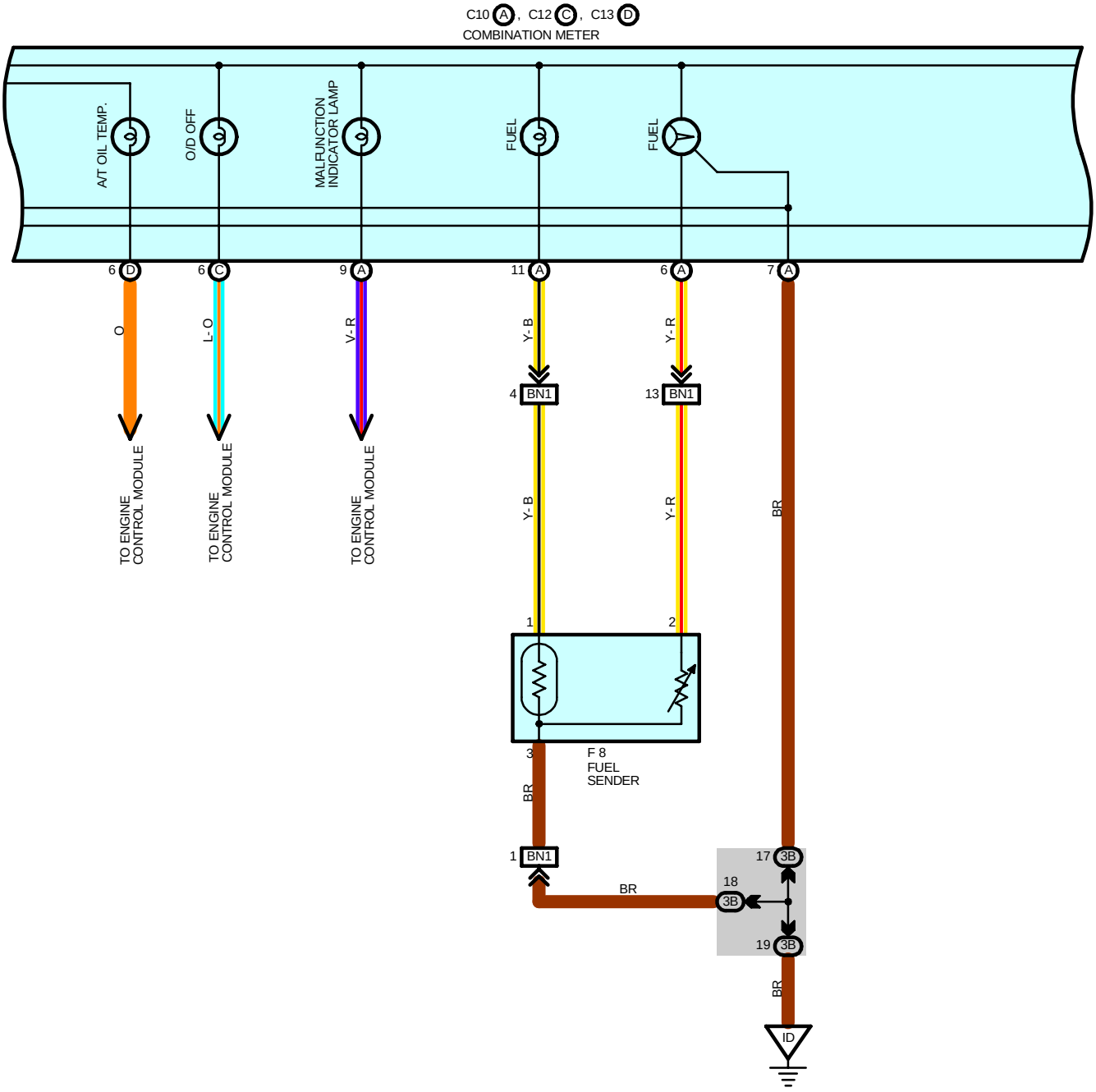
: GROUND POINTS

Code	See Page	Ground Points Location
IH	44	Right Kick Panel

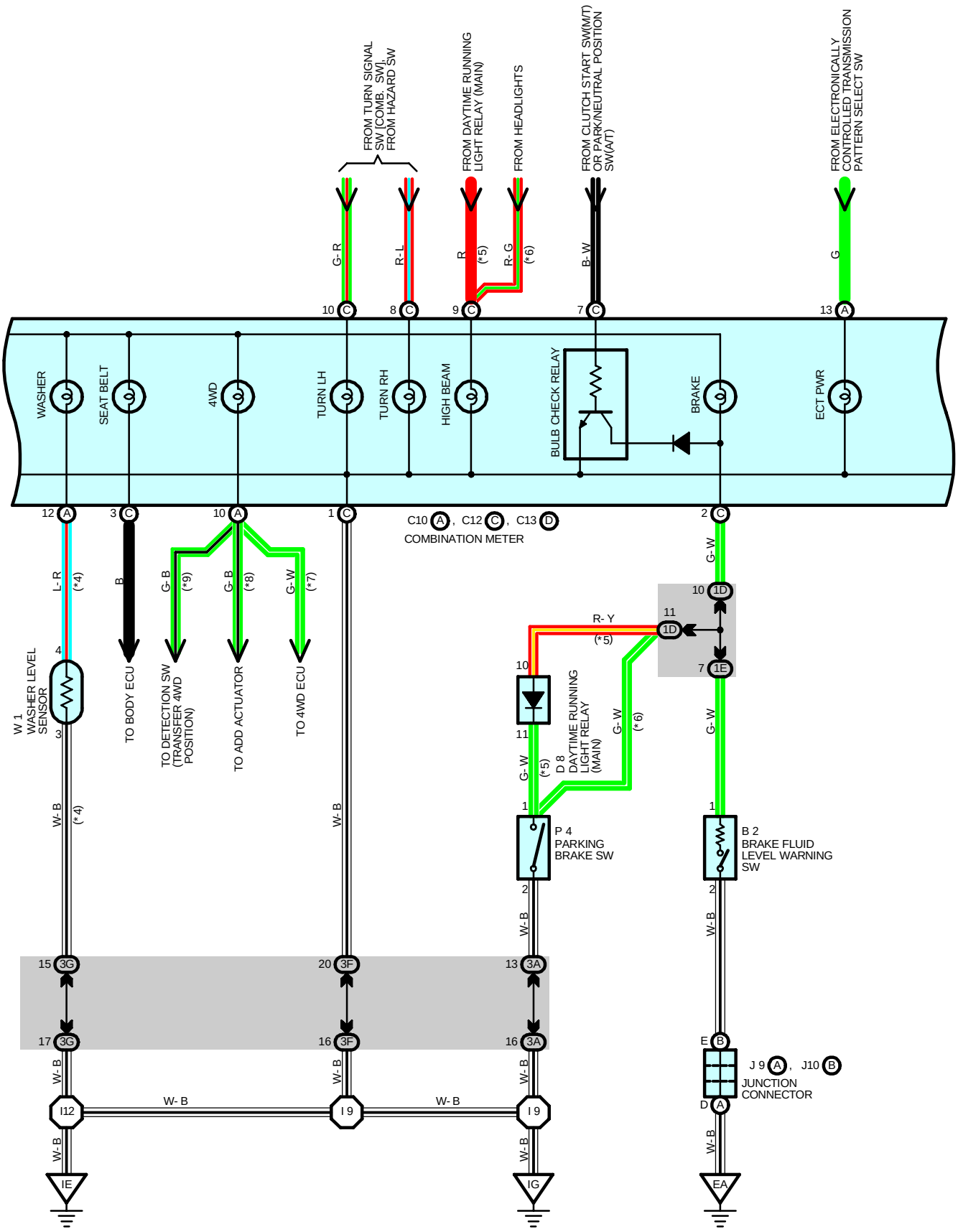
COMBINATION METER (w/ TACHOMETER)



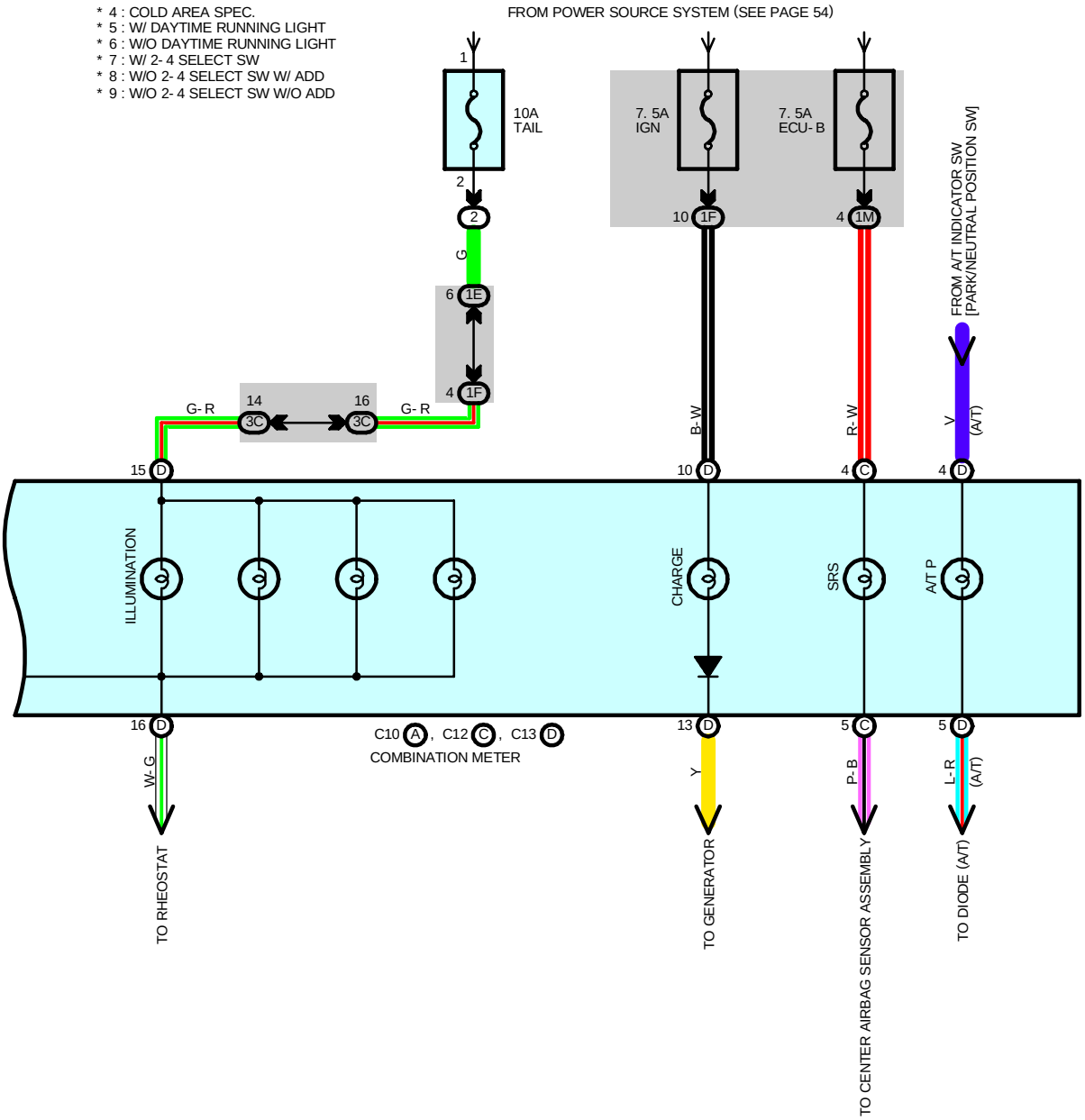
* 1 : W/ CRUISE CONTROL
* 2 : 5VZ- FE
* 3 : 3RZ- FE, 2RZ- FE



COMBINATION METER (w/ TACHOMETER)



* 4 : COLD AREA SPEC.
* 5 : W/ DAYTIME RUNNING LIGHT
* 6 : W/O DAYTIME RUNNING LIGHT
* 7 : W/ 2- 4 SELECT SW
* 8 : W/O 2- 4 SELECT SW W/ ADD
* 9 : W/O 2- 4 SELECT SW W/O ADD



COMBINATION METER (w/ TACHOMETER)

SERVICE HINTS

B2 BRAKE FLUID LEVEL WARNING SW

1-2 : Closed with float down

C10 (A), C12 (C), C13 (D) COMBINATION METER

(A) 5, (D)1-GROUND : Approx. **12** volts with ignition SW on

(A) 7, (C) 1, (D)12-GROUND : Always continuity

P4 PARKING BRAKE SW

1-2 : Closed with parking brake lever pulled up

: PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
B2		30 (5VZ-FE)	F8		37 (Except Double Cab)	P4		35
		32 (3RZ-FE, 2RZ-FE)	J9	A	31 (5VZ-FE)	V10		31 (5VZ-FE)
C10	A	34			33 (3RZ-FE, 2RZ-FE)			33 (3RZ-FE, 2RZ-FE)
C12	C	34	J10	B	31 (5VZ-FE)	W1		31 (5VZ-FE)
C13	D	34			33 (3RZ-FE, 2RZ-FE)			33 (3RZ-FE, 2RZ-FE)
D8		34	O2		31 (5VZ-FE)	W2	A	31 (5VZ-FE)
F8		36 (Double Cab)			33 (3RZ-FE, 2RZ-FE)		B	33 (3RZ-FE, 2RZ-FE)

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1H		
1M		
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3B		
3C		
3D		
3F		
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
BN1	46 (Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	48 (Except Double Cab)	

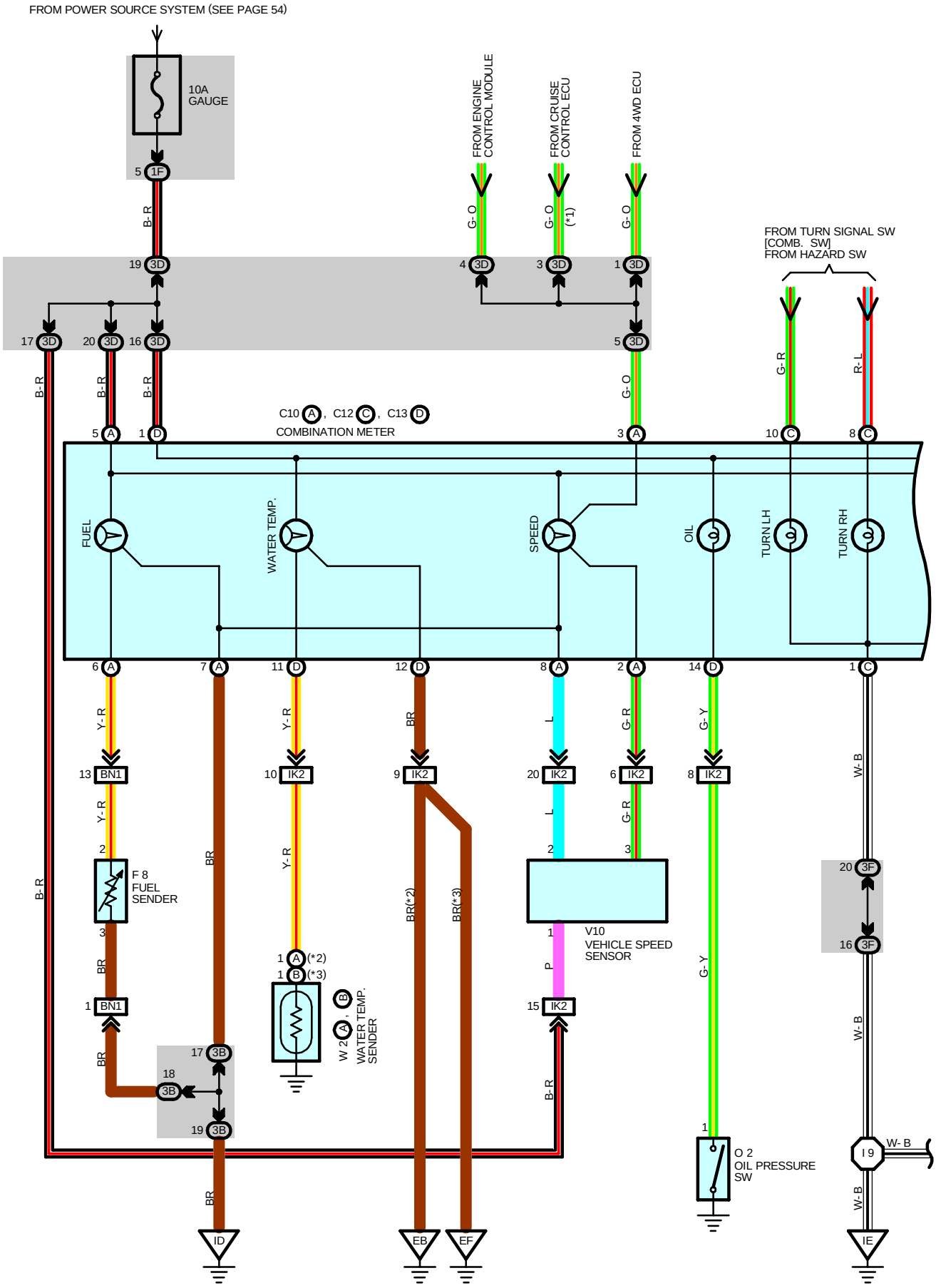
▽ : GROUND POINTS

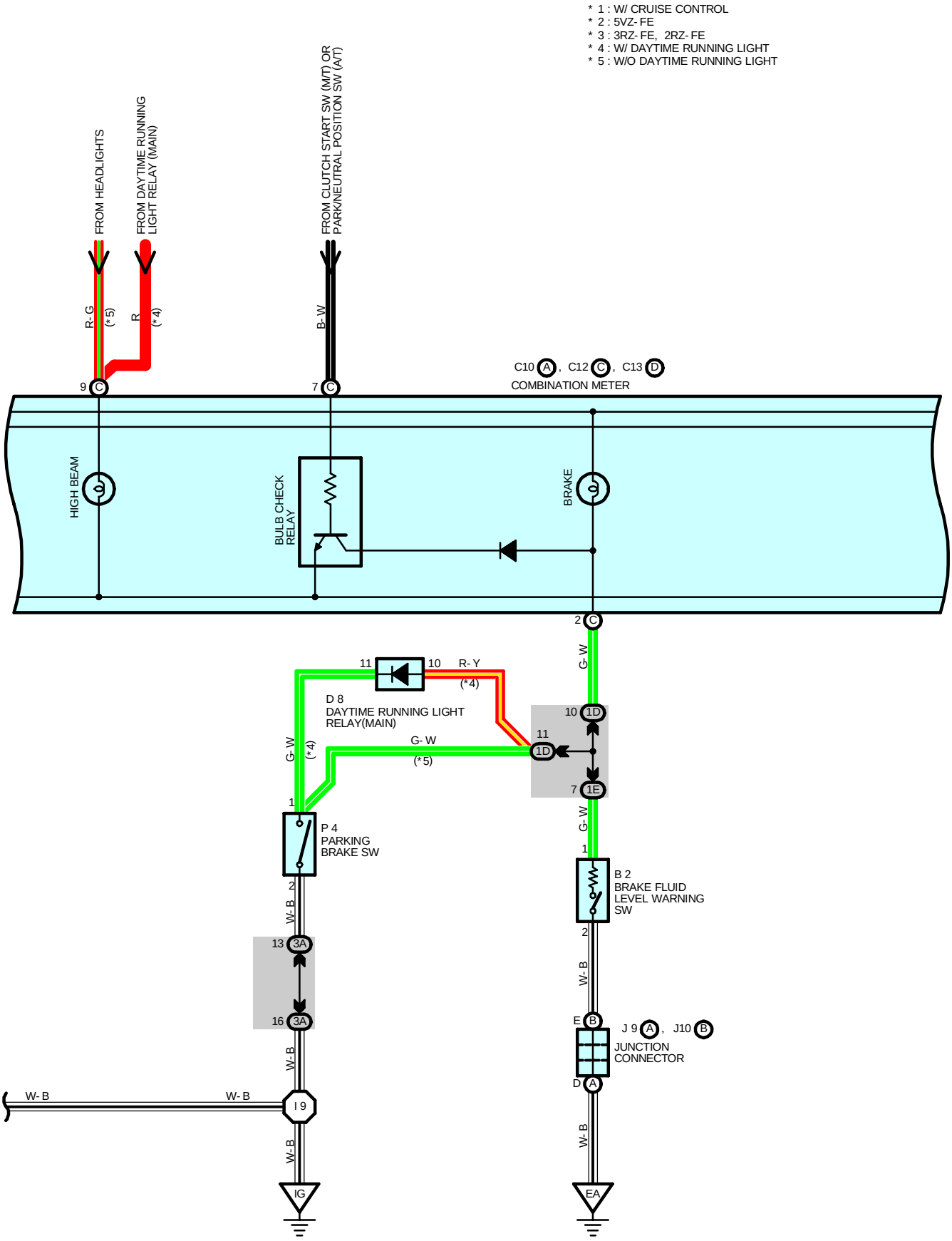
Code	See Page	Ground Points Location
EA	40 (5VZ-FE)	Front Left Fender
	42 (3RZ-FE, 2RZ-FE)	
EB	40 (5VZ-FE)	Near the Throttle Body
EF	42 (3RZ-FE, 2RZ-FE)	Ignition Coil Braket
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

⬡ : SPLICE POINTS

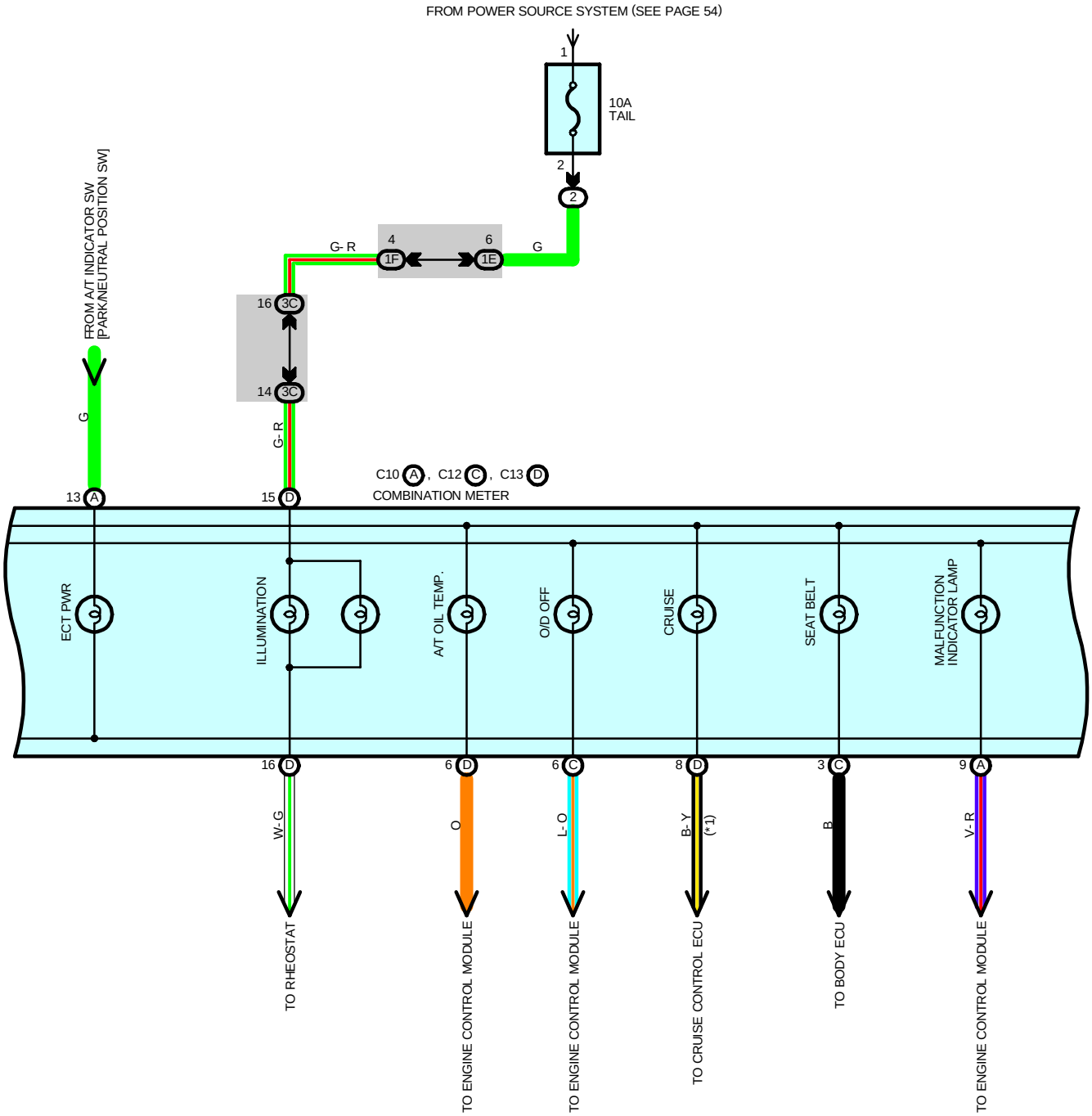
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I12	44	Cowl Wire

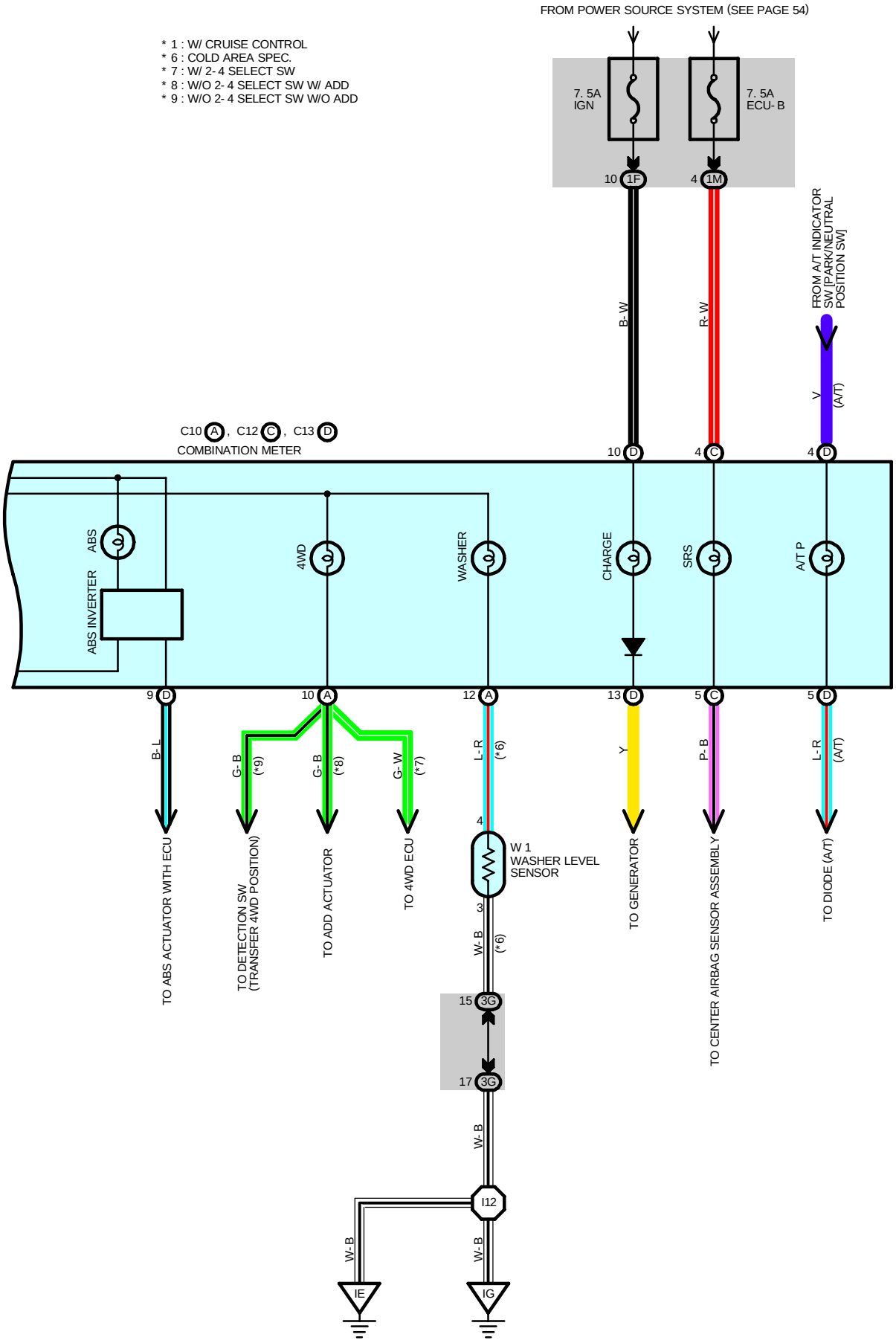
COMBINATION METER (w/o TACHOMETER)




* 1 : W/ CRUISE CONTROL
* 2 : 5VZ- FE
* 3 : 3RZ- FE, 2RZ- FE
* 4 : W/ DAYTIME RUNNING LIGHT
* 5 : W/O DAYTIME RUNNING LIGHT
FROM HEADLIGHTS
FROM DAYTIME RUNNING LIGHT RELAY (MAIN)
FROM CLUTCH START SW (M/T) OR PARK/NEUTRAL POSITION SW (A/T)
R- G (*5)
R (*4)
B- W
C10 A , C12 C , C13 D
COMBINATION METER
HIGH BEAM
BULB CHECK RELAY
BRAKE
D 8
DAYTIME RUNNING LIGHT RELAY(MAIN)
R- Y (*4)
G- W
G- W (*4)
G- W (*5)
P 4
PARKING BRAKE SW
B 2
BRAKE FLUID LEVEL WARNING SW
W- B
J 9 A , J10 B
JUNCTION CONNECTOR
I 9
IG
EA

COMBINATION METER (w/o TACHOMETER)




* 1 : W/ CRUISE CONTROL
* 6 : COLD AREA SPEC.
* 7 : W/ 2- 4 SELECT SW
* 8 : W/O 2- 4 SELECT SW W/ ADD
* 9 : W/O 2- 4 SELECT SW W/O ADD
FROM POWER SOURCE SYSTEM (SEE PAGE 54)
7. 5A IGN
7. 5A ECU- B
10 1F
4 1M
B- W
R- W
FROM A/T INDICATOR SW [PARK/NEUTRAL POSITION SW]
Y (A/T)
C10 A , C12 C , C13 D
COMBINATION METER
10 D
4 C
4 D
ABS
ABS INVERTER
4WD
WASHER
CHARGE
SRS
A/T P
9 D
10 A
12 A
13 D
5 C
5 D
B- L
G- B (*9)
G- B (*8)
G- W (*7)
L- R (*6)
Y
P- B
L- R (A/T)
TO ABS ACTUATOR WITH ECU
TO DETECTION SW (TRANSFER 4WD POSITION)
TO ADD ACTUATOR
TO 4WD ECU
4
W 1
WASHER LEVEL SENSOR
3
W- B (*6)
TO GENERATOR
TO CENTER AIRBAG SENSOR ASSEMBLY
TO DIODE (A/T)
15 3G
17 3G
W- B
I12
W- B
W- B
IE
IG

COMBINATION METER (w/o TACHOMETER)

SERVICE HINTS

B2 BRAKE FLUID LEVEL WARNING SW

1-2 : Closed with float down

C10 (A), C12 (C), C13 (D) COMBINATION METER

(A) 5, (D)1-GROUND : Approx. **12** volts with ignition SW on

(A) 7, (C) 1, (D)12-GROUND : Always continuity

P4 PARKING BRAKE SW

1-2 : Closed with parking brake lever pulled up

: PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
B2		30 (5VZ-FE)	F8		37 (Except Double Cab)	P4		35
		32 (3RZ-FE, 2RZ-FE)	J9	A	31 (5VZ-FE)	V10		31 (5VZ-FE)
C10	A	34			33 (3RZ-FE, 2RZ-FE)			33 (3RZ-FE, 2RZ-FE)
C12	C	34	J10	B	31 (5VZ-FE)	W1		31 (5VZ-FE)
C13	D	34			33 (3RZ-FE, 2RZ-FE)			33 (3RZ-FE, 2RZ-FE)
D8		34	O2		31 (5VZ-FE)	W2	A	31 (5VZ-FE)
F8		36 (Double Cab)			33 (3RZ-FE, 2RZ-FE)		B	33 (3RZ-FE, 2RZ-FE)

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1M		
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3B		
3C		
3D		
3F		
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

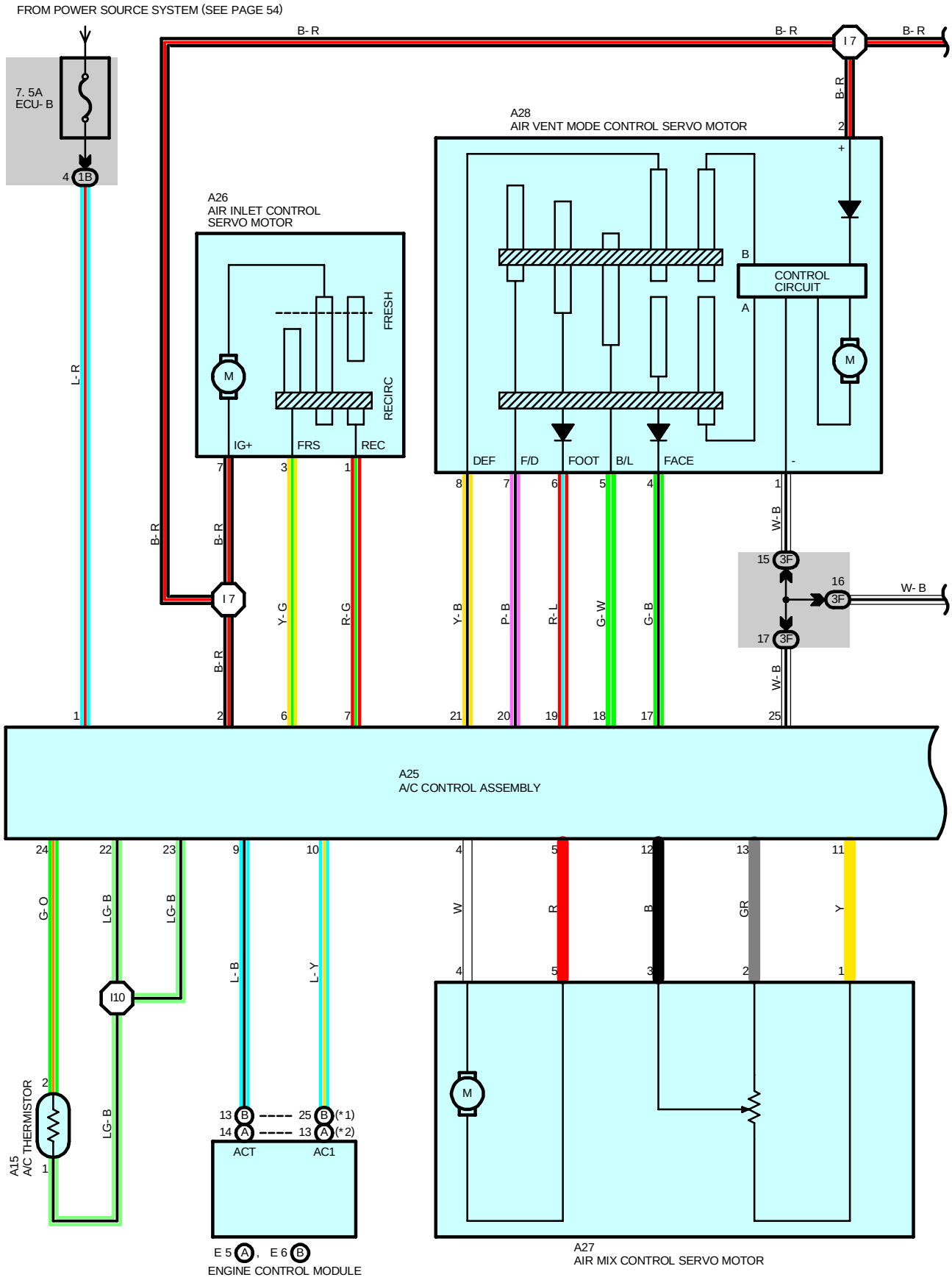
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
BN1	46 (Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	48 (Except Double Cab)	

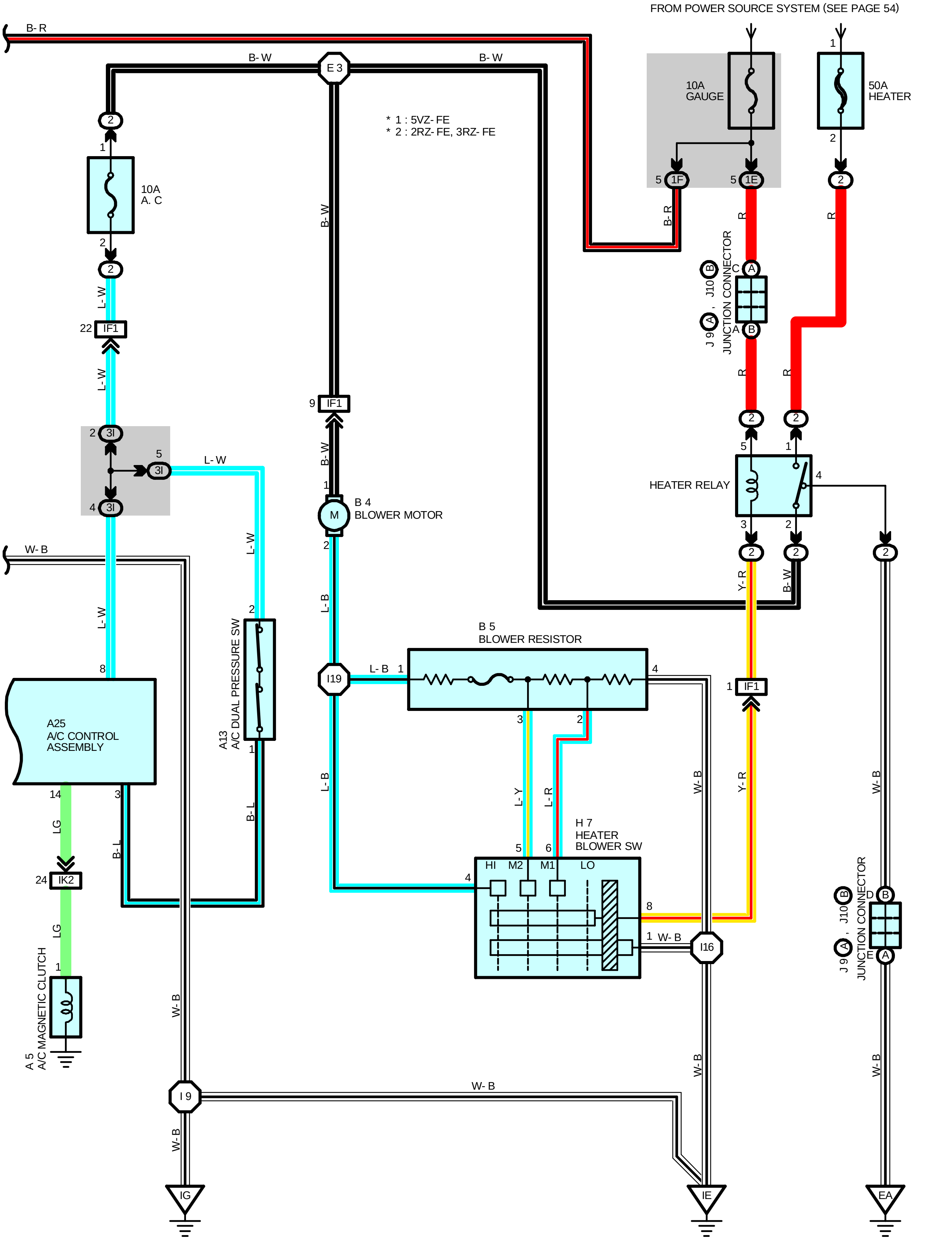
: GROUND POINTS

Code	See Page	Ground Points Location
EA	40 (5VZ-FE)	Front Left Fender
	42 (3RZ-FE, 2RZ-FE)	
EB	40 (5VZ-FE)	Near the Throttle Body
EF	42 (3RZ-FE, 2RZ-FE)	Ignition Coil Braket
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I12	44	Cowl Wire


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
B- R
B- R
B- R
I 7
7. 5A
ECU- B
4
1B
L- R
A28
AIR VENT MODE CONTROL SERVO MOTOR
2
+
B
CONTROL
CIRCUIT
A
M
A26
AIR INLET CONTROL
SERVO MOTOR
FRESH
RECIRC
IG+
FRS
REC
7
3
1
DEF
F/D
FOOT
B/L
FACE
-
8
7
6
5
4
1
W- B
15
3F
16
3F
W- B
17
3F
B- R
B- R
B- R
I 7
Y- G
R- G
Y- B
P- B
R- L
G- W
G- B
W- B
1
2
6
7
21
20
19
18
17
25
A25
A/C CONTROL ASSEMBLY
24
22
23
9
10
4
5
12
13
11
G- O
LG- B
LG- B
L- B
L- Y
W
R
B
GR
Y
I10
2
1
A15
A/C THERMISTOR
LG- B
13
B
25
B
(*1)
14
A
13
A
(*2)
ACT
AC1
E 5
A
, E 6
B
ENGINE CONTROL MODULE
M
A27
AIR MIX CONTROL SERVO MOTOR


FROM POWER SOURCE SYSTEM (SEE PAGE 54)
B- R
B- W
E 3
10A GAUGE
50A HEATER
* 1 : 5VZ- FE
* 2 : 2RZ- FE, 3RZ- FE
10A A. C
1F
1E
L- W
IF1
JUNCTION CONNECTOR
J 9 A, J10 B
R
B- W
3I
HEATER RELAY
B 4 BLOWER MOTOR
W- B
L- B
Y- R
A13 A/C DUAL PRESSURE SW
B 5 BLOWER RESISTOR
I19
A25 A/C CONTROL ASSEMBLY
LG
B- L
L- Y
L- R
H 7 HEATER BLOWER SW
HI M2 M1 LO
IK2
I16
A 5 A/C MAGNETIC CLUTCH
I 9
IG
IE
EA

SYSTEM OUTLINE

1. HEATER BLOWER MOTOR OPERATION

With the ignition SW on, the current from the GAUGE fuse flows to TERMINAL 5 of the HEATER relay to TERMINAL 3 to TERMINAL 8 of the heater blower SW.

(Low speed operation)

When the heater blower SW is moved to the low speed position, the current applied to TERMINAL 8 of the heater blower SW flows from TERMINAL 1 to GROUND, causing the HEATER relay to come on. Then the current flowing from the HEATER fuse flows to TERMINAL 1 of the HEATER relay to TERMINAL 2 to TERMINAL 1 of the blower motor to TERMINAL 2 to TERMINAL 1 of the blower resistor to TERMINAL 4 to GROUND, causing the blower motor to rotate.

At this time, current flows against the full resistance of the blower resistor, so the motor rotates slowly at low speed.

(Operation at speed M1, M2)

When the heater blower SW is moved to the speed M1 position, the current applied to TERMINAL 8 of the heater blower SW flows to TERMINAL 1 to GROUND, turning the HEATER relay to on. Then, the same as with low speed, current passes from the blower motor to TERMINAL 1 of the blower resistor to TERMINAL 2 to TERMINAL 6 of the heater blower SW to TERMINAL 1 to GROUND. At this time, the resistance of the blower resistor is less than it is for low speed, so the blower motor rotates faster than it does at low speed. With the heater blower SW in the M2 position, current flowing through the motor flows from TERMINAL 1 of the blower resistor to TERMINAL 3 to TERMINAL 5 of the heater blower SW to TERMINAL 1 to GROUND. At this time, the resistance of the blower resistor is less than for speed M1, so the blower motor rotates faster than for speed M1.

(High speed operation)

With the heater blower SW in high speed position, until the HEATER relay comes on and current flows to the blower motor, operation is the same as for speed M1 and M2. The current passing through the blower motor flows to TERMINAL 4 of the heater blower SW to TERMINAL 1 to GROUND without flowing through the blower resistor, so that the blower motor rotates at the fastest speed, high speed.

2. AIR INLET CONTROL SERVO MOTOR OPERATION

(Switching from FRESH to RECIRC)

With the ignition SW turned on, the current flows from GAUGE fuse to TERMINAL 7 of the air inlet control servo motor to TERMINAL 3 to TERMINAL 6 of the A/C control assembly to TERMINAL 25 to GROUND, the motor rotates and the damper moves to the RECIRC side. When the damper operates with the A/C SW at RECIRC position, the damper position signal is input from TERMINAL 1 of the servo motor to TERMINAL 7 of the A/C control assembly. As a result, current to the servo motor circuit is cut off by the A/C control assembly, so the damper stops at that position.

(Switching from RECIRC to FRESH)

With the ignition SW turned on, when the RECIRC/FRESH SW is switched to the FRESH side, the current flows from TERMINAL 7 of the air inlet control servo motor to TERMINAL 3 to TERMINAL 6 of the A/C control assembly to TERMINAL 25 to GROUND, the motor rotates and the damper stops at that position.

3. AIR VENT MODE CONTROL SERVO MOTOR OPERATION

When the ignition SW turned on, the current flows from GAUGE fuse to TERMINAL 2 of the A/C control assembly.

(Switching from DEF to FACE)

The current flows from TERMINAL 17 of the A/C control assembly to TERMINAL 4 of the air vent mode control servo motor to TERMINAL 8 to TERMINAL 21 of the A/C control assembly to TERMINAL 25 to GROUND. The motor rotates and the damper moves to the FACE side. When the damper operates with the A/C SW at FACE position, the damper position signal is input from TERMINAL 8 of the servo motor to the TERMINAL 21 of the A/C control assembly. As a result, current to the servo motor circuit is cut off by the A/C control assembly, so the damper stops at that position.

(Switching from FACE to DEF)

The current flows from TERMINAL 21 of the A/C control assembly to TERMINAL 8 of the air vent control servo motor to TERMINAL 4 to TERMINAL 17 of the A/C control assembly to TERMINAL 25 to GROUND, the motor rotates and the damper stops at that position.

4. AIR MIX CONTROL SERVO MOTOR CONTROL

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

5. AIR CONDITIONING OPERATION

When the blower SW is set to on, current from the HEATER fuse flows through the HEATER relay (Point side) to A.C fuse to TERMINAL 2 of the A/C dual pressure SW to TERMINAL 1 to TERMINAL 3 of the A/C control assembly. The evaporator temp. signal from the A/C thermistor are all supplied to the A/C control assembly. When the A/C SW is turned on, the A/C SW on signal is sent to activate the A/C control assembly. Current flows from the A/C control assembly to the magnetic clutch, turning the compressor on. The A/C operation is shut off when a signal indicating low evaporator temp., or abnormally high or low refrigerant pressure, is supplied while the engine high speed signal exists. When one of these signals is received, the assembly shuts off the A/C operation.

SERVICE HINTS

HEATER RELAY

1-2 : Closed with ignition SW on and blower SW on.

A13 A/C DUAL PRESSURE SW

1-2 : Open with refrigerant pressure at less than approx. **2.0** kgf/cm^2 (**28.4** psi, **196** kpa) or more than approx. **32** kgf/cm^2 (**455** psi, **3138** kpa).

: PARTS LOCATION

Code	See Page	Code		See Page	Code		See Page
A5	30 (5VZ-FE)	A27		34	H7		35
	32 (3RZ-FE, 2RZ-FE)	A28		34	J9	A	31 (5VZ-FE)
A13	34	B4		34			33 (3RZ-FE, 2RZ-FE)
A15	34	B5		34	J10	B	31 (5VZ-FE)
A25	34	E5	A	35			33 (3RZ-FE, 2RZ-FE)
A26	34	E6	B	35			

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
1E	23	Engine Room Main Wire and J/B No.1 (Lower Finish Panel)
1F	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
3F	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3I	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)

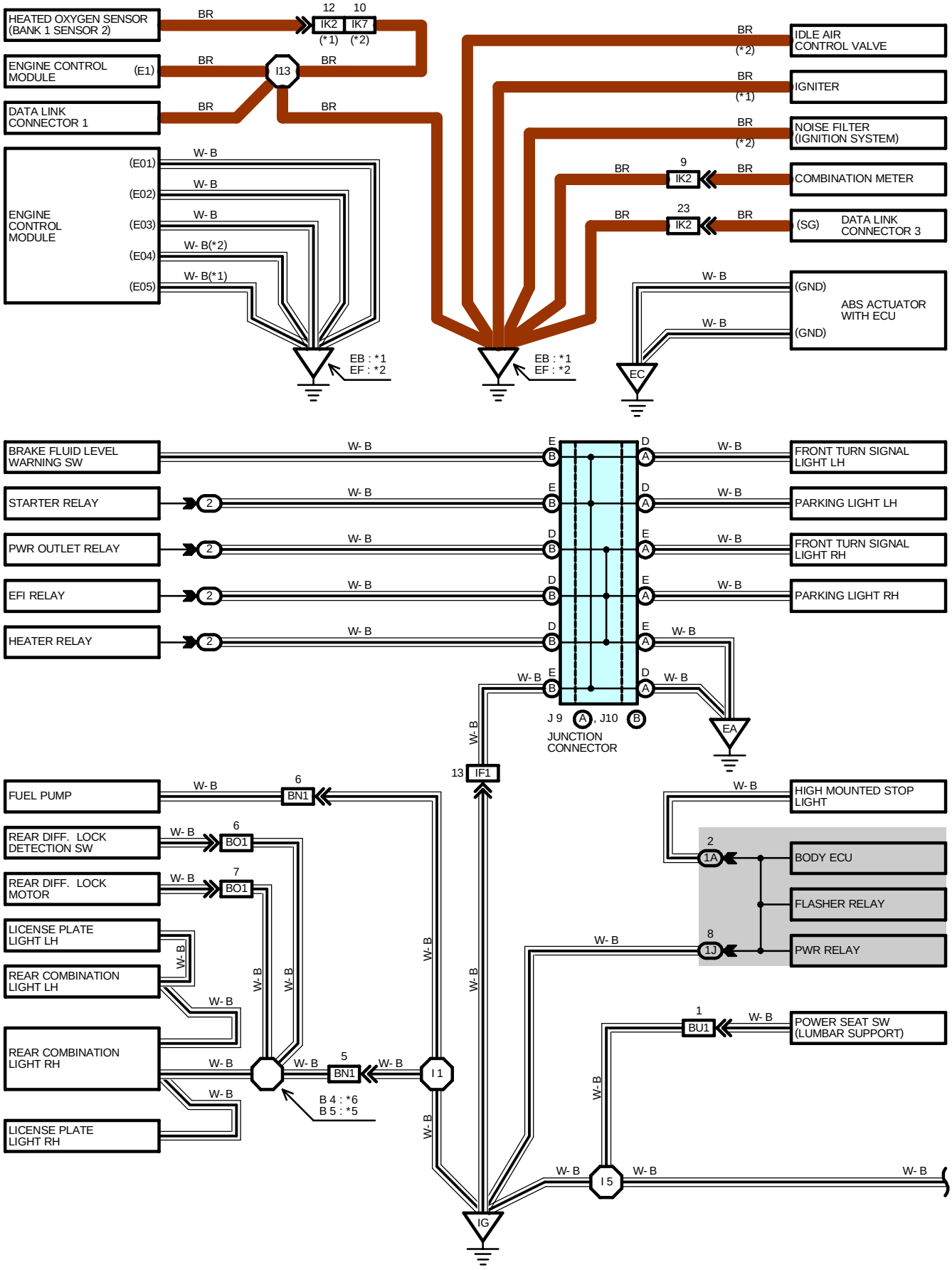
: GROUND POINTS

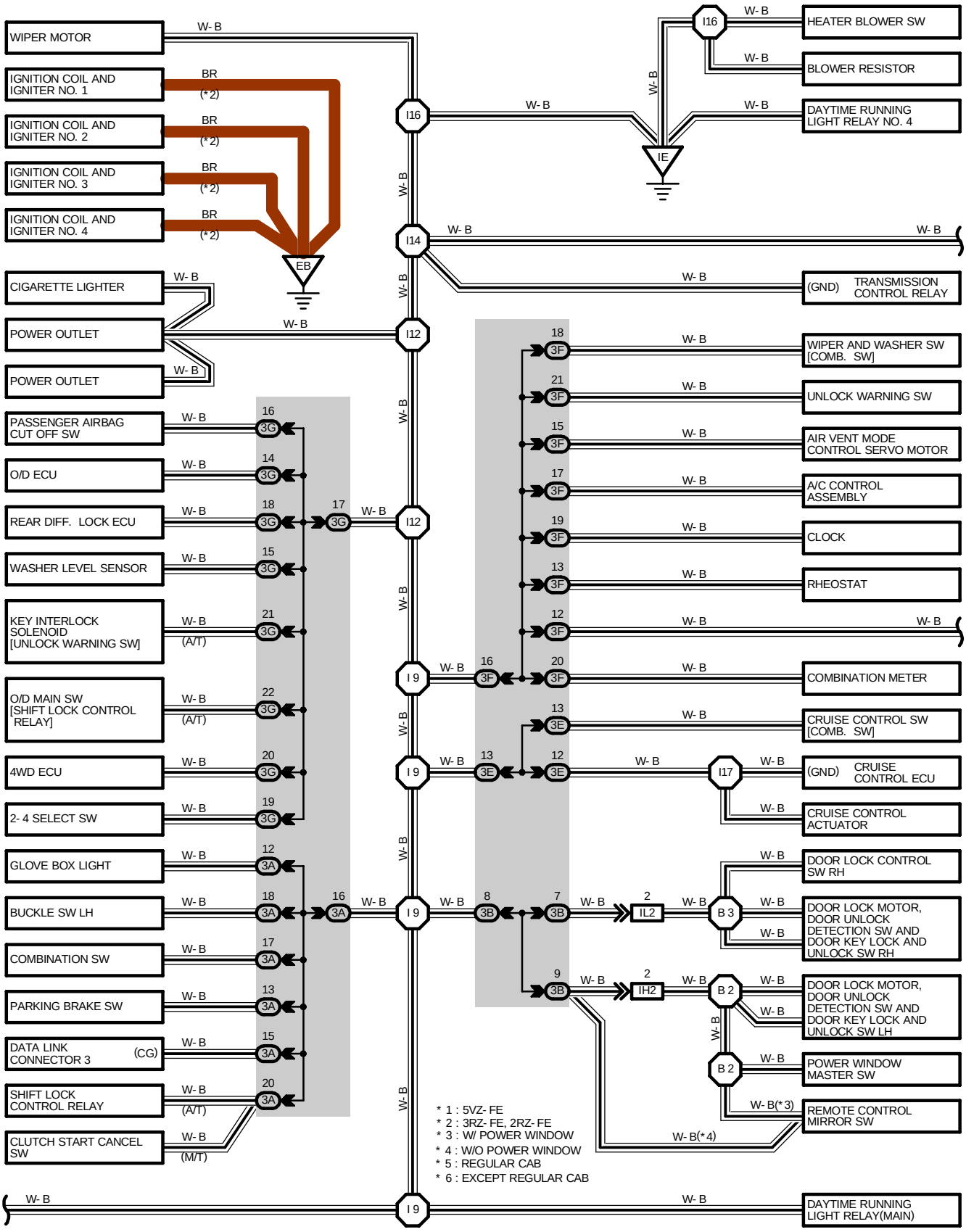
Code	See Page	Ground Points Location
EA	40 (5VZ-FE)	Front Left Fender
	42 (3RZ-FE, 2RZ-FE)	
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

: SPLICE POINTS

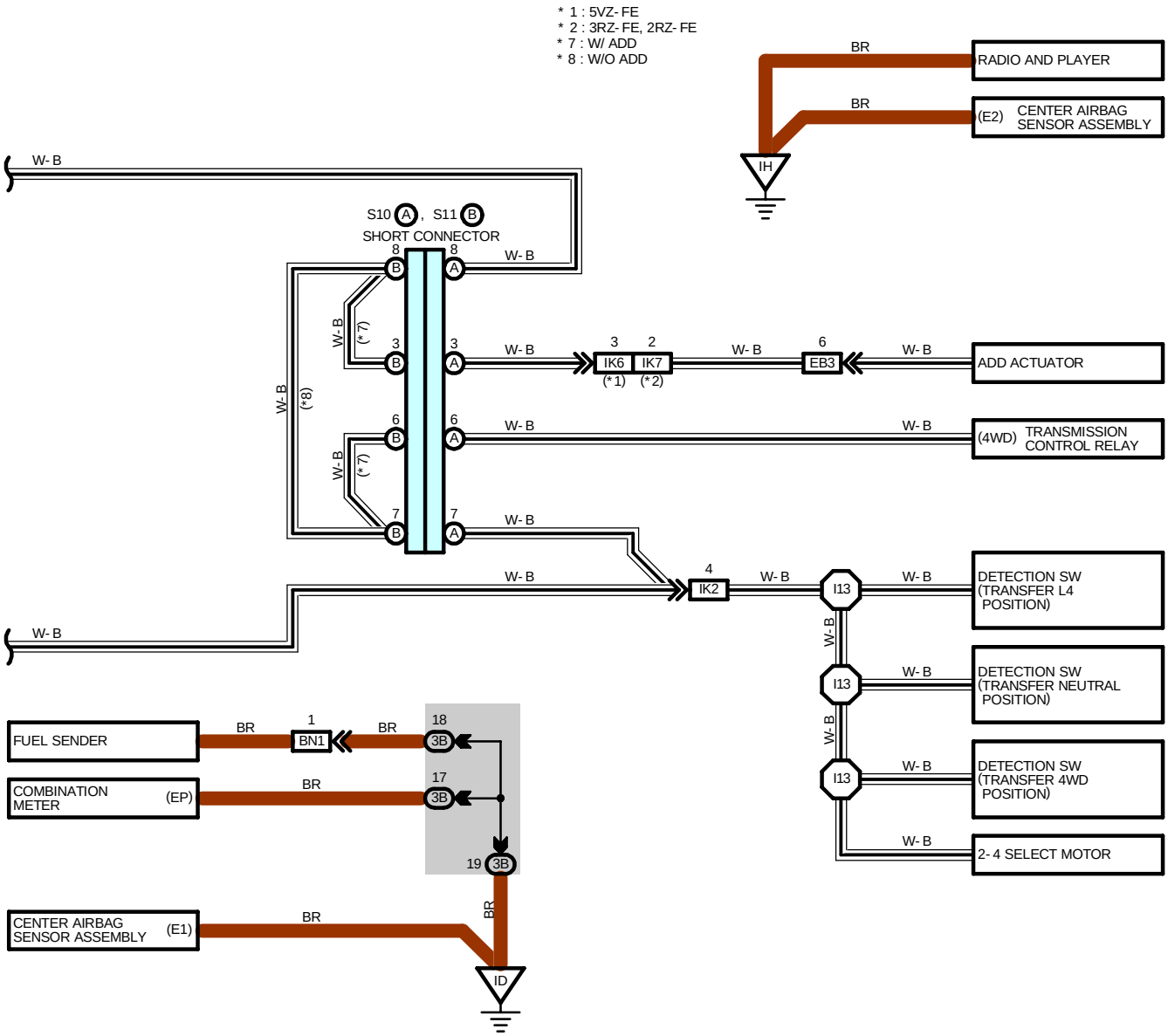
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E3	40 (5VZ-FE)	Engine Room Main Wire	I10	44	Cowl Wire
	42 (3RZ-FE, 2RZ-FE)		I16		
I7	44	Cowl Wire	I19		
I9					

I GROUND POINT




WIPER MOTOR
IGNITION COIL AND IGNITER NO. 1
IGNITION COIL AND IGNITER NO. 2
IGNITION COIL AND IGNITER NO. 3
IGNITION COIL AND IGNITER NO. 4
CIGARETTE LIGHTER
POWER OUTLET
POWER OUTLET
PASSENGER AIRBAG CUT OFF SW
O/D ECU
REAR DIFF. LOCK ECU
WASHER LEVEL SENSOR
KEY INTERLOCK SOLENOID [UNLOCK WARNING SW]
O/D MAIN SW [SHIFT LOCK CONTROL RELAY]
4WD ECU
2- 4 SELECT SW
GLOVE BOX LIGHT
BUCKLE SW LH
COMBINATION SW
PARKING BRAKE SW
DATA LINK CONNECTOR 3
SHIFT LOCK CONTROL RELAY
CLUTCH START CANCEL SW
HEATER BLOWER SW
BLOWER RESISTOR
DAYTIME RUNNING LIGHT RELAY NO. 4
TRANSMISSION CONTROL RELAY
WIPER AND WASHER SW [COMB. SW]
UNLOCK WARNING SW
AIR VENT MODE CONTROL SERVO MOTOR
A/C CONTROL ASSEMBLY
CLOCK
RHEOSTAT
COMBINATION METER
CRUISE CONTROL SW [COMB. SW]
CRUISE CONTROL ECU
CRUISE CONTROL ACTUATOR
DOOR LOCK CONTROL SW RH
DOOR LOCK MOTOR, DOOR UNLOCK DETECTION SW AND DOOR KEY LOCK AND UNLOCK SW RH
DOOR LOCK MOTOR, DOOR UNLOCK DETECTION SW AND DOOR KEY LOCK AND UNLOCK SW LH
POWER WINDOW MASTER SW
REMOTE CONTROL MIRROR SW
DAYTIME RUNNING LIGHT RELAY(MAIN)
* 1 : 5VZ- FE
* 2 : 3RZ- FE, 2RZ- FE
* 3 : W/ POWER WINDOW
* 4 : W/O POWER WINDOW
* 5 : REGULAR CAB
* 6 : EXCEPT REGULAR CAB

I GROUND POINT



: PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
J9	A	33 (3RZ-FE, 2RZ-FE) 31 (5VZ-FE)	J10	B	33 (3RZ-FE, 2RZ-FE) 31 (5VZ-FE)	S10	A	35
						S11	B	35

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	21	R/B No.2 (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	23	Roof Wire and J/B No.1 (Lower Finish Panel)
1J	23	Cowl Wire and J/B No.1 (Lower Finish Panel)
3A	24	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3B		
3E		
3F		
3G	26	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB3	40 (5VZ-FE) 42 (3RZ-FE, 2RZ-FE)	Engine Wire and Differential Wire (Front Differential Upper Side)
IF1	44	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IH2	44	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK6		
IK7		
IL2	44	Front Door RH Wire and Cowl Wire (Right Kick Panel)
BN1	46 (Double Cab) 48 (Except Double Cab)	Frame Wire and Cowl Wire (Under the Driver's Seat)
BO1	46 (Double Cab) 48 (Except Double Cab)	Frame Wire and Diff. Lock Wire (Rear Side Member LH)
BU1	50	Cowl Wire and Seat No.1 Wire (Under the Driver's Seat)

: GROUND POINTS

Code	See Page	Ground Points Location
EA	40 (5VZ-FE) 42 (3RZ-FE, 2RZ-FE)	Front Left Fender
EB	40 (5VZ-FE)	Near the Throttle Body
	42 (3RZ-FE, 2RZ-FE)	Under the Data Link Connector 1
EC	40 (5VZ-FE) 42 (3RZ-FE, 2RZ-FE)	Front Right Fender
EF	42 (3RZ-FE, 2RZ-FE)	Ignition Coil Braket
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement
IH	44	Right Kick Panel

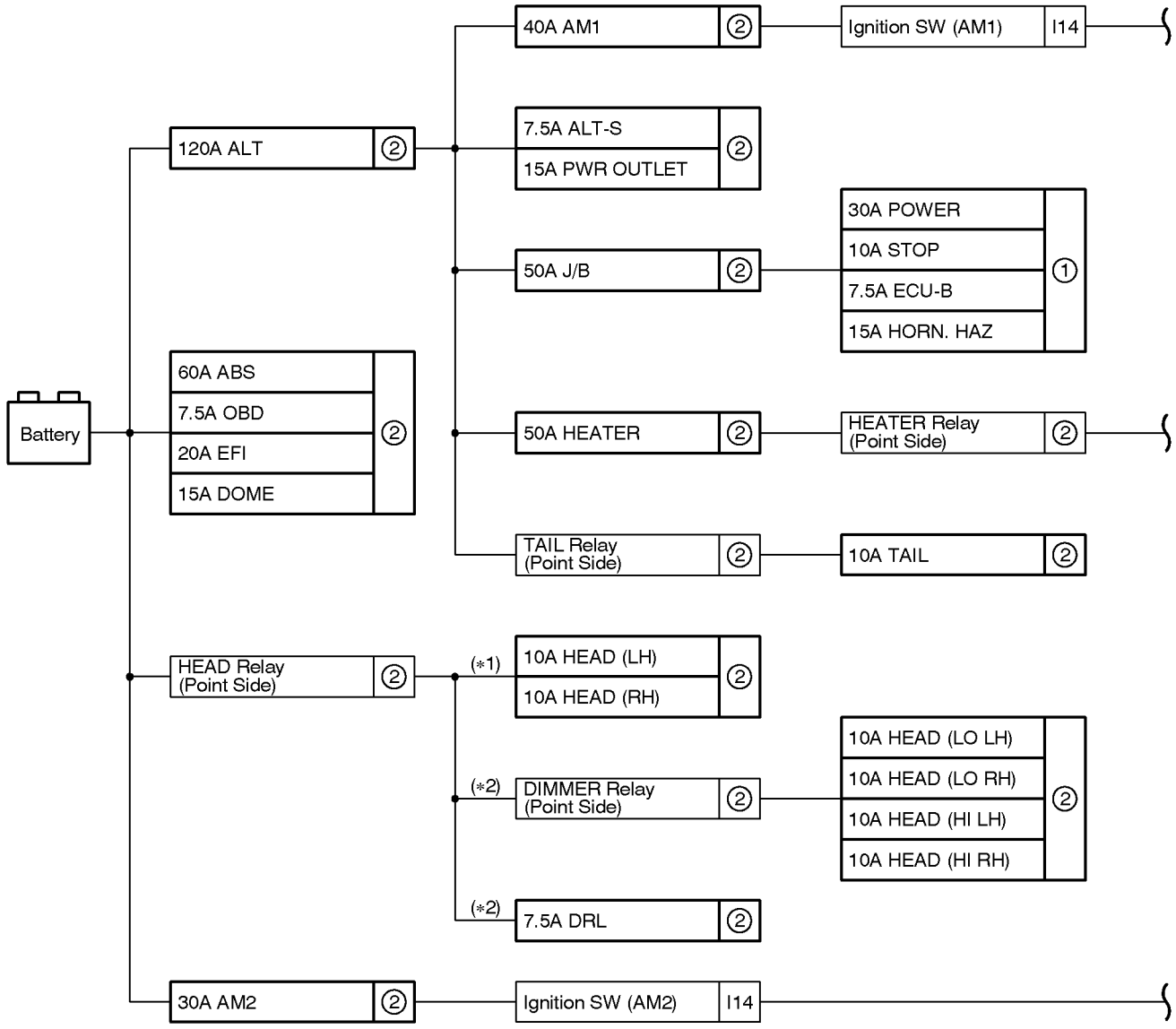
I GROUND POINT

 **: SPLICE POINTS**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I1	44	Cowl Wire	B2	46 (Double Cab)	Front Door LH Wire
I5				48 (Except Double Cab)	
I9			B3	46 (Double Cab)	Front Door RH Wire
I12				48 (Except Double Cab)	
I13	44	Engine Wire	B4	46 (Double Cab)	Frame Wire
I14	44	Cowl Wire		48 (Except Double Cab)	
I16			B5	48 (Except Double Cab)	
I17					

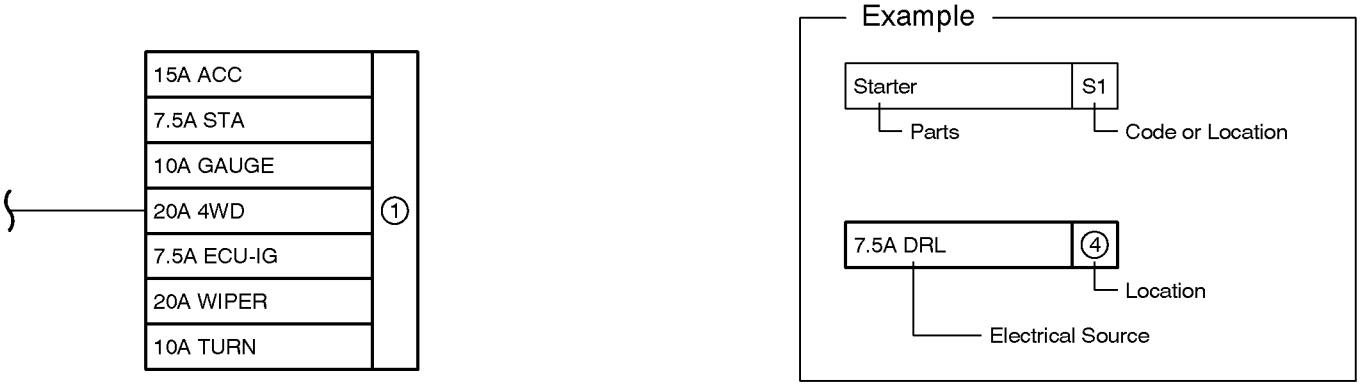
J POWER SOURCE (Current Flow Chart)

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.



[LOCATION] ① : J/B No.1 (See page 22) ② : R/B No.2 (See page 21)

*1 : w/o Daytime Running Light
*2 : w/ Daytime Running Light



R/B No.2 (See Page 21)

Fuse		System	Page
7.5A	ALT-S	Charging	68
7.5A	DRL	Headlight (w/ Daytime Running Light)	96
7.5A	OBD	Engine Control (2RZ-FE)	86
		Engine Control (3RZ-FE)	78
		Engine Control (5VZ-FE)	70
10A	A.C	Air Conditioning	206
10A	HEAD (HI LH)	Headlight (w/ Daytime Running Light)	96
10A	HEAD (HI RH)	Headlight (w/ Daytime Running Light)	96
10A	HEAD (LH)	Headlight (w/o Daytime Running Light)	94
10A	HEAD (LO LH)	Headlight (w/ Daytime Running Light)	96
10A	HEAD (LO RH)	Headlight (w/ Daytime Running Light)	96
10A	HEAD (RH)	Headlight (w/o Daytime Running Light)	94
10A	TAIL	Cigarette Lighter and Clock	186
		Combination Meter (w/ Tachometer)	194
		Combination Meter (w/o Tachometer)	200
		Engine Control (2RZ-FE)	86
		Engine Control (3RZ-FE)	78
		Taillight and Illumination	102
15A	DOME	Cigarette Lighter and Clock	186
		Combination Meter (w/ Tachometer)	194
		Door Lock Control	164
		Interior Light	100
		Key Reminder and Seat Belt Warning	182
		Light Auto Turn Off	112
		Power Window	168
		Radio and Player	190
15A	PWR OUTLET	Power Outlet	184
20A	EFI	Automatic Transmission (2RZ-FE)	126
		Electronically Controlled Transmission (3RZ-FE)	120
		Electronically Controlled Transmission (5VZ-FE)	114
		Engine Control (2RZ-FE)	86
		Engine Control (3RZ-FE)	78
		Engine Control (5VZ-FE)	70
30A	AM2	Engine Control (2RZ-FE)	86
		Engine Control (3RZ-FE)	78
		Engine Control (5VZ-FE)	70
		Ignition (3RZ-FE, 2RZ-FE)	66
		Starting and Ignition (5VZ-FE)	58
40A	AM1	Engine Control (2RZ-FE)	86
		Engine Control (3RZ-FE)	78
		Engine Control (5VZ-FE)	70

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

Fuse		System	Page
40A	AM1	Starting (3RZ-FE, 2RZ-FE)	62
		Starting and Ignition (5VZ-FE)	58
50A	HEATER	Air Conditioning	206
60A	ABS	ABS	136
120A	ALT	Charging	68
		Engine Control (2RZ-FE)	86
		Engine Control (3RZ-FE)	78
		Engine Control (5VZ-FE)	70
		Light Auto Turn Off	112
		Power Outlet	184
		Starting (3RZ-FE, 2RZ-FE)	62
		Starting and Ignition (5VZ-FE)	58
		Taillight and Illumination	102

J/B No.1 (See Page 22)

Fuse		System	Page
7.5A	ECU-B	Air Conditioning	206
		Combination Meter (w/ Tachometer)	194
		Combination Meter (w/o Tachometer)	200
		Headlight (w/ Daytime Running Light)	96
		SRS	143
7.5A	ECU-IG	ABS	136
		Automatic Transmission (2RZ-FE)	126
		Cruise Control	130
		Door Lock Control	164
		Interior Light	100
		Key Reminder and Seat Belt Warning	184
		Light Auto Turn Off	112
		Power Window	168
		Shift Lock	162
7.5A	IGN	Automatic Transmission (2RZ-FE)	126
		Charging	68
		Combination Meter (w/ Tachometer)	196
		Combination Meter (w/o Tachometer)	200
		Electronically Controlled Transmission (3RZ-FE)	120
		Electronically Controlled Transmission (5VZ-FE)	114
		Engine Control (2RZ-FE)	86
		Engine Control (3RZ-FE)	78
		Engine Control (5VZ-FE)	70
		SRS	143
7.5A	STA	Automatic Transmission (2RZ-FE)	126
		Electronically Controlled Transmission (3RZ-FE)	120
		Electronically Controlled Transmission (5VZ-FE)	114
		Engine Control (2RZ-FE)	86

* 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
7.5A	STA	Engine Control (3RZ-FE)	78
		Engine Control (5VZ-FE)	70
		Starting (3RZ-FE, 2RZ-FE)	62
		Starting and Ignition (5VZ-FE)	58
10A	GAUGE	ABS	136
		Air Conditioning	206
		Automatic Transmission (2RZ-FE)	126
		Back-Up Light	110
		Charging	68
		Combination Meter (w/ Tachometer)	194
		Combination Meter (w/o Tachometer)	200
		Cruise Control	130
		Electronically Controlled Transmission (3RZ-FE)	120
		Electronically Controlled Transmission (5VZ-FE)	114
		Engine Control (2RZ-FE)	86
		Engine Control (3RZ-FE)	78
		Engine Control (5VZ-FE)	70
		Headlight (w/ Daytime Running Light)	96
		Key Reminder and Seat Belt Warning	182
		Rear Differential Lock	158
		Starting (3RZ-FE, 2RZ-FE)	62
		Starting and Ignition (5VZ-FE)	58
		4WD (w/ 2-4 Select SW)	148
		4WD (w/o 2-4 Select SW)	154
10A	STOP	ABS	136
		Automatic Transmission (2RZ-FE)	126
		Cruise Control	130
		Electronically Controlled Transmission (3RZ-FE)	120
		Electronically Controlled Transmission (5VZ-FE)	114
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∗ These are the page numbers of the first page on which the related system is shown.

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20A	4WD	Rear Differential Lock	158
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* These are the page numbers of the first page on which the related system is shown.

K CONNECTOR LIST

A5
GRAY

A7
GRAY

A9
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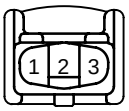

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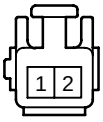

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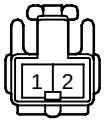

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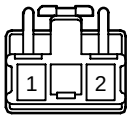

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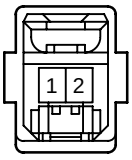

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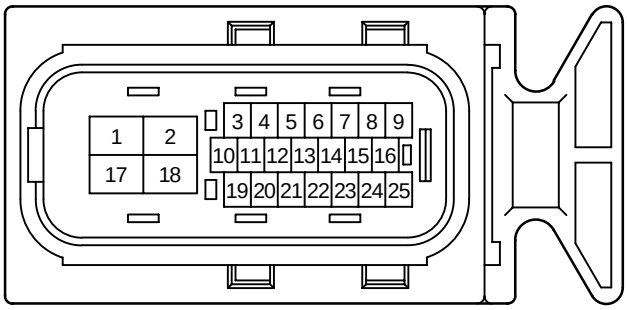

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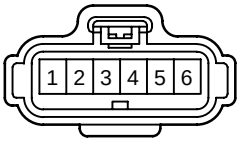

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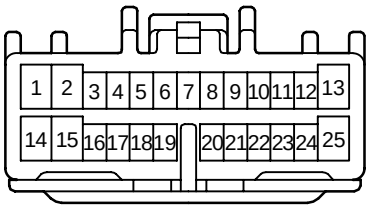

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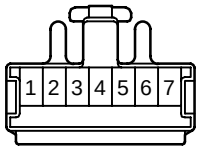

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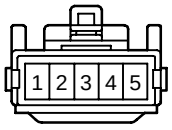

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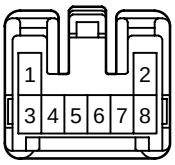

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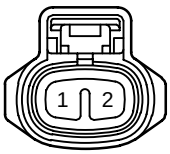

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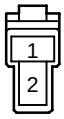

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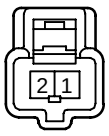

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C2
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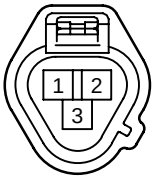

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C5

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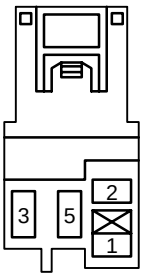

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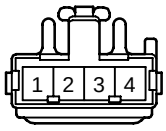

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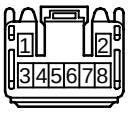

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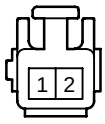

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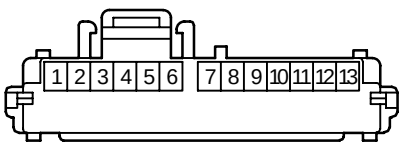

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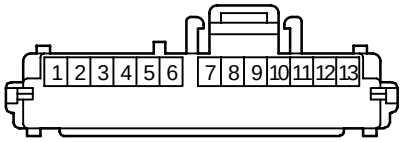

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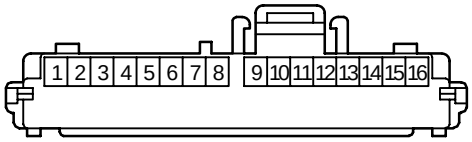

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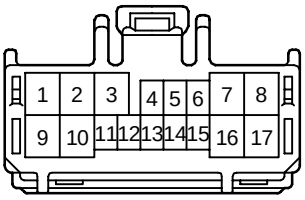

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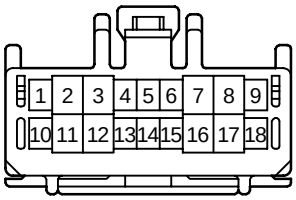

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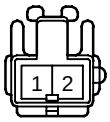

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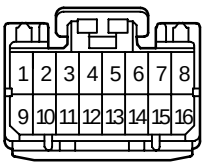

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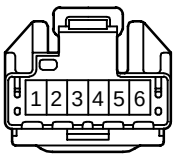

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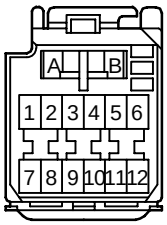

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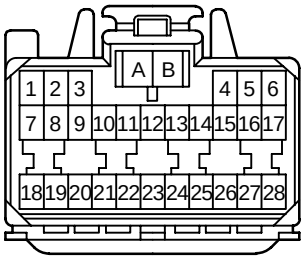

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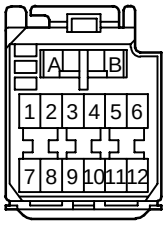

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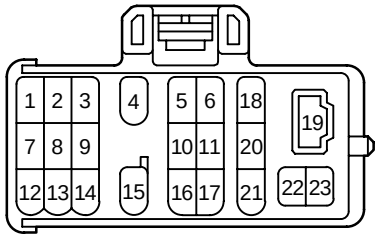

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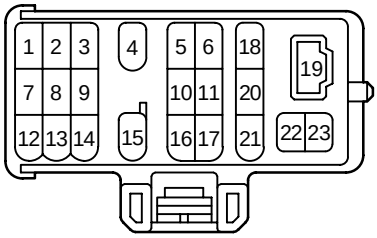

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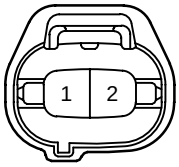

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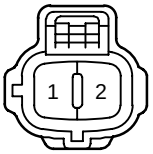

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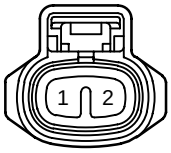

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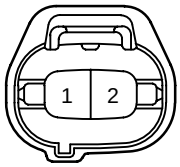

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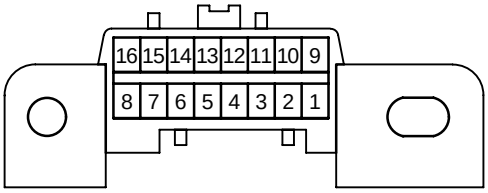

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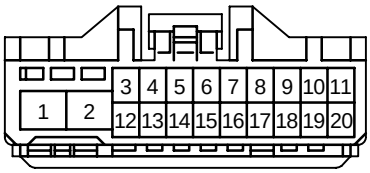

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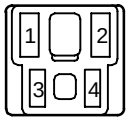

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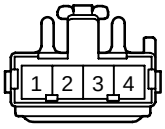

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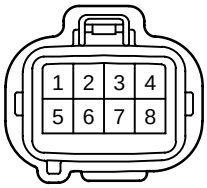

K CONNECTOR LIST

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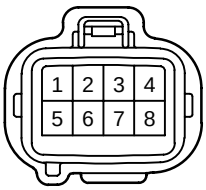

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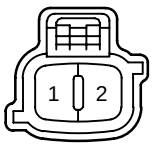

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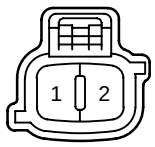

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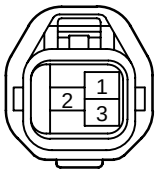

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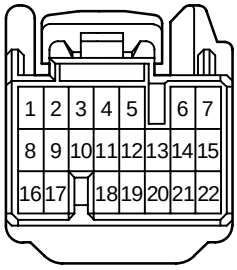
E5



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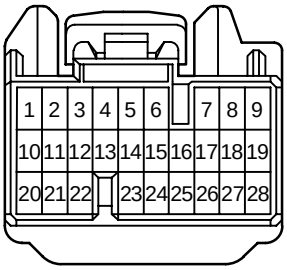

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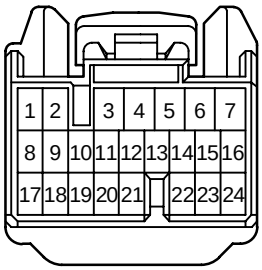

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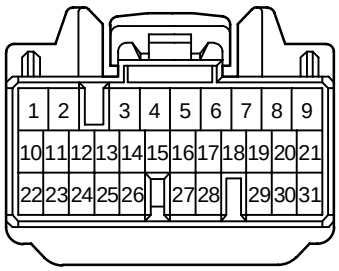

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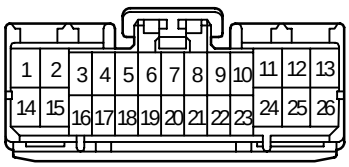
GRAY

F2
GRAY

F3
GRAY

F4
GRAY

F6



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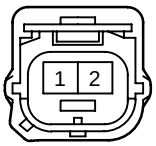

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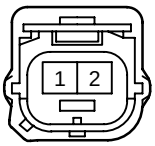

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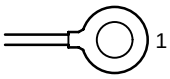

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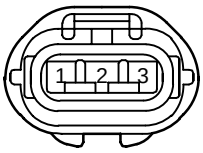

G3

H1
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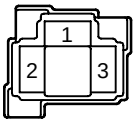
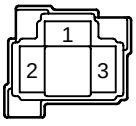


H2
BLACK



H5
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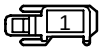

H6
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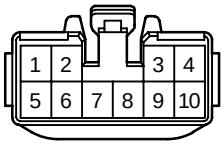
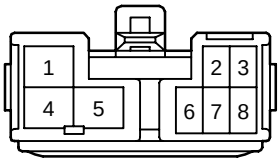
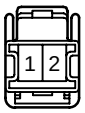


H7



H8



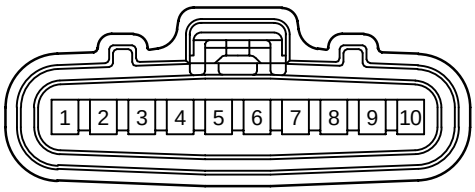
H9
DARK GRAY

H10
BLACK

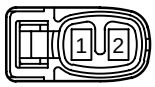
I1
(5VZ-FE) GRAY

I1
(3RZ-FE, 2RZ-FE) BLACK

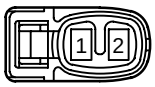
I2
BLACK



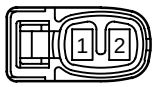
I3
BLACK



I4
BLACK



I5
BLACK



I6
BROWN

I7
(5VZ-FE) BROWN

I7
(3RZ-FE, 2RZ-FE) GRAY

I8
BROWN

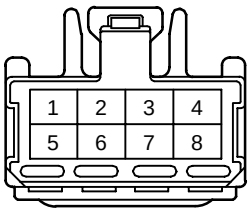
I9
(5VZ-FE) BROWN

I9
(3RZ-FE, 2RZ-FE) GRAY

I10
BROWN

I11
BROWN

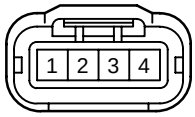
I14



I16
(Double, Extra Cab)

I16
(Regular Cab)

I20
BLACK



I21
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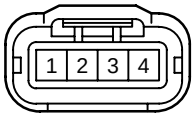

I22
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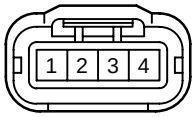

I23
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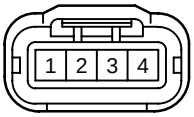
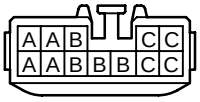
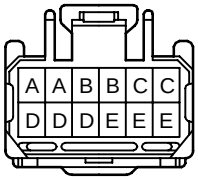


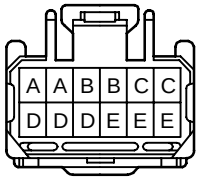
J1
GRAY



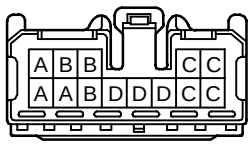
J9
GRAY



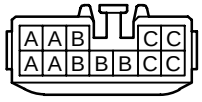
J10



J11
BLUE



J13
GRAY



K1
DARK GRAY

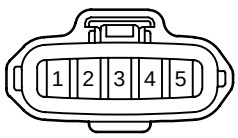
K2
BLACK

K3
BLACK

L1

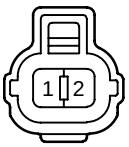
L2

M1
BLACK

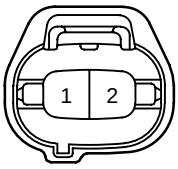


K CONNECTOR LIST

N1
GRAY

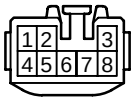


O1
GRAY

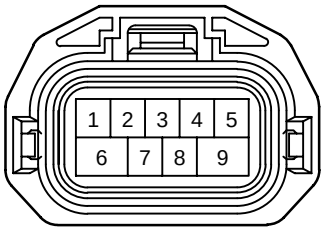


O2
GRAY

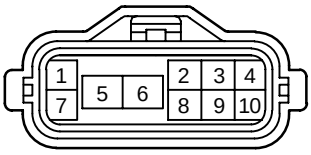
O6



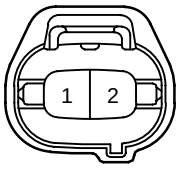
P1
(A/T Except 2RZ-FE) BLACK



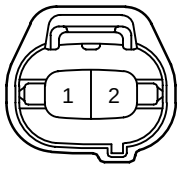
P1
(2RZ-FE A/T) GRAY



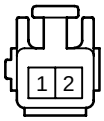
P2
GRAY



P3
GRAY

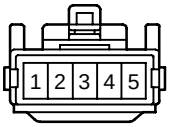


P4

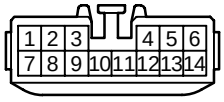


P5

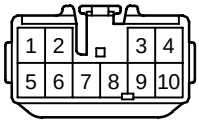
P6



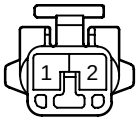
P7
(Double Cab)



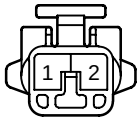
P7
(Except Double Cab)



P8



P9

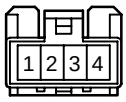


P10
BLACK

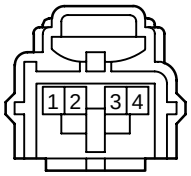
P13
GRAY

P14
GRAY

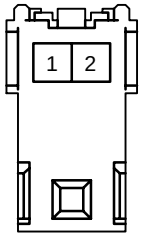
P19



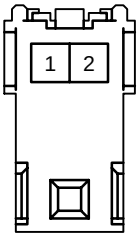
P20
YELLOW



P21
YELLOW



P22
YELLOW



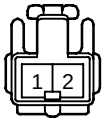
P23

P24

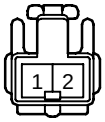
P25

P26

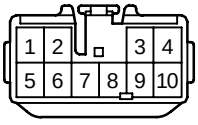
P27



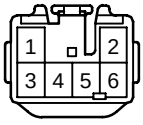
P28



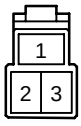
R1
BLUE



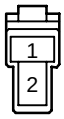
R2
BLUE



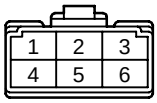
R3



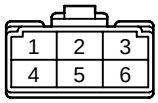
R4
BLACK



R6



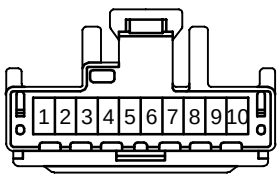
R7
BLACK



R8

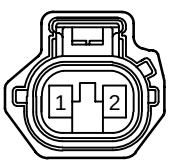
R9

R10

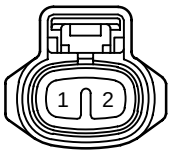


R11
GRAY

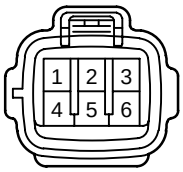
R12
GRAY



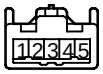
R13
GRAY



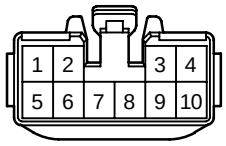
R14
GRAY



R15

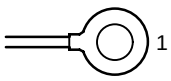


R16

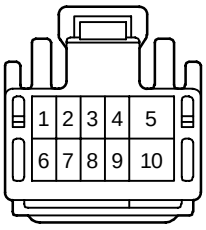


S1
BLACK

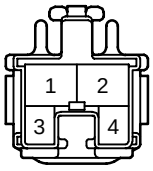
S2



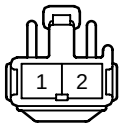
S4



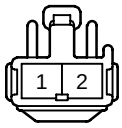
S5



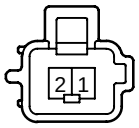
S6



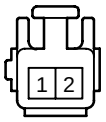
S7



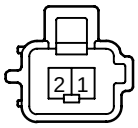
S8
(Extra Cab)



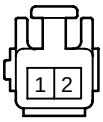
S8
(Double Cab, Regular Cab)



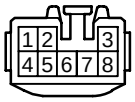
S9
(Extra Cab)



S9
(Double Cab, Regular Cab)



S10

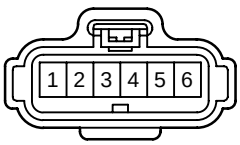


S11
(w/ ADD)

S11
(w/o ADD) GRAY

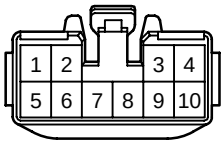
T1
BLACK

T2
BLACK

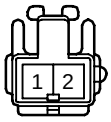


T3

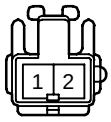
T4



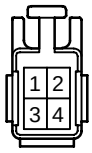
T5



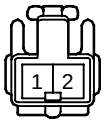
T6



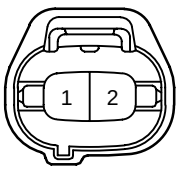
U1
(A/T)



U1
(M/T) BLUE

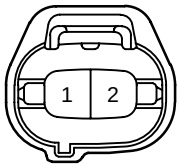


V1
BLACK



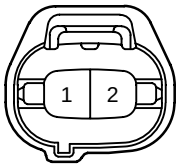
V3
GREEN

V4
BLACK



V8
BLACK

V9
BLUE



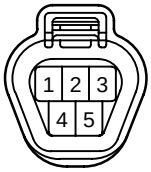
V10
BLACK

W1
GRAY

W2
(5VZ-FE) GRAY

W2
(3RZ-FE, 2RZ-FE) GRAY

W3
BLACK



L PART NUMBER OF CONNECTORS

Code	Part Name	Part Number
A 5	A/C Magnetic Clutch	90980-11271
A 7	A/T Oil Temp. Sensor	90980-10498
A 9	ABS Deceleration Sensor	90080-98028
A13	A/C Dual Pressure SW	90980-10825
A15	A/C Thermistor	90980-10860
A18	Airbag Squib (Steering Wheel Pad)	90980-10850
A19	Ashtray Illumination	81945-33010
A21	Airbag Squib (Front Passenger Airbag Assembly)	90980-11884
A22	ABS Actuator with ECU	90980-11861
A23	Air Fuel Ratio Sensor (Bank 1 Sensor 1)	90980-11178
A24	ADD Actuator	90980-11858
A25	A/C Control Assembly	90980-11877
A26	Air Inlet Control Servo Motor	90980-11165
A27	Air Mix Control Servo Motor	90980-10789
A28	Air Vent Mode Control Servo Motor	90980-11321
B 1	Back-Up Light SW	90980-11250
B 2	Brake Fluid Level Warning SW	90980-11207
B 4	Blower Motor	90980-10214
B 5	Blower Resistor	90980-10171
B 6	Buckle SW LH	90980-10859
C 1	Camshaft Position Sensor	90980-10947
C 2	Crankshaft Position Sensor (5VZ-FE)	
	Crankshaft Position Sensor (3RZ-FE, 2RZ-FE)	90980-11016
C 3	Cruise Control Actuator	90980-11150
C 4	Cigarette Lighter	90980-10760
C 5	Cigarette Lighter Illumination	90980-11148
C 6	Circuit Opening Relay	82602-35150
C 7	Clock	90980-11013
C 8	Clutch Start Cancel SW	90980-11533
C 9	Clutch Start SW	90980-10825
C10	Combination Meter	90980-11115
C12	Combination Meter	90980-11114
C13	Combination Meter	90980-11113
C14	Combination SW	90980-11672
C15	Combination SW	90980-11594
C16	Cruise Control Clutch SW	90980-10906
C17	Cruise Control ECU	90980-11391
C19	Combination SW	90980-11616
C20	Center Airbag Sensor Assembly	90980-11871
C21	Center Airbag Sensor Assembly	90980-11872
C22	Center Airbag Sensor Assembly	90980-11873
D 1	Data Link Connector 1 (5VZ-FE)	90980-11195
	Data Link Connector 1 (3RZ-FE, 2RZ-FE)	90980-11323
D 3	Detection SW (Transfer L4 Position)	90980-11156
D 4	Detection SW (Transfer Neutral Position)	90980-10923

Code	Part Name	Part Number
D 5	Detection SW (Transfer 4WD Position) [w/ 2-4 Select SW]	90980-11250
	Detection SW (Transfer 4WD Position) [w/o 2-4 Select SW]	90980-11156
D 7	Data Link Connector 3	90080-98010
D 8	Daytime Running Light Relay (Main)	90980-12034
D 9	Daytime Running Light Relay No.4	82602-35160
D13	Diode (Daytime Running Light System)	90980-10962
D15	Door Courtesy SW Front LH	90980-10433
D16	Door Courtesy SW Front RH	
D20	Door Lock Control SW RH	90980-11013
D21	Door Lock Motor, Door Unlock Detection SW and Door Key Lock and Unlock SW Front LH	90980-10897
D22	Door Lock Motor, Door Unlock Detection SW and Door Key Lock and Unlock SW Front RH	
D25	Diode (A/T)	90980-10962
D26	Door Courtesy SW Rear LH	90980-10433
D27	Door Courtesy SW Rear RH	
D28	Door Lock Motor Rear LH	90980-11019
D29	Door Lock Motor Rear RH	
E 1	EGR Gas Temp. Sensor	90980-10899
E 2	Electronically Controlled Transmission Solenoid	90980-10919
E 3	Engine Coolant Temp. Sensor	90980-10737
E 4	Electronically Controlled Transmission Pattern Select SW	90980-10601
E 5	Engine Control Module	90980-11638
E 6	Engine Control Module	90980-11637
E 7	Engine Control Module	90980-11476
E 8	Engine Control Module	90980-11421
F 1	Front ABS Speed Sensor LH	90980-11075
F 2	Front ABS Speed Sensor RH	
F 3	Front Turn Signal Light LH	90980-11020
F 4	Front Turn Signal Light RH	
F 6	4WD ECU	90980-11423
F 8	Fuel Pump and Sender	90980-11077
F 9	Front Airbag Sensor LH	90980-11898
F10	Front Airbag Sensor RH	
G 1	Generator	90980-09212
G 2	Generator	90980-11349
G 3	Glove Box Light	90980-11148
H 1	Headlight LH	90980-11314
H 2	Headlight RH	
H 5	Horn (Low)	90980-10619
H 6	Hazard SW	90980-10801
H 7	Heater Blower SW	90980-10877
H 8	High Mounted Stop Light	90980-11436

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

Code	Part Name	Part Number
H 9	Heated Oxygen Sensor (Bank 1 Sensor 2)	90980-11028
H10	Horn (High)	90980-10619
I 1	Idle Air Control Valve	90980-11145
I 2	Igniter	90980-11653
I 3	Ignition Coil No.1	90980-11246
I 4	Ignition Coil No.2	
I 5	Ignition Coil No.3	
I 6	Injector No.1	90980-11153
I 7	Injector No.2	
I 8	Injector No.3	
I 9	Injector No.4	
I10	Injector No.5	
I11	Injector No.6	
I14	Ignition SW	90980-11615
I16	Interior Light (Double, Extra Cab)	90980-10935
	Interior Light (Regular Cab)	90980-10121
I20	Ignition Coil and Igniter No.1	90980-11885
I21	Ignition Coil and Igniter No.2	
I22	Ignition Coil and Igniter No.3	
I23	Ignition Coil and Igniter No.4	
J 1	Junction Connector	90980-10803
J 9	Junction Connector	90980-11661
J10	Junction Connector	
J11	Junction Connector	90980-11542
J13	Junction Connector	90980-10803
K 1	Knock Sensor	90980-11166
K 2	Knock Sensor 1	
K 3	Knock Sensor 2	
L 1	License Plate Light LH	90980-11162
L 2	License Plate Light RH	
M 1	Mass Air Flow Meter	90980-11317
N 1	Noise Filter (Ignition System)	90980-10843
O 1	O/D Solenoid	90980-11156
O 2	Oil Pressure SW	90980-11363
O 6	O/D ECU	90980-10799
P 1	Park/Neutral Position SW (A/T Except 2RZ-FE)	90980-11784
	Park/Neutral Position SW (2RZ-FE A/T)	90980-11332
P 2	Parking Light LH	90980-11149
P 3	Parking Light RH	
P 4	Parking Brake SW	90980-10825
P 5	Personal Light	90980-10935
P 6	Power Window Control SW Front RH	90980-10789
P 7	Power Window Master SW and Door Lock Control SW LH (Double Cab)	90980-10807
	Power Window Master SW and Door Lock Control SW LH (Except Double Cab)	90980-10997

Code	Part Name	Part Number
P 8	Power Window Motor Front LH	90980-11248
P 9	Power Window Motor Front RH	
P10	Power Steering Oil Pressure SW	90980-11428
P13	Power Outlet	90980-10760
P14	Power Outlet	
P19	Passenger Airbag Manual On/Off Indicator	90980-11950
P20	Passenger Airbag Manual On/Off SW	90980-12017
P21	Pretensioner LH	90980-12138
P22	Pretensioner RH	
P23	Power Seat Motor (Lumbar Support)	90980-10935
P24	Power Seat SW (Lumbar Support)	90980-10127
P25	Power Window Control SW Rear LH	90980-10631
P26	Power Window Control SW Rear RH	
P27	Power Window Motor Rear LH	90980-10860
P28	Power Window Motor Rear RH	
R 1	Radio and Player	90980-10997
R 2	Radio and Player	90980-10996
R 3	Rheostat	90980-10216
R 4	Rheostat	90980-10214
R 6	Rear Combination Light LH	90980-10173
R 7	Rear Combination Light RH	
R 8	Remote Control Mirror LH	90980-11169
R 9	Remote Control Mirror RH	
R10	Remote Control Mirror SW	90980-11657
R11	Rear ABS Speed Sensor LH	90980-11467
R12	Rear ABS Speed Sensor RH	
R13	Rear Diff. Lock Detection SW	90980-11250
R14	Rear Diff. Lock Motor	90980-11194
R15	Rear Diff. Lock SW	90980-10631
R16	Rear Diff. Lock ECU	90980-10801
S 1	Starter	90980-11400
S 2	Starter (5VZ-FE)	90980-09584
	Starter (3RZ-FE, 2RZ-FE)	90980-09506
S 4	Shift Lock Control Relay and O/D Main SW	90980-11614
S 5	Stop Light SW	90980-11118
S 6	Speaker (Front Door LH)	90980-10916
S 7	Speaker (Front Door RH)	
S 8	Speaker (Rear LH) (Extra Cab)	90980-11299
	Speaker (Rear LH) (Double Cab, Regular Cab)	90980-10825
S 9	Speaker (Rear RH) (Extra Cab)	90980-11299
	Speaker (Rear RH) (Double Cab, Regular Cab)	90980-10825
S10	Short Connector (ADD)	90980-10799
S11	Short Connector (ADD)	90980-10798
T 1	Throttle Position Sensor	90980-11261

L PART NUMBER OF CONNECTORS

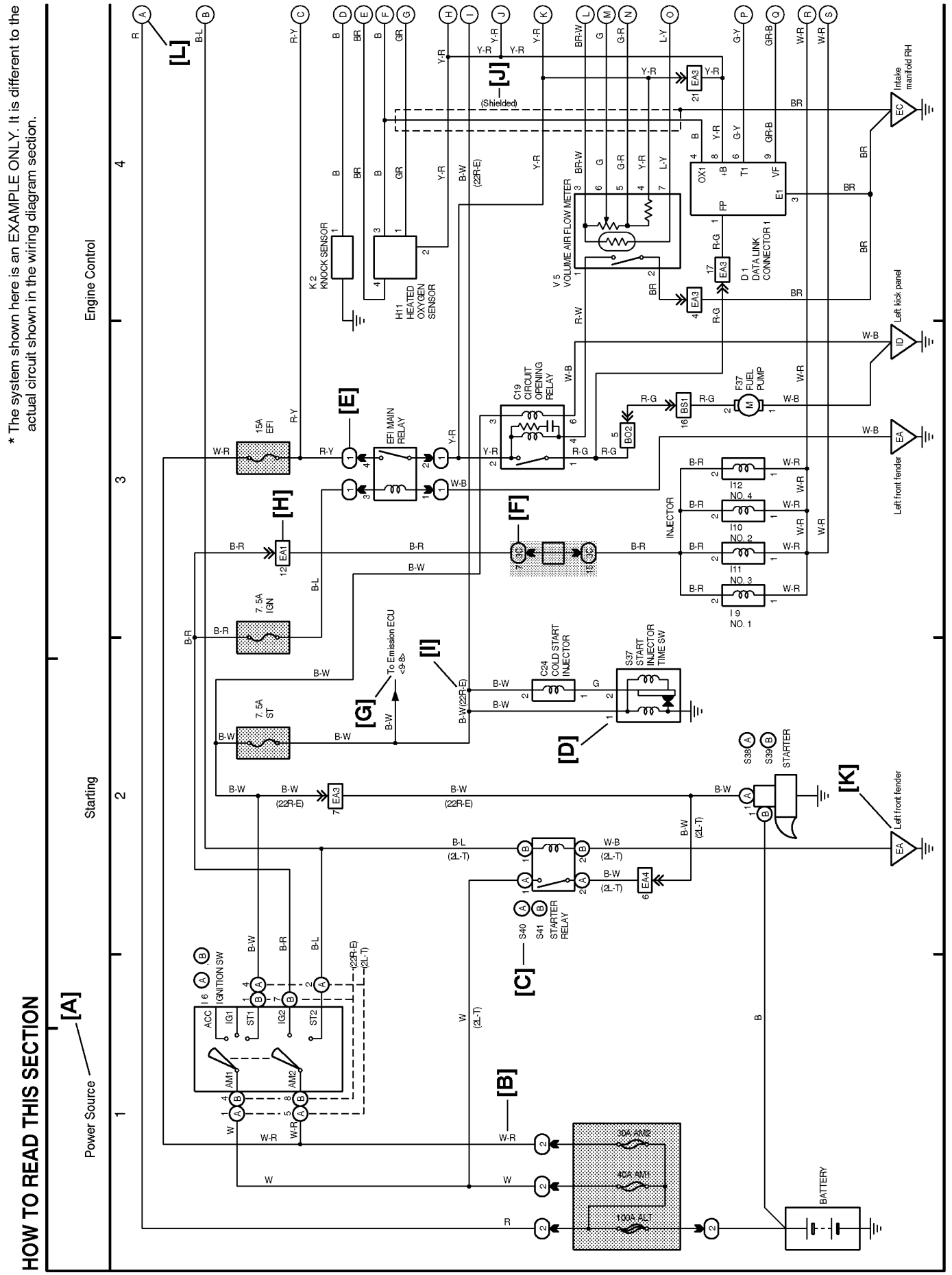
Code	Part Name	Part Number
T 2	2-4 Select Motor	90980-11858
T 3	2-4 Select SW	90980-10355
T 4	Transmission Control Relay	90980-10801
T 5	Tweeter LH	90980-10906
T 6	Tweeter RH	
U 1	Unlock Warning SW and Key Interlock Solenoid (A/T)	90980-10795
	Unlock Warning SW (M/T)	90980-10860
V 1	Vehicle Speed Sensor (Electronically Controlled Transmission)	90980-11156
V 3	VSV (EGR)	90980-11162
V 4	VSV (EVAP)	90980-11156
V 8	Vapor Pressure Sensor	90980-11143
V 9	VSV (Vapor Pressure Sensor)	90980-11156
V10	Vehicle Speed Sensor	90980-11143
W 1	Washer Motor and Washer Level Sensor (Cold Area Spec.) or Washer Motor (Except Cold Area Spec.)	90980-10942
W 2	Water Temp. Sender (5VZ-FE)	90980-10359
	Water Temp. Sender (3RZ-FE, 2RZ-FE)	90980-11428
W 3	Wiper Motor	90980-11599

Code	Part Name	Part Number

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

M OVERALL ELECTRICAL WIRING DIAGRAM



[A] : System Title

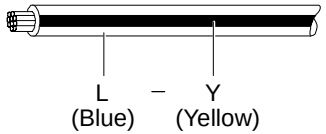
[B] : Indicates the wiring color.

Wire colors are indicated by an alphabetical code.

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

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

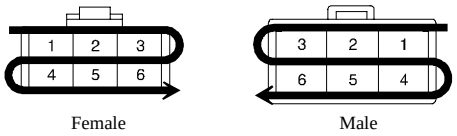
Example: L - Y



[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 order from upper left to lower right / Numbered in order from upper right to lower left



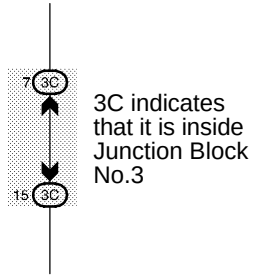
The numbering system for the overall wiring diagram is the same as above

[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 : (1) Indicates Relay Block No.1

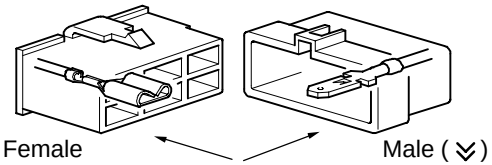
[F] : Junction Block (The number in the circle is the J/B No. and the connector code is shown beside it). Junction Blocks are shaded to clearly separate them from other parts.

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.

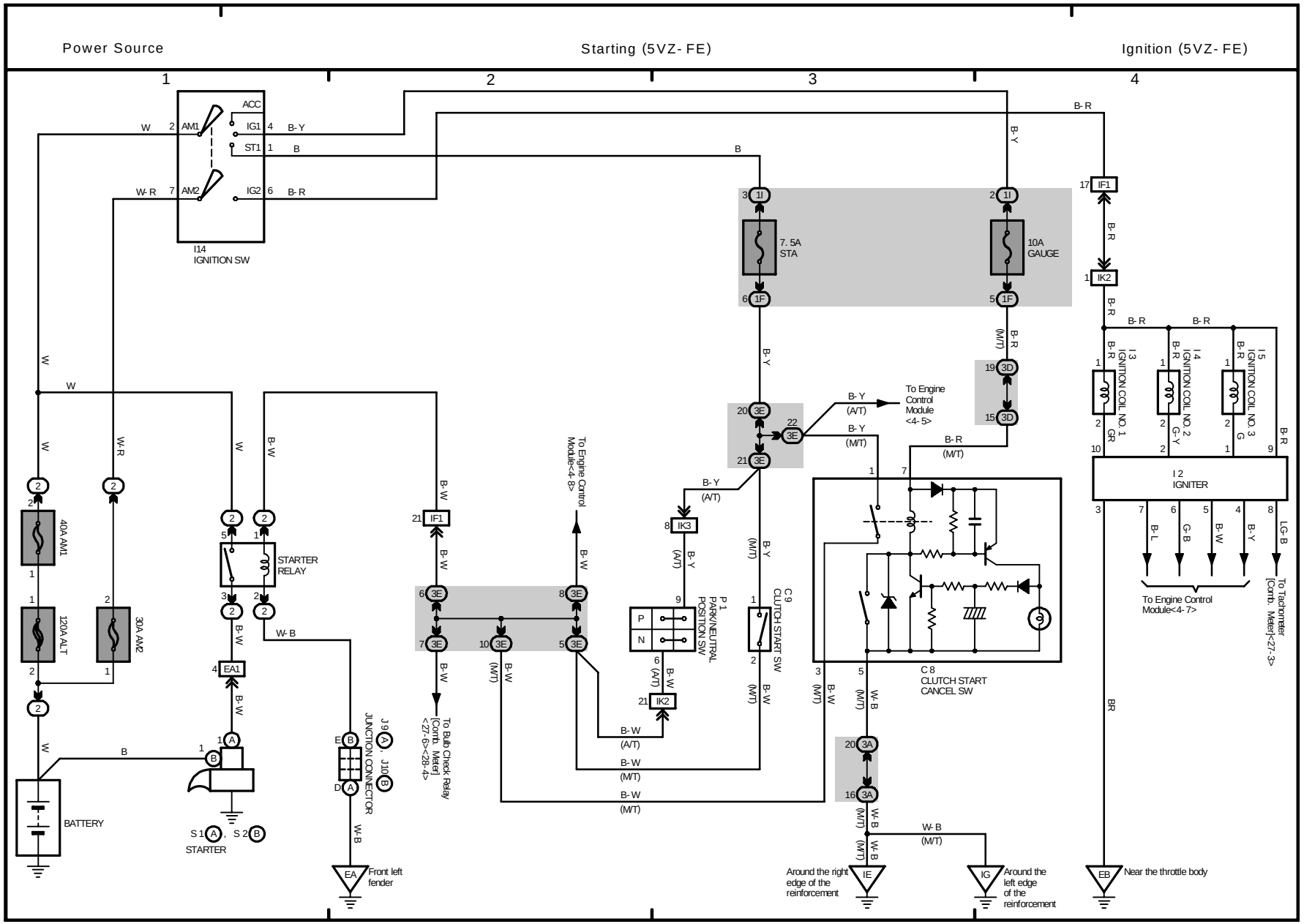
[J] : Indicates a shielded cable.

[K] : Indicates and located on ground point.

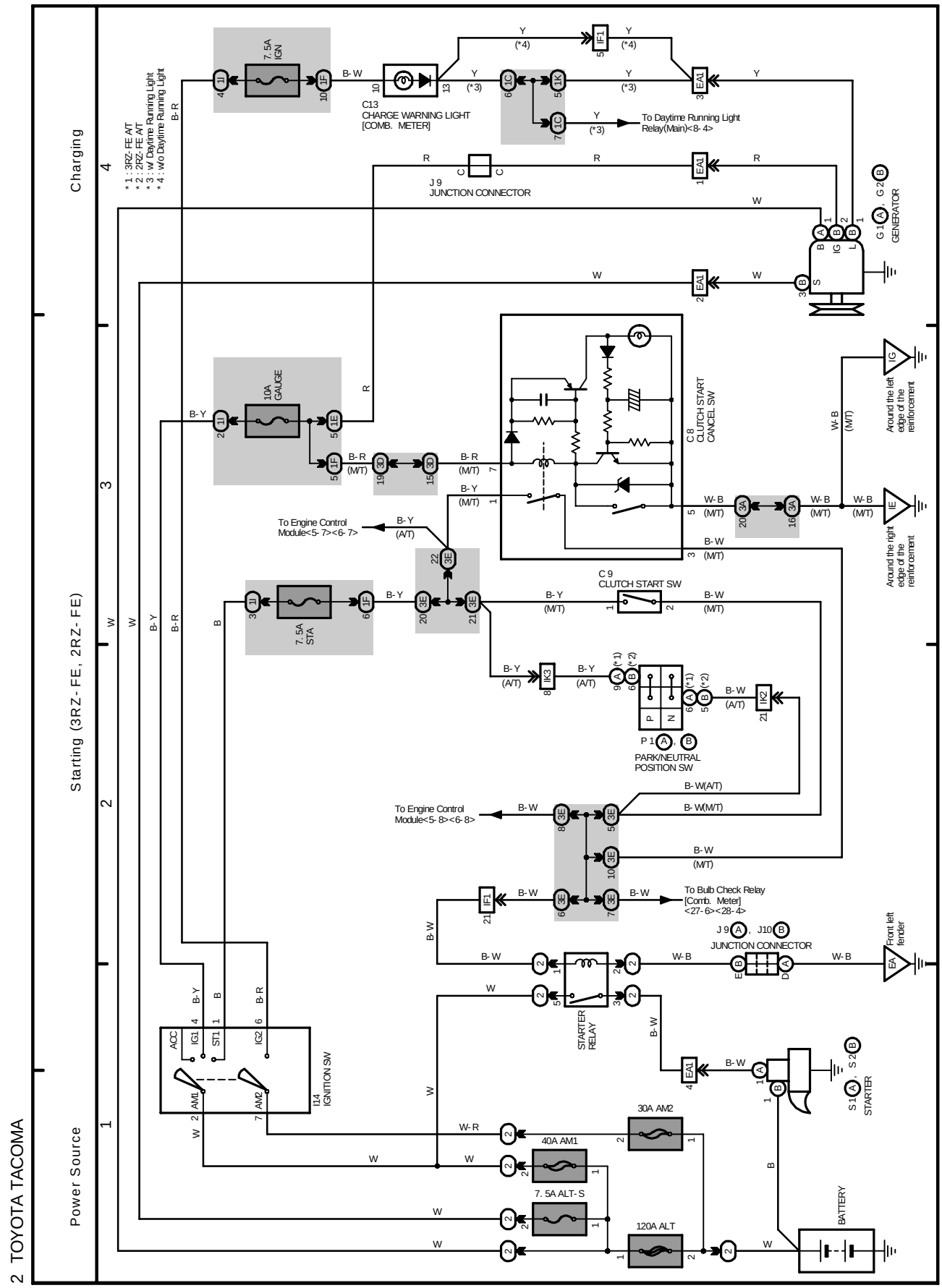
[L] : The same code occuring on the next page indicates that the wire harness is continuous.

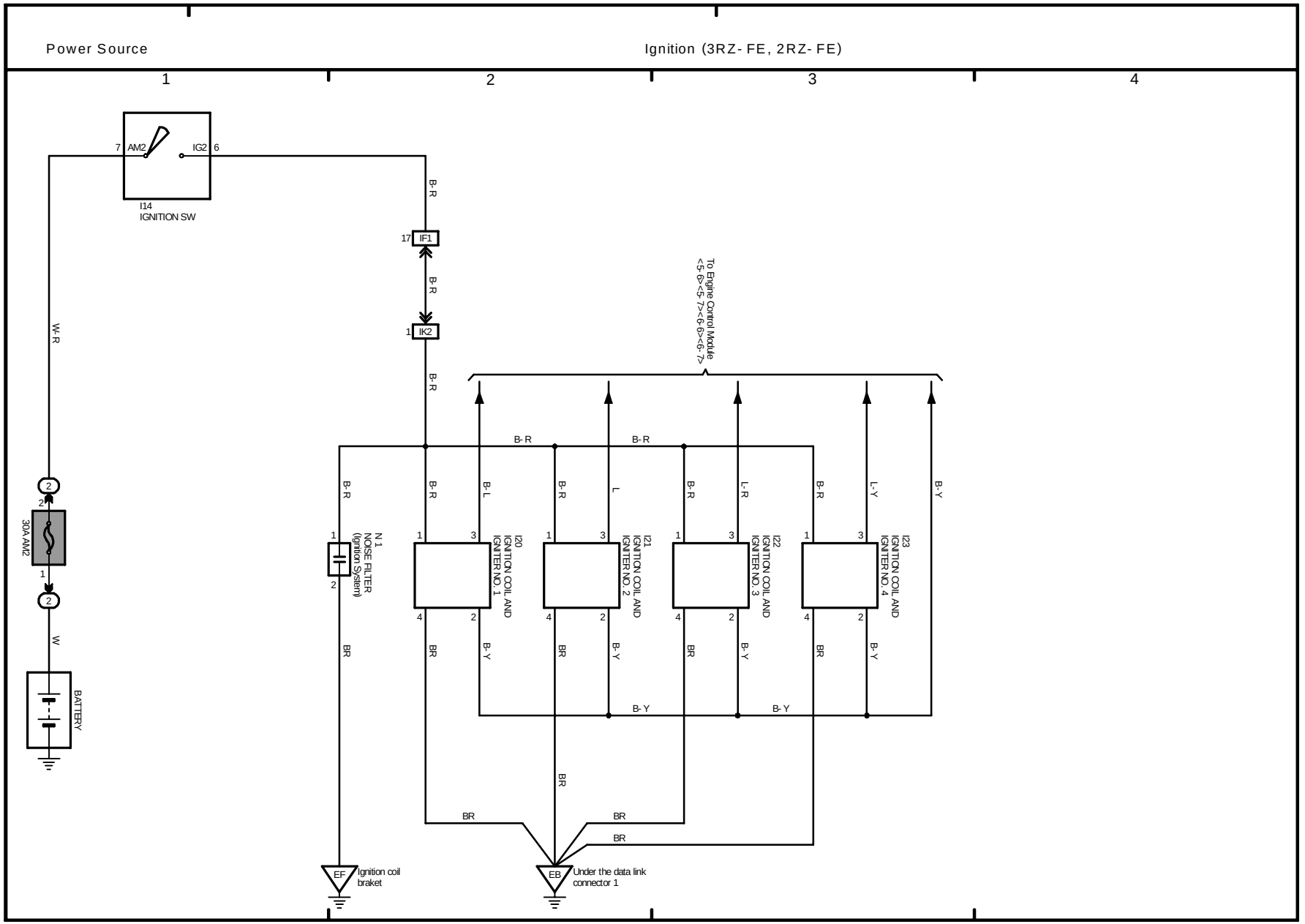
SYSTEM INDEX

1 TOYOTA TACOMA ELECTRICAL WIRING DIAGRAM

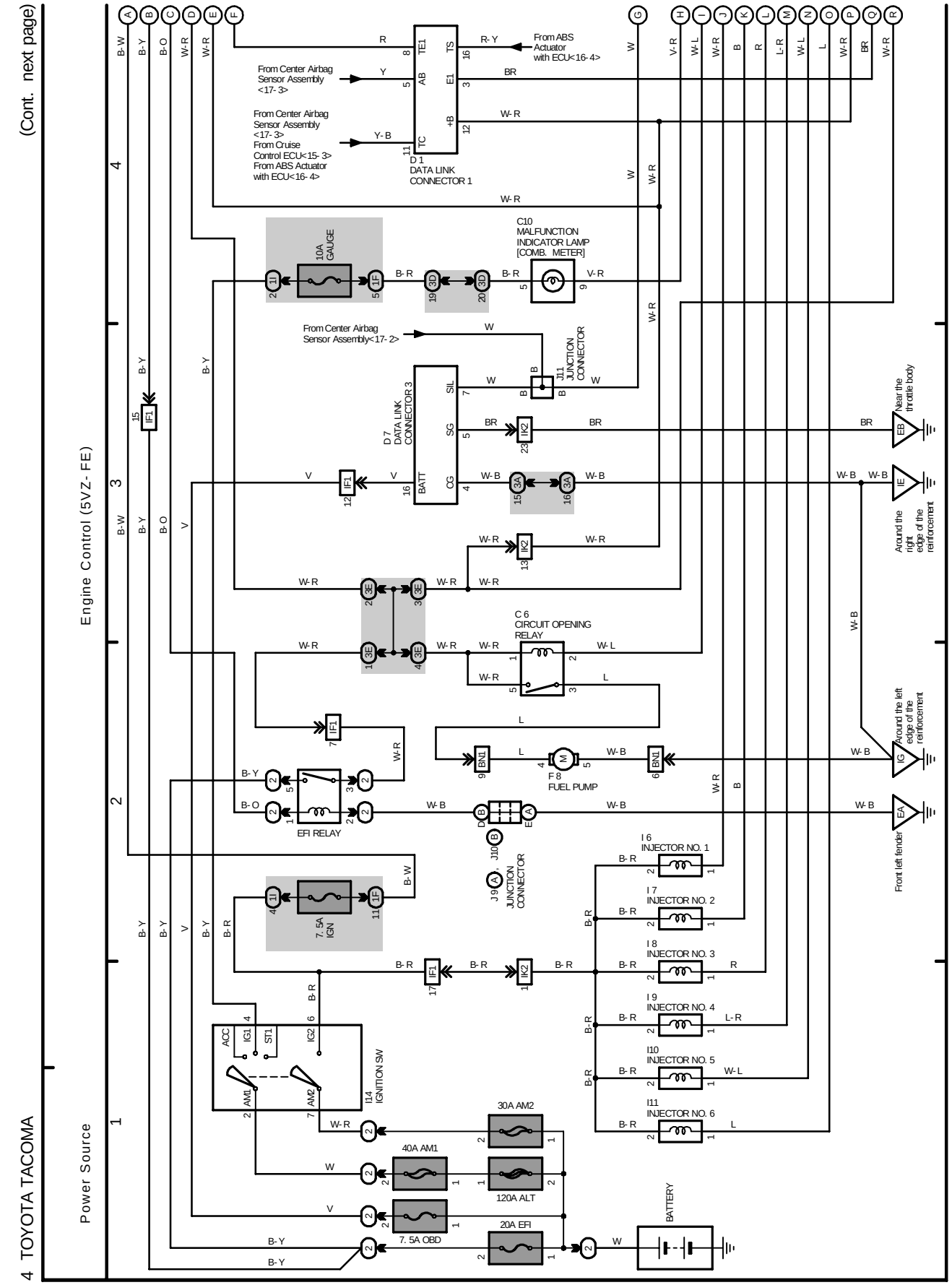


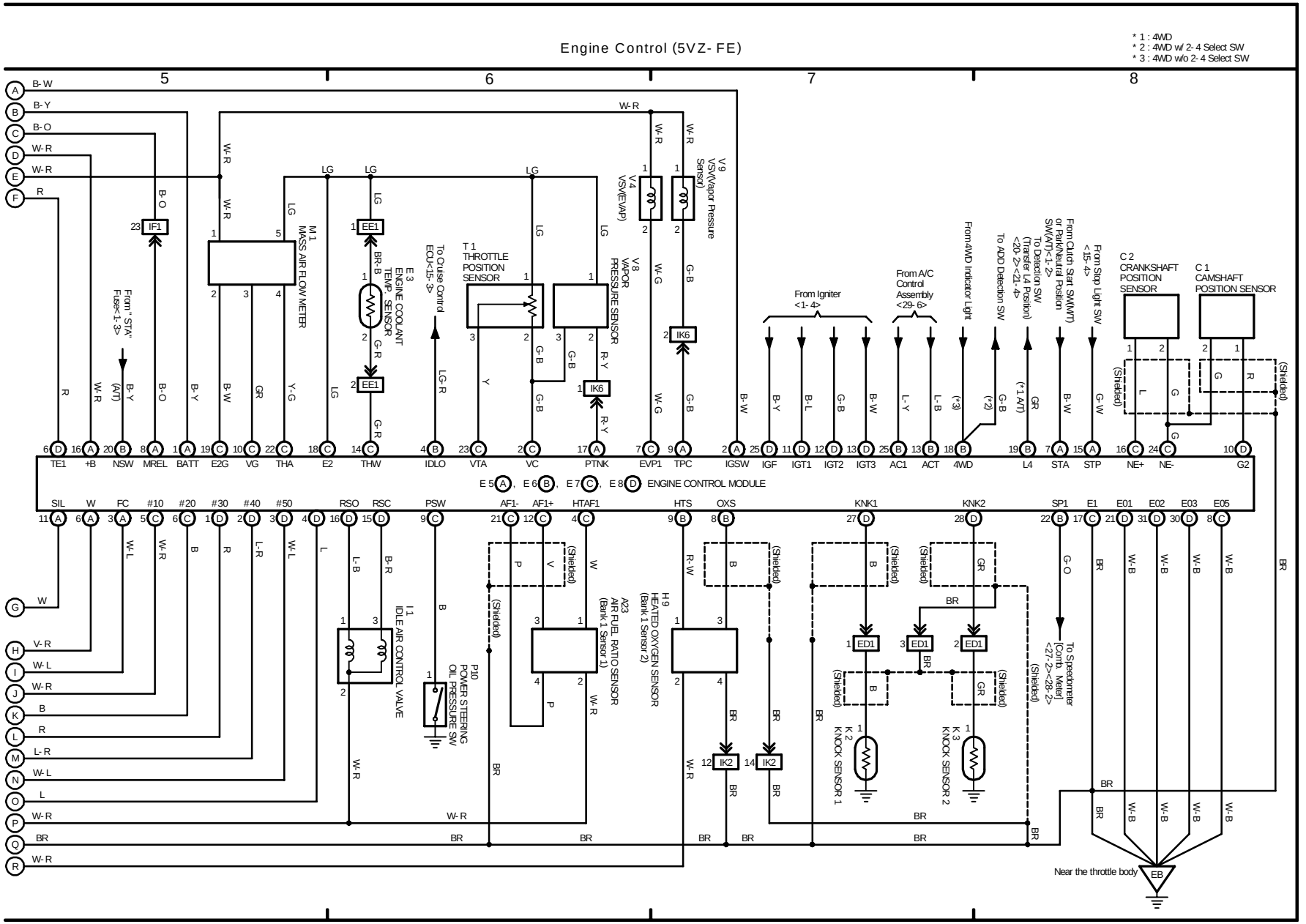
M OVERALL ELECTRICAL WIRING DIAGRAM



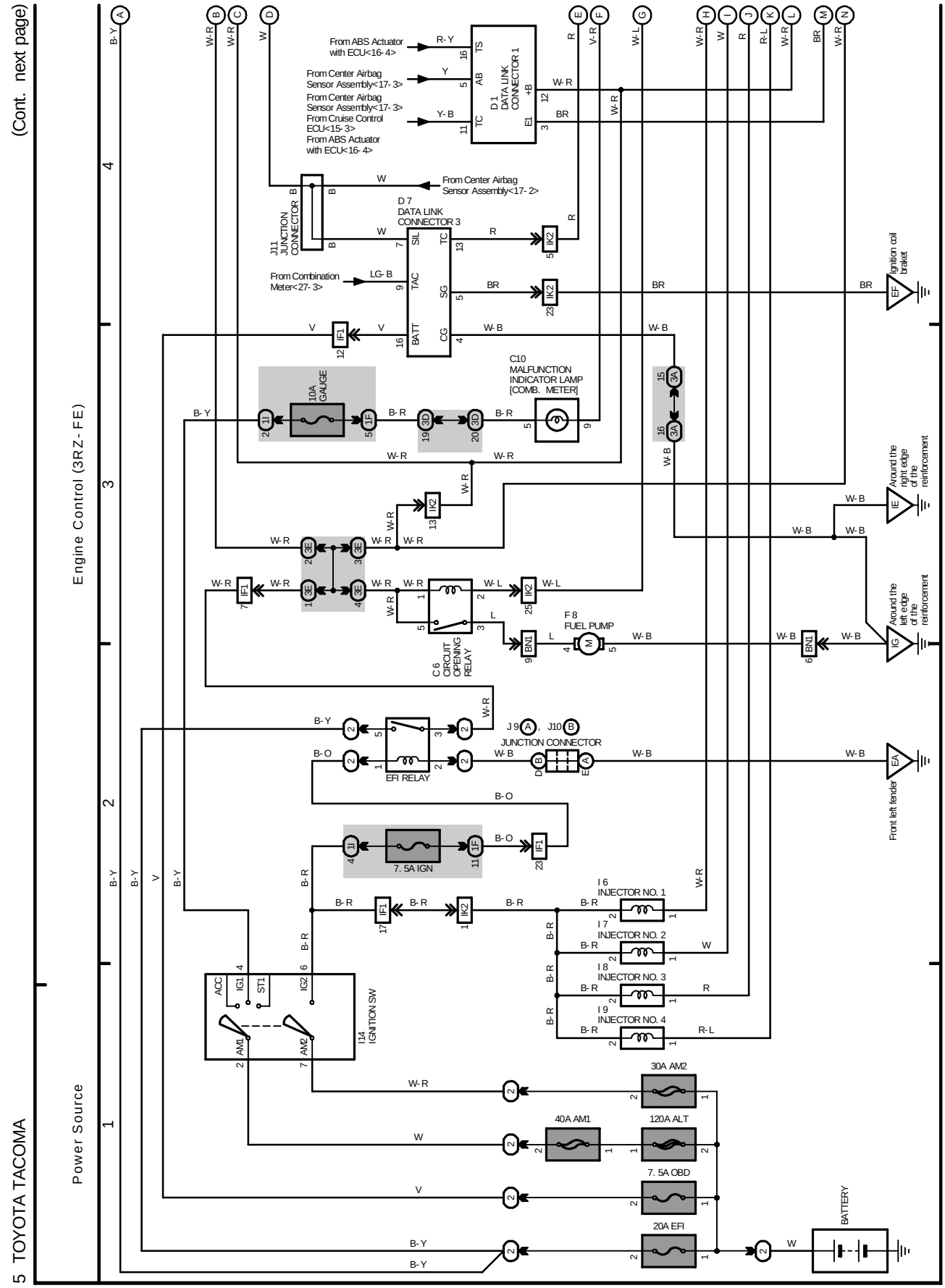

Power Source
Ignition (3RZ- FE, 2RZ- FE)
1
2
3
4
7 AM2
IG2 6
I14
IGNITION SW
17 IF1
1 IK2
B- R
W- R
W
BR
B- L
L
L- R
L- Y
B- Y
2
30A AM2
1
BATTERY
N 1
NOISE FILTER
(Ignition System)
I20
IGNITION COIL AND
IGNITER NO. 1
I21
IGNITION COIL AND
IGNITER NO. 2
I22
IGNITION COIL AND
IGNITER NO. 3
I23
IGNITION COIL AND
IGNITER NO. 4
To Engine Control Module
<5- 5><5- 7><6- 6><6- 7>
EF
Ignition coil
braket
EB
Under the data link
connector 1

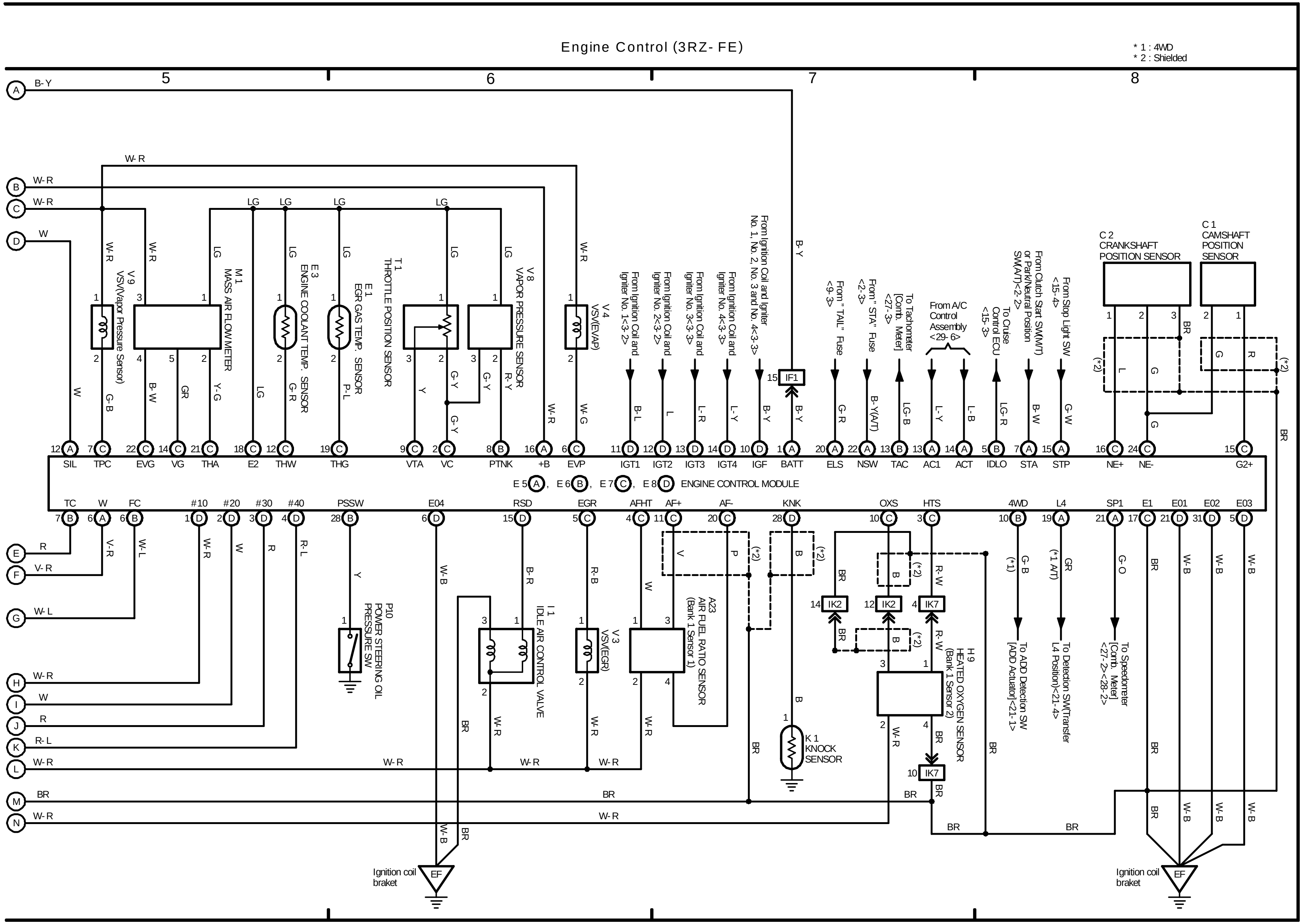
M OVERALL ELECTRICAL WIRING DIAGRAM




Engine Control (5VZ- FE)
* 1 : 4WD
* 2 : 4WD w/ 2- 4 Select SW
* 3 : 4WD w/o 2- 4 Select SW
5
6
7
8
IF1
M 1 MASS AIR FLOW METER
EE1
E 3 ENGINE COOLANT TEMP. SENSOR
To Cruise Control ECU<15- 3>
T 1 THROTTLE POSITION SENSOR
V 8 VAPOR PRESSURE SENSOR
IK6
V 4 VSV(EVAP)
V 9 VSV(Vapor Pressure Sensor)
IK2
From Igniter <1- 4>
From A/C Control Assembly <29- 6>
From 4WD Indicator Light
To 4WD Detection SW
To Detection SW (Transfer L4 Position) <20- 2><21- 4>
From Clutch Start SW(M/T) or Park/Neutral Position SW(A/T)<1- 2>
From Stop Light SW <15- 4>
C 2 CRANKSHAFT POSITION SENSOR
C 1 CAMSHAFT POSITION SENSOR
From "STA" Fuse<1- 3>
TE1 +B NSW MREL BATT E2G VG THA E2 THW IDLO VTA VC PTNK EVP1 TPC IGSW IGF IGT1 IGT2 IGT3 AC1 ACT 4WD L4 STA STP NE+ NE- G2
E 5 (A), E 6 (B), E 7 (C), E 8 (D) ENGINE CONTROL MODULE
SIL W FC #10 #20 #30 #40 #50 RSO RSC PSW AF1- AF1+ HTAF1 HTS OXS KNK1 KNK2 SP1 E1 E01 E02 E03 E05
I 1 IDLE AIR CONTROL VALVE
P10 POWER STEERING OIL PRESSURE SW
A23 AIR FUEL RATIO SENSOR (Bank 1 Sensor 1)
H 9 HEATED OXYGEN SENSOR (Bank 1 Sensor 2)
ED1
K 2 KNOCK SENSOR 1
K 3 KNOCK SENSOR 2
To Speedometer (Cont. Meter) <27- 2><28- 2>
Near the throttle body
EB
(Shielded)

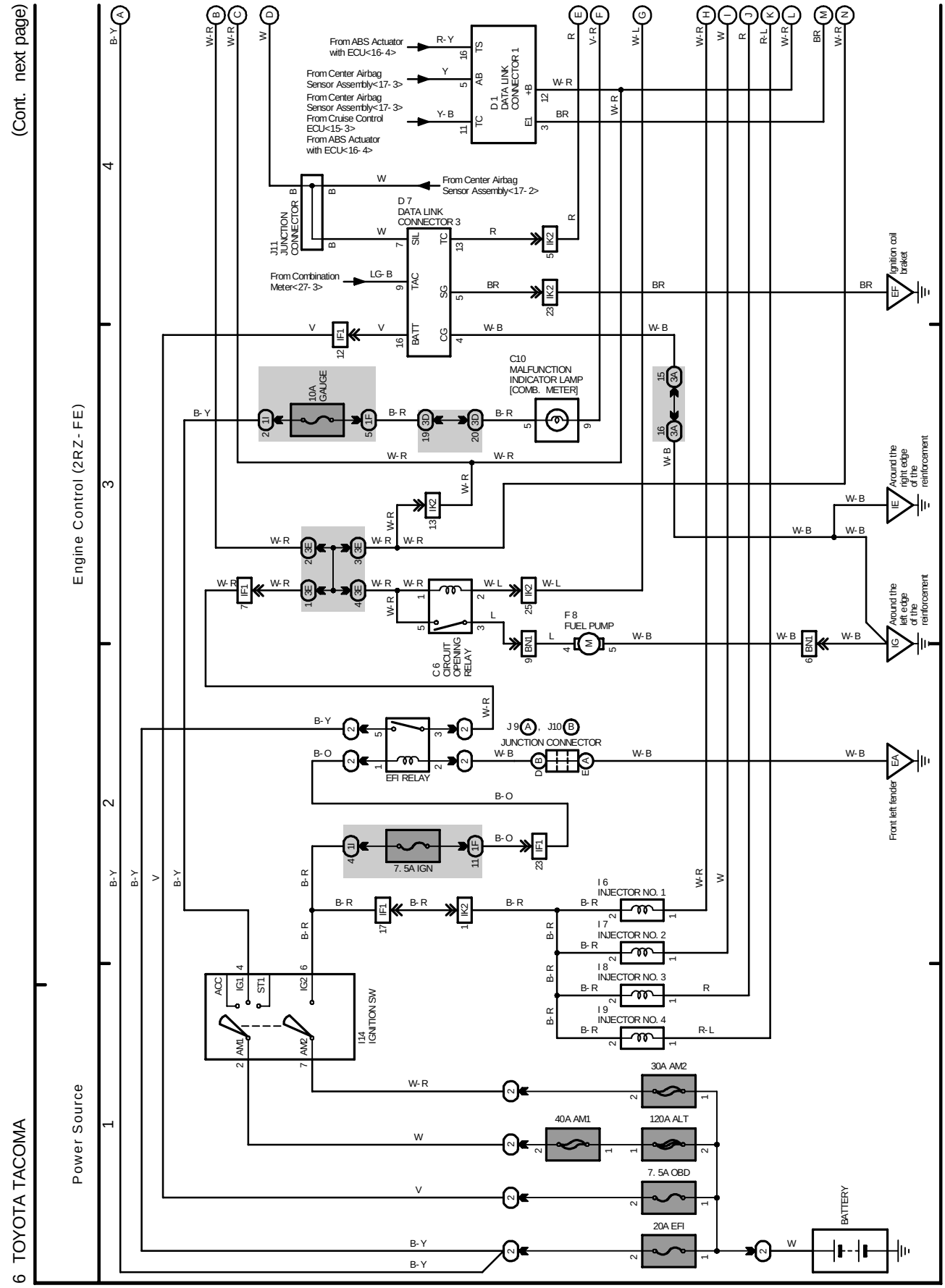
M OVERALL ELECTRICAL WIRING DIAGRAM

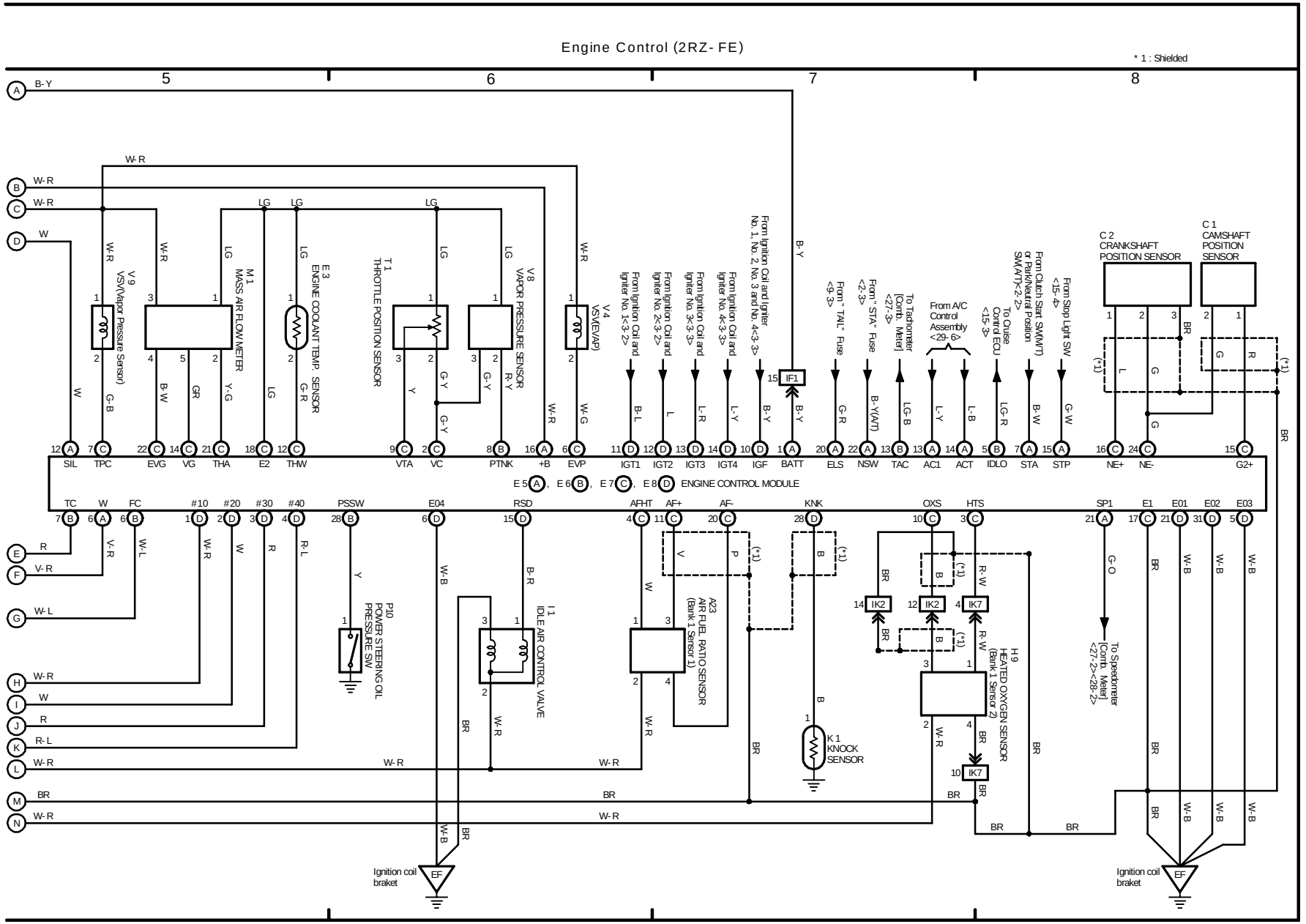



Engine Control (3RZ- FE)
* 1 : 4WD
* 2 : Shielded
5
6
7
8
E 5 A, E 6 B, E 7 C, E 8 D ENGINE CONTROL MODULE
V 9 VSV(Vapor Pressure Sensor)
M 1 MASS AIR FLOW METER
E 3 ENGINE COOLANT TEMP. SENSOR
E 1 EGR GAS TEMP. SENSOR
T 1 THROTTLE POSITION SENSOR
V 8 VAPOR PRESSURE SENSOR
V 4 VSV(EVAP)
C 2 CRANKSHAFT POSITION SENSOR
C 1 CAMSHAFT POSITION SENSOR
P10 POWER STEERING OIL PRESSURE SW
I 1 IDLE AIR CONTROL VALVE
V 3 VSV(EGR)
A23 AIR FUEL RATIO SENSOR (Bank 1 Sensor 1)
K 1 KNOCK SENSOR
H 9 HEATED OXYGEN SENSOR (Bank 1 Sensor 2)
From Ignition Coil and Igniter No. 1<3-2>
From Ignition Coil and Igniter No. 2<3-2>
From Ignition Coil and Igniter No. 3<3-3>
From Ignition Coil and Igniter No. 4<3-3>
From Ignition Coil and Igniter No. 1, No. 2, No. 3 and No. 4<3-3>
From " TAIL" Fuse <9-3>
From " STA" Fuse <2-3>
To Tachometer [Comb. Meter] <27-3>
From A/C Control Assembly <29-6>
To Cruise Control ECU <15-3>
From Clutch Start SW(M/T) or Park/Neutral Position SW(A/T)<2-2>
From Stop Light SW <15-4>
To ADD Detection SW [ADD Actuator]<21-1>
To Detection SW(Transfer L4 Position)<21-4>
To Speedometer [Comb. Meter] <27-2><28-2>
Ignition coil braket
EF
SIL TPC EVG VG THA E2 THW THG VTA VC PTNK +B EVP IGT1 IGT2 IGT3 IGT4 IGF BATT ELS NSW TAC AC1 ACT IDLO STA STP NE+ NE- G2+
TC W FC #10 #20 #30 #40 PSSW E04 RSD EGR AFHT AF+ AF- KNK OXS HTS 4WD L4 SP1 E1 E01 E02 E03
IF1
IK2
IK7

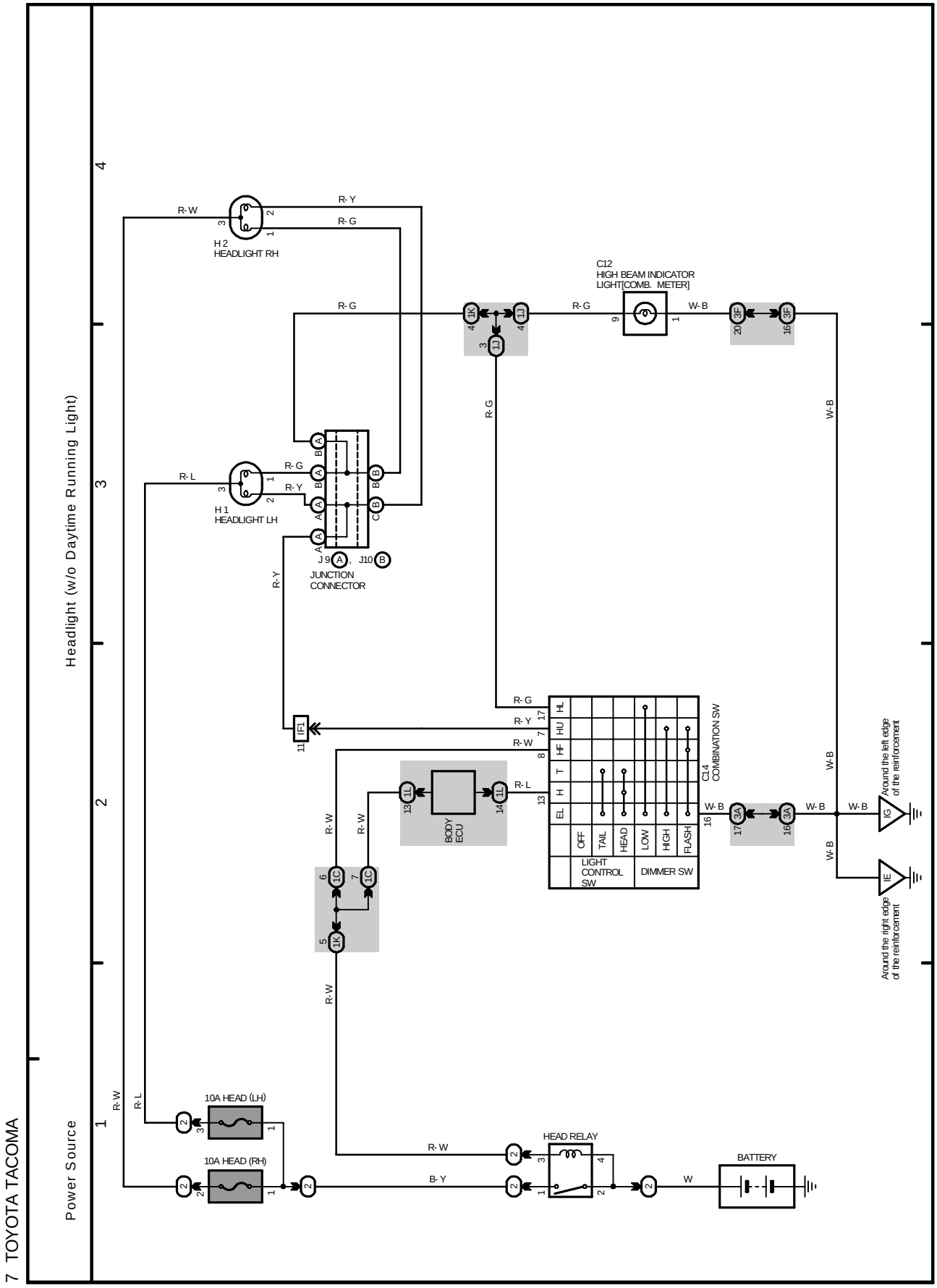
M

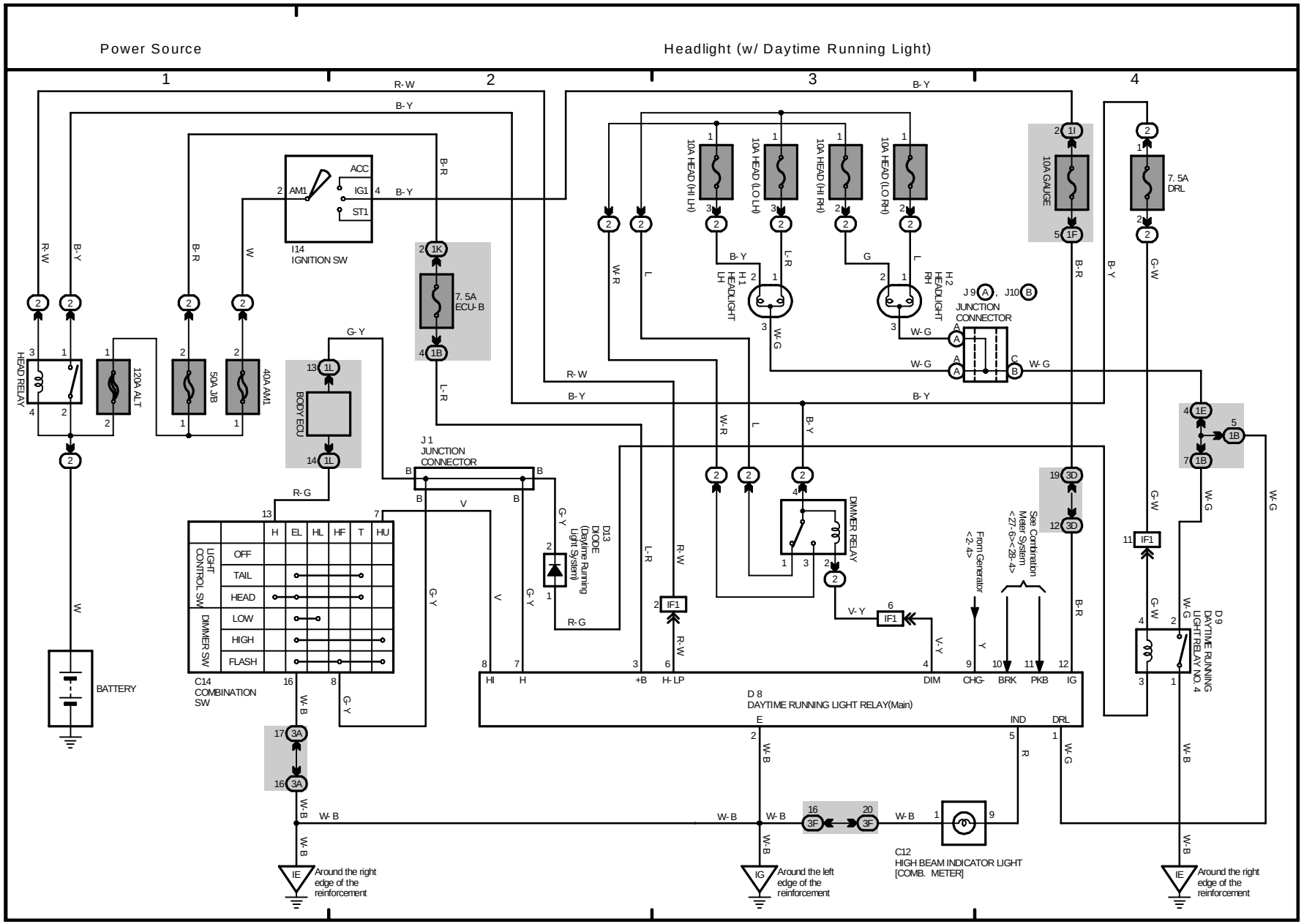
M OVERALL ELECTRICAL WIRING DIAGRAM



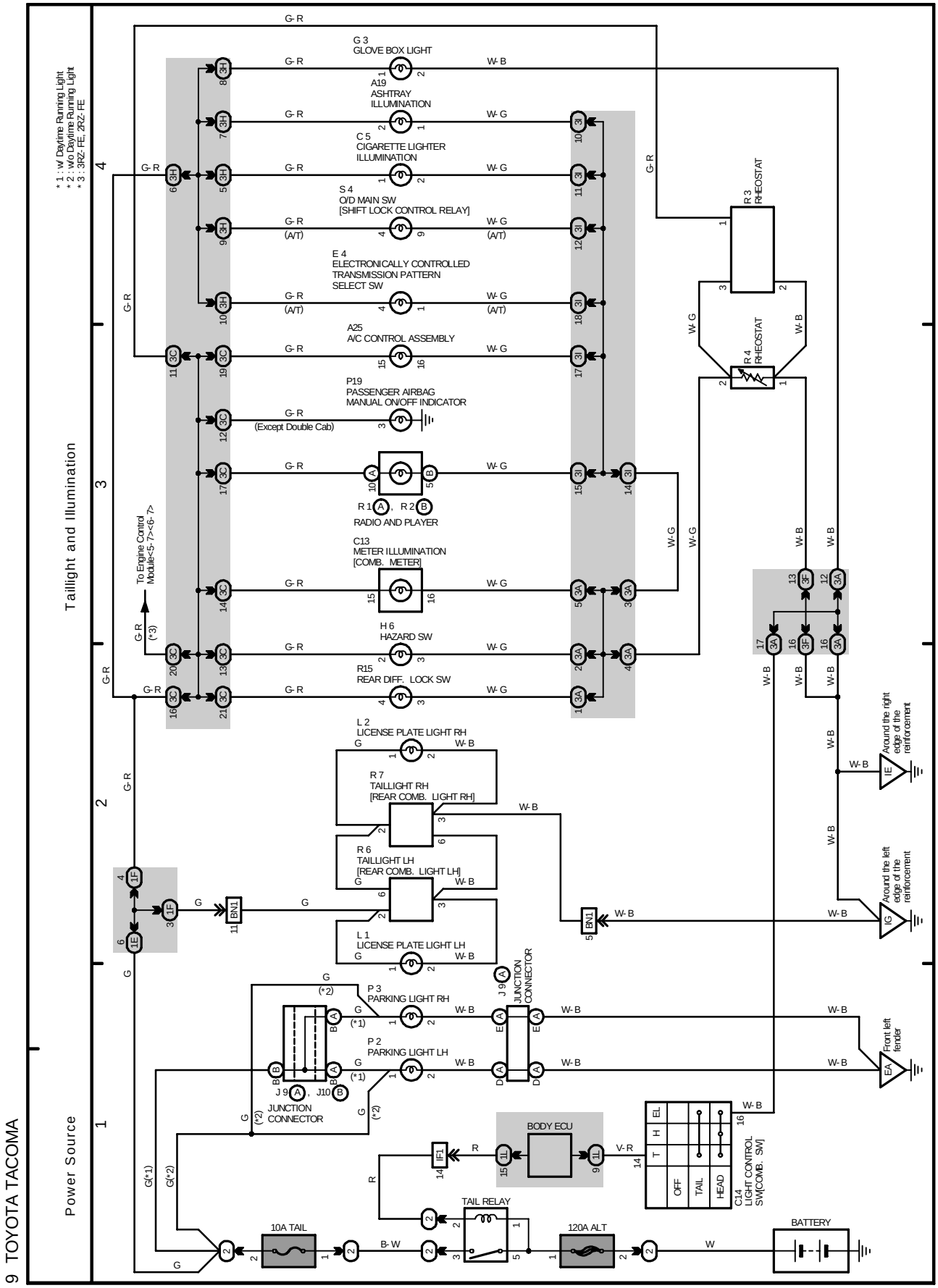

Engine Control (2RZ- FE)
* 1 : Shielded
5
6
7
8
V 9 VSV(Vapor Pressure Sensor)
M 1 MASS AIR FLOW METER
E 3 ENGINE COOLANT TEMP. SENSOR
T 1 THROTTLE POSITION SENSOR
V 8 VAPOR PRESSURE SENSOR
V 4 VSV(EVAP)
From Ignition Coil and Igniter No. 1, No. 2, No. 3 and No. 4<3- 3>
From Ignition Coil and Igniter No. 1<3- 2>
From Ignition Coil and Igniter No. 2<3- 2>
From Ignition Coil and Igniter No. 3<3- 3>
From Ignition Coil and Igniter No. 4<3- 3>
From "TAIL" Fuse <9- 3>
From "STA" Fuse <2- 3>
To Tachometer [Comb. Meter] <27- 3>
From A/C Control Assembly <29- 6>
To Cruise Control ECU <15- 3>
From Clutch Start SW(M/T) or Park/Neutral Position SW(A/T)<2- 2>
From Stop Light SW <15- 4>
C 2 CRANKSHAFT POSITION SENSOR
C 1 CAMSHAFT POSITION SENSOR
SIL
TPC
EVG
VG
THA
E2
THW
VTA
VC
PTNK
+B
EVP
IGT1
IGT2
IGT3
IGT4
IGF
BATT
ELS
NSW
TAC
AC1
ACT
IDLO
STA
STP
NE+
NE-
G2+
E5 (A), E6 (B), E7 (C), E8 (D) ENGINE CONTROL MODULE
TC
W
FC
#10
#20
#30
#40
PSSW
E04
RSD
AFHT
AF+
AF-
KNK
OXS
HTS
SP1
E1
E01
E02
E03
P10 POWER STEERING OIL PRESSURE SW
I 1 IDLE AIR CONTROL VALVE
A23 AIR FUEL RATIO SENSOR (Bank 1 Sensor 1)
K 1 KNOCK SENSOR
H 9 HEATED OXYGEN SENSOR (Bank 1 Sensor 2)
IK2
IK7
IF1
To Speedometer [Comb. Meter] <27- 2><28- 2>
Ignition coil braket
EF

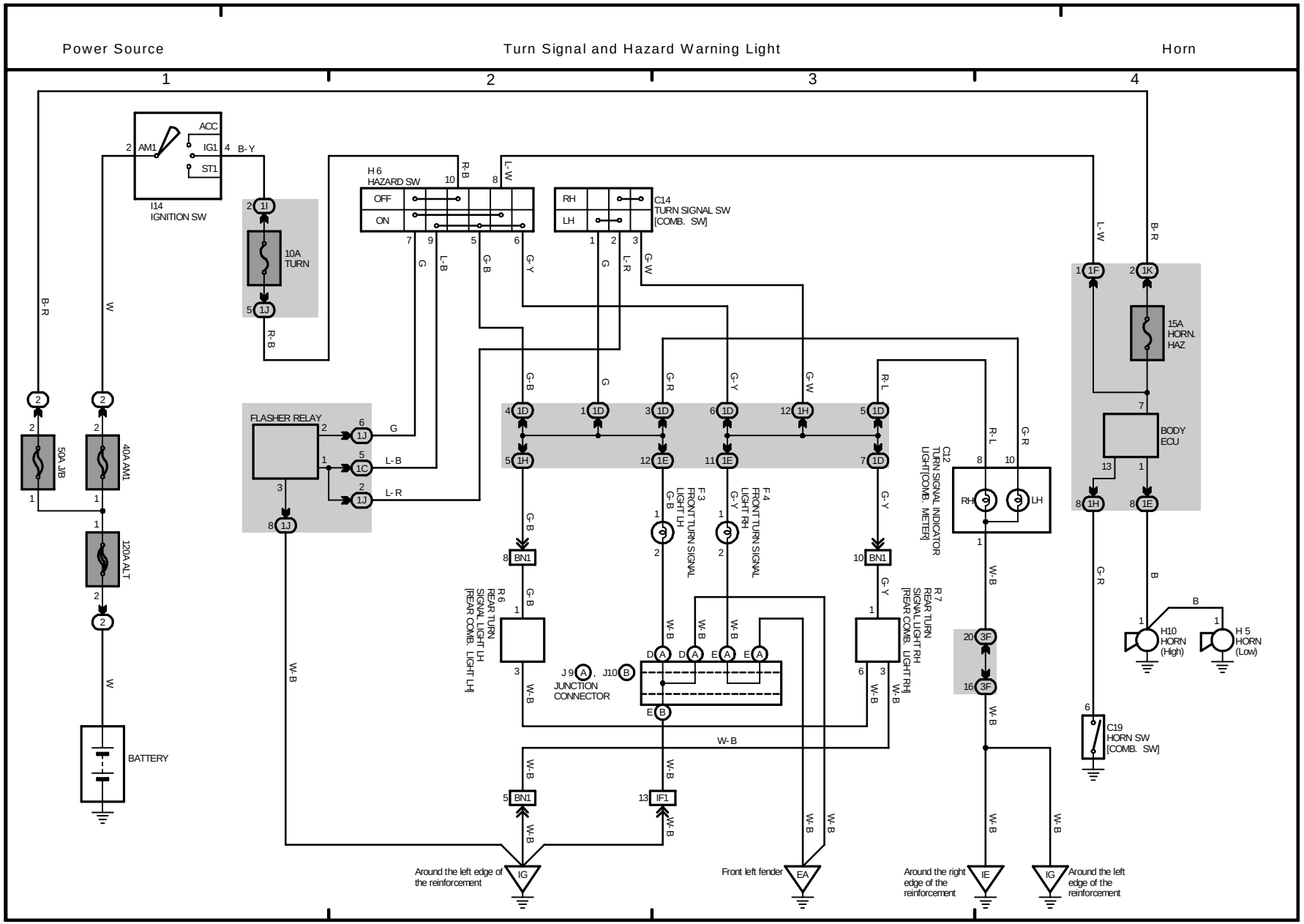
M OVERALL ELECTRICAL WIRING DIAGRAM



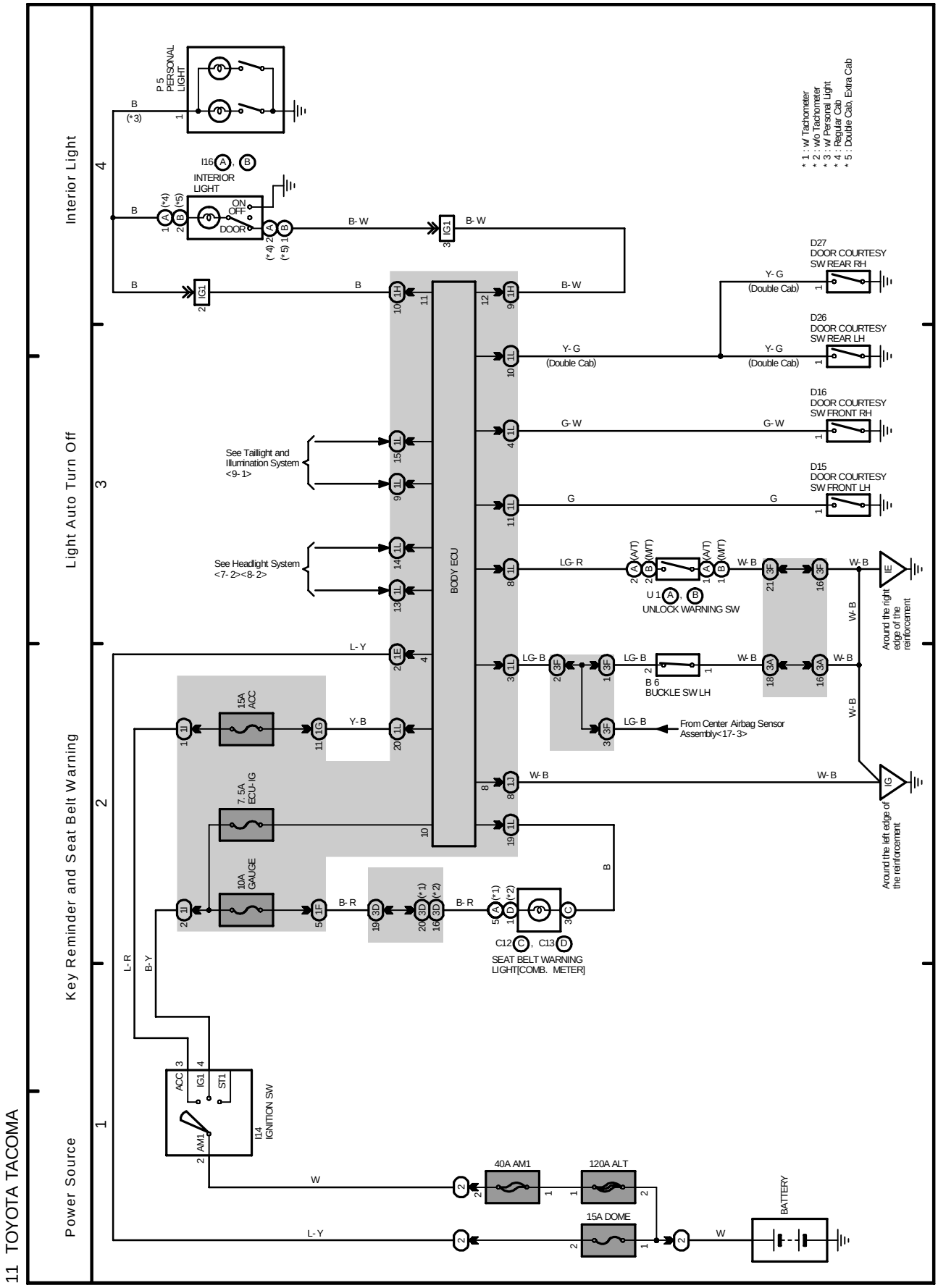

Power Source
Headlight (w/ Daytime Running Light)
1
2
3
4
ACC
IG1
ST1
AM1
I14
IGNITION SW
7. 5A
ECU-B
HEAD RELAY
120A ALT
50A J/B
40A AM1
BODY ECU
BATTERY
J 1
JUNCTION
CONNECTOR
10A HEAD (HI LH)
10A HEAD (LO LH)
10A HEAD (HI RH)
10A HEAD (LO RH)
H1
HEADLIGHT
LH
H2
HEADLIGHT
RH
J 9
J10
JUNCTION
CONNECTOR
10A GAUGE
7. 5A
DRL
DIMMER RELAY
D13
DIODE
(Daytime Running
Light System)
LIGHT
CONTROL SW
DIMMER SW
OFF
TAIL
HEAD
LOW
HIGH
FLASH
H
EL
HL
HF
T
HU
C14
COMBINATION
SW
D 8
DAYTIME RUNNING LIGHT RELAY(Main)
HI
H
+B
H- LP
DIM
CHG-
BRK
PKB
IG
E
IND
DRL
From Generator
<2-4>
See Combination
Meter System
<27-5><28-4>
D9
DAYTIME RUNNING
LIGHT RELAY NO. 4
C12
HIGH BEAM INDICATOR LIGHT
[COMB. METER]
IE
Around the right
edge of the
reinforcement
IG
Around the left
edge of the
reinforcement
IE
Around the right
edge of the
reinforcement

M OVERALL ELECTRICAL WIRING DIAGRAM

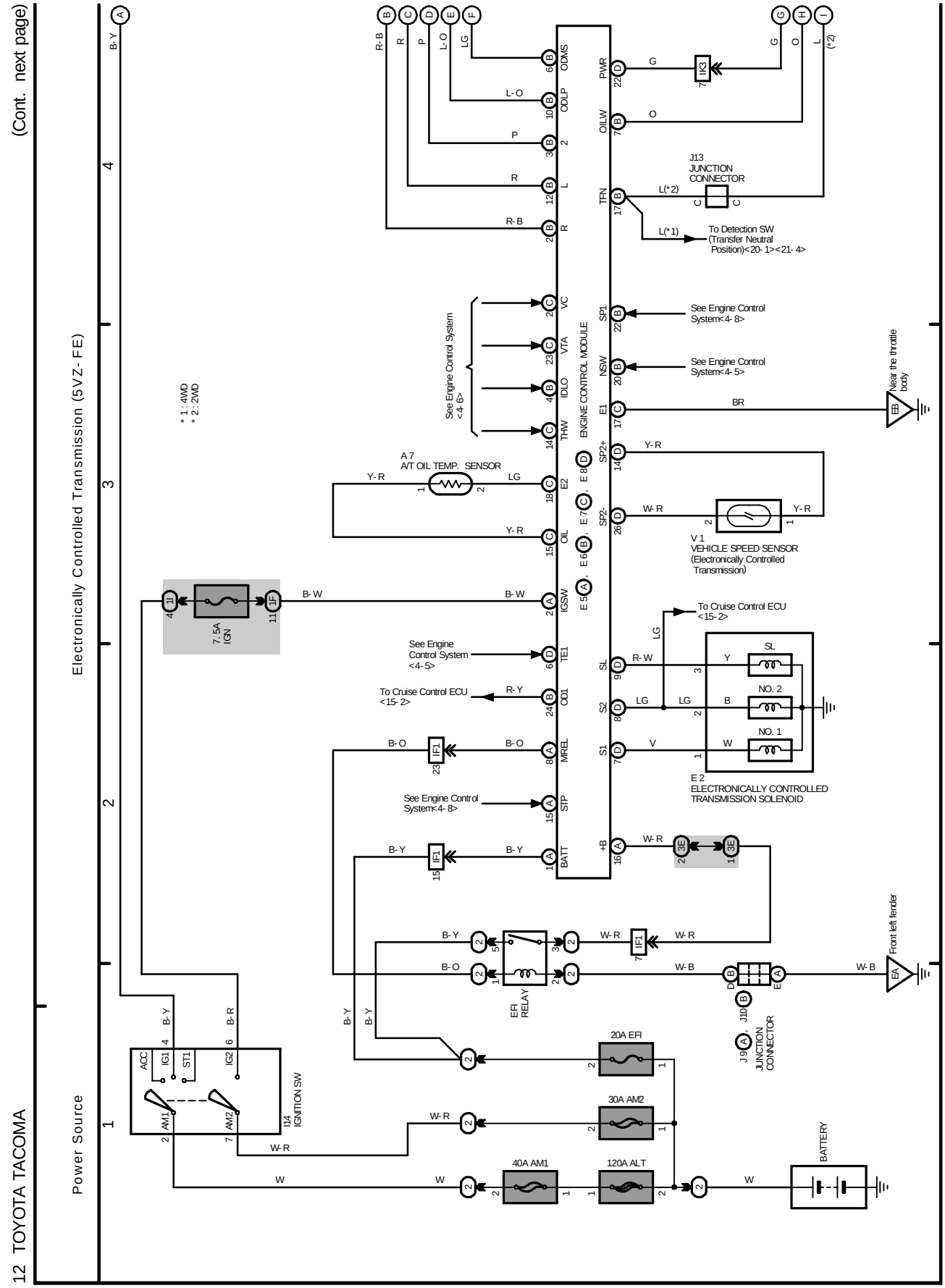


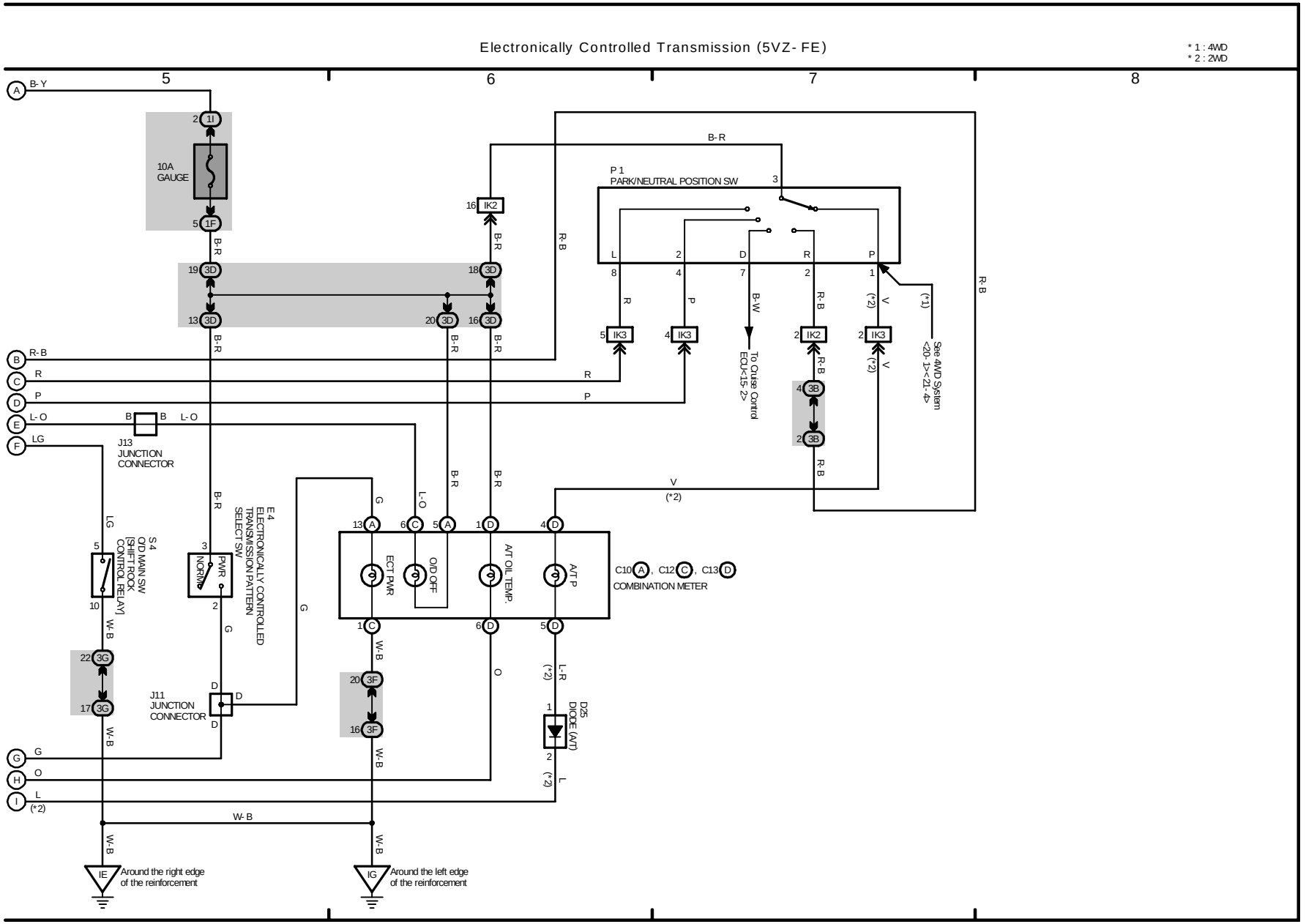

Power Source
Turn Signal and Hazard Warning Light
Horn
1
2
3
4
ACC
AM1
IG1
ST1
B-Y
I14
IGNITION SW
H 6
HAZARD SW
OFF
ON
C14
TURN SIGNAL SW
[COMB. SW]
RH
LH
10A
TURN
15A
HORN,
HAZ
BODY
ECU
FLASHER RELAY
50A J/B
40A AM1
120A ALT
BATTERY
F 3
FRONT TURN SIGNAL
LIGHT LH
F 4
FRONT TURN SIGNAL
LIGHT RH
R 6
REAR TURN
SIGNAL LIGHT LH
[REAR COMB. LIGHT LH]
R 7
REAR TURN
SIGNAL LIGHT RH
[REAR COMB. LIGHT RH]
C12
TURN SIGNAL INDICATOR
LIGHT [COMB. METER]
J 9
J10
JUNCTION
CONNECTOR
H10
HORN
(High)
H 5
HORN
(Low)
C19
HORN SW
[COMB. SW]
Around the left edge of
the reinforcement
IG
Front left fender
EA
Around the right
edge of the
reinforcement
IE
IG
Around the left
edge of the
reinforcement

M OVERALL ELECTRICAL WIRING DIAGRAM

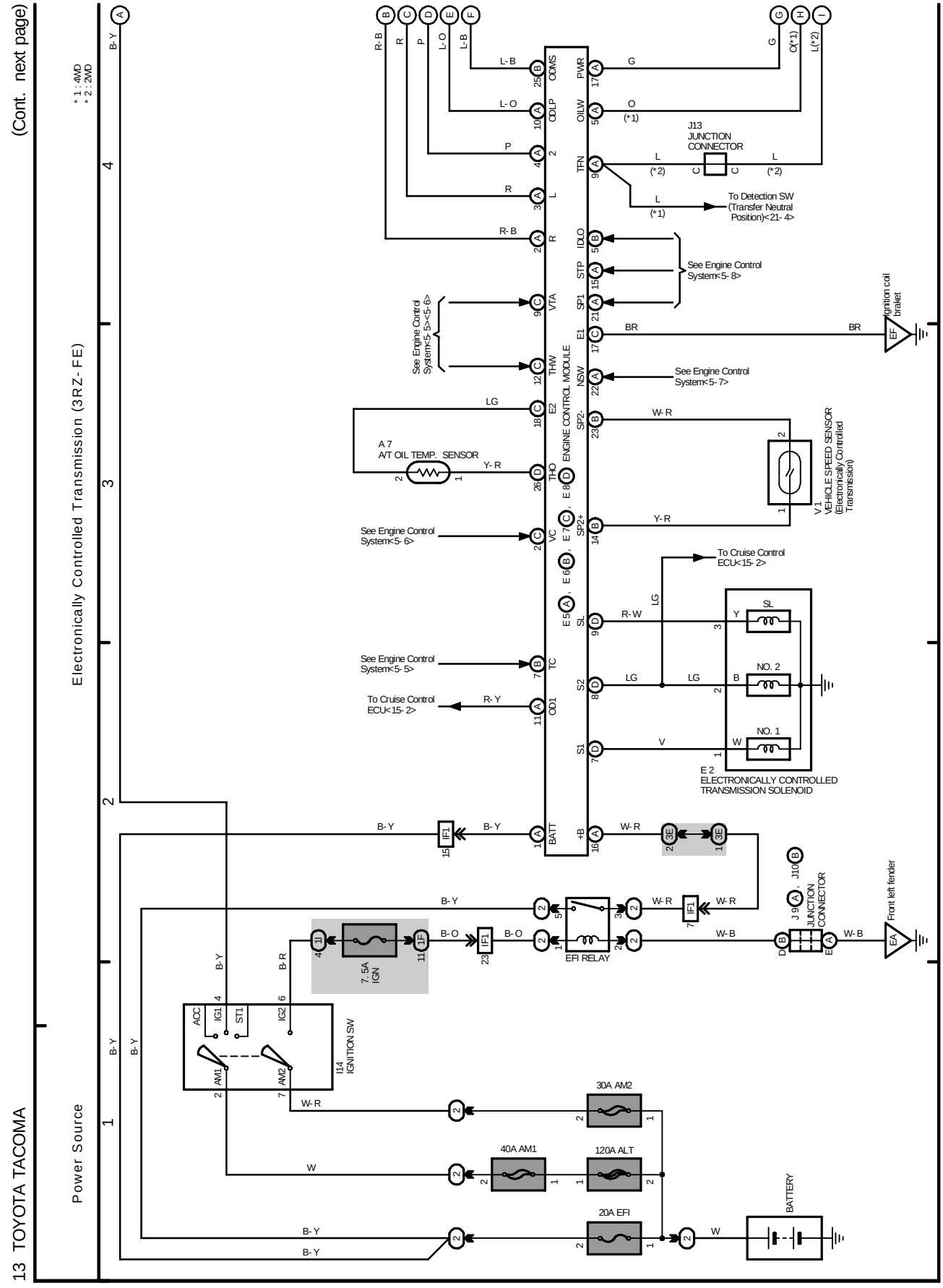


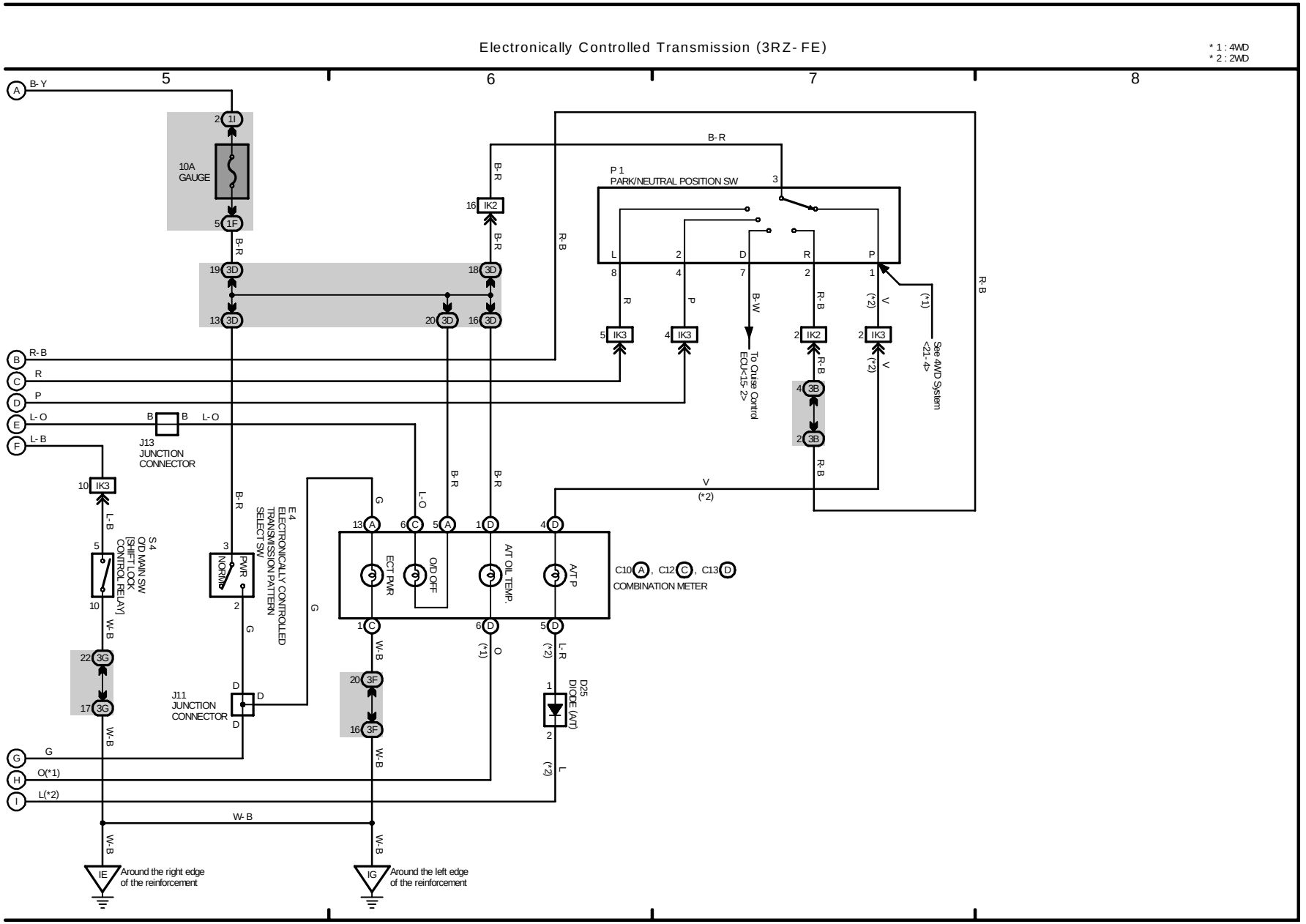
M OVERALL ELECTRICAL WIRING DIAGRAM



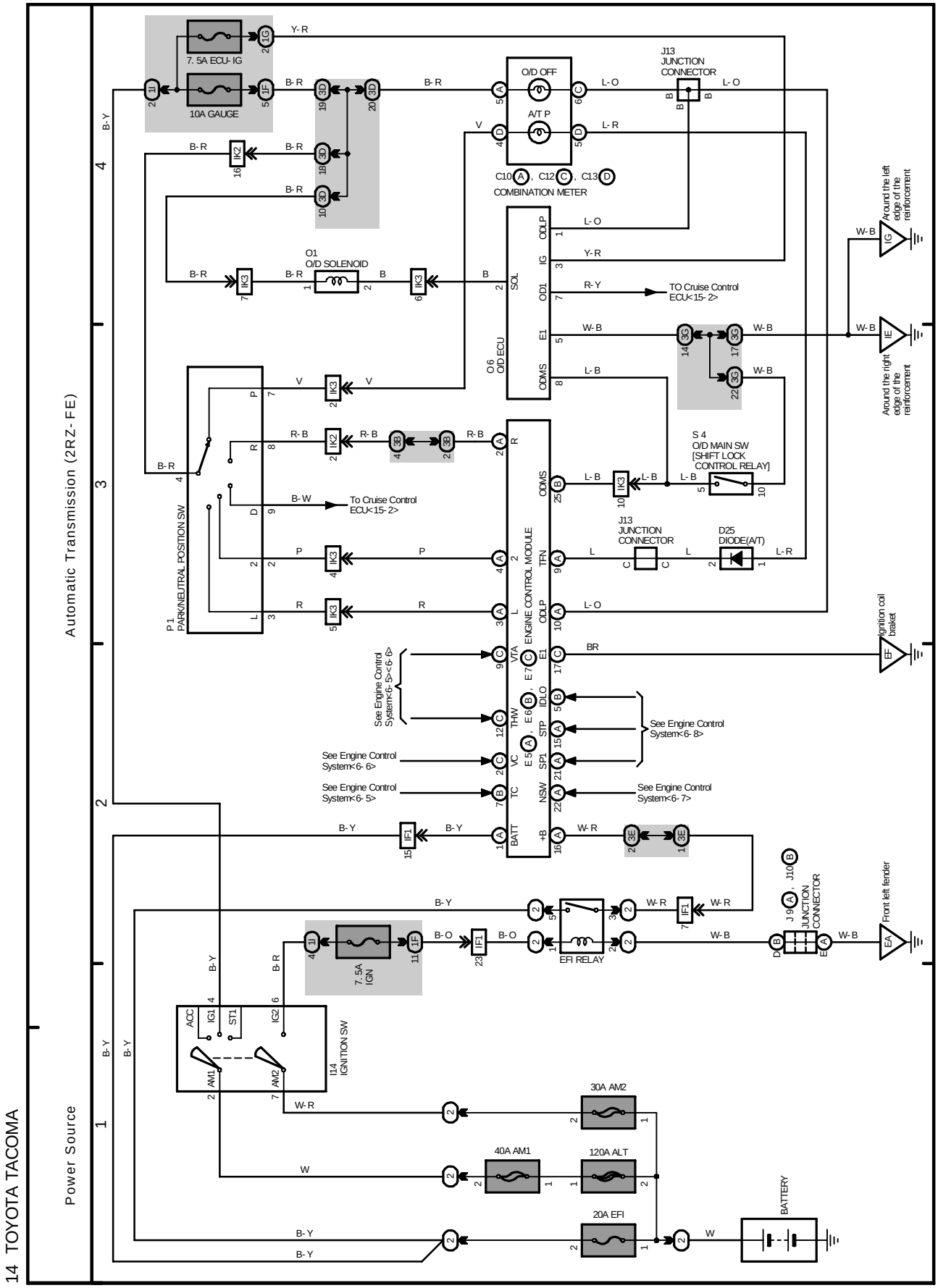

Electronically Controlled Transmission (5VZ- FE)
* 1 : 4WD
* 2 : 2WD
5
6
7
8
10A GAUGE
P 1 PARK/NEUTRAL POSITION SW
J13 JUNCTION CONNECTOR
J11 JUNCTION CONNECTOR
S4 O/D MAIN SW [SHIFT ROCK CONTROL RELAY]
E4 ELECTRONICALLY CONTROLLED TRANSMISSION PATTERN SELECT SW
D25 DIODE (A/T)
ECT PWR
O/D OFF
A/T OIL TEMP.
A/T P
C10 A, C12 C, C13 D
COMBINATION METER
To Cruise Control ECU <15- 2>
See 4WD System <20- 1><21- 4>
Around the right edge of the reinforcement
Around the left edge of the reinforcement

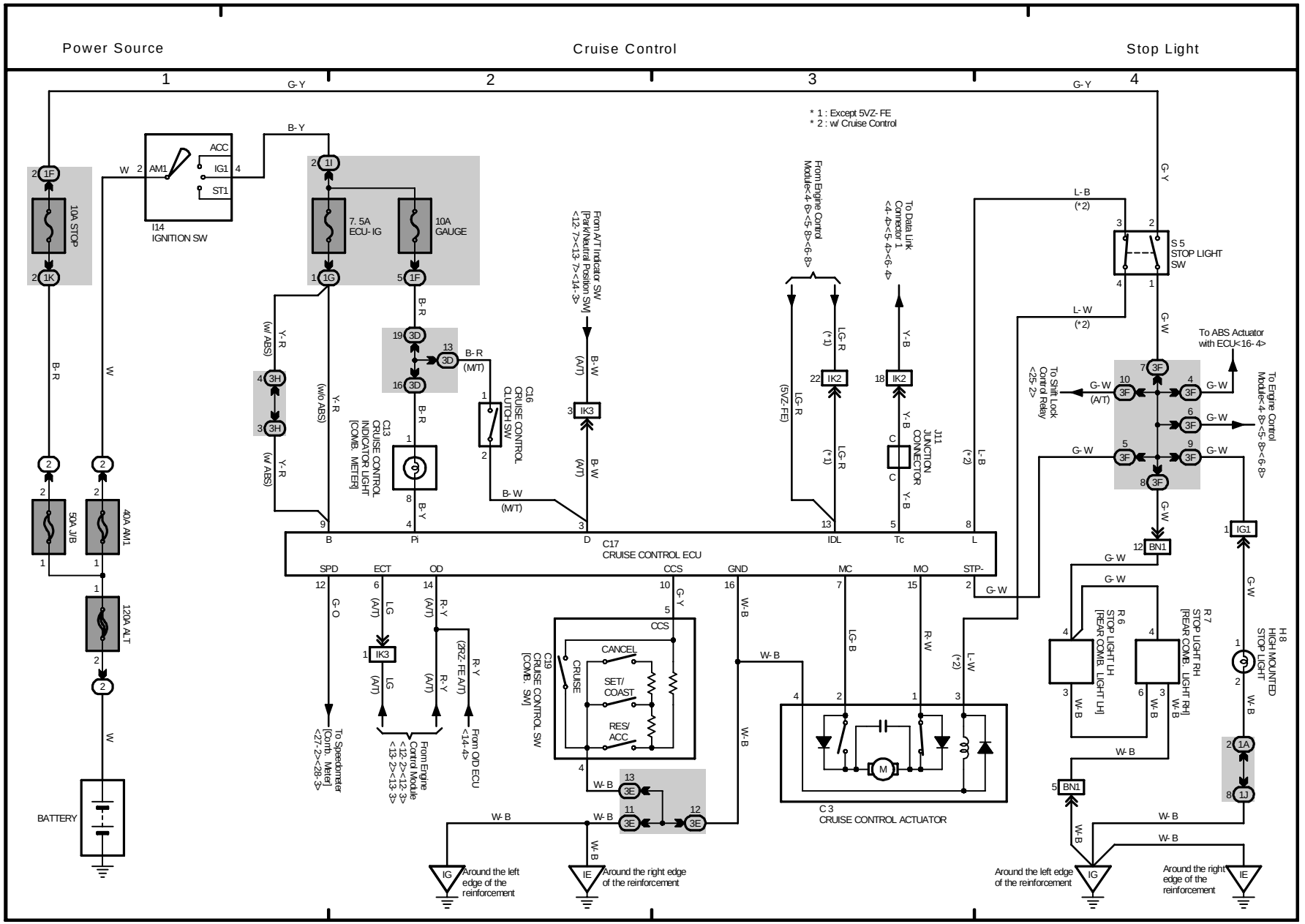
M OVERALL ELECTRICAL WIRING DIAGRAM



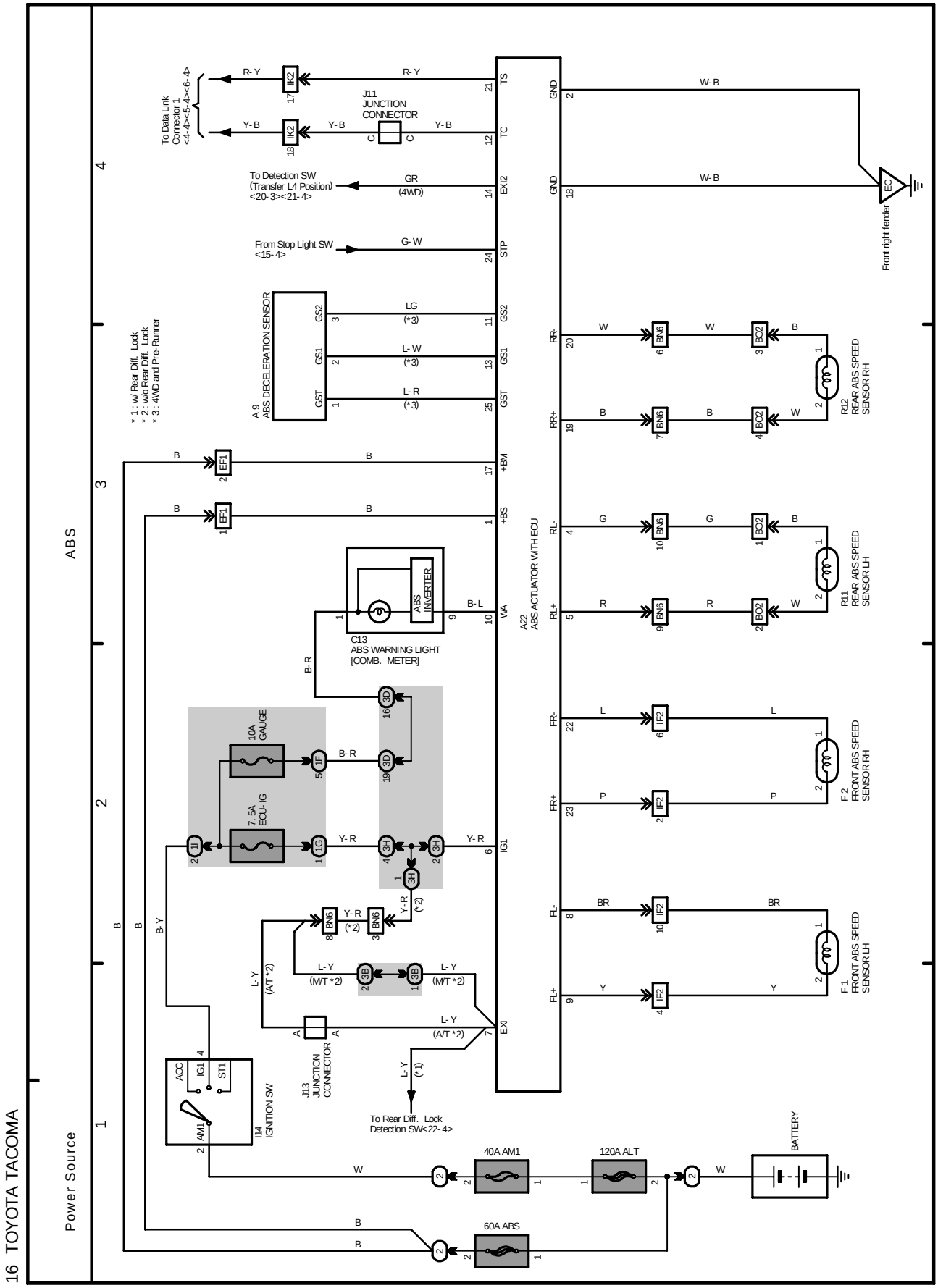

Electronically Controlled Transmission (3RZ-FE)
* 1 : 4WD
* 2 : 2WD
5
6
7
8
B-Y
10A GAUGE
1I
1F
B-R
R-B
P 1
PARK/NEUTRAL POSITION SW
L
2
D
R
P
IK2
IK3
3D
3B
3G
3F
R
P
B-W
V
(*1)
(*2)
To Cruise Control ECU<15-2>
See 4WD System <21-4>
R-B
L-O
L-B
J13 JUNCTION CONNECTOR
S4 O/D MAIN SW [SHIFT LOCK CONTROL RELAY]
E4 ELECTRONICALLY CONTROLLED TRANSMISSION PATTERN SELECT SW
PWR
NORM
G
J11 JUNCTION CONNECTOR
ECT PWR
O/D OFF
A/T OIL TEMP.
A/T P
C10 A, C12 C, C13 D
COMBINATION METER
W-B
O
L-R
D25 DIODE (A/T)
L
IE
Around the right edge of the reinforcement
IG
Around the left edge of the reinforcement

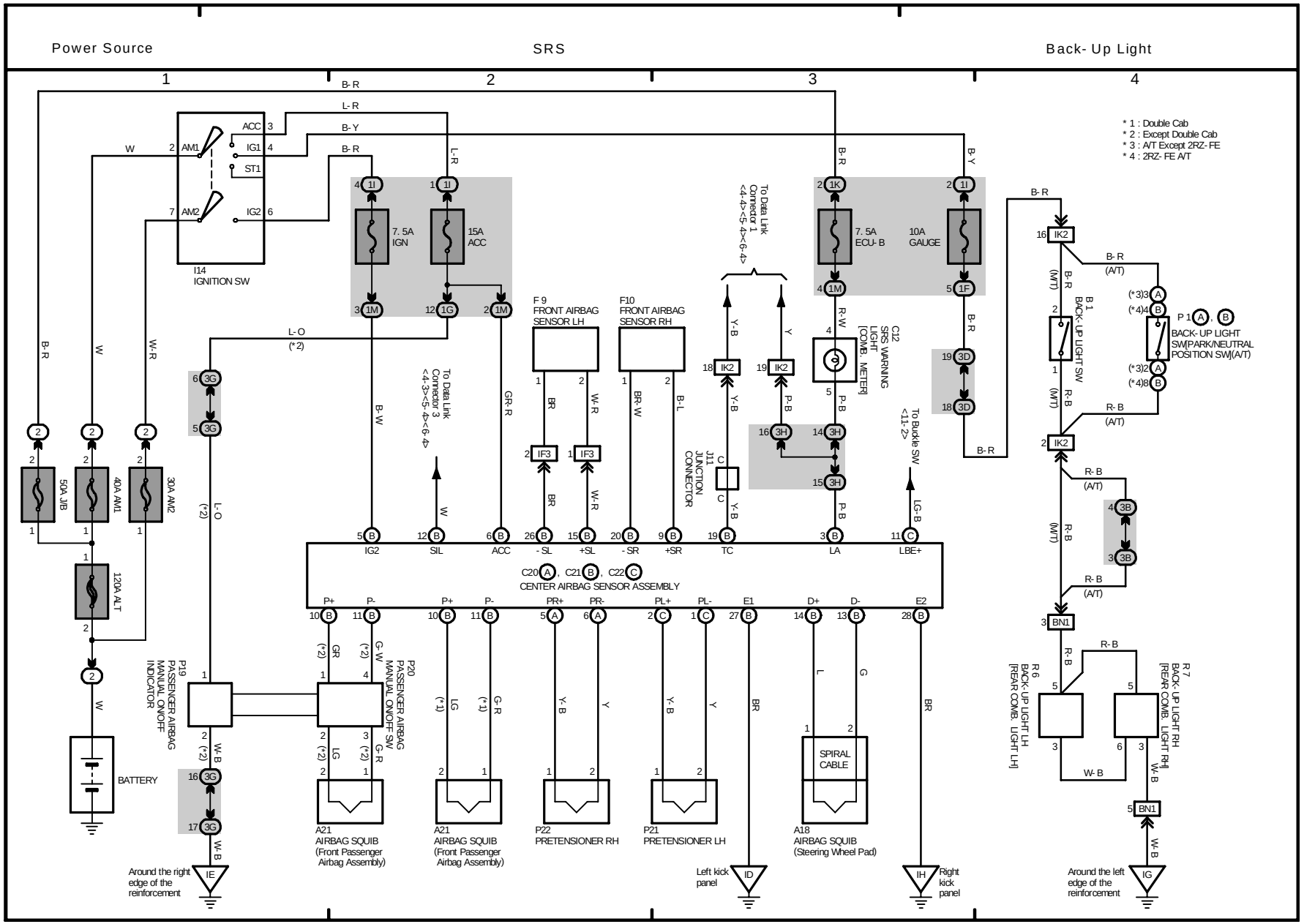
M OVERALL ELECTRICAL WIRING DIAGRAM



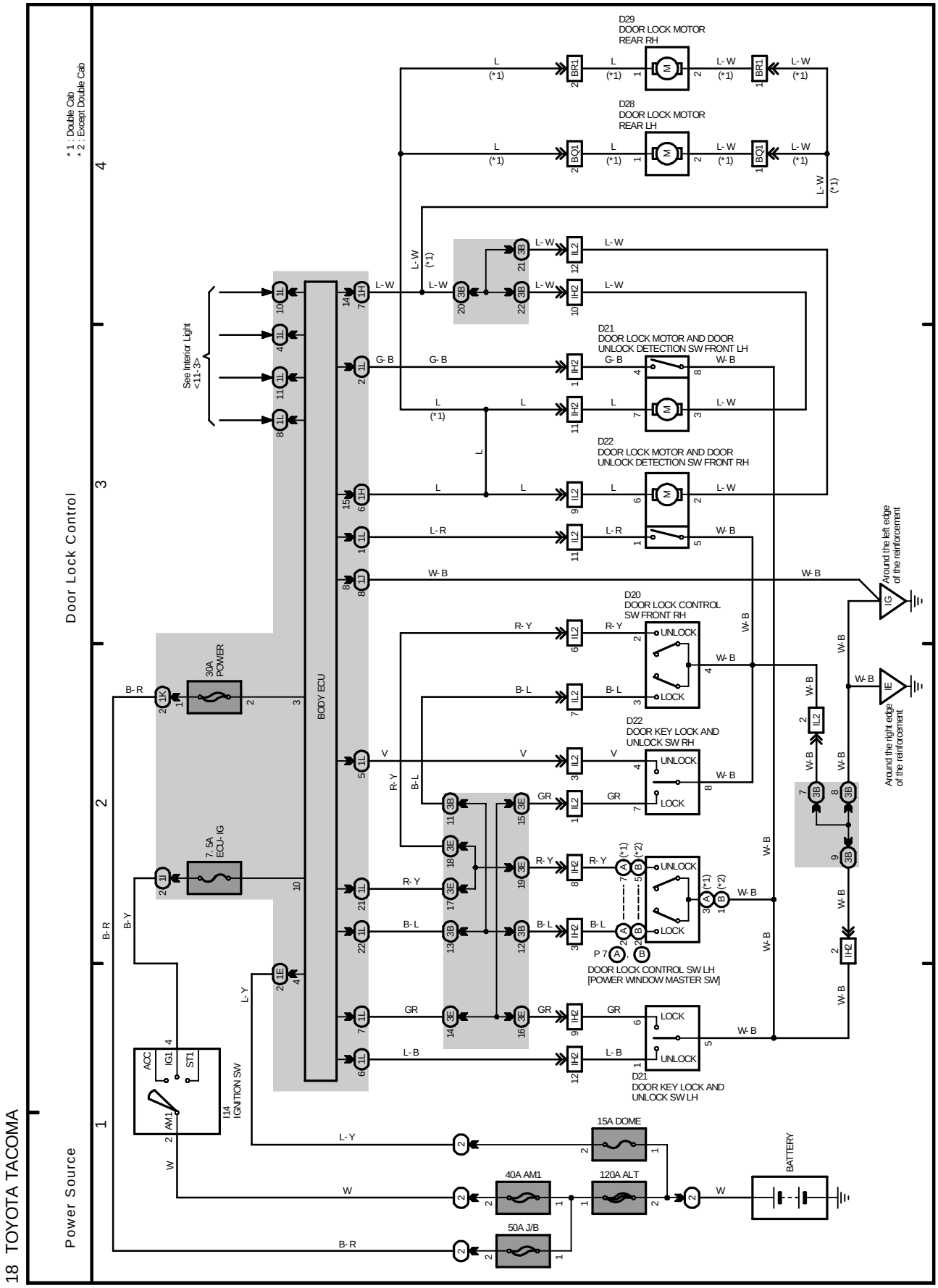

Power Source
Cruise Control
Stop Light
* 1 : Except 5VZ-FE
* 2 : w/ Cruise Control
10A STOP
I14 IGNITION SW
7.5A ECU-IG
10A GAUGE
S5 STOP LIGHT SW
C16 CRUISE CONTROL CLUTCH SW
C13 CRUISE CONTROL INDICATOR LIGHT [COMB. METER]
J11 JUNCTION CONNECTOR
C17 CRUISE CONTROL ECU
C19 CRUISE CONTROL SW [COMB. SW]
C3 CRUISE CONTROL ACTUATOR
R6 STOP LIGHT LH [REAR COMB. LIGHT LH]
R7 STOP LIGHT RH [REAR COMB. LIGHT RH]
H8 HIGH MOUNTED STOP LIGHT
50A J/B
40A AM1
120A ALT
BATTERY
To ABS Actuator with ECU<16-4>
To Engine Control Module<4-8><5-8><6-8>
To Shift Lock Control Relay <25-2>
To Data Link Connector 1 <4-4><5-4><6-4>
From Engine Control Module<4-6><5-8><6-8>
From A/T Indicator SW [Park/Neutral Position SW] <12-7><13-7><14-3>
To Speedometer [Comb. Meter] <27-2><28-3>
From Engine Control Module <12-2><12-3><13-2><13-3>
From O/D ECU <14-4>
Around the left edge of the reinforcement
Around the right edge of the reinforcement

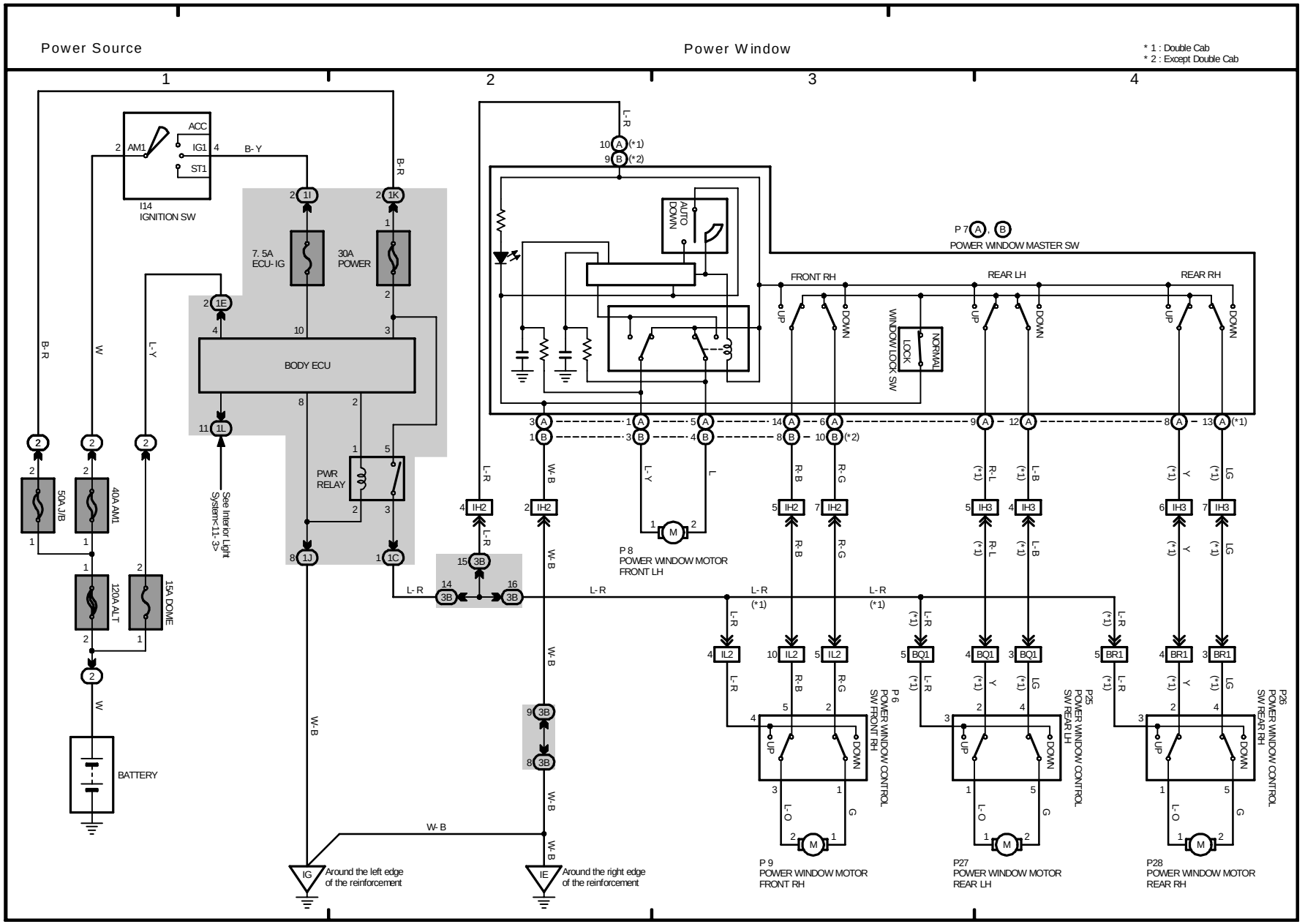
M OVERALL ELECTRICAL WIRING DIAGRAM



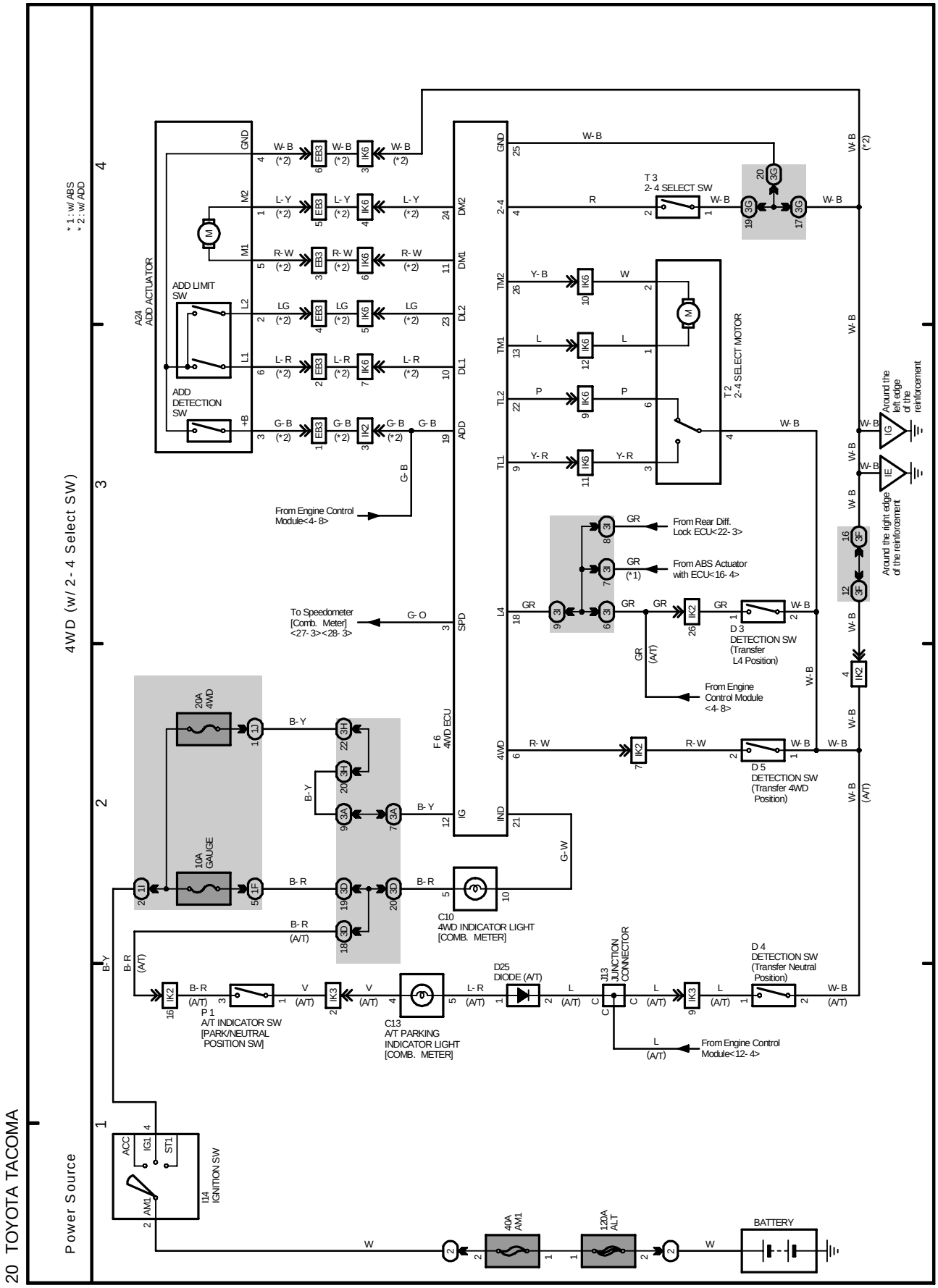

Power Source
SRS
Back- Up Light
1
2
3
4
* 1 : Double Cab
* 2 : Except Double Cab
* 3 : A/T Except 2RZ- FE
* 4 : 2RZ- FE A/T
I14
IGNITION SW
7. 5A
IGN
15A
ACC
7. 5A
ECU- B
10A
GAUGE
50A JB
40A AM1
30A AM2
120A ALT
BATTERY
F 9
FRONT AIRBAG
SENSOR LH
F10
FRONT AIRBAG
SENSOR RH
J11
JUNCTION
CONNECTOR
C12
SRS WARNING
LIGHT
[COMB. METER]
To Data Link
Connector 1
<4- 4><5- 4><6- 4>
To Data Link
Connector 3
<4- 3><5- 4><6- 4>
To Buckle SW
<11- 2>
IG2
SIL
ACC
- SL
+SL
- SR
+SR
TC
LA
LBE+
C20 A , C21 B , C22 C
CENTER AIRBAG SENSOR ASSEMBLY
P19
PASSENGER AIRBAG
MANUAL ON/OFF
INDICATOR
P20
PASSENGER AIRBAG
MANUAL ON/OFF SW
A21
AIRBAG SQUIB
(Front Passenger
Airbag Assembly)
A21
AIRBAG SQUIB
(Front Passenger
Airbag Assembly)
P22
PRETENSIONER RH
P21
PRETENSIONER LH
A18
AIRBAG SQUIB
(Steering Wheel Pad)
SPIRAL
CABLE
B1
BACK- UP LIGHT SW
P 1 A , B
BACK- UP LIGHT
SW[PARK/NEUTRAL
POSITION SW](A/T)
R 6
BACK- UP LIGHT LH
[REAR COMB. LIGHT LH]
R 7
BACK- UP LIGHT RH
[REAR COMB. LIGHT RH]
Around the right
edge of the
reinforcement
Left kick
panel
Right
kick
panel
Around the left
edge of the
reinforcement
IE
ID
IH
IG

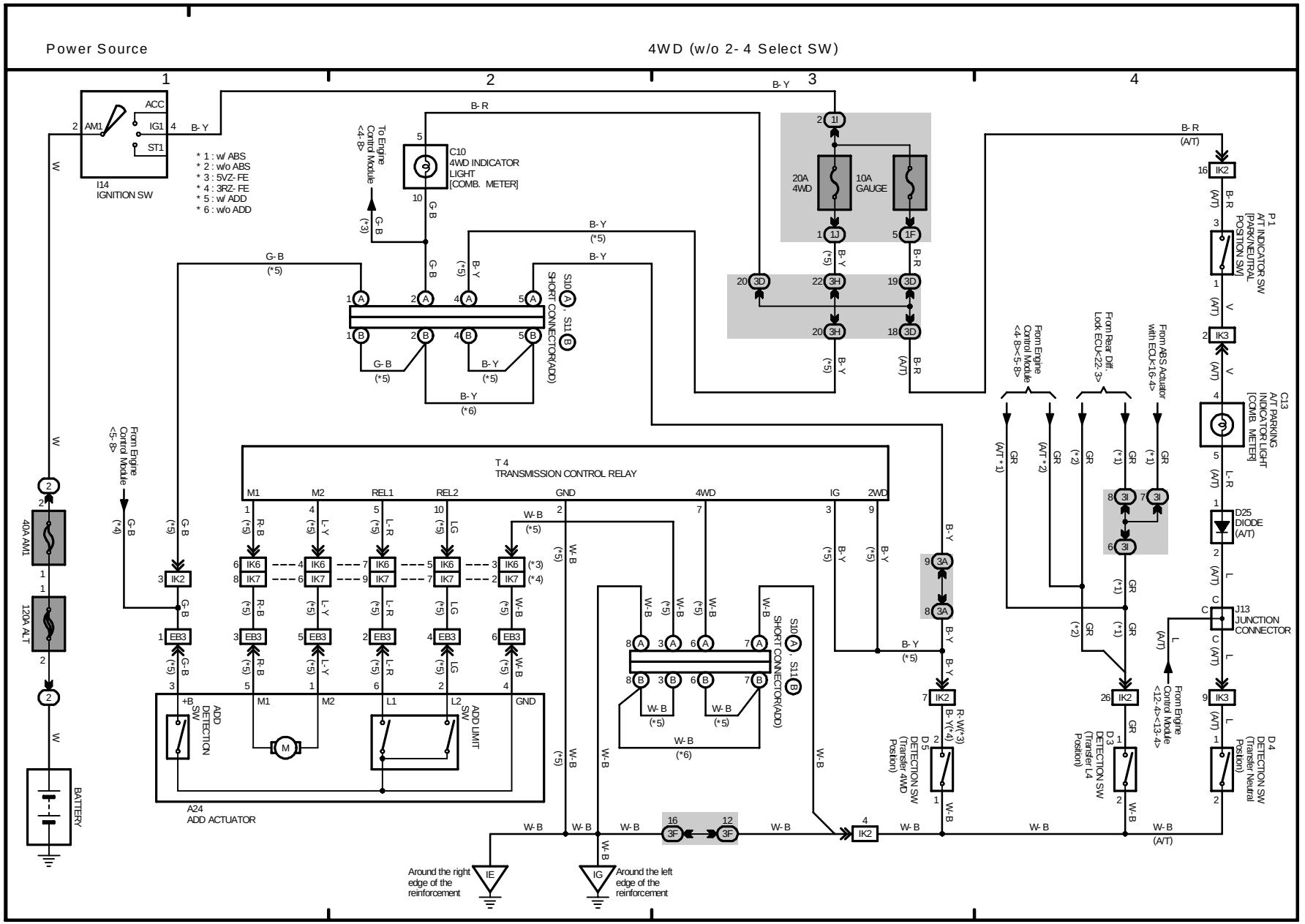
M OVERALL ELECTRICAL WIRING DIAGRAM



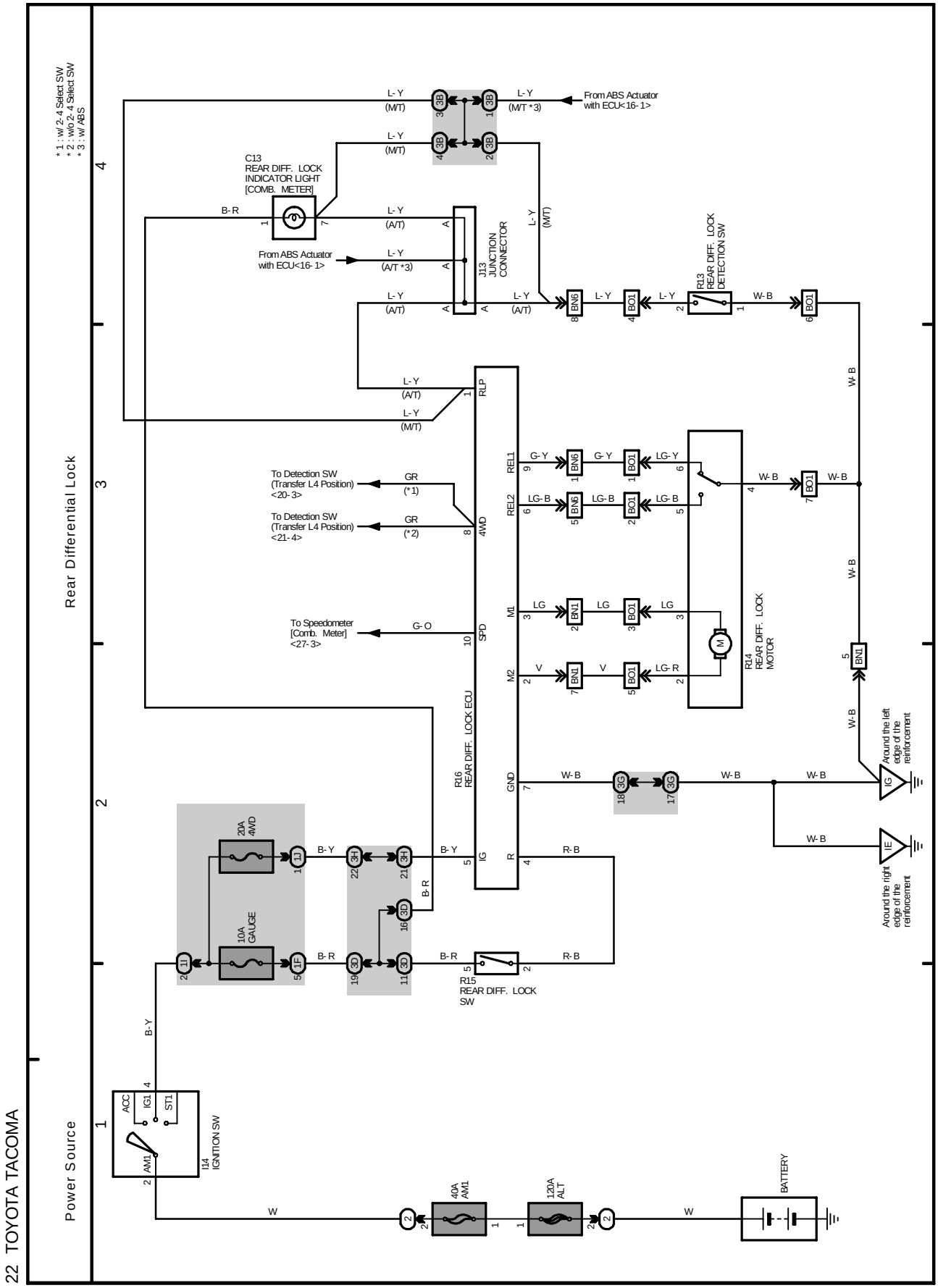

Power Source
Power Window
* 1 : Double Cab
* 2 : Except Double Cab
1
2
3
4
ACC
IG1
ST1
AM1
I14
IGNITION SW
B-Y
B-R
7. 5A
ECU-IG
30A
POWER
BODY ECU
PWR
RELAY
See Interior Light
System<11-3>
50A J/B
40A AM1
120A ALT
15A DOME
BATTERY
W
L-Y
W-B
L-R
AUTO
DOWN
P 7
POWER WINDOW MASTER SW
FRONT RH
REAR LH
REAR RH
UP
DOWN
WINDOW LOCK SW
LOCK
NORMAL
P 8
POWER WINDOW MOTOR
FRONT LH
R-B
R-G
R-L
L-B
Y
LG
L
P 6
POWER WINDOW CONTROL
SW FRONT RH
P25
POWER WINDOW CONTROL
SW REAR LH
P26
POWER WINDOW CONTROL
SW REAR RH
P 9
POWER WINDOW MOTOR
FRONT RH
P27
POWER WINDOW MOTOR
REAR LH
P28
POWER WINDOW MOTOR
REAR RH
L-O
G
IG
Around the left edge
of the reinforcement
IE
Around the right edge
of the reinforcement

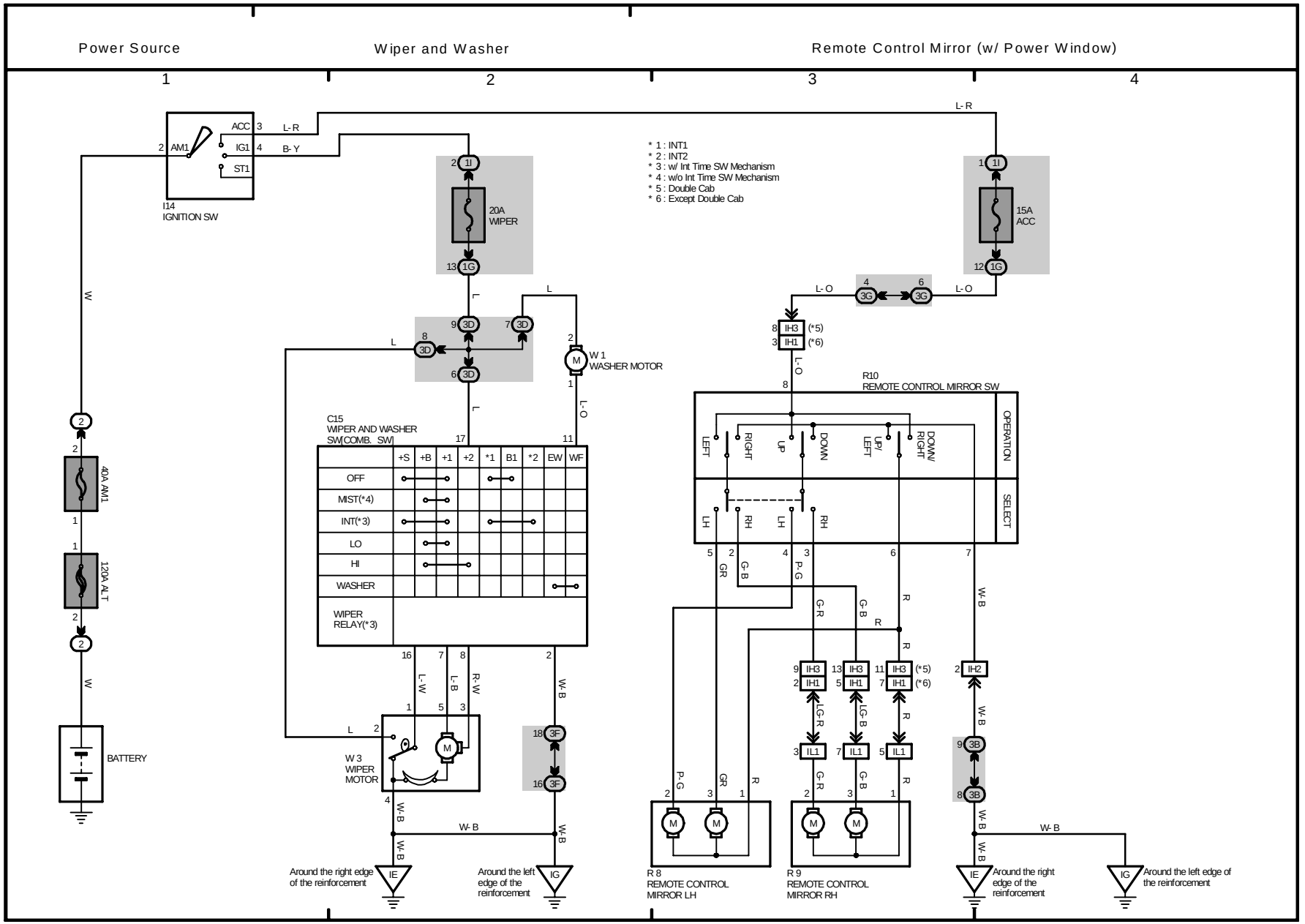
M OVERALL ELECTRICAL WIRING DIAGRAM

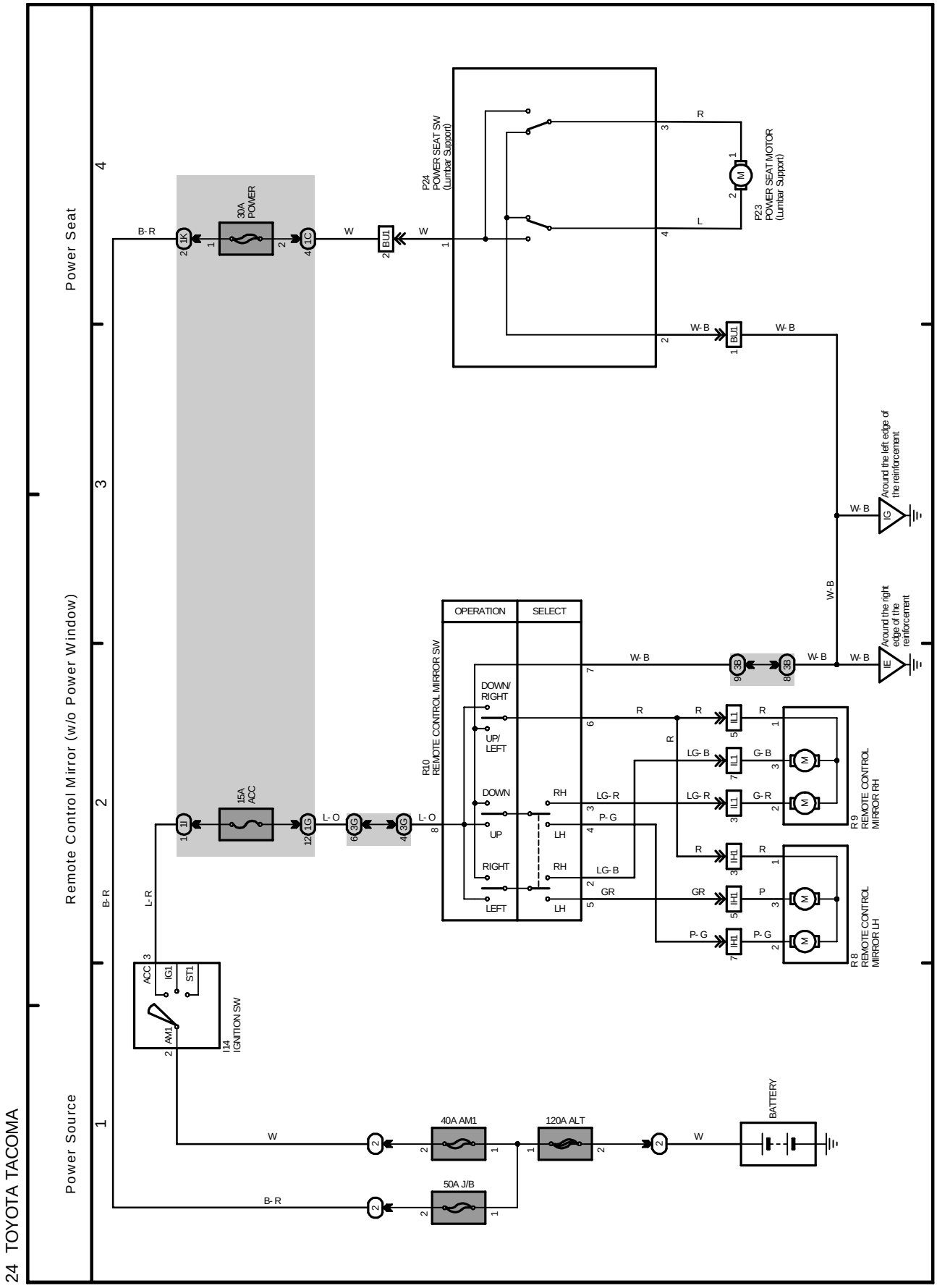


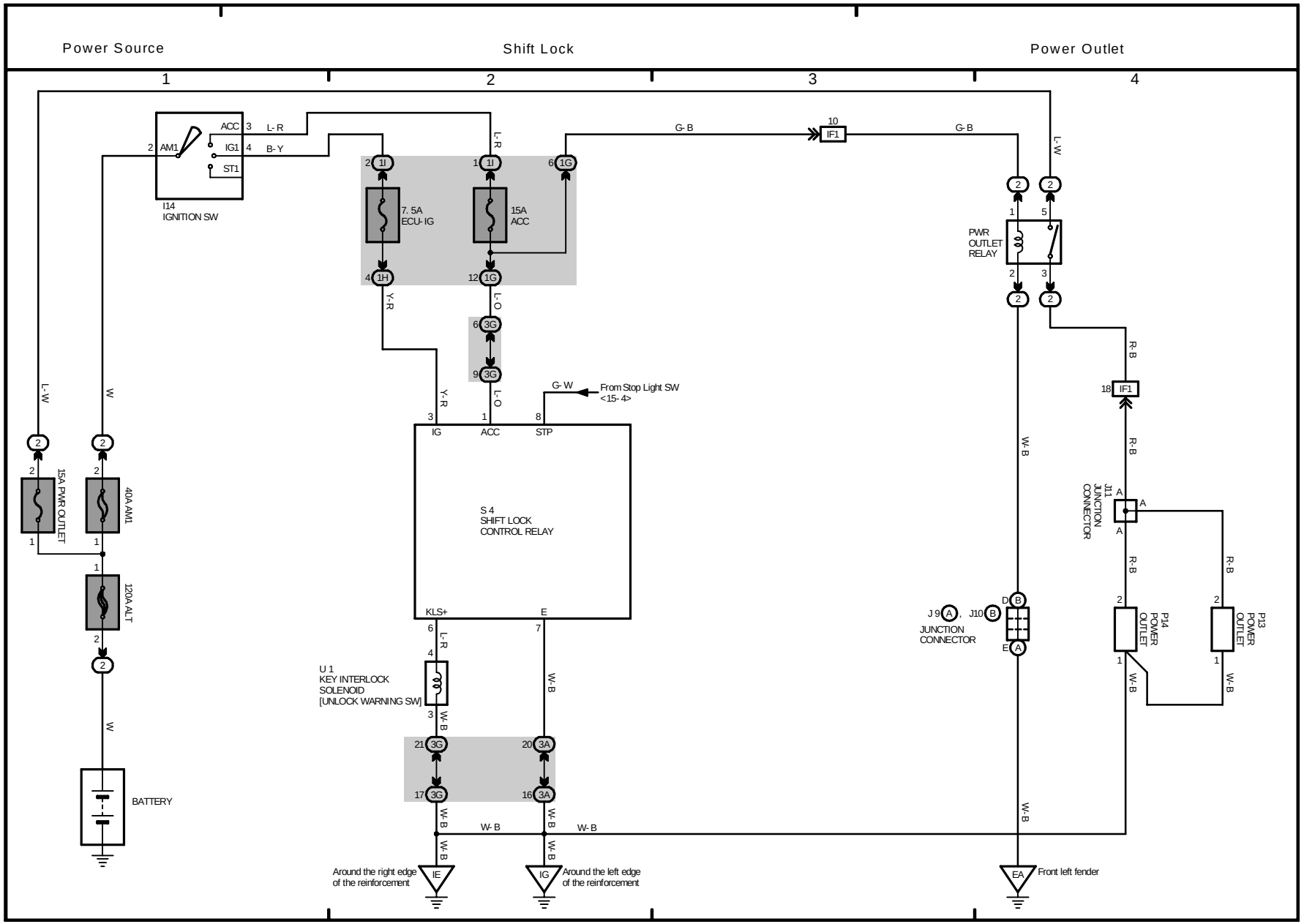

Power Source
4WD (w/o 2- 4 Select SW)
1
2
3
4
ACC
IG1
ST1
AM1
I14
IGNITION SW
* 1 : w/ ABS
* 2 : w/o ABS
* 3 : 5VZ- FE
* 4 : 3RZ- FE
* 5 : w/ ADD
* 6 : w/o ADD
To Engine Control Module <4- 8>
C10
4WD INDICATOR LIGHT [COMB. METER]
20A 4WD
10A GAUGE
S10, S11
SHORT CONNECTOR(ADD)
T 4
TRANSMISSION CONTROL RELAY
M1
M2
REL1
REL2
GND
4WD
IG
2WD
From Engine Control Module <5- 8>
From Engine Control Module <4- 8><5- 8>
From Rear Diff. Lock ECU<22- 3>
From ABS Actuator with ECU<16- 4>
From Engine Control Module <12- 4><13- 4>
P 1
A/T INDICATOR SW [PARK/NEUTRAL POSITION SW]
C13
A/T PARKING INDICATOR LIGHT [COMB. METER]
D25
DIODE (A/T)
J13
JUNCTION CONNECTOR
D 4
DETECTION SW (Transfer Neutral Position)
D 5
DETECTION SW (Transfer 4WD Position)
D 3
DETECTION SW (Transfer L4 Position)
40A AM1
120A ALT
BATTERY
A24
ADD ACTUATOR
ADD DETECTION SW
ADD LIMIT SW
Around the right edge of the reinforcement
Around the left edge of the reinforcement
IE
IG

M OVERALL ELECTRICAL WIRING DIAGRAM

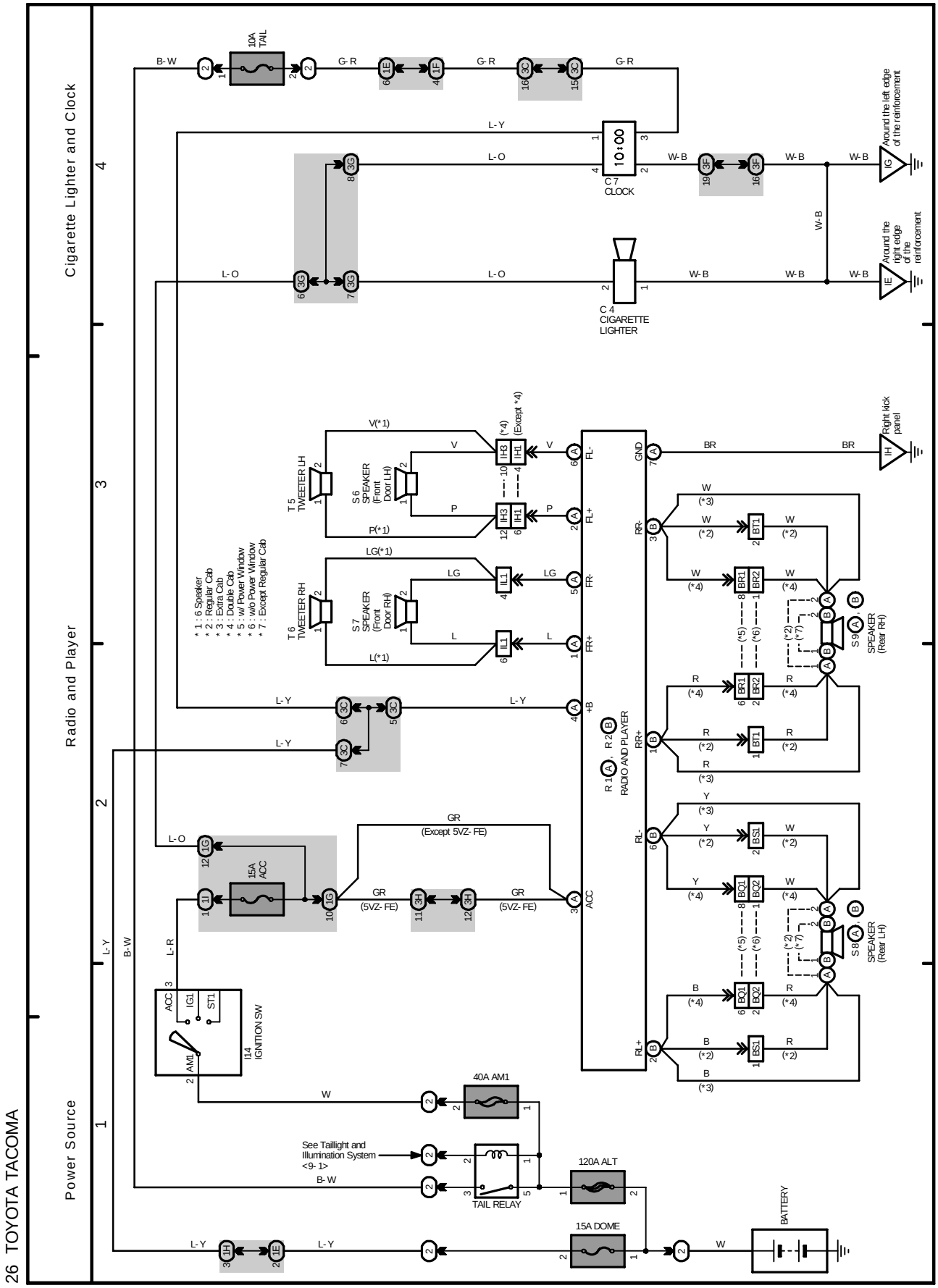



Power Source
Wiper and Washer
Remote Control Mirror (w/ Power Window)
1
2
3
4
* 1 : INT1
* 2 : INT2
* 3 : w/ Int Time SW Mechanism
* 4 : w/o Int Time SW Mechanism
* 5 : Double Cab
* 6 : Except Double Cab
I14
IGNITION SW
ACC
IG1
ST1
AM1
L-R
B-Y
20A
WIPER
15A
ACC
1G
1I
3G
3D
3F
3B
IH3
IH1
IH2
IL1
W
L
L-O
W-B
W 1
WASHER MOTOR
C15
WIPER AND WASHER
SW[COMB. SW]
+S
+B
+1
+2
*1
B1
*2
EW
WF
OFF
MIST(*4)
INT(*3)
LO
HI
WASHER
WIPER
RELAY(*3)
W 3
WIPER
MOTOR
R10
REMOTE CONTROL MIRROR SW
OPERATION
SELECT
LEFT
RIGHT
UP
DOWN
UP/
LEFT
DOWN/
RIGHT
LH
RH
R 8
REMOTE CONTROL
MIRROR LH
R 9
REMOTE CONTROL
MIRROR RH
40A AM1
120A ALT
BATTERY
Around the right edge of the reinforcement
Around the left edge of the reinforcement
Around the right edge of the reinforcement
Around the left edge of the reinforcement
IE
IG

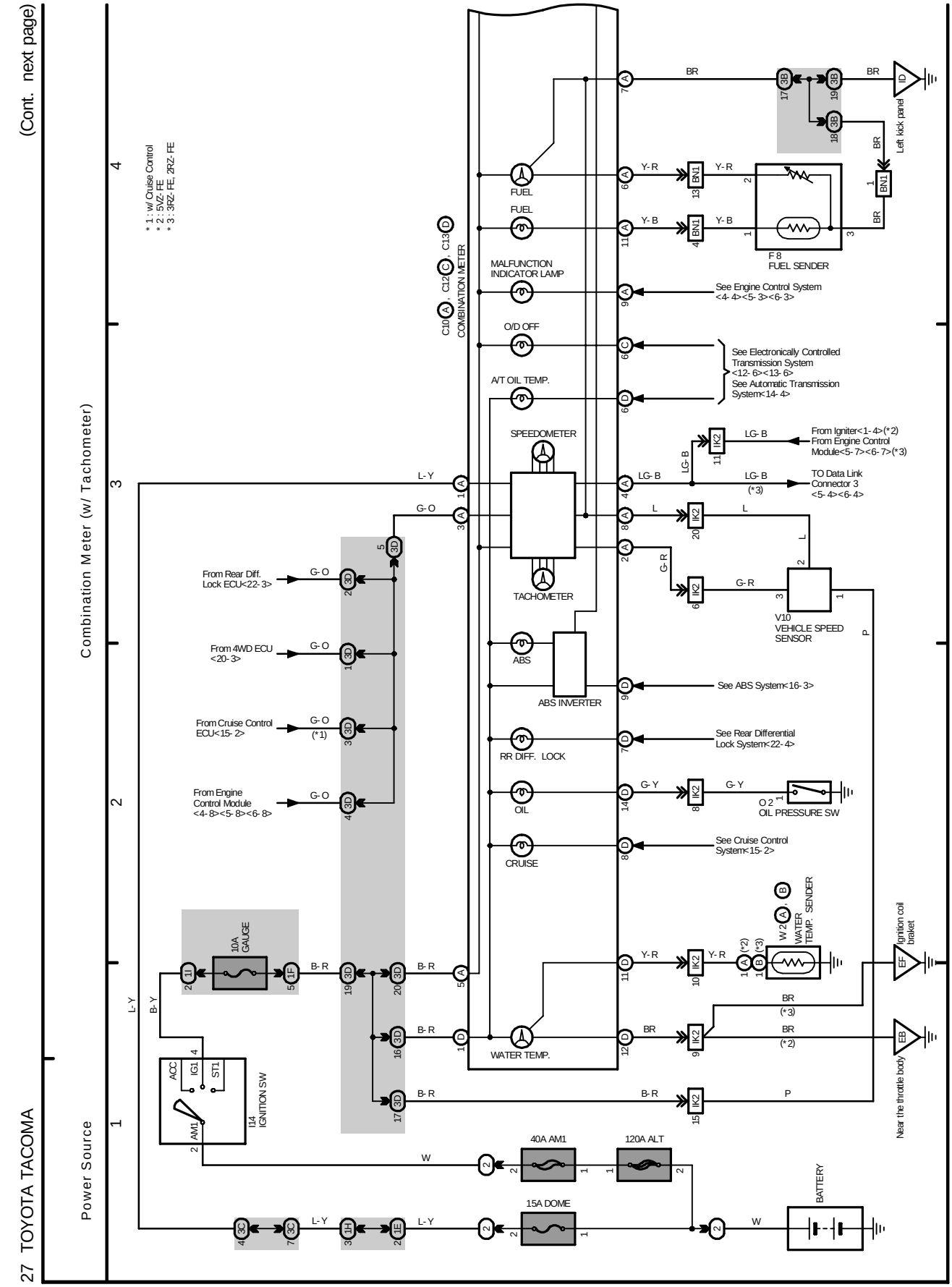

Power Seat
Remote Control Mirror (w/o Power Window)
Power Source
24 TOYOTA TACOMA
P24 POWER SEAT SW (Lumbar Support)
P23 POWER SEAT MOTOR (Lumbar Support)
30A POWER
15A ACC
R10 REMOTE CONTROL MIRROR SW
OPERATION
SELECT
DOWN/ RIGHT
UP/ LEFT
DOWN
UP
RIGHT
LEFT
R9 REMOTE CONTROL MIRROR RH
R8 REMOTE CONTROL MIRROR LH
I14 IGNITION SW
ACC
IG1
ST1
AM1
40A AM1
120A ALT
50A J/B
BATTERY
Around the left edge of the reinforcement
Around the right edge of the reinforcement
B-R
W
W-B
L-R
L-O
R
L
LG-B
LG-R
G-B
G-R
P-G
GR
P


Power Source
Shift Lock
Power Outlet
1
2
3
4
ACC
IG1
ST1
AM1
I14
IGNITION SW
L-R
B-Y
7.5A
ECU-IG
15A
ACC
1I
1G
1H
3G
3A
L-W
W
Y-R
L-O
G-B
G-W
From Stop Light SW
<15-4>
IF1
10
18
IG
ACC
STP
S4
SHIFT LOCK
CONTROL RELAY
KLS+
E
U1
KEY INTERLOCK
SOLENOID
[UNLOCK WARNING SW]
W-B
R-B
15A PWR OUTLET
40A AM1
120A ALT
BATTERY
PWR
OUTLET
RELAY
J11
JUNCTION
CONNECTOR
J9
J10
JUNCTION
CONNECTOR
P14
POWER
OUTLET
P13
POWER
OUTLET
Around the right edge
of the reinforcement
IE
IG
Around the left edge
of the reinforcement
EA
Front left fender

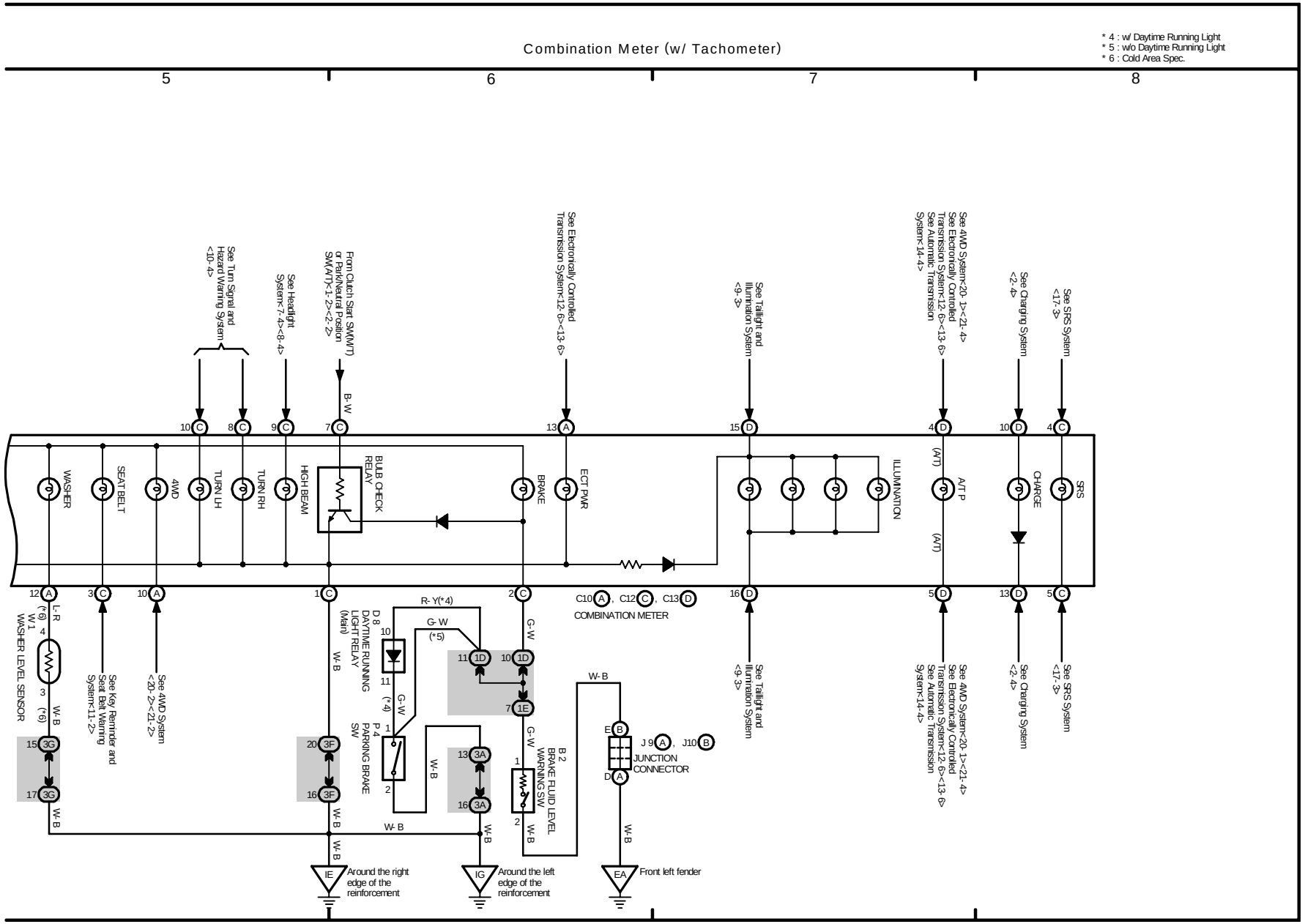
M OVERALL ELECTRICAL WIRING DIAGRAM



M OVERALL ELECTRICAL WIRING DIAGRAM

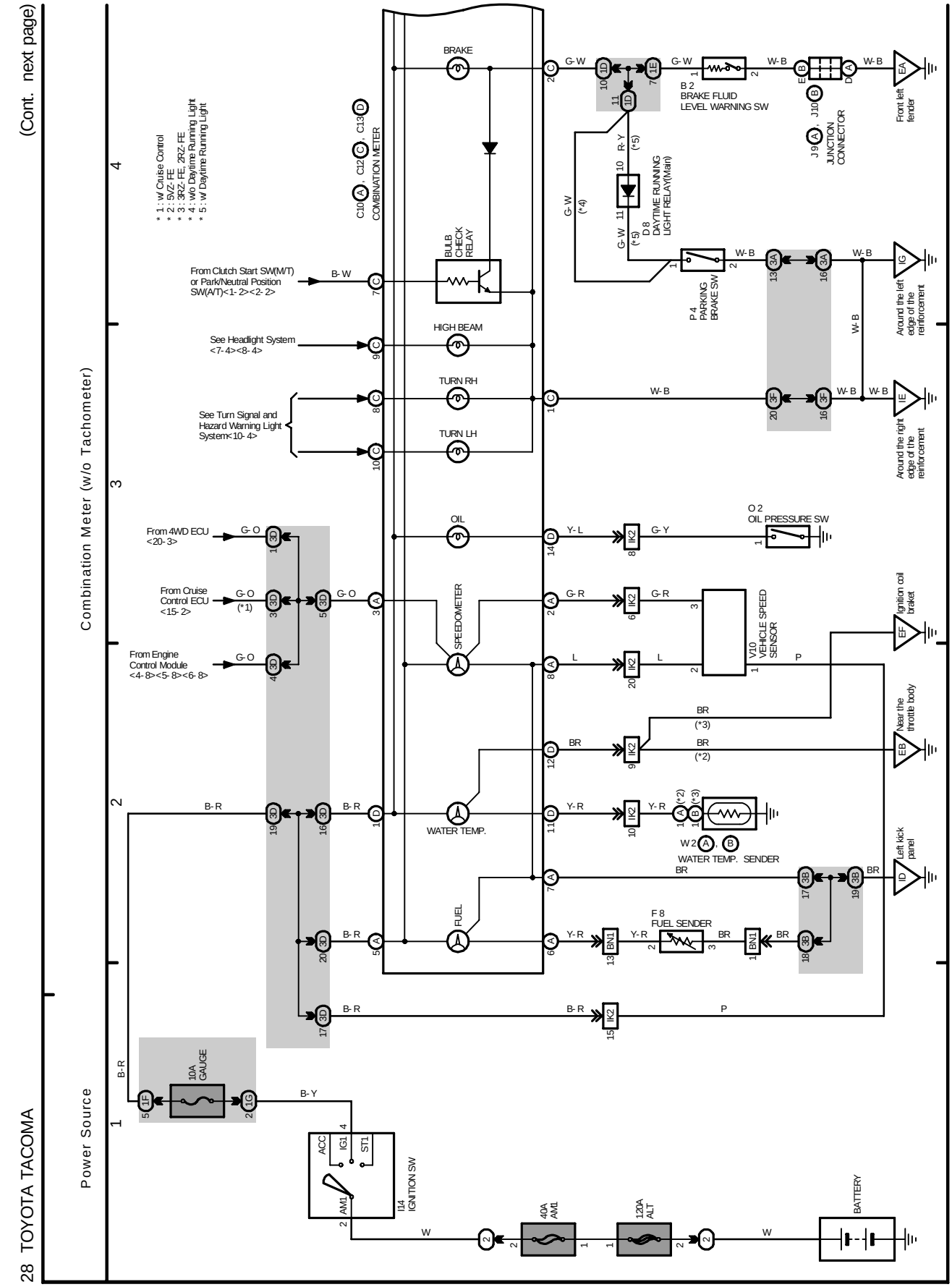


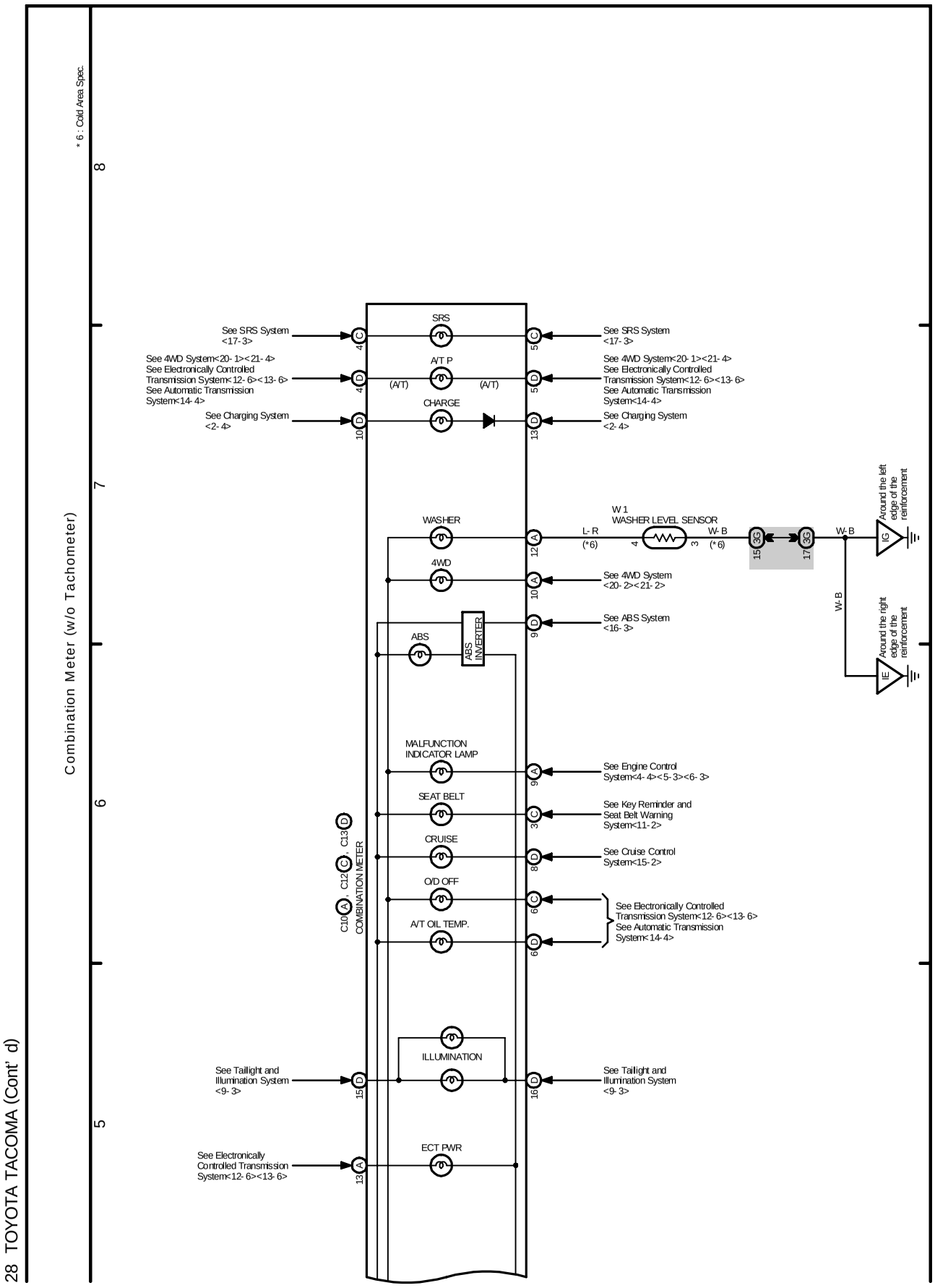
27 TOYOTA TACOMA (Cont' d)



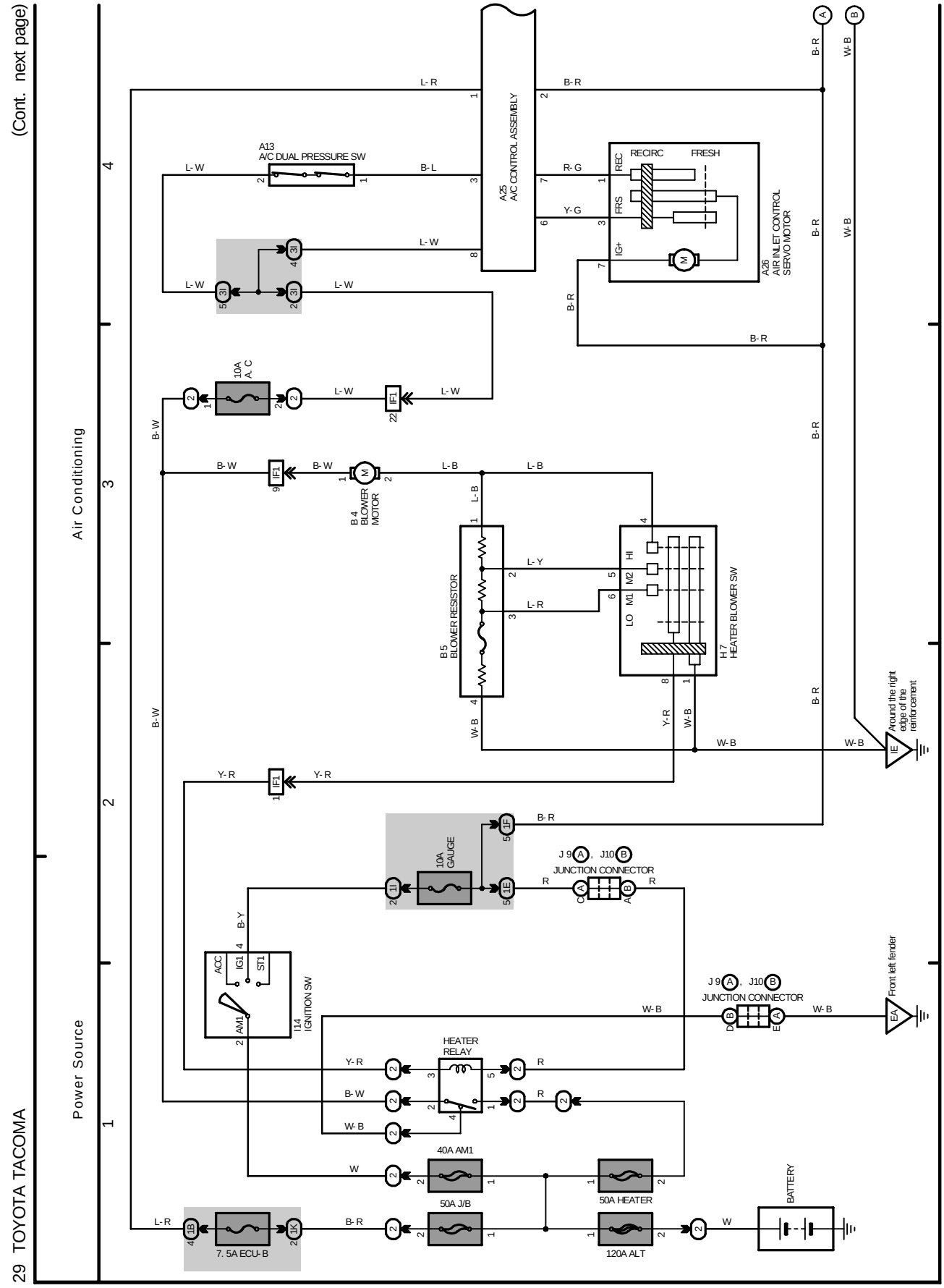
M

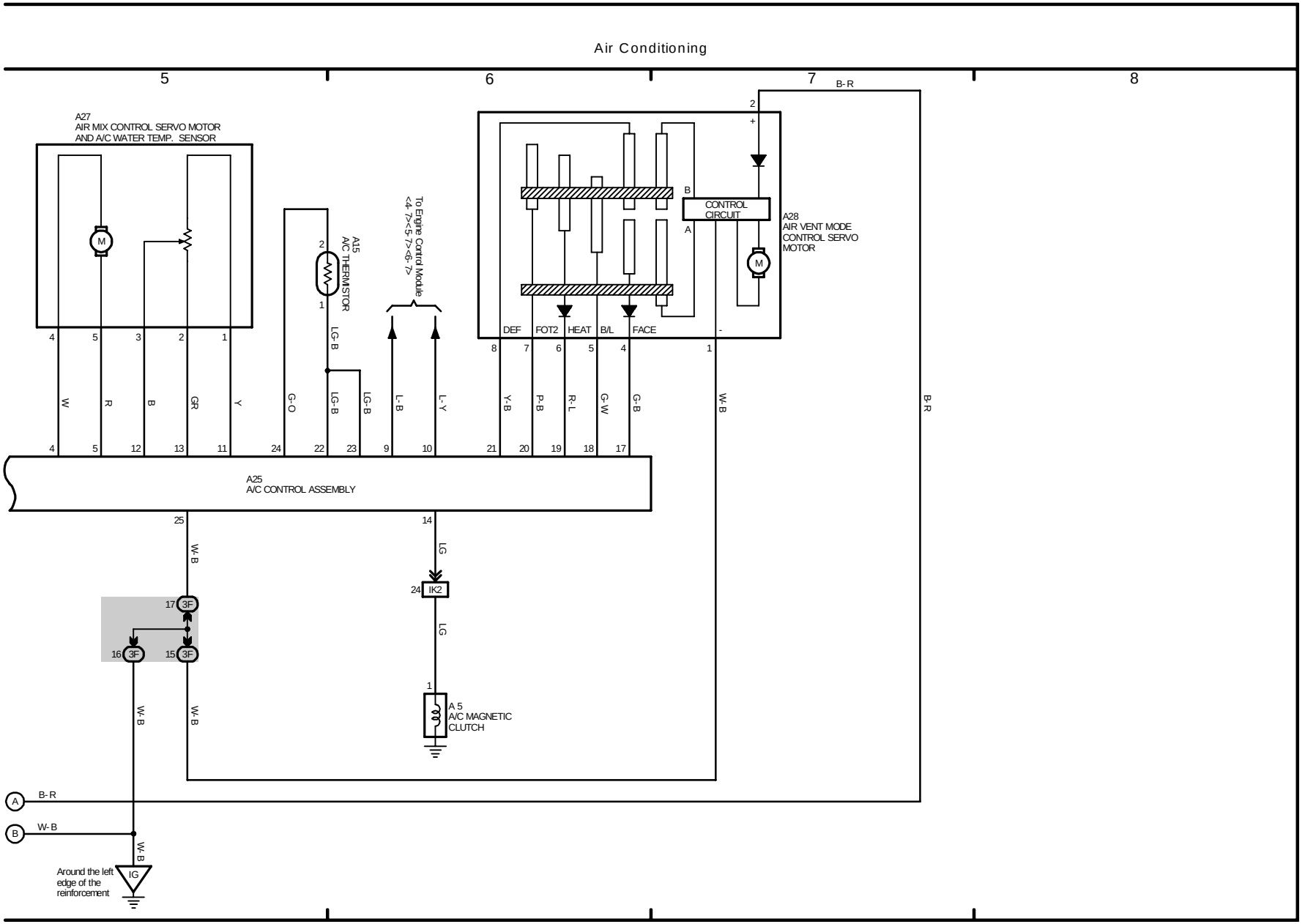
M OVERALL ELECTRICAL WIRING DIAGRAM




* 6 : Cold Area Spec.
Combination Meter (w/o Tachometer)
28 TOYOTA TACOMA (Cont' d)
SRS
See SRS System <17- 3>
See SRS System <17- 3>
A/T P
See 4WD System<20- 1><21- 4> See Electronically Controlled Transmission System<12- 6><13- 6> See Automatic Transmission System<14- 4>
See 4WD System<20- 1><21- 4> See Electronically Controlled Transmission System<12- 6><13- 6> See Automatic Transmission System<14- 4>
(A/T)
(A/T)
CHARGE
See Charging System <2- 4>
See Charging System <2- 4>
W 1
WASHER LEVEL SENSOR
WASHER
L- R
(*6)
W- B
(*6)
Around the left edge of the reinforcement
Around the right edge of the reinforcement
4WD
See 4WD System <20- 2><21- 2>
See ABS System <16- 3>
ABS
ABS INVERTER
MALFUNCTION INDICATOR LAMP
See Engine Control System<4- 4><5- 3><6- 3>
SEAT BELT
See Key Reminder and Seat Belt Warning System<11- 2>
CRUISE
See Cruise Control System<15- 2>
O/D OFF
A/T OIL TEMP.
See Electronically Controlled Transmission System<12- 6><13- 6> See Automatic Transmission System<14- 4>
C10, C12, C13
COMBINATION METER
ILLUMINATION
See Taillight and Illumination System <9- 3>
See Taillight and Illumination System <9- 3>
ECT PWR
See Electronically Controlled Transmission System<12- 6><13- 6>

M OVERALL ELECTRICAL WIRING DIAGRAM




Air Conditioning
5
6
7
8
A27
AIR MIX CONTROL SERVO MOTOR
AND A/C WATER TEMP. SENSOR
A15
A/C THERMISTOR
To Engine Control Module
<4-7><5-7><6-7>
A28
AIR VENT MODE
CONTROL SERVO
MOTOR
CONTROL
CIRCUIT
DEF
FOT2
HEAT
B/L
FACE
A25
A/C CONTROL ASSEMBLY
A 5
A/C MAGNETIC
CLUTCH
IK2
3F
Around the left
edge of the
reinforcement
IG
W
R
B
GR
Y
G-O
LG-B
L-B
L-Y
Y-B
P-B
R-L
G-W
G-B
W-B
B-R
LG